



**GROUNDWATER SAMPLING REPORT
FOR THE JUNE 2016 SAMPLING EVENT
PHILADELPHIA GAS WORKS
PASSYUNK FACILITY
3100 WEST PASSYUNK AVENUE
PHILADELPHIA, PENNSYLVANIA**

Leidos Project 307070.00.0000.1000.0100

Prepared for:

Philadelphia Gas Works
800 West Montgomery Avenue
Philadelphia, PA 19122

September 2016

Groundwater Sampling Report
for the June 2016 Sampling Event
Philadelphia Gas Works
Passyunk Facility
3100 West Passyunk Avenue
Philadelphia, Pennsylvania

Leidos Project 307070.00.0000.1000.0100

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1.0 INTRODUCTION

Leidos, Inc. (Leidos) has prepared this Groundwater Sampling Report (Report) for the Philadelphia Gas Works (PGW) to summarize and document the June 2016 monitoring well gauging, groundwater sampling, and related tasks conducted at the PGW Passyunk Facility (Site). The Site is located at 3100 West Passyunk Avenue, Philadelphia, Pennsylvania (**Figure 1**). **Figure 2** shows the groundwater monitoring well locations with reference to an aerial photograph.

1.1 Site Background

The Site is approximately 64 acres and is located in an area of mixed industrial, commercial, and residential uses. The Site is bounded by Passyunk Avenue to the south; Philadelphia Energy Solutions, LLC (PES) property to the north; the Schuylkill River and PES property to the west; and residential/commercial properties to the east. The Site has been owned and operated by PGW for over 100 years and has been used to manufacture, process, store, and distribute natural gas. The Site is currently used for liquefied natural gas (LNG) storage, vaporization, and gas distribution. In addition, the Site includes laboratory facilities, fleet maintenance, fueling, and parking.

Previous investigations by Weston Solutions, Inc. (Weston) and others have identified the presence of volatile and semi-volatile organic compounds (VOCs and SVOCs) and metals in soil and groundwater at concentrations above Pennsylvania Department of Environmental Protection (PADEP) medium-specific concentrations (MSC). In addition, phase-separated hydrocarbons (product) have been detected in groundwater, and PGW is currently operating a product recovery system.

The Site is in the process of voluntary remediation and monitoring in general accordance with Pennsylvania's Land Recycling and Environmental Remediation Standards Act (Act 2). As part of the process, PGW is seeking to determine site-specific cleanup goals for the Site. The current investigation is intended to assess the contaminant concentrations at pertinent Site wells.

1.2 Site Topographic and Hydrogeologic Characteristics

Site topography is generally flat with a gentle slope toward the Schuylkill River. Ground surface elevations are between approximately 20 to 40 feet above mean sea level (ft amsl). The Site is located in the Atlantic Coastal Plain physiographic province and is underlain by the Trenton Gravel Formation. Site investigations observed a soil profile (0 to 10 feet [ft]) comprised of fill material, sandy to silty sediments, and soils. Deeper sediments consist of unconsolidated, interbedded, gravel, sand, silt, and clay.

Recent depth-to-groundwater measurements range from approximately 21 to 34 feet below the top of the inner casing (ft TIC) with resulting groundwater elevations of approximately 1.5 to 11 ft amsl. Data indicate the hydraulic gradient in the shallow aquifer generally trends southwest toward the Schuylkill River. Data from the deeper wells indicate the hydraulic gradient in the deeper aquifer trends southwest toward the Schuylkill River.

1.3 Scope of Work

This Report presents and summarizes the groundwater gauging and groundwater sampling event conducted between June 20 and 21, 2016.

2.0 METHODOLOGY

2.1 Monitoring Well Gauging

During groundwater sampling activities on June 20 and 21, 2016, Leidos gauged the depth to water at the following monitoring well network:

- MW-1D & MW-1S
- MW-2D & MW-2S
- MW-3D & MW-3S
- MW-4S
- MW-5S
- MW-6S
- MW-7S
- MW-10S
- MW-11S
- MW-12D & MW-12S
- MW-42D & MW-42R

Wells with high historical concentrations of hydrocarbon contamination and/or wells with organic vapor odors were screened for product with an interphase probe. The depth to groundwater and total well depth were measured at each well with an electronic water level meter. Total depths were compared to historical data to determine whether well development was warranted. Well total depths and groundwater depths were recorded in field logbooks.

2.2 Groundwater Sampling

After monitoring and recording groundwater depth, the wells were purged and sampled via low-flow methodology in general accordance with the guidance provided in the PADEP Groundwater Monitoring Guidance Manual (2001) and the United States Environmental Protection Agency (USEPA) Region I Low Stress Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells (1996). Groundwater samples were submitted to Eurofins Lancaster Laboratories, LLC for analysis of dissolved metals via USEPA Method SW-846 6010B/7000 Series, VOCs via USEPA Method SW-846 8260B, and SVOCs via USEPA Method SW-846 8270C. Quality assurance/quality control (QA/QC) samples included a duplicate sample, a rinse blank sample, and a trip blank sample.

2.3 Investigation-Derived Waste

Purge water derived from sampling was collected in 55-gallon drums and stored onsite pending future offsite disposal. Each drum was labeled with pertinent project details including date, contents, and generator contact information. The drums were placed on secondary containment with a capacity of approximately 110 percent total drum volume.

3.0 RESULTS

3.1 Monitoring Well Gauging

During the gauging event, product was not detected in any Site well. Measured total depths did not indicate the need for sediment removal and/or well development. **Table 1** below presents the results of the monitoring well gauging. Groundwater elevations and inferred elevation contours are presented for the shallow and deep aquifers on **Figures 3** and **4**. Field data collected during monitoring well gauging and sampling are included in **Appendix A**.

Table 1. Groundwater Elevations: June 20 - 21, 2016

Well ID	Easting	Northing	Top of Inner Casing Elevation (ft)	Depth to Water (ft TIC)	Total Depth (ft TIC)	Groundwater Elevation (ft)	Aquifer Zone
MW-1D	2,683,465.240	224,133.562	33.57	31.25	76.85	2.32	Deep
MW-1S	2,683,457.178	224,134.605	33.22	25.46	34.75	7.76	Shallow
MW-2D	2,683,917.577	224,285.832	35.16	33.61	82.72	1.55	Deep
MW-2S	2,683,927.594	224,288.315	35.23	26.05	35.24	9.18	Shallow
MW-3D	2,684,691.380	224,483.090	34.73	32.51	85.50	2.22	Deep
MW-3S	2,684,683.310	224,481.500	34.49	24.90	34.64	9.59	Shallow
MW-4S	2,685,043.870	224,934.393	31.34	22.10	36.30	9.24	Shallow
MW-5S	2,685,403.726	225,420.163	33.19	24.82	37.50	8.37	Shallow
MW-6S	2,685,347.530	224,948.150	32.09	23.55	33.36	8.54	Shallow
MW-7S	2,685,066.930	224,605.930	29.09	21.29	34.66	7.80	Shallow
MW-10S	2,685,131.701	225,178.850	33.62	24.35	33.43	9.27	Shallow
MW-11S	2,685,404.935	224,755.228	30.32	21.55	28.85	8.77	Shallow
MW-12D	2,685,290.315	224,520.078	30.07	27.94	75.77	2.13	Deep
MW-12S	2,685,295.012	224,520.765	29.85	20.95	33.06	8.90	Shallow
MW-42D	2,684,363.750	225,540.440	33.69	31.32	69.75	2.37	Deep
MW-42R	2,684,370.420	225,556.920	33.11	22.50	29.65	10.61	Shallow

Notes: Elevations are provided in feet above mean sea level (NAVD88)
Northing/Easting are provided in PA State Plane South feet (NAD83)

3.2 Groundwater Sampling

Results of groundwater sampling indicate benzene, toluene, ethylbenzene, and xylenes (BTEX), as well as several other VOCs and SVOCs, are present in multiple wells. Several metals were detected in Site wells including detections of arsenic, cadmium, and lead at concentrations greater than applicable MSCs. Results of the groundwater sampling are presented in **Table 2** (VOCs), **Table 3** (SVOCs), and **Table 4** (metals). Copies of the laboratory results are included in **Appendix B**.

3.2.1 Volatile Organic Compounds

Samples contained detections of one or more of the following compounds: benzene, 1,1-dichloroethane, cis-1,2-dichloroethene, ethylbenzene, styrene, toluene, trichloroethene, vinyl chloride, and total xylenes. Several samples contained detections of compounds at concentrations greater than applicable MSCs.

Figure 5 presents the VOC detections above the MSCs for groundwater in nonresidential **used** aquifers. Provided below is a summary of pertinent VOC analytical results:

- The samples from MW-2D, MW-3D, MW-5S, MW-12D, and MW-42D did not contain detections above the MSCs.
- **Benzene:**
 - o The samples from MW-1D, MW-1S, MW-2S, MW-3S, MW-4S, MW-6S, MW-7S, MW-10S, MW-11S, MW-12S, and MW-42R contained benzene at concentrations greater than the MSC for groundwater in nonresidential **non-used** aquifers (500 micrograms per liter [µg/L]) and nonresidential **used** aquifers (5 µg/L).
 - o The samples from MW-1S, MW-2S, and MW-42R contained benzene concentrations greater than the MSC for groundwater in nonresidential **used** aquifers.
- **Ethylbenzene:** The samples from MW-2S, MW-3S, MW-4S, MW-6S, MW-7S, MW-10S, MW-12S, and MW-42R contained ethylbenzene at concentrations greater than the MSC for groundwater in nonresidential **used** aquifers (700 µg/L).
- **Toluene:** The samples from MW-4S, MW-6S, and MW-10S contained toluene at concentrations greater than the MSC for groundwater in nonresidential **used** aquifers (1,000 µg/L).
- **Trichloroethene:** The sample from MW-4S contained trichloroethene at a concentration of 15 µg/L, which is greater than the MSC for groundwater in nonresidential **used** aquifers (5 µg/L).
- **Xylenes:** The sample from MW-10S contained xylenes at a concentration of 11,000 µg/L, which is greater than the MSC for groundwater in nonresidential **used** aquifers (10,000 µg/L).

3.2.2 Semi-Volatile Organic Compounds

Multiple SVOCs were detected in the groundwater samples. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, 2-methylnaphthalene, and naphthalene were detected at concentrations greater than applicable MSCs.

Figure 6 presents the SVOC detections above the MSCs for groundwater in nonresidential **used** aquifers. Provided below is a summary of pertinent SVOC analytical results:

- Samples from MW-1D, MW-1S, MW-2D, MW-3D, MW-5S, MW-12D, and MW-42D did not contain detections above the MSCs.
- **Benzo(a)anthracene:** The samples collected from MW-4S, MW-6S, and MW-42R contained benzo(a)anthracene at concentrations greater than the MSC for groundwater in nonresidential **used** aquifers (3.6 µg/L).

- **Benzo(a)pyrene:**
 - o The sample from MW-42R contained benzo(a)pyrene at a concentration of 5 µg/L, which is greater than the MSCs for groundwater in nonresidential **used** and **non-used** aquifers (0.2 and 3.8 µg/L, respectively).
 - o The samples from MW-4S, MW-6S, MW-10S, MW-11S, MW-12S, and MW-42R contained benzo(a)pyrene at concentrations greater than the MSC for groundwater in nonresidential **used** aquifers.
- **Benzo(b)fluoranthene:** The samples from MW-4S, MW-6S, and MW-42R contained benzo(b)fluoranthene at concentrations greater than the MSC for groundwater in nonresidential **used** and **non-used** aquifers (1.2 µg/L for both).
- **Benzo(g,h,i)perylene:** The samples from MW-4S, MW-6S, MW-10S, MW-11S, and MW-42R contained benzo(g,h,i)perylene at concentrations greater than the MSC for groundwater in nonresidential **used** and **non-used** aquifers (0.26 µg/L for both).
- **Benzo(k)fluoranthene:** The samples from MW-4S, MW-6S, and MW-42R contained benzo(k)fluoranthene at concentrations greater than the MSC for groundwater in nonresidential **used** and **non-used** aquifers (0.55 µg/L for both).
- **Chrysene:** The samples from MW-4S, MW-6S, and MW-42R contained chrysene at concentrations greater than the MSC for groundwater in nonresidential **used** and **non-used** aquifers (1.9 µg/L for both).
- **Dibenz(a,h)anthracene:**
 - o The sample from MW-42R contained dibenz(a,h)anthracene at a concentration of 0.8 µg/L, which is greater than the MSCs for groundwater in nonresidential **used** and **non-used** aquifers (0.36 and 0.6 µg/L, respectively).
 - o The samples from MW-4S, MW-6S, and MW-42R contained dibenz(a,h)anthracene at concentrations greater than the MSC for groundwater in nonresidential **used** aquifers.
- **2-Methylnaphthalene:** The samples from MW-4S, MW-6S, MW-7S, MW-10S, MW-12S, and MW-42R contained 2-methylnaphthalene at concentrations greater than the MSC for groundwater in nonresidential **used** and **non-used** aquifers (410 µg/L for both).
- **Naphthalene:** The samples from MW-2S, MW-3S, MW-4S, MW-6S, MW-7S, MW-10S, MW-11S, MW-12S, and MW-42R contained naphthalene at concentrations greater than the MSC for groundwater in nonresidential **used** aquifers (100 µg/L).

3.2.3 Metals

Arsenic, cadmium, chromium, lead, nickel, and zinc were detected in the samples. Arsenic, cadmium, and lead were detected at concentrations above the nonresidential MSC for groundwater in **used** aquifers. Provided below is a summary of pertinent metals analytical results:

- The samples from MW-1D, MW-1S, MW-2S, MW-3S, MW-6S, MW-7S, MW-10S, MW-11S, MW-12D, MW-12S, and MW-42D did not contain detections above the MSCs.
- **Arsenic:** The samples collected from MW-4S and MW-42R contained arsenic at concentrations greater than the MSC for groundwater in nonresidential **used** aquifers (10 µg/L).

- **Cadmium:** The sample collected from MW-2D contained cadmium at a concentration of 6.5 µg/L, which is greater than the MSC for groundwater in nonresidential **used** aquifers (5 µg/L).
- **Lead:** The samples collected from MW-2D, MW-3D, and MW-5S contained lead at estimated concentrations greater than the MSC for groundwater in nonresidential **used** aquifers (5 µg/L).

3.3 Investigation-Derived Waste

Approximately 90 gallons of investigation-derived waste (IDW) fluids were produced during groundwater sampling at the Site. IDW was stored in three 55-gallon drums. The drums were placed on secondary containment with a capacity of approximately 110 percent total drum volume. Purge water from wells MW-1D, MW-1S, MW-3S, MW-4S, MW-6S, MW-7S, MW-10S, and MW-12S was segregated and placed in a 55-gallon drum inside of a drum over-pack. Purge water and IDW fluids from other wells were stored in separate 55-gallon drums. IDW was removed from the Site by Veolia on July 25, 2016.

4.0 CONCLUSIONS, RECOMMENDATIONS, AND FUTURE ACTIVITIES

4.1 Conclusions and Recommendations

Sample results indicate concentrations greater than applicable MSCs for VOCs, SVOCs, and dissolved metals at multiple wells. Based on the compounds and concentrations detected, it is likely that benzene will serve as the primary driver for regulatory closure of the groundwater concern. Of the VOCs detected, benzene has one of the lowest MSCs, and multiple samples exceeded the MSC for used aquifers and non-used aquifers. Furthermore, most of the wells with SVOCs and dissolved metals concentrations greater than MSCs also had benzene concentrations greater than the MSC.

The June 2016 analytical results are similar to previous sampling events with a few exceptions. Benzene concentrations at MW-1D, MW-1S, MW-10S, and MW-12S have declined substantially since March 2016, while concentrations at MW-3S have increased considerably. Ethylbenzene concentrations at MW-1S, MW-4S, MW-6S, MW-7S, MW-10S, MW-11S, and MW-12S have declined since March 2016, while concentrations have increased slightly at MW-2S, MW-3S, and MW-42R. Overall, xylenes concentrations have decreased since March 2016. Naphthalene concentrations at MW-7S, MW-10S, and MW-11S have declined substantially while concentrations in MW-2S and MW-42R have more than doubled. Current metals analyses indicate arsenic and lead have shown an overall decline in frequency and concentration since March 2016, while cadmium results show an increase in concentration in MW-2D.

Leidos recommends continued groundwater monitoring to establish long-term trends in contaminant concentrations.

4.2 Future Activities

The next quarterly sampling event is scheduled for September 2016. No additional activities are currently planned for this Site.

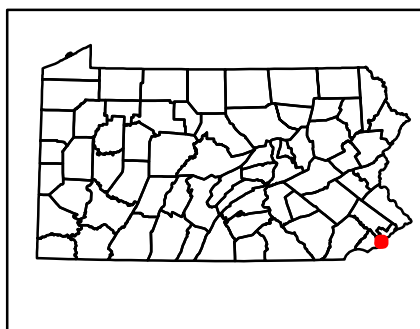
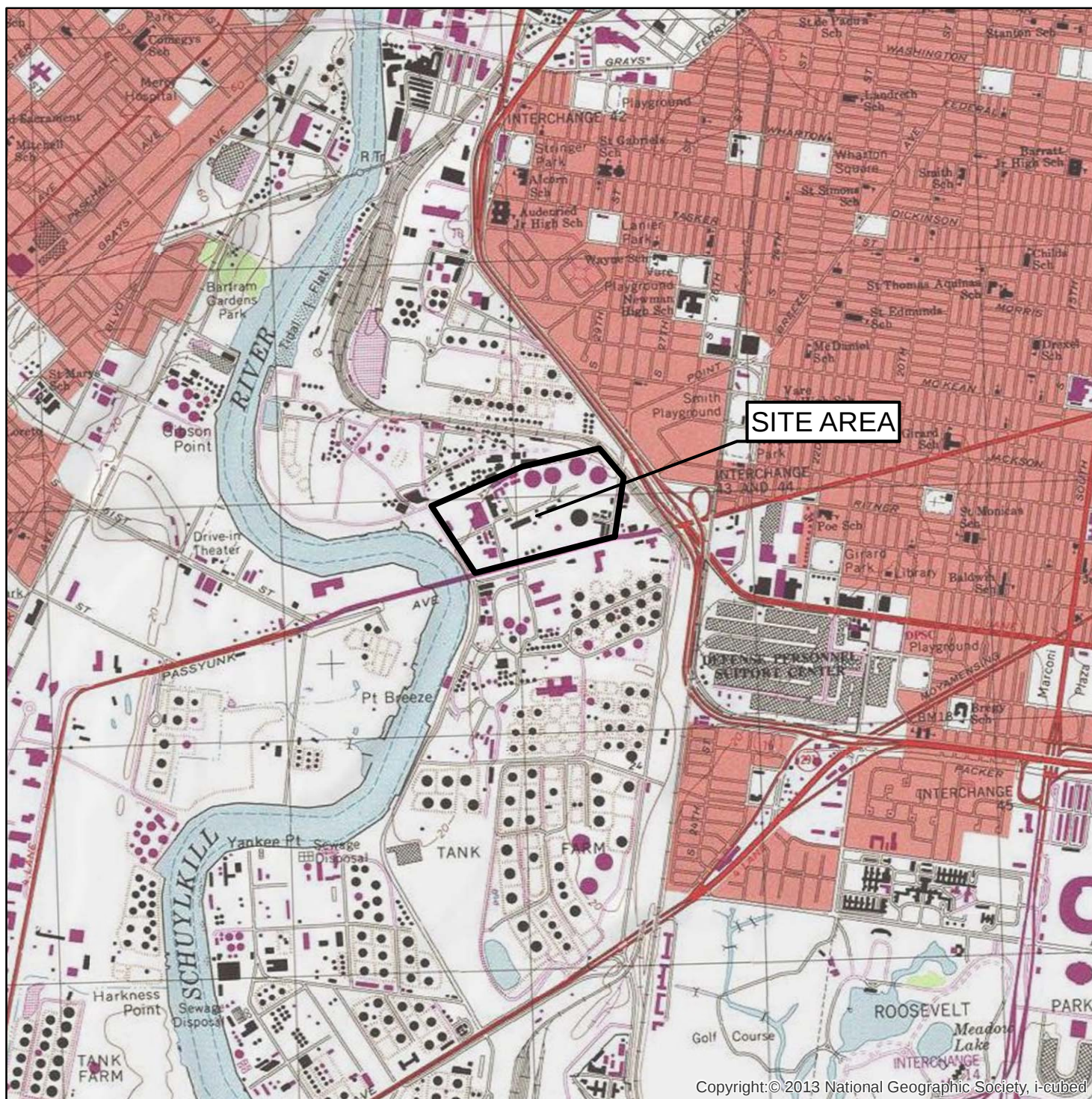
5.0 REFERENCES

Pennsylvania Department of Environmental Protection (PADEP) (2001). "Groundwater Monitoring Guidance Manual." PADEP. Document Number 383-3000-001.

United States Environmental Protection Agency (USEPA) (1996). "Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Ground Water Samples from Monitoring Wells." USEPA revision 2.



FIGURES



Source Imagery:
USGS Philadelphia Quadrangle 1994
PASDA FTP
Projection: StatePlane Pennsylvania South



**Philadelphia Gas Works
Passyunk Property - Philadelphia, PA**

Site Location Map

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date 07/03/2014		date	date	1
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initials	date	revision		





Legend

- Monitoring Well
- Approximated Site Boundary
- Inferred Groundwater Contour
- 10.91 - Groundwater Elevation in feet above mean sea level (AMSL)

Source Imagery:
DVRPC 2005 Aerial SID PA X30-31 Y073-074
Projection: PA State Plane NAD 1983 South

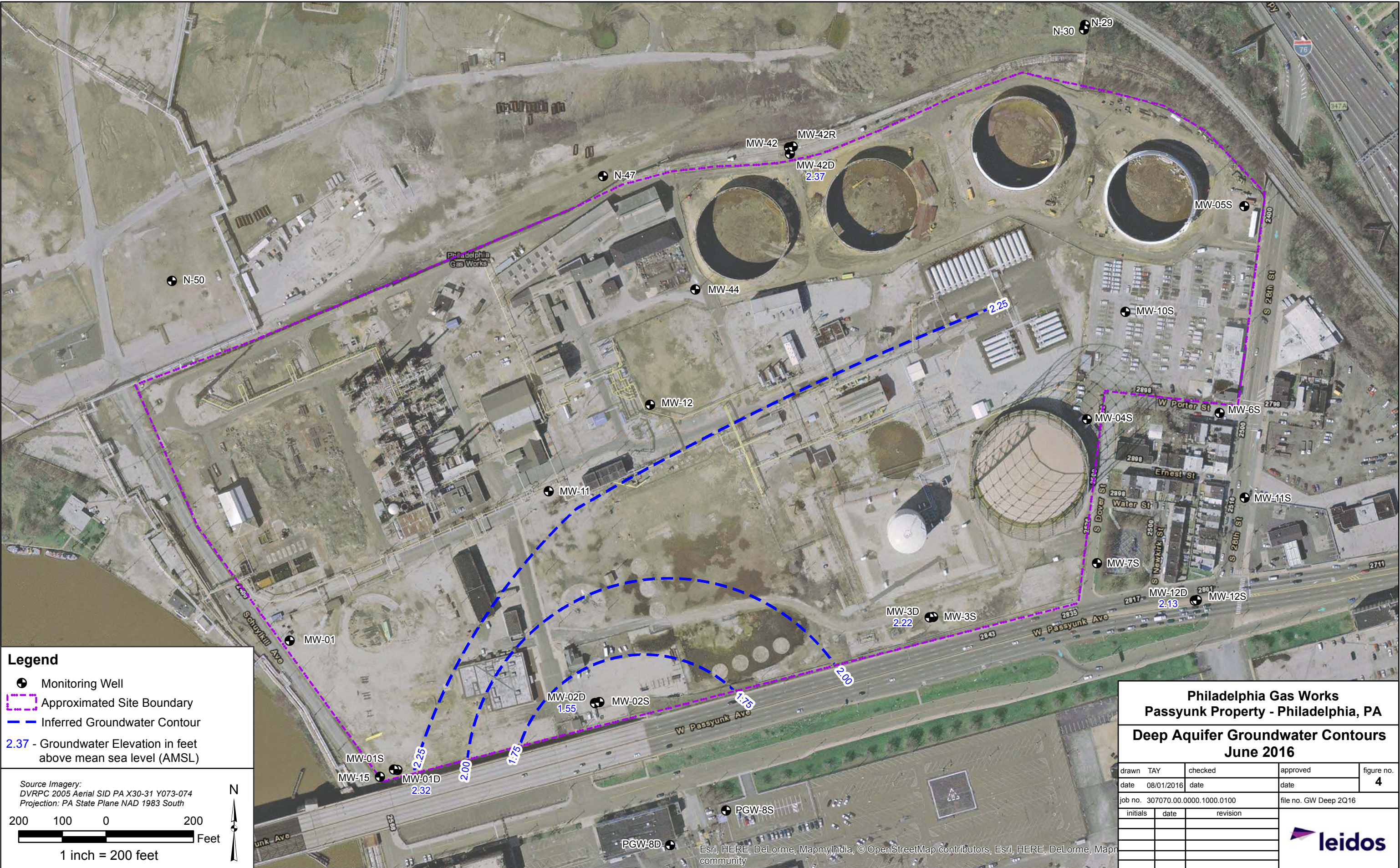
200 100 0 200 Feet

1 inch = 200 feet

Philadelphia Gas Works
Passyunk Property - Philadelphia, PA

Shallow Aquifer Groundwater Contours
June 2016

drawn	TAY	checked	approved	figure no.
date	08/01/2016	date	date	3
job no. 307070.00.0000.1000.0100				file no. GW Shallow 2Q16
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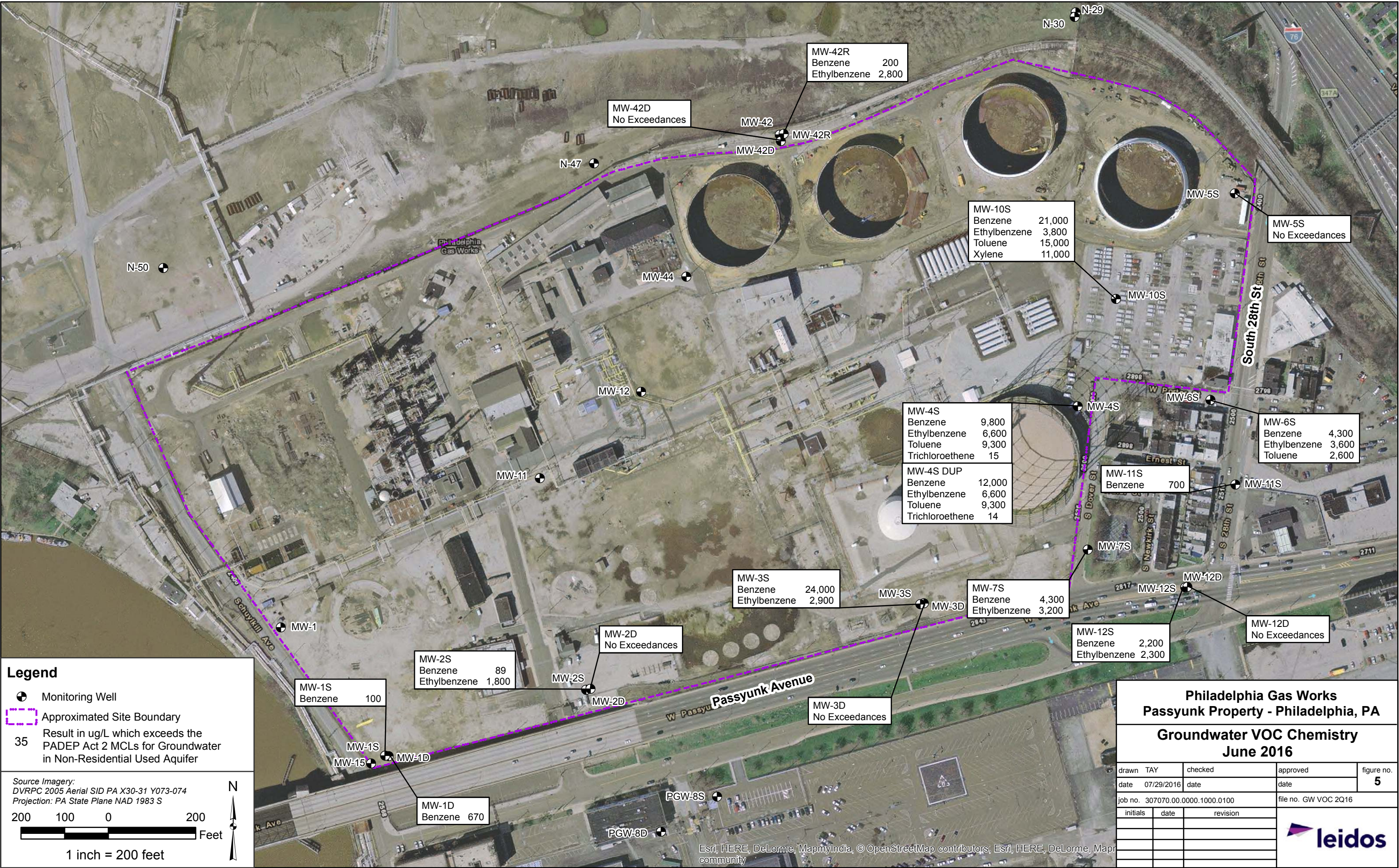
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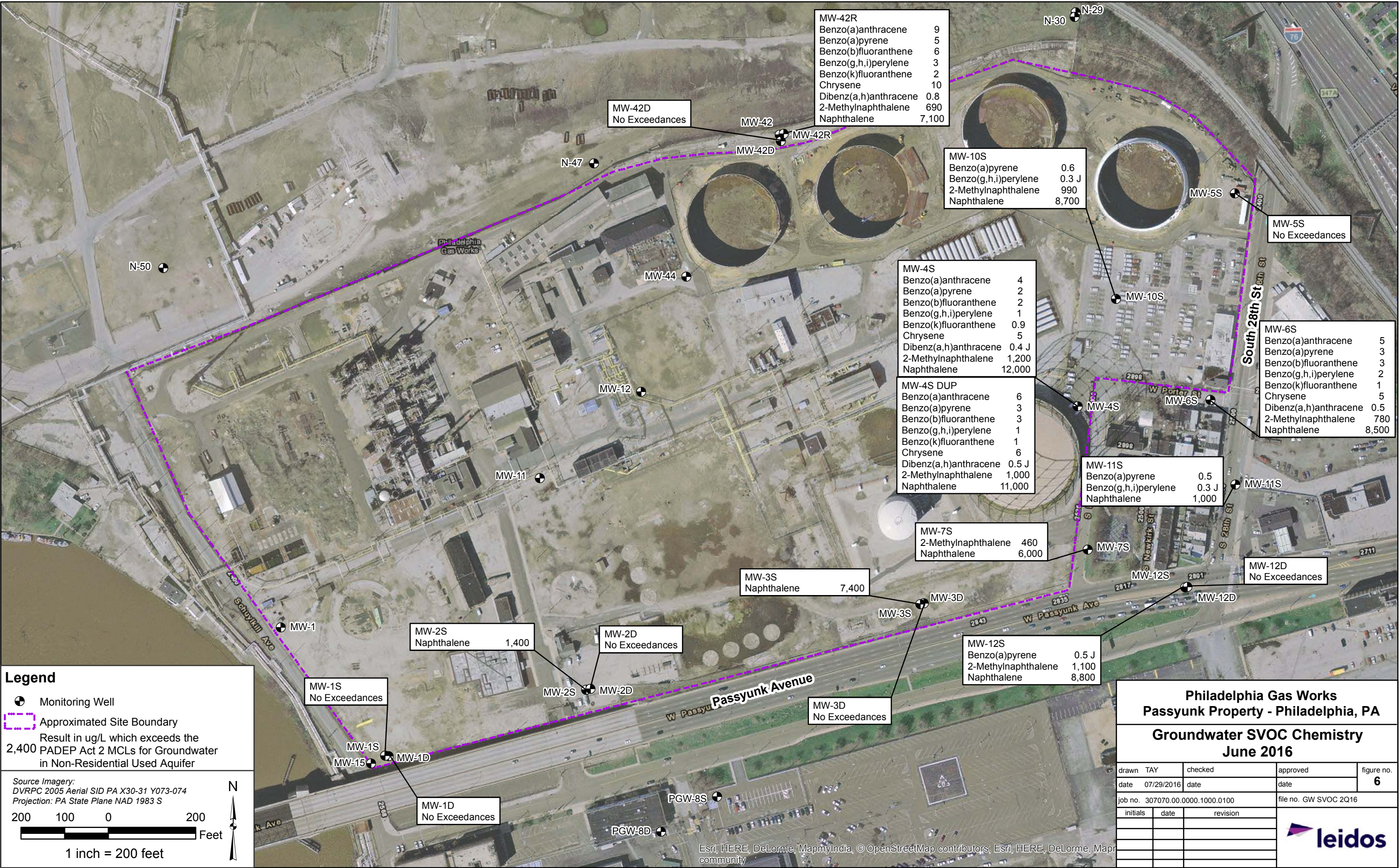
- Monitoring Well
- Approximated Site Boundary
- Inferred Groundwater Contour
- 2.37 - Groundwater Elevation in feet above mean sea level (AMSL)

Source Imagery:
DVRPC 2005 Aerial SID PA X30-31 Y073-074
Projection: PA State Plane NAD 1983 South

200 100 0 200
1 inch = 200 feet

Philadelphia Gas Works Passyunk Property - Philadelphia, PA				
Deep Aquifer Groundwater Contours June 2016				
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initials	date	revision		







TABLES

Table 2
Groundwater Analytical Results
Volatile Organic Compounds
Philadelphia Gas Works - Passyunk Facility
Philadelphia, Pennsylvania
June 2016

Location			MW-1D	MW-1S	MW-2D	MW-2S	MW-3D	MW-3S	MW-4S	MW-4S DUP	MW-5S	MW-6S
Date			6/20/2016	6/20/2016	6/20/2016	6/20/2016	6/20/2016	6/20/2016	6/21/2016	6/21/2016	6/21/2016	6/21/2016
Parameter	PA DEP Groundwater Used Aquifer MSC ¹	PA DEP Groundwater Non-Use Aquifer MSC ²										
Acetone	92,000	9,200,000	<6	<6	<6	<6	<6	<60	<30	<30	<6	<6
Benzene	5	500	670	100	<0.5	89	<0.5	24,000	9,800	12,000	<0.5	4,300
Bromodichloromethane	80	8,000	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
Bromoform	100	10,000	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
Bromomethane	10	1,000	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
2-Butanone	4,000	400,000	<3	<3	<3	<3	<3	<30	<15	<15	<3	<3
Carbon Disulfide	6,200	620,000	<1	<1	<1	<1	<1	<10	<5	<5	<1	<1
Carbon Tetrachloride	5	500	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
Chlorobenzene	100	10,000	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
Chloroethane	900	90,000	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
Chloroform	80	8,000	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
Chloromethane	3	300	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
Dibromochloromethane	100	10,000	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
1,1-Dichloroethane	160	16,000	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
1,2-Dichloroethane	5	500	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
1,1-Dichloroethene	7	700	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
cis-1,2-Dichloroethene	70	7,000	<0.5	<0.5	<0.5	<0.5	<0.5	<5	8	8	<0.5	5
trans-1,2-Dichloroethene	100	10,000	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
1,2-Dichloropropane	5	500	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
cis-1,3-Dichloropropene	26	2,600	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
trans-1,3-Dichloropropene	NA	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
Ethylbenzene	700	70,000	7	8	<0.5	1,800	<0.5	2,900	6,600	6,600	<0.5	3,600
2-Hexanone	44	4,400	<3	<3	<3	<3	<3	<30	<15	<15	<3	<3
4-Methyl-2-pentanone	8,200	820,000	<3	<3	<3	<3	<3	<30	<15	<15	<3	<3
Methylene Chloride	5	500	<2	<2	<2	<2	<2	<20	<10	<10	<2	<2
Styrene	100	10,000	<1	<1	<1	<1	<1	<10	<5	<5	<1	<1
1,1,2,2-Tetrachloroethane	4.30	430	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
Tetrachloroethene	5	500	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
Toluene	1,000	100,000	3	1	<0.5	2	<0.5	16	9,300	9,600	<0.5	2,600
1,1,1-Trichloroethane	200	20,000	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
1,1,2-Trichloroethane	5	500	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
Trichloroethene	5	500	<0.5	<0.5	<0.5	<0.5	<0.5	<5	15	14	<0.5	<0.5
Vinyl Chloride	2	200	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<3	<3	<0.5	<0.5
Xylene (Total)	10,000	1,000,000	14	11	<0.5	150	<0.5	230	8,100	8,500	<0.5	5,000

Notes:

All results are in micrograms per liter (ug/L).

Bold results are detected above the method detection limit.

Shaded results exceed the listed Used Aquifer regulatory limit.

Red results exceed the listed Non Use Aquifer regulatory limit.

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Table 2
Groundwater Analytical Results
Volatile Organic Compounds
Philadelphia Gas Works - Passyunk Facility
Philadelphia, Pennsylvania
June 2016

Location			MW-7S	MW-10S	MW-11S	MW-12D	MW-12S	MW-42D	MW-42R	RINSE BLANK #4	TRIP BLANK
Date			6/21/2016	6/21/2016	6/21/2016	6/21/2016	6/21/2016	6/20/2016	6/20/2016	6/20/2016	6/20/2016
Parameter	PA DEP Groundwater Used Aquifer MSC ¹	PA DEP Groundwater Non-Use Aquifer MSC ²									
Acetone	92,000	9,200,000	<6	<30	<6	<6	<6	<6	<6	<6	<6
Benzene	5	500	4,300	21,000	700	<0.5	2,200	2	200	<0.5	<0.5
Bromodichloromethane	80	8,000	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	100	10,000	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	10	1,000	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Butanone	4,000	400,000	<3	<15	<3	<3	<3	<3	<3	<3	<3
Carbon Disulfide	6,200	620,000	<1	<5	<1	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	5	500	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	100	10,000	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	900	90,000	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	80	8,000	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	3	300	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	100	10,000	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	160	16,000	2	<3	2	<0.5	1	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	5	500	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	7	700	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	70	7,000	4	<3	<0.5	<0.5	3	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	100	10,000	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	5	500	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	26	2,600	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	NA	NA	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	700	70,000	3,200	3,800	200	<0.5	2,300	<0.5	2,800	<0.5	<0.5
2-Hexanone	44	4,400	<3	<15	<3	<3	<3	<3	<3	<3	<3
4-Methyl-2-pentanone	8,200	820,000	<3	<15	<3	<3	<3	<3	<3	<3	<3
Methylene Chloride	5	500	<2	<10	<2	<2	<2	<2	<2	<2	<2
Styrene	100	10,000	<1	<5	1 J	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	4.30	430	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	5	500	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	1,000	100,000	48	15,000	2	<0.5	39	<0.5	12	<0.5	<0.5
1,1,1-Trichloroethane	200	20,000	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	5	500	<0.5	<3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	5	500	2	<3	<0.5	2	1	<0.5	<0.5	<0.5	<0.5
Vinyl Chloride	2	200	<0.5	<3	1	<0.5	0.7 J	<0.5	<0.5	<0.5	<0.5
Xylene (Total)	10,000	1,000,000	3,900	11,000	27	<0.5	2,000	<0.5	370	<0.5	<0.5

Notes:

All results are in micrograms per liter (ug/L).

Bold results are detected above the method detection limit.

Shaded results exceed the listed Used Aquifer regulatory limit.

Red results exceed the listed Non Use Aquifer regulatory limit.

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Table 2
Groundwater Analytical Results
Semivolatile Organic Compounds
Philadelphia Gas Works - Passyunk Facility
Philadelphia, Pennsylvania
June 2016

Parameter	Location Date		MW-1D	MW-1S	MW-2D	MW-2S	MW-3D	MW-3S	MW-4S	MW-4S DUP
	PA DEP Groundwater Used Aquifer MSC ¹	PA DEP Groundwater Non-Use Aquifer MSC ²	6/20/2016	6/20/2016	6/20/2016	6/20/2016	6/20/2016	6/20/2016	6/21/2016	6/21/2016
Acenaphthene	3,800	3,800	180	65	<0.1	25	<0.1	50	170	150
Acenaphthylene	6,100	16,000	<0.1	<0.1	<0.1	13	<0.1	6	18	17
Anthracene	66	66	5	3	<0.1	0.8	<0.1	5	15	17
Benzo(a)anthracene	3.6	11	<0.1	<0.1	<0.1	<0.1	<0.1	1	4	6
Benzo(a)pyrene	0.2	3.8	<0.1	<0.1	<0.1	0.2 J	<0.1	0.2 J	2	3
Benzo(b)fluoranthene	1.2	1.2	<0.1	<0.1	0.1 J	0.1 J	<0.1	0.6	2	3
Benzo(g,h,i)perylene	0.26	0.26	<0.1	<0.1	0.1 J	<0.1	<0.1	0.2 J	1	1
Benzo(k)fluoranthene	0.55	0.55	<0.1	<0.1	<0.1	<0.1	<0.1	0.2 J	0.9	1
4-Bromophenyl-phenylether	NA	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Butylbenzylphthalate	1,400	2,700	<2	<2	<2	<2	<2	<2	<2	<2
Di-n-butylphthalate	10,000	400,000	<2	<2	<2	<2	<2	<2	<2	<2
Carbazole	130	1,200	<0.5	8	<0.5	47	<0.5	65	57	54
4-Chloro-3-methylphenol	510	510	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2	<0.5
4-Chloroaniline	13	13	<2	<2	<2	<2	<2	<2	<2	<2
bis(2-Chloroethoxy)methane	NA	0.29	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
bis(2-Chloroethyl)ether	0.76	76	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloronaphthalene	8,200	8,200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	<0.4
2-Chlorophenol	40	40	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorophenyl-phenylether	NA	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,2'-oxybis(1-Chloropropane)	300	30,000	<0.5	0.9 J	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	1.9	1.9	<0.1	<0.1	<0.1	0.1 J	<0.1	1	5	6
Dibenz(a,h)anthracene	0.36	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4 J	0.5 J
Dibenzofuran	100	4,500	6	11	<0.5	4	<0.5	14	25	24
1,2-Dichlorobenzene	600	60,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	600	60,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	75	7,500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3,3'-Dichlorobenzidine	5.8	3,100	<2	<2	<2	<2	<2	<2	<2	<2
2,4-Dichlorophenol	20	20,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diethylphthalate	82,000	1,100,000	<2	<2	<2	<2	<2	<2	<2	<2
2,4-Dimethylphenol	2,000	2,000,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	11	11
Dimethylphthalate	NA	NA	<2	<2	<2	<2	<2	<2	<2	<2
4,6-Dinitro-2-methylphenol	85	85	<5	<5	<5	<5	<5	<5	<5	<5
2,4-Dinitrophenol	200	200,000	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dinitrotoluene	8.4	8,400	<1	<1	<1	<1	<1	<1	<1	<1
2,6-Dinitrotoluene	100	100,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
bis(2-Ethylhexyl)phthalate	6	290	<2	<2	<2	<2	<2	<2	<2	3 J
Fluoranthene	260	260	2	0.2 J	<0.1	0.2 J	<0.1	4	14	18
Fluorene	1,900	1,900	39	28	<0.1	9	<0.1	24	57	58
Hexachlorobenzene	1	6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	33	2,900	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	50	1,800	<5	<5	<5	<5	<5	<5	<5	<5
Hexachloroethane	1	100	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	3.6	62	<0.1	<0.1	<0.1	<0.1	<0.1	0.2 J	1	1
Isophorone	100	100,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylnaphthalene	410	410	36	3	<0.1	95	<0.1	240	1,200	1,000
2-Methylphenol	5,100	510,000	<0.5	<0.5	<0.5	<0.5	<0.5	0.6 J	8	7
4-Methylphenol	510	51,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	32	32
Naphthalene	100	30,000	4	11	0.1 J	1,400	0.1 J	7,400	12,000	11,000
2-Nitroaniline	310	310	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3-Nitroaniline	31	31	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroaniline	130	130	<0.5	0.7 J	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene	200	200,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitrophenol	820	820,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitrophenol	60	60,000	<10	<10	<10	<10	<10	<10	<10	<10
N-Nitroso-di-n-propylamine	0.37	370	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiphenylamine	530	35,000	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Di-n-octylphthalate	3,000	3,000	<2	<2	<2	<2	<2	<2	<2	<2
Pentachlorophenol	1	1,000	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	1,100	1,100	31	3	<0.1	4	<0.1	25	70	78
Phenol	2,000	200,000	<0.5	<0.5	<0.5	<0.5	<0.5	1	8	8
Pyrene	130	130	2	0.2 J	0.1 J	0.4 J	0.1 J	4	14	17
1,2,4-Trichlorobenzene	70	44,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	10,000	1,000,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	100	100,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

All results are in micrograms per liter (ug/L).

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Red results exceed the listed Non Use Aquifer regulatory limit.

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Table 2
Groundwater Analytical Results
Semivolatile Organic Compounds
Philadelphia Gas Works - Passyunk Facility
Philadelphia, Pennsylvania
June 2016

Parameter	Location Date		MW-5S	MW-6S	MW-7S	MW-10S	MW-11S	MW-12D	MW-12S	MW-42D
	PA DEP Groundwater Used Aquifer MSC ¹	PA DEP Groundwater Non-Use Aquifer MSC ²	6/21/2016	6/21/2016	6/21/2016	6/21/2016	6/21/2016	6/21/2016	6/21/2016	6/20/2016
Acenaphthene	3,800	3,800	<0.1	100	63	72	47	0.4 J	120	<0.1
Acenaphthylene	6,100	16,000	<0.1	40	7	25	<0.1	<0.1	4	<0.1
Anthracene	66	66	<0.1	9	3	4	2	<0.1	7	<0.1
Benzo(a)anthracene	3.6	11	<0.1	5	<0.1	0.9	0.7	<0.1	0.7	<0.1
Benzo(a)pyrene	0.2	3.8	<0.1	3	<0.1	0.6	0.5	<0.1	0.5 J	<0.1
Benzo(b)fluoranthene	1.2	1.2	<0.1	3	<0.1	0.6	0.7	<0.1	0.5 J	<0.1
Benzo(g,h,i)perylene	0.26	0.26	<0.1	2	<0.1	0.3 J	0.3 J	<0.1	0.2 J	<0.1
Benzo(k)fluoranthene	0.55	0.55	<0.1	1	<0.1	0.2 J	0.2 J	<0.1	0.2 J	<0.1
4-Bromophenyl-phenylether	NA	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Butylbenzylphthalate	1,400	2,700	<2	<2	<2	<2	<2	<2	<2	<2
Di-n-butylphthalate	10,000	400,000	<2	<2	<2	<2	<2	<2	<2	<2
Carbazole	130	1,200	<0.5	56	74	34	28	<0.5	91	<0.5
4-Chloro-3-methylphenol	510	510	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloroaniline	13	13	<2	<2	<2	<2	<2	<2	<2	<2
bis(2-Chloroethoxy)methane	NA	0.29	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
bis(2-Chloroethyl)ether	0.76	76	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloronaphthalene	8,200	8,200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	40	40	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorophenyl-phenylether	NA	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,2'-oxybis(1-Chloropropane)	300	30,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	1.9	1.9	<0.1	5	<0.1	1	0.9	<0.1	0.9	<0.1
Dibenz(a,h)anthracene	0.36	0.6	<0.1	0.5	<0.1	0.1 J	0.1 J	<0.1	<0.1	<0.1
Dibenzofuran	100	4,500	<0.5	14	15	14	9	<0.5	25	<0.5
1,2-Dichlorobenzene	600	60,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	600	60,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	75	7,500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3,3'-Dichlorobenzidine	5.8	3,100	<2	<2	<2	<2	<2	<2	<2	<2
2,4-Dichlorophenol	20	20,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diethylphthalate	82,000	1,100,000	<2	<2	<2	<2	<2	<2	<2	<2
2,4-Dimethylphenol	2,000	2,000,000	<0.5	14	3	19	<0.5	<0.5	<0.5	<0.5
Dimethylphthalate	NA	NA	<2	<2	<2	<2	<2	<2	<2	<2
4,6-Dinitro-2-methylphenol	85	85	<5	<5	<5	<5	<5	<5	<5	<5
2,4-Dinitrophenol	200	200,000	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dinitrotoluene	8.4	8,400	<1	<1	<1	<1	<1	<1	<1	<1
2,6-Dinitrotoluene	100	100,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
bis(2-Ethylhexyl)phthalate	6	290	<2	<2	<2	<2	<2	<2	<2	<2
Fluoranthene	260	260	<0.1	11	2	3	2	<0.1	3	<0.1
Fluorene	1,900	1,900	<0.1	33	28	29	17	<0.1	47	<0.1
Hexachlorobenzene	1	6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	33	2,900	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	50	1,800	<5	<5	<5	<5	<5	<5	<5	<5
Hexachloroethane	1	100	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	3.6	62	<0.1	1	<0.1	0.2 J	0.3 J	<0.1	0.2 J	<0.1
Isophorone	100	100,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylnaphthalene	410	410	<0.1	780	460	990	79	<0.1	1,100	0.1 J
2-Methylphenol	5,100	510,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Methylphenol	510	51,000	<0.5	10	1 J	18	<0.5	<0.5	1	<0.5
Naphthalene	100	30,000	0.5	8,500	6,000	8,700	1,000	0.3 J	8,800	0.8
2-Nitroaniline	310	310	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3-Nitroaniline	31	31	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroaniline	130	130	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene	200	200,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitrophenol	820	820,000	<0.5	<0.5	<0.5	<0.5	2	<0.5	<0.5	<0.5
4-Nitrophenol	60	60,000	<10	<10	<10	<10	<10	<10	<10	<10
N-Nitroso-di-n-propylamine	0.37	370	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiphenylamine	530	35,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Di-n-octylphthalate	3,000	3,000	<2	<2	<2	<2	<2	<2	<2	<2
Pentachlorophenol	1	1,000	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	1,100	1,100	<0.1	39	19	28	6	<0.1	39	<0.1
Phenol	2,000	200,000	<0.5	16	5	45	5	<0.5	2	<0.5
Pyrene	130	130	<0.1	11	1	3	2	<0.1	3	0.2 J
1,2,4-Trichlorobenzene	70	44,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	10,000	1,000,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	100	100,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

All results are in micrograms per liter (ug/L).

Bold results are detected above the method detection limit.

Shaded results exceed the listed Used Aquifer regulatory limit.

Red results exceed the listed Non Use Aquifer regulatory limit.

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Table 2
Groundwater Analytical Results
Semivolatile Organic Compounds
Philadelphia Gas Works - Passyunk Facility
Philadelphia, Pennsylvania
June 2016

Parameter	PA DEP Groundwater Used Aquifer MSC ¹	PA DEP Groundwater Non-Use Aquifer MSC ²	Location Date	MW-42R 6/20/2016	RINSE BLANK #4 6/20/2016
Acenaphthene	3,800	3,800		140	<0.1
Acenaphthylene	6,100	16,000		9	<0.1
Anthracene	66	66		20	<0.1
Benzo(a)anthracene	3.6	11		9	<0.1
Benzo(a)pyrene	0.2	3.8		5	<0.1
Benzo(b)fluoranthene	1.2	1.2		6	<0.1
Benzo(g,h,i)perylene	0.26	0.26		3	<0.1
Benzo(k)fluoranthene	0.55	0.55		2	<0.1
4-Bromophenyl-phenylether	NA	NA		<0.5	<0.5
Butylbenzylphthalate	1,400	2,700		<2	<2
Di-n-butylphthalate	10,000	400,000		<2	<2
Carbazole	130	1,200		43	<0.5
4-Chloro-3-methylphenol	510	510		<0.5	<0.5
4-Chloroaniline	13	13		<2	<2
bis(2-Chloroethoxy)methane	NA	0.29		<0.5	<0.5
bis(2-Chloroethyl)ether	0.76	76		<0.5	<0.5
2-Chloronaphthalene	8,200	8,200		<0.5	<0.5
2-Chlorophenol	40	40		<0.5	<0.5
4-Chlorophenyl-phenylether	NA	NA		<0.5	<0.5
2,2'-oxybis(1-Chloropropane)	300	30,000		<0.5	<0.5
Chrysene	1.9	1.9		10	<0.1
Dibenz(a,h)anthracene	0.36	0.6		0.8	<0.1
Dibenzofuran	100	4,500		18	<0.5
1,2-Dichlorobenzene	600	60,000		<0.5	<0.5
1,3-Dichlorobenzene	600	60,000		<0.5	<0.5
1,4-Dichlorobenzene	75	7,500		<0.5	<0.5
3,3'-Dichlorobenzidine	5.8	3,100		<2	<2
2,4-Dichlorophenol	20	20,000		<0.5	<0.5
Diethylphthalate	82,000	1,100,000		<2	<2
2,4-Dimethylphenol	2,000	2,000,000		<0.5	<0.5
Dimethylphthalate	NA	NA		<2	<2
4,6-Dinitro-2-methylphenol	85	85		<5	<5
2,4-Dinitrophenol	200	200,000		<10	<10
2,4-Dinitrotoluene	8.4	8,400		<1	<1
2,6-Dinitrotoluene	100	100,000		<0.5	<0.5
bis(2-Ethylhexyl)phthalate	6	290		<2	<2
Fluoranthene	260	260		29	<0.1
Fluorene	1,900	1,900		43	<0.1
Hexachlorobenzene	1	6		<0.1	<0.1
Hexachlorobutadiene	33	2,900		<0.5	<0.5
Hexachlorocyclopentadiene	50	1,800		<5	<5
Hexachloroethane	1	100		<1	<1
Indeno(1,2,3-cd)pyrene	3.6	62		2	<0.1
Isophorone	100	100,000		<0.5	<0.5
2-Methylnaphthalene	410	410		690	<0.1
2-Methylphenol	5,100	510,000		<0.5	<0.5
4-Methylphenol	510	51,000		<0.5	<0.5
Naphthalene	100	30,000		7,100	0.5 J
2-Nitroaniline	310	310		<0.5	<0.5
3-Nitroaniline	31	31		<0.5	<0.5
4-Nitroaniline	130	130		<0.5	<0.5
Nitrobenzene	200	200,000		<0.5	<0.5
2-Nitrophenol	820	820,000		<0.5	<0.5
4-Nitrophenol	60	60,000		<10	<10
N-Nitroso-di-n-propylamine	0.37	370		<0.5	<0.5
N-Nitrosodiphenylamine	530	35,000		<0.5	<0.5
Di-n-octylphthalate	3,000	3,000		<2	<2
Pentachlorophenol	1	1,000		<1	<1
Phenanthrene	1,100	1,100		92	<0.1
Phenol	2,000	200,000		<0.5	<0.5
Pyrene	130	130		27	<0.1
1,2,4-Trichlorobenzene	70	44,000		<0.5	<0.5
2,4,5-Trichlorophenol	10,000	1,000,000		<0.5	<0.5
2,4,6-Trichlorophenol	100	100,000		<0.5	<0.5

Notes:

All results are in micrograms per liter (ug/L).

Bold results are detected above the method detection limit.

Shaded results exceed the listed Used Aquifer regulatory limit.

Red results exceed the listed Non Use Aquifer regulatory limit.

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Table 4
Groundwater Analytical Results
Metals
Philadelphia Gas Works - Passyunk Facility
Philadelphia, Pennsylvania
June 2016

Location			MW-1D	MW-1S	MW-2D	MW-2S	MW-3D	MW-3S	MW-4S	MW-4S DUP	MW-5S	MW-6S
Date			6/20/2016	6/20/2016	6/20/2016	6/20/2016	6/20/2016	6/20/2016	6/21/2016	6/21/2016	6/21/2016	6/21/2016
Parameter	PA DEP Groundwater Used Aquifer MSC ¹	PA DEP Groundwater Non-Use Aquifer MSC ²										
Antimony	6	6,000	<6.2	<6.2	<6.2	<7.7	<6.2	<6.2	<6.2	<6.2	<6.2	<6.2
Arsenic	10	10,000	<7.8	<7.8	<7.8	<7.8	<7.8	<7.8	11.9 J	<7.8	8.1 J	<7.8
Beryllium	4	4,000	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Cadmium	5	5,000	<0.64	<0.64	6.5	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64
Chromium	100	100,000	<2.0	2.5 J	<2.0	2.7 J	3.5 J	2.3 J	<2.0	<2.0	<2.0	2.4 J
Copper	1,000	1,000,000	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1
Lead	5	5,000	<5.1	<5.1	5.5 J	<5.1	11.4 J	<5.1	<5.1	<5.1	6.0 J	<5.1
Mercury	2	2,000	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nickel	100	100,000	<2.5	3.9 J	<2.5	<2.5	4.0 J	<2.5	<2.5	<2.5	<2.5	<2.5
Selenium	50	50,000	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7
Silver	100	100,000	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
Thallium	2	2,000	<8.4	<8.4	<8.4	<9.4	<9.4	<8.4	<8.4	<8.4	<8.4	<9.4
Zinc	2,000	2,000,000	<4.2	7.7 J	<4.2	<4.2	14.8 J	<4.2	<4.2	<4.2	<4.2	<4.2

Notes:

All results are in micrograms per liter (ug/L).

Bold results are detected above the method detection limit.

Shaded results exceed the listed Used Aquifer regulatory limit.

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Table 4
Groundwater Analytical Results
Metals
Philadelphia Gas Works - Passyunk Facility
Philadelphia, Pennsylvania
June 2016

Location			MW-7S	MW-10S	MW-11S	MW-12D	MW-12S	MW-42D	MW-42R	RINSE BLANK #4
Date			6/21/2016	6/21/2016	6/21/2016	6/21/2016	6/21/2016	6/20/2016	6/20/2016	6/20/2016
Parameter	PA DEP Groundwater Used Aquifer MSC ¹	PA DEP Groundwater Non-Use Aquifer MSC ²								
Antimony	6	6,000	<6.2	<6.2	<6.2	<7.7	<6.2	<6.2	<6.2	<6.2
Arsenic	10	10,000	7.8 J	<7.8	<7.8	<7.8	10.0 J	9.2 J	34.7	<7.8
Beryllium	4	4,000	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Cadmium	5	5,000	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64
Chromium	100	100,000	<2.0	<2.0	<2.0	5.0 J	<2.0	<2.0	<2.0	<2.0
Copper	1,000	1,000,000	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1
Lead	5	5,000	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1
Mercury	2	2,000	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nickel	100	100,000	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Selenium	50	50,000	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7
Silver	100	100,000	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
Thallium	2	2,000	<8.4	<9.4	<9.4	<9.4	<8.4	<9.4	<8.4	<8.4
Zinc	2,000	2,000,000	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2

Notes:

All results are in micrograms per liter (ug/L).

Bold results are detected above the method detection limit.

Shaded results exceed the listed Used Aquifer regulatory limit.

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APPENDIX A

Field Data Sheets

[illegible]

Low Flow Purge Data Sheet

Project Site Name: Richmond, Tioga, Passyunk, 9th and Diamond (circle one) **Well ID:** MW-15

Well ID: MIN-15

Date: 6-20-16

[illegible]**Comments:**

Purge water placed into HAZ drum.

Sample Method: *Low Flow*

Total Depth: 34.75 ft TIC

Sampling Equipment: 2" Submersible Pump

Static Water Level: 25.410 ft TIC

Well Casing Diameter: 2" or 4" (circle one)

Total Purge Time: 30 min

Casing Material: (PVC) or Steel (circle one)

Total Purge Volume: 3.17 gal (approx.)

Sample Collection Information

Sample ID: MW-15

Collection Time: 1430

Analysis: VOC SVOC Metals (circle all that apply)

Preservatives: HCL HNO3 none (circle all that apply)

Number of Bottles: 6

Initials *LE*

Page: 1 of 1

Low Flow Purge Data Sheet

Project Site Name: Richmond, Tioga, Passyunk, 9th and Diamond (circle one) **Well ID:** MW-2D

Well ID: MW-2D

Date: 6-29-16[illegible]

Comments: Purge water placed into non-HAZ drum.

Purge water placed into non-HAZ drum.

Sample Method: <i>Low Flow</i>	Total Depth: <u>83.72</u> ft TIC
Sampling Equipment: <i>2" Submersible Pump</i>	Static Water Level: <u>33.61</u> ft TIC
Well Casing Diameter: <i>2" or (4") (circle one)</i>	Total Purge Time: <u>35</u> min
Casing Material: <u>PVC</u> or Steel <i>(circle one)</i>	Total Purge Volume: <u>2.77</u> gal (approx.)

Sample Collection Information

Sample ID: MW-20

Collection Time: 1110

Analysis: VOC SVOC Metals (circle all that apply)

Preservatives: HCL HNO3 none (circle all that apply)

Number of Bottles: 6

Initials BAS / SLE Page: 1 of 1

Page: 1 of 1

Project Site Name: Richmond, Tioga, ~~Passyunk~~, 9th and Diamond (circle one)

Date: 6/20/16

Comments: water ploed into a non-haz drum.

SPC sensor not working properly. Collect when other parameters are stable.

Sample Collection Information

Sample ID: MW-25

Collection Time: 200

Analysis: VOC SVOC Metals (circle all that apply)

Preservatives: (HCL) (HNO3) none (circle all that apply)

Number of Bottles: 6

Initials *BA*

Page: 7 of 10

Low Flow Purge Data Sheet

Project Site Name: Richmond, Tioga, Passyunk, 9th and Diamond (circle one) **Well ID:** mw-3D

Date: 6/20/16

Well ID: mw-30

Date: 6/30/15

[illegible]

Comments: water played into a non haz drum

Total Depth: 85.50 ft TIC

Static Water Level: 32.51 ft TIC

Total Purge Time: 40 min

Total Purge Volume: 5 gal (approx.)

Sample Collection Information

Sample ID: mw-3D

Collection Time: 1320

Analysis: VOG SVOC Metals (circle all that apply)

Preservatives: HCL HNO3 none (circle all that apply)

Number of Bottles: 6

Page: 1 of 1

Low Flow Purge Data Sheet

Project Site Name: Richmond, Tioga, Passyunk, 9th and Diamond (circle one) **Well ID:** MW-35

Date: 6-29-16

Well ID: MW-35

Date: 6-29-16

[illegible]

Purge water placed into HAZ drum.
QA/QC sample collected from mw-35

Total Depth: 34.104 ft TIC

Static Water Level: 24.90 ft TIC

Total Purge Time: 40 min

Total Purge Volume: 4.22 gal (approx.)

Sample ID: MW-35

Collection Time: 1315

Analysis: VOC SVOC Metals (circle all that apply)

Preservatives: HCL HNO3 (none) (circle all that apply)

Number of Bottles: 7

Initials *SLE*

Page: 1 of 1

Low Flow Purge Data Sheet			
Project Site Name:	<u>Richmond, Tioga, Passyunk, 9th and Diamond</u> (circle one)	Well ID:	<u>MW-45</u>
		Date:	<u>6-21-16</u>

Well ID: mw-45

Date: 6-21-16

[illegible]

Purge water placed into a HAZ drum.
Collect Duplicate groundwater sample from mw-4s at 1310

Sample Method: <i>Low Flow</i>	Total Depth: <u>36.30</u> ft TIC
Sampling Equipment: <i>2" Submersible Pump</i>	Static Water Level: <u>27.10</u> ft TIC
Well Casing Diameter: <i>2" or 4" (circle one)</i>	Total Purge Time: <u>35</u> min
Casing Material: <i>PVC or Steel (circle one)</i>	Total Purge Volume: <u>3.69</u> gal (approx.)

Sample ID: MW-45

Collection Time: 1305

Analysis: VOC SVOC Metals (circle all that apply)

Preservatives: HCL HNO3 none (circle all that apply)

Number of Bottles: 16 SE 6/21/16 12

Initials SE

Page: 1 of 1

Project Site Name: Richmond, Tioga, (Passyunk) 9th and Diamond *(circle one)*

Date: 6-21-16

Comments:

Sample Method: *Low Flow*

Total Depth: 37.50 ft TIC

Sampling Equipment: 2" Submersible Pump

Static Water Level: 24.82 ft TIC

Well Casing Diameter: 2" or 4" (circle one)

Total Purge Time: 35 min

Casing Material: PVC or Steel (circle one)

Total Purge Volume: 3.69 gal (approx.)

Sample ID: MW-55

Collection Time: 0835

Analysis: VOC SVOC Metals (circle all that apply)

Preservatives: HCL HNO3 none (circle all that apply)

Number of Bottles: 6

Initials *LE*

Page: 1 of 1

Project Site Name: Richmond, Tioga, Passyunk, 9th and Diamond (circle one)

Date: 10-21-16

Comments:

Purge water placed into a HAZ drum.

Sample Collection Information

Sample ID: MW-7S

Collection Time: 0925

Analysis: VOC SVOC Metals (circle all that apply)

Preservatives: HCl HNO₃ none (circle all that apply)

Number of Bottles: 60

Initials *SL*

Page: 1 of 1

Low Flow Purge Data Sheet

Project Site Name: Richmond, Tioga Passyunk, 9th and Diamond (circle one) **Well ID:** mw-105

Date: 6/21/16

Well ID: *MW-105*

Date: 6/21/16

[illegible]

Comments: Purgewater played into a haz drum.
changed out old product sock for a new one following sampling.

No product detected in well.

Total Depth: 33.43 ft TIC

Static Water Level: 24.35 ft TIC

Total Purge Time: 30 min

Total Purge Volume: 4 gal (approx.)

Sample Collection Information

Sample ID: MW-105

Collection Time: 1335

Analysis: VOC SVOC Metals (circle all that apply)

Preservatives: HCL KNO3 none (circle all that apply)

Number of Bottles: 6

Initials *BAK*

Page: 1 of 1

Low Flow Purge Data Sheet

Project Site Name: Richmond, Tioga, Passyunk, 9th and Diamond (circle one)

Well ID: MW-115

Date: 10-21-16

[illegible]**Comments:**

Purge water placed into non-HAZ drum.

Sample Method: *Low Flow*

Total Depth: 28.85 ft TIC

Sampling Equipment: 2" Submersible Pump

Static Water Level: 21.55 ft TIC

Well Casing Diameter: 2" or 4" (circle one)

Total Purge Time: 30 min

Casing Material: PVC or Steel (circle one)

Total Purge Volume: 3.17 gal (approx.)

Sample Collection Information

Sample ID: *MU-115*

Collection Time: 1115

Analysis: VOG SVOG Metals (circle all that apply)

Preservatives: HCl HNO3 none (circle all that apply)

Number of Bottles: 6

Initials *JLE*

Page: 1 of 1

Low Flow Purge Data Sheet

Well ID: *mw-12D*

Date: 6/21/16

[illegible]

Comments: Purgewater placed into a non-haz drum.

Total Depth: 75.77 ft TIC

Static Water Level: 27.94 ft TIC

Total Purge Time: 25 min

Total Purge Volume: ~3 gal (approx.)

Sample Collection Information

Sample ID: MW-12D

Collection Time: 1020

Analysis: VOC SVOC Metals (circle all that apply)

Preservatives: HCl HNO3 none (circle all that apply)

Number of Bottles: 6

Page: 1 of 1

Low Flow Purge Data Sheet

Project Site Name: Richmond, Tioga, Passyunk, 9th and Diamond (circle one) **Well ID:** MW-125

Date: 6-21-16

Comments:
Purge water placed into a HAZ drum.

Total Depth: 33.06 ft TIC

Static Water Level: 20.95 ft TIC

Total Purge Time: 35 min

Total Purge Volume: 3.69 gal (approx.)

Sample ID: MW-125

Collection Time: 1025

Analysis: (VOC) (SVOC) (Metals) (circle all that apply)

Preservatives: HCL HNO3 none (circle all that apply)

Number of Bottles: 6

Initials *LLF*

Page: 4 of 7

Low Flow Purge Data Sheet

Project Site Name: Richmond, Tioga, Passyunk, 9th and Diamond (circle one) **Well ID:** MW-42D

Well ID: MW-42D

[illegible]

Comments: Purge water placed into a non-haz drum.
Spec. Conductance
Conductivity not functioning. Used other parameters for stabilization.

Total Depth: 69.75 ft TIC

Static Water Level: 31.32 ft TIC

Total Purge Time: 35 min

Total Purge Volume: 2.77 gal (approx.)

Sample Collection Information

Collection Time: 0940

Preservatives: HCL HNO3 none (circle all that apply)

Number of Bottles: 6

Initials *BK*

Page: 1 of 1

Low Flow Purge Data Sheet

Project Site Name: Richmond, Tioga, Passyunk 9th and Diamond (circle one) **Well ID:** MW-42R

Date: 6/20/16

Well ID: MW-42R

Date: 6/28/16

[illegible]

Comments: water placed into a non-haz drum

Sample Method: Low Flow

Total Depth: 29.65 ft TIC

Sampling Equipment: 2" Submersible Pump

Static Water Level: 22.50 ft TIC

Well Casing Diameter: 2" or 4" (circle one)

Total Purge Time: 25 min

Casing Material: PVC or Steel (circle one)

Total Purge Volume: 3 gal (approx.)

Sample Collection Information

Sample ID: mw-42R

Collection Time: 1015

Analysis: VOC SVOC Metals (circle all that apply)

Preservatives: HCL HNO3 none (circle all that apply)

Number of Bottles: 6

Initials **BAS**

Page: 7 of 1



APPENDIX B

Laboratory Data

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

Report Date: July 07, 2016

Project: PGW - Passyunk

Submittal Date: 06/22/2016

Group Number: 1674929

PO Number: PO10160257

State of Sample Origin: PA

Client Sample DescriptionMW-1D Grab Groundwater
MW-1S Grab Groundwater
MW-2D Grab Groundwater
MW-2S Grab Groundwater
MW-3D Grab Groundwater
MW-3S Grab Groundwater
MW-4S Grab Groundwater
MW-4S DUP Grab Groundwater
MW-5S Grab Groundwater
MW-6S Grab Groundwater
MW-7S Grab Groundwater
MW-10S Grab Groundwater
MW-11S Grab Groundwater
MW-12D Grab Groundwater
MW-12S Grab Groundwater
MW-42D Grab Groundwater
MW-42R Grab Groundwater
RINSE BLANK #4 Grab Water
TRIP BLANK Water

Lancaster Labs

(LL) #

8439784
8439785
8439786
8439787
8439788
8439789
8439790
8439791
8439792
8439793
8439794
8439795
8439796
8439797
8439798
8439799
8439800
8439801
8439802

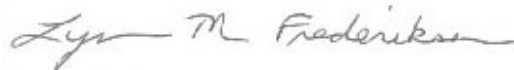
The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

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 Leidos Engineering, LLC

Attn: Matt Machusick

Respectfully Submitted,



Lynn M. Frederiksen
Principal Specialist Group Leader

(717) 556-7255

Project Name: PGW - Passyunk
LL Group #: 1674929

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if 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.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**SW-846 8260B, GC/MS Volatiles**

Batch #: N161832AA (Sample number(s): 8439791)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: Acetone

Batch #: T161831AA (Sample number(s): 8439784-8439788, 8439790, 8439792, 8439796-8439798, 8439800-8439802 UNSPK: 8439788)

The recovery(ies) for the following analyte(s) in the LCS exceeded the acceptance window indicating a positive bias: 1,2-Dichloroethane

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Chloroform, 1,1,1-Trichloroethane, Carbon Tetrachloride, 1,2-Dichloroethane, Bromodichloromethane, Vinyl Chloride, Chloroethane, trans-1,2-Dichloroethene, 1,1-Dichloroethane, Trichloroethene, 1,2-Dichloropropane, Toluene, Dibromochloromethane, Ethylbenzene, trans-1,3-Dichloropropene, Xylene (Total)

SW-846 8270C, GC/MS Semivolatiles

Sample #s: 8439784

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to repeat the analysis.

Sample #s: 8439785, 8439787, 8439789, 8439799

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Batch #: 16176WAA026 (Sample number(s): 8439784-8439801)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8439784, 8439785, 8439787, 8439788, 8439789, 8439797, 8439799

SW-846 6010B, Metals Dissolved

Batch #: 161751848003 (Sample number(s): 8439784-8439801 UNSPK: P438261 BKG: P438261)

The duplicate RPD for the following analyte(s) exceeded the acceptance window:
Antimony, Chromium, Lead

Sample Description: MW-1D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439784
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 14:35 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS1D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	6	20	1
10335	Benzene	71-43-2	670	5	10	10
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1	1
10335	Bromoform	75-25-2	N.D.	0.5	4	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	3	10	1
10335	Carbon Disulfide	75-15-0	N.D.	1	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1	1
10335	Chloroethane	75-00-3	N.D.	0.5	1	1
10335	Chloroform	67-66-3	N.D.	0.5	1	1
10335	Chloromethane	74-87-3	N.D.	0.5	1	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	7	0.5	1	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	3	10	1
10335	Methylene Chloride	75-09-2	N.D.	2	4	1
10335	Styrene	100-42-5	N.D.	1	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	3	0.5	1	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	14	0.5	1	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	180	0.5	3	5
04678	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
04678	Anthracene	120-12-7	5	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	N.D.	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-1D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439784
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 14:35 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS1D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	N.D.	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
04678	Dibenzofuran	132-64-9	6	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	31	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	2	0.1	0.5	1
04678	Fluorene	86-73-7	39	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	36	0.1	0.5	1
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	4	0.1	0.5	1
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	31	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	2	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-1D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439784
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 14:35 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS1D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Di-n-octylphthalate	117-84-0	N.D.	2	5	1
04678	Pentachlorophenol	87-86-5	N.D.	1	5	1
04678	Phenanthrene	85-01-8	31	0.1	0.5	1
04678	Phenol	108-95-2	N.D.	0.5	1	1
04678	Pyrene	129-00-0	2	0.1	0.5	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.5	1	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to repeat the analysis.

Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0062	0.0200	1
07035	Arsenic	7440-38-2	N.D.	0.0078	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0011	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00064	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0020	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0051	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0025	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0018	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0084	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0042	0.0200	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/01/2016 22:46	Sara E Johnson	1
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/01/2016 23:09	Sara E Johnson	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T161831AA	07/01/2016 22:46	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	T161831AA	07/01/2016 23:09	Sara E Johnson	10
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 09:21	Brandon H Smith	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	07/01/2016 18:40	Joseph M Gambler	5

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

Sample Description: MW-1D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439784
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 14:35 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS1D

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 01:55	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 01:55	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 01:55	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 01:55	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 01:55	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	06/30/2016 23:30	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 01:55	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 01:55	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 01:55	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 01:55	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	06/25/2016 01:55	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 01:55	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:24	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-1S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439785
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 14:30 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS1S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	6	20	1
10335	Benzene	71-43-2	100	0.5	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1	1
10335	Bromoform	75-25-2	N.D.	0.5	4	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	3	10	1
10335	Carbon Disulfide	75-15-0	N.D.	1	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1	1
10335	Chloroethane	75-00-3	N.D.	0.5	1	1
10335	Chloroform	67-66-3	N.D.	0.5	1	1
10335	Chloromethane	74-87-3	N.D.	0.5	1	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	8	0.5	1	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	3	10	1
10335	Methylene Chloride	75-09-2	N.D.	2	4	1
10335	Styrene	100-42-5	N.D.	1	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	1	0.5	1	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	11	0.5	1	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	65	0.1	0.5	1
04678	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
04678	Anthracene	120-12-7	3	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	8	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-1S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439785
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 14:30 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Harrisburg PA 17112

Submitted: 06/22/2016 15:30

Reported: 07/07/2016 12:24

PSS1S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	0.9 J	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	N.D.	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
04678	Dibenzofuran	132-64-9	11	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	30	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	0.2 J	0.1	0.5	1
04678	Fluorene	86-73-7	28	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	3	0.1	0.5	1
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	11	0.1	0.5	1
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	0.7 J	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	30	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-1S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439785
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 14:30 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS1S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Di-n-octylphthalate	117-84-0	N.D.	2	5	1
04678	Pentachlorophenol	87-86-5	N.D.	1	5	1
04678	Phenanthrene	85-01-8	3	0.1	0.5	1
04678	Phenol	108-95-2	N.D.	0.5	1	1
04678	Pyrene	129-00-0	0.2 J	0.1	0.5	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.5	1	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1

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

Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0062	0.0200	1
07035	Arsenic	7440-38-2	N.D.	0.0078	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0011	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00064	0.0050	1
07051	Chromium	7440-47-3	0.0025 J	0.0020	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0051	0.0150	1
07061	Nickel	7440-02-0	0.0039 J	0.0025	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0018	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0084	0.0300	1
07072	Zinc	7440-66-6	0.0077 J	0.0042	0.0200	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/01/2016 20:48	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T161831AA	07/01/2016 20:48	Sara E Johnson	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 10:21	Brandon H Smith	1
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1

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

Sample Description: MW-1S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439785
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 14:30 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS1S

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 02:04	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:04	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:04	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:04	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:04	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	06/30/2016 23:34	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:04	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:04	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:04	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:04	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	06/25/2016 02:04	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:04	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:26	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-2D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439786
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 11:10 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS2D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	6	20	1
10335	Benzene	71-43-2	N.D.	0.5	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1	1
10335	Bromoform	75-25-2	N.D.	0.5	4	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	3	10	1
10335	Carbon Disulfide	75-15-0	N.D.	1	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1	1
10335	Chloroethane	75-00-3	N.D.	0.5	1	1
10335	Chloroform	67-66-3	N.D.	0.5	1	1
10335	Chloromethane	74-87-3	N.D.	0.5	1	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	3	10	1
10335	Methylene Chloride	75-09-2	N.D.	2	4	1
10335	Styrene	100-42-5	N.D.	1	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	N.D.	0.5	1	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
04678	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
04678	Anthracene	120-12-7	N.D.	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	0.1 J	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	0.1 J	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	N.D.	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-2D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439786
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 11:10 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Harrisburg PA 17112

Submitted: 06/22/2016 15:30

Reported: 07/07/2016 12:24

PSS2D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	N.D.	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
04678	Dibenzofuran	132-64-9	N.D.	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	30	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
04678	Fluorene	86-73-7	N.D.	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	0.1 J	0.1	0.5	1
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	30	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-2D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439786
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 11:10 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Harrisburg PA 17112

Submitted: 06/22/2016 15:30

Reported: 07/07/2016 12:24

PSS2D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C						
04678	Di-n-octylphthalate	117-84-0	N.D.	ug/l	ug/l	
04678	Pentachlorophenol	87-86-5	N.D.	2	5	1
04678	Phenanthrene	85-01-8	N.D.	1	5	1
04678	Phenol	108-95-2	N.D.	0.1	0.5	1
04678	Pyrene	129-00-0	N.D.	0.5	1	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
Metals Dissolved SW-846 6010B						
07044	Antimony	7440-36-0	N.D.	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0062	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0078	0.0200	1
07049	Cadmium	7440-43-9	0.0065	0.0011	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.00064	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0020	0.0150	1
07055	Lead	7439-92-1	0.0055 J	0.0041	0.0100	1
07061	Nickel	7440-02-0	N.D.	0.0051	0.0150	1
07036	Selenium	7782-49-2	N.D.	0.0025	0.0100	1
07066	Silver	7440-22-4	N.D.	0.0097	0.0200	1
07022	Thallium	7440-28-0	N.D.	0.0018	0.0050	1
07072	Zinc	7440-66-6	N.D.	0.0084	0.0300	1
SW-846 7470A						
00259	Mercury	7439-97-6	N.D.	mg/l	mg/l	
				0.000050	0.00020	1

Sample Comments

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

This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/01/2016 21:12	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T161831AA	07/01/2016 21:12	Sara E Johnson	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 10:50	Brandon H Smith	1
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 02:07	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:07	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:07	Matthew R Machtinger	1

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

Sample Description: MW-2D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439786
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 11:10 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS2D

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:07	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:07	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	06/30/2016 23:37	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:07	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:07	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:07	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:07	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	06/25/2016 02:07	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:07	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:28	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-2S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439787
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 12:00 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS2S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	6	20	1
10335	Benzene	71-43-2	89	0.5	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1	1
10335	Bromoform	75-25-2	N.D.	0.5	4	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	3	10	1
10335	Carbon Disulfide	75-15-0	N.D.	1	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1	1
10335	Chloroethane	75-00-3	N.D.	0.5	1	1
10335	Chloroform	67-66-3	N.D.	0.5	1	1
10335	Chloromethane	74-87-3	N.D.	0.5	1	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	1,800	5	10	10
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	3	10	1
10335	Methylene Chloride	75-09-2	N.D.	2	4	1
10335	Styrene	100-42-5	N.D.	1	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	2	0.5	1	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	150	0.5	1	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	25	0.1	0.5	1
04678	Acenaphthylene	208-96-8	13	0.1	0.5	1
04678	Anthracene	120-12-7	0.8	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	0.2 J	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	0.1 J	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	47	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-2S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439787
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 12:00 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Harrisburg PA 17112

Submitted: 06/22/2016 15:30

Reported: 07/07/2016 12:24

PSS2S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	0.1 J	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
04678	Dibenzofuran	132-64-9	4	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	16	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	31	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	0.2 J	0.1	0.5	1
04678	Fluorene	86-73-7	9	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	16	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	95	0.1	0.5	1
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	1,400	2	10	20
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	31	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-2S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439787
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 12:00 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS2S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Di-n-octylphthalate	117-84-0	N.D.	2	5	1
04678	Pentachlorophenol	87-86-5	N.D.	1	5	1
04678	Phenanthrene	85-01-8	4	0.1	0.5	1
04678	Phenol	108-95-2	N.D.	0.5	1	1
04678	Pyrene	129-00-0	0.4 J	0.1	0.5	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.5	1	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1

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

Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0077	0.0200	1
07035	Arsenic	7440-38-2	N.D.	0.0078	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0011	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00064	0.0050	1
07051	Chromium	7440-47-3	0.0027 J	0.0020	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0051	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0025	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0018	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0042	0.0200	1

		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/02/2016 04:16	Sara E Johnson	1
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/02/2016 04:40	Sara E Johnson	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T161831AA	07/02/2016 04:16	Sara E Johnson	1

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

Sample Description: MW-2S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439787
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 12:00 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS2S

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	2	T161831AA	07/02/2016 04:40	Sara E Johnson	10
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 11:19	Brandon H Smith	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 20:58	Anthony P Bauer	20
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1
07044	Antimony	SW-846 6010B	1	161751848003	06/30/2016 23:41	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:10	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:10	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:10	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:10	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	06/30/2016 23:41	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:10	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:10	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:10	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:10	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	06/30/2016 23:41	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:10	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:30	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-3D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439788
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 13:20 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS3D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	6	20	1
10335	Benzene	71-43-2	N.D.	0.5	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1	1
10335	Bromoform	75-25-2	N.D.	0.5	4	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	3	10	1
10335	Carbon Disulfide	75-15-0	N.D.	1	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1	1
10335	Chloroethane	75-00-3	N.D.	0.5	1	1
10335	Chloroform	67-66-3	N.D.	0.5	1	1
10335	Chloromethane	74-87-3	N.D.	0.5	1	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	3	10	1
10335	Methylene Chloride	75-09-2	N.D.	2	4	1
10335	Styrene	100-42-5	N.D.	1	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	N.D.	0.5	1	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
04678	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
04678	Anthracene	120-12-7	N.D.	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	N.D.	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-3D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439788
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 13:20 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Harrisburg PA 17112

Submitted: 06/22/2016 15:30

Reported: 07/07/2016 12:24

PSS3D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	N.D.	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
04678	Dibenzofuran	132-64-9	N.D.	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	31	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
04678	Fluorene	86-73-7	N.D.	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	0.1 J	0.1	0.5	1
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	31	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-3D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439788
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 13:20 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS3D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C						
04678	Di-n-octylphthalate	117-84-0	N.D.	ug/l	ug/l	
04678	Pentachlorophenol	87-86-5	N.D.	2	5	1
04678	Phenanthrene	85-01-8	N.D.	1	5	1
04678	Phenol	108-95-2	N.D.	0.1	0.5	1
04678	Pyrene	129-00-0	N.D.	0.5	1	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
Metals Dissolved SW-846 6010B						
07044	Antimony	7440-36-0	N.D.	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0062	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0078	0.0200	1
07049	Cadmium	7440-43-9	N.D.	0.0011	0.0050	1
07051	Chromium	7440-47-3	0.0035 J	0.00064	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0020	0.0150	1
07055	Lead	7439-92-1	0.0114 J	0.0041	0.0100	1
07061	Nickel	7440-02-0	0.0040 J	0.0051	0.0150	1
07036	Selenium	7782-49-2	N.D.	0.0025	0.0100	1
07066	Silver	7440-22-4	N.D.	0.0097	0.0200	1
07022	Thallium	7440-28-0	N.D.	0.0018	0.0050	1
07072	Zinc	7440-66-6	0.0148 J	0.0094	0.0300	1
SW-846 7470A						
00259	Mercury	7439-97-6	N.D.	mg/l	mg/l	
				0.000050	0.00020	1

Sample Comments

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

This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/01/2016 21:35	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T161831AA	07/01/2016 21:35	Sara E Johnson	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 11:49	Brandon H Smith	1
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 02:13	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:13	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:13	Matthew R Machtinger	1

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

Sample Description: MW-3D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439788
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 13:20 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS3D

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:13	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:13	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	06/30/2016 23:48	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:13	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:13	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:13	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:13	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	06/30/2016 23:48	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:13	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:32	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-3S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439789
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 13:15 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS3S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	60	200	10
10335	Benzene	71-43-2	24,000	50	100	100
10335	Bromodichloromethane	75-27-4	N.D.	5	10	10
10335	Bromoform	75-25-2	N.D.	5	40	10
10335	Bromomethane	74-83-9	N.D.	5	10	10
10335	2-Butanone	78-93-3	N.D.	30	100	10
10335	Carbon Disulfide	75-15-0	N.D.	10	50	10
10335	Carbon Tetrachloride	56-23-5	N.D.	5	10	10
10335	Chlorobenzene	108-90-7	N.D.	5	10	10
10335	Chloroethane	75-00-3	N.D.	5	10	10
10335	Chloroform	67-66-3	N.D.	5	10	10
10335	Chloromethane	74-87-3	N.D.	5	10	10
10335	Dibromochloromethane	124-48-1	N.D.	5	10	10
10335	1,1-Dichloroethane	75-34-3	N.D.	5	10	10
10335	1,2-Dichloroethane	107-06-2	N.D.	5	10	10
10335	1,1-Dichloroethene	75-35-4	N.D.	5	10	10
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	5	10	10
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	5	10	10
10335	1,2-Dichloropropane	78-87-5	N.D.	5	10	10
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	5	10	10
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	5	10	10
10335	Ethylbenzene	100-41-4	2,900	5	10	10
10335	2-Hexanone	591-78-6	N.D.	30	100	10
10335	4-Methyl-2-pentanone	108-10-1	N.D.	30	100	10
10335	Methylene Chloride	75-09-2	N.D.	20	40	10
10335	Styrene	100-42-5	N.D.	10	50	10
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	5	10	10
10335	Tetrachloroethene	127-18-4	N.D.	5	10	10
10335	Toluene	108-88-3	16	5	10	10
10335	1,1,1-Trichloroethane	71-55-6	N.D.	5	10	10
10335	1,1,2-Trichloroethane	79-00-5	N.D.	5	10	10
10335	Trichloroethene	79-01-6	N.D.	5	10	10
10335	Vinyl Chloride	75-01-4	N.D.	5	10	10
10335	Xylene (Total)	1330-20-7	230	5	10	10
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	50	0.1	0.5	1
04678	Acenaphthylene	208-96-8	6	0.1	0.5	1
04678	Anthracene	120-12-7	5	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	1	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	0.2 J	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	0.6	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	0.2 J	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	0.2 J	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	65	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-3S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439789
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 13:15 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS3S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	1	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
04678	Dibenzofuran	132-64-9	14	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	30	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	4	0.1	0.5	1
04678	Fluorene	86-73-7	24	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	0.2 J	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	240	0.5	3	5
04678	2-Methylphenol	95-48-7	0.6 J	0.5	1	1
04678	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	7,400	10	51	100
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	30	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-3S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439789
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 13:15 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS3S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Di-n-octylphthalate	117-84-0	N.D.	2	5	1
04678	Pentachlorophenol	87-86-5	N.D.	1	5	1
04678	Phenanthrene	85-01-8	25	0.1	0.5	1
04678	Phenol	108-95-2	1	0.5	1	1
04678	Pyrene	129-00-0	4	0.1	0.5	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.5	1	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1

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

Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0062	0.0200	1
07035	Arsenic	7440-38-2	N.D.	0.0078	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0011	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00064	0.0050	1
07051	Chromium	7440-47-3	0.0023 J	0.0020	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0051	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0025	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0018	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0084	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0042	0.0200	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	W161841AA	07/02/2016 06:14	Anita M Dale	10
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	W161841AA	07/02/2016 06:37	Anita M Dale	100
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W161841AA	07/02/2016 06:14	Anita M Dale	10

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

Sample Description: MW-3S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439789
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 13:15 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS3S

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W161841AA	07/02/2016 06:37	Anita M Dale	100
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 12:18	Brandon H Smith	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 21:27	Anthony P Bauer	5
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 21:56	Anthony P Bauer	100
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 02:16	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:16	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:16	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:16	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:16	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	06/30/2016 23:51	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:16	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:16	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:16	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:16	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	06/25/2016 02:16	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:16	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:07	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-4S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439790
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 13:05 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS4S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	30	100	5
10335	Benzene	71-43-2	9,800	25	50	50
10335	Bromodichloromethane	75-27-4	N.D.	3	5	5
10335	Bromoform	75-25-2	N.D.	3	20	5
10335	Bromomethane	74-83-9	N.D.	3	5	5
10335	2-Butanone	78-93-3	N.D.	15	50	5
10335	Carbon Disulfide	75-15-0	N.D.	5	25	5
10335	Carbon Tetrachloride	56-23-5	N.D.	3	5	5
10335	Chlorobenzene	108-90-7	N.D.	3	5	5
10335	Chloroethane	75-00-3	N.D.	3	5	5
10335	Chloroform	67-66-3	N.D.	3	5	5
10335	Chloromethane	74-87-3	N.D.	3	5	5
10335	Dibromochloromethane	124-48-1	N.D.	3	5	5
10335	1,1-Dichloroethane	75-34-3	N.D.	3	5	5
10335	1,2-Dichloroethane	107-06-2	N.D.	3	5	5
10335	1,1-Dichloroethene	75-35-4	N.D.	3	5	5
10335	cis-1,2-Dichloroethene	156-59-2	8	3	5	5
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	3	5	5
10335	1,2-Dichloropropane	78-87-5	N.D.	3	5	5
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	3	5	5
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	3	5	5
10335	Ethylbenzene	100-41-4	6,600	25	50	50
10335	2-Hexanone	591-78-6	N.D.	15	50	5
10335	4-Methyl-2-pentanone	108-10-1	N.D.	15	50	5
10335	Methylene Chloride	75-09-2	N.D.	10	20	5
10335	Styrene	100-42-5	N.D.	5	25	5
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	3	5	5
10335	Tetrachloroethene	127-18-4	N.D.	3	5	5
10335	Toluene	108-88-3	9,300	25	50	50
10335	1,1,1-Trichloroethane	71-55-6	N.D.	3	5	5
10335	1,1,2-Trichloroethane	79-00-5	N.D.	3	5	5
10335	Trichloroethene	79-01-6	15	3	5	5
10335	Vinyl Chloride	75-01-4	N.D.	3	5	5
10335	Xylene (Total)	1330-20-7	8,100	25	50	50
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	170	0.5	3	5
04678	Acenaphthylene	208-96-8	18	0.1	0.5	1
04678	Anthracene	120-12-7	15	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	4	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	2	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	2	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	1	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	0.9	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	57	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	2	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-4S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439790
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 13:05 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS4S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	5	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	0.4 J	0.1	0.5	1
04678	Dibenzofuran	132-64-9	25	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	11	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	31	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	14	0.1	0.5	1
04678	Fluorene	86-73-7	57	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	1	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	1,200	10	51	100
04678	2-Methylphenol	95-48-7	8	0.5	1	1
04678	4-Methylphenol	106-44-5	32	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	12,000	10	51	100
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	31	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-4S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439790
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 13:05 by BS

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

Submitted: 06/22/2016 15:30

Reported: 07/07/2016 12:24

PSS4S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C						
04678	Di-n-octylphthalate	117-84-0	N.D.	ug/l	ug/l	
04678	Pentachlorophenol	87-86-5	N.D.	2	5	1
04678	Phenanthrene	85-01-8	70	1	5	1
04678	Phenol	108-95-2	8	0.1	0.5	1
04678	Pyrene	129-00-0	14	0.5	1	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
Metals Dissolved SW-846 6010B						
07044	Antimony	7440-36-0	N.D.	mg/l	mg/l	
07035	Arsenic	7440-38-2	0.0119 J	0.0062	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0078	0.0200	1
07049	Cadmium	7440-43-9	N.D.	0.0011	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.00064	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0020	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0041	0.0100	1
07061	Nickel	7440-02-0	N.D.	0.0051	0.0150	1
07036	Selenium	7782-49-2	N.D.	0.0025	0.0100	1
07066	Silver	7440-22-4	N.D.	0.0097	0.0200	1
07022	Thallium	7440-28-0	N.D.	0.0018	0.0050	1
07072	Zinc	7440-66-6	N.D.	0.0084	0.0300	1
SW-846 7470A						
00259	Mercury	7439-97-6	N.D.	0.0042	0.0200	1
				mg/l	mg/l	
				0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/02/2016 03:29	Sara E Johnson	5
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/02/2016 03:52	Sara E Johnson	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T161831AA	07/02/2016 03:29	Sara E Johnson	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	T161831AA	07/02/2016 03:52	Sara E Johnson	50
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 12:47	Brandon H Smith	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 22:25	Anthony P Bauer	5
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 22:54	Anthony P Bauer	100
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1

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

Sample Description: MW-4S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439790
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 13:05 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS4S

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 02:20	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:20	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:20	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:20	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:20	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	06/30/2016 23:55	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:20	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:20	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:20	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:20	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	06/25/2016 02:20	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:20	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:34	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-4S DUP Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439791
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 13:10 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS4D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	30	100	5
10335	Benzene	71-43-2	12,000	25	50	50
10335	Bromodichloromethane	75-27-4	N.D.	3	5	5
10335	Bromoform	75-25-2	N.D.	3	20	5
10335	Bromomethane	74-83-9	N.D.	3	5	5
10335	2-Butanone	78-93-3	N.D.	15	50	5
10335	Carbon Disulfide	75-15-0	N.D.	5	25	5
10335	Carbon Tetrachloride	56-23-5	N.D.	3	5	5
10335	Chlorobenzene	108-90-7	N.D.	3	5	5
10335	Chloroethane	75-00-3	N.D.	3	5	5
10335	Chloroform	67-66-3	N.D.	3	5	5
10335	Chloromethane	74-87-3	N.D.	3	5	5
10335	Dibromochloromethane	124-48-1	N.D.	3	5	5
10335	1,1-Dichloroethane	75-34-3	N.D.	3	5	5
10335	1,2-Dichloroethane	107-06-2	N.D.	3	5	5
10335	1,1-Dichloroethene	75-35-4	N.D.	3	5	5
10335	cis-1,2-Dichloroethene	156-59-2	8	3	5	5
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	3	5	5
10335	1,2-Dichloropropane	78-87-5	N.D.	3	5	5
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	3	5	5
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	3	5	5
10335	Ethylbenzene	100-41-4	6,600	25	50	50
10335	2-Hexanone	591-78-6	N.D.	15	50	5
10335	4-Methyl-2-pentanone	108-10-1	N.D.	15	50	5
10335	Methylene Chloride	75-09-2	N.D.	10	20	5
10335	Styrene	100-42-5	N.D.	5	25	5
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	3	5	5
10335	Tetrachloroethene	127-18-4	N.D.	3	5	5
10335	Toluene	108-88-3	9,600	25	50	50
10335	1,1,1-Trichloroethane	71-55-6	N.D.	3	5	5
10335	1,1,2-Trichloroethane	79-00-5	N.D.	3	5	5
10335	Trichloroethene	79-01-6	14	3	5	5
10335	Vinyl Chloride	75-01-4	N.D.	3	5	5
10335	Xylene (Total)	1330-20-7	8,500	25	50	50
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	150	0.5	3	5
04678	Acenaphthylene	208-96-8	17	0.1	0.5	1
04678	Anthracene	120-12-7	17	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	6	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	3	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	3	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	1	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	1	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	54	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-4S DUP Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439791
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 13:10 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS4D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	6	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	0.5 J	0.1	0.5	1
04678	Dibenzofuran	132-64-9	24	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	11	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	30	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	3 J	2	5	1
04678	Fluoranthene	206-44-0	18	0.1	0.5	1
04678	Fluorene	86-73-7	58	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	1	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	1,000	10	51	100
04678	2-Methylphenol	95-48-7	7	0.5	1	1
04678	4-Methylphenol	106-44-5	32	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	11,000	10	51	100
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	30	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-4S DUP Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439791
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 13:10 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS4D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C						
04678	Di-n-octylphthalate	117-84-0	N.D.	ug/l	ug/l	
04678	Pentachlorophenol	87-86-5	N.D.	2	5	1
04678	Phenanthrene	85-01-8	78	1	5	1
04678	Phenol	108-95-2	8	0.1	0.5	1
04678	Pyrene	129-00-0	17	0.5	1	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
Metals Dissolved SW-846 6010B						
07044	Antimony	7440-36-0	N.D.	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0062	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0078	0.0200	1
07049	Cadmium	7440-43-9	N.D.	0.0011	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.00064	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0020	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0041	0.0100	1
07061	Nickel	7440-02-0	N.D.	0.0051	0.0150	1
07036	Selenium	7782-49-2	N.D.	0.0025	0.0100	1
07066	Silver	7440-22-4	N.D.	0.0097	0.0200	1
07022	Thallium	7440-28-0	N.D.	0.0018	0.0050	1
07072	Zinc	7440-66-6	N.D.	0.0084	0.0300	1
SW-846 7470A						
00259	Mercury	7439-97-6	N.D.	0.0042	0.0200	1
				mg/l	mg/l	
				0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	N161832AA	07/02/2016 04:31	Kevin Kelly	5
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	N161832AA	07/02/2016 04:55	Kevin Kelly	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N161832AA	07/02/2016 04:31	Kevin Kelly	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	N161832AA	07/02/2016 04:55	Kevin Kelly	50
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 13:16	Brandon H Smith	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 23:23	Anthony P Bauer	5
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 23:52	Anthony P Bauer	100
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1

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

Sample Description: MW-4S DUP Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439791
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 13:10 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS4D

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 02:23	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:23	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:23	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:23	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:23	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	06/30/2016 23:58	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:23	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:23	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:23	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:23	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	06/25/2016 02:23	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:23	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:36	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-5S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439792
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 08:35 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS5S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	6	20	1
10335	Benzene	71-43-2	N.D.	0.5	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1	1
10335	Bromoform	75-25-2	N.D.	0.5	4	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	3	10	1
10335	Carbon Disulfide	75-15-0	N.D.	1	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1	1
10335	Chloroethane	75-00-3	N.D.	0.5	1	1
10335	Chloroform	67-66-3	N.D.	0.5	1	1
10335	Chloromethane	74-87-3	N.D.	0.5	1	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	3	10	1
10335	Methylene Chloride	75-09-2	N.D.	2	4	1
10335	Styrene	100-42-5	N.D.	1	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	N.D.	0.5	1	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
04678	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
04678	Anthracene	120-12-7	N.D.	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	N.D.	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-5S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439792
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 08:35 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS5S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	N.D.	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
04678	Dibenzofuran	132-64-9	N.D.	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	16	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	31	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
04678	Fluorene	86-73-7	N.D.	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	16	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	0.5	0.1	0.5	1
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	31	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-5S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439792
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 08:35 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS5S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C						
04678	Di-n-octylphthalate	117-84-0	N.D.	ug/l	ug/l	
04678	Pentachlorophenol	87-86-5	N.D.	2	5	1
04678	Phenanthrene	85-01-8	N.D.	1	5	1
04678	Phenol	108-95-2	N.D.	0.1	0.5	1
04678	Pyrene	129-00-0	N.D.	0.5	1	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
Metals Dissolved SW-846 6010B						
07044	Antimony	7440-36-0	N.D.	mg/l	mg/l	
07035	Arsenic	7440-38-2	0.0081 J	0.0062	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0078	0.0200	1
07049	Cadmium	7440-43-9	N.D.	0.0011	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.00064	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0020	0.0150	1
07055	Lead	7439-92-1	0.0060 J	0.0041	0.0100	1
07061	Nickel	7440-02-0	N.D.	0.0051	0.0150	1
07036	Selenium	7782-49-2	N.D.	0.0025	0.0100	1
07066	Silver	7440-22-4	N.D.	0.0097	0.0200	1
07022	Thallium	7440-28-0	N.D.	0.0018	0.0050	1
07072	Zinc	7440-66-6	N.D.	0.0084	0.0300	1
SW-846 7470A						
00259	Mercury	7439-97-6	N.D.	0.0042	0.0200	1
				mg/l	mg/l	
				0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/01/2016 21:59	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T161831AA	07/01/2016 21:59	Sara E Johnson	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 13:45	Brandon H Smith	1
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 02:26	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:26	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:26	Matthew R Machtinger	1

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

Sample Description: MW-5S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439792
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 08:35 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS5S

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:26	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:26	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	07/01/2016 00:01	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:26	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:26	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:26	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:26	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	06/25/2016 02:26	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:26	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:42	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-6S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439793
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 12:15 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS6S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	6	20	1
10335	Benzene	71-43-2	4,300	50	100	100
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1	1
10335	Bromoform	75-25-2	N.D.	0.5	4	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	3	10	1
10335	Carbon Disulfide	75-15-0	N.D.	1	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1	1
10335	Chloroethane	75-00-3	N.D.	0.5	1	1
10335	Chloroform	67-66-3	N.D.	0.5	1	1
10335	Chloromethane	74-87-3	N.D.	0.5	1	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	5	0.5	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	3,600	50	100	100
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	3	10	1
10335	Methylene Chloride	75-09-2	N.D.	2	4	1
10335	Styrene	100-42-5	N.D.	1	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	2,600	50	100	100
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	5,000	50	100	100
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	100	0.1	0.5	1
04678	Acenaphthylene	208-96-8	40	0.1	0.5	1
04678	Anthracene	120-12-7	9	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	5	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	3	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	3	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	2	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	1	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	56	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-6S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439793
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 12:15 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS6S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	5	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	0.5	0.1	0.5	1
04678	Dibenzofuran	132-64-9	14	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	14	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	31	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	11	0.1	0.5	1
04678	Fluorene	86-73-7	33	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	1	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	780	10	51	100
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	10	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	8,500	10	51	100
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	31	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-6S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439793
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 12:15 by BS

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

Submitted: 06/22/2016 15:30

Reported: 07/07/2016 12:24

PSS6S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C						
04678	Di-n-octylphthalate	117-84-0	N.D.	ug/l	ug/l	
04678	Pentachlorophenol	87-86-5	N.D.	2	5	1
04678	Phenanthrene	85-01-8	39	1	5	1
04678	Phenol	108-95-2	16	0.1	0.5	1
04678	Pyrene	129-00-0	11	0.5	1	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
Metals Dissolved SW-846 6010B						
07044	Antimony	7440-36-0	N.D.	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0062	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0078	0.0200	1
07049	Cadmium	7440-43-9	N.D.	0.0011	0.0050	1
07051	Chromium	7440-47-3	0.0024 J	0.00064	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0020	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0041	0.0100	1
07061	Nickel	7440-02-0	N.D.	0.0051	0.0150	1
07036	Selenium	7782-49-2	N.D.	0.0025	0.0100	1
07066	Silver	7440-22-4	N.D.	0.0097	0.0200	1
07022	Thallium	7440-28-0	N.D.	0.0018	0.0050	1
07072	Zinc	7440-66-6	N.D.	0.0094	0.0300	1
SW-846 7470A						
00259	Mercury	7439-97-6	N.D.	0.0042	0.0200	1
				mg/l	mg/l	
				0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	L161833AA	07/02/2016 04:16	Sara E Johnson	1
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	L161833AA	07/02/2016 07:11	Sara E Johnson	100
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L161833AA	07/02/2016 04:16	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	L161833AA	07/02/2016 07:11	Sara E Johnson	100
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 14:14	Brandon H Smith	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/28/2016 00:22	Anthony P Bauer	100
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 02:29	Matthew R Machtinger	1

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

Sample Description: MW-6S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439793
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 12:15 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS6S

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:29	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:29	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:29	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:29	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	07/01/2016 00:12	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:29	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:29	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:29	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:29	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	07/01/2016 00:12	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:29	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:44	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-7S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439794
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 09:25 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS7S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	6	20	1
10335	Benzene	71-43-2	4,300	50	100	100
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1	1
10335	Bromoform	75-25-2	N.D.	0.5	4	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	3	10	1
10335	Carbon Disulfide	75-15-0	N.D.	1	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1	1
10335	Chloroethane	75-00-3	N.D.	0.5	1	1
10335	Chloroform	67-66-3	N.D.	0.5	1	1
10335	Chloromethane	74-87-3	N.D.	0.5	1	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1	1
10335	1,1-Dichloroethane	75-34-3	2	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	4	0.5	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	3,200	50	100	100
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	3	10	1
10335	Methylene Chloride	75-09-2	N.D.	2	4	1
10335	Styrene	100-42-5	N.D.	1	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	48	0.5	1	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	2	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	3,900	50	100	100
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	63	0.1	0.5	1
04678	Acenaphthylene	208-96-8	7	0.1	0.5	1
04678	Anthracene	120-12-7	3	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	74	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-7S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439794
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 09:25 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS7S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	N.D.	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
04678	Dibenzofuran	132-64-9	15	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	3	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	30	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	2	0.1	0.5	1
04678	Fluorene	86-73-7	28	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	460	10	51	100
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	1 J	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	6,000	10	51	100
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	30	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-7S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439794
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 09:25 by BS

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

Submitted: 06/22/2016 15:30

Reported: 07/07/2016 12:24

PSS7S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C						
04678	Di-n-octylphthalate	117-84-0	N.D.	ug/l	ug/l	
04678	Pentachlorophenol	87-86-5	N.D.	2	5	1
04678	Phenanthrene	85-01-8	19	1	5	1
04678	Phenol	108-95-2	5	0.1	0.5	1
04678	Pyrene	129-00-0	1	0.5	1	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
Metals Dissolved SW-846 6010B						
07044	Antimony	7440-36-0	N.D.	mg/l	mg/l	
07035	Arsenic	7440-38-2	0.0078 J	0.0062	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0078	0.0200	1
07049	Cadmium	7440-43-9	N.D.	0.0011	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.00064	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0020	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0041	0.0100	1
07061	Nickel	7440-02-0	N.D.	0.0051	0.0150	1
07036	Selenium	7782-49-2	N.D.	0.0025	0.0100	1
07066	Silver	7440-22-4	N.D.	0.0097	0.0200	1
07022	Thallium	7440-28-0	N.D.	0.0018	0.0050	1
07072	Zinc	7440-66-6	N.D.	0.0084	0.0300	1
SW-846 7470A						
00259	Mercury	7439-97-6	N.D.	0.0042	0.0200	1
				0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	L161833AA	07/02/2016 05:00	Sara E Johnson	1
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	L161833AA	07/02/2016 07:33	Sara E Johnson	100
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L161833AA	07/02/2016 05:00	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	L161833AA	07/02/2016 07:33	Sara E Johnson	100
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 14:44	Brandon H Smith	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/28/2016 00:51	Anthony P Bauer	100
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 02:32	Matthew R Machtinger	1

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

Sample Description: MW-7S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439794
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 09:25 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS7S

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:32	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:32	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:32	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:32	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	07/01/2016 00:15	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:32	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:32	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:32	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:32	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	06/25/2016 02:32	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:32	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:46	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-10S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439795
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 13:35 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	30	100	5
10335	Benzene	71-43-2	21,000	250	500	500
10335	Bromodichloromethane	75-27-4	N.D.	3	5	5
10335	Bromoform	75-25-2	N.D.	3	20	5
10335	Bromomethane	74-83-9	N.D.	3	5	5
10335	2-Butanone	78-93-3	N.D.	15	50	5
10335	Carbon Disulfide	75-15-0	N.D.	5	25	5
10335	Carbon Tetrachloride	56-23-5	N.D.	3	5	5
10335	Chlorobenzene	108-90-7	N.D.	3	5	5
10335	Chloroethane	75-00-3	N.D.	3	5	5
10335	Chloroform	67-66-3	N.D.	3	5	5
10335	Chloromethane	74-87-3	N.D.	3	5	5
10335	Dibromochloromethane	124-48-1	N.D.	3	5	5
10335	1,1-Dichloroethane	75-34-3	N.D.	3	5	5
10335	1,2-Dichloroethane	107-06-2	N.D.	3	5	5
10335	1,1-Dichloroethene	75-35-4	N.D.	3	5	5
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	3	5	5
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	3	5	5
10335	1,2-Dichloropropane	78-87-5	N.D.	3	5	5
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	3	5	5
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	3	5	5
10335	Ethylbenzene	100-41-4	3,800	250	500	500
10335	2-Hexanone	591-78-6	N.D.	15	50	5
10335	4-Methyl-2-pentanone	108-10-1	N.D.	15	50	5
10335	Methylene Chloride	75-09-2	N.D.	10	20	5
10335	Styrene	100-42-5	N.D.	5	25	5
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	3	5	5
10335	Tetrachloroethene	127-18-4	N.D.	3	5	5
10335	Toluene	108-88-3	15,000	250	500	500
10335	1,1,1-Trichloroethane	71-55-6	N.D.	3	5	5
10335	1,1,2-Trichloroethane	79-00-5	N.D.	3	5	5
10335	Trichloroethene	79-01-6	N.D.	3	5	5
10335	Vinyl Chloride	75-01-4	N.D.	3	5	5
10335	Xylene (Total)	1330-20-7	11,000	250	500	500
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	72	0.1	0.5	1
04678	Acenaphthylene	208-96-8	25	0.1	0.5	1
04678	Anthracene	120-12-7	4	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	0.9	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	0.6	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	0.6	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	0.3 J	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	0.2 J	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	34	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-10S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439795
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 13:35 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	1	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	0.1 J	0.1	0.5	1
04678	Dibenzofuran	132-64-9	14	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	19	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	16	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	31	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	3	0.1	0.5	1
04678	Fluorene	86-73-7	29	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	16	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	0.2 J	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	990	10	52	100
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	18	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	8,700	10	52	100
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	31	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-10S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439795
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 13:35 by BS

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

Submitted: 06/22/2016 15:30

Reported: 07/07/2016 12:24

PSS10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C						
04678	Di-n-octylphthalate	117-84-0	N.D.	ug/l	ug/l	
04678	Pentachlorophenol	87-86-5	N.D.	2	5	1
04678	Phenanthrene	85-01-8	28	1	5	1
04678	Phenol	108-95-2	45	0.1	0.5	1
04678	Pyrene	129-00-0	3	0.5	1	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
Metals Dissolved SW-846 6010B						
07044	Antimony	7440-36-0	N.D.	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0062	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0078	0.0200	1
07049	Cadmium	7440-43-9	N.D.	0.0011	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.00064	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0020	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0041	0.0100	1
07061	Nickel	7440-02-0	N.D.	0.0051	0.0150	1
07036	Selenium	7782-49-2	N.D.	0.0025	0.0100	1
07066	Silver	7440-22-4	N.D.	0.0097	0.0200	1
07022	Thallium	7440-28-0	N.D.	0.0018	0.0050	1
07072	Zinc	7440-66-6	N.D.	0.0094	0.0300	1
SW-846 7470A						
00259	Mercury	7439-97-6	N.D.	0.0042	0.0200	1
				mg/l	mg/l	
				0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	L161833AA	07/02/2016 05:44	Sara E Johnson	5
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	L161833AA	07/02/2016 06:50	Sara E Johnson	500
01163	GC/MS VOA Water Prep	SW-846 5030B	1	L161833AA	07/02/2016 05:44	Sara E Johnson	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	L161833AA	07/02/2016 06:50	Sara E Johnson	500
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 15:13	Brandon H Smith	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/28/2016 01:20	Anthony P Bauer	100
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 02:42	Matthew R Machtinger	1

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

Sample Description: MW-10S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439795
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 13:35 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:42	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:42	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:42	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:42	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	07/01/2016 00:18	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:42	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:42	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:42	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:42	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	07/01/2016 00:18	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:42	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:48	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-11S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439796
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 11:15 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS11

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	6	20	1
10335	Benzene	71-43-2	700	5	10	10
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1	1
10335	Bromoform	75-25-2	N.D.	0.5	4	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	3	10	1
10335	Carbon Disulfide	75-15-0	N.D.	1	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1	1
10335	Chloroethane	75-00-3	N.D.	0.5	1	1
10335	Chloroform	67-66-3	N.D.	0.5	1	1
10335	Chloromethane	74-87-3	N.D.	0.5	1	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1	1
10335	1,1-Dichloroethane	75-34-3	2	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	200	0.5	1	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	3	10	1
10335	Methylene Chloride	75-09-2	N.D.	2	4	1
10335	Styrene	100-42-5	1 J	1	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	2	0.5	1	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	1	0.5	1	1
10335	Xylene (Total)	1330-20-7	27	0.5	1	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	47	0.1	0.5	1
04678	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
04678	Anthracene	120-12-7	2	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	0.7	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	0.5	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	0.7	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	0.3 J	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	0.2 J	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	28	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-11S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439796
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 11:15 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS11

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	0.9	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	0.1 J	0.1	0.5	1
04678	Dibenzofuran	132-64-9	9	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	31	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	2	0.1	0.5	1
04678	Fluorene	86-73-7	17	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	0.3 J	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	79	0.1	0.5	1
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	1,000	2	10	20
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	2	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	31	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-11S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439796
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 11:15 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS11

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C						
04678	Di-n-octylphthalate	117-84-0	N.D.	ug/l	ug/l	
04678	Pentachlorophenol	87-86-5	N.D.	2	5	1
04678	Phenanthrene	85-01-8	6	1	5	1
04678	Phenol	108-95-2	5	0.1	0.5	1
04678	Pyrene	129-00-0	2	0.5	1	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
Metals Dissolved SW-846 6010B						
07044	Antimony	7440-36-0	N.D.	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0062	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0078	0.0200	1
07049	Cadmium	7440-43-9	N.D.	0.0011	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.00064	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0020	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0041	0.0100	1
07061	Nickel	7440-02-0	N.D.	0.0051	0.0150	1
07036	Selenium	7782-49-2	N.D.	0.0025	0.0100	1
07066	Silver	7440-22-4	N.D.	0.0097	0.0200	1
07022	Thallium	7440-28-0	N.D.	0.0018	0.0050	1
07072	Zinc	7440-66-6	N.D.	0.0094	0.0300	1
SW-846 7470A						
00259	Mercury	7439-97-6	N.D.	0.0042	0.0200	1
				mg/l	mg/l	
				0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/02/2016 01:07	Sara E Johnson	1
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/02/2016 01:31	Sara E Johnson	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T161831AA	07/02/2016 01:07	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	T161831AA	07/02/2016 01:31	Sara E Johnson	10
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 15:42	Brandon H Smith	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/28/2016 01:49	Anthony P Bauer	20
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 02:45	Matthew R Machtinger	1

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

Sample Description: MW-11S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439796
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 11:15 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS11

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:45	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:45	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:45	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:45	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	07/01/2016 00:22	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:45	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:45	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:45	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:45	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	07/01/2016 00:22	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:45	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:50	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-12D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439797
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 10:20 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS12

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	6	20	1
10335	Benzene	71-43-2	N.D.	0.5	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1	1
10335	Bromoform	75-25-2	N.D.	0.5	4	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	3	10	1
10335	Carbon Disulfide	75-15-0	N.D.	1	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1	1
10335	Chloroethane	75-00-3	N.D.	0.5	1	1
10335	Chloroform	67-66-3	N.D.	0.5	1	1
10335	Chloromethane	74-87-3	N.D.	0.5	1	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	3	10	1
10335	Methylene Chloride	75-09-2	N.D.	2	4	1
10335	Styrene	100-42-5	N.D.	1	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	N.D.	0.5	1	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	2	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	0.4 J	0.1	0.5	1
04678	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
04678	Anthracene	120-12-7	N.D.	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	N.D.	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-12D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439797
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 10:20 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS12

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	N.D.	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
04678	Dibenzofuran	132-64-9	N.D.	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	31	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
04678	Fluorene	86-73-7	N.D.	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	0.3 J	0.1	0.5	1
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	31	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-12D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439797
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 10:20 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSS12

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C						
04678	Di-n-octylphthalate	117-84-0	N.D.	ug/l	ug/l	
04678	Pentachlorophenol	87-86-5	N.D.	2	5	1
04678	Phenanthrene	85-01-8	N.D.	1	5	1
04678	Phenol	108-95-2	N.D.	0.1	0.5	1
04678	Pyrene	129-00-0	N.D.	0.5	1	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
Metals Dissolved SW-846 6010B						
07044	Antimony	7440-36-0	N.D.	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0077	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0078	0.0200	1
07049	Cadmium	7440-43-9	N.D.	0.0011	0.0050	1
07051	Chromium	7440-47-3	0.0050 J	0.00064	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0020	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0041	0.0100	1
07061	Nickel	7440-02-0	N.D.	0.0051	0.0150	1
07036	Selenium	7782-49-2	N.D.	0.0025	0.0100	1
07066	Silver	7440-22-4	N.D.	0.0097	0.0200	1
07022	Thallium	7440-28-0	N.D.	0.0018	0.0050	1
07072	Zinc	7440-66-6	N.D.	0.0094	0.0300	1
SW-846 7470A						
00259	Mercury	7439-97-6	N.D.	0.0042	0.0200	1
				0.000050	0.00020	1

Sample Comments

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

This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/01/2016 22:22	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T161831AA	07/01/2016 22:22	Sara E Johnson	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 18:31	Anthony P Bauer	1
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1
07044	Antimony	SW-846 6010B	1	161751848003	07/01/2016 00:25	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:48	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:48	Matthew R Machtinger	1

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

Sample Description: MW-12D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439797
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 10:20 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSS12

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:48	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:48	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	07/01/2016 00:25	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:48	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:48	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:48	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:48	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	07/01/2016 00:25	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:48	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:52	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-12S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439798
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 10:25 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PS12S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	6	20	1
10335	Benzene	71-43-2	2,200	5	10	10
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1	1
10335	Bromoform	75-25-2	N.D.	0.5	4	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	3	10	1
10335	Carbon Disulfide	75-15-0	N.D.	1	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1	1
10335	Chloroethane	75-00-3	N.D.	0.5	1	1
10335	Chloroform	67-66-3	N.D.	0.5	1	1
10335	Chloromethane	74-87-3	N.D.	0.5	1	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1	1
10335	1,1-Dichloroethane	75-34-3	1	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	3	0.5	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	2,300	5	10	10
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	3	10	1
10335	Methylene Chloride	75-09-2	N.D.	2	4	1
10335	Styrene	100-42-5	N.D.	1	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	39	0.5	1	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	1	0.5	1	1
10335	Vinyl Chloride	75-01-4	0.7 J	0.5	1	1
10335	Xylene (Total)	1330-20-7	2,000	5	10	10
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	120	0.1	0.5	1
04678	Acenaphthylene	208-96-8	4	0.1	0.5	1
04678	Anthracene	120-12-7	7	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	0.7	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	0.5 J	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	0.5 J	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	0.2 J	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	0.2 J	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	91	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-12S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439798
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 10:25 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PS12S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	0.9	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
04678	Dibenzofuran	132-64-9	25	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	30	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	3	0.1	0.5	1
04678	Fluorene	86-73-7	47	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	0.2 J	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	1,100	10	51	100
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	1	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	8,800	10	51	100
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	30	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-12S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439798
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 10:25 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PS12S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C						
04678	Di-n-octylphthalate	117-84-0	N.D.	ug/l	ug/l	
04678	Pentachlorophenol	87-86-5	N.D.	2	5	1
04678	Phenanthrene	85-01-8	39	1	5	1
04678	Phenol	108-95-2	2	0.1	0.5	1
04678	Pyrene	129-00-0	3	0.5	1	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
Metals Dissolved SW-846 6010B						
07044	Antimony	7440-36-0	N.D.	mg/l	mg/l	
07035	Arsenic	7440-38-2	0.0100 J	0.0062	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0078	0.0200	1
07049	Cadmium	7440-43-9	N.D.	0.0011	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.00064	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0020	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0041	0.0100	1
07061	Nickel	7440-02-0	N.D.	0.0051	0.0150	1
07036	Selenium	7782-49-2	N.D.	0.0025	0.0100	1
07066	Silver	7440-22-4	N.D.	0.0097	0.0200	1
07022	Thallium	7440-28-0	N.D.	0.0018	0.0050	1
07072	Zinc	7440-66-6	N.D.	0.0084	0.0300	1
SW-846 7470A						
00259	Mercury	7439-97-6	N.D.	0.0042	0.0200	1
				mg/l	mg/l	
				0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/02/2016 01:54	Sara E Johnson	1
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/02/2016 02:18	Sara E Johnson	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T161831AA	07/02/2016 01:54	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	T161831AA	07/02/2016 02:18	Sara E Johnson	10
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 19:01	Anthony P Bauer	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/28/2016 02:18	Anthony P Bauer	100
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 02:51	Matthew R Machtinger	1

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

Sample Description: MW-12S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439798
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/21/2016 10:25 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PS12S

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:51	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:51	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:51	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:51	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	07/01/2016 00:32	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:51	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:51	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:51	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:51	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	06/25/2016 02:51	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:51	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:54	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-42D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439799
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 09:40 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PS42D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	6	20	1
10335	Benzene	71-43-2	2	0.5	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1	1
10335	Bromoform	75-25-2	N.D.	0.5	4	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	3	10	1
10335	Carbon Disulfide	75-15-0	N.D.	1	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1	1
10335	Chloroethane	75-00-3	N.D.	0.5	1	1
10335	Chloroform	67-66-3	N.D.	0.5	1	1
10335	Chloromethane	74-87-3	N.D.	0.5	1	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	3	10	1
10335	Methylene Chloride	75-09-2	N.D.	2	4	1
10335	Styrene	100-42-5	N.D.	1	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	N.D.	0.5	1	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
04678	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
04678	Anthracene	120-12-7	N.D.	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	N.D.	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-42D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439799
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 09:40 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Harrisburg PA 17112

Submitted: 06/22/2016 15:30

Reported: 07/07/2016 12:24

PS42D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	N.D.	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
04678	Dibenzofuran	132-64-9	N.D.	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	16	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	31	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
04678	Fluorene	86-73-7	N.D.	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	16	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	0.1 J	0.1	0.5	1
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	0.8	0.1	0.5	1
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	31	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-42D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439799
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 09:40 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PS42D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Di-n-octylphthalate	117-84-0	N.D.	2	5	1
04678	Pentachlorophenol	87-86-5	N.D.	1	5	1
04678	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
04678	Phenol	108-95-2	N.D.	0.5	1	1
04678	Pyrene	129-00-0	0.2 J	0.1	0.5	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.5	1	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1

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

Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0062	0.0200	1
07035	Arsenic	7440-38-2	0.0092 J	0.0078	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0011	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00064	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0020	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0051	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0025	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0018	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0042	0.0200	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	W161841AA	07/02/2016 05:50	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W161841AA	07/02/2016 05:50	Anita M Dale	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 19:30	Anthony P Bauer	1
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1

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

Sample Description: MW-42D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439799
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 09:40 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PS42D

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 02:54	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:54	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:54	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:54	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:54	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	07/01/2016 00:36	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:54	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:54	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:54	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:54	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	07/01/2016 00:36	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:54	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:56	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: MW-42R Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439800
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 10:15 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PS42R

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	6	20	1
10335	Benzene	71-43-2	200	0.5	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1	1
10335	Bromoform	75-25-2	N.D.	0.5	4	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	3	10	1
10335	Carbon Disulfide	75-15-0	N.D.	1	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1	1
10335	Chloroethane	75-00-3	N.D.	0.5	1	1
10335	Chloroform	67-66-3	N.D.	0.5	1	1
10335	Chloromethane	74-87-3	N.D.	0.5	1	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	2,800	5	10	10
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	3	10	1
10335	Methylene Chloride	75-09-2	N.D.	2	4	1
10335	Styrene	100-42-5	N.D.	1	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	N.D.	0.5	12	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	370	0.5	1	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	140	0.5	3	5
04678	Acenaphthylene	208-96-8	9	0.1	0.5	1
04678	Anthracene	120-12-7	20	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	9	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	5	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	6	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	3	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	2	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	43	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: MW-42R Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439800
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 10:15 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PS42R

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	10	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	0.8	0.1	0.5	1
04678	Dibenzofuran	132-64-9	18	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	31	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	29	0.1	0.5	1
04678	Fluorene	86-73-7	43	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	2	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	690	10	52	100
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	7,100	10	52	100
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	31	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: MW-42R Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439800
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 10:15 by BS

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

Submitted: 06/22/2016 15:30

Reported: 07/07/2016 12:24

PS42R

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C						
04678	Di-n-octylphthalate	117-84-0	N.D.	ug/l	ug/l	
04678	Pentachlorophenol	87-86-5	N.D.	2	5	1
04678	Phenanthrene	85-01-8	92	1	5	1
04678	Phenol	108-95-2	N.D.	0.1	0.5	1
04678	Pyrene	129-00-0	27	0.5	1	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
Metals Dissolved SW-846 6010B						
07044	Antimony	7440-36-0	N.D.	mg/l	mg/l	
07035	Arsenic	7440-38-2	0.0347	0.0062	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0078	0.0200	1
07049	Cadmium	7440-43-9	N.D.	0.0011	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.00064	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0020	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0041	0.0100	1
07061	Nickel	7440-02-0	N.D.	0.0051	0.0150	1
07036	Selenium	7782-49-2	N.D.	0.0025	0.0100	1
07066	Silver	7440-22-4	N.D.	0.0097	0.0200	1
07022	Thallium	7440-28-0	N.D.	0.0018	0.0050	1
07072	Zinc	7440-66-6	N.D.	0.0084	0.0300	1
SW-846 7470A						
00259	Mercury	7439-97-6	N.D.	0.0042	0.0200	1
				mg/l	mg/l	
				0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/02/2016 02:42	Sara E Johnson	1
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/02/2016 03:05	Sara E Johnson	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T161831AA	07/02/2016 02:42	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	T161831AA	07/02/2016 03:05	Sara E Johnson	10
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 19:59	Anthony P Bauer	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/28/2016 02:48	Anthony P Bauer	5
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/28/2016 03:17	Anthony P Bauer	100
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1

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

Sample Description: MW-42R Grab Groundwater
PGW - Passyunk

LL Sample # WW 8439800
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 10:15 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PS42R

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 02:57	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 02:57	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 02:57	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 02:57	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 02:57	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	07/01/2016 00:39	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 02:57	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 02:57	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 02:57	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 02:57	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	06/25/2016 02:57	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 02:57	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 07:58	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: RINSE BLANK #4 Grab Water
PGW - Passyunk

LL Sample # WW 8439801
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 15:15 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSRB4

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	6	20	1
10335	Benzene	71-43-2	N.D.	0.5	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1	1
10335	Bromoform	75-25-2	N.D.	0.5	4	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	3	10	1
10335	Carbon Disulfide	75-15-0	N.D.	1	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1	1
10335	Chloroethane	75-00-3	N.D.	0.5	1	1
10335	Chloroform	67-66-3	N.D.	0.5	1	1
10335	Chloromethane	74-87-3	N.D.	0.5	1	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	3	10	1
10335	Methylene Chloride	75-09-2	N.D.	2	4	1
10335	Styrene	100-42-5	N.D.	1	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	N.D.	0.5	1	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
04678	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
04678	Anthracene	120-12-7	N.D.	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
04678	Carbazole	86-74-8	N.D.	0.5	1	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
04678	4-Chloroaniline	106-47-8	N.D.	2	4	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1

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

Sample Description: RINSE BLANK #4 Grab Water
PGW - Passyunk

LL Sample # WW 8439801
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 15:15 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSRB4

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	ug/l	
04678	bis(2-Chloroethyl) ether	111-44-4	N.D.	0.5	1	1
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
04678	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
04678	Chrysene	218-01-9	N.D.	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
04678	Dibenzofuran	132-64-9	N.D.	0.5	1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
04678	Diethylphthalate	84-66-2	N.D.	2	5	1
04678	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
04678	Dimethylphthalate	131-11-3	N.D.	2	5	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	10	30	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
04678	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
04678	Fluorene	86-73-7	N.D.	0.1	0.5	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
04678	Hexachloroethane	67-72-1	N.D.	1	5	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
04678	Naphthalene	91-20-3	0.5 J	0.1	0.5	1
04678	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
04678	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
04678	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
04678	4-Nitrophenol	100-02-7	N.D.	10	30	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					

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

Sample Description: RINSE BLANK #4 Grab Water
PGW - Passyunk

LL Sample # WW 8439801
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 15:15 by BS

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSRB4

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C						
04678	Di-n-octylphthalate	117-84-0	N.D.	ug/l	ug/l	
04678	Pentachlorophenol	87-86-5	N.D.	2	5	1
04678	Phenanthrene	85-01-8	N.D.	1	5	1
04678	Phenol	108-95-2	N.D.	0.1	0.5	1
04678	Pyrene	129-00-0	N.D.	0.5	1	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
04678	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
Metals Dissolved SW-846 6010B						
07044	Antimony	7440-36-0	N.D.	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0062	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0078	0.0200	1
07049	Cadmium	7440-43-9	N.D.	0.0011	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.00064	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0020	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0041	0.0100	1
07061	Nickel	7440-02-0	N.D.	0.0051	0.0150	1
07036	Selenium	7782-49-2	N.D.	0.0025	0.0100	1
07066	Silver	7440-22-4	N.D.	0.0097	0.0200	1
07022	Thallium	7440-28-0	N.D.	0.0018	0.0050	1
07072	Zinc	7440-66-6	N.D.	0.0084	0.0300	1
SW-846 7470A						
00259	Mercury	7439-97-6	N.D.	0.0042	0.0200	1
				mg/l	mg/l	
				0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was field filtered 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
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/01/2016 20:01	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T161831AA	07/01/2016 20:01	Sara E Johnson	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16176WAA026	06/27/2016 20:28	Anthony P Bauer	1
00813	BNA Water Extraction	SW-846 3510C	1	16176WAA026	06/24/2016 16:00	Ryan A Schafran	1
07044	Antimony	SW-846 6010B	1	161751848003	06/25/2016 03:00	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	161751848003	06/25/2016 03:00	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	161751848003	06/25/2016 03:00	Matthew R Machtinger	1

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

Sample Description: RINSE BLANK #4 Grab Water
PGW - Passyunk

LL Sample # WW 8439801
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016 15:15 by BS

Leidos Engineering, LLC

6310 Allentown Blvd.

Submitted: 06/22/2016 15:30

Harrisburg PA 17112

Reported: 07/07/2016 12:24

PSRB4

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07049	Cadmium	SW-846 6010B	1	161751848003	06/25/2016 03:00	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	161751848003	06/25/2016 03:00	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	161751848003	07/01/2016 00:42	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	161751848003	06/25/2016 03:00	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	161751848003	06/25/2016 03:00	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	161751848003	06/25/2016 03:00	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	161751848003	06/25/2016 03:00	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	161751848003	06/25/2016 03:00	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	161751848003	06/25/2016 03:00	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	161755713004	06/27/2016 08:00	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	161751848003	06/24/2016 08:40	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	161755713004	06/24/2016 10:15	Lisa J Cooke	1

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

Sample Description: TRIP BLANK Water
PGW - Passyunk

LL Sample # WW 8439802
LL Group # 1674929
Account # 02732

Project Name: PGW - Passyunk

Collected: 06/20/2016

Leidos Engineering, LLC

Submitted: 06/22/2016 15:30

6310 Allentown Blvd.

Reported: 07/07/2016 12:24

Harrisburg PA 17112

PSSTB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	6	20	1
10335	Benzene	71-43-2	N.D.	0.5	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1	1
10335	Bromoform	75-25-2	N.D.	0.5	4	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	3	10	1
10335	Carbon Disulfide	75-15-0	N.D.	1	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1	1
10335	Chloroethane	75-00-3	N.D.	0.5	1	1
10335	Chloroform	67-66-3	N.D.	0.5	1	1
10335	Chloromethane	74-87-3	N.D.	0.5	1	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	3	10	1
10335	Methylene Chloride	75-09-2	N.D.	2	4	1
10335	Styrene	100-42-5	N.D.	1	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	N.D.	0.5	1	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	1	1

Sample Comments

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

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	T161831AA	07/01/2016 20:24	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T161831AA	07/01/2016 20:24	Sara E Johnson	1

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

Quality Control Summary

Client Name: Leidos Engineering, LLC
Reported: 07/07/2016 12:24

Group Number: 1674929

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

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

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: L161833AA	Sample number(s): 8439793-8439795		
Acetone	N.D.	6	20
Benzene	N.D.	0.5	1
Bromodichloromethane	N.D.	0.5	1
Bromoform	N.D.	0.5	4
Bromomethane	N.D.	0.5	1
2-Butanone	N.D.	3	10
Carbon Disulfide	N.D.	1	5
Carbon Tetrachloride	N.D.	0.5	1
Chlorobenzene	N.D.	0.5	1
Chloroethane	N.D.	0.5	1
Chloroform	N.D.	0.5	1
Chloromethane	N.D.	0.5	1
Dibromochloromethane	N.D.	0.5	1
1,1-Dichloroethane	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
1,1-Dichloroethene	N.D.	0.5	1
cis-1,2-Dichloroethene	N.D.	0.5	1
trans-1,2-Dichloroethene	N.D.	0.5	1
1,2-Dichloropropane	N.D.	0.5	1
cis-1,3-Dichloropropene	N.D.	0.5	1
trans-1,3-Dichloropropene	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
2-Hexanone	N.D.	3	10
4-Methyl-2-pentanone	N.D.	3	10
Methylene Chloride	N.D.	2	4
Styrene	N.D.	1	5
1,1,2,2-Tetrachloroethane	N.D.	0.5	1
Tetrachloroethene	N.D.	0.5	1
Toluene	N.D.	0.5	1
1,1,1-Trichloroethane	N.D.	0.5	1
1,1,2-Trichloroethane	N.D.	0.5	1
Trichloroethene	N.D.	0.5	1
Vinyl Chloride	N.D.	0.5	1
Xylene (Total)	N.D.	0.5	1
Batch number: N161832AA	Sample number(s): 8439791		
Acetone	N.D.	6	20
Benzene	N.D.	0.5	1
Bromodichloromethane	N.D.	0.5	1
Bromoform	N.D.	0.5	4
Bromomethane	N.D.	0.5	1
2-Butanone	N.D.	3	10
Carbon Disulfide	N.D.	1	5

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Leidos Engineering, LLC
Reported: 07/07/2016 12:24

Group Number: 1674929

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Carbon Tetrachloride	N.D.	0.5	1
Chlorobenzene	N.D.	0.5	1
Chloroethane	N.D.	0.5	1
Chloroform	N.D.	0.5	1
Chloromethane	N.D.	0.5	1
Dibromochloromethane	N.D.	0.5	1
1,1-Dichloroethane	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
1,1-Dichloroethene	N.D.	0.5	1
cis-1,2-Dichloroethene	N.D.	0.5	1
trans-1,2-Dichloroethene	N.D.	0.5	1
1,2-Dichloropropane	N.D.	0.5	1
cis-1,3-Dichloropropene	N.D.	0.5	1
trans-1,3-Dichloropropene	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
2-Hexanone	N.D.	3	10
4-Methyl-2-pentanone	N.D.	3	10
Methylene Chloride	N.D.	2	4
Styrene	N.D.	1	5
1,1,2,2-Tetrachloroethane	N.D.	0.5	1
Tetrachloroethene	N.D.	0.5	1
Toluene	N.D.	0.5	1
1,1,1-Trichloroethane	N.D.	0.5	1
1,1,2-Trichloroethane	N.D.	0.5	1
Trichloroethene	N.D.	0.5	1
Vinyl Chloride	N.D.	0.5	1
Xylene (Total)	N.D.	0.5	1
Batch number: T161831AA Sample number(s): 8439784-8439788,8439790,8439792,8439796-8439798,8439800-8439802			
Acetone	N.D.	6	20
Benzene	N.D.	0.5	1
Bromodichloromethane	N.D.	0.5	1
Bromoform	N.D.	0.5	4
Bromomethane	N.D.	0.5	1
2-Butanone	N.D.	3	10
Carbon Disulfide	N.D.	1	5
Carbon Tetrachloride	N.D.	0.5	1
Chlorobenzene	N.D.	0.5	1
Chloroethane	N.D.	0.5	1
Chloroform	N.D.	0.5	1
Chloromethane	N.D.	0.5	1
Dibromochloromethane	N.D.	0.5	1
1,1-Dichloroethane	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
1,1-Dichloroethene	N.D.	0.5	1
cis-1,2-Dichloroethene	N.D.	0.5	1
trans-1,2-Dichloroethene	N.D.	0.5	1
1,2-Dichloropropane	N.D.	0.5	1
cis-1,3-Dichloropropene	N.D.	0.5	1
trans-1,3-Dichloropropene	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
2-Hexanone	N.D.	3	10

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Leidos Engineering, LLC
Reported: 07/07/2016 12:24

Group Number: 1674929

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
4-Methyl-2-pentanone	N.D.	3	10
Methylene Chloride	N.D.	2	4
Styrene	N.D.	1	5
1,1,2,2-Tetrachloroethane	N.D.	0.5	1
Tetrachloroethene	N.D.	0.5	1
Toluene	N.D.	0.5	1
1,1,1-Trichloroethane	N.D.	0.5	1
1,1,2-Trichloroethane	N.D.	0.5	1
Trichloroethene	N.D.	0.5	1
Vinyl Chloride	N.D.	0.5	1
Xylene (Total)	N.D.	0.5	1
Batch number: W161841AA	Sample number(s): 8439789,8439799		
Acetone	N.D.	6	20
Benzene	N.D.	0.5	1
Bromodichloromethane	N.D.	0.5	1
Bromoform	N.D.	0.5	4
Bromomethane	N.D.	0.5	1
2-Butanone	N.D.	3	10
Carbon Disulfide	N.D.	1	5
Carbon Tetrachloride	N.D.	0.5	1
Chlorobenzene	N.D.	0.5	1
Chloroethane	N.D.	0.5	1
Chloroform	N.D.	0.5	1
Chloromethane	N.D.	0.5	1
Dibromochloromethane	N.D.	0.5	1
1,1-Dichloroethane	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
1,1-Dichloroethene	N.D.	0.5	1
cis-1,2-Dichloroethene	N.D.	0.5	1
trans-1,2-Dichloroethene	N.D.	0.5	1
1,2-Dichloropropane	N.D.	0.5	1
cis-1,3-Dichloropropene	N.D.	0.5	1
trans-1,3-Dichloropropene	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
2-Hexanone	N.D.	3	10
4-Methyl-2-pentanone	N.D.	3	10
Methylene Chloride	N.D.	2	4
Styrene	N.D.	1	5
1,1,2,2-Tetrachloroethane	N.D.	0.5	1
Tetrachloroethene	N.D.	0.5	1
Toluene	N.D.	0.5	1
1,1,1-Trichloroethane	N.D.	0.5	1
1,1,2-Trichloroethane	N.D.	0.5	1
Trichloroethene	N.D.	0.5	1
Vinyl Chloride	N.D.	0.5	1
Xylene (Total)	N.D.	0.5	1
Batch number: 16176WAA026	Sample number(s): 8439784-8439801		
Acenaphthene	N.D.	0.1	0.5
Acenaphthylene	N.D.	0.1	0.5
Anthracene	N.D.	0.1	0.5

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Leidos Engineering, LLC
Reported: 07/07/2016 12:24

Group Number: 1674929

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Benzo(a)anthracene	N.D.	0.1	0.5
Benzo(a)pyrene	N.D.	0.1	0.5
Benzo(b)fluoranthene	N.D.	0.1	0.5
Benzo(g,h,i)perylene	N.D.	0.1	0.5
Benzo(k)fluoranthene	N.D.	0.1	0.5
4-Bromophenyl-phenylether	N.D.	0.5	1
Butylbenzylphthalate	N.D.	2	5
Di-n-butylphthalate	N.D.	2	5
Carbazole	N.D.	0.5	1
4-Chloro-3-methylphenol	N.D.	0.5	1
4-Chloroaniline	N.D.	2	4
bis(2-Chloroethoxy)methane	N.D.	0.5	1
bis(2-Chloroethyl)ether	N.D.	0.5	1
2-Chloronaphthalene	N.D.	0.4	1
2-Chlorophenol	N.D.	0.5	1
4-Chlorophenyl-phenylether	N.D.	0.5	1
2,2'-oxybis(1-Chloropropane)	N.D.	0.5	1
Chrysene	N.D.	0.1	0.5
Dibenz(a,h)anthracene	N.D.	0.1	0.5
Dibenzofuran	N.D.	0.5	1
1,2-Dichlorobenzene	N.D.	0.5	1
1,3-Dichlorobenzene	N.D.	0.5	1
1,4-Dichlorobenzene	N.D.	0.5	1
3,3'-Dichlorobenzidine	N.D.	2	5
2,4-Dichlorophenol	N.D.	0.5	1
Diethylphthalate	N.D.	2	5
2,4-Dimethylphenol	N.D.	0.5	1
Dimethylphthalate	N.D.	2	5
4,6-Dinitro-2-methylphenol	N.D.	5	15
2,4-Dinitrophenol	N.D.	10	30
2,4-Dinitrotoluene	N.D.	1	5
2,6-Dinitrotoluene	N.D.	0.5	1
bis(2-Ethylhexyl)phthalate	N.D.	2	5
Fluoranthene	N.D.	0.1	0.5
Fluorene	N.D.	0.1	0.5
Hexachlorobenzene	N.D.	0.1	0.5
Hexachlorobutadiene	N.D.	0.5	1
Hexachlorocyclopentadiene	N.D.	5	15
Hexachloroethane	N.D.	1	5
Indeno(1,2,3-cd)pyrene	N.D.	0.1	0.5
Isophorone	N.D.	0.5	1
2-Methylnaphthalene	N.D.	0.1	0.5
2-Methylphenol	N.D.	0.5	1
4-Methylphenol	N.D.	0.5	1
Naphthalene	N.D.	0.1	0.5
2-Nitroaniline	N.D.	0.5	1
3-Nitroaniline	N.D.	0.5	1
4-Nitroaniline	N.D.	0.5	1
Nitrobenzene	N.D.	0.5	1
2-Nitrophenol	N.D.	0.5	1
4-Nitrophenol	N.D.	10	30

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Leidos Engineering, LLC
Reported: 07/07/2016 12:24

Group Number: 1674929

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
N-Nitroso-di-n-propylamine	N.D.	0.5	1
N-Nitrosodiphenylamine	N.D.	0.5	1
Di-n-octylphthalate	N.D.	2	5
Pentachlorophenol	N.D.	1	5
Phenanthrene	N.D.	0.1	0.5
Phenol	N.D.	0.5	1
Pyrene	N.D.	0.1	0.5
1,2,4-Trichlorobenzene	N.D.	0.5	1
2,4,5-Trichlorophenol	N.D.	0.5	1
2,4,6-Trichlorophenol	N.D.	0.5	1
	mg/l	mg/l	mg/l
Batch number: 161751848003	Sample number(s): 8439784-8439801		
Antimony	N.D.	0.0062	0.0200
Arsenic	N.D.	0.0078	0.0200
Beryllium	N.D.	0.0011	0.0050
Cadmium	N.D.	0.00064	0.0050
Chromium	N.D.	0.0020	0.0150
Copper	N.D.	0.0041	0.0100
Lead	N.D.	0.0051	0.0150
Nickel	N.D.	0.0025	0.0100
Selenium	N.D.	0.0097	0.0200
Silver	N.D.	0.0018	0.0050
Thallium	N.D.	0.0084	0.0300
Zinc	N.D.	0.0042	0.0200
Batch number: 161755713004	Sample number(s): 8439784-8439801		
Mercury	N.D.	0.000050	0.00020

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: L161833AA	Sample number(s): 8439793-8439795								
Acetone	150	128.99			86		58-138		
Benzene	20	20.51			103		78-120		
Bromodichloromethane	20	19.99			100		80-120		
Bromoform	20	17.22			86		67-120		
Bromomethane	20	19.19			96		53-130		
2-Butanone	150	130.66			87		62-131		
Carbon Disulfide	20	21.55			108		58-120		
Carbon Tetrachloride	20	22.45			112		74-130		
Chlorobenzene	20	19.44			97		80-120		
Chloroethane	20	19.29			96		56-120		
Chloroform	20	20.73			104		80-120		
Chloromethane	20	19.05			95		65-129		
Dibromochloromethane	20	17.48			87		78-120		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Leidos Engineering, LLC
Reported: 07/07/2016 12:24

Group Number: 1674929

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,1-Dichloroethane	20	20.43			102		80-120		
1,2-Dichloroethane	20	20.23			101		72-127		
1,1-Dichloroethene	20	21.68			108		76-124		
cis-1,2-Dichloroethene	20	20.91			105		80-120		
trans-1,2-Dichloroethene	20	21.73			109		80-120		
1,2-Dichloropropane	20	20.58			103		80-120		
cis-1,3-Dichloropropene	20	17.79			89		80-120		
trans-1,3-Dichloropropene	20	17.52			88		76-120		
Ethylbenzene	20	19.55			98		78-120		
2-Hexanone	100	63.72			64		35-138		
4-Methyl-2-pentanone	100	67.71			68		47-133		
Methylene Chloride	20	20.84			104		77-121		
Styrene	20	19.02			95		80-120		
1,1,2,2-Tetrachloroethane	20	17.68			88		72-120		
Tetrachloroethene	20	20.61			103		80-129		
Toluene	20	19.76			99		80-120		
1,1,1-Trichloroethane	20	20.43			102		66-126		
1,1,2-Trichloroethane	20	18.63			93		80-120		
Trichloroethene	20	20.87			104		80-120		
Vinyl Chloride	20	19.49			97		69-120		
Xylene (Total)	60	58.14			97		80-120		
Batch number: N161832AA Sample number(s): 8439791									
Acetone	150	186.42	150	226.74	124	151*	58-138	20	30
Benzene	20	20.32	20	20.25	102	101	78-120	0	30
Bromodichloromethane	20	19.09	20	19.02	95	95	80-120	0	30
Bromoform	20	19.13	20	19.04	96	95	67-120	0	30
Bromomethane	20	19.09	20	18.19	95	91	53-130	5	30
2-Butanone	150	132.33	150	150.48	88	100	62-131	13	30
Carbon Disulfide	20	18.72	20	18.51	94	93	58-120	1	30
Carbon Tetrachloride	20	20.6	20	20.28	103	101	74-130	2	30
Chlorobenzene	20	20.64	20	20.79	103	104	80-120	1	30
Chloroethane	20	19.13	20	18.46	96	92	56-120	4	30
Chloroform	20	19.43	20	19.4	97	97	80-120	0	30
Chloromethane	20	18.57	20	18.63	93	93	65-129	0	30
Dibromochloromethane	20	20.23	20	20.3	101	101	78-120	0	30
1,1-Dichloroethane	20	19.99	20	20	100	100	80-120	0	30
1,2-Dichloroethane	20	19.35	20	19.06	97	95	72-127	2	30
1,1-Dichloroethene	20	19.47	20	19.23	97	96	76-124	1	30
cis-1,2-Dichloroethene	20	19.1	20	19.28	96	96	80-120	1	30
trans-1,2-Dichloroethene	20	20.08	20	19.85	100	99	80-120	1	30
1,2-Dichloropropane	20	19.96	20	19.8	100	99	80-120	1	30
cis-1,3-Dichloropropene	20	17.47	20	17.56	87	88	80-120	1	30
trans-1,3-Dichloropropene	20	17.33	20	17.26	87	86	76-120	0	30
Ethylbenzene	20	19.76	20	19.73	99	99	78-120	0	30
2-Hexanone	100	84.78	100	88.28	85	88	35-138	4	30
4-Methyl-2-pentanone	100	84.46	100	84.39	84	84	47-133	0	30
Methylene Chloride	20	19.68	20	19.01	98	95	77-121	3	30
Styrene	20	18.48	20	18.31	92	92	80-120	1	30
1,1,2,2-Tetrachloroethane	20	18.71	20	17.87	94	89	72-120	5	30
Tetrachloroethene	20	21.03	20	20.82	105	104	80-129	1	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Leidos Engineering, LLC
Reported: 07/07/2016 12:24

Group Number: 1674929

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Toluene	20	19.97	20	19.94	100	100	80-120	0	30
1,1,1-Trichloroethane	20	17.97	20	17.94	90	90	66-126	0	30
1,1,2-Trichloroethane	20	19.12	20	19.12	96	96	80-120	0	30
Trichloroethene	20	20.01	20	20.17	100	101	80-120	1	30
Vinyl Chloride	20	20.81	20	20.51	104	103	69-120	1	30
Xylene (Total)	60	59.67	60	59.33	99	99	80-120	1	30
Batch number: T161831AA Sample number(s): 8439784-8439788,8439790,8439792,8439796-8439798,8439800-8439802									
Acetone	150	188.97			126		58-138		
Benzene	20	17.81			89		78-120		
Bromodichloromethane	20	23.84			119		80-120		
Bromoform	20	18.8			94		67-120		
Bromomethane	20	19.07			95		53-130		
2-Butanone	150	164.77			110		62-131		
Carbon Disulfide	20	16.58			83		58-120		
Carbon Tetrachloride	20	25.39			127		74-130		
Chlorobenzene	20	19.13			96		80-120		
Chloroethane	20	20.45			102		56-120		
Chloroform	20	23.14			116		80-120		
Chloromethane	20	20.19			101		65-129		
Dibromochloromethane	20	22.37			112		78-120		
1,1-Dichloroethane	20	22.42			112		80-120		
1,2-Dichloroethane	20	27.71			139*		72-127		
1,1-Dichloroethene	20	16.78			84		76-124		
cis-1,2-Dichloroethene	20	18.76			94		80-120		
trans-1,2-Dichloroethene	20	19.14			96		80-120		
1,2-Dichloropropane	20	22.55			113		80-120		
cis-1,3-Dichloropropene	20	18.34			92		80-120		
trans-1,3-Dichloropropene	20	20.67			103		76-120		
Ethylbenzene	20	22.03			110		78-120		
2-Hexanone	100	104.13			104		35-138		
4-Methyl-2-pentanone	100	97.27			97		47-133		
Methylene Chloride	20	17.71			89		77-121		
Styrene	20	18.85			94		80-120		
1,1,2,2-Tetrachloroethane	20	18.88			94		72-120		
Tetrachloroethene	20	19.75			99		80-129		
Toluene	20	20.33			102		80-120		
1,1,1-Trichloroethane	20	23.5			117		66-126		
1,1,2-Trichloroethane	20	19.57			98		80-120		
Trichloroethene	20	21.14			106		80-120		
Vinyl Chloride	20	19.47			97		69-120		
Xylene (Total)	60	58.82			98		80-120		
Batch number: W161841AA Sample number(s): 8439789,8439799									
Acetone	150	179.49	150	174.04	120	116	58-138	3	30
Benzene	20	22.08	20	21.9	110	109	78-120	1	30
Bromodichloromethane	20	20.26	20	21.25	101	106	80-120	5	30
Bromoform	20	16.72	20	16.29	84	81	67-120	3	30
Bromomethane	20	13.76	20	13.14	69	66	53-130	5	30
2-Butanone	150	143.74	150	134.44	96	90	62-131	7	30
Carbon Disulfide	20	20.22	20	20.53	101	103	58-120	1	30

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Quality Control Summary

Client Name: Leidos Engineering, LLC
Reported: 07/07/2016 12:24

Group Number: 1674929

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Carbon Tetrachloride	20	21.19	20	21.26	106	106	74-130	0	30
Chlorobenzene	20	21.31	20	21.41	107	107	80-120	0	30
Chloroethane	20	16.14	20	16.14	81	81	56-120	0	30
Chloroform	20	22.08	20	22.48	110	112	80-120	2	30
Chloromethane	20	13.85	20	13.71	69	69	65-129	1	30
Dibromochloromethane	20	19.49	20	19.05	97	95	78-120	2	30
1,1-Dichloroethane	20	22.31	20	22.23	112	111	80-120	0	30
1,2-Dichloroethane	20	21.34	20	21.35	107	107	72-127	0	30
1,1-Dichloroethene	20	21.89	20	22.11	109	111	76-124	1	30
cis-1,2-Dichloroethene	20	19.82	20	20.19	99	101	80-120	2	30
trans-1,2-Dichloroethene	20	20.66	20	21.08	103	105	80-120	2	30
1,2-Dichloropropane	20	22.55	20	22.94	113	115	80-120	2	30
cis-1,3-Dichloropropene	20	20.56	20	20.24	103	101	80-120	2	30
trans-1,3-Dichloropropene	20	20.38	20	20.77	102	104	76-120	2	30
Ethylbenzene	20	22.08	20	22.02	110	110	78-120	0	30
2-Hexanone	100	104.82	100	101.91	105	102	35-138	3	30
4-Methyl-2-pentanone	100	94.64	100	97.21	95	97	47-133	3	30
Methylene Chloride	20	22.87	20	23.19	114	116	77-121	1	30
Styrene	20	19.59	20	19.87	98	99	80-120	1	30
1,1,2,2-Tetrachloroethane	20	20.88	20	22.09	104	110	72-120	6	30
Tetrachloroethene	20	19.94	20	20.35	100	102	80-129	2	30
Toluene	20	20.88	20	21.18	104	106	80-120	1	30
1,1,1-Trichloroethane	20	18.2	20	18.06	91	90	66-126	1	30
1,1,2-Trichloroethane	20	20.43	20	20.63	102	103	80-120	1	30
Trichloroethene	20	21.36	20	21.26	107	106	80-120	0	30
Vinyl Chloride	20	15.21	20	15.03	76	75	69-120	1	30
Xylene (Total)	60	63.53	60	63.1	106	105	80-120	1	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16176WAA026	Sample number(s): 8439784-8439801								
Acenaphthene	50	45.73	50	46.63	91	93	69-123	2	30
Acenaphthylene	50	46.39	50	47.45	93	95	67-125	2	30
Anthracene	50	45.17	50	47.03	90	94	68-126	4	30
Benzo(a)anthracene	50	47.86	50	50.19	96	100	69-133	5	30
Benzo(a)pyrene	50	43.07	50	43.2	86	86	68-126	0	30
Benzo(b)fluoranthene	50	42.65	50	44.36	85	89	71-131	4	30
Benzo(g,h,i)perylene	50	49.04	50	49.95	98	100	62-132	2	30
Benzo(k)fluoranthene	50	39.21	50	43.65	78	87	72-128	11	30
4-Bromophenyl-phenylether	50	44.68	50	46.12	89	92	64-129	3	30
Butylbenzylphthalate	50	45.02	50	46.53	90	93	56-124	3	30
Di-n-butylphthalate	50	44.13	50	46.53	88	93	61-125	5	30
Carbazole	50	48.83	50	51.43	98	103	64-126	5	30
4-Chloro-3-methylphenol	50	46.15	50	48.33	92	97	65-125	5	30
4-Chloroaniline	50	34.28	50	39.36	69	79	45-115	14	30
bis(2-Chloroethoxy)methane	50	45.7	50	46.58	91	93	67-124	2	30
bis(2-Chloroethyl)ether	50	44	50	46	88	92	65-120	4	30
2-Chloronaphthalene	50	40.88	50	44.91	82	90	57-126	9	30
2-Chlorophenol	50	43.32	50	46.29	87	93	59-120	7	30
4-Chlorophenyl-phenylether	50	43.41	50	44.72	87	89	67-125	3	30
2,2'-oxybis(1-Chloropropane)	50	43.97	50	46.18	88	92	56-128	5	30

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Quality Control Summary

Client Name: Leidos Engineering, LLC
Reported: 07/07/2016 12:24

Group Number: 1674929

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Chrysene	50	48.03	50	49.96	96	100	71-136	4	30
Dibenz(a,h)anthracene	50	51.92	50	52.26	104	105	64-133	1	30
Dibenzofuran	50	44.75	50	46.24	90	92	67-120	3	30
1,2-Dichlorobenzene	50	38.04	50	38.81	76	78	53-119	2	30
1,3-Dichlorobenzene	50	35.33	50	36.42	71	73	53-111	3	30
1,4-Dichlorobenzene	50	36.25	50	36.98	72	74	34-123	2	30
3,3'-Dichlorobenzidine	50	32.18	50	39.15	64	78	39-118	20	30
2,4-Dichlorophenol	50	44.75	50	46.52	90	93	66-126	4	30
Diethylphthalate	50	43.48	50	44.32	87	89	55-124	2	30
2,4-Dimethylphenol	50	38.97	50	40.18	78	80	63-117	3	30
Dimethylphthalate	50	41.2	50	40.89	82	82	26-133	1	30
4,6-Dinitro-2-methylphenol	50	48.04	50	49.33	96	99	64-124	3	30
2,4-Dinitrophenol	100	82.55	100	81.02	83	81	42-129	2	30
2,4-Dinitrotoluene	50	44.57	50	46.21	89	92	71-131	4	30
2,6-Dinitrotoluene	50	45.62	50	46.86	91	94	71-133	3	30
bis(2-Ethylhexyl)phthalate	50	45.27	50	45.83	91	92	66-130	1	30
Fluoranthene	50	44.97	50	47.12	90	94	68-129	5	30
Fluorene	50	44.74	50	46	89	92	71-127	3	30
Hexachlorobenzene	50	42.94	50	43.53	86	87	64-128	1	30
Hexachlorobutadiene	50	29.99	50	30.52	60	61	23-129	2	30
Hexachlorocyclopentadiene	100	31.18	100	24.59	31	25	10-101	24	30
Hexachloroethane	50	31.46	50	32.85	63	66	23-121	4	30
Indeno(1,2,3-cd)pyrene	50	48.73	50	50.04	97	100	62-128	3	30
Isophorone	50	46.03	50	47.76	92	96	68-125	4	30
2-Methylnaphthalene	50	40.83	50	41.64	82	83	61-117	2	30
2-Methylphenol	50	43.08	50	46.86	86	94	54-122	8	30
4-Methylphenol	50	39.1	50	43.39	78	87	44-114	10	30
Naphthalene	50	42.01	50	42.33	84	85	62-121	1	30
2-Nitroaniline	50	48.5	50	49.94	97	100	68-130	3	30
3-Nitroaniline	50	45.36	50	48.27	91	97	58-122	6	30
4-Nitroaniline	50	43.41	50	46.76	87	94	61-111	7	30
Nitrobenzene	50	46.36	50	47.61	93	95	70-121	3	30
2-Nitrophenol	50	45.69	50	47.64	91	95	67-131	4	30
4-Nitrophenol	50	28.26	50	32.36	57	65	11-88	14	30
N-Nitroso-di-n-propylamine	50	45.6	50	47.51	91	95	63-121	4	30
N-Nitrosodiphenylamine	50	46.01	50	47.62	92	95	65-125	3	30
Di-n-octylphthalate	50	48.61	50	44.08	97	88	73-131	10	30
Pentachlorophenol	50	47.75	50	50.5	95	101	53-133	6	30
Phenanthrene	50	44.76	50	45.87	90	92	65-120	2	30
Phenol	50	25.57	50	30.23	51	60	19-82	17	30
Pyrene	50	43.85	50	45.8	88	92	68-118	4	30
1,2,4-Trichlorobenzene	50	36.55	50	36.91	73	74	59-117	1	30
2,4,5-Trichlorophenol	50	46.76	50	47.58	94	95	68-126	2	30
2,4,6-Trichlorophenol	50	46.81	50	47.8	94	96	71-130	2	30
	mg/l	mg/l	mg/l	mg/l					
Batch number: 161751848003	Sample number(s): 8439784-8439801								
Antimony	0.500	0.490			98		80-120		
Arsenic	0.150	0.147			98		80-120		
Beryllium	0.0500	0.0513			103		80-120		

*- Outside of specification

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P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Leidos Engineering, LLC
Reported: 07/07/2016 12:24

Group Number: 1674929

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Cadmium	0.0500	0.0504			101		80-120		
Chromium	0.200	0.201			101		80-120		
Copper	0.250	0.256			102		80-120		
Lead	0.150	0.150			100		80-120		
Nickel	0.500	0.502			100		80-120		
Selenium	0.150	0.142			95		80-120		
Silver	0.0500	0.0440			88		80-120		
Thallium	0.150	0.154			103		80-120		
Zinc	0.500	0.490			98		80-120		
Batch number: 161755713004	Sample number(s): 8439784-8439801								
Mercury	0.00100	0.000901			90		80-120		

MS/MSD

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

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: L161833AA	Sample number(s): 8439793-8439795				UNSPK: P444293					
Acetone	N.D.	150	124.55	150	128.13	83	85	58-138	3	30
Benzene	N.D.	20	21.55	20	21.42	108	107	78-120	1	30
Bromodichloromethane	N.D.	20	20.52	20	20.2	103	101	80-120	2	30
Bromoform	N.D.	20	17.2	20	17.16	86	86	67-120	0	30
Bromomethane	N.D.	20	18.84	20	18.28	94	91	53-130	3	30
2-Butanone	N.D.	150	131.24	150	131.79	87	88	62-131	0	30
Carbon Disulfide	N.D.	20	21.31	20	20.93	107	105	58-120	2	30
Carbon Tetrachloride	N.D.	20	24.55	20	23.84	123	119	74-130	3	30
Chlorobenzene	N.D.	20	20.45	20	20.3	102	101	80-120	1	30
Chloroethane	N.D.	20	19.85	20	19.11	99	96	56-120	4	30
Chloroform	N.D.	20	22.17	20	21.61	111	108	80-120	3	30
Chloromethane	N.D.	20	20.21	20	19.57	101	98	65-129	3	30
Dibromochloromethane	N.D.	20	17.71	20	17.56	89	88	78-120	1	30
1,1-Dichloroethane	N.D.	20	21.65	20	21.51	108	108	80-120	1	30
1,2-Dichloroethane	N.D.	20	20.61	20	20.52	103	103	72-127	0	30
1,1-Dichloroethene	N.D.	20	22.24	20	21.83	111	109	76-124	2	30
cis-1,2-Dichloroethene	1.79	20	23.73	20	23.67	110	109	80-120	0	30
trans-1,2-Dichloroethene	N.D.	20	22.67	20	22.25	113	111	80-120	2	30
1,2-Dichloropropane	N.D.	20	21.38	20	20.97	107	105	80-120	2	30
cis-1,3-Dichloropropene	N.D.	20	17.88	20	17.68	89	88	80-120	1	30
trans-1,3-Dichloropropene	N.D.	20	17.67	20	17.79	88	89	76-120	1	30
Ethylbenzene	N.D.	20	20.64	20	20.85	103	104	78-120	1	30
2-Hexanone	N.D.	100	61.52	100	62.36	62	62	35-138	1	30
4-Methyl-2-pentanone	N.D.	100	66.81	100	66.69	67	67	47-133	0	30
Methylene Chloride	N.D.	20	21.22	20	20.7	106	103	77-121	3	30
Styrene	N.D.	20	19.76	20	19.73	99	99	80-120	0	30

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Leidos Engineering, LLC
Reported: 07/07/2016 12:24

Group Number: 1674929

MS/MSD (continued)

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

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
1,1,2,2-Tetrachloroethane	N.D.	20	16.65	20	16.88	83	84	72-120	1	30
Tetrachloroethene	N.D.	20	22.37	20	22.4	112	112	80-129	0	30
Toluene	N.D.	20	20.62	20	20.7	103	104	80-120	0	30
1,1,1-Trichloroethane	N.D.	20	20.4	20	20.04	102	100	66-126	2	30
1,1,2-Trichloroethane	N.D.	20	18.77	20	19.04	94	95	80-120	1	30
Trichloroethene	1.17	20	23.92	20	23.49	114	112	80-120	2	30
Vinyl Chloride	N.D.	20	20.86	20	20.44	104	102	69-120	2	30
Xylene (Total)	N.D.	60	61.31	60	61.31	102	102	80-120	0	30

Batch number: T161831AA

Sample number(s): 8439784-8439788, 8439790, 8439792, 8439796-8439798, 8439800-8439802
UNSPK: 8439788

Acetone	N.D.	150	179.22	150	145.98	119	97	58-138	20	30
Benzene	N.D.	20	22.45	20	19.24	112	96	78-120	15	30
Bromodichloromethane	N.D.	20	28.72	20	24.58	144*	123*	80-120	16	30
Bromoform	N.D.	20	22.74	20	19.24	114	96	67-120	17	30
Bromomethane	N.D.	20	24.67	20	21	123	105	53-130	16	30
2-Butanone	N.D.	150	164.56	150	139.57	110	93	62-131	16	30
Carbon Disulfide	N.D.	20	21.23	20	17.94	106	90	58-120	17	30
Carbon Tetrachloride	N.D.	20	32.75	20	27.71	164*	139*	74-130	17	30
Chlorobenzene	N.D.	20	23.68	20	20.15	118	101	80-120	16	30
Chloroethane	N.D.	20	26.44	20	22.06	132*	110	56-120	18	30
Chloroform	N.D.	20	28.22	20	24.64	141*	123*	80-120	14	30
Chloromethane	N.D.	20	25.43	20	21.77	127	109	65-129	16	30
Dibromochloromethane	N.D.	20	27.3	20	23.35	137*	117	78-120	16	30
1,1-Dichloroethane	N.D.	20	27.55	20	23.61	138*	118	80-120	15	30
1,2-Dichloroethane	N.D.	20	32.82	20	28.11	164*	141*	72-127	15	30
1,1-Dichloroethene	N.D.	20	21.79	20	18.67	109	93	76-124	15	30
cis-1,2-Dichloroethene	N.D.	20	23.26	20	19.97	116	100	80-120	15	30
trans-1,2-Dichloroethene	N.D.	20	24.17	20	20.56	121*	103	80-120	16	30
1,2-Dichloropropane	N.D.	20	26.73	20	23.14	134*	116	80-120	14	30
cis-1,3-Dichloropropene	N.D.	20	22.33	20	18.97	112	95	80-120	16	30
trans-1,3-Dichloropropene	N.D.	20	25	20	21.11	125*	106	76-120	17	30
Ethylbenzene	N.D.	20	27.52	20	23.2	138*	116	78-120	17	30
2-Hexanone	N.D.	100	118.18	100	98.16	118	98	35-138	19	30
4-Methyl-2-pentanone	N.D.	100	112.1	100	95.96	112	96	47-133	16	30
Methylene Chloride	N.D.	20	21.8	20	18.61	109	93	77-121	16	30
Styrene	N.D.	20	23.06	20	19.58	115	98	80-120	16	30
1,1,2,2-Tetrachloroethane	N.D.	20	23.3	20	19.91	117	100	72-120	16	30
Tetrachloroethene	N.D.	20	25.38	20	20.74	127	104	80-129	20	30
Toluene	N.D.	20	24.81	20	21.32	124*	107	80-120	15	30
1,1,1-Trichloroethane	N.D.	20	29.93	20	25.61	150*	128*	66-126	16	30
1,1,2-Trichloroethane	N.D.	20	23.08	20	20.19	115	101	80-120	13	30
Trichloroethene	N.D.	20	26.67	20	22.56	133*	113	80-120	17	30
Vinyl Chloride	N.D.	20	25.5	20	22.08	127*	110	69-120	14	30
Xylene (Total)	N.D.	60	72.36	60	60.98	121*	102	80-120	17	30

mg/l mg/l mg/l mg/l mg/l

Batch number: 161751848003

Sample number(s): 8439784-8439801 UNSPK: P438261

Antimony	0.00886	0.500	0.511	0.500	0.499	100	98	75-125	2	20
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*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Leidos Engineering, LLC
Reported: 07/07/2016 12:24

Group Number: 1674929

MS/MSD (continued)

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

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Arsenic	0.198	0.150	0.358	0.150	0.353	107	104	75-125	1	20
Beryllium	N.D.	0.0500	0.0504	0.0500	0.0496	101	99	75-125	2	20
Cadmium	N.D.	0.0500	0.0489	0.0500	0.0482	98	96	75-125	1	20
Chromium	0.00280	0.200	0.197	0.200	0.194	97	96	75-125	2	20
Copper	N.D.	0.250	0.279	0.250	0.273	112	109	75-125	2	20
Lead	0.00898	0.150	0.158	0.150	0.154	100	96	75-125	3	20
Nickel	N.D.	0.500	0.484	0.500	0.477	97	95	75-125	1	20
Selenium	N.D.	0.150	0.148	0.150	0.142	99	94	75-125	4	20
Silver	N.D.	0.0500	0.0473	0.0500	0.0466	95	93	75-125	2	20
Thallium	N.D.	0.150	0.134	0.150	0.136	89	90	75-125	1	20
Zinc	0.0163	0.500	0.503	0.500	0.496	97	96	75-125	1	20
Batch number: 161755713004	Sample number(s): 8439784-8439801 UNSPK: 8439789									
Mercury	N.D.	0.00100	0.000876	0.00100	0.000877	88	88	80-120	0	20

Laboratory Duplicate

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

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Batch number: 161751848003	Sample number(s): 8439784-8439801 BKG: P438261			
Antimony	0.00886	N.D.	200* (1)	20
Arsenic	0.198	0.202	2	20
Beryllium	N.D.	N.D.	0 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	0.00280	N.D.	200* (1)	20
Copper	N.D.	N.D.	0 (1)	20
Lead	0.00898	0.00710	23* (1)	20
Nickel	N.D.	N.D.	0 (1)	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	0.0163	0.0166	2 (1)	20
Batch number: 161755713004	Sample number(s): 8439784-8439801 BKG: 8439789			
Mercury	N.D.	N.D.	0 (1)	20

Surrogate Quality Control

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

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Quality Control Summary

Client Name: Leidos Engineering, LLC
Reported: 07/07/2016 12:24

Group Number: 1674929

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: PPL/TCL Volatiles in Water

Batch number: L161833AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8439793	101	88	94	102
8439794	100	92	96	102
8439795	98	89	96	101
Blank	103	102	96	98
LCS	102	103	98	100
MS	102	101	97	99
MSD	101	102	98	100

Limits: 80-116 77-113 80-113 78-113

Analysis Name: PPL/TCL Volatiles in Water

Batch number: N161832AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8439791	99	106	95	101
Blank	103	106	98	93
LCS	102	103	101	99
LCSD	102	104	101	99

Limits: 80-116 77-113 80-113 78-113

Analysis Name: PPL/TCL Volatiles in Water

Batch number: T161831AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8439784	113	103	104	105
8439785	112	98	100	105
8439786	111	99	103	100
8439787	104	97	101	93
8439788	114	97	103	102
8439790	105	92	100	93
8439792	113	97	102	102
8439796	107	104	102	99
8439797	112	99	102	104
8439798	106	94	105	94
8439800	104	98	102	93
8439801	111	99	104	101
8439802	110	98	102	102
Blank	109	100	103	103
LCS	112	100	103	104
MS	110	95	105	105
MSD	110	98	103	105

Limits: 80-116 77-113 80-113 78-113

Analysis Name: PPL/TCL Volatiles in Water

Batch number: W161841AA

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Quality Control Summary

Client Name: Leidos Engineering, LLC
Reported: 07/07/2016 12:24

Group Number: 1674929

Surrogate Quality Control (continued)

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

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8439789	97	98	103	105
8439799	101	102	102	100
Blank	100	102	102	98
LCS	100	101	104	105
LCSD	99	102	105	104
Limits:	80-116	77-113	80-113	78-113

Analysis Name: TCL SW846 8270C Water
Batch number: 16176WAA026

	2-Fluorophenol	Phenol-d6	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8439784	5*	3*	15*	2*	81	83
8439785	5*	2*	7*	67	75	75
8439786	55	38	72	87	79	84
8439787	48	40	67	1*	77	68
8439788	5*	2*	5*	84	77	50
8439789	4*	3*	5*	1*	76	71
8439790	48	42	84	48	83	75
8439791	45	41	82	63	79	73
8439792	58	46	80	86	82	86
8439793	48	48	80	100	80	83
8439794	31	24	49	99	81	84
8439795	38	40	66	96	75	84
8439796	13	21	58	86	83	87
8439797	37	31	50	0*	48*	39*
8439798	51	37	75	59	79	70
8439799	5*	2*	23	6*	83	80
8439800	56	41	67	64	68	75
8439801	59	39	81	86	79	82
Blank	61	42	77	86	77	81
LCS	65	49	84	92	85	82
LCSD	73	55	84	91	84	85
Limits:	10-103	10-85	22-150	46-128	61-112	41-125

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Acct. # 2732 Group # 1674929 Sample # 8439784-802

7045 0216

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

Acct. # 2732 Group # 1674929 Sample # 8439784-802

Client: LEIDOS, INC				Matrix ☐ Tissue ☐ Ground ☐ Surface ☐ Potable ☐ NPDES ☐ Water ☐ Other:			Analyses Requested										For Lab Use Only																																																																						
Project Name/ #: PGW - Passyunk		Site ID #:					Preservation Codes																																																																																
Project Manager: Matt Machusick		P.O. #: PO10160257		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>TCL VOC via 8260B</td> <td>TCL SVOC via 8260B</td> <td>PPL Metals w/ Hg via 6010B/7470A</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>										TCL VOC via 8260B	TCL SVOC via 8260B	PPL Metals w/ Hg via 6010B/7470A																																																																						SF #: _____	
TCL VOC via 8260B	TCL SVOC via 8260B	PPL Metals w/ Hg via 6010B/7470A																																																																																					
Sampler: B. Sattler & S. Erway		PWSID #:		SCR #: _____																																																																																			
Phone #: 610-594-4310		Quote #:		Preservation Codes H = HCl T = Thiosulfate N = HNO ₃ B = NaOH S = H ₂ SO ₄ P = H ₃ PO ₄ O = Other																																																																																			
State where samples were collected: PA		For Compliance: Yes ☐ No ☐																																																																																					
Sample Identification <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Date</th> <th>Time</th> <th>Grab</th> <th>Composite</th> </tr> <tr><td>mw-75</td><td>6/21/16 0925</td><td>X</td><td></td></tr> <tr><td>mw-105</td><td>6/21/16 1335</td><td>X</td><td></td></tr> <tr><td>mw-115</td><td>6/21/16 1115</td><td>X</td><td></td></tr> <tr><td>mw-125 mw-12D</td><td>6/21/16 1020</td><td>X</td><td></td></tr> <tr><td>mw-125</td><td>6/21/16 1025</td><td>X</td><td></td></tr> <tr><td>mw-42D</td><td>6/20/16 0940</td><td>X</td><td></td></tr> <tr><td>mw-42R</td><td>6/20/16 1015</td><td>X</td><td></td></tr> <tr><td>RINSE BLANK #4</td><td>6/20/16 1515</td><td>X</td><td></td></tr> <tr><td>TRIP BLANK</td><td></td><td></td><td></td></tr> </table>				Date	Time	Grab	Composite	mw-75	6/21/16 0925	X		mw-105	6/21/16 1335	X		mw-115	6/21/16 1115	X		mw-125 mw-12D	6/21/16 1020	X		mw-125	6/21/16 1025	X		mw-42D	6/20/16 0940	X		mw-42R	6/20/16 1015	X		RINSE BLANK #4	6/20/16 1515	X		TRIP BLANK				Collection ☐ Sediment ☐ Soil ☐ Tissue ☐ Potable ☐ Water ☐ NPDES		Total # of Containers												Remarks																													
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Turnaround Time Requested (TAT) (please check): Standard ☒ Rush ☐ (Rush TAT is subject to laboratory approval and surcharges.)				Relinquished by: <u>[Signature]</u>		Date: 6/21/16		Time: 1700		Received by: <u>Storage</u>		Date: 6/21/16		Time: 1700																																																																									
Date results are needed:				Relinquished by: <u>[Signature]</u>		Date: 6/22/16		Time: 955		Received by: <u>[Signature]</u>		Date: 6/24/16		Time: 0948																																																																									
Rush results requested by (please check): E-Mail ☒ Phone ☐				Relinquished by: <u>[Signature]</u>		Date: 6/22/16		Time: 1730		Received by: _____		Date: _____		Time: _____																																																																									
E-mail Address: machusickm@leidos.com				Relinquished by: _____		Date: _____		Time: _____		Received by: _____		Date: _____		Time: _____																																																																									
Phone: _____				Relinquished by: _____		Date: _____		Time: _____		Received by: _____		Date: _____		Time: _____																																																																									
Data Package Options (please check if required) Type I (Validation/non-CLP) ☐ MA MCP ☐ Type III (Reduced non-CLP) ☐ CT RCP ☐ Type VI (Raw Data Only) ☐ TX TRRP-13 ☐ NJ DKQP ☐ NYSDEC Category ☐ A or ☐ B				Relinquished by: _____		Date: _____		Time: _____		Received by: <u>[Signature]</u>		Date: 6-22-16		Time: 1330																																																																									
EDD Required? Yes ☒ No ☐ If yes, format: project standard				Relinquished by Commercial Carrier: _____		Date: _____		Time: _____		Received by: _____		Date: _____		Time: _____																																																																									
UPS _____ FedEx _____ Other _____				Temperature upon receipt: 0.4-1.2°C																																																																																			

Client: Leidos**Delivery and Receipt Information**

Delivery Method:	<u>ELLE Courier</u>	Arrival Timestamp:	<u>06/22/2016 15:30</u>
Number of Packages:	<u>2</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>PA</u>		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace $\geq$ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	2
Samples Intact:	Yes	Trip Blank Type:	HCL
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

*Unpacked by Joseph Huber (7831) at 16:31 on 06/22/2016***Samples Chilled Details***Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.*

<u>Cooler #</u>	<u>Thermometer ID</u>	<u>Corrected Temp</u>	<u>Therm. Type</u>	<u>Ice Type</u>	<u>Ice Present?</u>	<u>Ice Container</u>	<u>Elevated Temp?</u>
1	DT121	1.2	DT	Wet	Y	Bagged	N
2	DT121	0.4	DT	Wet	Y	Bagged	N

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 $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...

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

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

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

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

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

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