GROUNDWATER SAMPLING REPORT
FOR THE SEPTEMBER 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

January 2017

Leidos, Inc.
1150 First Avenue, 4th Floor / King of Prussia, PA 19406 / 610.594.4310 leidos.com

Groundwater Sampling Report
for the September 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

Prepared by:

Leidos, Inc.
1150 First Avenue, 4th Floor
King of Prussia, PA 19406
(610) 594-4310

January 2017

Prepared by:

Lisa Cole
Staff Geologist

Reviewed by:

Matthew D. Machusick, P.G.
Project Manager

TABLE OF CONTENTS

Page

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1.0 INTRODUCTION

Leidos, Inc. (Leidos) has prepared this Groundwater Sampling Report (Report) for the Philadelphia Gas Works (PGW) to summarize and document the September 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 September 19 and 20, 2016.

2.0 METHODOLOGY

2.1 Monitoring Well Gauging

During the recent groundwater sampling event, 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: September 19 and 20, 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	32.25	76.85	1.32	Deep
MW-1S	2,683,457.178	224,134.605	33.22	25.75	34.75	7.47	Shallow
MW-2D	2,683,917.577	224,285.832	35.16	33.03	82.72	2.13	Deep
MW-2S	2,683,927.594	224,288.315	35.23	26.42	35.24	8.81	Shallow
MW-3D	2,684,691.380	224,483.090	34.73	32.29	85.50	2.44	Deep
MW-3S	2,684,683.310	224,481.500	34.49	25.20	34.64	9.29	Shallow
MW-4S	2,685,043.870	224,934.393	31.34	22.40	36.30	8.94	Shallow
MW-5S	2,685,403.726	225,420.163	33.19	25.20	37.50	7.99	Shallow
MW-6S	2,685,347.530	224,948.150	32.09	23.79	33.36	8.30	Shallow
MW-7S	2,685,066.930	224,605.930	29.09	21.40	34.66	7.69	Shallow
MW-10S	2,685,131.701	225,178.850	33.62	24.71	33.43	8.91	Shallow
MW-11S	2,685,404.935	224,755.228	30.32	21.72	28.85	8.60	Shallow
MW-12D	2,685,290.315	224,520.078	30.07	27.97	75.77	2.10	Deep
MW-12S	2,685,295.012	224,520.765	29.85	21.10	33.06	8.75	Shallow
MW-42D	2,684,363.750	225,540.440	33.69	31.46	69.75	2.23	Deep
MW-42R	2,684,370.420	225,556.920	33.11	23.32	29.65	9.79	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, 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**:
  - 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).
  - 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 sample collected from MW-12S contained benzo(a)anthracene at a concentration (10 µg/L) greater than the MSC for groundwater in nonresidential **used** aquifers (3.6 µg/L).

- **Benzo(a)pyrene**:
    - The samples from MW-3S, MW-4S, MW-6S, MW-10S, MW-11S, and MW-12S contained benzo(a)pyrene at concentrations greater than the MSC for groundwater in nonresidential **used** aquifers.
- **Benzo(b)fluoranthene**: The sample from MW-12S contained benzo(b)fluoranthene at a concentration (10 µg/L) 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-3S, MW-4S, MW-6S, MW-10S, and MW-12S 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 sample from MW-12S contained benzo(k)fluoranthene at a concentration (4 µg/L) greater than the MSC for groundwater in nonresidential **used** and **non-used** aquifers (0.55 µg/L for both).
- **Chrysene**: The samples from MW-12S contained chrysene at a concentration (11 µg/L) greater than the MSC for groundwater in nonresidential **used** and **non-used** aquifers (1.9 µg/L for both).
- **Dibenz(a,h)anthracene**: The sample from MW-12S contained dibenz(a,h)anthracene at a concentration of 1.0 µg/L, which is greater than the MSC for groundwater in nonresidential **used** and **non-used** aquifers (0.36 and 0.6 µg/L, respectively).
- **2-Methylnaphthalene**: The samples from MW-4S, MW-6S, 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, silver, thallium, and zinc were detected in the samples. Arsenic, lead, and thallium 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-2D, MW-3S, MW-4S, MW-5S, MW-6S, MW-7S, MW-10S, MW-11S, MW-12S, and MW-42D did not contain detections above the MSCs.
- **Arsenic**: The sample collected from MW-42R contained arsenic at a concentration (31.0 µg/L) greater than the MSC for groundwater in nonresidential **used** aquifers (10 µg/L).
- **Lead**: The samples collected from MW-2S and MW-12D contained lead at concentrations greater than the MSC for groundwater in nonresidential **used** aquifers (5 µg/L).
- **Thallium**: The samples collected from MW-3D contained thallium at an estimated concentration (14.8 µg/L) greater than the MSC for groundwater in nonresidential **used** aquifers (2 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 November 1, 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 current analytical results are similar to previous sampling events with a few exceptions. Benzene concentrations at MW-3S and MW-7S have declined substantially compared to multiple previous events. In contrast the benzene concentration at MW-11S is significantly higher than most prior events.

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

4.2 Future Activities

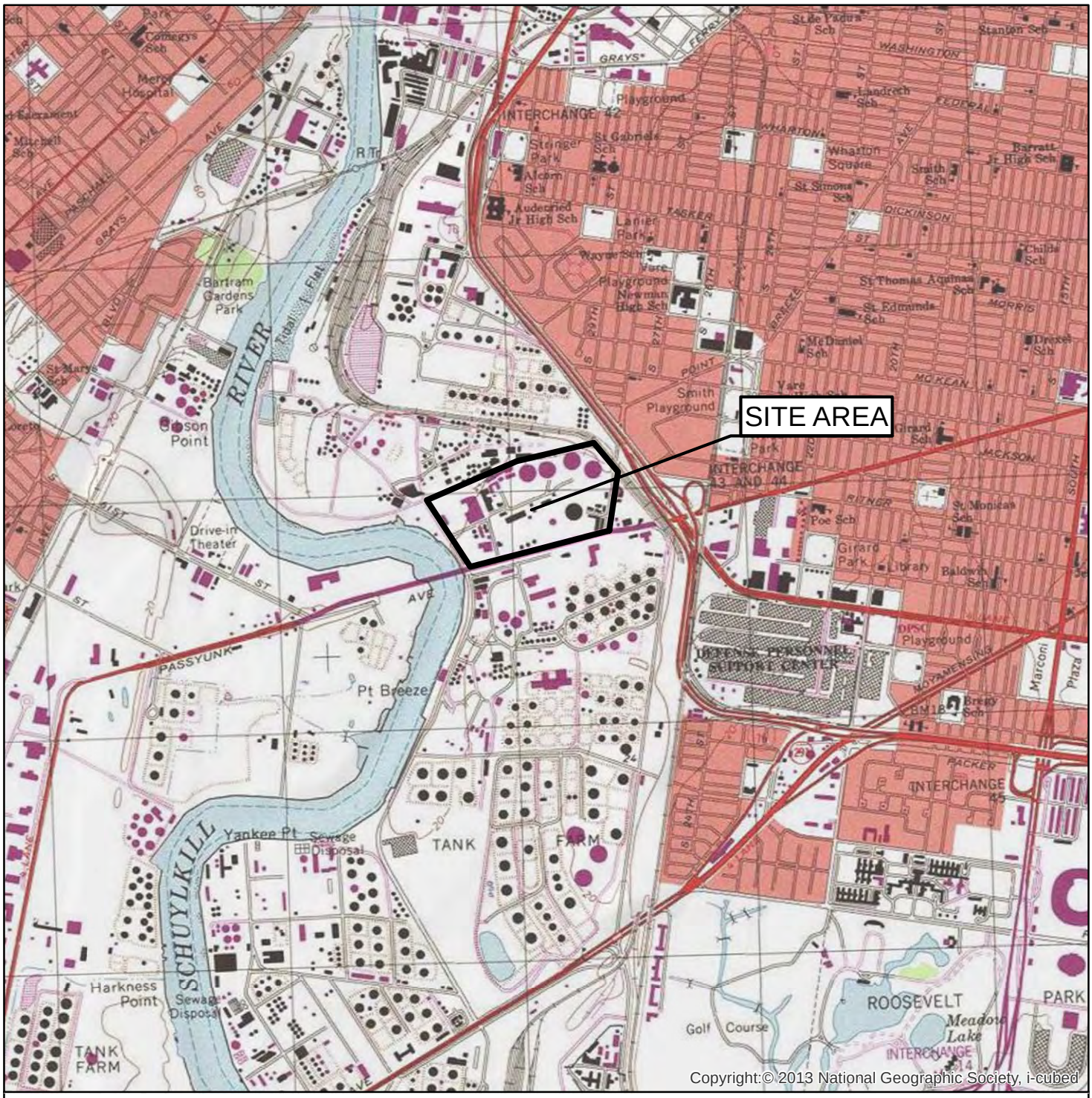
The next quarterly sampling event was conducted in December 2016. No additional activities are currently planned for this Site.

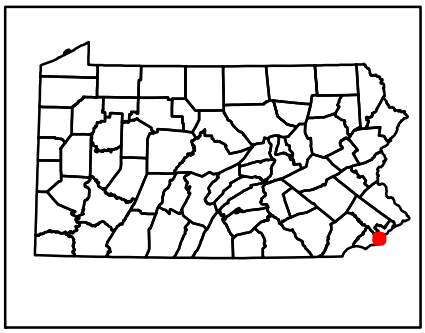
5.0 REFERENCES

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





0 1,000 2,000 4,000 Feet

N

Philadelphia Gas Works
Passyunk Property - Philadelphia, PA

Site Location Map

drawn TAY	checked	approved	figure no. 1
date 07/03/2014	date	date	
job no. 307070.00.0000.1000.0100		file no. Fig 01 - Site Loc Map	

initials	date	revision

leidos

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

D:\Harrisburg\GIS_Data\PGW\Passyunk\Projects\Fig 01 - Site Loc Map.mxd

Legend

- Monitoring Well
- Approximate Site Boundary

Source Imagery:
DVRPC 2005
Projection: PA State Plane NAD 1983 South

200 100 0 200 Feet

1 inch = 200 feet

N

Philadelphia Gas Works
Passyunk Property - Philadelphia, PA

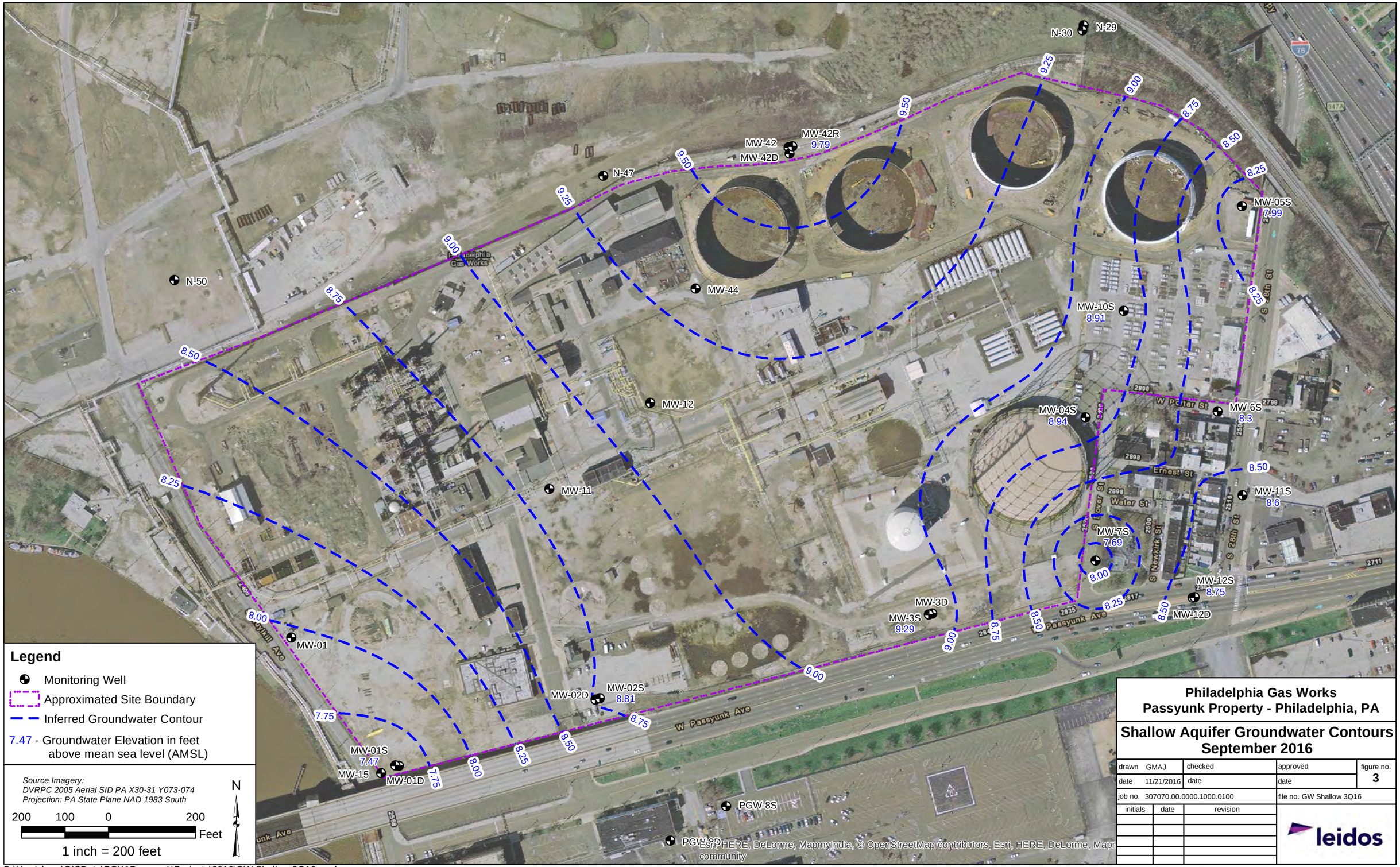
Well Location Map

drawn TAY	checked	approved	figure no. 2
date 07/02/2014	date	date	
job no. 307070.00.0000.1000.0100			file no. Fig 02 - Well Map

initials	date	revision
JMG	8/18/2015	Added approx. site boundary.

leidos

D:\Harrisburg\GIS_Data\PGW\Passyunk\Projects\Fig 02 - Well Map.mxd



Legend

- Monitoring Well
- Approximated Site Boundary
- Inferred Groundwater Contour
- 7.47 - 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

N

Philadelphia Gas Works
Passyunk Property - Philadelphia, PA

Shallow Aquifer Groundwater Contours
September 2016

drawn GMAJ	checked	approved	figure no. 3
date 11/21/2016	date	date	
job no. 307070.00.0000.1000.0100			file no. GW Shallow 3Q16

initials	date	revision

leidos

D:\Harrisburg\GISData\PGW\Passyunk\Projects\2016\GW Shallow 3Q16.mxd

Legend

- Monitoring Well
- Approximated Site Boundary
- Inferred Groundwater Contour
- 1.32 - 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

N

200 100 0 200 Feet

1 inch = 200 feet

Philadelphia Gas Works
Passyunk Property - Philadelphia, PA

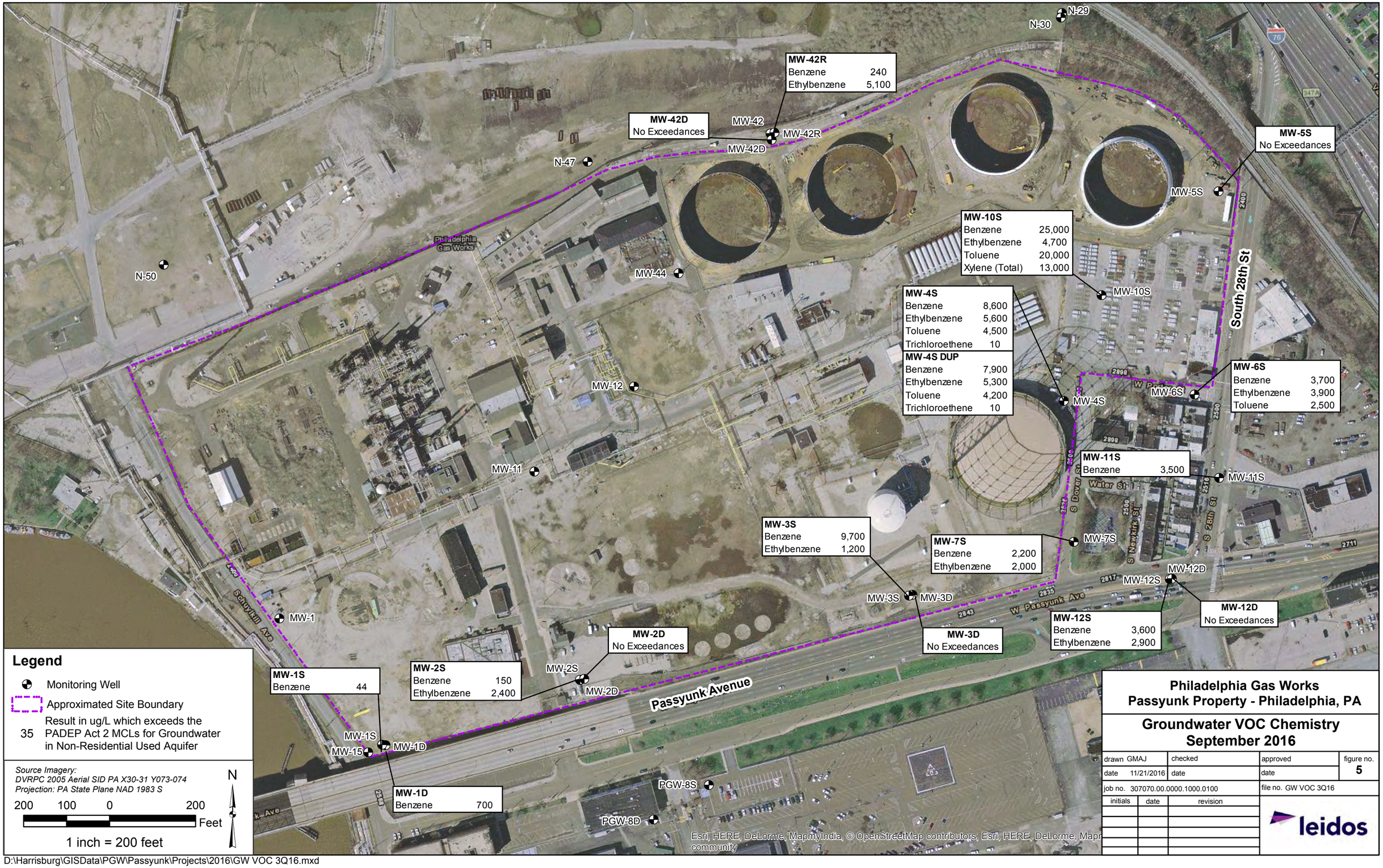
Deep Aquifer Groundwater Contours
September 2016

drawn GMAJ	checked	approved	figure no. 4
date 11/21/2016	date	date	
job no. 307070.00.0000.1000.0100		file no. GW Deep 3Q16	

initials	date	revision

leidos

D:\Harrisburg\GISData\PGW\Passyunk\Projects\2016\GW Deep 3Q16.mxd



Legend

- Monitoring Well
- Approximated Site Boundary
- 35 Result in ug/L which exceeds the PADEP Act 2 MCLs for Groundwater in Non-Residential Used Aquifer

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

200 100 0 200 Feet

1 inch = 200 feet

N

Philadelphia Gas Works
Passyunk Property - Philadelphia, PA

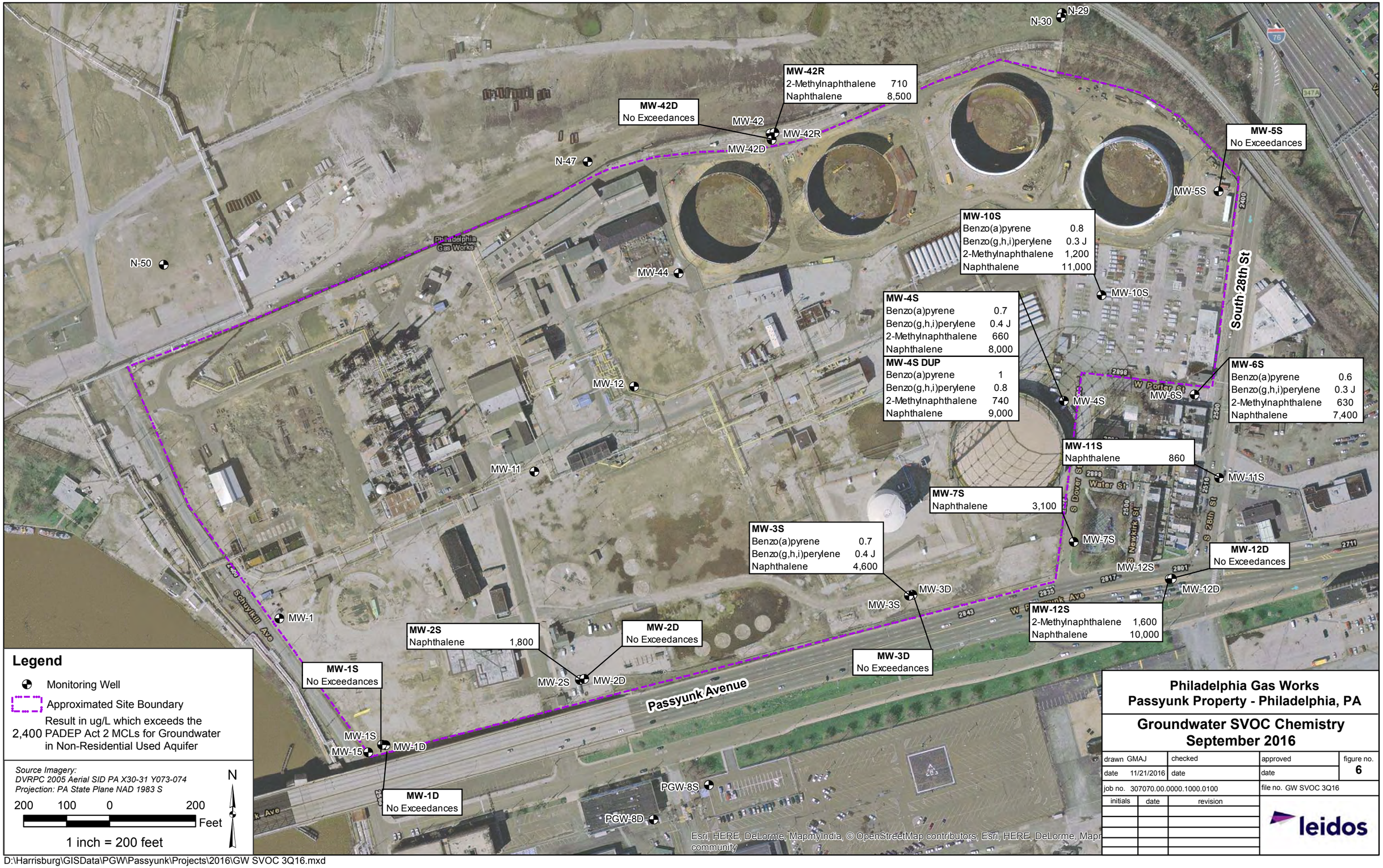
Groundwater VOC Chemistry
September 2016

drawn GMAJ	checked	approved	figure no. 5
date 11/21/2016	date	date	
job no. 307070.00.0000.1000.0100		file no. GW VOC 3Q16	

initials	date	revision

leidos

D:\Harrisburg\GISData\PGW\Passyunk\Projects\2016\GW VOC 3Q16.mxd



Legend

- Monitoring Well
- Approximated Site Boundary
- Result in ug/L which exceeds the 2,400 PADEP Act 2 MCLs for Groundwater in Non-Residential Used Aquifer

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

200 100 0 200 Feet

1 inch = 200 feet

N

Philadelphia Gas Works
Passyunk Property - Philadelphia, PA

Groundwater SVOC Chemistry September 2016

drawn GMAJ	checked	approved	figure no. 6
date 11/21/2016	date	date	
job no. 307070.00.0000.1000.0100			file no. GW SVOC 3Q16

initials	date	revision

leidos

D:\Harrisburg\GISData\PGW\Passyunk\Projects\2016\GW SVOC 3Q16.mxd

TABLES

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

		Location	MW-1D	MW-1S	MW-2D	MW-2S	MW-3D	MW-3S	MW-4S	MW-4S DUP	MW-5S	MW-6S	MW-7S	MW-10S	MW-11S	MW-12D	MW-12S
		Date	9/20/2016	9/20/2016	9/19/2016	9/19/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016
Parameter	**PA DEP Groundwater Used Aquifer MSC[1]**	**PA DEP Groundwater Non-Use Aquifer MSC[2]**															
Acetone	92,000	9,200,000	<6	<6	<6	<12	<6	<120	<60	<60	<6	<30	<12	<300	<30	<6	<60
Benzene	5	500	**700**	**44**	<0.5	**150**	<0.5	**9,700**	**8,600**	**7,900**	**10**	**3,700**	**2,200**	**25,000**	**3,500**	**1**	**3,600**
Bromodichloromethane	80	8,000	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
Bromoform	100	10,000	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
Bromomethane	10	1,000	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
2-Butanone	4,000	400,000	<3	<3	<3	<6	<3	<60	<30	<30	<3	<15	<6	<150	<15	<3	<30
Carbon Disulfide	6,200	620,000	<1	<1	<1	<2	<1	<20	<10	<10	<1	<5	<2	<50	<5	<1	<10
Carbon Tetrachloride	5	500	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
Chlorobenzene	100	10,000	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
Chloroethane	900	90,000	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
Chloroform	80	8,000	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
Chloromethane	3	300	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
Dibromochloromethane	100	10,000	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
1,1-Dichloroethane	160	16,000	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	**3 J**	<0.5	<5
1,2-Dichloroethane	5	500	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
1,1-Dichloroethene	7	700	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
cis-1,2-Dichloroethene	70	7,000	<0.5	<0.5	<0.5	<1	<0.5	<10	**7 J**	**7 J**	<0.5	**5 J**	**3**	<25	<3	<0.5	<5
trans-1,2-Dichloroethene	100	10,000	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
1,2-Dichloropropane	5	500	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
cis-1,3-Dichloropropene	26	2,600	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
trans-1,3-Dichloropropene	NA	NA	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
Ethylbenzene	700	70,000	**6**	**7**	**3**	**2,400**	**0.6 J**	**1,200**	**5,600**	**5,300**	**8**	**3,900**	**2,000**	**4,700**	**150**	<0.5	**2,900**
2-Hexanone	44	4,400	<3	<3	<3	<6	<3	<60	<30	<30	<3	<15	<6	<150	<15	<3	<30
4-Methyl-2-pentanone	8,200	820,000	<3	<3	<3	<6	<3	<60	<30	<30	<3	<15	<6	<150	<15	<3	<30
Methylene Chloride	5	500	<2	<2	<2	<4	<2	<40	<20	<20	<2	<10	<4	<100	<10	<2	<20
Styrene	100	10,000	<1	<1	<1	<2	<1	<20	<10	<10	<1	<5	<2	<50	<5	<1	<10
1,1,2,2-Tetrachloroethane	4.30	430	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
Tetrachloroethene	5	500	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
Toluene	1,000	100,000	**3**	**0.9 J**	<0.5	**3**	<0.5	<10	**4,500**	**4,200**	<0.5	**2,500**	**20**	**20,000**	**7**	<0.5	**39**
1,1,1-Trichloroethane	200	20,000	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
1,1,2-Trichloroethane	5	500	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	<3	<0.5	<5
Trichloroethene	5	500	**0.6 J**	<0.5	<0.5	<1	<0.5	<10	**10**	**10**	<0.5	<3	<1	<25	<3	**2**	<5
Vinyl Chloride	2	200	<0.5	<0.5	<0.5	<1	<0.5	<10	<5	<5	<0.5	<3	<1	<25	**3 J**	<0.5	<5
Xylene (Total)	10,000	1,000,000	**12**	**9**	<0.5	**160**	<0.5	**350**	**5,900**	**6,100**	**5**	**5,500**	**1,800**	**13,000**	**30**	<0.5	**2,300**

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.
--- : Not Analyzed.
< : Not detected at listed reporting limit.
J : Sample result detected was less than the reporting limit but greater than the method detection limit and is considered estimated.

[1] : Pennsylvania Department of Environmental Quality Medium-Specific Concentrations for Regulated Substances in Groundwater, Non-Residential Used Aquifers TDS<2500, 2011.
[2] : Pennsylvania Department of Environmental Quality Medium-Specific Concentrations for Regulated Substances in Groundwater, Non-Residential Non-Used Aquifers TDS<2500, 2011.

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

		Location	MW-42D	MW-42R	Rinse Blank #4	TRIP BLANK
		Date	9/19/2016	9/19/2016	9/19/2016	9/20/2016
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
Benzene	5	500	<0.5	**240**	**4**	<0.5
Bromodichloromethane	80	8,000	<0.5	<3	<0.5	<0.5
Bromoform	100	10,000	<0.5	<3	<0.5	<0.5
Bromomethane	10	1,000	<0.5	<3	<0.5	<0.5
2-Butanone	4,000	400,000	<3	<15	<3	<3
Carbon Disulfide	6,200	620,000	<1	<5	<1	<1
Carbon Tetrachloride	5	500	<0.5	<3	<0.5	<0.5
Chlorobenzene	100	10,000	<0.5	<3	<0.5	<0.5
Chloroethane	900	90,000	<0.5	<3	<0.5	<0.5
Chloroform	80	8,000	<0.5	<3	<0.5	<0.5
Chloromethane	3	300	<0.5	<3	<0.5	<0.5
Dibromochloromethane	100	10,000	<0.5	<3	<0.5	<0.5
1,1-Dichloroethane	160	16,000	<0.5	<3	<0.5	<0.5
1,2-Dichloroethane	5	500	<0.5	<3	<0.5	<0.5
1,1-Dichloroethene	7	700	<0.5	<3	<0.5	<0.5
cis-1,2-Dichloroethene	70	7,000	<0.5	<3	<0.5	<0.5
trans-1,2-Dichloroethene	100	10,000	<0.5	<3	<0.5	<0.5
1,2-Dichloropropane	5	500	<0.5	<3	<0.5	<0.5
cis-1,3-Dichloropropene	26	2,600	<0.5	<3	<0.5	<0.5
trans-1,3-Dichloropropene	NA	NA	<0.5	<3	<0.5	<0.5
Ethylbenzene	700	70,000	<0.5	**5,100**	**4**	<0.5
2-Hexanone	44	4,400	<3	<15	<3	<3
4-Methyl-2-pentanone	8,200	820,000	<3	<15	<3	<3
Methylene Chloride	5	500	<2	<10	<2	<2
Styrene	100	10,000	<1	<5	<1	<1
1,1,2,2-Tetrachloroethane	4.30	430	<0.5	<3	<0.5	<0.5
Tetrachloroethene	5	500	<0.5	<3	<0.5	<0.5
Toluene	1,000	100,000	<0.5	**12**	**2**	**2**
1,1,1-Trichloroethane	200	20,000	<0.5	<3	<0.5	<0.5
1,1,2-Trichloroethane	5	500	<0.5	<3	<0.5	<0.5
Trichloroethene	5	500	<0.5	<3	<0.5	<0.5
Vinyl Chloride	2	200	<0.5	<3	<0.5	<0.5
Xylene (Total)	10,000	1,000,000	<0.5	**400**	**4**	<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.
--- : Not Analyzed.
< : Not detected at listed reporting limit.
J : Sample result detected was less than the reporting limit but greater than the method detection limit and is considered estimated.
[1] : Pennsylvania Department of Environmental Quality Medium-Specific Concentrations for Regulated Substances in Groundwater, Non-Residential Used Aquifers TDS<2500, 2011.
[2] : Pennsylvania Department of Environmental Quality Medium-Specific Concentrations for Regulated Substances in Groundwater, Non-Residential Non-Used Aquifers TDS<2500, 2011.

Table 3
Groundwater Analytical Results
Semivolatile Organic Compounds
Philadelphia Gas Works - Passyunk Facility
Philadelphia, Pennsylvania
September 2016

		Location	MW-1D	MW-1S	MW-2D	MW-2S	MW-3D	MW-3S	MW-4S	MW-4S DUP	MW-5S	MW-6S	MW-7S
		Date	9/20/2016	9/20/2016	9/19/2016	9/19/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016
Parameter	PA DEP Groundwater Used Aquifer MSC[1]	PA DEP Groundwater Non-Use Aquifer MSC[2]											
Acenaphthene	3,800	3,800	**140**	**79**	**6**	**42**	**0.2 J**	**38**	**75**	**78**	**2**	**67**	**52**
Acenaphthylene	6,100	16,000	<0.1	<0.1	**0.2 J**	**22**	<0.1	**5**	**26**	**28**	**0.1 J**	**43**	**3**
Anthracene	66	66	**4**	**3**	**0.1 J**	**1**	<0.1	**2**	**3**	**4**	**0.2 J**	**2**	**3**
Benzo(a)anthracene	3.6	11	<0.1	<0.1	<0.1	<0.1	<0.1	**1**	**0.7**	**1**	<0.1	**0.7**	<0.1
Benzo(a)pyrene	0.2	3.8	<0.1	<0.1	<0.1	**0.1 J**	<0.1	**0.7**	**0.7**	**1**	<0.1	**0.6**	<0.1
Benzo(b)fluoranthene	1.2	1.2	<0.1	<0.1	<0.1	**0.1 J**	<0.1	**0.9**	**0.8**	**1**	<0.1	**0.6**	<0.1
Benzo(g,h,i)perylene	0.26	0.26	<0.1	<0.1	<0.1	<0.1	<0.1	**0.4 J**	**0.4 J**	**0.8**	<0.1	**0.3 J**	<0.1
Benzo(k)fluoranthene	0.55	0.55	<0.1	<0.1	<0.1	<0.1	<0.1	**0.3 J**	**0.4 J**	**0.5**	<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	<0.5	<0.5	<0.5
Butylbenzylphthalate	1,400	2,700	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Di-n-butylphthalate	10,000	400,000	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbazole	130	1,200	<0.5	**10**	<0.5	**71**	<0.5	**45**	**45**	**54**	**0.7 J**	**39**	**43**
4-Chloro-3-methylphenol	510	510	<0.5	<0.5	<0.5	<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	<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	<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	<0.5	<0.5	<0.5
2-Chloronaphthalene	8,200	8,200	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<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	<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	<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	<0.5	<0.5	<0.5
Chrysene	1.9	1.9	<0.1	<0.1	<0.1	**0.1 J**	<0.1	**1**	**1**	**1**	<0.1	**0.8**	**0.1 J**
Dibenz(a,h)anthracene	0.36	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1 J**	**0.1 J**	**0.2 J**	<0.1	<0.1	<0.1
Dibenzofuran	100	4,500	**5**	**13**	<0.5	**7**	<0.5	**10**	**11**	**12**	<0.5	**8**	**11**
1,2-Dichlorobenzene	600	60,000	<0.5	<0.5	<0.5	<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	<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	<0.5	<0.5	<0.5
3,3'-Dichlorobenzidine	5.8	3,100	<2	<2	<2	<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	<0.5	<0.5	<0.5
Diethylphthalate	82,000	1,100,000	<2	<2	<2	<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	**2**	**11**	**10**	<0.5	**7**	**2**
Dimethylphthalate	NA	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
4,6-Dinitro-2-methylphenol	85	85	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,4-Dinitrophenol	200	200,000	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dinitrotoluene	8.4	8,400	<1	<1	<1	<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	<0.5	<0.5	<0.5
bis(2-Ethylhexyl)phthalate	6	290	<2	<2	<2	<2	<2	**2 J**	<2	<2	<2	<2	<2
Fluoranthene	260	260	**2**	**0.4 J**	<0.1	**0.2 J**	<0.1	**2**	**2**	**2**	<0.1	**2**	**2**
Fluorene	1,900	1,900	**32**	**31**	**0.3 J**	**15**	<0.1	**18**	**21**	**24**	**1**	**17**	**22**
Hexachlorobenzene	1	6	<0.1	<0.1	<0.1	<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	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	50	1,800	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Hexachloroethane	1	100	<1	<1	<1	<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	**0.3 J**	**0.4 J**	**0.7**	<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	<0.5	<0.5	<0.5
2-Methylnaphthalene	410	410	**23**	**6**	**1**	**62**	**0.3 J**	**290**	**660**	**740**	**9**	**630**	**190**
2-Methylphenol	5,100	510,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**5**	**5**	<0.5	**4**	<0.5
4-Methylphenol	510	51,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**11**	**13**	<0.5	**4**	**0.5 J**
Naphthalene	100	30,000	**6**	**22**	**10**	**1,800**	**1**	**4,600**	**8,000**	**9,000**	**40**	**7,400**	**3,100**
2-Nitroaniline	310	310	<0.5	<0.5	<0.5	<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	<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	<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	<0.5	<0.5	<0.5
2-Nitrophenol	820	820,000	<0.5	<0.5	<0.5	<0.5	<0.5	**9**	<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitrophenol	60	60,000	<10	<10	<10	<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	<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	<0.5	<0.5	<0.5
Di-n-octylphthalate	3,000	3,000	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Pentachlorophenol	1	1,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	1,100	1,100	**25**	**3**	**0.2 J**	**5**	<0.1	**13**	**14**	**15**	**0.9**	**11**	**15**
Phenol	2,000	200,000	**2**	<0.5	<0.5	<0.5	<0.5	**8**	**7**	**7**	<0.5	**6**	**2**
Pyrene	130	130	**2**	**0.3 J**	**0.7**	**0.5 J**	<0.1	**2**	**2**	**2**	<0.1	**2**	**1**
1,2,4-Trichlorobenzene	70	44,000	<0.5	<0.5	<0.5	<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	<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	<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.
--- : Not Analyzed.
< : Not detected at listed reporting limit.
J : Sample result detected was less than the reporting limit but greater than the method detection limit and is considered estimated.
[1] : Pennsylvania Department of Environmental Quality Medium-Specific Concentrations for Regulated Substances in Groundwater, Non-Residential Used Aquifers TDS<2500, 2011.
[2] : Pennsylvania Department of Environmental Quality Medium-Specific Concentrations for Regulated Substances in Groundwater, Non-Residential Non-Used Aquifers TDS<2500, 2011.

Table 3
Groundwater Analytical Results
Semivolatile Organic Compounds
Philadelphia Gas Works - Passyunk Facility
Philadelphia, Pennsylvania
September 2016

Location			MW-10S	MW-11S	MW-12D	MW-12S	MW-42D	MW-42R	Rinse Blank #4
Date			9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/19/2016	9/19/2016	9/20/2016
Parameter	PA DEP Groundwater Used Aquifer MSC[1]	PA DEP Groundwater Non-Use Aquifer MSC[2]							
Acenaphthene	3,800	3,800	**79**	**57**	**2**	**170**	**0.1 J**	**110**	**0.4 J**
Acenaphthylene	6,100	16,000	**33**	**0.6**	**0.1 J**	**5**	<0.1	**8**	<0.1
Anthracene	66	66	**5**	**2**	**0.1 J**	**20**	<0.1	**6**	<0.1
Benzo(a)anthracene	3.6	11	**1**	**0.2 J**	<0.1	**10**	<0.1	<0.1	<0.1
Benzo(a)pyrene	0.2	3.8	**0.8**	<0.1	<0.1	**10**	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	1.2	1.2	**0.9**	**0.1 J**	<0.1	**10**	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	0.26	0.26	**0.3 J**	<0.1	<0.1	**5**	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	0.55	0.55	**0.3 J**	<0.1	<0.1	**4**	<0.1	<0.1	<0.1
4-Bromophenyl-phenylether	NA	NA	<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
Di-n-butylphthalate	10,000	400,000	<2	<2	<2	<2	<2	<2	<2
Carbazole	130	1,200	**32**	**35**	<0.5	**94**	<0.5	**52**	<0.5
4-Chloro-3-methylphenol	510	510	<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
bis(2-Chloroethoxy)methane	NA	0.29	<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
2-Chloronaphthalene	8,200	8,200	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
2-Chlorophenol	40	40	<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
2,2'-oxybis(1-Chloropropane)	300	30,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	1.9	1.9	**1**	**0.3 J**	<0.1	**11**	<0.1	<0.1	<0.1
Dibenz(a,h)anthracene	0.36	0.6	**0.1 J**	<0.1	<0.1	**1**	<0.1	<0.1	<0.1
Dibenzofuran	100	4,500	**17**	**11**	<0.5	**34**	<0.5	**16**	<0.5
1,2-Dichlorobenzene	600	60,000	<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
1,4-Dichlorobenzene	75	7,500	<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
2,4-Dichlorophenol	20	20,000	<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
2,4-Dimethylphenol	2,000	2,000,000	**23**	<0.5	**0.6 J**	<0.5	<0.5	<0.5	<0.5
Dimethylphthalate	NA	NA	<2	<2	<2	<2	<2	<2	<2
4,6-Dinitro-2-methylphenol	85	85	<5	<5	<5	<5	<5	<5	<5
2,4-Dinitrophenol	200	200,000	<10	<10	<10	<10	<10	<10	<10
2,4-Dinitrotoluene	8.4	8,400	<1	<1	<1	<1	<1	**1 J**	<1
2,6-Dinitrotoluene	100	100,000	<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
Fluoranthene	260	260	**4**	**2**	**0.1 J**	**19**	<0.1	**3**	<0.1
Fluorene	1,900	1,900	**33**	**21**	**0.4 J**	**75**	<0.1	**33**	**0.1 J**
Hexachlorobenzene	1	6	<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
Hexachlorocyclopentadiene	50	1,800	<5	<5	<5	<5	<5	<5	<5
Hexachloroethane	1	100	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	3.6	62	**0.3 J**	<0.1	<0.1	**4**	<0.1	<0.1	<0.1
Isophorone	100	100,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylnaphthalene	410	410	**1,200**	**96**	**0.3 J**	**1,600**	**0.1 J**	**710**	**2**
2-Methylphenol	5,100	510,000	**12**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Methylphenol	510	51,000	**12**	<0.5	<0.5	**2**	<0.5	<0.5	<0.5
Naphthalene	100	30,000	**11,000**	**860**	**1**	**10,000**	**0.9**	**8,500**	**18**
2-Nitroaniline	310	310	<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
4-Nitroaniline	130	130	<0.5	<0.5	**1**	<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
2-Nitrophenol	820	820,000	<0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitrophenol	60	60,000	<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
N-Nitrosodiphenylamine	530	35,000	<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
Pentachlorophenol	1	1,000	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	1,100	1,100	**30**	**6**	**0.5 J**	**89**	<0.1	**35**	**0.2 J**
Phenol	2,000	200,000	**13**	**3**	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	130	130	**4**	**2**	**0.1 J**	**18**	**0.2 J**	**2**	<0.1
1,2,4-Trichlorobenzene	70	44,000	<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
2,4,6-Trichlorophenol	100	100,000	<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.
--- : Not Analyzed.
< : Not detected at listed reporting limit.
J : Sample result detected was less than the reporting limit but greater than the method detection limit and is considered estimated.
[1] : Pennsylvania Department of Environmental Quality Medium-Specific Concentrations for Regulated Substances in Groundwater, Non-Residential Used Aquifers TDS<2500, 2011.
[2] : Pennsylvania Department of Environmental Quality Medium-Specific Concentrations for Regulated Substances in Groundwater, Non-Residential Non-Used Aquifers TDS<2500, 2011.

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

		Location	MW-1D	MW-1S	MW-2D	MW-2S	MW-3D	MW-3S	MW-4S	MW-4S DUP	MW-5S	MW-6S	MW-7S	MW-10S	MW-11S	MW-12D
		Date	9/20/2016	9/20/2016	9/20/2016	9/19/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016	9/20/2016
Parameter	**PA DEP Groundwater Used Aquifer MSC[1]**	**PA DEP Groundwater Non-Use Aquifer MSC[2]**														
Antimony (Dissolved)	6	6,000	<7.7	<7.7	<7.7	<7.7	<7.7	<7.7	<7.7	<7.7	<7.7	<7.7	<7.7	<7.7	<7.7	<7.7
Arsenic (Dissolved)	10	10,000	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7
Beryllium (Dissolved)	4	4,000	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67
Cadmium (Dissolved)	5	5,000	<0.49	<0.49	**0.94 J**	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49
Chromium (Dissolved)	100	100,000	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	**2.2 J**	<1.8	**1.8 J**	**2.0 J**	<1.8	<1.8	<1.8
Copper (Dissolved)	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	<4.1	<4.1	<4.1	<4.1
Lead (Dissolved)	5	5,000	<6.2	<6.2	<6.2	**7.1 J**	<6.2	<6.2	<6.2	<6.2	<6.2	<6.2	<6.2	<6.2	<6.2	**19.8**
Mercury (Dissolved)	2	2,000	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nickel (Dissolved)	100	100,000	<2.8	**3.3 J**	<2.8	<2.8	**4.8 J**	**6.4 J**	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8
Selenium (Dissolved)	50	50,000	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7	<9.7
Silver (Dissolved)	100	100,000	**5.3**	**2.2 J**	**5.6**	**9.8**	**4.5 J**	<1.9	**3.9 J**	**2.4 J**	<2.8	**4.2 J**	**2.3 J**	**6.5**	**5.7**	**31.9**
Thallium (Dissolved)	2	2,000	<9.4	<9.4	<9.4	<9.4	**14.8 J**	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	**16.0 J**
Zinc (Dissolved)	2,000	2,000,000	<5.4	<5.4	<5.4	<5.4	**24.7**	**12.9 J**	<5.4	<5.4	<5.4	<5.4	<5.4	**18.5 J**	<5.4	<5.4

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.
--- : Not Analyzed.
< : Not detected at listed reporting limit.
J : Sample result detected was less than the reporting limit but greater than the method detection limit and is considered estimated.
[1] : Pennsylvania Department of Environmental Quality Medium-Specific Concentrations for Regulated Substances in Groundwater, Non-Residential Used Aquifers TDS<2500, 2011.
[2] : Pennsylvania Department of Environmental Quality Medium-Specific Concentrations for Regulated Substances in Groundwater, Non-Residential Non-Used Aquifers TDS<2500, 2011.

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

		Location	MW-12S	MW-42D	MW-42R	Rinse Blank #4
		Date	9/20/2016	9/19/2016	9/19/2016	9/20/2016
Parameter	PA DEP Groundwater Used Aquifer MSC[1]	PA DEP Groundwater Non-Use Aquifer MSC[2]				
Antimony (Dissolved)	6	6,000	<7.7	<7.7	<7.7	<7.7
Arsenic (Dissolved)	10	10,000	<9.7	<9.7	**31.0**	<9.7
Beryllium (Dissolved)	4	4,000	<0.67	<0.67	<0.67	<0.67
Cadmium (Dissolved)	5	5,000	<0.49	<0.49	<0.49	<0.49
Chromium (Dissolved)	100	100,000	<1.8	<1.8	<1.8	<1.8
Copper (Dissolved)	1,000	1,000,000	<4.1	<4.1	<4.1	<4.1
Lead (Dissolved)	5	5,000	<6.2	<6.2	<6.2	<6.2
Mercury (Dissolved)	2	2,000	<0.050	<0.050	<0.050	<0.050
Nickel (Dissolved)	100	100,000	<2.8	**8.0 J**	<2.8	<2.8
Selenium (Dissolved)	50	50,000	<9.7	<9.7	<9.7	<9.7
Silver (Dissolved)	100	100,000	**5.2**	**5.3**	**7.9**	<1.9
Thallium (Dissolved)	2	2,000	<9.4	<9.4	<9.4	<9.4
Zinc (Dissolved)	2,000	2,000,000	<5.4	**7.5 J**	<5.4	<5.4

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.
--- : Not Analyzed.
< : Not detected at listed reporting limit.
J : Sample result detected was less than the reporting limit but greater than the method detection limit and is considered estimated.
[1] : Pennsylvania Department of Environmental Quality Medium-Specific Concentrations for Regulated Substances in Groundwater, Non-Residential Used Aquifers TDS<2500, 2011.
[2] : Pennsylvania Department of Environmental Quality Medium-Specific Concentrations for Regulated Substances in Groundwater, Non-Residential Non-Used Aquifers TDS<2500, 2011.

APPENDIX A

Field Data Sheets

Low Flow Purge Data Sheet

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

Date: 9-20-16

Time (5 min.)	Water Level (ft TIC)	Flow (ml/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
0928	25.75	500	6.39	1.26	315	1.62	18.51	135	Initial
0933	26.00	"	6.47	1.26	>999	0.00	18.01	24	
0938	26.00	"	6.53	1.24	430	0.00	18.11	-9	
0943	26.00	"	6.62	1.23	119.0	0.00	18.13	-47	
0948	25.80	"	6.67	1.23	39.9	0.00	18.86	-63	
0953	25.82	"	6.68	1.22	27.5	0.00	19.02	-71	
0958	25.82	"	6.69	1.22	25.7	0.00	19.19	-76	
1003	25.82	"	6.70	1.22	27.1	0.00	19.20	-79	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments:

Purge water put in a HAZ drum for disposal.

Sample Method: *Low Flow*	**Total Depth:** 34.72' ft TIC
Sampling Equipment: *2" Submersible Pump*	**Static Water Level:** 25.75' 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:** 4 gal (approx.)

Sample Collection Information

Sample ID: MW-15

Collection Time: 1005

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

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

Number of Bottles: 6

Intitials SLE **Page:** _____ of _____

leidos

PGW

Low Flow Purge Data Sheet

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

Well ID: MW-1D

Date: 9/20/16

Time (5 min.)	Water Level (ft TIC)	Flow (ml/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
0928	32.25	225	7.20	1.10	13.6	8.82	17.9	-82	Initial
0933	32.35	"	8.25	1.18	17.9	0.00	18.6	-134	
0938	32.36	"	8.32	1.23	0.0	0.00	18.5	-145	
0943	32.41	"	8.33	1.25	22.2	0.00	18.3	-152	
0948	32.42	"	8.19	1.22	2.3	0.00	19.8	-156	
0953	32.45	"	8.14	1.24	0.0	0.00	20.4	-158	
0958	32.47	"	8.16	1.26	6.1	0.00	20.3	-155	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments: Purge water disposed of in Haz drum

Sample Method: *Low Flow*

Sampling Equipment: *2" Submersible Pump*

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

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

Total Depth: 36.75 ft TIC

Static Water Level: 32.25 ft TIC

Total Purge Time: 30 min

Total Purge Volume: 2 gal (approx.)

Sample Collection Information

Sample ID: MW-1D

Collection Time: 1006

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

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

Number of Bottles: 6

Intitials RCM

Page: 1 of 1

leidos

PGW

Low Flow Purge Data Sheet

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

Well ID: MW-25

Date: 9-19-16

Time (5 min.)	Water Level (ft TIC)	Flow (ml/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
1355	26.46	500	7.50	1.35	796	3.28	18.1	-73	Initial
1400	27.50	"	7.46	1.22	374	0.00	18.5	-74	
1405	27.52	"	7.33	1.20	233	0.00	18.5	-67	
1410	27.38	"	7.22	1.21	127	0.00	18.9	-63	
1415	27.50	"	7.28	1.21	78.3	0.00	18.5	-64	
1420	27.48	"	7.28	1.20	53.9	0.00	18.6	-66	
1425	27.42	"	7.29	1.16	228	0.00	18.9	-67	
1430	27.39	"	7.27	1.17	333	0.00	18.9	-69	
1435	27.50	"	7.30	1.16	103	0.00	18.5	-70	
1440	27.46	"	7.29	1.16	101	0.00	18.5	-70	
1445	27.40	"	7.29	1.16	101.8	0.00	18.9	-70	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments:

Purge water put into a non-HAZ drum for disposal.

Sample Method: *Low Flow*

Sampling Equipment: *2" Submersible Pump*

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

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

Total Depth: 35.20 ft TIC

Static Water Level: 26.42 ft TIC

Total Purge Time: ~~40~~ 50 min

Total Purge Volume: 6.5 gal (approx.)

Sample Collection Information

Sample ID: MW-25

Collection Time: ~~1440~~ 1450

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

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

Number of Bottles: 10

Intitials SLE

Page: ____ of ____

leidos

PGW

Low Flow Purge Data Sheet

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

Well ID: MW-2D

Date: 9-19-16

Time (5 min.)	Water Level (ft TIC)	Flow (mL/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
1355	33.03	500	6.72	0.903	111.0	7.40	18.92	122	Initial
1400	32.95	500	6.38	1.23	128	3.53	19.71	-31	
1405	32.94	"	6.33	1.32	139	0.41	19.33	-60	
1410	32.92	"	6.33	1.33	1666	0.00	18.85	-72	
1415	32.90	"	6.37	1.34	159	0.00	18.29	-86	
1420	32.89	"	6.36	1.34	148	0.00	18.14	-91	
1425	32.85	"	6.37	1.34	127	0.00	18.56	-96	
1430	32.84	"	6.37	1.34	126	0.00	18.67	-99	
1435	32.82	"	6.39	1.34	122	0.00	18.34	-100	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments:

Purge water put into a non-HAZ drum for disposal.

Sample Method: Low Flow	**Total Depth:** 82.60 ft TIC
Sampling Equipment: 2" Submersible Pump	**Static Water Level:** 33.03 ft TIC
Well Casing Diameter: 2" or (4") *(circle one)*	**Total Purge Time:** 40 min
Casing Material: (PVC) or Steel *(circle one)*	**Total Purge Volume:** 5.5 gal (approx.)

Sample Collection Information

Sample ID: MW-2D

Collection Time: 1440

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

Preservatives: (HCl) (HNO3) (none) *(circle all that apply)*

Number of Bottles: 6

Initials TEM **Page:** 1 of 1

leidos

PGW

Low Flow Purge Data Sheet

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

Well ID: MW-35

Date: 9-20-16

Time (5 min.)	Water Level (ft TIC)	Flow (ml/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
0805	25.20	300	5.92	0.589	283	2.60	18.17	321	Initial
0810	26.95	"	5.93	0.550	191	1.06	17.80	304	
0815	27.85	"	5.63	0.437	0.0	0.26	17.68	286	
0820	28.13	"	5.59	0.474	0.0	0.00	17.88	261	
0825	28.51	"	5.76	0.511	0.0	0.00	18.02	226	
0830	28.60	"	5.87	0.520	0.0	0.00	18.46	197	
0835	28.55	"	5.95	0.540	0.0	0.00	19.15	156	
0840	28.40	"	6.02	0.553	0.0	0.42	19.64	118	
0845	28.45	"	6.03	0.555	0.0	0.36	19.73	99	
0850	28.48	"	6.09	0.580	0.0	0.30	19.87	74	
0855	28.40	"	6.10	0.655	114	0.00	19.65	56	
0900	28.45	"	6.11	0.654	115	0.00	19.86	57	
0905	28.45	"	6.11	0.655	114	0.00	20.06	57	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments:

Purge water put into a HAZ drum for disposal.
water was turbid during sample

Sample Method: *Low Flow*

Sampling Equipment: *2" Submersible Pump*

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

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

Total Depth: 34.64 ft TIC

Static Water Level: 25.20 ft TIC

Total Purge Time: 100 min

Total Purge Volume: 4 gal (approx.)

Sample Collection Information

Sample ID: MW-35

Collection Time: 0910

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

Preservatives: (HCl) (HNO3) (none) *(circle all that apply)*

Number of Bottles: 6 & 7 QA/QC metals bottle collected

Initials SLE

Page: _____ of _____

leidos

PGW

Low Flow Purge Data Sheet

Project Site Name: Richmond, Tioga, Passyunk, 9th and Diamond *(circle one)* **Well ID:** MW-30

Date: 9/20/16

Time (5 min.)	Water Level (ft TIC)	Flow (ml/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
0807	32.29	225	6.15	0.784	0.0	8.55	18.0	176	Initial
0812	32.31	"	6.98	0.918	0.0	2.70	19.0	12	
0817	32.32	"	7.04	1.19	0.0	0.08	17.5	1	
0822	32.34	"	6.99	1.22	0.0	0.00	17.6	-1	
0827	32.34	"	6.81	1.24	0.0	0.00	17.8	-3	
0832	32.35	"	6.86	1.25	0.0	0.00	18.1	-5	
0837	32.37	"	6.88	1.23	0.0	0.00	18.4	-7	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments: Purge water disposed of in non-haz drum

Sample Method: *Low Flow*

Sampling Equipment: *2" Submersible Pump*

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

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

Total Depth: 85.5 ft TIC

Static Water Level: 32.29 ft TIC

Total Purge Time: 30 min

Total Purge Volume: 2 gal (approx.)

Sample Collection Information

Sample ID: MW-31

Collection Time: 0840

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

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

Number of Bottles: 6

Intitials TEM **Page:** 1 of 1

leidos

PGW

Low Flow Purge Data Sheet

Project Site Name: Richmond, Tioga, (Passyunk) 9th and Diamond *(circle one)* **Well ID:** MW-45

Date: 9-20-16

Time (5 min.)	Water Level (ft TIC)	Flow (ml/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
1340	22.40	250	6.86	0.793	0.0	2.56	18.72	162	Initial
1345	24.50	"	6.82	0.754	0.0	0.00	19.55	-55	
1350	24.70	"	6.80	0.747	0.0	0.00	21.05	-91	
1355	24.90	"	6.80	0.756	0.0	0.00	21.92	-104	
1400	25.15	"	6.84	0.772	0.0	0.00	19.48	-108	
1405	25.30	"	6.82	0.754	0.0	0.00	21.60	-115	
1410	25.65	"	6.85	0.766	0.0	0.00	20.50	-118	
1415	25.75	"	6.85	0.767	0.0	0.00	20.78	-119	
1420	25.80	"	6.85	0.767	0.0	0.00	20.53	-119	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments:

Purge water put in a HAZ drum for disposal.

Sample Method: *Low Flow*	**Total Depth:** 36.30 ft TIC
Sampling Equipment: *2" Submersible Pump*	**Static Water Level:** 22.40 ft TIC
Well Casing Diameter: (2") or 4" *(circle one)*	**Total Purge Time:** 40 min
Casing Material: (PVC) or Steel *(circle one)*	**Total Purge Volume:** 2.5 gal (approx.)

Sample Collection Information

Sample ID: MW-45

Collection Time: 1425 DUP time: 1430

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

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

Number of Bottles: 6 plus DUP bottles 6

Intitials SLE **Page:** _____ of _____

leidos

PGW

Low Flow Purge Data Sheet

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

Well ID: MW-58

Date: 9-20-16

Time (5 min.)	Water Level (ft TIC)	Flow (ml/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
1240	25.20	400	6.64	0.674	0.0	0.74	18.93	69	Initial
1245	25.69	"	6.50	0.644	0.0	0.00	19.81	54	
1250	25.75	"	6.46	0.642	0.0	0.00	20.15	50	
1255	25.55	"	6.49	0.635	0.0	0.00	20.51	48	
1300	25.50	"	6.48	0.635	0.0	0.00	20.61	48	
1305	25.50	"	6.48	0.635	0.0	0.00	20.15	49	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments:

Purge water put into a non-HAZ drum for disposal

Sample Method: *Low Flow*	**Total Depth:** 37.49 ft TIC
Sampling Equipment: *2" Submersible Pump*	**Static Water Level:** 25.20 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:** 2 gal (approx.)

Sample Collection Information

Sample ID: MW-55

Collection Time: 1310

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

Preservatives: (HCL) (HNO3) (None) *(circle all that apply)*

Number of Bottles: 6

Intitials SLE **Page:** _____ of _____

leidos

PGW

Low Flow Purge Data Sheet

Project Site Name: Richmond, Tioga, (Passyunk), 9th and Diamond *(circle one)* **Well ID:** MW-6S

Date: 9/20/16

Time (5 min.)	Water Level (ft TIC)	Flow (mL/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
1130	23.79	175	7.05	1.56	28.1	6.50	22.2	-76	Initial
1135	26.16	"	7.96	1.82	33.3	0.99	20.7	-124	
1140	26.96	"	7.92	1.76	13.4	0.64	22.2	-134	
1145	27.76	"	7.81	1.77	22.1	0.15	23.5	-136	
1150	28.26	"	7.73	1.75	26.6	0.00	24.1	-133	
1155	28.61	"	7.71	1.72	45.4	0.00	24.5	-132	
1200	28.95	"	7.72	1.72	51.1	0.00	24.7	-135	
1205	29.28	"	7.76	1.71	50.2	0.00	24.8	-140	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments: Purge water disposed of in Haz drum

Sample Method: *Low Flow*

Sampling Equipment: *2" Submersible Pump*

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

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

33.40 **Total Depth:** ~~75.76~~ ft TIC

Static Water Level: ~~23.79~~ ft TIC

Total Purge Time: 35 min

Total Purge Volume: 1.5 gal (approx.)

Sample Collection Information

Sample ID: MW-6S

Collection Time: 1207

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

Preservatives: ~~HCl~~ ~~HNO3~~ (none) *(circle all that apply)*

Number of Bottles: 6

Intitials JEM **Page:** 1 of 1

leidos

PGW

Low Flow Purge Data Sheet

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

Well ID: MW-7S

Date: 9-20-16

Time (5 min.)	Water Level (ft TIC)	Flow (ml/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
1122	21.10	200	6.95	1.47	0.0	0.79	17.84	20	Initial
1127	24.28	"	6.78	1.44	0.0	0.00	19.23	-53	
1132	24.73	"	6.74	1.44	0.0	0.00	20.55	-78	
1137	24.85	"	6.77	1.44	0.0	0.00	21.32	-88	
1142	24.73	"	6.72	1.44	0.0	0.00	23.00	-99	
1147	25.85	"	6.78	1.45	0.0	0.00	22.22	-102	
1152	27.31	"	6.76	1.45	0.0	0.00	20.55	-107	
1157	27.85	"	6.75	1.45	0.0	0.00	20.42	-108	
1202	29.40	"	6.76	1.45	0.0	0.00	20.21	-108	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments:

Purge water put in a HAZ drum for disposal.

Sample Method: *Low Flow*	**Total Depth:** 34.65 ft TIC
Sampling Equipment: *2" Submersible Pump*	**Static Water Level:** 21.10 ft TIC
Well Casing Diameter: (2") or 4" *(circle one)*	**Total Purge Time:** 40 min
Casing Material: (PVC) or Steel *(circle one)*	**Total Purge Volume:** 2 gal (approx.)

Sample Collection Information

Sample ID: MW-7S

Collection Time: 1205

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

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

Number of Bottles: 6

Intitials SLE **Page:** ____ of ____

leidos

PGW

Low Flow Purge Data Sheet

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

Date: 9-20-16

Time (5 min.)	Water Level (ft TIC)	Flow (ml/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
1400	24.71	425	8.41	0.420	407	4.90	17.9	-99	Initial
1405	24.74	"	8.26	0.505	178	0.89	19.1	-131	
1410	24.75	"	8.14	0.526	20.3	0.59	18.6	-133	
1415	24.76	"	8.01	0.578	0.0	0.40	18.6	-136	
1420	24.75	"	7.90	0.614	0.0	0.31	18.6	-136	
1425	24.75	"	7.85	0.642	0.0	0.26	18.7	-137	
1430	24.75	"	7.84	0.657	0.0	0.24	18.7	-137	
1435	24.75	"	7.83	0.668	0.0	0.23	18.9	-138	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments:

Purge water put in a HAZ drum for disposal

No product in well during initial WL reading. Removed sock at request of Job. (PGW)

Sample Method: *Low Flow*	**Total Depth:** 33.40 ft TIC
Sampling Equipment: *2" Submersible Pump*	**Static Water Level:** 24.71 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:** 4 gal (approx.)

Sample Collection Information

Sample ID: MW-105

Collection Time: 1438

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

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

Number of Bottles: 6

Initials: TEM **Page:** _____ of _____

leidos

PGW

Low Flow Purge Data Sheet

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

Well ID: MW-11S

Date: 9-20-16

Time (5 min.)	Water Level (ft TIC)	Flow (ml/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
1241	21.72	375	8.17	1.36	>999	2.46	21.3	-134	Initial
1246	21.76	"	8.08	1.34	435	0.35	21.5	-137	
1251	21.75	"	7.91	1.33	0.0	0.04	22.1	-138	
1256	21.75	"	7.86	1.33	0.0	0.00	21.7	-138	
1301	21.76	"	7.83	1.33	0.0	0.00	21.6	-138	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments:

Purge water put in a non-HAZ drum for disposal.

Sample Method: *Low Flow*	**Total Depth:** 28.85 ft TIC
Sampling Equipment: *2" Submersible Pump*	**Static Water Level:** 21.72 ft TIC
Well Casing Diameter: 2 *or 4" (circle one)*	**Total Purge Time:** 20 min
Casing Material: PVC *or Steel (circle one)*	**Total Purge Volume:** 2 gal (approx.)

Sample Collection Information

Sample ID: MW-11S

Collection Time: 1305

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

Preservatives: HCL HNO3 None *(circle all that apply)*

Number of Bottles: 6

Initials TEM

leidos

PGW

Low Flow Purge Data Sheet

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

Well ID: MW-12S

Date: 9-20-16

Time (5 min.)	Water Level (ft TIC)	Flow (ml/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
1028	21.10	450	6.88	1.52	>999	4.11	22.60	-20	Initial
1033	21.14	"	6.91	1.58	>999	1.54	24.11	-124	
1038	21.14	"	7.06	1.60	219	0.00	24.70	-147	
1043	21.14	"	7.06	1.58	80.9	0.00	24.78	-157	
1048	21.12	"	7.05	1.56	36.5	0.00	24.93	-160	
1053	21.14	"	7.05	1.55	36.6	0.00	24.95	-162	
1058	21.14	"	7.05	1.55	37.4	0.00	24.99	-162	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments:

Purge water put in a HAZ drum for disposal.

Sample Method: *Low Flow*

Sampling Equipment: *2" Submersible Pump*

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

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

Total Depth: 33.00 ft TIC

Static Water Level: 21.10 ft TIC

Total Purge Time: 30 min

Total Purge Volume: 3.5 gal (approx.)

Sample Collection Information

Sample ID: MW-12S

Collection Time: 1100

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

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

Number of Bottles: 6

Initials SLE

Page: _____ of _____

leidos

PGW

Low Flow Purge Data Sheet

Project Site Name: Richmond, Tioga, Passyunk, 9th and Diamond *(circle one)* **Well ID:** MW-12D

Date: 9/20/16

Time (5 min.)	Water Level (ft TIC)	Flow (ml/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
1029	27.97	300	8.27	1.57	13.9	8.59	20.6	-63	Initial
1034	28.10	"	6.75	2.17	0.0	1.26	19.4	-14	
1039	28.12	"	6.58	2.21	0.0	0.00	19.5	-12	
1044	28.08	"	6.49	2.19	0.0	0.00	20.3	-14	
1049	28.08	"	6.42	2.20	0.0	0.00	21.3	-17	
1054	28.10	"	6.40	2.20	0.0	0.00	21.1	-19	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments: Purge water disposed of in non-haz drum

Sample Method: *Low Flow*

Sampling Equipment: *2" Submersible Pump*

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

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

Total Depth: 75.76 ft TIC

Static Water Level: 27.97 ft TIC

Total Purge Time: 25 min

Total Purge Volume: 2 gal (approx.)

Sample Collection Information

Sample ID: MW-12D

Collection Time: 1055

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

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

Number of Bottles: 6

Intitials PEM

Page: 1 of 1

leidos

PGW

Low Flow Purge Data Sheet

R

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

Date: 9-19-16

Time (5 min.)	Water Level (ft TIC)	Flow (ml/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
1240	23.32	500	6.04	0.599	88.4	2.56	18.38	228	Initial
1245	23.40	"	6.33	0.819	2.3	0.00	17.44	-50	
1250	23.60	"	6.45	0.845	2.0	0.00	17.71	-101	
1255	23.55	"	6.48	0858	3.9	0.00	18.07	-124	
1300	23.53	"	6.53	0.865	0.0	0.00	18.16	-133	
1305	23.56	"	6.54	0.868	0.0	0.00	17.95	-139	
1310	23.52	"	6.54	0.868	0.0	0.00	18.20	-142	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments:

Purge water put into a non-HAZ drum for disposal.

Sample Method: *Low Flow*	**Total Depth:** 29.65 ft TIC
Sampling Equipment: *2" Submersible Pump*	**Static Water Level:** 23.32 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:** 3.96 gal (approx.)

Sample Collection Information

Sample ID: MW-42S

Collection Time: 1315

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

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

Number of Bottles: 6

Intitials SLF **Page:** _____ of _____

leidos

PGW

Low Flow Purge Data Sheet

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

Well ID: MW-42D

Date: 9-19-16

Time (5 min.)	Water Level (ft TIC)	Flow (ml/min)	pH (S.U.)	Cond (ms/cm)	Turb (NTU)	DO (mg/l)	Temp (°C)	ORP (mV)	Cumulative Purge Volume (Gal)
1238	31.46	450	7.37	0.804	32.9	6.64	18.1	-44	Initial
1243	31.45	"	7.69	0.944	0.0	3.07	17.4	-58	
1248	31.44	"	7.49	0.973	0.0	1.70	17.5	-58	
1253	31.44	"	7.28	0.972	0.0	1.07	18.3	-55	
1258	31.43	"	7.25	0.976	0.0	0.58	18.0	-58	
1303	31.42	"	7.21	0.966	0.0	0.26	18.0	-59	
1308	31.42	"	7.20	0.970	0.0	0.16	17.8	-60	
1313	31.41	"	7.19	0.968	0.0	0.08	18.5	-59	
-	-	200-500 ml	+/- 0.1	+/- 10%	+/-10% & <50	+/- 10%	+/- 1 °C	+/- 10	Sampling Requirements

Comments:

Purge water put into a non-HAZ drum for disposal.

DO stable at < 0.50 mg/L

Sample Method: *Low Flow*

Sampling Equipment: *2" Submersible Pump*

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

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

Total Depth: 69.70 ft TIC

Static Water Level: 31.46 ft TIC

Total Purge Time: 35 min

Total Purge Volume: 4.16 gal (approx.)

Sample Collection Information

Sample ID: MW-42D

Collection Time: 1315

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

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

Number of Bottles: 6

Initials TEM

Page: 1 of 1

leidos

PGW

APPENDIX B

Laboratory Data

eurofins | Lancaster Laboratories Environmental

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

Analysis Report

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

Report Date: October 06, 2016

Project: PGW - Passyunk

Submittal Date: 09/21/2016
Group Number: 1710954
PO Number: PO10160257
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
MW-1S Grab Groundwater	8600288
MW-1D Grab Groundwater	8600289
MW-2S Grab Groundwater	8600290
MW-2D Grab Groundwater	8600291
MW-3S Grab Groundwater	8600292
MW-3D Grab Groundwater	8600293
MW-4S Grab Groundwater	8600294
MW-4S DUP Grab Groundwater	8600295
MW-5S Grab Groundwater	8600296
MW-6S Grab Groundwater	8600297
MW-7S Grab Groundwater	8600298
MW-10S Grab Groundwater	8600299
MW-11S Grab Groundwater	8600300
MW-12D Grab Groundwater	8600301
MW-42R Grab Groundwater	8600302
MW-42D Grab Groundwater	8600303
TRIP BLANK Water	8600304

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

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

Electronic Copy To Leidos Engineering, LLC Attn: Matt Machusick

Respectfully Submitted,

Lynn M. Frederiksen
Principal Specialist Group Leader

(717) 556-7255

Project Name: PGW - Passyunk
LL Group #: 1710954

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 #: N162731AA (Sample number(s): 8600296 UNSPK: 8600296)

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

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Vinyl Chloride, Chloroethane, trans-1,2-Dichloroethene, 1,1-Dichloroethane, cis-1,2-Dichloroethene, Chloroform, Benzene, Trichloroethene, 1,2-Dichloropropane

Batch #: W162721AA (Sample number(s): 8600300-8600301 UNSPK: P596577)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Trichloroethene, Toluene, Tetrachloroethene, Chlorobenzene, Ethylbenzene, Styrene, 1,1,2,2-Tetrachloroethane, Xylene (Total)

SW-846 8270C, GC/MS Semivolatiles

Sample #s: 8600288, 8600292

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 #: 16268WAJ026 (Sample number(s): 8600288-8600303)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8600288, 8600289, 8600290, 8600291, 8600292, 8600293, 8600299, 8600300, 8600301, 8600302

SW-846 6010B, Metals Dissolved

Batch #: 162741848002 (Sample number(s): 8600288-8600303 UNSPK: 8600292 BKG: 8600292)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Copper, Zinc

SW-846 7470A, Metals Dissolved

Batch #: 162745713001 (Sample number(s): 8600288-8600303 UNSPK: P613192 BKG: P613192)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Mercury

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

LL Sample # WW 8600288
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 10:05 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	44		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	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	0.9	J	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	9		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
04678	Acenaphthene	83-32-9	79		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	10		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 8600288
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 10:05 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	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	13		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	0.4	J	0.1	0.5	1
04678	Fluorene	86-73-7	31		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	6		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	22		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-1S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8600288
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 10:05 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	0.3 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.	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00049	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0062	0.0150	1
07061	Nickel	7440-02-0	0.0033 J	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	0.0022 J	0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0054	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	W162711AA	09/27/2016 11:40	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162711AA	09/27/2016 11:40	Daniel H Heller	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 01:05	Edward Monborne	1
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1

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

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

LL Sample # WW 8600288
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 10:05 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	162741848002	10/05/2016 01:29	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 01:29	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 03:41	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	162741848002	10/05/2016 01:29	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 03:41	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 01:29	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 14:58	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 03:41	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 01:29	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 01:29	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 03:41	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 01:29	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:11	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	Lisa J Cooke	1

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

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

LL Sample # WW 8600289
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 10:00 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	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	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	6		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	0.6	J	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.		0.5	1	1
10335	Xylene (Total)	1330-20-7	12		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	N.D.		0.1	0.5	1
04678	Anthracene	120-12-7	4		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 8600289
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 10:00 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	5	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	2	0.1	0.5	1
04678	Fluorene	86-73-7	32	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	23	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	6	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-1D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8600289
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 10:00 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	25	0.1	0.5	1
04678	Phenol	108-95-2	2	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
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.	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00049	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0062	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	0.0053	0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0054	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	W162711AA	09/27/2016 14:27	Daniel H Heller	1
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	W162711AA	09/27/2016 14:50	Daniel H Heller	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162711AA	09/27/2016 14:27	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W162711AA	09/27/2016 14:50	Daniel H Heller	10
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 01:33	Edward Monborne	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 23:25	Edward Monborne	5
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1
07044	Antimony	SW-846 6010B	1	162741848002	10/05/2016 01:39	Matthew R Machtinger	1

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

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

LL Sample # WW 8600289
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 10:00 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

PSS1D

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 01:39	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 03:44	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	162741848002	10/05/2016 01:39	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 03:44	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 01:39	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 15:01	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 03:44	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 01:39	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 01:39	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 03:44	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 01:39	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:13	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8600290
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 14:50 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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.		12	40	2
10335	Benzene	71-43-2	150		1	2	2
10335	Bromodichloromethane	75-27-4	N.D.		1	2	2
10335	Bromoform	75-25-2	N.D.		1	8	2
10335	Bromomethane	74-83-9	N.D.		1	2	2
10335	2-Butanone	78-93-3	N.D.		6	20	2
10335	Carbon Disulfide	75-15-0	N.D.		2	10	2
10335	Carbon Tetrachloride	56-23-5	N.D.		1	2	2
10335	Chlorobenzene	108-90-7	N.D.		1	2	2
10335	Chloroethane	75-00-3	N.D.		1	2	2
10335	Chloroform	67-66-3	N.D.		1	2	2
10335	Chloromethane	74-87-3	N.D.		1	2	2
10335	Dibromochloromethane	124-48-1	N.D.		1	2	2
10335	1,1-Dichloroethane	75-34-3	N.D.		1	2	2
10335	1,2-Dichloroethane	107-06-2	N.D.		1	2	2
10335	1,1-Dichloroethene	75-35-4	N.D.		1	2	2
10335	cis-1,2-Dichloroethene	156-59-2	N.D.		1	2	2
10335	trans-1,2-Dichloroethene	156-60-5	N.D.		1	2	2
10335	1,2-Dichloropropane	78-87-5	N.D.		1	2	2
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.		1	2	2
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.		1	2	2
10335	Ethylbenzene	100-41-4	2,400		10	20	20
10335	2-Hexanone	591-78-6	N.D.		6	20	2
10335	4-Methyl-2-pentanone	108-10-1	N.D.		6	20	2
10335	Methylene Chloride	75-09-2	N.D.		4	8	2
10335	Styrene	100-42-5	N.D.		2	10	2
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.		1	2	2
10335	Tetrachloroethene	127-18-4	N.D.		1	2	2
10335	Toluene	108-88-3	3		1	2	2
10335	1,1,1-Trichloroethane	71-55-6	N.D.		1	2	2
10335	1,1,2-Trichloroethane	79-00-5	N.D.		1	2	2
10335	Trichloroethene	79-01-6	N.D.		1	2	2
10335	Vinyl Chloride	75-01-4	N.D.		1	2	2
10335	Xylene (Total)	1330-20-7	160		1	2	2
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
04678	Acenaphthene	83-32-9	42		0.1	0.5	1
04678	Acenaphthylene	208-96-8	22		0.1	0.5	1
04678	Anthracene	120-12-7	1		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	0.1	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	71		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 8600290
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 14:50 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	7		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	15		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	62		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	1,800		5	25	50
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-2S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8600290
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 14:50 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	5	0.1	0.5	1
04678	Phenol	108-95-2	N.D.	0.5	1	1
04678	Pyrene	129-00-0	0.5 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
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.	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00049	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	0.0071 J	0.0062	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	0.0098	0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0054	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	W162711AA	09/27/2016 16:50	Daniel H Heller	2
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	W162711AA	09/27/2016 17:14	Daniel H Heller	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162711AA	09/27/2016 16:50	Daniel H Heller	2
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W162711AA	09/27/2016 17:14	Daniel H Heller	20
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 02:01	Edward Monborne	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 23:53	Edward Monborne	50
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1
07044	Antimony	SW-846 6010B	1	162741848002	10/05/2016 01:43	Matthew R Machtinger	1

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

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

LL Sample # WW 8600290
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 14:50 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

PSS2S

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 01:43	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 03:53	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	162741848002	10/05/2016 01:43	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 03:53	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 01:43	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 15:04	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 03:53	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 01:43	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 01:43	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 03:53	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 01:43	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:19	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8600291
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 14:40 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	3		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	6		0.1	0.5	1
04678	Acenaphthylene	208-96-8	0.2	J	0.1	0.5	1
04678	Anthracene	120-12-7	0.1	J	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-2D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8600291
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 14:40 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	0.3	J	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	1		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	10		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 8600291
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 14:40 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	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	0.2 J	0.1	0.5	1
04678	Phenol	108-95-2	N.D.	0.5	1	1
04678	Pyrene	129-00-0	0.7	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
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.	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	0.00094 J	0.00049	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0062	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	0.0056	0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0054	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	W162711AA	09/27/2016 12:03	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162711AA	09/27/2016 12:03	Daniel H Heller	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 02:28	Edward Monborne	1
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1
07044	Antimony	SW-846 6010B	1	162741848002	10/05/2016 01:46	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 01:46	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 03:56	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 8600291
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 14:40 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	162741848002	10/05/2016 01:46	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 03:56	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 01:46	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 15:07	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 03:56	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 01:46	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 01:46	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 03:56	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 01:46	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:21	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8600292
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 09:10 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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.		120	400	20
10335	Benzene	71-43-2	9,700		100	200	200
10335	Bromodichloromethane	75-27-4	N.D.		10	20	20
10335	Bromoform	75-25-2	N.D.		10	80	20
10335	Bromomethane	74-83-9	N.D.		10	20	20
10335	2-Butanone	78-93-3	N.D.		60	200	20
10335	Carbon Disulfide	75-15-0	N.D.		20	100	20
10335	Carbon Tetrachloride	56-23-5	N.D.		10	20	20
10335	Chlorobenzene	108-90-7	N.D.		10	20	20
10335	Chloroethane	75-00-3	N.D.		10	20	20
10335	Chloroform	67-66-3	N.D.		10	20	20
10335	Chloromethane	74-87-3	N.D.		10	20	20
10335	Dibromochloromethane	124-48-1	N.D.		10	20	20
10335	1,1-Dichloroethane	75-34-3	N.D.		10	20	20
10335	1,2-Dichloroethane	107-06-2	N.D.		10	20	20
10335	1,1-Dichloroethene	75-35-4	N.D.		10	20	20
10335	cis-1,2-Dichloroethene	156-59-2	N.D.		10	20	20
10335	trans-1,2-Dichloroethene	156-60-5	N.D.		10	20	20
10335	1,2-Dichloropropane	78-87-5	N.D.		10	20	20
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.		10	20	20
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.		10	20	20
10335	Ethylbenzene	100-41-4	1,200		10	20	20
10335	2-Hexanone	591-78-6	N.D.		60	200	20
10335	4-Methyl-2-pentanone	108-10-1	N.D.		60	200	20
10335	Methylene Chloride	75-09-2	N.D.		40	80	20
10335	Styrene	100-42-5	N.D.		20	100	20
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.		10	20	20
10335	Tetrachloroethene	127-18-4	N.D.		10	20	20
10335	Toluene	108-88-3	N.D.		10	20	20
10335	1,1,1-Trichloroethane	71-55-6	N.D.		10	20	20
10335	1,1,2-Trichloroethane	79-00-5	N.D.		10	20	20
10335	Trichloroethene	79-01-6	N.D.		10	20	20
10335	Vinyl Chloride	75-01-4	N.D.		10	20	20
10335	Xylene (Total)	1330-20-7	350		10	20	20
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
04678	Acenaphthene	83-32-9	38		0.1	0.5	1
04678	Acenaphthylene	208-96-8	5		0.1	0.5	1
04678	Anthracene	120-12-7	2		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	0.7		0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	0.9		0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	0.4	J	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	0.3	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	45		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 8600292
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 09:10 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	0.1	J	0.1	0.5	1
04678	Dibenzofuran	132-64-9	10		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	2		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	2	J	2	5	1
04678	Fluoranthene	206-44-0	2		0.1	0.5	1
04678	Fluorene	86-73-7	18		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	290		1	5	10
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	4,600		10	50	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	9		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 8600292
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 09:10 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	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	13	0.1	0.5	1
04678	Phenol	108-95-2	8	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. 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.	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00049	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0062	0.0150	1
07061	Nickel	7440-02-0	0.0064 J	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	0.0129 J	0.0054	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	W162711AA	09/27/2016 19:13	Daniel H Heller	20
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	W162711AA	09/27/2016 19:37	Daniel H Heller	200
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162711AA	09/27/2016 19:13	Daniel H Heller	20

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

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

LL Sample # WW 8600292
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 09:10 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	W162711AA	09/27/2016 19:37	Daniel H Heller	200
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 02:56	Edward Monborne	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/29/2016 00:20	Edward Monborne	10
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/29/2016 00:48	Edward Monborne	100
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1
07044	Antimony	SW-846 6010B	1	162741848002	10/05/2016 01:07	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 01:07	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 03:23	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	162741848002	10/05/2016 01:07	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 03:23	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 01:07	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 01:07	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 03:23	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 01:07	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 01:07	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 03:23	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 01:07	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:22	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8600293
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 08:40 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	0.6	J	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	0.2	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-3D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8600293
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 08:40 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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			**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	0.3	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	1		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 8600293
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 08:40 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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**		**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	N.D.	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
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.	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00049	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0062	0.0150	1
07061	Nickel	7440-02-0	0.0048 J	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	0.0045 J	0.0019	0.0050	1
07022	Thallium	7440-28-0	0.0148 J	0.0094	0.0300	1
07072	Zinc	7440-66-6	0.0247	0.0054	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	W162711AA	09/27/2016 12:27	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162711AA	09/27/2016 12:27	Daniel H Heller	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 03:24	Edward Monborne	1
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1
07044	Antimony	SW-846 6010B	1	162741848002	10/05/2016 01:50	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 01:50	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 03:59	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 8600293
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 08:40 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	162741848002	10/05/2016 01:50	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 03:59	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 01:50	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 15:11	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 03:59	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 01:50	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 01:50	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 03:59	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 01:50	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:24	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8600294
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 14:25 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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.		60	200	10
10335	Benzene	71-43-2	8,600		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	7	J	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	5,600		50	100	100
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	4,500		50	100	100
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	10		5	10	10
10335	Vinyl Chloride	75-01-4	N.D.		5	10	10
10335	Xylene (Total)	1330-20-7	5,900		5	10	10
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
04678	Acenaphthene	83-32-9	75		0.1	0.5	1
04678	Acenaphthylene	208-96-8	26		0.1	0.5	1
04678	Anthracene	120-12-7	3		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	0.7		0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	0.8		0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	0.4	J	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	0.4	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	45		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 Grab Groundwater
PGW - Passyunk

LL Sample # WW 8600294
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 14:25 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	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	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	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	N.D.		2	5	1
04678	Fluoranthene	206-44-0	2		0.1	0.5	1
04678	Fluorene	86-73-7	21		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	0.4	J	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.		0.5	1	1
04678	2-Methylnaphthalene	91-57-6	660		1	5	10
04678	2-Methylphenol	95-48-7	5		0.5	1	1
04678	4-Methylphenol	106-44-5	11		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	8,000		10	50	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 Grab Groundwater
PGW - Passyunk

LL Sample # WW 8600294
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 14:25 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	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	14	0.1	0.5	1
04678	Phenol	108-95-2	7	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
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.	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00049	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0062	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	0.0039 J	0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0054	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	W162741AA	09/30/2016 16:28	Daniel H Heller	10
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	W162741AA	09/30/2016 16:52	Daniel H Heller	100
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162741AA	09/30/2016 16:28	Daniel H Heller	10
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W162741AA	09/30/2016 16:52	Daniel H Heller	100
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 03:51	Edward Monborne	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/29/2016 01:15	Edward Monborne	10
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/29/2016 01:43	Edward Monborne	100
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1

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

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

LL Sample # WW 8600294
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 14:25 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	162741848002	10/05/2016 01:54	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 01:54	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 04:02	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	162741848002	10/05/2016 01:54	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 04:02	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 01:54	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 15:14	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 04:02	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 01:54	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 01:54	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 04:02	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 01:54	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:26	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8600295
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 14:30 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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.		60	200	10
10335	Benzene	71-43-2	7,900		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	7	J	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	5,300		50	100	100
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	4,200		50	100	100
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	10		5	10	10
10335	Vinyl Chloride	75-01-4	N.D.		5	10	10
10335	Xylene (Total)	1330-20-7	6,100		5	10	10
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
04678	Acenaphthene	83-32-9	78		0.1	0.5	1
04678	Acenaphthylene	208-96-8	28		0.1	0.5	1
04678	Anthracene	120-12-7	4		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	1		0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	1		0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	0.8		0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	0.5		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 8600295
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 14:30 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	1	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	0.2 J	0.1	0.5	1
04678	Dibenzofuran	132-64-9	12	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	10	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	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	0.7	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	740	1	5	10
04678	2-Methylphenol	95-48-7	5	0.5	1	1
04678	4-Methylphenol	106-44-5	13	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	9,000	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 8600295
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 14:30 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	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	15	0.1	0.5	1
04678	Phenol	108-95-2	7	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
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.	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00049	0.0050	1
07051	Chromium	7440-47-3	0.0022 J	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0062	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	0.0024 J	0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0054	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	W162741AA	09/30/2016 17:16	Daniel H Heller	10
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	W162741AA	09/30/2016 17:39	Daniel H Heller	100
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162741AA	09/30/2016 17:16	Daniel H Heller	10
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W162741AA	09/30/2016 17:39	Daniel H Heller	100
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 04:19	Edward Monborne	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/29/2016 02:11	Edward Monborne	10
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/29/2016 02:38	Edward Monborne	100
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1

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

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

LL Sample # WW 8600295
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 14:30 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	162741848002	10/05/2016 01:57	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 01:57	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 04:06	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	162741848002	10/05/2016 01:57	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 04:06	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 01:57	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 15:17	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 04:06	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 01:57	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 01:57	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 04:06	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 01:57	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:28	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8600296
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 13:10 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	10		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	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	5		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
04678	Acenaphthene	83-32-9	2		0.1	0.5	1
04678	Acenaphthylene	208-96-8	0.1	J	0.1	0.5	1
04678	Anthracene	120-12-7	0.2	J	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	0.7	J	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 8600296
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 13:10 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	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	1	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	9	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	40	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-5S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8600296
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 13:10 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	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	0.9	0.1	0.5	1
04678	Phenol	108-95-2	N.D.	0.5	1	1
04678	Pyrene	129-00-0	N.D.	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
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.	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00049	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0062	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0054	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	N162731AA	09/29/2016 18:17	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N162731AA	09/29/2016 18:17	Daniel H Heller	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 04:46	Edward Monborne	1
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1
07044	Antimony	SW-846 6010B	1	162741848002	10/05/2016 02:01	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 02:01	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 04:09	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 8600296
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 13:10 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	162741848002	10/05/2016 02:01	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 04:09	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 02:01	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 02:01	Matthew R Machtinger	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 04:09	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 02:01	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 02:01	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 04:09	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 02:01	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:30	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8600297
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 12:07 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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.		30	100	5
10335	Benzene	71-43-2	3,700		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	5	J	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	3,900		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	2,500		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	N.D.		3	5	5
10335	Vinyl Chloride	75-01-4	N.D.		3	5	5
10335	Xylene (Total)	1330-20-7	5,500		25	50	50
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
04678	Acenaphthene	83-32-9	67		0.1	0.5	1
04678	Acenaphthylene	208-96-8	43		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	0.6		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	39		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 8600297
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 12:07 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	0.8		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	8		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	7		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	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	0.2	J	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.		0.5	1	1
04678	2-Methylnaphthalene	91-57-6	630		1	5	10
04678	2-Methylphenol	95-48-7	4		0.5	1	1
04678	4-Methylphenol	106-44-5	4		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	50	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-6S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8600297
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 12:07 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	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	11	0.1	0.5	1
04678	Phenol	108-95-2	6	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
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.	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00049	0.0050	1
07051	Chromium	7440-47-3	0.0018 J	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0062	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	0.0042 J	0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0054	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	W162741AA	09/30/2016 18:03	Daniel H Heller	5
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	W162741AA	09/30/2016 18:27	Daniel H Heller	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162741AA	09/30/2016 18:03	Daniel H Heller	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W162741AA	09/30/2016 18:27	Daniel H Heller	50
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 05:14	Edward Monborne	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/29/2016 03:06	Edward Monborne	10
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/29/2016 03:33	Edward Monborne	100
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1

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

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

LL Sample # WW 8600297
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 12:07 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

PSS6S

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07044	Antimony	SW-846 6010B	1	162741848002	10/05/2016 02:04	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 02:04	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 04:12	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	162741848002	10/05/2016 02:04	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 04:12	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 02:04	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 15:20	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 04:12	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 02:04	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 02:04	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 04:12	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 02:04	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:32	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8600298
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 12:05 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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.	12	40	2
10335	Benzene	71-43-2	2,200	10	20	20
10335	Bromodichloromethane	75-27-4	N.D.	1	2	2
10335	Bromoform	75-25-2	N.D.	1	8	2
10335	Bromomethane	74-83-9	N.D.	1	2	2
10335	2-Butanone	78-93-3	N.D.	6	20	2
10335	Carbon Disulfide	75-15-0	N.D.	2	10	2
10335	Carbon Tetrachloride	56-23-5	N.D.	1	2	2
10335	Chlorobenzene	108-90-7	N.D.	1	2	2
10335	Chloroethane	75-00-3	N.D.	1	2	2
10335	Chloroform	67-66-3	N.D.	1	2	2
10335	Chloromethane	74-87-3	N.D.	1	2	2
10335	Dibromochloromethane	124-48-1	N.D.	1	2	2
10335	1,1-Dichloroethane	75-34-3	N.D.	1	2	2
10335	1,2-Dichloroethane	107-06-2	N.D.	1	2	2
10335	1,1-Dichloroethene	75-35-4	N.D.	1	2	2
10335	cis-1,2-Dichloroethene	156-59-2	3	1	2	2
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	1	2	2
10335	1,2-Dichloropropane	78-87-5	N.D.	1	2	2
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	2	2
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	2	2
10335	Ethylbenzene	100-41-4	2,000	10	20	20
10335	2-Hexanone	591-78-6	N.D.	6	20	2
10335	4-Methyl-2-pentanone	108-10-1	N.D.	6	20	2
10335	Methylene Chloride	75-09-2	N.D.	4	8	2
10335	Styrene	100-42-5	N.D.	2	10	2
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	2	2
10335	Tetrachloroethene	127-18-4	N.D.	1	2	2
10335	Toluene	108-88-3	20	1	2	2
10335	1,1,1-Trichloroethane	71-55-6	N.D.	1	2	2
10335	1,1,2-Trichloroethane	79-00-5	N.D.	1	2	2
10335	Trichloroethene	79-01-6	N.D.	1	2	2
10335	Vinyl Chloride	75-01-4	N.D.	1	2	2
10335	Xylene (Total)	1330-20-7	1,800	10	20	20
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
04678	Acenaphthene	83-32-9	52	0.1	0.5	1
04678	Acenaphthylene	208-96-8	3	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	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-7S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8600298
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 12:05 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	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	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	2	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	22	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	190	2	10	20
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	0.5 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	3,100	10	50	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 8600298
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 12:05 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	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	15	0.1	0.5	1
04678	Phenol	108-95-2	2	0.5	1	1
04678	Pyrene	129-00-0	1	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
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.	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00049	0.0050	1
07051	Chromium	7440-47-3	0.0020 J	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0062	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	0.0023 J	0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0054	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	W162741AA	09/30/2016 18:51	Daniel H Heller	2
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	W162741AA	09/30/2016 19:15	Daniel H Heller	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162741AA	09/30/2016 18:51	Daniel H Heller	2
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W162741AA	09/30/2016 19:15	Daniel H Heller	20
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 05:42	Edward Monborne	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/29/2016 04:01	Edward Monborne	20
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/29/2016 19:47	Edward Monborne	100
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1

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

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

LL Sample # WW 8600298
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 12:05 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

PSS7S

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07044	Antimony	SW-846 6010B	1	162741848002	10/05/2016 02:08	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 02:08	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 04:15	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	162741848002	10/05/2016 02:08	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 04:15	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 02:08	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 15:24	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 04:15	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 02:08	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 02:08	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 04:15	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 02:08	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:34	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8600299
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 14:38 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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.		300	1,000	50
10335	Benzene	71-43-2	25,000		250	500	500
10335	Bromodichloromethane	75-27-4	N.D.		25	50	50
10335	Bromoform	75-25-2	N.D.		25	200	50
10335	Bromomethane	74-83-9	N.D.		25	50	50
10335	2-Butanone	78-93-3	N.D.		150	500	50
10335	Carbon Disulfide	75-15-0	N.D.		50	250	50
10335	Carbon Tetrachloride	56-23-5	N.D.		25	50	50
10335	Chlorobenzene	108-90-7	N.D.		25	50	50
10335	Chloroethane	75-00-3	N.D.		25	50	50
10335	Chloroform	67-66-3	N.D.		25	50	50
10335	Chloromethane	74-87-3	N.D.		25	50	50
10335	Dibromochloromethane	124-48-1	N.D.		25	50	50
10335	1,1-Dichloroethane	75-34-3	N.D.		25	50	50
10335	1,2-Dichloroethane	107-06-2	N.D.		25	50	50
10335	1,1-Dichloroethene	75-35-4	N.D.		25	50	50
10335	cis-1,2-Dichloroethene	156-59-2	N.D.		25	50	50
10335	trans-1,2-Dichloroethene	156-60-5	N.D.		25	50	50
10335	1,2-Dichloropropane	78-87-5	N.D.		25	50	50
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.		25	50	50
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.		25	50	50
10335	Ethylbenzene	100-41-4	4,700		25	50	50
10335	2-Hexanone	591-78-6	N.D.		150	500	50
10335	4-Methyl-2-pentanone	108-10-1	N.D.		150	500	50
10335	Methylene Chloride	75-09-2	N.D.		100	200	50
10335	Styrene	100-42-5	N.D.		50	250	50
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.		25	50	50
10335	Tetrachloroethene	127-18-4	N.D.		25	50	50
10335	Toluene	108-88-3	20,000		250	500	500
10335	1,1,1-Trichloroethane	71-55-6	N.D.		25	50	50
10335	1,1,2-Trichloroethane	79-00-5	N.D.		25	50	50
10335	Trichloroethene	79-01-6	N.D.		25	50	50
10335	Vinyl Chloride	75-01-4	N.D.		25	50	50
10335	Xylene (Total)	1330-20-7	13,000		25	50	50
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
04678	Acenaphthene	83-32-9	79		0.1	0.5	1
04678	Acenaphthylene	208-96-8	33		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	0.8		0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	0.9		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	0.3	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	32		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 8600299
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 14:38 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	17		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	23		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	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	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	1,200		5	25	50
04678	2-Methylphenol	95-48-7	12		0.5	1	1
04678	4-Methylphenol	106-44-5	12		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		50	250	500
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-10S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8600299
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 14:38 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	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	30	0.1	0.5	1
04678	Phenol	108-95-2	13	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
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.	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00049	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0062	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	0.0065	0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	0.0185 J	0.0054	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	W162751AA	10/01/2016 18:32	Chelsea B Stong	50
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	W162751AA	10/01/2016 18:56	Chelsea B Stong	500
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162751AA	10/01/2016 18:32	Chelsea B Stong	50
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W162751AA	10/01/2016 18:56	Chelsea B Stong	500
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 06:09	Edward Monborne	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/29/2016 04:29	Edward Monborne	50
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/29/2016 20:14	Edward Monborne	500
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1

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

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

LL Sample # WW 8600299
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 14:38 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

PSS10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07044	Antimony	SW-846 6010B	1	162741848002	10/05/2016 02:11	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 02:11	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 04:18	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	162741848002	10/05/2016 02:11	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 04:18	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 02:11	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 15:27	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 04:18	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 02:11	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 02:11	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 04:18	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 02:11	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:36	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8600300
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 13:05 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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.		30	100	5
10335	Benzene	71-43-2	3,500		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	3	J	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	150		3	5	5
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	7		3	5	5
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	3	J	3	5	5
10335	Xylene (Total)	1330-20-7	30		3	5	5
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
04678	Acenaphthene	83-32-9	57		0.1	0.5	1
04678	Acenaphthylene	208-96-8	0.6		0.1	0.5	1
04678	Anthracene	120-12-7	2		0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	0.2	J	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	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	35		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 8600300
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 13:05 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	0.3 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	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	2	0.1	0.5	1
04678	Fluorene	86-73-7	21	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	96	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	860	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	1	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-11S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8600300
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 13:05 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	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	6	0.1	0.5	1
04678	Phenol	108-95-2	3	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
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.	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00049	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0062	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	0.0057	0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0054	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	W162721AA	09/28/2016 16:11	Daniel H Heller	5
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	W162721AA	09/28/2016 16:35	Daniel H Heller	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162721AA	09/28/2016 16:11	Daniel H Heller	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W162721AA	09/28/2016 16:35	Daniel H Heller	50
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 06:37	Edward Monborne	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/29/2016 04:56	Edward Monborne	20
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1
07044	Antimony	SW-846 6010B	1	162741848002	10/05/2016 02:22	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 8600300
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 13:05 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	162741848002	10/05/2016 02:22	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 04:21	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	162741848002	10/05/2016 02:22	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 04:21	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 02:22	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 15:36	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 04:21	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 02:22	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 02:22	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 04:21	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 02:22	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:41	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8600301
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 10:55 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	1		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	2		0.1	0.5	1
04678	Acenaphthylene	208-96-8	0.1	J	0.1	0.5	1
04678	Anthracene	120-12-7	0.1	J	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 8600301
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 10:55 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	0.6	J	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	0.1	J	0.1	0.5	1
04678	Fluorene	86-73-7	0.4	J	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	0.3	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	1		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	1		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-12D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8600301
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 10:55 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	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	0.5	J	0.1	0.5	1
04678	Phenol	108-95-2	N.D.		0.5	1	1
04678	Pyrene	129-00-0	0.1	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
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.		0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.		0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.		0.00049	0.0050	1
07051	Chromium	7440-47-3	N.D.		0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.		0.0041	0.0100	1
07055	Lead	7439-92-1	0.0198		0.0062	0.0150	1
07061	Nickel	7440-02-0	N.D.		0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.		0.0097	0.0200	1
07066	Silver	7440-22-4	0.0319		0.0019	0.0050	1
07022	Thallium	7440-28-0	0.0160	J	0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.		0.0054	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	W162721AA	09/28/2016 16:59	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162721AA	09/28/2016 16:59	Daniel H Heller	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 07:05	Edward Monborne	1
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1
07044	Antimony	SW-846 6010B	1	162741848002	10/05/2016 02:25	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 02:25	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 04:30	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 8600301
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 10:55 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	162741848002	10/05/2016 02:25	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 04:30	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 15:39	Cindy M Gehman	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 15:39	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 04:30	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 02:25	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 02:25	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 04:30	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 02:25	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:43	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8600302
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 13:15 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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.	30	100	5
10335	Benzene	71-43-2	240	3	5	5
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	5,100	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	12	3	5	5
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	400	3	5	5
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
04678	Acenaphthene	83-32-9	110	0.1	0.5	1
04678	Acenaphthylene	208-96-8	8	0.1	0.5	1
04678	Anthracene	120-12-7	6	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	52	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 8600302
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 13:15 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	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	16		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	1	J	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	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	N.D.		0.1	0.5	1
04678	Isophorone	78-59-1	N.D.		0.5	1	1
04678	2-Methylnaphthalene	91-57-6	710		5	25	50
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	8,500		50	250	500
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-42R Grab Groundwater
PGW - Passyunk

LL Sample # WW 8600302
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 13:15 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	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	35	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
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	0.0310	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00049	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0062	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	0.0079	0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0054	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	W162711AA	09/27/2016 17:38	Daniel H Heller	5
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	W162711AA	09/27/2016 18:01	Daniel H Heller	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162711AA	09/27/2016 17:38	Daniel H Heller	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W162711AA	09/27/2016 18:01	Daniel H Heller	50
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 07:32	Edward Monborne	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/29/2016 05:24	Edward Monborne	50
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/29/2016 20:42	Edward Monborne	500
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1

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

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

LL Sample # WW 8600302
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 13:15 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	162741848002	10/05/2016 02:29	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 02:29	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 04:33	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	162741848002	10/05/2016 02:29	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 04:33	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 02:29	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 15:45	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 04:33	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 02:29	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 02:29	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 04:33	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 02:29	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:45	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8600303
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 13:15 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	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	0.1	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-42D Grab Groundwater
PGW - Passyunk

LL Sample # WW 8600303
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 13:15 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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	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	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	0.9		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 8600303
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 13:15 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

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
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.	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00049	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0062	0.0150	1
07061	Nickel	7440-02-0	0.0080 J	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	0.0053	0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	0.0075 J	0.0054	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	W162711AA	09/27/2016 12:51	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162711AA	09/27/2016 12:51	Daniel H Heller	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16268WAJ026	09/28/2016 08:00	Edward Monborne	1
00813	BNA Water Extraction	SW-846 3510C	1	16268WAJ026	09/26/2016 09:00	Jessica M Cook	1
07044	Antimony	SW-846 6010B	1	162741848002	10/05/2016 02:32	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 02:32	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 04:36	Matthew R Machtinger	1

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

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

LL Sample # WW 8600303
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/19/2016 13:15 by TM

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

PS42D

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07049	Cadmium	SW-846 6010B	1	162741848002	10/05/2016 02:32	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 04:36	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 02:32	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 15:49	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 04:36	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 02:32	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 02:32	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 04:36	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 02:32	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:47	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8600304
LL Group # 1710954
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 00:01

Submitted: 09/21/2016 17:38
Reported: 10/06/2016 17:06

Leidos Engineering, LLC
6310 Allentown Blvd.
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	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	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	W162751AA	10/01/2016 14:57	Chelsea B Stong	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162751AA	10/01/2016 14:57	Chelsea B Stong	1

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

Quality Control Summary

Client Name: Leidos Engineering, LLC Group Number: 1710954
Reported: 10/06/2016 17:06

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: N162731AA	Sample number(s): 8600296		
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: W162711AA	Sample number(s): 8600288-8600293,8600302-8600303		
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 Group Number: 1710954
Reported: 10/06/2016 17:06

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: W162721AA	Sample number(s): 8600300-8600301		
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 Group Number: 1710954
Reported: 10/06/2016 17:06

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: W162741AA	Sample number(s): 8600294-8600295,8600297-8600298		
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: W162751AA	Sample number(s): 8600299,8600304		
Acetone	N.D.	6	20
Benzene	N.D.	0.5	1
Bromodichloromethane	N.D.	0.5	1

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

Quality Control Summary

Client Name: Leidos Engineering, LLC Group Number: 1710954
Reported: 10/06/2016 17:06

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
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: 16268WAJ026	Sample number(s): 8600288-8600303		
Acenaphthene	N.D.	0.1	0.5
Acenaphthylene	N.D.	0.1	0.5
Anthracene	N.D.	0.1	0.5
Benzo(a)anthracene	N.D.	0.1	0.5
Benzo(a)pyrene	N.D.	0.1	0.5
Benzo(b)fluoranthene	N.D.	0.1	0.5
Benzo(g,h,i)perylene	N.D.	0.1	0.5
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

*- 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 Group Number: 1710954
Reported: 10/06/2016 17:06

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
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
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: 162741848002	Sample number(s): 8600288-8600303		
Antimony	N.D.	0.0077	0.0200
Arsenic	N.D.	0.0097	0.0200
Beryllium	N.D.	0.00067	0.0050

*- 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 Group Number: 1710954
Reported: 10/06/2016 17:06

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/l	mg/l	mg/l
Cadmium	N.D.	0.00049	0.0050
Chromium	N.D.	0.0018	0.0150
Copper	N.D.	0.0041	0.0100
Lead	N.D.	0.0062	0.0150
Nickel	N.D.	0.0028	0.0100
Selenium	N.D.	0.0097	0.0200
Silver	N.D.	0.0019	0.0050
Thallium	N.D.	0.0094	0.0300
Zinc	N.D.	0.0054	0.0200
Batch number: 162745713001	Sample number(s): 8600288-8600303		
Mercury	N.D.	0.000050	0.00020

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: N162731AA	Sample number(s): 8600296								
Acetone	150	249.6			166		50-168		
Benzene	20	22.78			114		78-120		
Bromodichloromethane	20	21.78			109		80-120		
Bromoform	20	17.31			87		59-120		
Bromomethane	20	20.6			103		55-123		
2-Butanone	150	243.43			162*		57-145		
Carbon Disulfide	20	20.99			105		58-120		
Carbon Tetrachloride	20	21.78			109		74-130		
Chlorobenzene	20	20.15			101		80-120		
Chloroethane	20	22.31			112		56-120		
Chloroform	20	21.61			108		80-120		
Chloromethane	20	20.69			103		59-127		
Dibromochloromethane	20	18.66			93		78-120		
1,1-Dichloroethane	20	22.87			114		80-120		
1,2-Dichloroethane	20	20.76			104		66-128		
1,1-Dichloroethene	20	21.79			109		76-124		
cis-1,2-Dichloroethene	20	22.66			113		80-120		
trans-1,2-Dichloroethene	20	23.52			118		80-120		
1,2-Dichloropropane	20	22.92			115		80-120		
cis-1,3-Dichloropropene	20	22.37			112		80-120		
trans-1,3-Dichloropropene	20	20.11			101		76-120		
Ethylbenzene	20	20.63			103		78-120		
2-Hexanone	100	130.82			131		49-146		
4-Methyl-2-pentanone	100	116.47			116		55-141		
Methylene Chloride	20	22.01			110		80-120		
Styrene	20	19.66			98		80-120		
1,1,2,2-Tetrachloroethane	20	20.6			103		72-120		
Tetrachloroethene	20	18.08			90		80-129		
Toluene	20	20.78			104		80-120		

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

Quality Control Summary

Client Name: Leidos Engineering, LLC Group Number: 1710954
Reported: 10/06/2016 17:06

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
1,1,1-Trichloroethane	20	21.37			107		66-126		
1,1,2-Trichloroethane	20	19.78			99		80-120		
Trichloroethene	20	21.95			110		80-120		
Vinyl Chloride	20	22.79			114		63-121		
Xylene (Total)	60	61.55			103		80-120		
Batch number: W162711AA	Sample number(s): 8600288-8600293,8600302-8600303								
Acetone	150	198.2	150	239.79	132	160	50-168	19	30
Benzene	20	21.03	20	20.59	105	103	78-120	2	30
Bromodichloromethane	20	19.63	20	19.59	98	98	80-120	0	30
Bromoform	20	16.35	20	16.36	82	82	59-120	0	30
Bromomethane	20	17.72	20	16.78	89	84	55-123	5	30
2-Butanone	150	147.18	150	150.5	98	100	57-145	2	30
Carbon Disulfide	20	18.32	20	17.96	92	90	58-120	2	30
Carbon Tetrachloride	20	18.68	20	18.76	93	94	74-130	0	30
Chlorobenzene	20	21.15	20	21.3	106	107	80-120	1	30
Chloroethane	20	17.57	20	17.12	88	86	56-120	3	30
Chloroform	20	20.32	20	20.22	102	101	80-120	0	30
Chloromethane	20	17.26	20	16.99	86	85	59-127	2	30
Dibromochloromethane	20	17.58	20	17.48	88	87	78-120	1	30
1,1-Dichloroethane	20	20.54	20	21.16	103	106	80-120	3	30
1,2-Dichloroethane	20	20.25	20	19.89	101	99	66-128	2	30
1,1-Dichloroethene	20	18.99	20	18.43	95	92	76-124	3	30
cis-1,2-Dichloroethene	20	20.42	20	20.06	102	100	80-120	2	30
trans-1,2-Dichloroethene	20	20.8	20	20.42	104	102	80-120	2	30
1,2-Dichloropropane	20	21.36	20	21.47	107	107	80-120	1	30
cis-1,3-Dichloropropene	20	19.88	20	20.05	99	100	80-120	1	30
trans-1,3-Dichloropropene	20	20.52	20	19.82	103	99	76-120	3	30
Ethylbenzene	20	21.23	20	21.45	106	107	78-120	1	30
2-Hexanone	100	98.19	100	98.7	98	99	49-146	1	30
4-Methyl-2-pentanone	100	89.4	100	89.74	89	90	55-141	0	30
Methylene Chloride	20	19.18	20	18.69	96	93	80-120	3	30
Styrene	20	19.23	20	19.46	96	97	80-120	1	30
1,1,2,2-Tetrachloroethane	20	20.8	20	19.14	104	96	72-120	8	30
Tetrachloroethene	20	21.29	20	21.2	106	106	80-129	0	30
Toluene	20	21.64	20	21.37	108	107	80-120	1	30
1,1,1-Trichloroethane	20	17.98	20	18.36	90	92	66-126	2	30
1,1,2-Trichloroethane	20	20.22	20	19.78	101	99	80-120	2	30
Trichloroethene	20	20.95	20	21.2	105	106	80-120	1	30
Vinyl Chloride	20	18.29	20	17.87	91	89	63-121	2	30
Xylene (Total)	60	62.4	60	64.15	104	107	80-120	3	30
Batch number: W162721AA	Sample number(s): 8600300-8600301								
Acetone	150	238.93			159		50-168		
Benzene	20	21.1			105		78-120		
Bromodichloromethane	20	19.53			98		80-120		
Bromoform	20	17.4			87		59-120		
Bromomethane	20	18.29			91		55-123		
2-Butanone	150	197.19			131		57-145		
Carbon Disulfide	20	20.65			103		58-120		
Carbon Tetrachloride	20	19.28			96		74-130		

*- 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 Group Number: 1710954
Reported: 10/06/2016 17:06

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
Chlorobenzene	20	20.79			104		80-120		
Chloroethane	20	18.28			91		56-120		
Chloroform	20	20.22			101		80-120		
Chloromethane	20	18.17			91		59-127		
Dibromochloromethane	20	17.56			88		78-120		
1,1-Dichloroethane	20	21.64			108		80-120		
1,2-Dichloroethane	20	20.43			102		66-128		
1,1-Dichloroethene	20	20.81			104		76-124		
cis-1,2-Dichloroethene	20	20.98			105		80-120		
trans-1,2-Dichloroethene	20	21.88			109		80-120		
1,2-Dichloropropane	20	21.36			107		80-120		
cis-1,3-Dichloropropene	20	20.09			100		80-120		
trans-1,3-Dichloropropene	20	19.68			98		76-120		
Ethylbenzene	20	20.69			103		78-120		
2-Hexanone	100	104.41			104		49-146		
4-Methyl-2-pentanone	100	94.31			94		55-141		
Methylene Chloride	20	19.43			97		80-120		
Styrene	20	19.09			95		80-120		
1,1,2,2-Tetrachloroethane	20	19.37			97		72-120		
Tetrachloroethene	20	21.06			105		80-129		
Toluene	20	20.82			104		80-120		
1,1,1-Trichloroethane	20	20.72			104		66-126		
1,1,2-Trichloroethane	20	19.55			98		80-120		
Trichloroethene	20	20.84			104		80-120		
Vinyl Chloride	20	19.16			96		63-121		
Xylene (Total)	60	61.63			103		80-120		
Batch number: W162741AA	Sample number(s): 8600294-8600295,8600297-8600298								
Acetone	150	186.78			125		50-168		
Benzene	20	21.06			105		78-120		
Bromodichloromethane	20	19.47			97		80-120		
Bromoform	20	16.72			84		59-120		
Bromomethane	20	17.21			86		55-123		
2-Butanone	150	154.53			103		57-145		
Carbon Disulfide	20	18.57			93		58-120		
Carbon Tetrachloride	20	19.16			96		74-130		
Chlorobenzene	20	21.22			106		80-120		
Chloroethane	20	16.42			82		56-120		
Chloroform	20	20.42			102		80-120		
Chloromethane	20	16.96			85		59-127		
Dibromochloromethane	20	17.15			86		78-120		
1,1-Dichloroethane	20	21.19			106		80-120		
1,2-Dichloroethane	20	19.71			99		66-128		
1,1-Dichloroethene	20	19.25			96		76-124		
cis-1,2-Dichloroethene	20	20.36			102		80-120		
trans-1,2-Dichloroethene	20	21.21			106		80-120		
1,2-Dichloropropane	20	21.32			107		80-120		
cis-1,3-Dichloropropene	20	19.78			99		80-120		
trans-1,3-Dichloropropene	20	19.5			97		76-120		
Ethylbenzene	20	21.25			106		78-120		
2-Hexanone	100	98.82			99		49-146		

*- 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 Group Number: 1710954
Reported: 10/06/2016 17:06

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
4-Methyl-2-pentanone	100	89.9			90		55-141		
Methylene Chloride	20	19.25			96		80-120		
Styrene	20	19.51			98		80-120		
1,1,2,2-Tetrachloroethane	20	19.29			96		72-120		
Tetrachloroethene	20	21.56			108		80-129		
Toluene	20	21.11			106		80-120		
1,1,1-Trichloroethane	20	20.36			102		66-126		
1,1,2-Trichloroethane	20	20.27			101		80-120		
Trichloroethene	20	21.1			106		80-120		
Vinyl Chloride	20	17.96			90		63-121		
Xylene (Total)	60	63.4			106		80-120		
Batch number: W162751AA	Sample number(s): 8600299,8600304								
Acetone	150	226.18	150	227.1	151	151	50-168	0	30
Benzene	20	20.92	20	21.41	105	107	78-120	2	30
Bromodichloromethane	20	19.56	20	19.23	98	96	80-120	2	30
Bromoform	20	16.78	20	16.54	84	83	59-120	1	30
Bromomethane	20	16.89	20	17.53	84	88	55-123	4	30
2-Butanone	150	165.21	150	155.54	110	104	57-145	6	30
Carbon Disulfide	20	18.03	20	18.9	90	94	58-120	5	30
Carbon Tetrachloride	20	19.22	20	20.13	96	101	74-130	5	30
Chlorobenzene	20	21.32	20	21.68	107	108	80-120	2	30
Chloroethane	20	16.11	20	17.2	81	86	56-120	7	30
Chloroform	20	20.39	20	20.4	102	102	80-120	0	30
Chloromethane	20	16.52	20	16.92	83	85	59-127	2	30
Dibromochloromethane	20	17.65	20	17.65	88	88	78-120	0	30
1,1-Dichloroethane	20	21.36	20	21.72	107	109	80-120	2	30
1,2-Dichloroethane	20	20.09	20	19.65	100	98	66-128	2	30
1,1-Dichloroethene	20	19.06	20	20.22	95	101	76-124	6	30
cis-1,2-Dichloroethene	20	20.77	20	21.17	104	106	80-120	2	30
trans-1,2-Dichloroethene	20	20.88	20	22.03	104	110	80-120	5	30
1,2-Dichloropropane	20	21.45	20	21.8	107	109	80-120	2	30
cis-1,3-Dichloropropene	20	20.11	20	19.98	101	100	80-120	1	30
trans-1,3-Dichloropropene	20	19.41	20	19.85	97	99	76-120	2	30
Ethylbenzene	20	21.09	20	21.87	105	109	78-120	4	30
2-Hexanone	100	103.72	100	102.91	104	103	49-146	1	30
4-Methyl-2-pentanone	100	91.97	100	91.05	92	91	55-141	1	30
Methylene Chloride	20	19.24	20	19.46	96	97	80-120	1	30
Styrene	20	19.34	20	19.69	97	98	80-120	2	30
1,1,2,2-Tetrachloroethane	20	19.09	20	19.01	95	95	72-120	0	30
Tetrachloroethene	20	21.25	20	22.13	106	111	80-129	4	30
Toluene	20	21.21	20	21.8	106	109	80-120	3	30
1,1,1-Trichloroethane	20	20.01	20	20.54	100	103	66-126	3	30
1,1,2-Trichloroethane	20	19.88	20	19.92	99	100	80-120	0	30
Trichloroethene	20	21.01	20	21.46	105	107	80-120	2	30
Vinyl Chloride	20	17.84	20	18.23	89	91	63-121	2	30
Xylene (Total)	60	63.69	60	64.96	106	108	80-120	2	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16268WAJ026	Sample number(s): 8600288-8600303								

*- 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: 10/06/2016 17:06

Group Number: 1710954

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
Acenaphthene	50	48.04	50	49.56	96	99	74-120	3	30
Acenaphthylene	50	48.6	50	49.77	97	100	73-125	2	30
Anthracene	50	47.05	50	47.93	94	96	75-121	2	30
Benzo(a)anthracene	50	49.24	50	51.75	98	103	77-125	5	30
Benzo(a)pyrene	50	47.15	50	48.17	94	96	74-119	2	30
Benzo(b)fluoranthene	50	47.07	50	48.33	94	97	74-122	3	30
Benzo(g,h,i)perylene	50	47.18	50	47.2	94	94	70-130	0	30
Benzo(k)fluoranthene	50	48.36	50	48.66	97	97	75-121	1	30
4-Bromophenyl-phenylether	50	48.28	50	49.42	97	99	74-122	2	30
Butylbenzylphthalate	50	46.01	50	46.56	92	93	56-124	1	30
Di-n-butylphthalate	50	46.06	50	47.06	92	94	66-122	2	30
Carbazole	50	47.87	50	49	96	98	75-122	2	30
4-Chloro-3-methylphenol	50	47.82	50	49.13	96	98	72-120	3	30
4-Chloroaniline	50	41.09	50	38.54	82	77	51-113	6	30
bis(2-Chloroethoxy)methane	50	46.39	50	47.63	93	95	76-117	3	30
bis(2-Chloroethyl)ether	50	45.36	50	46.82	91	94	65-120	3	30
2-Chloronaphthalene	50	47.63	50	50.06	95	100	62-123	5	30
2-Chlorophenol	50	45.45	50	47.85	91	96	65-118	5	30
4-Chlorophenyl-phenylether	50	46.63	50	49.37	93	99	73-117	6	30
2,2'-oxybis(1-Chloropropane)	50	43.03	50	44.82	86	90	56-128	4	30
Chrysene	50	49.43	50	51.79	99	104	79-126	5	30
Dibenz(a,h)anthracene	50	49.61	50	49.62	99	99	72-132	0	30
Dibenzofuran	50	47	50	49.04	94	98	67-120	4	30
1,2-Dichlorobenzene	50	46.17	50	47.69	92	95	53-119	3	30
1,3-Dichlorobenzene	50	44.63	50	45.67	89	91	42-118	2	30
1,4-Dichlorobenzene	50	45.25	50	46.62	91	93	27-126	3	30
3,3'-Dichlorobenzidine	50	38.15	50	35.6	76	71	44-113	7	30
2,4-Dichlorophenol	50	47.17	50	48.07	94	96	74-120	2	30
Diethylphthalate	50	45.81	50	46.27	92	93	47-126	1	30
2,4-Dimethylphenol	50	35.94	50	35.84	72	72	65-110	0	30
Dimethylphthalate	50	43.72	50	40.63	87	81	26-133	7	30
4,6-Dinitro-2-methylphenol	50	40.14	50	39.39	80	79	56-137	2	30
2,4-Dinitrophenol	100	79.27	100	77.8	79	78	42-129	2	30
2,4-Dinitrotoluene	50	46.49	50	48.42	93	97	73-124	4	30
2,6-Dinitrotoluene	50	48.82	50	51.16	98	102	75-128	5	30
bis(2-Ethylhexyl)phthalate	50	48.13	50	51.13	96	102	70-125	6	30
Fluoranthene	50	48.51	50	49.32	97	99	78-121	2	30
Fluorene	50	46.25	50	48.25	92	97	74-119	4	30
Hexachlorobenzene	50	48.48	50	49.22	97	98	68-123	2	30
Hexachlorobutadiene	50	43.59	50	43.66	87	87	16-126	0	30
Hexachlorocyclopentadiene	100	43.99	100	43.62	44	44	10-98	1	30
Hexachloroethane	50	41.85	50	43.68	84	87	17-121	4	30
Indeno(1,2,3-cd)pyrene	50	47.21	50	47.5	94	95	69-126	1	30
Isophorone	50	46.05	50	46.98	92	94	68-125	2	30
2-Methylnaphthalene	50	46.33	50	47.22	93	94	61-117	2	30
2-Methylphenol	50	44.51	50	45.18	89	90	64-114	1	30
4-Methylphenol	50	42.65	50	43.68	85	87	52-112	2	30
Naphthalene	50	45.83	50	46.91	92	94	68-116	2	30
2-Nitroaniline	50	46.95	50	49.89	94	100	68-130	6	30
3-Nitroaniline	50	44.54	50	45.1	89	90	69-119	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 Group Number: 1710954
Reported: 10/06/2016 17:06

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
4-Nitroaniline	50	43.85	50	44.39	88	89	61-111	1	30
Nitrobenzene	50	46.38	50	47.33	93	95	70-121	2	30
2-Nitrophenol	50	46.92	50	48.76	94	98	73-127	4	30
4-Nitrophenol	50	26.57	50	28.93	53	58	18-90	9	30
N-Nitroso-di-n-propylamine	50	46.23	50	48.14	92	96	63-121	4	30
N-Nitrosodiphenylamine	50	46.75	50	47.7	93	95	71-123	2	30
Di-n-octylphthalate	50	47.89	50	48.96	96	98	73-131	2	30
Pentachlorophenol	50	51.14	50	46.38	102	93	59-134	10	30
Phenanthrene	50	46.27	50	47.2	93	94	73-117	2	30
Phenol	50	28.57	50	29.73	57	59	24-84	4	30
Pyrene	50	45.41	50	47.15	91	94	68-118	4	30
1,2,4-Trichlorobenzene	50	46.38	50	46.93	93	94	48-122	1	30
2,4,5-Trichlorophenol	50	49.05	50	50.5	98	101	75-121	3	30
2,4,6-Trichlorophenol	50	47.86	50	50.22	96	100	71-130	5	30
	mg/l	mg/l	mg/l	mg/l					
Batch number: 162741848002	Sample number(s): 8600288-8600303								
Antimony	0.500	0.505			101		80-120		
Arsenic	0.150	0.147			98		80-120		
Beryllium	0.0500	0.0504			101		80-120		
Cadmium	0.0500	0.0517			103		80-120		
Chromium	0.200	0.201			100		80-120		
Copper	0.250	0.254			102		80-120		
Lead	0.150	0.150			100		80-120		
Nickel	0.500	0.512			102		80-120		
Selenium	0.150	0.150			100		80-120		
Silver	0.0500	0.0575			115		80-120		
Thallium	0.150	0.149			99		80-120		
Zinc	0.500	0.503			101		80-120		
Batch number: 162745713001	Sample number(s): 8600288-8600303								
Mercury	0.00100	0.000960			96		80-120		

MS/MSD

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

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: N162731AA	Sample number(s): 8600296 UNSPK: 8600296									
Acetone	N.D.	150	124.48	150	122.83	83	82	50-168	1	30
Benzene	10.1	20	35.19	20	35.33	125*	126*	78-120	0	30
Bromodichloromethane	N.D.	20	23.33	20	23.84	117	119	80-120	2	30
Bromoform	N.D.	20	18.21	20	18.46	91	92	59-120	1	30
Bromomethane	N.D.	20	21.43	20	22.42	107	112	55-123	5	30
2-Butanone	N.D.	150	181.4	150	182.7	121	122	57-145	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 Group Number: 1710954
Reported: 10/06/2016 17:06

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
Carbon Disulfide	N.D.	20	23.54	20	23.55	118	118	58-120	0	30
Carbon Tetrachloride	N.D.	20	25.35	20	24.95	127	125	74-130	2	30
Chlorobenzene	N.D.	20	21.34	20	21.92	107	110	80-120	3	30
Chloroethane	N.D.	20	23.59	20	25.25	118	126*	56-120	7	30
Chloroform	N.D.	20	23.98	20	24.2	120	121*	80-120	1	30
Chloromethane	N.D.	20	20.81	20	22.39	104	112	59-127	7	30
Dibromochloromethane	N.D.	20	19.71	20	20.17	99	101	78-120	2	30
1,1-Dichloroethane	N.D.	20	24.69	20	25.12	123*	126*	80-120	2	30
1,2-Dichloroethane	N.D.	20	23.16	20	22.82	116	114	66-128	1	30
1,1-Dichloroethene	N.D.	20	24.83	20	24.46	124	122	76-124	2	30
cis-1,2-Dichloroethene	N.D.	20	24.49	20	24.69	122*	123*	80-120	1	30
trans-1,2-Dichloroethene	N.D.	20	25.54	20	26.04	128*	130*	80-120	2	30
1,2-Dichloropropane	N.D.	20	24.54	20	24.96	123*	125*	80-120	2	30
cis-1,3-Dichloropropene	N.D.	20	21.88	20	22.45	109	112	80-120	3	30
trans-1,3-Dichloropropene	N.D.	20	20.51	20	21.24	103	106	76-120	3	30
Ethylbenzene	8.02	20	31.91	20	31.79	119	119	78-120	0	30
2-Hexanone	N.D.	100	114.09	100	117.38	114	117	49-146	3	30
4-Methyl-2-pentanone	N.D.	100	121.85	100	122.84	122	123	55-141	1	30
Methylene Chloride	N.D.	20	23.65	20	23.72	118	119	80-120	0	30
Styrene	N.D.	20	21.08	20	21.67	105	108	80-120	3	30
1,1,2,2-Tetrachloroethane	N.D.	20	20.62	20	21.19	103	106	72-120	3	30
Tetrachloroethene	N.D.	20	19.66	20	20.11	98	101	80-129	2	30
Toluene	N.D.	20	22.2	20	22.65	111	113	80-120	2	30
1,1,1-Trichloroethane	N.D.	20	24.36	20	23.92	122	120	66-126	2	30
1,1,2-Trichloroethane	N.D.	20	20.19	20	21.29	101	106	80-120	5	30
Trichloroethene	N.D.	20	24.66	20	24.26	123*	121*	80-120	2	30
Vinyl Chloride	N.D.	20	24.54	20	25.71	123*	129*	63-121	5	30
Xylene (Total)	4.84	60	72.89	60	74.25	113	116	80-120	2	30
Batch number: W162721AA	Sample number(s): 8600300-8600301 UNSPK: P596577									
Acetone	252.23	1500	1522.28	1500	1359.77	85	74	50-168	11	30
Benzene	259.13	200	491.63	200	496.59	116	119	78-120	1	30
Bromodichloromethane	N.D.	200	212.99	200	210.28	106	105	80-120	1	30
Bromoform	N.D.	200	196.47	200	192.21	98	96	59-120	2	30
Bromomethane	N.D.	200	189.52	200	181.66	95	91	55-123	4	30
2-Butanone	N.D.	1500	1049.55	1500	1082.36	70	72	57-145	3	30
Carbon Disulfide	N.D.	200	226.33	200	218.16	113	109	58-120	4	30
Carbon Tetrachloride	N.D.	200	212.84	200	213.37	106	107	74-130	0	30
Chlorobenzene	267.79	200	504.31	200	515.1	118	124*	80-120	2	30
Chloroethane	N.D.	200	194.34	200	181.98	97	91	56-120	7	30
Chloroform	150.66	200	370.81	200	373.07	110	111	80-120	1	30
Chloromethane	N.D.	200	185.04	200	173.85	93	87	59-127	6	30
Dibromochloromethane	N.D.	200	188.11	200	190.48	94	95	78-120	1	30
1,1-Dichloroethane	138.88	200	373.36	200	375.07	117	118	80-120	0	30
1,2-Dichloroethane	N.D.	200	212.18	200	211.77	106	106	66-128	0	30
1,1-Dichloroethene	N.D.	200	236.31	200	226.48	118	113	76-124	4	30
cis-1,2-Dichloroethene	258	200	482.45	200	497.39	112	120	80-120	3	30
trans-1,2-Dichloroethene	44.68	200	283.22	200	285.36	119	120	80-120	1	30
1,2-Dichloropropane	140.6	200	345.11	200	363.47	102	111	80-120	5	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 Group Number: 1710954
Reported: 10/06/2016 17:06

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
cis-1,3-Dichloropropene	N.D.	200	220.55	200	216.6	110	108	80-120	2	30
trans-1,3-Dichloropropene	N.D.	200	209.61	200	209.83	105	105	76-120	0	30
Ethylbenzene	1796.29	200	2082.54	200	2127.98	143 (2)	166 (2)	78-120	2	30
2-Hexanone	N.D.	1000	870.03	1000	862.31	87	86	49-146	1	30
4-Methyl-2-pentanone	N.D.	1000	858.87	1000	886.04	86	89	55-141	3	30
Methylene Chloride	41.13	200	251.98	200	246.3	105	103	80-120	2	30
Styrene	N.D.	200	286.74	200	285.17	143*	143*	80-120	1	30
1,1,2,2-Tetrachloroethane	N.D.	200	3164.33	200	3300.38	1582*	1650*	72-120	4	30
Tetrachloroethene	581.05	200	840.43	200	879.78	130*	149*	80-129	5	30
Toluene	1722.71	200	2001.08	200	2093.92	139 (2)	186 (2)	80-120	5	30
1,1,1-Trichloroethane	N.D.	200	234.72	200	233.73	117	117	66-126	0	30
1,1,2-Trichloroethane	N.D.	200	202.85	200	205.68	101	103	80-120	1	30
Trichloroethene	1066.19	200	1310.52	200	1338.4	122 (2)	136 (2)	80-120	2	30
Vinyl Chloride	46.63	200	253.7	200	249.59	104	101	63-121	2	30
Xylene (Total)	11367.4	600	12503.62	600	12731.19	189 (2)	227 (2)	80-120	2	30
Batch number: W162741AA	Sample number(s): 8600294-8600295,8600297-8600298 UNSPK: P598786									
Acetone	N.D.	150	128.43	150	128.41	86	86	50-168	0	30
Benzene	N.D.	20	22.52	20	23	113	115	78-120	2	30
Bromodichloromethane	N.D.	20	19.85	20	20.66	99	103	80-120	4	30
Bromoform	N.D.	20	16.37	20	16.53	82	83	59-120	1	30
Bromomethane	N.D.	20	18.46	20	18.12	92	91	55-123	2	30
2-Butanone	N.D.	150	127.43	150	130.7	85	87	57-145	3	30
Carbon Disulfide	N.D.	20	20.32	20	20.79	102	104	58-120	2	30
Carbon Tetrachloride	N.D.	20	21.48	20	22.07	107	110	74-130	3	30
Chlorobenzene	N.D.	20	22.09	20	22.7	110	113	80-120	3	30
Chloroethane	N.D.	20	18.31	20	17.94	92	90	56-120	2	30
Chloroform	N.D.	20	21.33	20	21.98	107	110	80-120	3	30
Chloromethane	N.D.	20	18.72	20	18.67	94	93	59-127	0	30
Dibromochloromethane	N.D.	20	17.51	20	17.79	88	89	78-120	2	30
1,1-Dichloroethane	N.D.	20	22.86	20	22.56	114	113	80-120	1	30
1,2-Dichloroethane	N.D.	20	20.76	20	21	104	105	66-128	1	30
1,1-Dichloroethene	N.D.	20	21.33	20	22.17	107	111	76-124	4	30
cis-1,2-Dichloroethene	N.D.	20	21.67	20	22.57	108	113	80-120	4	30
trans-1,2-Dichloroethene	N.D.	20	22.73	20	23.4	114	117	80-120	3	30
1,2-Dichloropropane	N.D.	20	22.48	20	22.94	112	115	80-120	2	30
cis-1,3-Dichloropropene	N.D.	20	20.53	20	21.06	103	105	80-120	3	30
trans-1,3-Dichloropropene	N.D.	20	19.69	20	20.31	98	102	76-120	3	30
Ethylbenzene	N.D.	20	22.27	20	22.87	111	114	78-120	3	30
2-Hexanone	N.D.	100	87.71	100	89.19	88	89	49-146	2	30
4-Methyl-2-pentanone	N.D.	100	93.16	100	90.97	93	91	55-141	2	30
Methylene Chloride	N.D.	20	20.14	20	20.51	101	103	80-120	2	30
Styrene	N.D.	20	19.96	20	20.41	100	102	80-120	2	30
1,1,2,2-Tetrachloroethane	N.D.	20	19.23	20	19.6	96	98	72-120	2	30
Tetrachloroethene	N.D.	20	23.3	20	23.96	117	120	80-129	3	30
Toluene	N.D.	20	22.31	20	23.23	112	116	80-120	4	30
1,1,1-Trichloroethane	N.D.	20	22.52	20	22.56	113	113	66-126	0	30
1,1,2-Trichloroethane	N.D.	20	20.24	20	20.63	101	103	80-120	2	30
Trichloroethene	N.D.	20	22.47	20	23.18	112	116	80-120	3	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 Group Number: 1710954
Reported: 10/06/2016 17:06

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
Vinyl Chloride	N.D.	20	20.29	20	20.4	101	102	63-121	1	30
Xylene (Total)	N.D.	60	66.08	60	68.29	110	114	80-120	3	30
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 162741848002	Sample number(s): 8600288-8600303 UNSPK: 8600292									
Antimony	N.D.	0.500	0.511	0.500	0.517	102	103	75-125	1	20
Arsenic	N.D.	0.150	0.150	0.150	0.153	100	102	75-125	2	20
Beryllium	N.D.	0.0500	0.0533	0.0500	0.0500	107	100	75-125	6	20
Cadmium	N.D.	0.0500	0.0509	0.0500	0.0512	102	102	75-125	0	20
Chromium	N.D.	0.200	0.210	0.200	0.197	105	98	75-125	6	20
Copper	N.D.	0.250	0.252	0.250	0.253	101	101	75-125	0	20
Lead	N.D.	0.150	0.140	0.150	0.139	94	92	75-125	1	20
Nickel	0.00639	0.500	0.506	0.500	0.512	100	101	75-125	1	20
Selenium	N.D.	0.150	0.147	0.150	0.152	98	102	75-125	3	20
Silver	N.D.	0.0500	0.0580	0.0500	0.0590	116	118	75-125	2	20
Thallium	N.D.	0.150	0.152	0.150	0.151	101	101	75-125	1	20
Zinc	0.0129	0.500	0.509	0.500	0.513	99	100	75-125	1	20
Batch number: 162745713001	Sample number(s): 8600288-8600303 UNSPK: P613192									
Mercury	N.D.	0.00100	0.000764	0.00100	0.000746	76*	75*	80-120	2	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: 162741848002	Sample number(s): 8600288-8600303 BKG: 8600292			
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	N.D.	N.D.	0 (1)	20
Beryllium	N.D.	N.D.	0 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	N.D.	N.D.	0 (1)	20
Copper	N.D.	0.0354	200* (1)	20
Lead	N.D.	N.D.	0 (1)	20
Nickel	0.00639	0.00741	15 (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	0.0129	0.0429	108* (1)	20
Batch number: 162745713001	Sample number(s): 8600288-8600303 BKG: P613192			
Mercury	N.D.	N.D.	0 (1)	20

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

Quality Control Summary

Client Name: Leidos Engineering, LLC Group Number: 1710954
Reported: 10/06/2016 17:06

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: N162731AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8600296	108	105	92	95
Blank	105	101	93	91
LCS	102	102	97	98
MS	103	100	96	101
MSD	102	99	96	100
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PPL/TCL Volatiles in Water
Batch number: W162711AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8600288	96	98	100	99
8600289	97	98	100	99
8600290	96	100	101	97
8600291	98	101	100	98
8600292	96	100	99	97
8600293	97	101	99	98
8600302	97	95	99	98
8600303	97	101	100	98
Blank	98	104	99	98
LCS	98	99	102	96
LCSD	98	101	101	99
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PPL/TCL Volatiles in Water
Batch number: W162721AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8600300	98	99	98	94
8600301	98	101	98	97
Blank	98	101	99	96
LCS	100	102	99	99
MS	100	97	98	99
MSD	99	96	100	98
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PPL/TCL Volatiles in Water
Batch number: W162741AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8600294	95	103	98	100
8600295	96	100	98	100
8600297	95	101	99	100
8600298	95	102	99	95
Blank	98	104	99	97
LCS	98	99	99	98

*- 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 Group Number: 1710954
Reported: 10/06/2016 17:06

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
MS	98	99	99	98
MSD	99	100	99	99
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PPL/TCL Volatiles in Water
Batch number: W162751AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8600299	96	100	99	99
8600304	97	102	99	97
Blank	96	102	99	96
LCS	98	99	99	100
LCSD	98	103	100	99
Limits:	80-116	77-113	80-113	78-113

Analysis Name: TCL SW846 8270C Water
Batch number: 16268WAJ026

	2-Fluorophenol	Phenol-d6	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8600288	37	40	19*	81	82	76
8600289	52	46	85	28*	77	75
8600290	57	56	91	0*	80	75
8600291	33	41	74	24*	83	86
8600292	23	23	21*	87	78	72
8600293	8*	23	13*	8*	79	78
8600294	28	35	66	83	79	82
8600295	45	48	90	79	80	80
8600296	61	52	89	81	81	81
8600297	43	43	88	75	76	78
8600298	31	27	69	77	80	83
8600299	39	45	92	1*	78	78
8600300	16	16	58	25*	79	80
8600301	72	59	87	2*	79	67
8600302	60	57	86	1*	77	75
8600303	14	24	60	55	79	79
Blank	59	41	89	82	83	89
LCS	63	48	89	83	83	85
LCSD	67	50	92	85	86	89
Limits:	10-106	10-84	22-150	46-128	61-112	41-125

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

Environmental Analysis Request/Chain of Custody

COC 1 of 2

eurofins | Lancaster Laboratories Environmental

Acct. # 2732 Group # 1710954 Sample # 8600288-304

Client:	LEIDOS, INC		
Project Name/#:	PGW - Passyunk	Site ID #:	
Project Manager:	Matt Machusick	P.O. #:	PO10160257
Sampler:	T. Messing & S. Erway	PWSID #:	
Phone #:	610-594-4310	Quote #:	
State where samples were collected:	PA	For Compliance: Yes ☐ No ☐	

Sample Identification	Collection Date	Collection Time	Grab	Composite	Matrix: Soil	Sediment	Tissue	Water	Ground	Potable	Surface	NPDES	Other:	Total # of Containers	TCL VOC via 8260B	TCL SVOC via 8260B	PPL Metals w/ Hg via 6010B/7470A
MW-1S	9-20-16	1005	X					X						6	X	X	X
MW-1D	9-20-16	1000												6			
MW-2S	9-19-16	1450												6			
MW-2D	9-19-16	1440												6			
MW-3S	9-20-16	0910												7			
MW-3D		0840												6			
MW-4S		1425												6			
MW-4S DUP		1430												6			
MW-5S		1310												6			
MW-6S		1207												6			

Analyses Requested / Preservation Codes

For Lab Use Only
SF #: _____
SCR #: _____

Preservation Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 P = H_3PO_4
O = Other

Remarks: Metals sample field filtered

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☐ Phone ☐

E-mail Address: machusickm@leidos.com

Phone:

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

EDD Required? Yes ☑ No ☐ If yes, format: project standard

Relinquished by:	Date	Time	Received by:	Date	Time
	9/21/16	1035		9.21.16	1035
	9.21.16	17:38			
			Cally Hugh	9/21/16	17:38

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt 1.5 °C

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 2732 Group # 1710954 Sample # 8600288-304 COC 2 of 2

Client: LEIDOS, INC	
Project Name/#: PGW - Passyunk	Site ID #:
Project Manager: Matt Machusick	P.O. #: PO10160257
Sampler: T. Messing & S. Erway	PWSID #:
Phone #: 610-594-4310	Quote #:
State where samples were collected: PA	For Compliance: Yes ☐ No ☐

Matrix: Tissue ☐, Sediment ☐, Soil ☐; Water: Ground ☑, Surface ☐, Potable ☐, NPDES ☐; Other:

Sample Identification	Collection Date	Collection Time	Grab	Composite	Soil	Water	Other	Total # of Containers	TCL VOC via 8260B	TCL SVOC via 8260B	PPL Metals w/ Hg via 6010B/7470A	Remarks
MW-7S	9-20-16	1205	X			X		6	X	X	X	Metals sample field filtered
MW-10S	↓	1438	↓			↓		↓	↓	↓	↓	
MW-11S	↓	1305	↓			↓		↓	↓	↓	↓	
MW-12D	↓	1055	↓			↓		↓	↓	↓	↓	
MW-42R	9-19-16	1315	↓			↓		↓	↓	↓	↓	
MW-42D	9-19-16	1315	↓			↓		↓	↓	↓	↓	
TRIP BLANK	9-20-16	00:01						2	↓			

Analyses Requested / Preservation Codes

For Lab Use Only
SF #:
SCR #:

Preservation Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 P = H_3PO_4
O = Other

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☐ Phone ☐

E-mail Address: machusickm@leidos.com

Phone:

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

EDD Required? Yes ☑ No ☐ If yes, format: project standard

Relinquished by	Date	Time	Received by	Date	Time
[signature]	9/21/16	1035	[signature]	9-21-16	1035
[signature]	9-21-16	17:38			
			[signature]	9/21/16	17:38

Relinquished by Commercial Carrier:
UPS ______ FedEx ______ Other ______

Temperature upon receipt 1.1 / 1.5 °C

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 7045 0216

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 162808

Group Number(s): 1710954

Client: Leidos

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	09/21/2016 17:38
Number of Packages:	2	Number of Projects:	1
State/Province of Origin:	PA		

Arrival Condition Summary

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

Unpacked by Cathy Murphy (10960) at 18:53 on 09/21/2016

Samples Chilled Details

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

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	1.5	DT	Wet	Y	Loose	N
2	DT121	1.1	DT	Wet	Y	Loose	N

Extra Sample Details

Sample ID on Label	Number of Extra Containers	Date on Label
Rinse Blank #4	6	9/20/2016 15:03
MW-12S	6	9/20/2016 11:00

Comments: These were entered separately in ELLE Group # 1711578. LF 9/26/16

2425 New Holland Pike
Lancaster, PA 17605-2425

T : 717-656-2300
F : 717-656-2681
www.LancasterLabs.cor

eurofins | Lancaster Laboratories Environmental

Explanation of Symbols and Abbreviations

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

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

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

Laboratory Data Qualifiers:

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

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

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

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

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

This report shall not be reproduced except in full, without the written approval of the laboratory.

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

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

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: October 12, 2016

Project: PGW - Passyunk

Submittal Date: 09/21/2016
Group Number: 1711578
PO Number: PO10160257
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
MW-12S Grab Groundwater	8602860
Rinse Blank #4 Grab Water	8602861

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

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

Electronic Copy To Leidos Engineering, LLC Attn: Matt Machusick

Respectfully Submitted,

Lynn M. Frederiksen
Principal Specialist Group Leader

(717) 556-7255

Project Name: PGW - Passyunk
LL Group #: 1711578

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 8270C, GC/MS Semivolatiles

Batch #: 16270WAF026 (Sample number(s): 8602860-8602861 UNSPK: P598786)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: 2,4-Dimethylphenol

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8602860

SW-846 6010B, Metals Dissolved

Batch #: 162741848002 (Sample number(s): 8602860 UNSPK: P600292 BKG: P600292)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Copper, Zinc

Batch #: 162811848001 (Sample number(s): 8602861 UNSPK: P381353 BKG: P381353)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Selenium

SW-846 7470A, Metals Dissolved

Batch #: 162745713001 (Sample number(s): 8602860 UNSPK: P613192 BKG: P613192)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Mercury

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

LL Sample # WW 8602860
LL Group # 1711578
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 11:00 by TM

Submitted: 09/21/2016 17:38
Reported: 10/12/2016 08:47

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

PAS12

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	3,600	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	39	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	2,300	5	10	10
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
04678	Acenaphthene	83-32-9	170	1	5	10
04678	Acenaphthylene	208-96-8	5	0.1	0.5	1
04678	Anthracene	120-12-7	20	0.1	0.5	1
04678	Benzo(a)anthracene	56-55-3	10	0.1	0.5	1
04678	Benzo(a)pyrene	50-32-8	10	0.1	0.5	1
04678	Benzo(b)fluoranthene	205-99-2	10	0.1	0.5	1
04678	Benzo(g,h,i)perylene	191-24-2	5	0.1	0.5	1
04678	Benzo(k)fluoranthene	207-08-9	4	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	94	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 8602860
LL Group # 1711578
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 11:00 by TM

Submitted: 09/21/2016 17:38
Reported: 10/12/2016 08:47

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

PAS12

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	11	0.1	0.5	1
04678	Dibenz(a,h)anthracene	53-70-3	1	0.1	0.5	1
04678	Dibenzofuran	132-64-9	34	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	19	0.1	0.5	1
04678	Fluorene	86-73-7	75	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	4	0.1	0.5	1
04678	Isophorone	78-59-1	N.D.	0.5	1	1
04678	2-Methylnaphthalene	91-57-6	1,600	10	51	100
04678	2-Methylphenol	95-48-7	N.D.	0.5	1	1
04678	4-Methylphenol	106-44-5	2	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	10,000	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-12S Grab Groundwater
PGW - Passyunk

LL Sample # WW 8602860
LL Group # 1711578
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 11:00 by TM

Submitted: 09/21/2016 17:38
Reported: 10/12/2016 08:47

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

PAS12

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	89	0.1	0.5	1
04678	Phenol	108-95-2	N.D.	0.5	1	1
04678	Pyrene	129-00-0	18	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
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.	0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00049	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.	0.0062	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0097	0.0200	1
07066	Silver	7440-22-4	0.0052	0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0054	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	W162751AA	10/01/2016 19:20	Chelsea B Stong	10
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	W162751AA	10/01/2016 19:44	Chelsea B Stong	100
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162751AA	10/01/2016 19:20	Chelsea B Stong	10
01163	GC/MS VOA Water Prep	SW-846 5030B	2	W162751AA	10/01/2016 19:44	Chelsea B Stong	100
04678	TCL SW846 8270C Water	SW-846 8270C	1	16270WAF026	09/28/2016 14:58	Holly B Ziegler	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16270WAF026	09/29/2016 21:10	Edward Monborne	10
04678	TCL SW846 8270C Water	SW-846 8270C	1	16270WAF026	09/29/2016 21:37	Edward Monborne	100
00813	BNA Water Extraction	SW-846 3510C	1	16270WAF026	09/26/2016 17:00	Ryan A Schafran	1

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

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

LL Sample # WW 8602860
LL Group # 1711578
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 11:00 by TM

Submitted: 09/21/2016 17:38
Reported: 10/12/2016 08:47

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

PAS12

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07044	Antimony	SW-846 6010B	1	162741848002	10/05/2016 02:36	Matthew R Machtinger	1
07035	Arsenic	SW-846 6010B	1	162741848002	10/05/2016 02:36	Matthew R Machtinger	1
07047	Beryllium	SW-846 6010B	1	162741848002	10/03/2016 04:39	Matthew R Machtinger	1
07049	Cadmium	SW-846 6010B	1	162741848002	10/05/2016 02:36	Matthew R Machtinger	1
07051	Chromium	SW-846 6010B	1	162741848002	10/03/2016 04:39	Matthew R Machtinger	1
07053	Copper	SW-846 6010B	1	162741848002	10/05/2016 02:36	Matthew R Machtinger	1
07055	Lead	SW-846 6010B	1	162741848002	10/05/2016 15:52	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	162741848002	10/03/2016 04:39	Matthew R Machtinger	1
07036	Selenium	SW-846 6010B	1	162741848002	10/05/2016 02:36	Matthew R Machtinger	1
07066	Silver	SW-846 6010B	1	162741848002	10/05/2016 02:36	Matthew R Machtinger	1
07022	Thallium	SW-846 6010B	1	162741848002	10/03/2016 04:39	Matthew R Machtinger	1
07072	Zinc	SW-846 6010B	1	162741848002	10/05/2016 02:36	Matthew R Machtinger	1
00259	Mercury	SW-846 7470A	1	162745713001	10/03/2016 07:49	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162741848002	10/02/2016 06:30	Lisa J Cooke	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162745713001	10/02/2016 07:45	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 8602861
LL Group # 1711578
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 15:03 by TM

Submitted: 09/21/2016 17:38
Reported: 10/12/2016 08:47

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

PASRB

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		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	4		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	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	4		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: Rinse Blank #4 Grab Water
PGW - Passyunk

LL Sample # WW 8602861
LL Group # 1711578
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 15:03 by TM

Submitted: 09/21/2016 17:38
Reported: 10/12/2016 08:47

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

PASRB

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	0.1	J	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	2		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	18		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 8602861
LL Group # 1711578
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 15:03 by TM

Submitted: 09/21/2016 17:38
Reported: 10/12/2016 08:47

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

PASRB

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	0.2	J	0.1	0.5	1
04678	Phenol	108-95-2	N.D.		0.5	1	1
04678	Pyrene	129-00-0	N.D.		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
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.		0.0097	0.0200	1
07047	Beryllium	7440-41-7	N.D.		0.00067	0.0050	1
07049	Cadmium	7440-43-9	N.D.		0.00049	0.0050	1
07051	Chromium	7440-47-3	N.D.		0.0018	0.0150	1
07053	Copper	7440-50-8	N.D.		0.0041	0.0100	1
07055	Lead	7439-92-1	N.D.		0.0062	0.0150	1
07061	Nickel	7440-02-0	N.D.		0.0028	0.0100	1
07036	Selenium	7782-49-2	N.D.		0.0097	0.0200	1
07066	Silver	7440-22-4	N.D.		0.0019	0.0050	1
07022	Thallium	7440-28-0	N.D.		0.0094	0.0300	1
07072	Zinc	7440-66-6	N.D.		0.0054	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	W162751AA	10/01/2016 15:21	Chelsea B Stong	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W162751AA	10/01/2016 15:21	Chelsea B Stong	1
04678	TCL SW846 8270C Water	SW-846 8270C	1	16270WAF026	09/28/2016 15:26	Holly B Ziegler	1
00813	BNA Water Extraction	SW-846 3510C	1	16270WAF026	09/26/2016 17:00	Ryan A Schafran	1
07044	Antimony	SW-846 6010B	1	162851848001	10/12/2016 06:39	Joanne M Gates	1
07035	Arsenic	SW-846 6010B	1	162811848001	10/10/2016 09:40	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	162811848001	10/10/2016 09:40	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	162811848001	10/10/2016 09:40	Joanne M Gates	1
07051	Chromium	SW-846 6010B	1	162811848001	10/10/2016 09:40	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	162811848001	10/10/2016 09:40	Joanne M Gates	1

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

Sample Description: Rinse Blank #4 Grab Water
PGW - Passyunk

LL Sample # WW 8602861
LL Group # 1711578
Account # 02732

Project Name: PGW - Passyunk

Collected: 09/20/2016 15:03 by TM

Submitted: 09/21/2016 17:38
Reported: 10/12/2016 08:47

Leidos Engineering, LLC
6310 Allentown Blvd.
Harrisburg PA 17112

PASRB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07055	Lead	SW-846 6010B	1	162811848001	10/10/2016 09:40	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	162811848001	10/10/2016 09:40	Joanne M Gates	1
07036	Selenium	SW-846 6010B	1	162811848001	10/10/2016 09:40	Joanne M Gates	1
07066	Silver	SW-846 6010B	1	162851848001	10/12/2016 06:39	Joanne M Gates	1
07022	Thallium	SW-846 6010B	1	162811848001	10/10/2016 09:40	Joanne M Gates	1
07072	Zinc	SW-846 6010B	1	162811848001	10/10/2016 09:40	Joanne M Gates	1
00259	Mercury	SW-846 7470A	1	162755713005	10/06/2016 04:39	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	162811848001	10/09/2016 07:00	Lisa J Cooke	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	2	162851848001	10/11/2016 17:55	JoElla L Rice	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	162755713005	10/05/2016 08:35	Lisa J Cooke	1

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

Quality Control Summary

Client Name: Leidos Engineering, LLC Group Number: 1711578
Reported: 10/12/2016 08:47

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: W162751AA	Sample number(s): 8602860-8602861		
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: 16270WAF026	Sample number(s): 8602860-8602861		
Acenaphthene	N.D.	0.1	0.5
Acenaphthylene	N.D.	0.1	0.5
Anthracene	N.D.	0.1	0.5
Benzo(a)anthracene	N.D.	0.1	0.5
Benzo(a)pyrene	N.D.	0.1	0.5
Benzo(b)fluoranthene	N.D.	0.1	0.5
Benzo(g,h,i)perylene	N.D.	0.1	0.5

*- 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 Group Number: 1711578
Reported: 10/12/2016 08:47

Method Blank (continued)

Analysis Name	Result		MDL**	LOQ
	ug/l		ug/l	ug/l
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	9		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	0.7	J	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
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

*- 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 Group Number: 1711578
Reported: 10/12/2016 08:47

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Phenanthrene	N.D.	0.1	0.5
Phenol	2	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: 162741848002	Sample number(s): 8602860		
Antimony	N.D.	0.0077	0.0200
Arsenic	N.D.	0.0097	0.0200
Beryllium	N.D.	0.00067	0.0050
Cadmium	N.D.	0.00049	0.0050
Chromium	N.D.	0.0018	0.0150
Copper	N.D.	0.0041	0.0100
Lead	N.D.	0.0062	0.0150
Nickel	N.D.	0.0028	0.0100
Selenium	N.D.	0.0097	0.0200
Silver	N.D.	0.0019	0.0050
Thallium	N.D.	0.0094	0.0300
Zinc	N.D.	0.0054	0.0200
Batch number: 162745713001	Sample number(s): 8602860		
Mercury	N.D.	0.000050	0.00020
Batch number: 162755713005	Sample number(s): 8602861		
Mercury	N.D.	0.000050	0.00020
Batch number: 162811848001	Sample number(s): 8602861		
Arsenic	N.D.	0.0097	0.0200
Beryllium	N.D.	0.00067	0.0050
Cadmium	N.D.	0.00049	0.0050
Chromium	N.D.	0.0018	0.0150
Copper	N.D.	0.0041	0.0100
Lead	N.D.	0.0062	0.0150
Nickel	N.D.	0.0028	0.0100
Selenium	N.D.	0.0097	0.0200
Thallium	N.D.	0.0094	0.0300
Zinc	N.D.	0.0054	0.0200
Batch number: 162851848001	Sample number(s): 8602861		
Antimony	N.D.	0.0077	0.0200
Silver	N.D.	0.0019	0.0050

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					

*- 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 Group Number: 1711578
Reported: 10/12/2016 08:47

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: W162751AA	Sample number(s): 8602860-8602861								
Acetone	150	226.18	150	227.1	151	151	50-168	0	30
Benzene	20	20.92	20	21.41	105	107	78-120	2	30
Bromodichloromethane	20	19.56	20	19.23	98	96	80-120	2	30
Bromoform	20	16.78	20	16.54	84	83	59-120	1	30
Bromomethane	20	16.89	20	17.53	84	88	55-123	4	30
2-Butanone	150	165.21	150	155.54	110	104	57-145	6	30
Carbon Disulfide	20	18.03	20	18.9	90	94	58-120	5	30
Carbon Tetrachloride	20	19.22	20	20.13	96	101	74-130	5	30
Chlorobenzene	20	21.32	20	21.68	107	108	80-120	2	30
Chloroethane	20	16.11	20	17.2	81	86	56-120	7	30
Chloroform	20	20.39	20	20.4	102	102	80-120	0	30
Chloromethane	20	16.52	20	16.92	83	85	59-127	2	30
Dibromochloromethane	20	17.65	20	17.65	88	88	78-120	0	30
1,1-Dichloroethane	20	21.36	20	21.72	107	109	80-120	2	30
1,2-Dichloroethane	20	20.09	20	19.65	100	98	66-128	2	30
1,1-Dichloroethene	20	19.06	20	20.22	95	101	76-124	6	30
cis-1,2-Dichloroethene	20	20.77	20	21.17	104	106	80-120	2	30
trans-1,2-Dichloroethene	20	20.88	20	22.03	104	110	80-120	5	30
1,2-Dichloropropane	20	21.45	20	21.8	107	109	80-120	2	30
cis-1,3-Dichloropropene	20	20.11	20	19.98	101	100	80-120	1	30
trans-1,3-Dichloropropene	20	19.41	20	19.85	97	99	76-120	2	30
Ethylbenzene	20	21.09	20	21.87	105	109	78-120	4	30
2-Hexanone	100	103.72	100	102.91	104	103	49-146	1	30
4-Methyl-2-pentanone	100	91.97	100	91.05	92	91	55-141	1	30
Methylene Chloride	20	19.24	20	19.46	96	97	80-120	1	30
Styrene	20	19.34	20	19.69	97	98	80-120	2	30
1,1,2,2-Tetrachloroethane	20	19.09	20	19.01	95	95	72-120	0	30
Tetrachloroethene	20	21.25	20	22.13	106	111	80-129	4	30
Toluene	20	21.21	20	21.8	106	109	80-120	3	30
1,1,1-Trichloroethane	20	20.01	20	20.54	100	103	66-126	3	30
1,1,2-Trichloroethane	20	19.88	20	19.92	99	100	80-120	0	30
Trichloroethene	20	21.01	20	21.46	105	107	80-120	2	30
Vinyl Chloride	20	17.84	20	18.23	89	91	63-121	2	30
Xylene (Total)	60	63.69	60	64.96	106	108	80-120	2	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16270WAF026	Sample number(s): 8602860-8602861								
Acenaphthene	50	45.31			91		74-120		
Acenaphthylene	50	45.36			91		73-125		
Anthracene	50	45.01			90		75-121		
Benzo(a)anthracene	50	47.63			95		77-125		
Benzo(a)pyrene	50	45.26			91		74-119		
Benzo(b)fluoranthene	50	46.59			93		74-122		
Benzo(g,h,i)perylene	50	48.31			97		70-130		
Benzo(k)fluoranthene	50	45.14			90		75-121		
4-Bromophenyl-phenylether	50	46.08			92		74-122		
Butylbenzylphthalate	50	39.16			78		56-124		
Di-n-butylphthalate	50	42.66			85		66-122		
Carbazole	50	45.38			91		75-122		

*- 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 Group Number: 1711578
Reported: 10/12/2016 08:47

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
4-Chloro-3-methylphenol	50	47.5			95		72-120		
4-Chloroaniline	50	30.58			61		51-113		
bis(2-Chloroethoxy)methane	50	44.76			90		76-117		
bis(2-Chloroethyl)ether	50	42.93			86		65-120		
2-Chloronaphthalene	50	44.13			88		62-123		
2-Chlorophenol	50	46.02			92		65-118		
4-Chlorophenyl-phenylether	50	44.37			89		73-117		
2,2'-oxybis(1-Chloropropane)	50	40.75			82		56-128		
Chrysene	50	48.14			96		79-126		
Dibenz(a,h)anthracene	50	50.02			100		72-132		
Dibenzofuran	50	44.32			89		67-120		
1,2-Dichlorobenzene	50	43.78			88		53-119		
1,3-Dichlorobenzene	50	42.24			84		42-118		
1,4-Dichlorobenzene	50	42.05			84		27-126		
3,3'-Dichlorobenzidine	50	26.21			52		44-113		
2,4-Dichlorophenol	50	47.04			94		74-120		
Diethylphthalate	50	38.25			76		47-126		
2,4-Dimethylphenol	50	34.89			70		65-110		
Dimethylphthalate	50	25.96			52		26-133		
4,6-Dinitro-2-methylphenol	50	40.48			81		56-137		
2,4-Dinitrophenol	100	82.97			83		42-129		
2,4-Dinitrotoluene	50	43.34			87		73-124		
2,6-Dinitrotoluene	50	45.44			91		75-128		
bis(2-Ethylhexyl)phthalate	50	48.45			97		70-125		
Fluoranthene	50	46.78			94		78-121		
Fluorene	50	43.56			87		74-119		
Hexachlorobenzene	50	45.93			92		68-123		
Hexachlorobutadiene	50	41.84			84		16-126		
Hexachlorocyclopentadiene	100	39.54			40		10-98		
Hexachloroethane	50	39.17			78		17-121		
Indeno(1,2,3-cd)pyrene	50	47.46			95		69-126		
Isophorone	50	43.72			87		68-125		
2-Methylnaphthalene	50	44.2			88		61-117		
2-Methylphenol	50	43.8			88		64-114		
4-Methylphenol	50	40.57			81		52-112		
Naphthalene	50	43.8			88		68-116		
2-Nitroaniline	50	44.76			90		68-130		
3-Nitroaniline	50	37.7			75		69-119		
4-Nitroaniline	50	38.46			77		61-111		
Nitrobenzene	50	44.67			89		70-121		
2-Nitrophenol	50	47.16			94		73-127		
4-Nitrophenol	50	28.17			56		18-90		
N-Nitroso-di-n-propylamine	50	43.93			88		63-121		
N-Nitrosodiphenylamine	50	44.02			88		71-123		
Di-n-octylphthalate	50	48.01			96		73-131		
Pentachlorophenol	50	50.91			102		59-134		
Phenanthrene	50	44.27			89		73-117		
Phenol	50	28.11			56		24-84		
Pyrene	50	43.28			87		68-118		
1,2,4-Trichlorobenzene	50	43.47			87		48-122		

*- 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 Group Number: 1711578
Reported: 10/12/2016 08:47

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
2,4,5-Trichlorophenol	50	48.24			96		75-121		
2,4,6-Trichlorophenol	50	47.58			95		71-130		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 162741848002	Sample number(s): 8602860								
Antimony	0.500	0.505			101		80-120		
Arsenic	0.150	0.147			98		80-120		
Beryllium	0.0500	0.0504			101		80-120		
Cadmium	0.0500	0.0517			103		80-120		
Chromium	0.200	0.201			100		80-120		
Copper	0.250	0.254			102		80-120		
Lead	0.150	0.150			100		80-120		
Nickel	0.500	0.512			102		80-120		
Selenium	0.150	0.150			100		80-120		
Silver	0.0500	0.0575			115		80-120		
Thallium	0.150	0.149			99		80-120		
Zinc	0.500	0.503			101		80-120		
Batch number: 162745713001	Sample number(s): 8602860								
Mercury	0.00100	0.000960			96		80-120		
Batch number: 162755713005	Sample number(s): 8602861								
Mercury	0.00100	0.000904			90		80-120		
Batch number: 162811848001	Sample number(s): 8602861								
Arsenic	0.150	0.143			95		80-120		
Beryllium	0.0500	0.0477			95		80-120		
Cadmium	0.0500	0.0501			100		80-120		
Chromium	0.200	0.200			100		80-120		
Copper	0.250	0.264			106		80-120		
Lead	0.150	0.150			100		80-120		
Nickel	0.500	0.509			102		80-120		
Selenium	0.150	0.145			96		80-120		
Thallium	0.150	0.154			102		80-120		
Zinc	0.500	0.495			99		80-120		
Batch number: 162851848001	Sample number(s): 8602861								
Antimony	0.500	0.491			98		80-120		
Silver	0.0500	0.0403			81		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: 16270WAF026	Sample number(s): 8602860-8602861 UNSPK: P598786									

*- 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 Group Number: 1711578
Reported: 10/12/2016 08:47

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
Acenaphthene	N.D.	50.61	49.6	50.4	47.5	98	94	74-120	4	30
Acenaphthylene	N.D.	50.61	50.11	50.4	47.84	99	95	73-125	5	30
Anthracene	N.D.	50.61	48.89	50.4	46.66	97	93	75-121	5	30
Benzo(a)anthracene	N.D.	50.61	51.91	50.4	50.34	103	100	77-125	3	30
Benzo(a)pyrene	N.D.	50.61	48.26	50.4	45.26	95	90	74-119	6	30
Benzo(b)fluoranthene	N.D.	50.61	50.02	50.4	47.63	99	95	74-122	5	30
Benzo(g,h,i)perylene	N.D.	50.61	48.7	50.4	45.19	96	90	70-130	7	30
Benzo(k)fluoranthene	N.D.	50.61	48.53	50.4	46.91	96	93	75-121	3	30
4-Bromophenyl-phenylether	N.D.	50.61	50.47	50.4	49.36	100	98	74-122	2	30
Butylbenzylphthalate	N.D.	50.61	44.12	50.4	42.48	87	84	56-124	4	30
Di-n-butylphthalate	N.D.	50.61	46.69	50.4	45.98	92	91	66-122	2	30
Carbazole	N.D.	50.61	49.56	50.4	48.5	98	96	75-122	2	30
4-Chloro-3-methylphenol	N.D.	50.61	41.28	50.4	38.46	82	76	72-120	7	30
4-Chloroaniline	N.D.	50.61	29.68	50.4	30.88	59	61	51-113	4	30
bis(2-Chloroethoxy)methane	N.D.	50.61	48.06	50.4	46.23	95	92	76-117	4	30
bis(2-Chloroethyl)ether	N.D.	50.61	45.92	50.4	44.22	91	88	65-120	4	30
2-Chloronaphthalene	N.D.	50.61	49.12	50.4	46.61	97	92	62-123	5	30
2-Chlorophenol	N.D.	50.61	44.34	50.4	40.32	88	80	65-118	10	30
4-Chlorophenyl-phenylether	N.D.	50.61	49.58	50.4	46.87	98	93	73-117	6	30
2,2'-oxybis(1-Chloropropane)	N.D.	50.61	43.49	50.4	42.04	86	83	56-128	3	30
Chrysene	N.D.	50.61	52.91	50.4	50.17	105	100	79-126	5	30
Dibenz(a,h)anthracene	N.D.	50.61	53	50.4	49.33	105	98	72-132	7	30
Dibenzofuran	N.D.	50.61	49.62	50.4	47.11	98	93	67-120	5	30
1,2-Dichlorobenzene	N.D.	50.61	47.74	50.4	44.83	94	89	53-119	6	30
1,3-Dichlorobenzene	N.D.	50.61	46.39	50.4	43.61	92	87	42-118	6	30
1,4-Dichlorobenzene	N.D.	50.61	46	50.4	44.3	91	88	27-126	4	30
3,3'-Dichlorobenzidine	N.D.	50.61	24.63	50.4	26.56	49	53	44-113	8	30
2,4-Dichlorophenol	N.D.	50.61	43.71	50.4	40.76	86	81	74-120	7	30
Diethylphthalate	N.D.	50.61	42.72	50.4	40.56	84	80	47-126	5	30
2,4-Dimethylphenol	N.D.	50.61	20.07	50.4	18.3	40*	36*	65-110	9	30
Dimethylphthalate	N.D.	50.61	32.73	50.4	29.67	65	59	26-133	10	30
4,6-Dinitro-2-methylphenol	N.D.	50.61	45.38	50.4	43.27	90	86	56-137	5	30
2,4-Dinitrophenol	N.D.	101.21	91.21	100.81	87.3	90	87	42-129	4	30
2,4-Dinitrotoluene	N.D.	50.61	47.79	50.4	46.71	94	93	73-124	2	30
2,6-Dinitrotoluene	N.D.	50.61	50.75	50.4	48.99	100	97	75-128	4	30
bis(2-Ethylhexyl)phthalate	N.D.	50.61	51.88	50.4	51.13	103	101	70-125	1	30
Fluoranthene	N.D.	50.61	50.89	50.4	49.06	101	97	78-121	4	30
Fluorene	N.D.	50.61	48.47	50.4	46.72	96	93	74-119	4	30
Hexachlorobenzene	N.D.	50.61	50.91	50.4	48.72	101	97	68-123	4	30
Hexachlorobutadiene	N.D.	50.61	46.81	50.4	43.77	92	87	16-126	7	30
Hexachlorocyclopentadiene	N.D.	101.21	62.23	100.81	57	61	57	10-98	9	30
Hexachloroethane	N.D.	50.61	44.02	50.4	41.91	87	83	17-121	5	30
Indeno(1,2,3-cd)pyrene	N.D.	50.61	49.87	50.4	45.98	99	91	69-126	8	30
Isophorone	N.D.	50.61	47.35	50.4	45.85	94	91	68-125	3	30
2-Methylnaphthalene	N.D.	50.61	46.98	50.4	45.16	93	90	61-117	4	30
2-Methylphenol	N.D.	50.61	37.93	50.4	33.97	75	67	64-114	11	30
4-Methylphenol	N.D.	50.61	34.19	50.4	30.68	68	61	52-112	11	30
Naphthalene	N.D.	50.61	47.41	50.4	45.51	94	90	68-116	4	30
2-Nitroaniline	N.D.	50.61	49.94	50.4	47.62	99	94	68-130	5	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 Group Number: 1711578
Reported: 10/12/2016 08:47

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
3-Nitroaniline	N.D.	50.61	40.37	50.4	40.21	80	80	69-119	0	30
4-Nitroaniline	N.D.	50.61	41.49	50.4	39.95	82	79	61-111	4	30
Nitrobenzene	N.D.	50.61	47.54	50.4	45.5	94	90	70-121	4	30
2-Nitrophenol	N.D.	50.61	52.94	50.4	50.39	105	100	73-127	5	30
4-Nitrophenol	N.D.	50.61	32.84	50.4	31.7	65	63	18-90	4	30
N-Nitroso-di-n-propylamine	N.D.	50.61	47.81	50.4	45.93	94	91	63-121	4	30
N-Nitrosodiphenylamine	N.D.	50.61	48.08	50.4	46.09	95	91	71-123	4	30
Di-n-octylphthalate	N.D.	50.61	49.02	50.4	47.78	97	95	73-131	3	30
Pentachlorophenol	N.D.	50.61	41.85	50.4	41.57	83	82	59-134	1	30
Phenanthrene	N.D.	50.61	48.25	50.4	46.04	95	91	73-117	5	30
Phenol	N.D.	50.61	27.53	50.4	24.69	54	49	24-84	11	30
Pyrene	N.D.	50.61	47.44	50.4	45.23	94	90	68-118	5	30
1,2,4-Trichlorobenzene	N.D.	50.61	47.82	50.4	46.21	94	92	48-122	3	30
2,4,5-Trichlorophenol	N.D.	50.61	49.02	50.4	45.59	97	90	75-121	7	30
2,4,6-Trichlorophenol	N.D.	50.61	44.12	50.4	43.13	87	86	71-130	2	30
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 162741848002	Sample number(s): 8602860 UNSPK: P600292									
Antimony	N.D.	0.500	0.511	0.500	0.517	102	103	75-125	1	20
Arsenic	N.D.	0.150	0.150	0.150	0.153	100	102	75-125	2	20
Beryllium	N.D.	0.0500	0.0533	0.0500	0.0500	107	100	75-125	6	20
Cadmium	N.D.	0.0500	0.0509	0.0500	0.0512	102	102	75-125	0	20
Chromium	N.D.	0.200	0.210	0.200	0.197	105	98	75-125	6	20
Copper	N.D.	0.250	0.252	0.250	0.253	101	101	75-125	0	20
Lead	N.D.	0.150	0.140	0.150	0.139	94	92	75-125	1	20
Nickel	0.00639	0.500	0.506	0.500	0.512	100	101	75-125	1	20
Selenium	N.D.	0.150	0.147	0.150	0.152	98	102	75-125	3	20
Silver	N.D.	0.0500	0.0580	0.0500	0.0590	116	118	75-125	2	20
Thallium	N.D.	0.150	0.152	0.150	0.151	101	101	75-125	1	20
Zinc	0.0129	0.500	0.509	0.500	0.513	99	100	75-125	1	20
Batch number: 162745713001	Sample number(s): 8602860 UNSPK: P613192									
Mercury	N.D.	0.00100	0.000764	0.00100	0.000746	76*	75*	80-120	2	20
Batch number: 162755713005	Sample number(s): 8602861 UNSPK: P609763									
Mercury	N.D.	0.00100	0.000997	0.00100	0.000956	100	96	80-120	4	20
Batch number: 162811848001	Sample number(s): 8602861 UNSPK: P381353									
Arsenic	N.D.	0.150	0.162	0.150	0.162	108	108	75-125	0	20
Beryllium	N.D.	0.0500	0.0495	0.0500	0.0508	99	102	75-125	3	20
Cadmium	N.D.	0.0500	0.0495	0.0500	0.0508	99	102	75-125	3	20
Chromium	N.D.	0.200	0.206	0.200	0.210	103	105	75-125	2	20
Copper	0.600	0.250	0.866	0.250	0.871	107	108	75-125	1	20
Lead	0.0579	0.150	0.201	0.150	0.204	96	98	75-125	1	20
Nickel	0.0227	0.500	0.513	0.500	0.525	98	101	75-125	2	20
Selenium	0.0110	0.150	0.159	0.150	0.163	99	102	75-125	2	20
Thallium	0.0185	0.150	0.151	0.150	0.155	88	91	75-125	3	20
Zinc	0.548	0.500	1.04	0.500	1.05	98	100	75-125	1	20

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

Quality Control Summary

Client Name: Leidos Engineering, LLC Group Number: 1711578
Reported: 10/12/2016 08:47

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
Batch number: 162851848001	Sample number(s): 8602861 UNSPK: P630631									
Antimony	N.D.	0.500	0.498	0.500	0.476	100	95	75-125	4	20
Silver	N.D.	0.0500	0.0396	0.0500	0.0377	79	75	75-125	5	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: 162741848002	Sample number(s): 8602860 BKG: P600292			
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	N.D.	N.D.	0 (1)	20
Beryllium	N.D.	N.D.	0 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	N.D.	N.D.	0 (1)	20
Copper	N.D.	0.0354	200* (1)	20
Lead	N.D.	N.D.	0 (1)	20
Nickel	0.00639	0.00741	15 (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	0.0129	0.0429	108* (1)	20
Batch number: 162745713001	Sample number(s): 8602860 BKG: P613192			
Mercury	N.D.	N.D.	0 (1)	20
Batch number: 162755713005	Sample number(s): 8602861 BKG: P609763			
Mercury	N.D.	N.D.	0 (1)	20
Batch number: 162811848001	Sample number(s): 8602861 BKG: P381353			
Arsenic	N.D.	N.D.	0 (1)	20
Beryllium	N.D.	N.D.	0 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	N.D.	N.D.	0 (1)	20
Copper	0.600	0.581	3	20
Lead	0.0579	0.0549	5 (1)	20
Nickel	0.0227	0.0222	2 (1)	20
Selenium	0.0110	N.D.	200* (1)	20
Thallium	0.0185	0.0184	0 (1)	20
Zinc	0.548	0.532	3	20
Batch number: 162851848001	Sample number(s): 8602861 BKG: P630631			
Antimony	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20

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

Quality Control Summary

Client Name: Leidos Engineering, LLC Group Number: 1711578
Reported: 10/12/2016 08:47

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: W162751AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8602860	97	101	99	98
8602861	98	103	99	97
Blank	96	102	99	96
LCS	98	99	99	100
LCSD	98	103	100	99
Limits:	80-116	77-113	80-113	78-113

Analysis Name: TCL SW846 8270C Water
Batch number: 16270WAF026

	2-Fluorophenol	Phenol-d6	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8602860	50	43	85	1*	74	70
8602861	63	45	95	82	84	90
Blank	61	43	88	67	66	80
LCS	65	49	90	80	79	84
MS	61	46	71	85	86	89
MSD	54	41	72	82	83	84
Limits:	10-106	10-84	22-150	46-128	61-112	41-125

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

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

1711578 8602860-61 COC 1 of 2

Acct. # 2732 Group # ~~1710954~~ Sample # ~~8600288-304~~ 9/23/16

Client:	LEIDOS, INC		
Project Name/#:	PGW - Passyunk	Site ID #:	
Project Manager:	Matt Machusick	P.O. #:	PO10160257
Sampler:	T. Messing & S. Erway	PWSID #:	
Phone #:	610-594-4310	Quote #:	
State where samples were collected:	PA	For Compliance: Yes ☐ No ☐	

Matrix: Tissue ☐, Sediment ☐, Soil ☐; Water: Ground ☑, Surface ☐, Potable ☐, NPDES ☐; Other:

Analyses Requested / Preservation Codes

Sample Identification	Collection Date	Collection Time	Grab	Composite	Soil	Water	Other	Total # of Containers	TCL VOC via 8260B	TCL SVOC via 8260B	PPL Metals w/ Hg via 6010B/7470A	Remarks
MW-1S	9-20-16	1005	X			X		6	X	X	X	Metals sample field filtered
MW-1D	9-20-16	1000	↓			↓		6	↓	↓	↓	
MW-2S	9-19-16	1450	↓			↓		6	↓	↓	↓	
MW-2D	9-19-16	1440	↓			↓		6	↓	↓	↓	Reported in
MW-3S	9-20-16	0910	↓			↓		7	↓	↓	↓	ELLE Group
MW-3D	↓	0840	↓			↓		6	↓	↓	↓	#1710954.
MW-4S	↓	1425	↓			↓		6	↓	↓	↓	LF 9/26/16
MW-4S DUP	↓	1430	↓			↓		6	↓	↓	↓	
MW-5S	↓	1310	↓			↓		6	↓	↓	↓	
MW-6S	↓	1207	↓			↓		6	↓	↓	↓	

For Lab Use Only
SF #: ____
SCR #: ____

Preservation Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 P = H_3PO_4
O = Other

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☐ Phone ☐

E-mail Address: machusickm@leidos.com

Phone:

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	9/21/16	1035	[signature]	9-21-16	1035
[signature]	9-21-16	17:38			
			Cathy [signature]	9/21/16	17:38

Relinquished by Commercial Carrier:
UPS ____ FedEx ____ Other ____

Temperature upon receipt 1.5, 1.1 °C

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

EDD Required? Yes ☑ No ☐ If yes, format: project standard

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 7045 0216

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 2732 Group # ~~1710954~~ 1711578 Sample # ~~8600288 304~~ 86028[60-61] COC 2 of 2

[illegible] 9/23/16 (3)

Client:	LEIDOS, INC		
Project Name/#:	PGW - Passyunk	Site ID #:	
Project Manager:	Matt Machusick	P.O. #:	PO10160257
Sampler:	T. Messing & S. Erway	PWSID #:	
Phone #:	610-594-4310	Quote #:	
State where samples were collected:	PA	For Compliance: Yes ☐ No ☐	

Matrix: Soil ☐ Sediment ☐ Tissue ☐ Water: Ground ☑ Potable ☐ Surface ☐ NPDES ☐ Other:

Sample Identification	Collection Date	Collection Time	Grab	Composite	Soil	Water	Other:	Total # of Containers	TCL VOC via 8260B	TCL SVOC via 8260B	PPL Metals w/ Hg via 6010B/7470A							Remarks
MW-7S	9-20-16	1205	X			X		6	X	X	X							Metals sample field filtered
MW-10S	↓	1438	↓			↓		↓	↓	↓	↓							Reported in
MW-11S	↓	1305	↓			↓		↓	↓	↓	↓							ELLE Group
MW-12D	↓	1055	↓			↓		↓	↓	↓	↓							#1710954.
MW-42R	9-19-16	1315	↓			↓		↓	↓	↓	↓							LF 9/26/16
MW-42D	9-19-16	1315	↓			↓		↓	↓	↓	↓							
TRIP BLANK	9-20-16	00:01						2	↓									

For Lab Use Only

SF #: ____________

SCR #: ____________

Preservation Codes

H = HCl T = Thiosulfate

N = HNO_3 B = NaOH

S = H_2SO_4 P = H_3PO_4

O = Other

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐

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

Date results are needed:

Rush results requested by (please check): E-Mail ☐ Phone ☐

E-mail Address: machusickm@leidos.com

Phone:

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

EDD Required? Yes ☑ No ☐ If yes, format: project standard

Relinquished by:	Date	Time	Received by:	Date	Time
[illegible]	9/21/16	1035	[illegible]	9.21.16	[illegible]
[illegible]	9.21.16	17:38			
			[illegible]	9/21/16	17:38

Relinquished by Commercial Carrier:

UPS ______ FedEx ______ Other ____________

Temperature upon receipt 1.1 °C

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300

7045 0216

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 162808

Group Number(s): 1711578

Client: Leidos

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	09/21/2016 17:38
Number of Packages:	2	Number of Projects:	1
State/Province of Origin:	PA		

Arrival Condition Summary

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

Unpacked by Cathy Murphy (10960) at 18:53 on 09/21/2016

Samples Chilled Details

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

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	1.5	DT	Wet	Y	Loose	N
2	DT121	1.1	DT	Wet	Y	Loose	N

Extra Sample Details

Sample ID on Label	Number of Extra Containers	Date on Label	Comments
Rinse Blank #4	6	9/20/2016 15:03	These samples entered in separate group from those listed on COC. LF 9/20/16
MW-12S	6	9/20/2016 11:00	

2425 New Holland Pike
Lancaster, PA 17605-2425

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

Explanation of Symbols and Abbreviations

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

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

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

Laboratory Data Qualifiers:

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

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

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

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

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

This report shall not be reproduced except in full, without the written approval of the laboratory.

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

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