March 19, 2015

Mr. Julian A. Mazero
Permits Section
Pennsylvania Department of Environmental Protection
Southcentral Regional Office Building
909 Elmerton Avenue
Harrisburg, PA 17110-8200

Subject: **2014 Annual Operations Report**
Former York Naval Ordnance Plant, York, Pennsylvania
Harley-Davidson NPDES Permit No. PA 0085677

Dear Mr. Mazero:

On behalf of Harley-Davidson Motor Company Operations, Inc. (Harley-Davidson), Leidos Engineering, LLC (Leidos) (formerly SAIC Energy, Environment & Infrastructure, LLC) is providing you with a copy of the attached report entitled "Groundwater Extraction and Treatment System Annual Operations Report for the Period January 1, 2014, through December 31, 2014."

Please contact me with any questions or comments.

Very truly yours,

Leidos Engineering, LLC

Emily M. Wade
Project Environmental Scientist

EMW:pr
Attachment
cc: Pamela Trowbridge – PADEP (w/enclosure)
Kathy Horvath – PADEP (w/enclosure)
Sharon Fisher –Harley-Davidson (w/enclosure)
Ralph Golia – AMO Environmental Decisions
Hamid Rafiee – USACE
Griff Miller –USEPA (w/enclosure)
Blanda Nace – YCIDA (w/enclosure)
Stephen Snyder – Groundwater Sciences Corporation (w/enclosure)

GROUNDWATER EXTRACTION AND TREATMENT SYSTEM
ANNUAL OPERATIONS REPORT
FOR THE PERIOD
JANUARY 1 THROUGH DECEMBER 31, 2014
FORMER YORK NAVAL ORDNANCE PLANT

Leidos Project 305337.LS.300355.2000.0100

Prepared for:

Harley-Davidson Motor Company Operations, Inc.
York, PA

March 2015

Leidos Engineering, LLC
6310 Allentown Boulevard, Suite 110 / Harrisburg, PA 17112 / 717.901.8100 **leidos.com/engineering**

Groundwater Extraction and Treatment System
Annual Operations Report
for the Period
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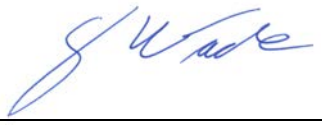
By:

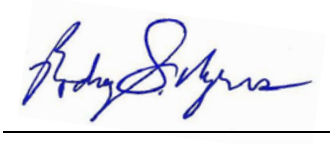
Leidos Engineering, LLC
6310 Allentown Boulevard
Harrisburg, PA 17112
(717) 901-8100

March 2015

Respectfully submitted,



Emily M. Wade
Project Environmental Scientist



Rodney G. Myers
Senior Project Manager

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cfm	-	cubic feet per minute
cis-1,2-DCE	-	cis-1,2-dichloroethene
EPA	-	United States Environmental Protection Agency
fYNOP	-	former York Naval Ordnance Plant
GAC	-	granular-activated carbon
gpd	-	gallons per day
gpm	-	gallons per minute
GSC	-	Groundwater Sciences Corporation
GWTS	-	groundwater extraction and treatment system
Harley-Davidson	-	Harley-Davidson Motor Company Operations, Inc.
HMI	-	human-machine interface
HP	-	horsepower
IDW	-	investigation-derived waste
lbs/day	-	pounds per day
Leidos	-	Leidos Engineering, LLC
MCC	-	motor control center
MSC	-	medium-specific concentration
NB4	-	North Building 4
NPBA	-	Northeast Property Boundary Area
NPDES	-	National Pollutant Discharge Elimination System
O&M	-	operation and maintenance
PADEP	-	Pennsylvania Department of Environmental Protection
PCE	-	tetrachloroethene
PLC	-	programmable logic controller
ppm	-	parts per million
PTA	-	packed tower aerator
PVC	-	polyvinyl chloride
RI	-	Remedial Investigation
SAIC	-	Science Applications International Corporation
SGWRI	-	Supplemental Groundwater Remedial Investigation, Part 2
SRBC	-	Susquehanna River Basin Commission
TCA	-	1,1,1-trichloroethane
TCE	-	trichloroethene
µg/L	-	trichloroethene
VFD	-	variable frequency drive
VOCs	-	volatile organic compounds
WPL	-	West Parking Lot
YCIDA	-	York County Industrial Development Authority

EXECUTIVE SUMMARY

This report is a summary of the groundwater extraction and treatment system (GWTS) operations and maintenance (O&M) and groundwater quality monitoring that occurred during calendar year 2014 at the former York Naval Ordnance Plant (fYNOP). The GWTS is located at the Harley-Davidson Motor Company Operations, Inc. (Harley-Davidson) facility in York, Pennsylvania, and has been in operation since November 1990.

A portion of the GWTS was shut down in mid-2013, and the remainder of the GWTS was shut down in late 2013 as part of an ongoing site-wide Supplemental Groundwater Remedial Investigation (SGWRI) and work plans approved by the United States Environmental Protection Agency (EPA) and Pennsylvania Department of Environmental Protection (PADEP). Most of the system remained off during 2014, until a new pumping well was brought on-line from the southwest corner of the West Parking Lot (WPL) in April 2014. Modifications were made in 2014 to add a previously un-pumped collection well (CW-20), located in the southwest corner of the WPL, to the GWTS. WPL collection wells (CW-9 and CW-20) were the only collection wells that operated during 2014 (from April 7 until August 11, 2014). The Northeast Property Boundary Area (NPBA) and lift station systems were shut down for separate evaluations on June 19, 2013, and remained off during the entire year (2014). Collection well CW-8, located in the 1,1,1-trichloroethane (TCA) Tank Area near former Building 2 was also not operated during 2014.

With the 2014 modifications, the extraction system now consists of sixteen (16) functional collection wells: nine (9) in the NPBA, one (1) in the TCA Tank Area, five (5) in the WPL/North Building 4 (NB4) Area, and the Building 3 Dewatering Area's interceptor trench dewatering system, including one (1) well (CW-19).

Approximately 262 pounds of volatile organic compounds (VOCs) were removed by the GWTS in the 2014 calendar year. The total amount of groundwater extracted in almost 4 months of groundwater extraction and treatment during 2014 was approximately 17 million gallons. Approximately 42,742 pounds of VOCs were removed since 1990.

Groundwater elevation data were collected in January, May, and October 2014. Groundwater levels representing pumping conditions (CW-20 only) were only collected during the May monitoring period.

The combined influent total VOC concentrations in captured groundwater averaged 1,132 micrograms per liter (µg/L) during 2014. Trichloroethene (TCE), tetrachloroethene (PCE), cis-1,2-dichloroethene (cis-1,2-DCE), and TCA are the predominant VOCs in the influent groundwater entering the packed tower aerator (PTA). The PTA effluent was sampled and reported four times in 2014. The treatment system effluent maintained non-detectable concentrations of target VOCs during this reporting period.

During 2014, the collection wells in the NPBA and TCA areas were sampled for priority pollutant VOCs in October. The WPL and CW-20 collection wells were generally sampled monthly as part of the ongoing investigations. In addition, a site-wide comprehensive sampling of all collection and monitoring wells was

conducted during October and November 2014. A data summary of the results of this sampling is provided (attached) with this report.

1.0 INTRODUCTION

This report presents a summary of the operating record for the former York Naval Ordnance Plant (fYNOP) groundwater extraction and treatment system (GWTS), collection well quality, and groundwater level data monitored at the site during 2014. The fYNOP facility is located at the Harley-Davidson Motor Company Operations, Inc. (Harley-Davidson) York facility and on the York County Industrial Development Authority (YCIDA) property in Springettsbury Township, York County, Pennsylvania, as shown on Figure 1-1. This report covers the 12-month period from January 1 through December 31, 2014.

The west campus area (encompassing the West Parking Lot [WPL] and 1,1,1-trichloroethane [TCA] systems) was sold to YCIDA on June 14, 2012. Harley-Davidson retained responsibility for the cleanup and established an easement agreement with YCIDA (for the portion of the former property now designated as 1445 Eden Road, York, Pennsylvania) to continue remediation, monitoring, and maintenance activities. The fYNOP facility now includes properties owned by Harley-Davidson and YCIDA (see property boundaries shown on Figure 1-2).

At the fYNOP, groundwater can now be extracted from 16 pumping wells (CW-1, CW-1A, CW-2 through CW-7, CW-7A, CW-8, CW-9, CW-13, CW-15A, CW-17, CW-19, and CW-20) operating in four (4) separate areas designated as the Northeast Property Boundary Area (NPBA), the WPL Area (which includes the North Building 4 [NB4] Area), the TCA Tank Area, and the Building 3 Dewatering System. The collection system, known as the Building 3 Dewatering System, was implemented in 2002 and consists of a deep interceptor trench, a shallow interceptor trench (toe drain), and a basement collection well (CW-19) that are connected to a lift station. The locations of these collection systems are shown on Figure 1-2.

All extracted groundwater is piped to a treatment system located in the groundwater treatment building (Building 41A) for processing through a packed tower aerator (PTA) prior to discharge to the Codorus Creek, designated as Outfall No. 003 (see Figures 1-1 and 1-2). Figure 1-3 presents a schematic flow diagram for this treatment system. A chemical sequestering agent (Redux 525) injection system installed to reduce mineral fouling of the GWTS PTA, effluent discharge pumps, and components in June 2010 continued to operate throughout 2014. PTA off-gases are treated by a granular-activated carbon (GAC) filter system for removal of volatile organic compounds (VOCs) before being discharged to the atmosphere.

In November 1990, ten collection wells in the NPBA and TCA Tank Areas were brought on-line while ongoing studies were performed in the WPL. The WPL Area groundwater extraction system was brought on-line in May 1994. The Building 3 dewatering system was brought on-line in January 2004. Finally, CW-20 was added to the WPL Area during 2014, as part of a modification to the existing plumbing, wiring, and controls for CW-9.

The system operates under a National Pollutant Discharge Elimination System (NPDES) permit No. PA0085677 issued by the Pennsylvania Department of Environmental Protection (PADEP). The

current permit was issued on November 22, 2010, and expires on November 30, 2015. Treated groundwater is collected in a wet well located immediately northwest of Building 41A (refer to Figure 1-2) and is pumped through a force main to Outfall 003 located near the confluence of Johnsons Run and Codorus Creek.

During 2014, Harley-Davidson continued groundwater remedial investigation (RI) studies under the work plan entitled Field Sampling Plan for Part II of the Supplemental Remedial Investigation, Former York Naval Ordnance Plant (Groundwater Sciences Corporation [GSC] 2012). The 2014 groundwater extraction and treatment operations were controlled by the ongoing RI studies, including several shutdowns of the GWTS that were initiated in 2013, and partial system restarts conducted as part of this overall work plan. Details and regulator (United States Environmental Protection Agency [EPA] and PADEP) approvals for the shutdowns and restarts that affected the GWTS during 2014 were facilitated via addendums to the field sampling plan as follows:

- Addendum No. 6 (GSC, 2013a) issued March 20, 2013 – Northeast Property Boundary Area (NPBA) Extraction System Monitored Shutdown (for the NPBA system shutdown). The NPBA was shut down on June 19, 2013, and is undergoing monitoring by GSC as a separate task. A report was prepared (GSC, April 2014a) and approved by the EPA that recommended continued shutdown and monitoring of the NPBA system for five years.

- Addendum No. 7 (GSC, 2013b) issued March 20, 2013 – Building 3 Footer Drain Monitored Shutdown (for the Lift Station system shutdown). The Building 3 Lift Station was shut down on June 19, 2013, and is undergoing monitoring by GSC as a separate task. A report was prepared (GSC, April 2014a) and approved by EPA that recommended continued shutdown and monitoring of the Lift Station for two years.

- Addendum No. 11 (GSC, 2013c) issued October 21, 2013 – Groundwater Tracer Studies (for the WPL/West Campus and entire GWTS shutdown). The remainder of the GWTS (WPL and TCA area wells) was shut down for monitoring on November 25, 2013.

- Addendum No. 13 (GSC, 2014b) issued March 21, 2014 – Restart of GWTS West Parking Lot (WPL). This was a work plan that extended the Addendum No. 11 tracer studies and provided a work plan for start-up of CW-20 and CW-9 to monitor impacts to dye observed in Codorus Creek from dye injection in the southwest corner of the WPL. Pumping of CW-20 began on April 7, 2014, per this plan, and CW-9 was reactivated on July 23, 2014. A request to reinject dye into well CW-17 and extend the monitoring was issued on September 3, 2014 (approved by PADEP and EPA on September 3, 2014). The dye was injected on September 12, 2014. A dye monitoring extension notice (through mid-January 2015) was issued to PADEP and EPA on November 10, 2014.

- Addendum No. 14 (GSC, 2014c) issued August 8, 2014 – Dry Weather Shutdown of the GWTS (approved by EPA on October 30, 2014). The dry weather shutdown began on August 11, 2014,

and continued through the end of the calendar year. An extension notice (through mid-January 2015) was issued to PADEP and EPA on November 10, 2014.

Several noteworthy maintenance and groundwater treatment-related modifications or repairs were conducted during the 2014 report period. These included:

- Installed groundwater pump and controls and start-up of collection well CW-20, located in the southwest corner of the WPL. This work also required modifications of plumbing and pumping conditions at CW-9.
- Replaced the influent pump variable frequency drive (VFD).
- Installed a new roof on Building 41A.
- Cleaned and repaired the effluent discharge pumps.
- Replaced GAC in the off-gas treatment system.
- Upgraded the entire GWTS control system.

2.0 GEOLOGY AND HYDROGEOLOGY

Two geologic rock formations underlie the site. Solution-prone (karst) gray carbonate bedrock (limestone and dolostone) underlies the flat lowland (western) portion of the site. Quartzitic sandstone underlies the more steeply sloping hills or upland area present on the eastern part of the site. Groundwater flow is generally westward, from the upland area at the eastern part of the site toward Codorus Creek. A detailed discussion of the geology and hydrogeology is included in the GSC September 2011 report entitled "Supplemental Remedial Investigation Groundwater Report (Part 1)." Ongoing investigations are continuing in Part 2 of the Supplemental Groundwater Remedial Investigation.

Figures 2-1, 2-2, and 2-3 present the interpreted shallow groundwater table from water levels measured on January 16, May 5, and October 7, 2014, respectively, from approximately 200 monitoring points. The measured groundwater elevation is shown next to the location of each well that was available or measured and includes the classification as a groundwater collection well (shown with a red symbol) or a groundwater monitoring well (shown with a green symbol). The groundwater contours presented on these maps were generated by GSC using only water levels collected from wells screened in the shallow portion of the aquifer. The general configuration of the water table in the eastern half of the site indicates a gradient toward the west-southwest. The water table gradient beneath the eastern portion of the site, underlain by sandstone, is relatively steep, and is illustrated with 10-foot groundwater contours. The water table gradient in the western half of the site is generally westward, toward Codorus Creek. The water table gradient beneath the western portion of the site, underlain by limestone bedrock, is relatively flat and is illustrated with one-foot contours. Groundwater mounds are evident along US Route 30 and south of Building 1 and may be the result of stormwater drainage from a nearby detention basin or a utility leak.

None of the collection wells were pumping during the water level measurements conducted during January and October (Figures 2-1 and 2-3, respectively). Figure 2-2 presents site-wide water level conditions during initial pumping of CW-20 (only), when there was approximately 35 feet of drawdown at this well.

3.0 SITE-WIDE GROUNDWATER MONITORING

The groundwater monitoring program at the fYNOP site for this year consisted of:

- Measuring depth to water in all available monitoring and observation wells three times during the year.

- Sampling and chemical analysis of water from the collection wells throughout the year (Table A-1 found in Appendix A).

- Sampling and chemical analysis of GWTS influent from the active collection well(s) throughout the year (Table A-2 found in Appendix A).

- A comprehensive site-wide groundwater sampling event (all wells onsite and offsite) conducted during October/November (Table A-3 found in Appendix A). Further analysis of these data will be provided in the Supplemental Groundwater Remedial Investigation (SGWRI) Part 2 Report.

4.0 GROUNDWATER TREATMENT SYSTEM

The GWTS serves to remediate groundwater containing dissolved VOCs recovered from four areas of the site: NPBA, TCA Tank, WPL, and the Building 3 dewatering system. The GWTS was designed to accomplish the following:

1. Prevent offsite migration of contaminants in groundwater in the NPBA.

2. Remove VOC-impacted groundwater in the TCA Tank Area near former Building 2.

3. Prevent offsite migration of contaminants in groundwater in the WPL Area.

4. Collect groundwater from the Building 3 Dewatering (Lift Station) Area's groundwater interceptor trench system, preventing VOC-impacted groundwater from discharging to the surface or into the building.

4.1 System Description

Collection wells within the NPBA, TCA Tank Area, and the WPL groundwater extraction areas remove groundwater by means of electric submersible pumps. At Building 3, a lift station pump removes water from a series of collection trenches. The pumping water level within each collection well is maintained by liquid level probes and control circuitry between the "on" and "off" probes. This produces an area of drawdown and groundwater capture. The extracted groundwater is conveyed via underground piping to the treatment system where the dissolved VOCs are removed from the groundwater.

The GWTS is housed in Building 41A. The process flow diagram for the system is presented on Figure 1-3. The treatment system consists of a 2,600-gallon equalization tank; a PTA capable of treating up to 400 gallons per minute (gpm) of groundwater; and a 10,000-pound vapor-phase GAC unit for PTA off-gas treatment.

Extracted groundwater is pumped from the equalization tank to the top of the PTA. Redux 525 sequestering agent is injected into this flow at an approximate rate of 20 parts per million (ppm) to prevent calcium scale deposits on the packing material (and effluent pump system). Groundwater is then distributed evenly over the top of the polypropylene packing. It flows down through the packed section of the PTA, while a 4,000-cubic-foot-per-minute (cfm) centrifugal blower draws air up through the PTA column. The VOCs are effectively "stripped" from the water and then adsorbed to the GAC in the air-phase. The treated groundwater flows by gravity to a wet well (effluent pump station) located on the north side of Building 41A where it is pumped approximately 1,600 feet via an 8-inch underground force main to Outfall No. 003 and discharged to Codorus Creek (see Figure 1-2).

The GWTS is equipped with a PC-based RSView® monitoring system. Remote computer terminals are located in both Harley-Davidson and Leidos offices where collection well pumping rates and treatment

processes can be monitored and the WPL wells may be remotely adjusted. System data, recorded in an Access® data base during 2014, are included in Appendix B.

4.2 System Maintenance and Modifications

Twice a month, system inspections are performed on the GWTS when the system is operating. The purpose of these inspections is to ensure effective operation of the system. A summary of operation and maintenance (O&M) data recorded during these visits is included in Appendix C. Items reviewed during each visit include the following:

- Check for system alarms.
- Inspect control panels.
- Check water conveyance line pressures.
- Check pressure differential across the stripping tower.
- Check piping and pumps for leaks.
- Clean Y-strainers of buildup, etc., as necessary.
- Check and record amperage draws on all motors (quarterly).
- Record flow rates on recovery wells and transfer pump.

Noteworthy maintenance and groundwater treatment-related modifications or repairs were identified and addressed during the report period. A brief summary is presented below:

- The effluent pumps were removed one at a time to be cleaned and repaired. The repairs included general pump maintenance and replacing damaged parts.

- Performed breakthrough monitoring of the GAC to determine when to complete the GAC change-out. Spent GAC was replaced in June 2014.

- Essential operating equipment in the GWTS became obsolete, and Leidos was authorized to conduct upgrades to the GWTS to ensure reliable, safe operations for the future. The upgrade work included new motor control center (MCC) to safely house all 480-volt pump motor starters and breakers, wiring, new programmable logic controllers (PLCs) and PLC components, VFDs, a consolidated main control panel, and GWTS and human-machine interface (HMI) operating software. The GWTS upgrades were installed near the end of 2014. The components were tested, and the GWTS was restarted on January 27, 2015.

4.3 Groundwater Withdrawal and VOC Removal

Table 4-1 presents recorded groundwater withdrawal and total VOC removal accomplished through operation of the GWTS. A system-wide total of approximately 42,780 pounds of VOCs have been removed since the GWTS began operation in November 1990.

The total amount of groundwater extracted during the period from January 1 through December 31, 2014, was approximately 17 million gallons (an average of 146,615 gallons per day [gpd] or 102 gpm, based on approximately 118 days of pumping). The 2014 extraction volumes are significantly lower than the previous year (2013) when the average flows were approximately 298,676 gpd (or 277 gpm). This decrease is attributable to the planned shutdowns during 2014 (see Chapter 1.0). The GWTS was shut down from January 1, 2014, until April 7, 2014, when CW-20 was activated. Collection well CW-9 was activated in combination with CW-20 on July 23, 2014. Both wells were shut down on August 11, 2014, and the entire GWTS remained off through the end of 2014. The other WPL collection wells and those from the TCA area, NPBA, and lift station systems were off during the entire year. A graphical comparison of the volumes of groundwater treated from the various site extraction systems is presented on Figure 4-1. The only groundwater that was treated onsite during 2014 was from collection wells CW-20 and CW-9, as well as some drilling/sampling investigation-derived waste (IDW).

The GWTS was shut down approximately 28 days in 2014 due to maintenance activities and 219 days for the planned studies as part of the ongoing Supplemental Groundwater Remedial Investigation – Part 2. PADEP was involved with and notified of these activities, in accordance with NPDES requirements.

Quarterly PTA influent analyses (shown in Table A-2, Appendix A), along with the measured extraction volumes, are used to calculate the mass of VOCs removed from site groundwater during the reporting period (see Figure 4-2). The quarterly influent sample collected on January 23, 2014, represents sampling of four collection wells (CW-9, CW-13, CW-15A, and CW-17). The quarterly samples collected on April 10 and July 8, 2014, were conducted during pumping and treatment of collection well CW-20 only. The influent sample collected on December 4, 2014, represents groundwater contained in a frac tank from drilling and site-wide investigation sampling. Using these data, the total estimated mass of VOCs removed from January through December 2014 was 262 pounds and was essentially controlled by pumping from CW-20 for approximately 118 days. This mass removal rate is significantly lower than the value calculated during 2013 (approximately 1,321 pounds), as would be expected due to the planned shutdown monitoring. Although the concentration of VOCs pumped from CW-20 was higher than the typical combined influent concentrations, the decrease in mass removal rate can be attributed to the decrease in days of operation in 2014 compared to 2013, and the decrease in number of pumping wells and overall pumping rates. The calculated VOC mass removal rates (pounds per day [lbs/day]) extracted by the GWTS for the last two calendar years are shown below:

- 2014 – 2.2 lbs/day
- 2013 – 3.6 lbs/day

The 2014 data were calculated using 118 total days of pumping from newly added collection well CW-20 and included approximately 16 days of pumping from CW-9.

The PTA effluent was sampled and reported four times during 2014. Analytical testing results for the 2014 PTA effluent and influent sampling are presented in Table A-2 (Appendix A). The treatment system effluent has maintained non-detectable concentrations of target VOCs during this reporting period.

On a quarterly basis, groundwater withdrawal data are submitted to the Susquehanna River Basin Commission (SRBC) regarding nonconsumptive groundwater withdrawal associated with the GWTS in accordance with docket Nos. 19900715-1 and 19980901-1. Information provided to the SRBC includes daily groundwater withdrawal totals (i.e., groundwater volumes extracted) from all collection wells and the overall system influent groundwater quality.

5.0 NPBA GROUNDWATER EXTRACTION SYSTEM

Groundwater extraction at the NPBA commenced in November 1990. Nine groundwater collection wells (CW-1, CW-1A, CW-2, CW-3, CW-4, CW-5, CW-6, CW-7, and CW-7A) located on the Harley-Davidson property pump to the NPBA control building where individual pumping rates are controlled and measured. The groundwater from each well is combined and transmitted a distance of approximately 2,000 feet to the groundwater treatment system.

5.1 System Shutdown Conditions

The NPBA extraction wells were shut down on June 19, 2013, and remained off during 2014 for the five-year NPBA Extraction System Monitored shutdown study.

Table 5-1 presents a record of monthly groundwater withdrawals for each collection well for this reporting period. The NPBA wells were started for a short duration in October 2014 to conduct sampling during the site-wide comprehensive sampling event but were not operated during the remainder of the year. The groundwater contour maps—shown on Figures 2-1, 2-2, and 2-3—depict non-pumping conditions for the NPBA wells.

Maintenance

The NPBA combined effluent discharge line was cleaned during January 2014. Otherwise, no unscheduled maintenance actions occurred for the NPBA during 2014. Packers were installed and monitored in artesian monitoring wells (MW-18D and MW-16S/D) near collection wells CW-5 and CW-3, respectively, during 2014.

5.2 Groundwater Chemistry

With the exception of CW-5 and CW-6, the dominant VOC found in the NPBA extraction wells is trichloroethene (TCE) with concentrations ranging from 0.76 micrograms per liter (µg/L) at CW-7 to 89 µg/L at CW-7A. Tetrachloroethene (PCE) was the dominant VOC found at collection wells CW-5 and CW-6 at concentrations of 24 µg/L and 22 µg/L, respectively. The groundwater quality analysis data from the comprehensive well sampling (October 2014) is presented in Table A-1 (Appendix A).

6.0 TCA TANK AREA GROUNDWATER EXTRACTION SYSTEM

In response to a release of TCA from a former solvent supply tank, groundwater extraction was initiated in November 1990 from CW-8, located at the southeast corner of former Building 91 (now owned by YCIDA). Pumping was initiated to prevent TCA migration and remove VOCs from the groundwater in this area. Groundwater extraction was initiated in February 1995 from CW-16 to contain and remediate groundwater beneath the former degreaser area located inside former Building 2, 150 feet east of CW-8. Groundwater from the TCA Tank Area is conveyed a distance of approximately 1,500 feet through an underground pipe (rerouted/installed in 2011) to the GWTS.

Initially, collection well CW-8 was pumped at a rate higher than necessary to maintain capture. The early goal was to reverse the direction of migration prior to initiation of groundwater pumping in the WPL, to potentially pull the western edge of the TCA Tank plume further west, dispersing the concentrated source area. Prior to pumping of the WPL, the groundwater treatment plant, which was designed to handle water from the WPL, had excess capacity. Thus, the capacity was utilized to address the TCA Tank plume. When the WPL extraction system came on-line in May 1994, the pumping rate of CW-8 was reduced to a level that maintains capture of the TCA Tank Area plume.

In June 2002, collection well CW-16 was removed from service. The pump at this well had failed. Servicing CW-16 was difficult due to its location in a formerly congested manufacturing area; therefore, groundwater extraction from CW-16 was discontinued. It was believed that CW-8 was able to influence this vicinity more effectively.

In July 2011, collection well CW-8 conveyance piping, electric, and communications were rerouted from overhead in former Building 2 to underground running along the west side of former Building 4 due to the demolition of former Building 2 in late 2011.

In November 2013, all TCA collections wells, including CW-8, were shut down for ongoing SGWRI investigations.

6.1 System Operational Conditions

For this area, CW-8 was not operated during 2014. Neither CW-8 nor CW-16 is planned to be reactivated because the objectives for this area (in response to a spill of TCA) have been achieved; however, future extraction will continue to be evaluated as part of ongoing remedial alternatives analyses, and the pump and utilities for CW-8 will remain functional. In addition, other non-TCA dissolved VOCs which may persist in this vicinity of the site are adequately prevented from offsite migration with the recently activated collection well CW-20, along with the other existing downgradient WPL extraction wells.

The groundwater contour maps—shown on Figures 2-1, 2-2, and 2-3—depict non-pumping conditions for CW-8 (TCA Area).

Maintenance

Other than the pump shutdown activity reported above, no unscheduled maintenance actions occurred for CW-8 during 2014.

6.2 Groundwater Chemistry

Historical TCA concentrations in collection wells CW-8 and CW-16 are shown on Figure 6-1. TCE concentrations in collection wells CW-8 and CW-16 are shown on Figure 6-2. On October 30, 2014, the TCA concentration was 38 µg/L, whereas TCE, PCE, and cis-1,2-dichloroethene (cis-1,2-DCE) concentrations were 100 µg/L, 120 µg/L, and 250 µg/L, respectively, for CW-8. The predominant VOC concentrations in collection well CW-8 are shown on Figure 6-3 and continue to be cis-1,2-DCE, PCE, and TCE. Concentrations of TCA in CW-8 continue to be below all applicable state or federal medium-specific concentrations (MSCs). The groundwater quality analysis data from the 2014 collection well sampling are presented in Table A-1 (Appendix A).

7.0 WEST PARKING LOT GROUNDWATER EXTRACTION SYSTEM

Four (4) groundwater collection wells (CW-9, CW-13, CW-17, and CW-20) are now operable in the WPL Area of the YCIDA property. One additional collection well (CW-15A) is located near the exterior northwest corner of former Building 4 (also known as NB4 area). These five wells are referred to as the WPL wells. Collection wells CW-9, CW-13, CW-14, and CW-15A began operation in May 1994. Collection well CW-17 began operation in September 1995 and was a replacement extraction well for CW-14, which was discontinued due to excessive sediment buildup in the well. Collection well CW-20 became operational in April 2014.

Groundwater extraction from the WPL wells is conducted via underground piping to the GWTS in Building 41A. The wells are individually piped to the GWTS so that flow control, flow measurements, and water samples may be obtained for each well at this central location. Water is piped the following distances from the wells to the treatment plant: CW-20 (1,600 feet), CW-9 (1,320 feet), CW-13 (890 feet), CW-15A (310 feet), and CW-17 (590 feet).

7.1 System Modifications and Operational Conditions

Most of the WPL system was off-line during the year. Collection well CW-20 (operated between April 11, 2014, and August 11, 2014) and CW-9 (operated between July 23, 2014, and August 11, 2014), were operational to support the ongoing WPL shutdown studies. The CW-20 and CW-9 start-ups were performed in accordance with Addendums No. 13 and No. 14 (GSC, 2014b and 2014c, respectively).

Collection well CW-20 was drilled, constructed, and tested in 2006, and the details were reported to PADEP and SRBC (Science Applications International Corporation [SAIC], 2008], but was CW-20 not activated due to ongoing RI studies. SRBC docket No. 19980901-1 was modified on March 18, 2010, to permit withdrawal from CW-20. CW-20 was activated in early 2014, following plumbing and wiring modifications at well CW-9, which were necessary given limitations with existing underground utilities that extended to CW-9. Subsequently, the completed work restricted flows at CW-9 to approximately 30 gpm but permits maximum flows at CW-20 of approximately 100 gpm (see start-up water level monitoring data for CW-20 on Figures 7-1 and 7-2). The purpose of the WPL groundwater extraction system is to control the migration of dissolved VOCs beneath the WPL, the northwest corner of former Building 4, and other upgradient source areas. The addition of CW-20 provides more efficient control of a VOC source near the southwest corner of the WPL, while continuing to prevent offsite migration of groundwater from the WPL and areas to the east of the WPL, including the former central plant area.

Approximately 16 million gallons of groundwater were extracted from the WPL Area during 2014 (see Table 5-1). Volumes pumped from wells that were inactive during the year (CW-13, CW-15A, and CW-17) were due to periodic sampling that was conducted via the system during monthly shutdown monitoring.

Table 7-1 summarizes measurements of monthly water level references and measurements for the WPL extraction wells during 2014. The table also lists design "pump on" and "pump off" water level elevations, including new collection well CW-20. The groundwater contour map, shown on Figure 3-2, depicts start-up pumping conditions for CW-20 in the WPL, whereas the groundwater contours shown on Figures 3-1 and 3-3 depict non-pumping conditions for the WPL wells.

Maintenance

A brief summary of maintenance actions addressed in 2014 is presented below:

- Plumbing, wiring, and control modifications were conducted at CW-9 during February and March 2014, and a new (smaller 2-horsepower [HP]) pump was installed at CW-9.

- New remote control panels (CP-10 and CP-11) were installed in the southwest corner of the WPL to allow operation of collection wells CW-9 and CW-20, respectively. The panels were completed in March 2014.

- A 10-HP submersible pump was installed in CW-20, along with probes for level control (similar to other WPL wells) and a transducer for water level monitoring.

- A damaged well cover at CW-17 was repaired.

7.2 Groundwater Chemistry

Historical concentrations of VOCs in the WPL collection wells are shown on Figures 7-3 through 7-8. The most dominant and increasing VOC found in the WPL extraction wells is cis-1,2-DCE, with concentrations ranging up to 16,000 µg/L at CW-15A and up to 970 µg/L at CW-13. TCA is present at CW-15A, with concentrations ranging up to 15,000 µg/L, but is not significant in any of the other WPL collection wells. PCE and TCE are predominant in WPL collection wells CW-20, CW-9, and CW-17, with concentrations ranging up to approximately 1,700 µg/L, 400 µg/L, and 150 µg/L, respectively. The groundwater quality analysis data from the 2014 collection well sampling is presented in Table A-1 (Appendix A).

8.0 BUILDING 3 DEWATERING SYSTEM

Harley-Davidson started excavation activities for the Softail production plant, now referred to as the Building 3 production plant, in 2001. This facility was constructed in the eastern portion of the site, in the vicinity of the former test track. Due to the potential for shallow VOC-impacted groundwater to discharge to the surface and to the lowest floor of the facility, a permanent groundwater collection system was designed as part of the project. This collection system, known as the Building 3 Dewatering System, was implemented in 2002 and consists of approximately 800 feet of deep interceptor trench, approximately 600 feet of shallow interceptor trench (toe drain), a collection well CW-19 (inactive since setup), and a lift station. All three components of the groundwater collection system are designed to flow to a pumping station (also referred to as a Lift Station). From the pumping station, the groundwater is transported via underground piping to the groundwater treatment facility located in Building 41A (see Figure 1-2). Groundwater collection via this system was initiated in March 2002.

8.1 System Shutdown Conditions

The Building 3 Dewatering System and Lift Station was shut down on June 19, 2013, and remained off during 2014 for the two-year monitored shutdown study.

8.2 Toe Drain System

The toe drain system was designed to prevent the potential for human contact with groundwater seeps along the bottom of a steep slope cut into the hillside along the northeast corner of Building 3 during construction of the building in 2002. The drain was designed to collect or intercept groundwater from this area, thus lowering the groundwater levels and minimizing surface discharges downgradient of the toe drain. The toe drain was constructed as a shallow (approximately four-foot-deep) gravity flow trench drain filled with gravel and four-inch perforated polyvinyl chloride (PVC) piping. The toe drain trench was lined with geotextile fabric to minimize sedimentation of the piping. An impermeable layer was placed on top of the trench to reduce infiltration of surface water into the drain. During site-wide restructuring activities in 2010, the hillside was cut for the northern expansion of the building. The toe drain was reinstalled along the new toe of the slope (approximately 110 feet to the north of the former toe drain) on October 26, 2010.

A hillside interceptor system was installed on the east hillside and connected to the south end of the toe drain in May 2011. The interceptor system was installed to direct water from a seep in the hillside to the slope drain and to stabilize the hillside. The interceptor system was shaped like a “T.” Additional hillside stabilization work was completed in 2012. The 2011 interceptor system and “T” were removed, and new PVC interceptor drains were installed at various points on the hillside and covered with a gabion blanket system. The 2012 hillside stabilization drains were initially directed to discharge to the surface but were redirected to discharge to the local stormwater drains during 2013. A toe drain plug was installed at the lift station connection during the Addendum No. 7 study on June 19, 2013, preventing discharge during the remainder of 2013 and throughout 2014.

8.3 Deep Trench Drain

During construction of the original Building 3, a deep trench drain was installed along the eastern perimeter of the building foundation due to the high probability of groundwater levels encountering the lower floor of the facility. The deep trench drain is sloped to gravity drain to a lift station, located along the north-central edge of the Building 3 expansion. The depth of the trench drain varies from 25 feet at the south end to approximately 29 feet near the lift station. Four clean-outs were installed along the 760-foot length of trenching. The deep trench drain was constructed of six-inch perforated PVC piping in a trench filled with coarse gravel. Prior to installation of the piping and drainage course, the trench was lined with a geotextile fabric to minimize sediment mixing with the gravel. During the Building 3 expansion work, one of the deep clean-outs was abandoned, one was maintained inside the expanded building, and the southernmost clean-out was extended beneath the southern building expansion.

8.4 Capture Well (CW-19)

A capture well (CW-19) and force main were installed adjacent to the paint sludge pit area of the manufacturing plant, during construction of the basement of Building 3. The paint sludge pit area consists of a 27-foot-deep pit used to house the paint sludge holding tank. CW-19 was installed seven feet deeper than the pit to enable the well to be programmed to begin pumping prior to the groundwater level reaching the elevation of the bottom of the pit. The force main was installed to transfer groundwater captured in the well to the lift station. The force main was installed with a slope toward the lift station so that groundwater does not remain in the line after the well pump stops running. Groundwater has not been detected in this well. The lowering of groundwater from the deep trench effectively keeps the groundwater below the depth of CW-19. CW-19 did not operate in 2014 due to the lack of any groundwater in this well and the in-progress monitored shutdown study.

8.5 Lift Station

The lift station is located north of Building 3 and conveys groundwater to the groundwater treatment plant in Building 41A. The lift station controls are automated using a float controller, and pump operation can be monitored and deactivated remotely. The lift station did not operate in 2014 due to the ongoing shutdown study (in progress). The groundwater contour maps—shown on Figures 3-1, 3-2, and 3-3—depict non-pumping conditions for the Lift Station and Building 3 dewatering system.

8.6 Groundwater Chemistry

Sampling of groundwater collected by the lift station was initially performed in June 2003 in response to a reporting requirement for the SRBC. Groundwater samples were collected from the deep drain of the lift station in October 2014. The toe drain was not sampled because a packer was installed in the drain for the Addendum No. 7 Building 3 Footer Drain Monitored Shutdown study in April 2013.

No VOCs were detected in the deep drain sample collected during 2014. The sampling results for the deep drain are shown in Table A-1 (Appendix A).

9.0 REFERENCES

GSC, 2011. Supplemental Remedial Investigation Groundwater Report (Part 1), former York Naval Ordnance Plant, York, Pennsylvania, September.

GSC, 2012. Field Sampling Plan for Part 2 of the Supplemental Groundwater Remedial Investigation at the former York Naval Ordnance Plant in York, Pennsylvania, April.

GSC, 2013a. Addendum #6, to Field Sampling Plan for Part 2 of the Supplemental Groundwater Remedial Investigation Former York Naval Ordnance Plant, March 20.

GSC, 2013b. Addendum #7, to Field Sampling Plan for Part 2 of the Supplemental Groundwater Remedial Investigation Former York Naval Ordnance Plant, March 20.

GSC, 2013c. Addendum #11, to Field Sampling Plan for Part 2 of the Supplemental Groundwater Remedial Investigation Former York Naval Ordnance Plant, October 16.

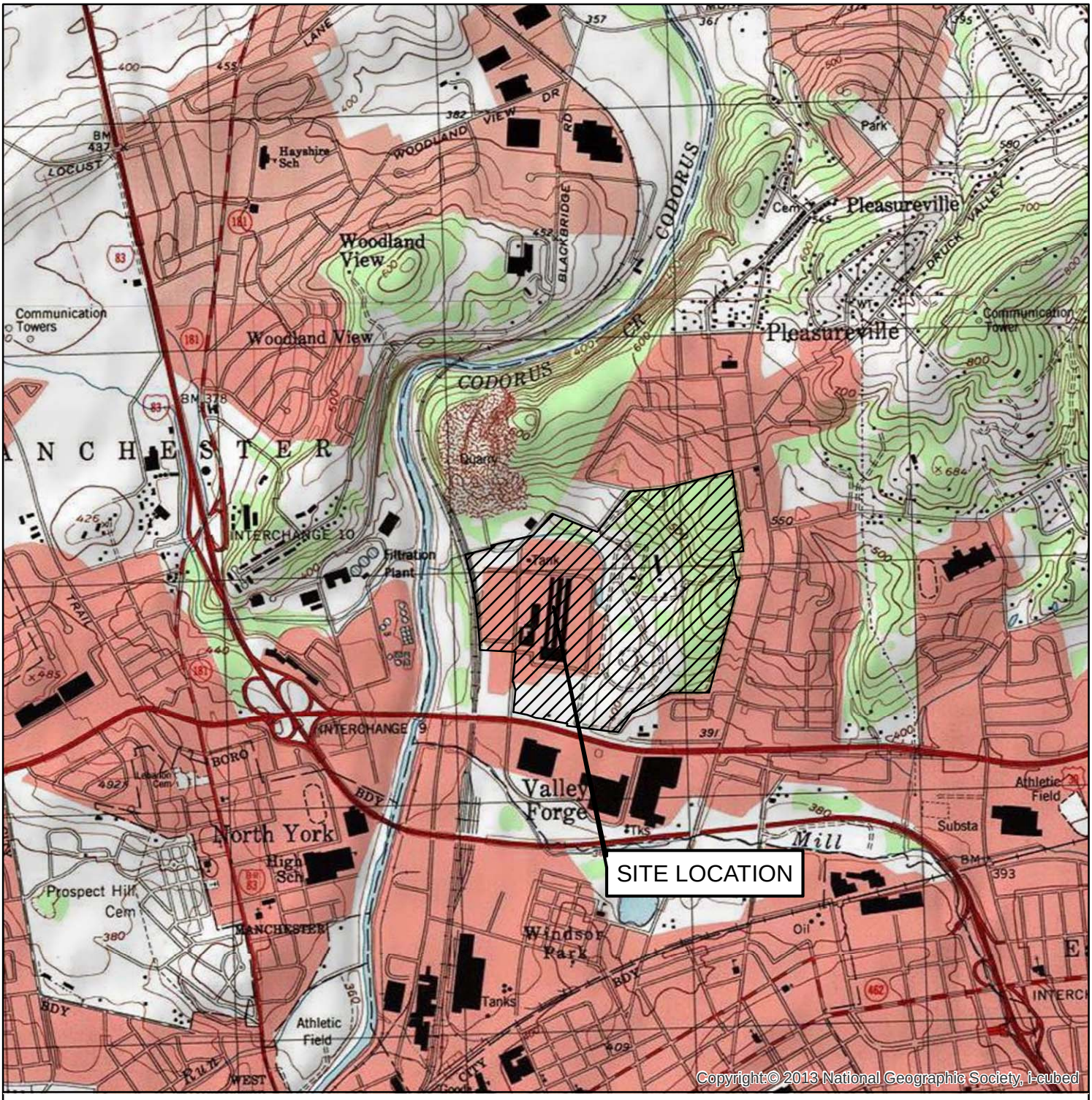
GSC, 2014a. Results of NPBA Extraction System and Bldg3 Footer Drain Monitored Shutdown Tests for Part 2 of the Supplemental Groundwater Remedial Investigation Former York Naval Ordnance Plant, April.

GSC, 2014b. Addendum #13, to Field Sampling Plan for Part 2 of the Supplemental Groundwater Remedial Investigation Former York Naval Ordnance Plant, March 21.

GSC, 2014c. Addendum #14, to Field Sampling Plan for Part 2 of the Supplemental Groundwater Remedial Investigation Former York Naval Ordnance Plant, August 8.

SAIC, 2008. CW-20 and West Parking Lot Collection System Pumping Test Report, Harley-Davidson Motor Company Operations, Inc. Springettsbury Township, York County, PA, June.

FIGURES



2,000 1,000 0 2,000

Feet

N

Pennsylvania

QUADRANGLE LOCATION

FORMER YORK NAVAL ORDNANCE PLANT

1425 EDEN ROAD, YORK, PENNSYLVANIA

Site Location Map

drawn JEB	checked EMW	approved RGM	figure no. 1
date 1/28/2015	date 1/28/2015	date 1/28/2015	
job no. 305337.LS.300355.2000.0100		file no. Site_Map_20150128	

initials	date	revision

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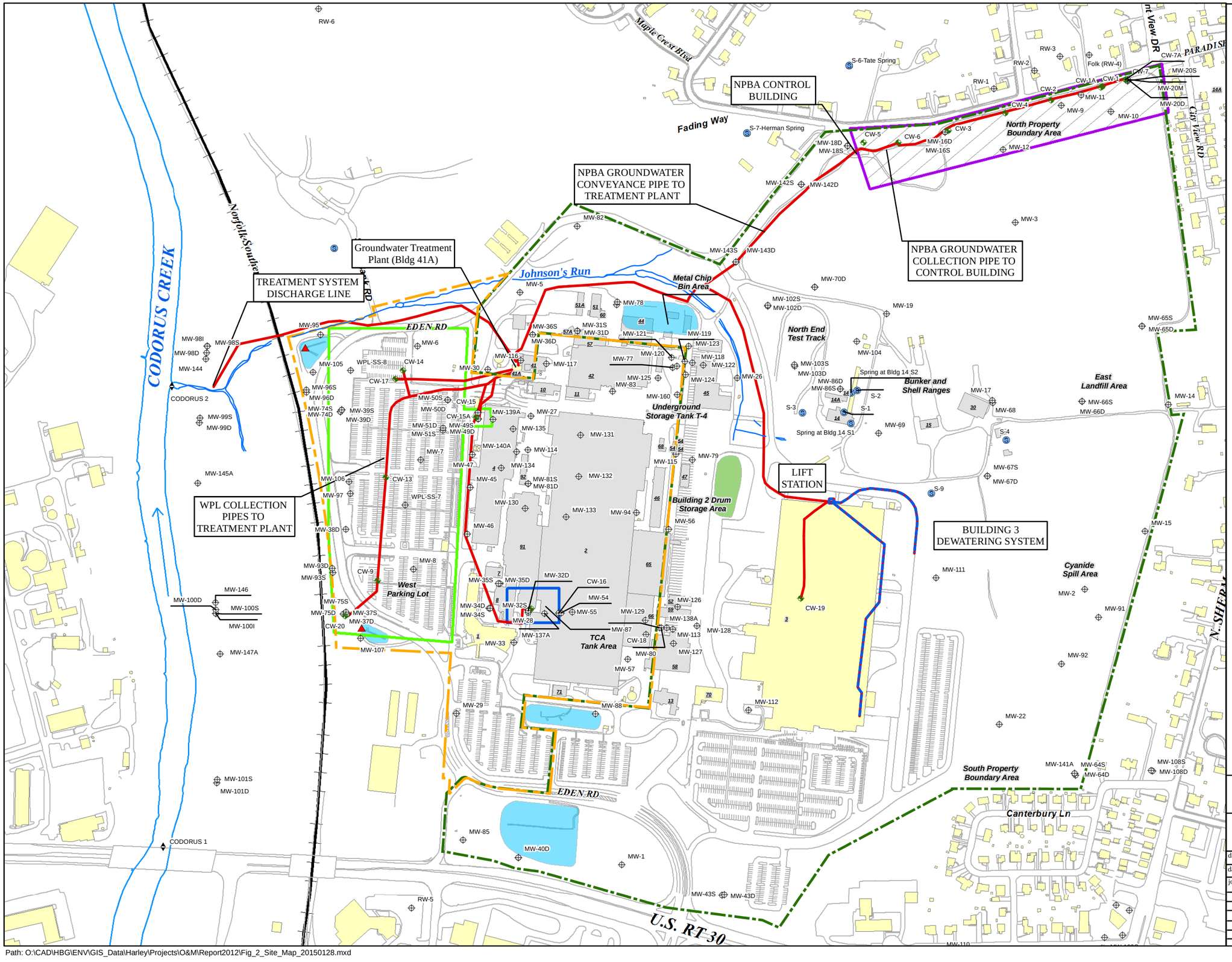

Legend

- Monitoring Well and Designation
- Collection Well and Designation
- Stream Gauge and Designation
- Spring
- Vortechnic Outlet Structure
- York County Industrial Development Authority
- Harley-Davidson Motor Company Operations, Inc
- Groundwater Interceptor Trenches
- Treatment System Features
- NPBA Area
- TCA Area
- WPL Area
- Surface Water
- Existing Building
- Removed Building
- Roads Curb Boundary
- Railroad
- Fire Water Pond
- Stormwater Basin

N

NOTE:
1. *Base data (Buildings, Building Boundaries, Roads and Curbs) from NuTec Survey conducted in 2006.*

0 200 400 800
SCALE IN FEET

FORMER YORK NAVAL ORDNANCE PLANT
1425 Eden Rd York, Pa 17402

GROUNDWATER TREATMENT SYSTEM LOCATION

drawn	checked	approved	figure no.
RAM	EMW	RGM	1-2
date 1/28/2015	date 1/28/2015	date 1/28/2015	
job no. 305337.LS.300355.2000.0100		file no. Fig_2_Site_Map_20150128	

initials	date	revision
JMG	01/30/2013	Property Bounds and Symbols
JMG	02/12/2013	Stormwater basins/sw pts
JEB	1/30/2014	Updated to Leidos logo

leidos

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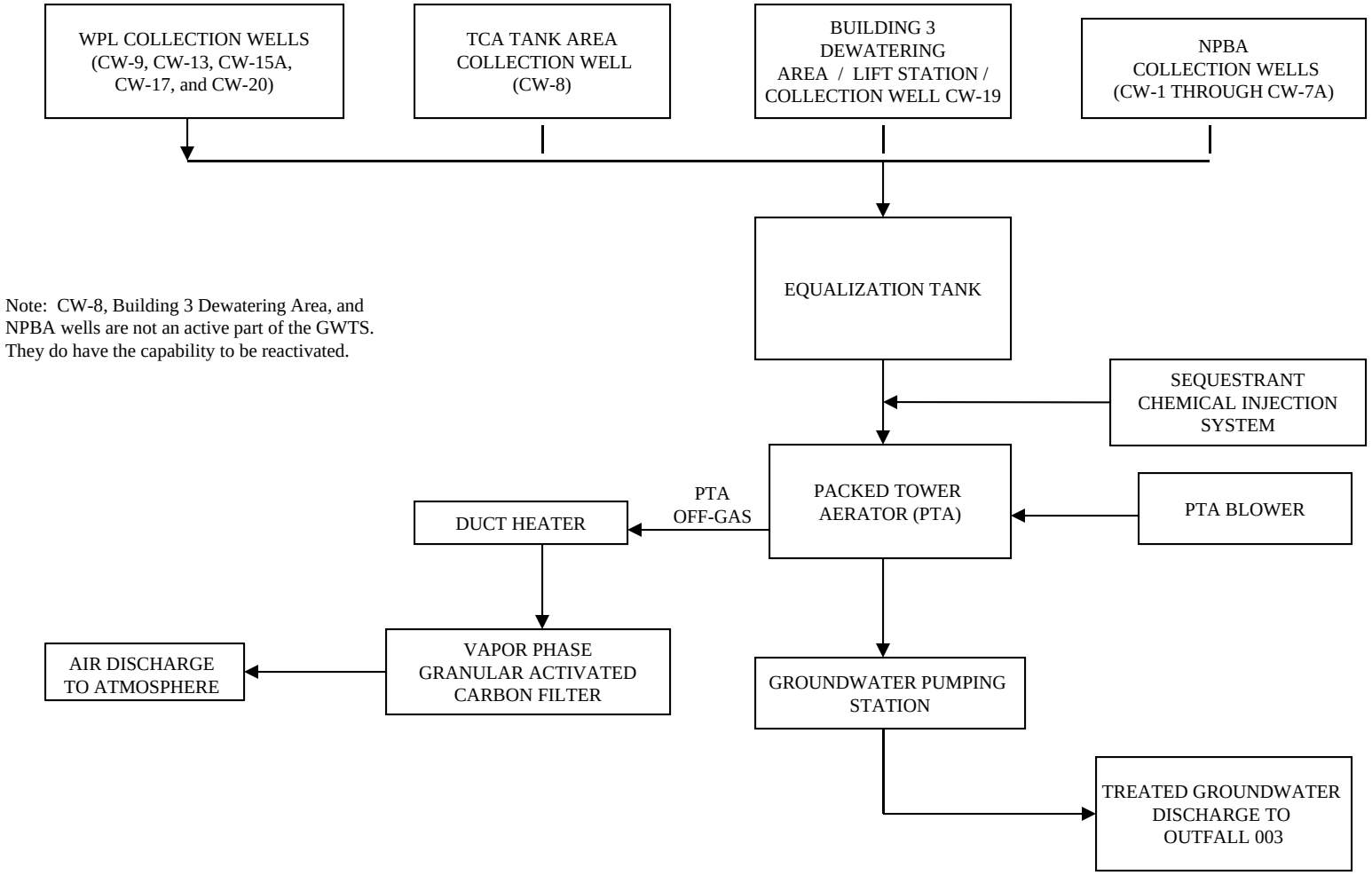
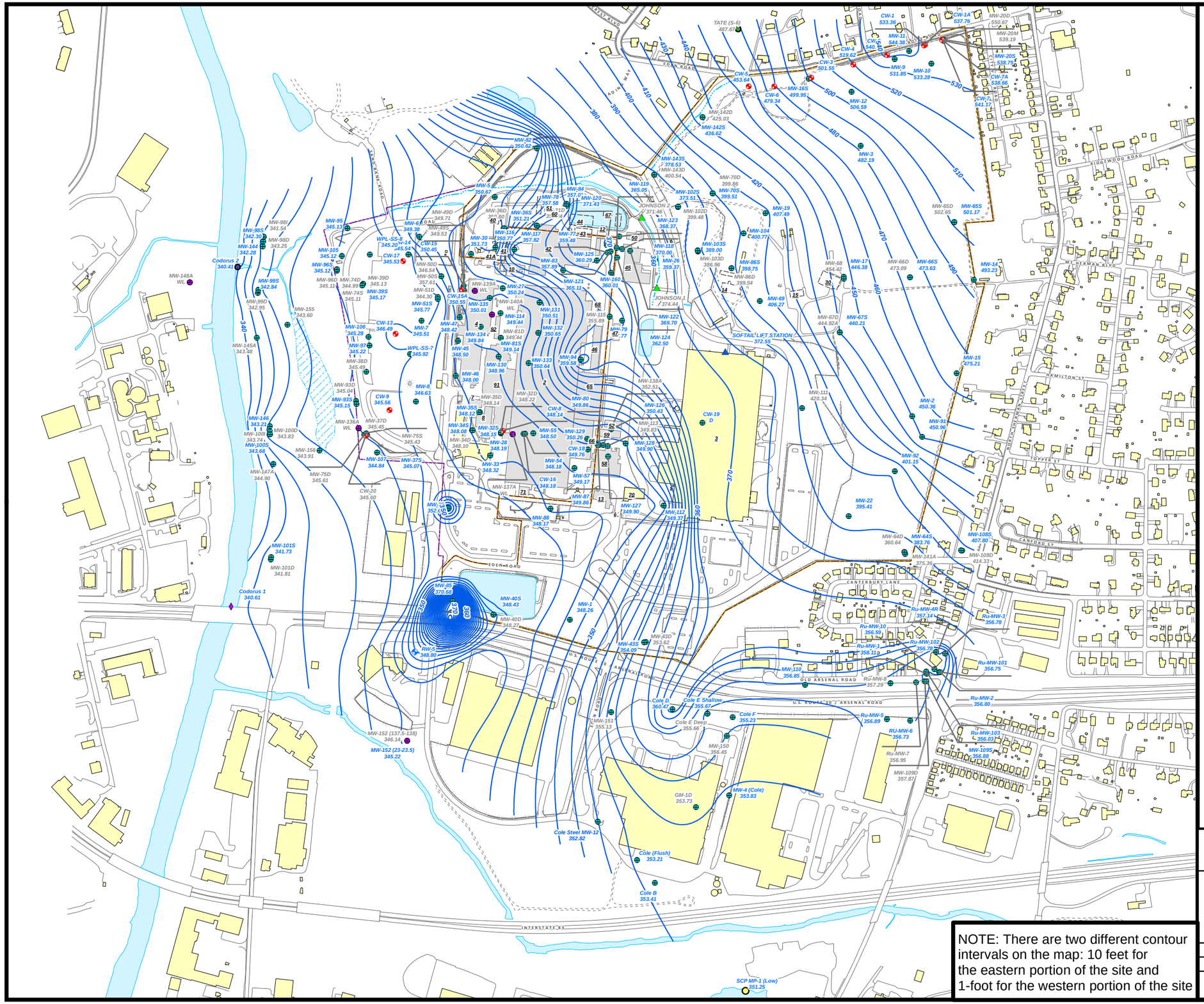
FIGURE 1-3
GROUNDWATER TREATMENT SYSTEM FLOW DIAGRAM
Former York Naval Ordnance Plant



Note: CW-8, Building 3 Dewatering Area, and NPBA wells are not an active part of the GWTS. They do have the capability to be reactivated.



LEGEND

- Collection Well
- Monitoring Well
- Waterloo Monitoring Well
- Residential Well
- Bridge Surface Gauging Point
- Lift Station
- Off-Site Recovery Well
- Spring
- Staff Gauge
- Surface Water
- Quarry
- Groundwater Contour (Feet AMSL)
- Harley-Davidson Property Boundary
- West Campus Property Line
- Existing Building to Remain
- Demolished
- Demolished/Slab Removed
- Wetland Boundary (2006)
- Existing Water Feature
- Existing Stream
- Road (Paved)
- Road Curb
- Road (Unpaved)
- Walkway
- Fenceline

MW-22 395.41 — Location, Groundwater Elevation (Feet AMSL) Used in Contouring

MW-102D 399.48 — Location, Groundwater Elevation (Feet AMSL) Not Used in Contouring

Qualifiers:
NM- Not Measured
NA-Not Available.
D-Dry
An-Anomalous Reading
T-Transducer Elevation

N
W E
S

Scale (feet)
0 287.5 575 1,150

Figure 2-1

NOTE: There are two different contour intervals on the map: 10 feet for the eastern portion of the site and 1-foot for the western portion of the site

Former York Naval Ordnance Plant

1425 Eden Road, York, PA 17402

Groundwater Elevation Contour Map
(January 16, 2014)

DRAWN BY: AGM	CHECKED AND APPROVED BY: SMS	DATE: 2/24/15

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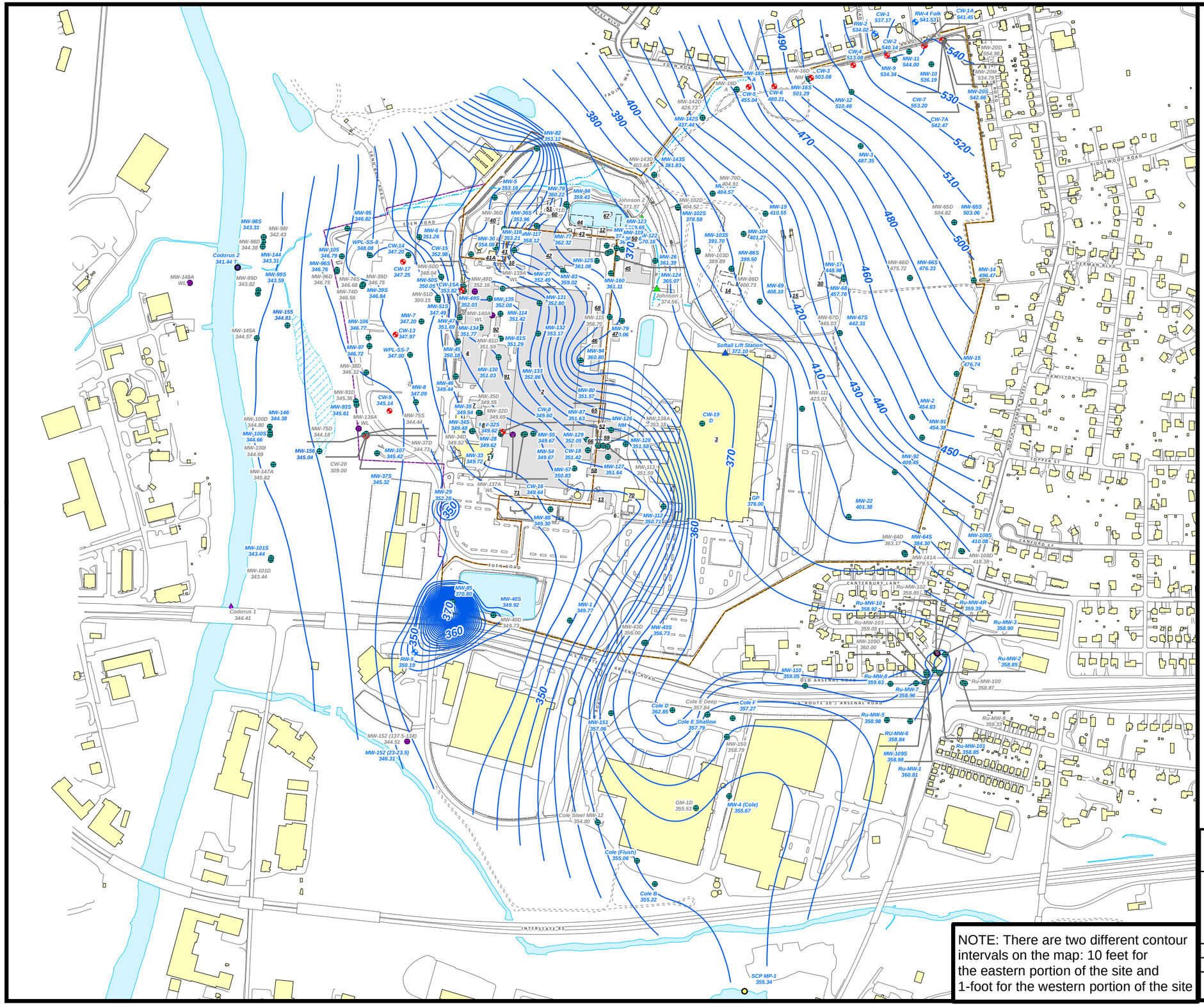
GROUNDWATER SCIENCES CORPORATION



NOTE: There are two different contour intervals on the map: 10 feet for the eastern portion of the site and 1-foot for the western portion of the site

LEGEND

- Collection Well
- Monitoring Well
- Waterloo Monitoring Well
- Residential Well
- Bridge Surface Gauging Point
- Lift Station
- Off-Site Recovery Well
- Spring
- Staff Gauge
- Surface Water
- Quarry
- Groundwater Contour (Feet AMSL)
- Harley-Davidson Property Boundary
- West Campus Property Line
- Existing Building to Remain
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- Existing Stream
- Road (Paved)
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- Road (Unpaved)
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- Fenceline

MW-22 395.41 — Location, Groundwater Elevation (Feet AMSL) Used in Contouring

MW-102D 399.48 — Location, Groundwater Elevation (Feet AMSL) Not Used in Contouring

Qualifiers:
NM- Not Measured
NA-Not Available.
D-Dry
An-Anomalous Reading
T-Transducer Elevation

Note
1) Water levels were collected on 5/5/2014.
2) SCP MP-1 was collected on 5/6/2014.
3) RW-4 Folk was collected on 5/10/2014.

Scale (feet)
0 287.5 575 1,150

N W E S

Figure 2-2

Former York Naval Ordnance Plant
1425 Eden Road, York, PA 17402

Groundwater Elevation Contour Map
(May 5, 2014)

DRAWN BY: AGM	CHECKED AND APPROVED BY: SMS	DATE: 2/24/15

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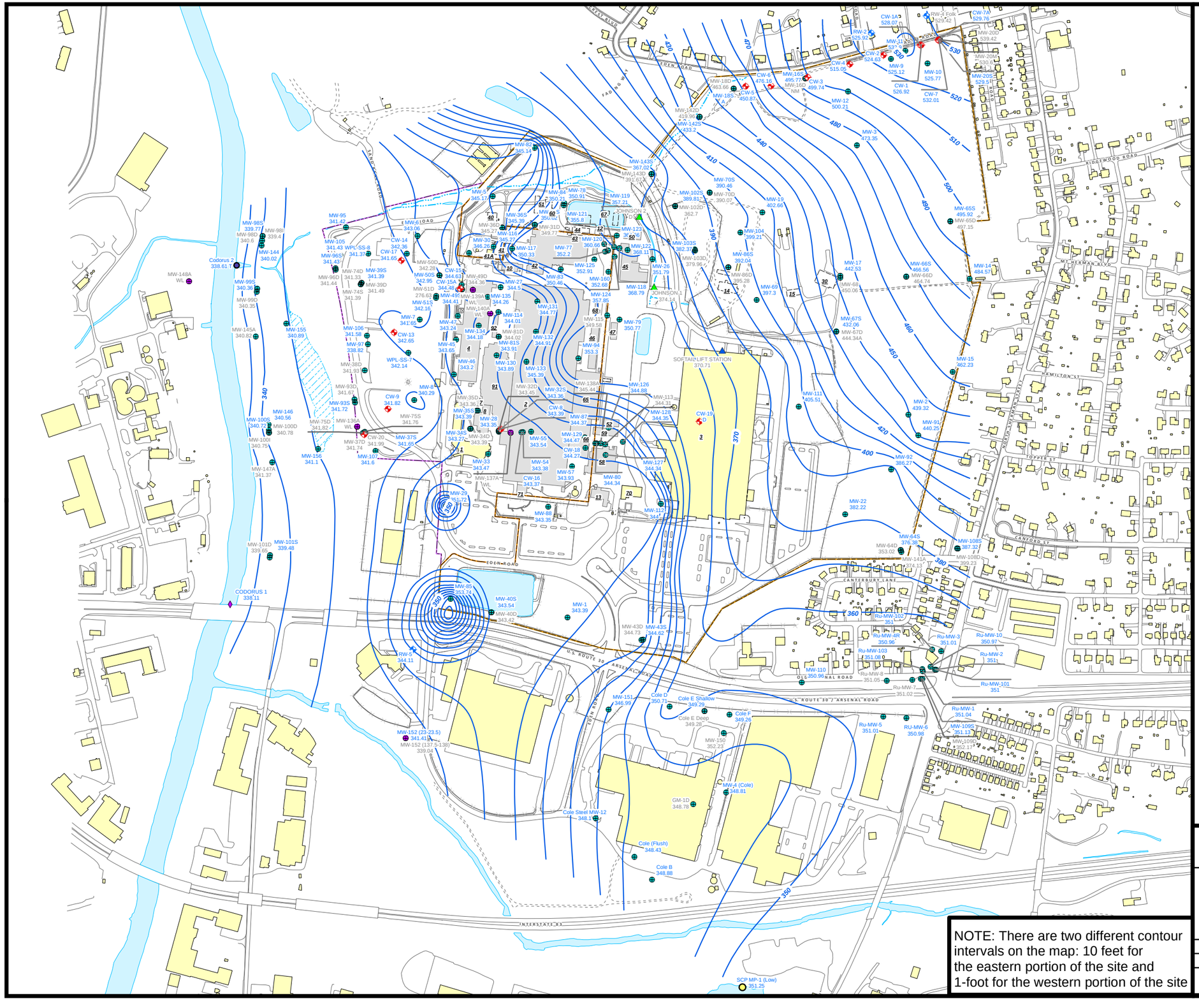
GROUNDWATER SCIENCES CORPORATION



LEGEND

- Collection Well
- Monitoring Well
- Waterloo Monitoring Well
- Residential Well
- Bridge Surface Gauging Point
- Lift Station
- Off-Site Recovery Well
- Spring
- Staff Gauge
- Surface Water
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- Groundwater Contour (Feet AMSL)
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- Wetland Boundary (2006)
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- Existing Stream
- Road (Paved)
- Road Curb
- Road (Unpaved)
- Walkway
- Fenceline

MW-22 395.41 — Location, Groundwater Elevation (Feet AMSL), Used in Contouring

MW-102D 399.48 — Location, Groundwater Elevation (Feet AMSL), Not Used in Contouring

Qualifiers:
NM- Not Measured
NA-Not Available.
D-Dry
An-Anomalous Reading
T-Transducer Elevation

N
W E
S

Scale (feet)

0 287.5 575 1,150

Figure 2-3

NOTE: There are two different contour intervals on the map: 10 feet for the eastern portion of the site and 1-foot for the western portion of the site

Former York Naval Ordnance Plant

1425 Eden Road, York, PA 17402

Groundwater Elevation Contour Map
(October 7, 2014)

DRAWN BY: AGM	CHECKED AND APPROVED BY: SMS	DATE: 2/24/15

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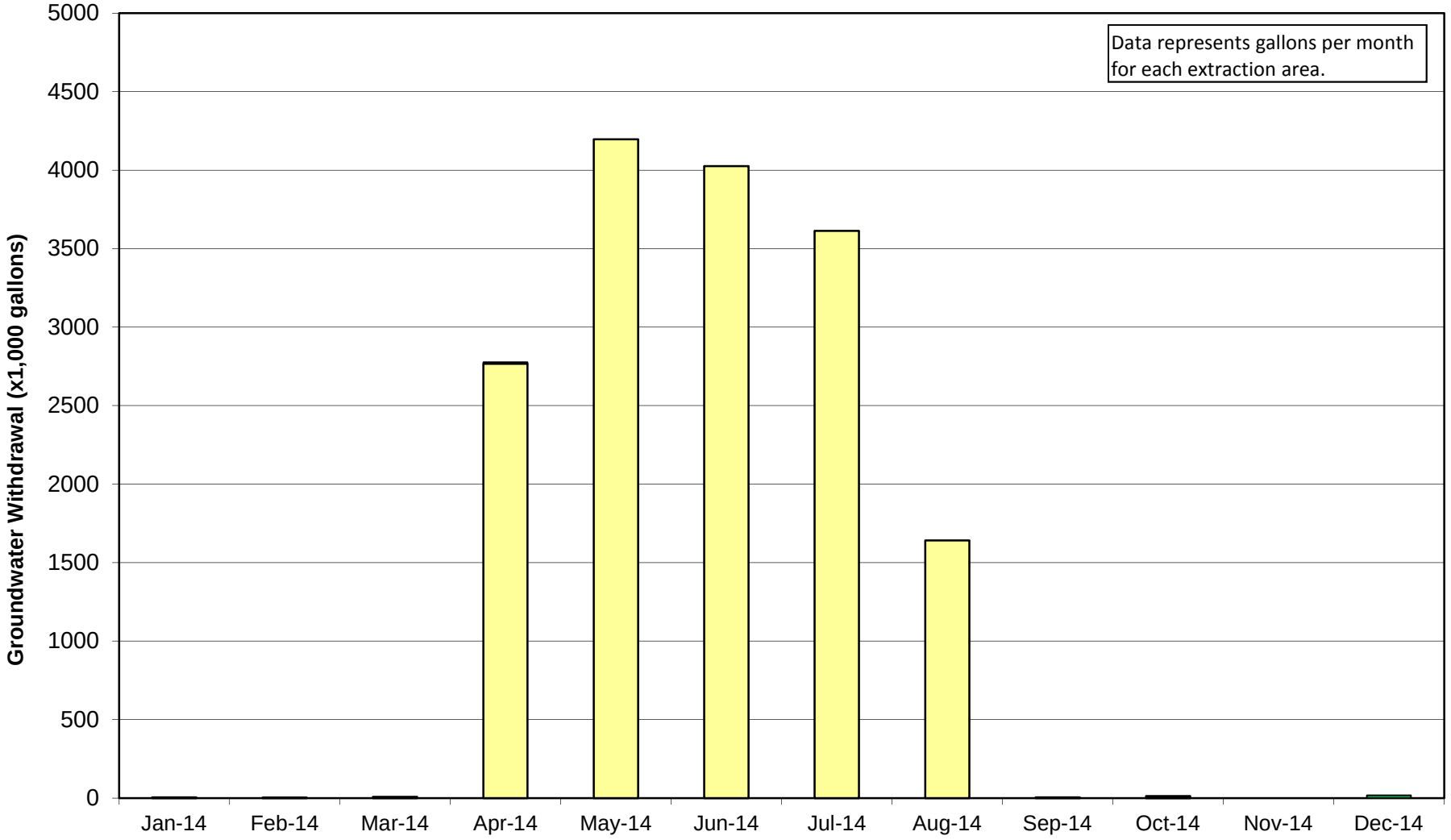
GROUNDWATER SCIENCES CORPORATION

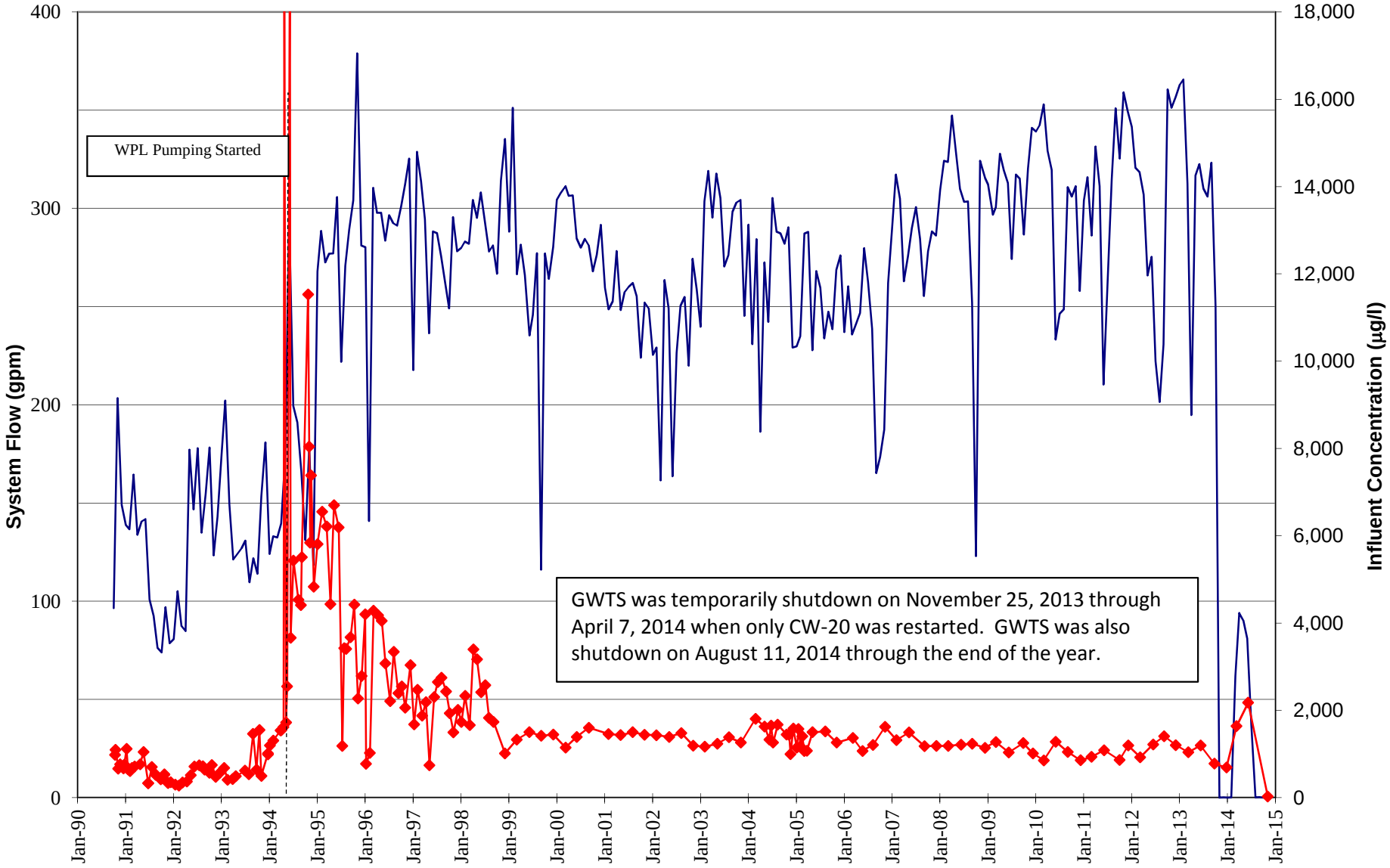
Figure 4-1
2014 Groundwater Withdrawals
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402



Note: GWTS was shutdown on November 25, 2013 for a PADEP and USEPA approved shutdown monitoring study until April 2014. GWTS was shutdown August 11, 2014 through the end of the year.

Note: NPBA and Bldg 3 Liftstation was shutdown on June 19, 2013 for a PADEP and USEPA approved shutdown monitoring study.

Figure 4-2
Packed Tower Aerator Influent Chemistry - Total VOC Concentration
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402



Note: GWTS was shutdown on November 25, 2013 for a PADEP and USEPA approved shut-down monitoring study.

Figure 6-1
TCA in TCA Tank Area Collection Wells
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

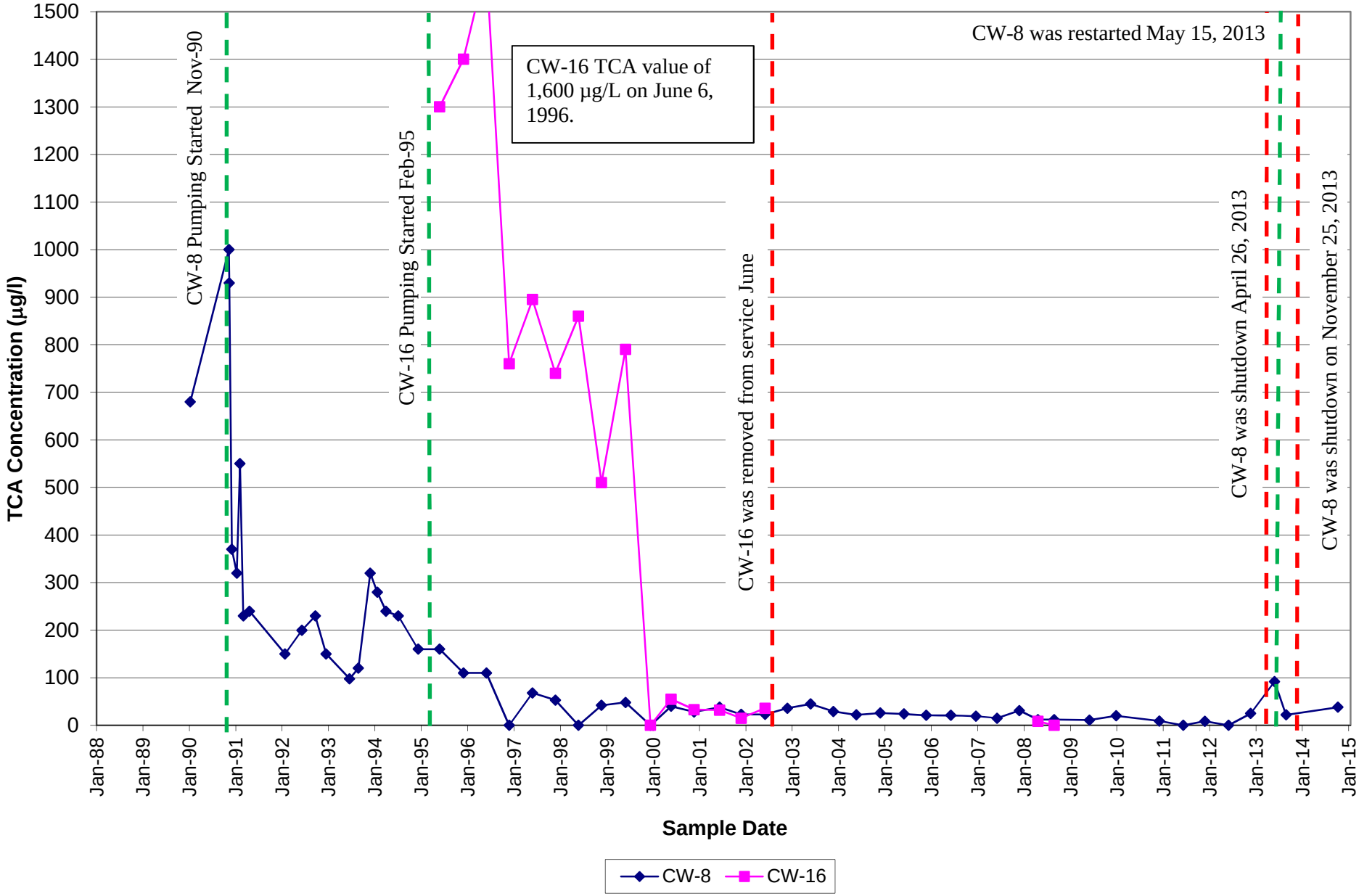


Figure 6-2
TCE in TCA Tank Area Collection Wells
Former York Naval Ordnance Plant
1425 Eden Road, York

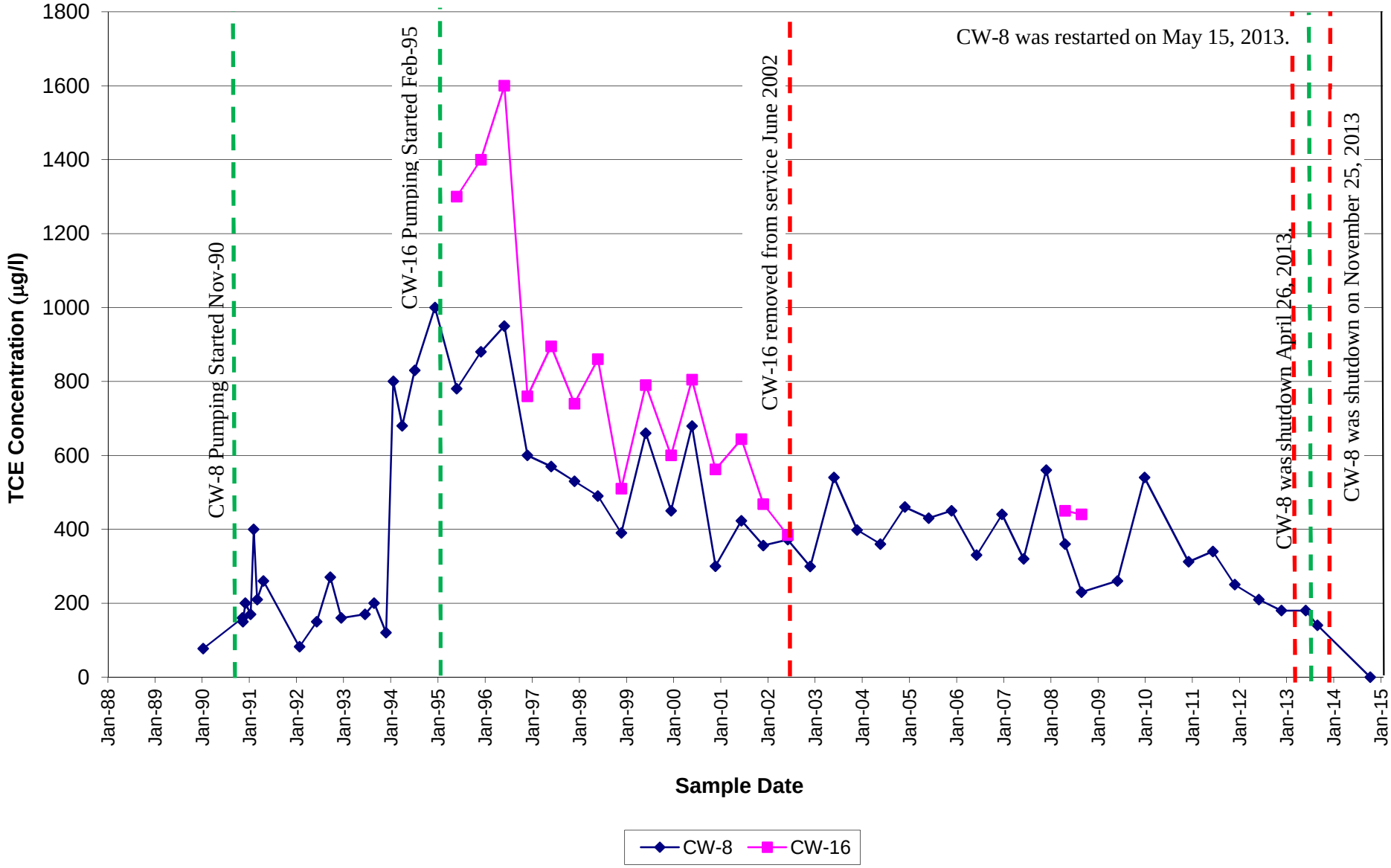


Figure 6-3
Predominant VOC Concentrations - Collection Well CW-8
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

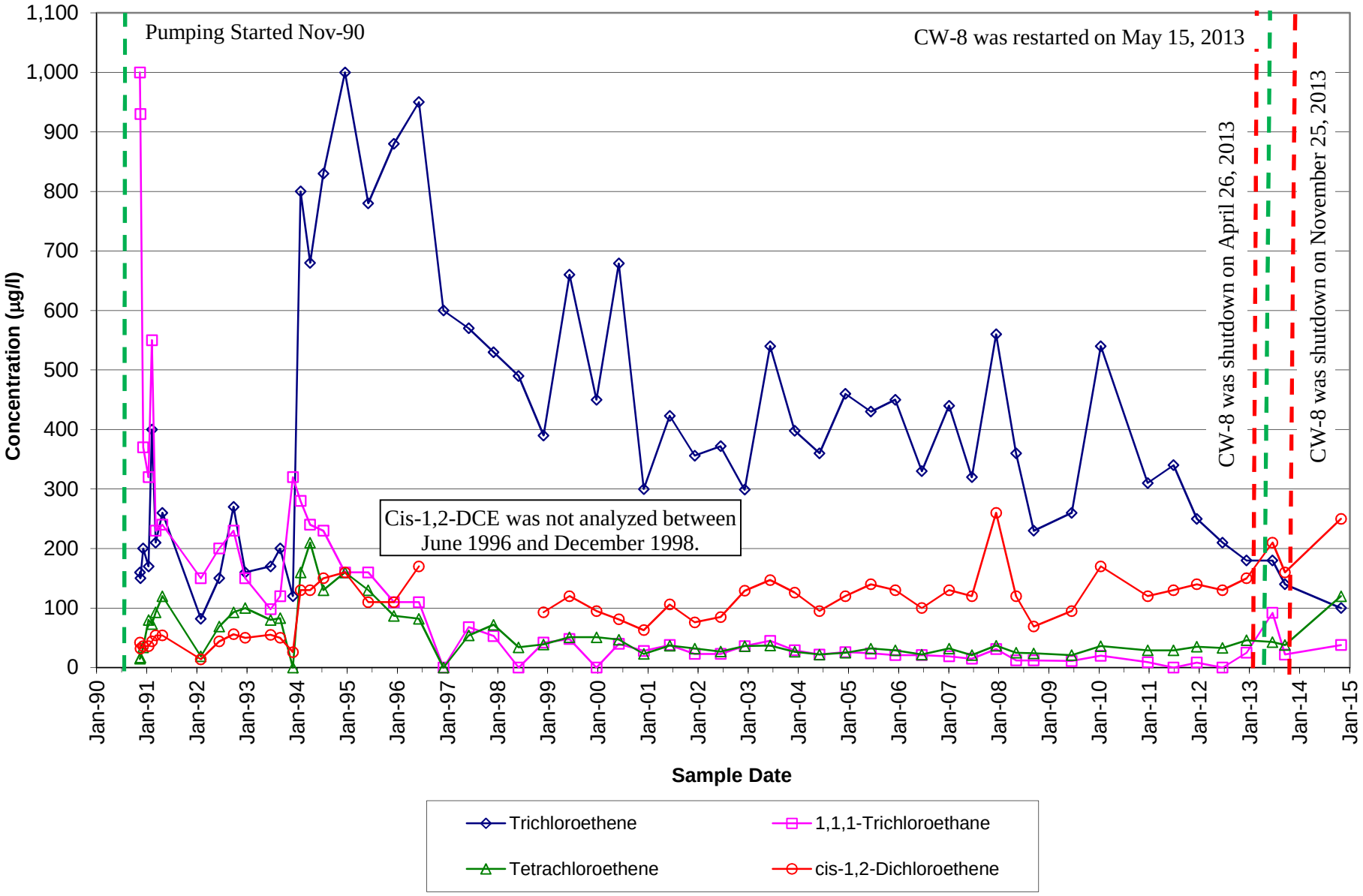


Figure 7-1
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

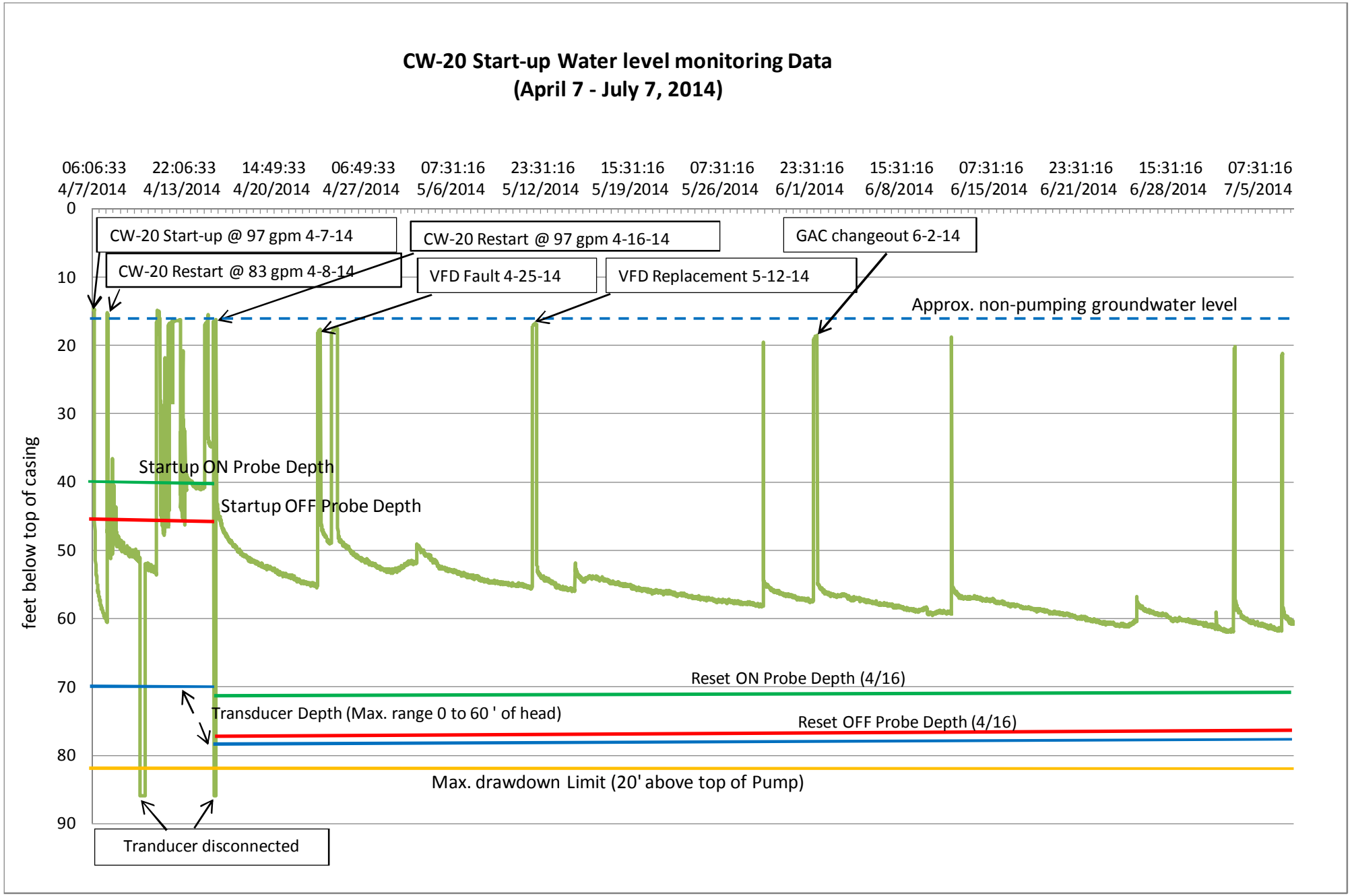


Figure 7-2
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

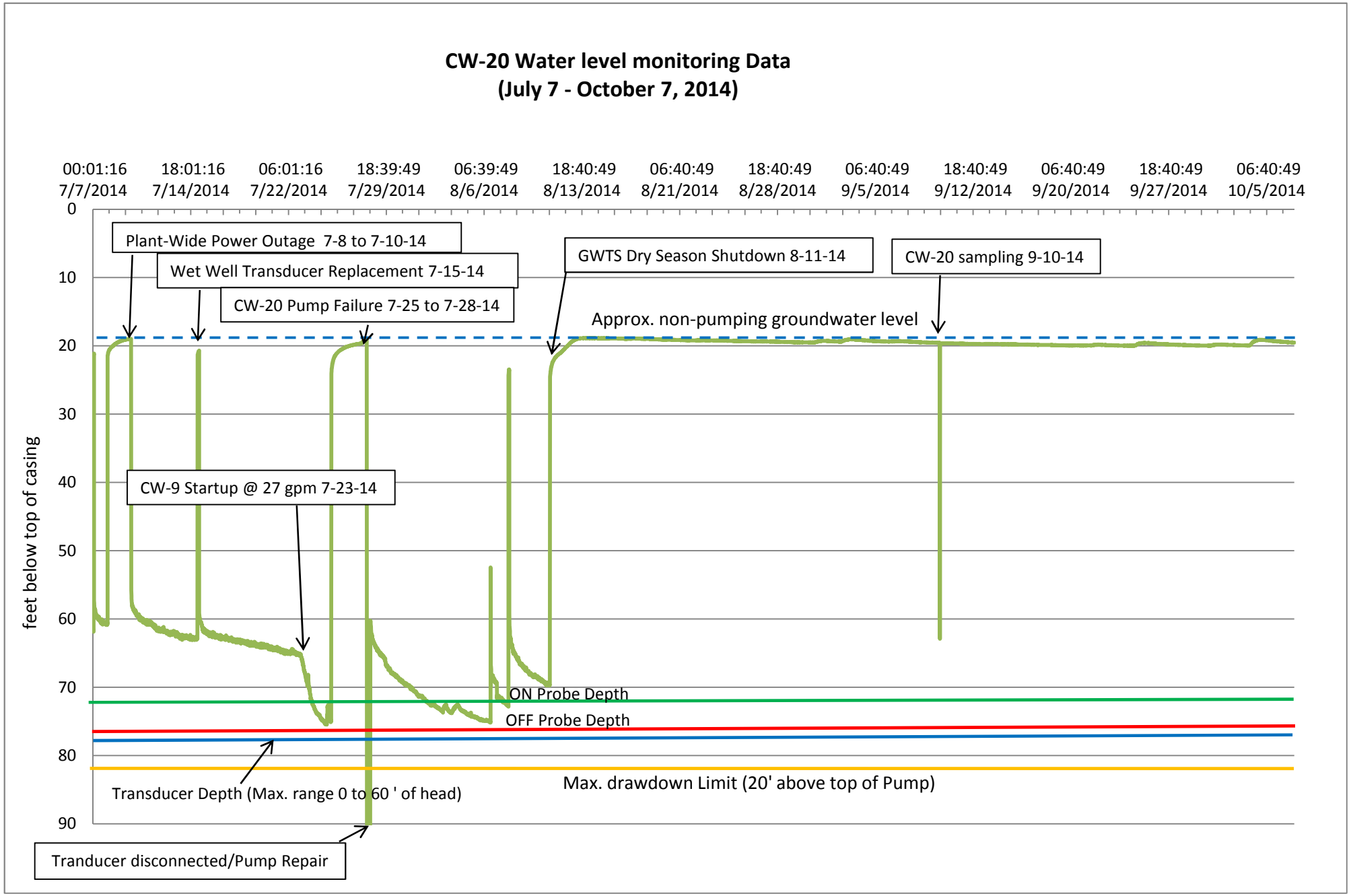


Figure 7-3
TCE in WPL Collection Wells
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

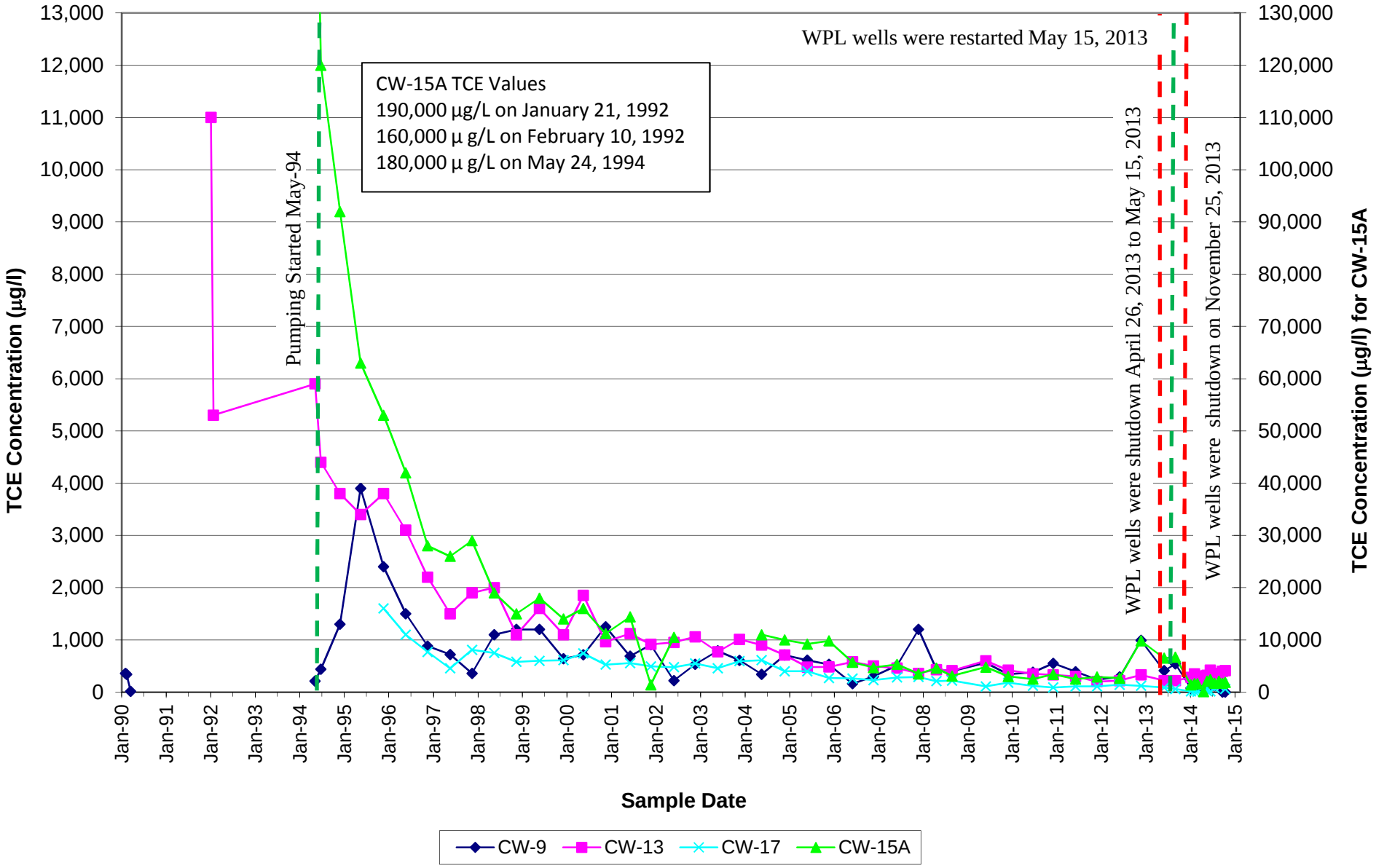


Figure 7-4
Predominant VOC Concentrations - Collection Well CW-9
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

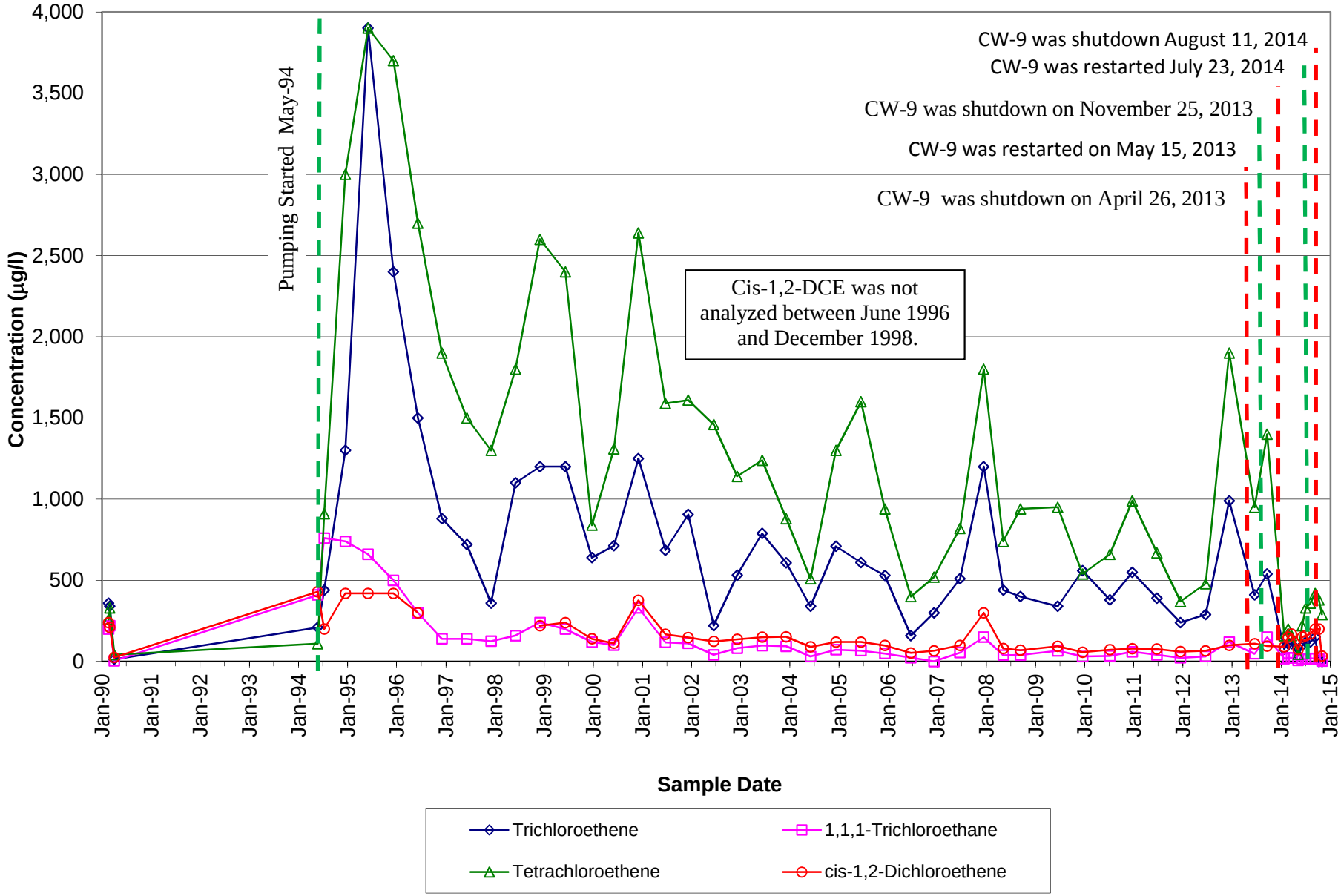


Figure 7-5
Predominant VOC Concentrations - Collection Well CW-13
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

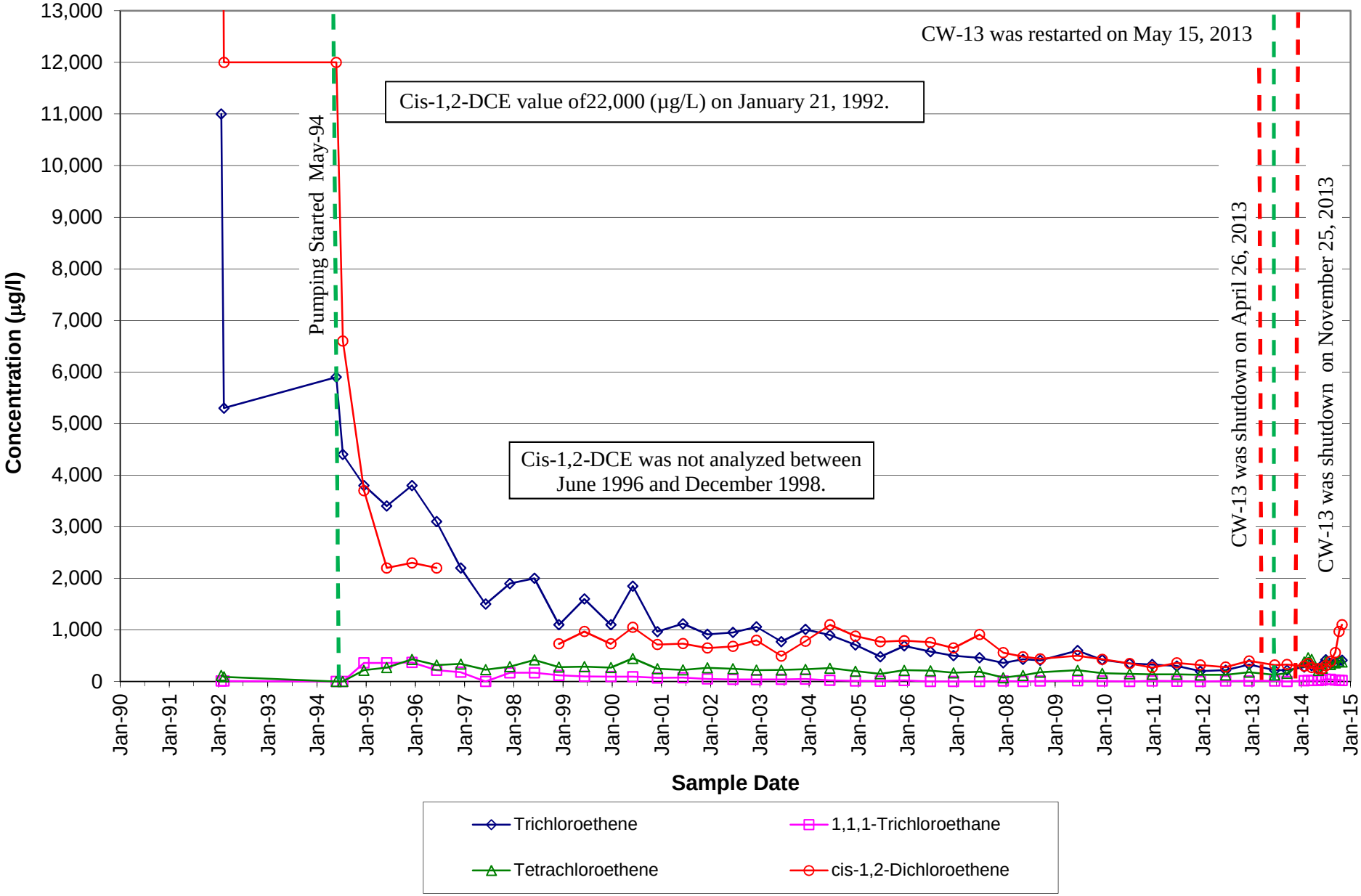


Figure 7-6
Predominant VOC Concentrations - Collection Well CW-15A
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

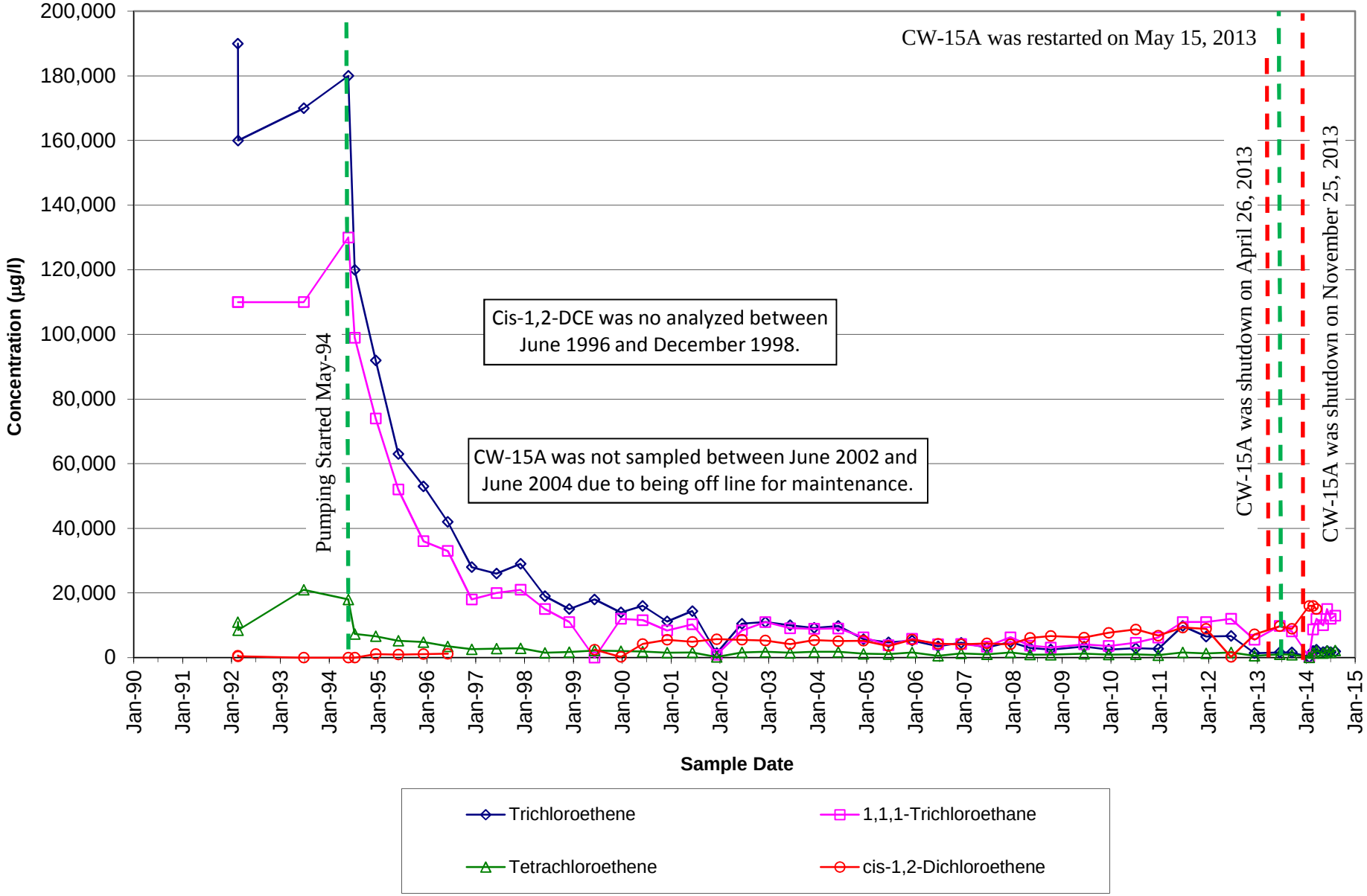


Figure 7-7
Predominant VOC Concentrations
Collection Wells CW-14 and CW-17
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

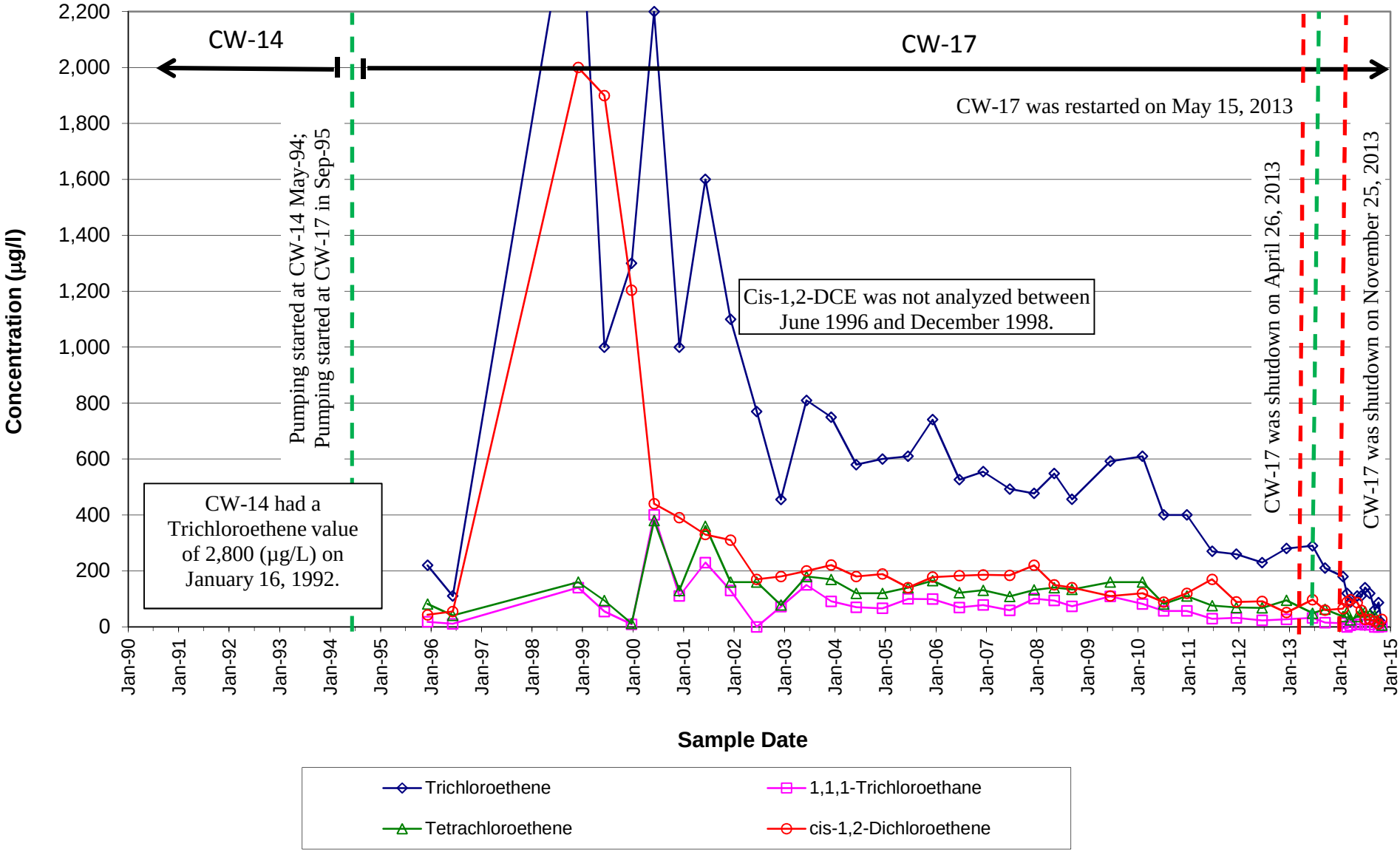
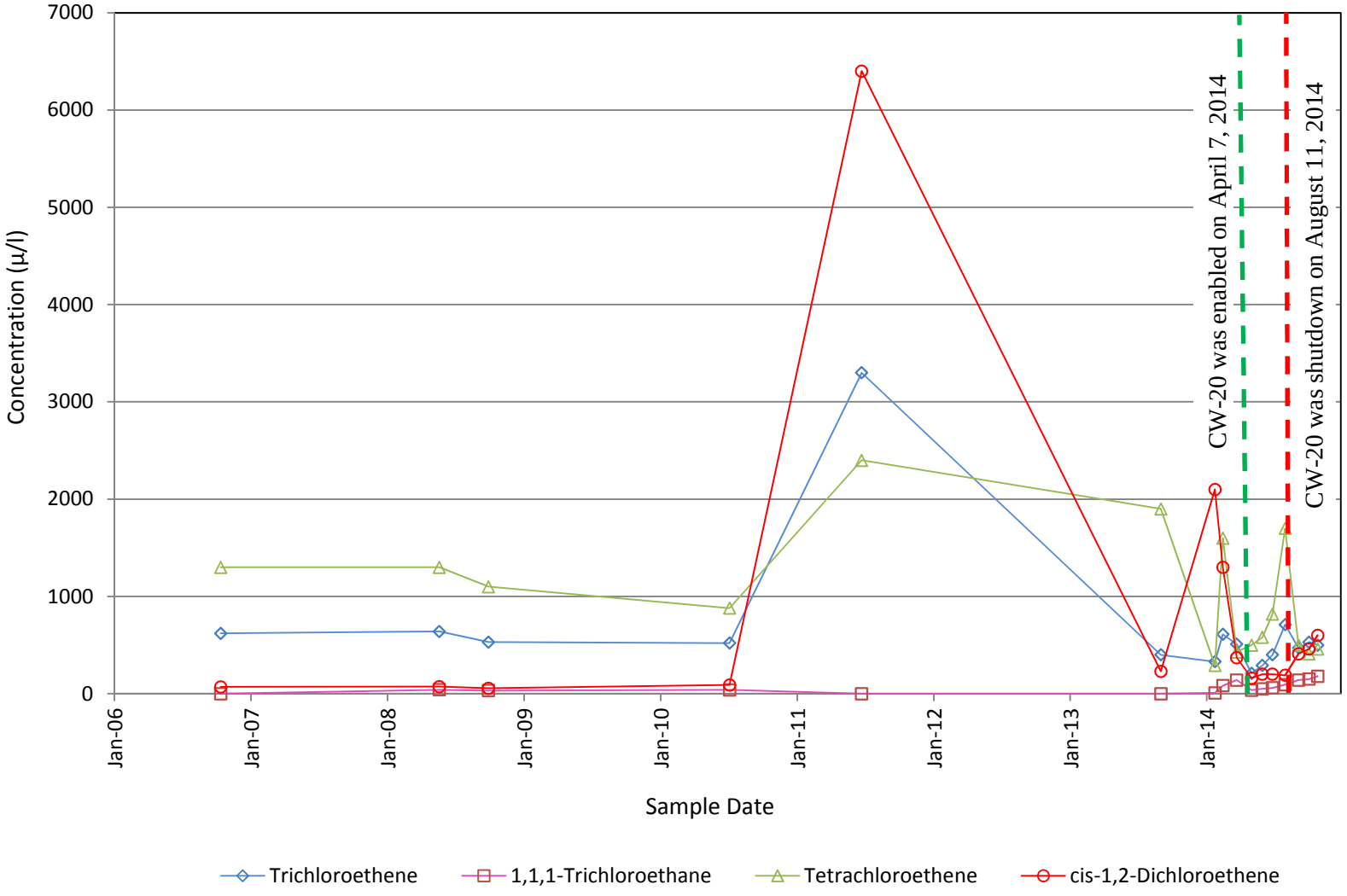


Figure 7-8
Predominate VOC Concentrations
Collection Well CW-20
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402



TABLES

TABLE 4-1
VOCs REMOVED FROM COLLECTED GROUNDWATER
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

JANUARY 1, 2014 - DECEMBER 31, 2014				
DATE	MONTHLY GROUNDWATER WITHDRAWAL (PTA Totalizer, gallons)	AVERAGE MONTHLY TOTAL VOCs (ppb)		ESTIMATED MONTHLY VOC REMOVAL (pounds)
Jan-14	3,630	690		0
Feb-14	3,967	690	*	0
Mar-14	8,821	690	*	0
Apr-14	2,956,824	1637		40
May-14	4,373,443	1637	*	60
Jun-14	4,172,249	1637	*	57
Jul-14	3,886,581	2176		71
Aug-14	1,876,430	2176	*	34
Sep-14	5,876	2176	*	0
Oct-14	12,729	23		0
Nov-14	0	23	*	0
Dec-14	0	23	*	0
TOTAL	**17,300,548**	**NA**		**262**

NOTES:

1. * - No sample collected this month; concentration is the most recent
2. NA - Not Applicable

ANNUAL TOTALS		
YEAR	GROUNDWATER WITHDRAWAL (gallons)	ESTIMATED VOC REMOVAL (pounds)
1990 (NOV & DEC)	12,954,886	92
1991	62,458,393	357
1992	66,081,120	322
1993	72,198,940	421
1994	88,387,251	3,905
1995	141,357,856	5,572
1996	152,168,899	3,631
1997	150,246,400	2,675
1998	157,461,800	2,795
1999	133,687,100	1,464
2000	152,839,477	1,785
2001	134,557,249	1,659
2002	121,290,897	1269
2003	153,097,508	1,599
2004	140,725,167	1,786
2005	134,503,508	1,550
2006	125,192,364	1,295
2007	149,331,940	1,734
2008	155,341,655	1,560
2009	161,171,721	1,584
2010	159,042,802	1,388
2011	154,368,351	1,196
2012	153,624,656	1,519
2013	145,516,783	1,321
2014	17,300,548	262
Total	**3,094,907,271**	**42,742**

TABLE 5-1
RECORD OF GROUNDWATER WITHDRAWALS
JANUARY 1, 2014 - DECEMBER 31, 2014
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

	NPBA WELLS (gallons)										TCA WELL (gallons)		WPL WELLS (gallons)						Building 3 De-Watering System	Treated Drilling Water (gallons)	MONTHLY TOTAL
MONTH	CW-1	CW-1A	CW-2	CW-3	CW-4	CW-5	CW-6	CW-7	CW-7A	SUBTOTAL	CW-8	SUBTOTAL	CW-9	CW-13	CW-15A	CW-17	CW-20	SUBTOTAL			
Jan-14	0	0	0	0	0	0	0	0	0	0	0	0	1,284	1,298	312	871	0	3,765	0		3,765
Feb-14	0	0	0	0	0	0	0	0	0	0	0	0	964	1,240	294	813	0	3,311	0	0	3,311
Mar-14	0	0	0	0	0	0	0	0	0	0	0	0	1,529	1,157	312	823	4,079	7,900	0	0	7,900
Apr-14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,767,164	2,767,164	0	10,280	2,777,444
May-14	0	0	0	0	0	0	0	0	0	0	0	0	790	1,126	289	734	4,194,240	4,197,179	0	0	4,197,179
Jun-14	0	0	0	0	0	0	0	0	0	0	0	0	797	1,109	303	806	4,023,097	4,026,112	0	0	4,026,112
Jul-14	0	0	0	0	0	0	0	0	0	0	0	0	225,520	1,116	319	746	3,385,920	3,613,621	0	0	3,613,621
Aug-14	0	0	0	0	0	0	0	0	0	0	0	0	361,416	1,134	338	768	1,278,216	1,641,872	0	0	1,641,872
Sep-14	0	0	0	0	0	0	0	0	0	0	0	0	783	1,232	307	810	2,083	5,215	0	0	5,215
Oct-14	225	99	232	293	319	130	295	239	95	1,927	0	0	1,583	2,578	626	1,529	4,486	10,802	0	0	12,729
Nov-14	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
Dec-14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17,988	17,988
TOTALS	225	99	232	293	319	130	295	239	95	1,927	0	0	594,666	11,990	3,100	7,900	15,659,285	16,276,941	0	28,268	16,307,136

VALUES ARE IN GALLONS FOR EACH EXTRACTION WELL

Notes: Monthly groundwater withdrawal value from Table 4-1 differs slightly from the monthly total in the last column above. The value in Table 4-1 is taken directly from the PTA totalizer, while the value in the last column of this table is the sum of the individual well totalizers.
--NPBA wells were temporarily disabled on June 19, 2013 for the FSP Addendum No. 6 study.
--Building 3 De-Watering System as temporarily disabled on June 19, 2013 for the FSP Addendum No. 7 study.
--NPBA wells enabled for sampling in October 2014 and disabled after sample was collected.

-- GWTS was temporarily shutdown on November 25, 2013 through April 7, 2014 when only CW-20 was restarted, except for sampling events. GWTS was also shutdown on August 11, 2014 through the end of the year except for sampling events. The shutdowns were for the FSP Addendum No. 11 study and GWTS upgrades.

TABLE 7-1
GROUNDWATER COLLECTION WELL PUMPING WATER LEVEL ELEVATIONS
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

Extraction System Location	Well No.	Reference Elevation (ft AMSL)	Range (ft AMSL)		Groundwater Elev. (ft AMSL)											
			Pump On (High)	Pump Off (Low)	1/1/2014	2/1/2014	3/1/2014	4/23/2014	5/28/2014	6/19/2014	7/30/2014	8/8/2014	9/1/2014	10/1/2014	11/1/2014	12/1/2014
NPBA	CW-1	570.07	495.57	492.57	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
	CW-1A	568.28	508.78	505.78	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
	CW-2	556.95	483.45	480.45	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
	CW-3	518.66	440.66	437.66	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
	CW-4	541.55	458.05	455.05	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
	CW-5	470.34	424.84	421.84	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
	CW-6	484.67	415.57	412.57	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
	CW-7	573.78	493.28	490.28	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
	CW-7A	573.91	523.41	520.41	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
TCA	CW-8	362.70	341.34	337.34	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
WPL	CW-9	356.82	333.79	328.79	OL	OL	OL	OL	OL	OL	NM	NM	OL	OL	OL	OL
	CW-13	358.85	327.60	322.60	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
	CW-15A	361.40	333.50	328.50	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
	CW-17	358.70	336.37	331.47	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
	CW-20	361.49	289.49	284.49	OL	OL	OL	339.28	342.33	343.27	342.83	343.68	OL	OL	OL	OL

Notes:
1. ft AMSL - feet above mean sea level.
2. OL - Off Line.
3. NM - Not Measured.
4. CW-8 was shutdown in November 2013 for ongoing SGWRI Investigations. CW-8 was not restarted in 2014.
5. NPBA wells were disabled on June 19, 2013 for the FSP Addendum No. 6 study.
6. GWTS was shutdown on November 25, 2013 for a PADEP and USEPA approved shutdown monitoring study until April 2014. GWTS was shutdown August 11, 2014 through the end of the year.

APPENDIX A

Data Tables

Table A-1.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-1 10/13/2014	CW-1A 10/14/2014	CW-2 10/14/2014	CW-3 10/15/2014	CW-4 10/14/2014	CW-5 10/16/2014	CW-6 10/16/2014	CW-7 10/15/2014	CW-7A 10/15/2014
1,4 Dioxane													
1,4-Dioxane	6.4	32		0.78									
Alkalinity													
ALKALINITY, BICARBONATE									110000 B				
ALKALINITY, CARBONATE									5000 U				
ALKALINITY, TOTAL									110000 B				
Anions													
Chloride		250000							28000				
Nitrate As N	10000	10000	10000	32000					100 U				
Sulfate									29000				
Sulfide, Total									3000 UJ				
Cyanide													
Cyanide, Free	200	200	200	1.5									
Cyanide, Total	200	200		1.5									
METAL													
Calcium													
Ferric Iron									2800				
FERROUS IRON									2700 HF				
Hexavalent Chromium	100	100		0.035									
Magnesium													
Potassium													
Sodium													
METAL (Dissolved)													
Calcium									33000 B				
Ferric Iron													
Hexavalent Chromium	100	100		0.035									
Iron			300	14000					5500 B				
Magnesium									11000				
Manganese	300	300	50	430					570 B				
Potassium									1300				
Sodium									10000 B				
Other													
Carbon Dioxide									14000				
Ethane									0.50 U				
Ethene									0.50 U				
Methane									1.6				
Other (Dissolved)													
Dissolved Organic Carbon									320 J				
TOTAL VOC													
TOTAL VOC					203.6	34.75	18	118.03	42.8	36.7	47.5	2.53	99.4
Volatile Organic Compound													
1,1,1,2-Tetrachloroethane	70	70		0.57	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,1,1-Trichloroethane	200	200	200	8000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-1.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-1 10/13/2014	CW-1A 10/14/2014	CW-2 10/14/2014	CW-3 10/15/2014	CW-4 10/14/2014	CW-5 10/16/2014	CW-6 10/16/2014	CW-7 10/15/2014	CW-7A 10/15/2014
1,1-Dichloroethane	31	160		2.7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,1-Dichloroethene	7	7	7	280	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,2,4-Trimethylbenzene	15	62		15									
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,2-Dichloroethane	5	5	5	0.17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,2-Dichloropropane	5	5	5	0.44	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,3,5-Trimethylbenzene	13	53		120									
1,4-Dioxane	6.4	32		0.78	200 R	200 U	200 U	200 U	200 U	200 U	200 UJ	200 U	200 UJ
2-Butanone	4000	4000		5600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 UJ
2-Hexanone	11	44		38	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 UJ
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 UJ
Acetone	33000	92000		14000	5.0 U	5.0 U	5.0 U	76	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 UJ
Acrylonitrile	0.72	3.7		0.052	20 U	20 U	20 U	20 U	20 U	20 U	20 UJ	20 U	20 UJ
Benzene	5	5	5	0.45	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Bromochloromethane	90	90		83	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Bromodichloromethane	80	80		0.13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Bromoform	80	80		9.2	1.0 U	1.0 U	1.0 U	3.1	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Bromomethane	10	10		7.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Carbon Disulfide	1500	6200		810	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Carbon Tetrachloride	5	5	5	0.45	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Chlorobenzene	100	100	100	78	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Chlorodibromomethane	80	80		0.17	1.0 U	1.0 U	1.0 U	0.54 J	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Chloroethane	230	900		21000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Chloroform	80	80		0.22	1.0 U	0.44 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	0.92 J	1.2 J
Chloromethane				190	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
cis-1,2-Dichloroethene	70	70	70	36	1.8	0.51 J	2.6	36	36	4.5	20 J	1.0 U	3.7 J
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Ethylbenzene	700	700	700	1.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Isopropylbenzene	840	3500		450									
Methyl tert-butyl ether	20	20		14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Methylene chloride	5	5		11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Naphthalene	100	100		0.17									
Styrene	100	100	100	1200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Tetrachloroethene	5	5	5	11	1.0 U	2.8	1.4	0.41 J	1.2	24	22 J	0.85 J	5.5 J
Toluene	1000	1000	1000	1100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
trans-1,2-Dichloroethene	100	100	100	360	1.0 U	1.0 U	1.0 U	0.58 J	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Trichloroethene	5	5	5	0.49	1.8	31	14	1.4	5.6	8.2	5.5 J	0.76 J	89
Vinyl Chloride	2	2	2	0.019	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Xylenes (Total)	10000	10000	10000	190	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 U	3.0 UJ

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-1.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-8 10/30/2014	CW-9 1/23/2014	CW-9 2/21/2014	CW-9 3/18/2014	CW-9 5/7/2014	CW-9 6/5/2014	CW-9 7/2/2014	CW-9 8/5/2014	CW-9 9/10/2014	CW-9 10/8/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78										
Alkalinity														
ALKALINITY, BICARBONATE					180000 B	230000 B	220000 B	220000 B	220000 B	180000 B	220000	230000 B	290000 B	240000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL					180000 B	230000 B	220000 B	220000 B	220000 B	180000 B	220000	230000 B	290000 B	240000 B
Anions														
Chloride		250000			160000 B	240000	200000 B	250000	240000	280000 B	260000 B	190000	230000 B	240000
Nitrate As N	10000	10000	10000	32000	4200 B	6800	7300 E	8000	6600	8500	7300	4700	6200	6400
Sulfate					21000 B	40000	36000	42000	37000	43000 B	40000	33000	36000 B	36000 B
Sulfide, Total					3000 U									
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium						120000	83000	120000 B	110000	100000 B	110000	91000	120000 B	110000
Ferric Iron					100 U									
FERROUS IRON					50 U									
Hexavalent Chromium	100	100		0.035										
Magnesium						28000	28000 B	28000	31000	26000	30000	23000	31000	25000
Potassium						25000	20000	30000	30000	30000 B	30000	19000	27000	25000 B
Sodium						69000 B	58000	83000	81000 B	76000 B	72000	68000	83000	69000 B
METAL (Dissolved)														
Calcium					84000 B									
Ferric Iron														
Hexavalent Chromium	100	100		0.035										
Iron			300	14000	76									
Magnesium					16000 B									
Manganese	300	300	50	430	130 B									
Potassium					9500									
Sodium					55000 B									
Other														
Carbon Dioxide					4200									
Ethane					2.4									
Ethene					0.50 U									
Methane					3.2 B									
Other (Dissolved)														
Dissolved Organic Carbon					850 J									
TOTAL VOC														
TOTAL VOC					540.6	353.7	495.5	505.5	171.07	503.1	639.6	686.7	798.9	741.2
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
1,1,1-Trichloroethane	200	200	200	8000	38	17	23	22	6.9	18	13	19	18	15
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
1,1,2-Trichloroethane	5	5	5	0.28	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-1.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-8 10/30/2014	CW-9 1/23/2014	CW-9 2/21/2014	CW-9 3/18/2014	CW-9 5/7/2014	CW-9 6/5/2014	CW-9 7/2/2014	CW-9 8/5/2014	CW-9 9/10/2014	CW-9 10/8/2014
1,1-Dichloroethane	31	160		2.7	14	5.5 J	6.7 J	6.3 J	2.6	13 U	5 J	4.3 J	5.8 J	6.0 J
1,1-Dichloroethene	7	7	7	280	12 J	4.2 J	5.8 J	7.4 J	3.4	5.1 J	5 J	6 J	5.1 J	5.7 J
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
1,2-Dichloroethane	5	5	5	0.17	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
1,2-Dichloropropane	5	5	5	0.44	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	2500 U	2500 U	2000 U	2000 U	200 U	2500 U	2000 U	2500 U	2500 U	2500 U
2-Butanone	4000	4000		5600	63 U	63 U	50 U	25 J	5 U	63 U	50 U	63 U	63 U	63 U
2-Hexanone	11	44		38	63 U	63 U	50 U	50 U	5 U	63 U	50 U	63 U	63 U	63 U
4-Methyl-2-Pentanone	2900	8200		1200	63 U	63 U	50 U	50 U	5 U	63 U	50 U	63 U	63 U	63 U
Acetone	33000	92000		14000	63 U	63 U	50 U	50 U	5 U	63 U	50 U	63 U	63 U	63 U
Acrylonitrile	0.72	3.7		0.052	250 U	250 U	200 U	200 U	20 U	250 U	200 U	250 U	250 U	250 U
Benzene	5	5	5	0.45	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
Bromochloromethane	90	90		83	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
Bromodichloromethane	80	80		0.13	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
Bromoform	80	80		9.2	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
Bromomethane	10	10		7.5	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
Carbon Disulfide	1500	6200		810	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
Carbon Tetrachloride	5	5	5	0.45	13 U	13 U	10 U	10 U	1.5	13 U	10 U	13 U	13 U	13 U
Chlorobenzene	100	100	100	78	13 U	13 U	10 U	10 U	0.41 J	13 U	5.2 J	13 U	13 U	2.2 J
Chlorodibromomethane	80	80		0.17	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
Chloroethane	230	900		21000	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
Chloroform	80	80		0.22	13 U	13 U	10 U	10 U	0.26 J	13 U	10 U	13 U	13 U	13 U
Chloromethane				190	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
cis-1,2-Dichloroethene	70	70	70	36	250	91	150	170	74	150	160	170	200	200
cis-1,3-Dichloropropene	6.6	26		0.47	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
Ethylbenzene	700	700	700	1.5	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
Methylene chloride	5	5		11	13 U	13 U	10 U	4.8 J	1 U	11 J	1.4 J	7.4 J	13 U	13 U
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
Tetrachloroethene	5	5	5	11	120	160	200	160	46	220	330	360	420	380
Toluene	1000	1000	1000	1100	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
trans-1,2-Dichloroethene	100	100	100	360	6.6 J	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	2.3 J
trans-1,3-Dichloropropene	6.6	26		0.47	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
Trichloroethene	5	5	5	0.49	100	76	110	110	36	99	120	120	150	130
Vinyl Chloride	2	2	2	0.019	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U	13 U	13 U
Xylenes (Total)	10000	10000	10000	190	38 U	38 U	30 U	30 U	3 U	38 U	30 U	38 U	38 U	38 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-1.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-9 10/31/2014	CW-13 1/23/2014	CW-13 2/21/2014	CW-13 3/18/2014	CW-13 5/7/2014	CW-13 6/5/2014	CW-13 7/2/2014	CW-13 8/5/2014	CW-13 9/10/2014	CW-13 10/8/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78										
Alkalinity														
ALKALINITY, BICARBONATE					270000 B	250000 B	250000 B	240000 B	250000 B	220000 B	250000	260000 B	310000 B	290000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL					270000 B	250000 B	250000 B	240000 B	250000 B	220000 B	250000	260000 B	310000 B	290000 B
Anions														
Chloride		250000			250000	230000	230000 B	290000	320000	370000 B	330000 B	280000	300000 B	320000 B
Nitrate As N	10000	10000	10000	32000	5500	4700	6400 E	8200	8900	12000	10000 J	7800	8600	7500
Sulfate					39000	33000	32000	35000	32000	42000 B	40000	36000	38000 B	37000 B
Sulfide, Total														
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium					110000 B	120000	110000	140000 B	150000	150000 B	150000	160000	150000 B	140000
Ferric Iron														
FERROUS IRON														
Hexavalent Chromium	100	100		0.035										
Magnesium					26000	20000	25000 B	25000	28000	25000	29000	24000	28000	23000
Potassium					28000	18000	20000	30000	32000	33000 B	29000	22000	25000	24000 B
Sodium					72000 B	65000 B	72000	100000	99000 B	93000 B	81000	82000	91000	80000 B
METAL (Dissolved)														
Calcium														
Ferric Iron														
Hexavalent Chromium	100	100		0.035										
Iron			300	14000										
Magnesium														
Manganese	300	300	50	430										
Potassium														
Sodium														
Other														
Carbon Dioxide														
Ethane														
Ethene														
Methane														
Other (Dissolved)														
Dissolved Organic Carbon														
TOTAL VOC														
TOTAL VOC					346.92	997	1199	1048.7	757	894	1201	1161	1351.4	1830.2
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
1,1,1-Trichloroethane	200	200	200	8000	2.8	16 J	19	18 J	18 J	28	43	41	30	25
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-1.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-9 10/31/2014	CW-13 1/23/2014	CW-13 2/21/2014	CW-13 3/18/2014	CW-13 5/7/2014	CW-13 6/5/2014	CW-13 7/2/2014	CW-13 8/5/2014	CW-13 9/10/2014	CW-13 10/8/2014
1,1-Dichloroethane	31	160		2.7	0.82 J	7 J	8 J	25 U	25 U	20 U	10 J	12 J	9.9 J	25 U
1,1-Dichloroethene	7	7	7	280	0.77 J	14 J	12 J	13 J	29	17 J	28	21 J	22 J	19 J
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
1,2-Dichloroethane	5	5	5	0.17	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
1,2-Dichloropropane	5	5	5	0.44	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	200 U	5000 U	2500 U	5000 U	5000 U	4000 U	5000 U	5000 U	5000 U	5000 U
2-Butanone	4000	4000		5600	5.0 U	130 U	63 U	130 U	130 U	100 U	130 U	130 U	130 U	130 U
2-Hexanone	11	44		38	5.0 U	130 U	63 U	130 U	130 U	100 U	130 U	130 U	130 U	130 U
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U	130 U	63 U	130 U	130 U	100 U	130 U	130 U	130 U	130 U
Acetone	33000	92000		14000	5.0 U	130 U	63 U	130 U	130 U	100 U	130 U	130 U	130 U	130 U
Acrylonitrile	0.72	3.7		0.052	20 U	500 U	250 U	500 U	500 U	400 U	500 U	500 U	500 U	500 U
Benzene	5	5	5	0.45	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Bromochloromethane	90	90		83	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Bromodichloromethane	80	80		0.13	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Bromoform	80	80		9.2	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Bromomethane	10	10		7.5	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Carbon Disulfide	1500	6200		810	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Carbon Tetrachloride	5	5	5	0.45	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Chlorobenzene	100	100	100	78	0.53 J	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Chlorodibromomethane	80	80		0.17	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Chloroethane	230	900		21000	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Chloroform	80	80		0.22	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Chloromethane				190	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
cis-1,2-Dichloroethene	70	70	70	36	33	300	350	270	250	250	310	390	560	970
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Ethylbenzene	700	700	700	1.5	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Methylene chloride	5	5		11	1.0 U	25 U	13 U	7.7 J	25 U	19 J	25 U	17 J	25 U	25 U
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Tetrachloroethene	5	5	5	11	290	380	460	430	220	260	390	330	360	390
Toluene	1000	1000	1000	1100	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
trans-1,2-Dichloroethene	100	100	100	360	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	5.2 J
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	25 U	25 U
Trichloroethene	5	5	5	0.49	19	280	350	310	240	320	420	350	360	400
Vinyl Chloride	2	2	2	0.019	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U	9.5 J	21 J
Xylenes (Total)	10000	10000	10000	190	3.0 U	75 U	38 U	75 U	75 U	60 U	75 U	75 U	75 U	75 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-1.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-13 10/30/2014	CW-15A 1/23/2014	CW-15A 2/21/2014	CW-15A 3/18/2014	CW-15A 5/7/2014	CW-15A 6/5/2014	CW-15A 7/2/2014	CW-15A 8/5/2014	CW-15A 9/10/2014
1,4 Dioxane													
1,4-Dioxane	6.4	32		0.78									
Alkalinity													
ALKALINITY, BICARBONATE					260000 B	170000 B	170000 B	150000 B	100000 B	110000 B	160000	170000 B	210000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL					260000 B	170000 B	170000 B	150000 B	100000 B	110000 B	160000	170000 B	210000 B
Anions													
Chloride		250000			330000 B	95000	86000 B	91000	46000	77000 B	77000 B	64000	100000 B
Nitrate As N	10000	10000	10000	32000	7300 B	1100	1100	1200	890	1300	1100	930	1100
Sulfate					39000 B	38000	35000	38000	19000	31000 B	27000	23000	33000 B
Sulfide, Total					3000 U								
Cyanide													
Cyanide, Free	200	200	200	1.5									
Cyanide, Total	200	200		1.5									
METAL													
Calcium					140000 B	75000	59000	70000 B	42000	51000 B	60000	59000	74000 B
Ferric Iron					100 U								
FERROUS IRON					50 U								
Hexavalent Chromium	100	100		0.035									
Magnesium					23000 B	7900	8900 B	8200	5800	6600	8700	7800	9900
Potassium					25000	6900	6000	7100	4600	5800 B	6100	6500	7300
Sodium					79000 B	32000 B	35000	42000	24000 B	35000 B	36000	36000	55000
METAL (Dissolved)													
Calcium					140000 B								
Ferric Iron													
Hexavalent Chromium	100	100		0.035									
Iron			300	14000	12 J								
Magnesium					24000 B								
Manganese	300	300	50	430	310 B								
Potassium					25000								
Sodium					79000 B								
Other													
Carbon Dioxide					9800								
Ethane					1.8								
Ethene					0.5								
Methane					5.4 B								
Other (Dissolved)													
Dissolved Organic Carbon					2500								
TOTAL VOC													
TOTAL VOC					1976.8	15370	23800	21760	576	21160	28102	24970	38100
Volatile Organic Compound													
1,1,1,2-Tetrachloroethane	70	70		0.57	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
1,1,1-Trichloroethane	200	200	200	8000	22 J	5500	9800	8100	160	8700	12000	10000	15000
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
1,1,2-Trichloroethane	5	5	5	0.28	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U

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Table A-1.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-13 10/30/2014	CW-15A 1/23/2014	CW-15A 2/21/2014	CW-15A 3/18/2014	CW-15A 5/7/2014	CW-15A 6/5/2014	CW-15A 7/2/2014	CW-15A 8/5/2014	CW-15A 9/10/2014
1,1-Dichloroethane	31	160		2.7	25 U	500 U	1000 U	120 J	20 U	500 U	130 J	150 J	500 U
1,1-Dichloroethene	7	7	7	280	15 J	1100	2100	1900	49	1200	1700	2200	2900
1,2,4-Trimethylbenzene	15	62		15									
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
1,2-Dichloroethane	5	5	5	0.17	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
1,2-Dichloropropane	5	5	5	0.44	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
1,3,5-Trimethylbenzene	13	53		120									
1,4-Dioxane	6.4	32		0.78	5000 U	100000 U	200000 U	100000 U	4000 U	100000 U	100000 U	200000 U	100000 U
2-Butanone	4000	4000		5600	130 U	2500 U	5000 U	2500 U	100 U	2500 U	2500 U	5000 U	2500 U
2-Hexanone	11	44		38	130 U	2500 U	5000 U	2500 U	100 U	2500 U	2500 U	5000 U	2500 U
4-Methyl-2-Pentanone	2900	8200		1200	130 U	2500 U	5000 U	2500 U	100 U	2500 U	2500 U	5000 U	2500 U
Acetone	33000	92000		14000	130 U	2500 U	5000 U	2500 U	100 U	2500 U	2500 U	5000 U	2500 U
Acrylonitrile	0.72	3.7		0.052	500 U	10000 U	20000 U	10000 U	400 U	10000 U	10000 U	20000 U	10000 U
Benzene	5	5	5	0.45	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Bromochloromethane	90	90		83	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Bromodichloromethane	80	80		0.13	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Bromoform	80	80		9.2	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Bromomethane	10	10		7.5	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Carbon Disulfide	1500	6200		810	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Carbon Tetrachloride	5	5	5	0.45	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Chlorobenzene	100	100	100	78	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Chlorodibromomethane	80	80		0.17	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Chloroethane	230	900		21000	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Chloroform	80	80		0.22	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Chloromethane				190	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
cis-1,2-Dichloroethene	70	70	70	36	1100	6800	9300	8900	190	7200	9700	8900	16000
cis-1,3-Dichloropropene	6.6	26		0.47	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Ethylbenzene	700	700	700	1.5	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Isopropylbenzene	840	3500		450									
Methyl tert-butyl ether	20	20		14	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Methylene chloride	5	5		11	15 J	500 U	1000 U	230 J	20 U	560	72 J	620 J	500 U
Naphthalene	100	100		0.17									
Styrene	100	100	100	1200	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Tetrachloroethene	5	5	5	11	380	570	1000	910	80	1400	2100	1400	2100
Toluene	1000	1000	1000	1100	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
trans-1,2-Dichloroethene	100	100	100	360	4.8 J	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
trans-1,3-Dichloropropene	6.6	26		0.47	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Trichloroethene	5	5	5	0.49	410	1400	1600	1600	97	2100	2400	1700	2100
Vinyl Chloride	2	2	2	0.019	30	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U	500 U
Xylenes (Total)	10000	10000	10000	190	75 U	1500 U	3000 U	1500 U	60 U	1500 U	1500 U	3000 U	1500 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-1.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-15A 10/8/2014	CW-15A 10/30/2014	CW-17 1/23/2014	CW-17 2/21/2014	CW-17 3/18/2014	CW-17 5/7/2014	CW-17 6/5/2014	CW-17 7/2/2014	CW-17 8/5/2014	CW-17 9/10/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78		390								
Alkalinity														
ALKALINITY, BICARBONATE					200000 B	180000 B	220000 B	190000 B	190000 B	190000 B	190000 B	210000	240000 B	250000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL					200000 B	180000 B	220000 B	190000 B	190000 B	190000 B	190000 B	210000	240000 B	250000 B
Anions														
Chloride		250000			120000 B	130000 B	190000	220000 B	230000	180000	240000 B	200000 B	230000	190000 B
Nitrate As N	10000	10000	10000	32000	740	1000 B	3300	3300	3900	3600	4600	3900	4200	2900
Sulfate					38000 B	35000 B	55000	52000	51000	45000	57000 B	53000	56000	64000 B
Sulfide, Total						3000 U								
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium					79000	79000 B	110000	96000	110000 B	100000	110000 B	100000	130000	130000 B
Ferric Iron						130								
FERROUS IRON						50 U								
Hexavalent Chromium	100	100		0.035										
Magnesium					9300	8800 B	9600	12000 B	11000	12000	12000	13000	14000	15000
Potassium					7000 B	7700	15000	17000	21000	17000	21000 B	19000	23000	17000
Sodium					49000 B	49000 B	73000 B	90000	98000	83000 B	85000 B	74000	100000	88000
METAL (Dissolved)														
Calcium						79000 B								
Ferric Iron														
Hexavalent Chromium	100	100		0.035										
Iron			300	14000		130								
Magnesium						8600 B								
Manganese	300	300	50	430		690 B								
Potassium						7600								
Sodium						50000 B								
Other														
Carbon Dioxide						7200								
Ethane						0.74								
Ethene						0.30 J								
Methane						1.0 B								
Other (Dissolved)														
Dissolved Organic Carbon						2500								
TOTAL VOC														
TOTAL VOC					33880	35090	50.64	52.18	35.42	19.25	68.6	56.72	274.3	437.3
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
1,1,1-Trichloroethane	200	200	200	8000	12000	13000	1.3	1.3	0.85 J	0.45 J	3.4	2.2	15	26
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
1,1,2-Trichloroethane	5	5	5	0.28	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-1.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-15A 10/8/2014	CW-15A 10/30/2014	CW-17 1/23/2014	CW-17 2/21/2014	CW-17 3/18/2014	CW-17 5/7/2014	CW-17 6/5/2014	CW-17 7/2/2014	CW-17 8/5/2014	CW-17 9/10/2014
1,1-Dichloroethane	31	160		2.7	180 J	180 J	0.7 J	0.58 J	0.39 J	1 U	1 U	0.56 J	2.1 J	3.2 J
1,1-Dichloroethene	7	7	7	280	2400	2600	0.84 J	0.8 J	0.48 J	0.6 J	1.2	0.78 J	5.7	8.1
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
1,2-Dichloroethane	5	5	5	0.17	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
1,2-Dichloropropane	5	5	5	0.44	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	100000 U	100000 U	200 U	200 U	200 U	200 U	200 U	200 U	1000 U	1000 U
2-Butanone	4000	4000		5600	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	25 U
2-Hexanone	11	44		38	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	25 U
4-Methyl-2-Pentanone	2900	8200		1200	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	25 U
Acetone	33000	92000		14000	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	25 U
Acrylonitrile	0.72	3.7		0.052	10000 U	10000 U	20 U	20 U	20 U	20 U	20 U	20 U	100 U	100 U
Benzene	5	5	5	0.45	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Bromochloromethane	90	90		83	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Bromodichloromethane	80	80		0.13	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Bromoform	80	80		9.2	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Bromomethane	10	10		7.5	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Carbon Disulfide	1500	6200		810	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Carbon Tetrachloride	5	5	5	0.45	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Chlorobenzene	100	100	100	78	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Chlorodibromomethane	80	80		0.17	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Chloroethane	230	900		21000	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Chloroform	80	80		0.22	500 U	500 U	1 U	1 U	1 U	1 U	1 U	0.18 J	5 U	5.0 U
Chloromethane				190	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
cis-1,2-Dichloroethene	70	70	70	36	16000	15000	27	27	20	11	27	25	89	150
cis-1,3-Dichloropropene	6.6	26		0.47	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Ethylbenzene	700	700	700	1.5	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Methylene chloride	5	5		11	500 U	210 J	1 U	1 U	1 U	1 U	1 U	1 U	2.5 J	5.0 U
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Tetrachloroethene	5	5	5	11	1600	2200	6.8	9.5	5.6	3.3	18	13	84	130
Toluene	1000	1000	1000	1100	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
trans-1,2-Dichloroethene	100	100	100	360	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Trichloroethene	5	5	5	0.49	1700	1900	14	13	8.1	3.9	19	15	76	120
Vinyl Chloride	2	2	2	0.019	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5.0 U
Xylenes (Total)	10000	10000	10000	190	1500 U	1500 U	3 U	3 U	3 U	3 U	3 U	3 U	15 U	15 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-1.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-17 10/8/2014	CW-17 10/31/2014	CW-18 10/9/2014	CW-18 10/30/2014	CW-20 1/29/2014	CW-20 2/19/2014	CW-20 3/28/2014	CW-20 5/7/2014	CW-20 6/5/2014	CW-20 7/2/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78										
Alkalinity														
ALKALINITY, BICARBONATE					300000 B	260000 B	280000 B	250000 B	180000 B	230000 B	200000 B	210000 B	180000 B	200000
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL					300000 B	260000 B	280000 B	250000 B	180000 B	230000 B	200000 B	210000 B	180000 B	200000
Anions														
Chloride		250000			200000 B	170000	190000 B	240000 B	94000	140000	160000	160000	180000 B	170000 B
Nitrate As N	10000	10000	10000	32000	2800	2400	260	230 B	100 U	410	3600	4100	5300	4600
Sulfate					67000 B	61000	210000	230000 B	29000	33000	28000	30000	37000 B	34000
Sulfide, Total														
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium					120000	110000 B	100000	91000	62000 B	70000	120000	94000	86000 B	84000
Ferric Iron														
FERROUS IRON														
Hexavalent Chromium	100	100		0.035										
Magnesium					13000	10000	42000	41000 B	20000	21000	18000	25000	21000	23000
Potassium					16000 B	14000	12000 B	12000 B	4100	5400	7500	14000	14000 B	11000
Sodium					74000 B	66000 B	130000 B	130000 B	45000 B	68000	50000	64000 B	60000 B	52000
METAL (Dissolved)														
Calcium														
Ferric Iron														
Hexavalent Chromium	100	100		0.035										
Iron			300	14000										
Magnesium														
Manganese	300	300	50	430										
Potassium														
Sodium														
Other														
Carbon Dioxide														
Ethane														
Ethene														
Methane														
Other (Dissolved)														
Dissolved Organic Carbon														
TOTAL VOC														
TOTAL VOC					549.22	205.1	87.25	76.77	2739.7	3641.1	1542	931	1129.6	1495
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
1,1,1-Trichloroethane	200	200	200	8000	39	13	0.39 J	1.0 U	8.8 J	83	140	36 J	51	60
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-1.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-17 10/8/2014	CW-17 10/31/2014	CW-18 10/9/2014	CW-18 10/30/2014	CW-20 1/29/2014	CW-20 2/19/2014	CW-20 3/28/2014	CW-20 5/7/2014	CW-20 6/5/2014	CW-20 7/2/2014
1,1-Dichloroethane	31	160		2.7	3.7	10 U	1.0 U	0.86 J	4.1 J	28	36	50 U	25 U	50 U
1,1-Dichloroethene	7	7	7	280	15	3.1 J	1.7	1.6	6.8 J	19	39	25 J	8.6 J	15 J
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
1,2-Dichloroethane	5	5	5	0.17	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
1,2-Dichloropropane	5	5	5	0.44	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	200 U	2000 U	200 U	200 U	2000 U	1000 U	5000 U	10000 U	5000 U	10000 U
2-Butanone	4000	4000		5600	5.0 U	50 U	5.0 U	5.0 U	50 U	25 U	130 U	250 U	130 U	250 U
2-Hexanone	11	44		38	5.0 U	50 U	5.0 U	5.0 U	50 U	25 U	130 U	250 U	130 U	250 U
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U	50 U	5.0 U	5.0 U	50 U	25 U	130 U	250 U	130 U	250 U
Acetone	33000	92000		14000	5.0 U	50 U	5.0 U	5.0 U	50 U	25 U	130 U	250 U	130 U	250 U
Acrylonitrile	0.72	3.7		0.052	20 U	200 U	20 U	20 U	200 U	100 U	500 U	1000 U	500 U	1000 U
Benzene	5	5	5	0.45	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
Bromochloromethane	90	90		83	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
Bromodichloromethane	80	80		0.13	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
Bromoform	80	80		9.2	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
Bromomethane	10	10		7.5	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
Carbon Disulfide	1500	6200		810	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
Carbon Tetrachloride	5	5	5	0.45	0.44 J	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
Chlorobenzene	100	100	100	78	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
Chlorodibromomethane	80	80		0.17	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
Chloroethane	230	900		21000	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
Chloroform	80	80		0.22	0.60 J	10 U	1.0 U	1.0 U	10 U	1.1 J	25 U	50 U	25 U	50 U
Chloromethane				190	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
cis-1,2-Dichloroethene	70	70	70	36	180	93	52	50	2100	1300	370	160	200	200
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
Ethylbenzene	700	700	700	1.5	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
Methylene chloride	5	5		11	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	17 J	50 U	25 U	50 U
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
Tetrachloroethene	5	5	5	11	160	39	0.99 J	0.97 J	290	1600	430	500	580	820
Toluene	1000	1000	1000	1100	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
trans-1,2-Dichloroethene	100	100	100	360	0.48 J	10 U	0.17 J	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U	50 U
Trichloroethene	5	5	5	0.49	150	57	32	23	330	610	510	210	290	400
Vinyl Chloride	2	2	2	0.019	1.0 U	10 U	1.0 U	0.34 J	10 U	5 U	25 U	50 U	25 U	50 U
Xylenes (Total)	10000	10000	10000	190	3.0 U	30 U	3.0 U	3.0 U	30 U	15 U	75 U	150 U	75 U	150 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-1.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-20 8/5/2014	CW-20 9/10/2014	CW-20 10/8/2014	CW-20 10/31/2014	Liftstation 10/23/2014
1,4 Dioxane									
1,4-Dioxane	6.4	32		0.78					
Alkalinity									
ALKALINITY, BICARBONATE					210000 B	240000 B	230000 B	240000 B	
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	
ALKALINITY, TOTAL					210000 B	240000 B	230000 B	240000 B	
Anions									
Chloride		250000			150000	150000 B	160000 B	170000	
Nitrate As N	10000	10000	10000	32000	3900	3700	3700	3600	
Sulfate					31000	28000 B	29000 B	31000	
Sulfide, Total									
Cyanide									
Cyanide, Free	200	200	200	1.5					
Cyanide, Total	200	200		1.5					
METAL									
Calcium					88000	95000 B	91000	96000 B	
Ferric Iron									
FERROUS IRON									
Hexavalent Chromium	100	100		0.035					
Magnesium					19000	22000	17000	18000	
Potassium					8500	6500	6000 B	6100	
Sodium					60000	58000	49000 B	51000 B	
METAL (Dissolved)									
Calcium									
Ferric Iron									
Hexavalent Chromium	100	100		0.035					
Iron			300	14000					
Magnesium									
Manganese	300	300	50	430					
Potassium									
Sodium									
Other									
Carbon Dioxide									
Ethane									
Ethene									
Methane									
Other (Dissolved)									
Dissolved Organic Carbon									
TOTAL VOC									
TOTAL VOC					2760	1590	1631	1900	
Volatile Organic Compound									
1,1,1,2-Tetrachloroethane	70	70		0.57	50 U	50 U	50 U	50 U	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	93	140	150	180	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	50 U	50 U	50 U	50 U	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	50 U	50 U	50 U	50 U	1.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-1.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-20 8/5/2014	CW-20 9/10/2014	CW-20 10/8/2014	CW-20 10/31/2014	Liftstation 10/23/2014
1,1-Dichloroethane	31	160		2.7	13 J	40 J	41 J	57	1.0 U
1,1-Dichloroethene	7	7	7	280	25 J	30 J	40 J	38 J	1.0 U
1,2,4-Trimethylbenzene	15	62		15					
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	50 U	50 U	50 U	50 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	50 U	50 U	50 U	50 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	50 U	50 U	50 U	50 U	1.0 U
1,3,5-Trimethylbenzene	13	53		120					
1,4-Dioxane	6.4	32		0.78	10000 U	10000 U	10000 U	10000 U	200 U
2-Butanone	4000	4000		5600	250 U	250 U	250 U	250 U	5.0 U
2-Hexanone	11	44		38	250 U	250 U	250 U	250 U	5.0 U
4-Methyl-2-Pentanone	2900	8200		1200	250 U	250 U	250 U	250 U	5.0 U
Acetone	33000	92000		14000	250 U	250 U	250 U	250 U	5.0 U
Acrylonitrile	0.72	3.7		0.052	1000 U	1000 U	1000 U	1000 U	20 U
Benzene	5	5	5	0.45	50 U	50 U	50 U	50 U	1.0 U
Bromochloromethane	90	90		83	50 U	50 U	50 U	50 U	1.0 U
Bromodichloromethane	80	80		0.13	50 U	50 U	50 U	50 U	1.0 U
Bromoform	80	80		9.2	50 U	50 U	50 U	50 U	1.0 U
Bromomethane	10	10		7.5	50 U	50 U	50 U	50 U	1.0 U
Carbon Disulfide	1500	6200		810	50 U	50 U	50 U	50 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	50 U	50 U	50 U	50 U	1.0 U
Chlorobenzene	100	100	100	78	50 U	50 U	50 U	50 U	1.0 U
Chlorodibromomethane	80	80		0.17	50 U	50 U	50 U	50 U	1.0 U
Chloroethane	230	900		21000	50 U	50 U	50 U	50 U	1.0 U
Chloroform	80	80		0.22	50 U	50 U	50 U	50 U	1.0 U
Chloromethane				190	50 U	50 U	50 U	50 U	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	190	410	460	600	1.0 U
cis-1,3-Dichloropropene	6.6	26		0.47	50 U	50 U	50 U	50 U	1.0 U
Ethylbenzene	700	700	700	1.5	50 U	50 U	50 U	50 U	1.0 U
Isopropylbenzene	840	3500		450					1.0 U
Methyl tert-butyl ether	20	20		14	50 U	50 U	50 U	50 U	1.0 U
Methylene chloride	5	5		11	29 J	50 U	50 U	65	1.0 U
Naphthalene	100	100		0.17					1.0 U
Styrene	100	100	100	1200	50 U	50 U	50 U	50 U	1.0 U
Tetrachloroethene	5	5	5	11	1700	500	410	460	1.0 U
Toluene	1000	1000	1000	1100	50 U	50 U	50 U	50 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	50 U	50 U	50 U	50 U	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	50 U	50 U	50 U	50 U	1.0 U
Trichloroethene	5	5	5	0.49	710	470	530	500	1.0 U
Vinyl Chloride	2	2	2	0.019	50 U	50 U	50 U	50 U	1.0 U
Xylenes (Total)	10000	10000	10000	190	150 U	150 U	150 U	150 U	3.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

TABLE A-2
WATER QUALITY ANALYSES
PACKED TOWER AERATOR SAMPLES (January 1, 2014 - December 31, 2014)
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

Sample ID		Outfall #003 GWTS	Outfall #003 GWTS	Outfall #003 GWTS	Outfall #003 GWTS
Lab ID		1005427001	1020560001	1036127001	1054796001
Sample Date		1/23/2014	4/10/2014	7/8/2014	12/4/2014
Parameter	Units	Result	Result	Result	Result
1,1-DICHLOROETHENE	µg/l	N.D.@1	N.D.@1	N.D.@1	N.D.@1
TETRACHLOROETHENE	µg/l	N.D.@1	N.D.@1	N.D.@1	N.D.@1
TRICHLOROETHENE	µg/l	N.D.@1	N.D.@1	N.D.@1	N.D.@1
METHYLENE CHLORIDE	µg/l	N.D.@1	N.D.@1	N.D.@1	N.D.@1
VINYL CHLORIDE	µg/l	N.D@2	N.D.@2	N.D.@2	N.D.@2
TOTAL VOCs	µg/l	0	0	0	0

Sample ID		Influent to #003 GWTS	Influent to #003 GWTS	Influent to #003 GWTS	Influent to #003 GWTS
Lab ID		1005428001	1020559001	103612001	1054795001
Sample Date		1/23/2014	4/10/2014	7/8/2014	12/4/2014
Parameter	Units	Result	Result	Result	Result
1,1,1-TRICHLOROETHANE	µg/l	51.3	65.7	76.2	3.5
1,1-DICHLOROETHANE	µg/l	N.D.@5	18	12.5	N.D.@1
1,1-DICHLOROETHENE	µg/l	11.8	19.5	17.9	1.3
1,2-DICHLOROETHANE	µg/l	N.D.@5	N.D.@1	N.D.@1	N.D.@1
CHLOROBENZENE	µg/l	N.D.@5	N.D.@1	N.D.@1	N.D.@1
CHLOROFORM	µg/l	N.D.@5	N.D.@1	N.D.@1	N.D.@1
METHYLENE CHLORIDE	µg/l	N.D.@5	N.D.@1	N.D.@1	N.D.@1
TETRACHLOROETHENE	µg/l	273	825	1330	5.2
TRICHLOROETHENE	µg/l	191	421	504	5
VINYL CHLORIDE	µg/l	N.D.@5	N.D.@1	N.D.@1	N.D.@1
CIS 1,2-DICHLOROETHENE	µg/l	163	287	235	8.2
TRANS 1,2-DICHLOROETHENE	µg/l	N.D.@5	1.1	N.D.@1	N.D.@1
TOTAL VOCs	µg/l	690	1637	2176	23

All Analysis Performed by ALS ENVIRONMENTAL - MIDDLETOWN, PA (Formerly ALSI of Middletown, PA)

µg/l - micrograms per liter
N.D.@1 - not detected at indicated concentration
PTA Infl. - Official sample name is "influent to #003 GWTS"
PTA Effl. - Official sample name is "outfall #003 GWTS"

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	GM-1D 10/21/2014	MW-2 10/14/2014	MW-3 10/14/2014	MW-7 10/7/2014	MW-7 10/29/2014	MW-9 10/16/2014	MW-11 10/16/2014	MW-12 10/17/2014	MW-16D 10/16/2014
1,4 Dioxane													
1,4-Dioxane	6.4	32		0.78					7.2				
Alkalinity													
ALKALINITY, BICARBONATE							10000 B	270000 B	270000 B	80000 B		32000 B	
ALKALINITY, CARBONATE							5000 U	5000 U	5000 U	5000 U		5000 U	
ALKALINITY, TOTAL							10000 B	270000 B	270000 B	80000 B		32000 B	
Anions													
Chloride		250000					28000	280000 B	260000 B	89000		3000	
Nitrate As N	10000	10000	10000	32000			5500	5200	6700 B	6.3 J		570	
Sulfate							1200	37000 B	39000 B	13000		13000	
Sulfide, Total							3000 UJ		3000 U	3000 U		3000 U	
Cyanide													
Cyanide, Free	200	200	200	1.5		2 U							
Cyanide, Total	200	200		1.5		590							
METAL													
Calcium								140000 B	150000 B				
Ferric Iron							100 U		100 U	1000		730	
FERROUS IRON							50 U		50 U	12000 HF		370 HF	
Hexavalent Chromium	100	100		0.035					95				
Magnesium								20000	18000 B				
Potassium								48000	42000				
Sodium								69000 B	63000				
METAL (Dissolved)													
Calcium							7000 B		140000 B	28000 B		10000	
Ferric Iron													
Hexavalent Chromium	100	100		0.035					110				
Iron			300	14000			50 U		50 U	13000		1100	
Magnesium							4100		18000 B	12000		4400 B	
Manganese	300	300	50	430			5.9 B		140 B	1300 B		510	
Potassium							3900		41000	2000		1100	
Sodium							11000 B		62000	23000 B		5200 B	
Other													
Carbon Dioxide							22000		9100 J	9700		8400	
Ethane							0.50 U		0.50 U	0.50 U		0.50 U	
Ethene							0.50 U		0.50 U	0.50 U		0.50 U	
Methane							0.11 J		0.16 J	23		0.93	
Other (Dissolved)													
Dissolved Organic Carbon							600 J		1500	710 J		480 J	
TOTAL VOC													
TOTAL VOC					10.2	77.8	34.91	1455.7	459.9	71.22	4.05	142.4	18.4
Volatile Organic Compound													
1,1,1,2-Tetrachloroethane	70	70		0.57	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	1 U	1.0 U	1.0 U	34	10	1.0 UJ	1.0 U	1.0 UJ	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	GM-1D 10/21/2014	MW-2 10/14/2014	MW-3 10/14/2014	MW-7 10/7/2014	MW-7 10/29/2014	MW-9 10/16/2014	MW-11 10/16/2014	MW-12 10/17/2014	MW-16D 10/16/2014
1,1-Dichloroethane	31	160		2.7	1 U	1.0 U	1.0 U	12 J	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
1,1-Dichloroethene	7	7	7	280	1 U	1.0 U	1.0 U	33	9.9 J	1.0 UJ	1.0 U	1.0 UJ	1.0 U
1,2,4-Trimethylbenzene	15	62		15									
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
1,2-Dichloroethane	5	5	5	0.17	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
1,2-Dichloropropane	5	5	5	0.44	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
1,3,5-Trimethylbenzene	13	53		120									
1,4-Dioxane	6.4	32		0.78	200 U	200 U	200 U	5000 U	2000 U	200 UJ	200 U	200 UJ	200 U
2-Butanone	4000	4000		5600	5 U	5.0 U	5.0 U	130 U	50 U	5.0 UJ	5.0 U	5.0 UJ	5.0 U
2-Hexanone	11	44		38	5 U	5.0 U	5.0 U	130 U	50 U	5.0 UJ	5.0 U	5.0 UJ	5.0 U
4-Methyl-2-Pentanone	2900	8200		1200	5 U	5.0 U	5.0 U	130 U	50 U	5.0 UJ	5.0 U	5.0 UJ	5.0 U
Acetone	33000	92000		14000	5 U	5.0 U	5.0 U	130 U	50 U	5.0 UJ	5.0 U	5.0 UJ	5.0 U
Acrylonitrile	0.72	3.7		0.052	20 U	20 U	20 U	500 U	200 U	20 UJ	20 U	20 UJ	20 U
Benzene	5	5	5	0.45	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Bromochloromethane	90	90		83	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Bromodichloromethane	80	80		0.13	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Bromoform	80	80		9.2	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Bromomethane	10	10		7.5	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Carbon Disulfide	1500	6200		810	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Carbon Tetrachloride	5	5	5	0.45	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Chlorobenzene	100	100	100	78	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Chlorodibromomethane	80	80		0.17	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Chloroethane	230	900		21000	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Chloroform	80	80		0.22	1 U	1.0 U	2.6	25 U	10 U	1.0 UJ	0.41 J	1.0 UJ	1.0 U
Chloromethane				190	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	1 U	1.0 U	0.75 J	470	150	30 J	1.0 U	47 J	3.4
cis-1,3-Dichloropropene	6.6	26		0.47	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Ethylbenzene	700	700	700	1.5	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Isopropylbenzene	840	3500		450									
Methyl tert-butyl ether	20	20		14	1 U	1.0 U	0.23 J	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Methylene chloride	5	5		11	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Naphthalene	100	100		0.17									
Styrene	100	100	100	1200	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Tetrachloroethene	5	5	5	11	9.7	69	0.33 J	380	130	0.22 J	0.24 J	5.4 J	1.0 U
Toluene	1000	1000	1000	1100	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	1 U	1.0 U	1.0 U	25 U	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Trichloroethene	5	5	5	0.49	0.5 J	8.8	31	520	160	41 J	3.4	90 J	15
Vinyl Chloride	2	2	2	0.019	1 U	1.0 U	1.0 U	6.7 J	10 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Xylenes (Total)	10000	10000	10000	190	3 U	3.0 U	3.0 U	75 U	30 U	3.0 UJ	3.0 U	3.0 UJ	3.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-16S 10/22/2014	MW-18D 10/23/2014	MW-18S 10/23/2014	MW-20D 10/23/2014	MW-20M 10/29/2014	MW-20S 10/17/2014	MW-29 10/28/2014	MW-37D 10/6/2014	MW-37D 10/28/2014	MW-37S 10/6/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78										
Alkalinity														
ALKALINITY, BICARBONATE						150000 B	160000 B					210000 B	200000 B	260000 B
ALKALINITY, CARBONATE						5000 U	5000 U					5000 U	5000 U	5000 U
ALKALINITY, TOTAL						150000 B	160000 B					210000 B	200000 B	260000 B
Anions														
Chloride		250000				9500	9900					160000 B	170000	140000 B
Nitrate As N	10000	10000	10000	32000		100 U	100 U					4100	4600	3900
Sulfate						18000	20000					31000 B	34000	31000 B
Sulfide, Total						3000 U	3000 U							
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium												91000 B	96000 B	87000 B
Ferric Iron						900	90 J							
FERROUS IRON						2800 HF	110 HF							
Hexavalent Chromium	100	100		0.035										
Magnesium												19000	20000	21000
Potassium												8700	11000	19000
Sodium												49000	55000 B	46000
METAL (Dissolved)														
Calcium						45000	46000							
Ferric Iron														
Hexavalent Chromium	100	100		0.035										
Iron			300	14000		3700	200							
Magnesium						13000	19000							
Manganese	300	300	50	430		370 B	390 B							
Potassium						1500 B	1600 B							
Sodium						10000 B	14000 B							
Other														
Carbon Dioxide						5500	1400							
Ethane						0.50 U	0.50 U							
Ethene						0.50 U	0.50 U							
Methane						1.3	3.5							
Other (Dissolved)														
Dissolved Organic Carbon						580 J	1200							
TOTAL VOC														
TOTAL VOC					157.3	22.68	12.84	0.34	0.85	119.1	4.5	1260	967.2	652
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
1,1,1-Trichloroethane	200	200	200	8000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	120	67	29
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-16S 10/22/2014	MW-18D 10/23/2014	MW-18S 10/23/2014	MW-20D 10/23/2014	MW-20M 10/29/2014	MW-20S 10/17/2014	MW-29 10/28/2014	MW-37D 10/6/2014	MW-37D 10/28/2014	MW-37S 10/6/2014
1,1-Dichloroethane	31	160		2.7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	30	22	8.3 J
1,1-Dichloroethene	7	7	7	280	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	30	20	6.7 J
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
1,2-Dichloroethane	5	5	5	0.17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
1,2-Dichloropropane	5	5	5	0.44	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	200 U	200 U	200 U	200 U	200 U	200 UJ	200 U	5000 U	1000 U	4000 U
2-Butanone	4000	4000		5600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	130 U	25 U	100 U
2-Hexanone	11	44		38	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	130 U	25 U	100 U
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	130 U	25 U	100 U
Acetone	33000	92000		14000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	4.5 J	130 U	25 U	100 U
Acrylonitrile	0.72	3.7		0.052	20 U	20 U	20 U	20 U	20 U	20 UJ	20 U	500 U	100 U	400 U
Benzene	5	5	5	0.45	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Bromochloromethane	90	90		83	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Bromodichloromethane	80	80		0.13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Bromoform	80	80		9.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Bromomethane	10	10		7.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Carbon Disulfide	1500	6200		810	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Carbon Tetrachloride	5	5	5	0.45	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	8.2	20 U
Chlorobenzene	100	100	100	78	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Chlorodibromomethane	80	80		0.17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Chloroethane	230	900		21000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Chloroform	80	80		0.22	1.0 U	1.0 U	1.0 U	0.34 J	1.0 U	1.7 J	1.0 U	25 U	5 U	20 U
Chloromethane				190	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
cis-1,2-Dichloroethene	70	70	70	36	38	14	7	1.0 U	1.0 U	1.6 J	1.0 U	350	300	150
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Ethylbenzene	700	700	700	1.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Methylene chloride	5	5		11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Tetrachloroethene	5	5	5	11	110	1.0 U	1.0 U	1.0 U	1.0 U	5.8 J	1.0 U	350	350	370
Toluene	1000	1000	1000	1100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
trans-1,2-Dichloroethene	100	100	100	360	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Trichloroethene	5	5	5	0.49	9.3	8.1	5.5	1.0 U	0.85 J	110 J	1.0 U	380	200	88
Vinyl Chloride	2	2	2	0.019	1.0 U	0.58 J	0.34 J	1.0 U	1.0 U	1.0 UJ	1.0 U	25 U	5 U	20 U
Xylenes (Total)	10000	10000	10000	190	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 U	75 U	15 U	60 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-37S 10/29/2014	MW-39D 10/7/2014	MW-39D 10/30/2014	MW-40D 10/23/2014	MW-40S 10/23/2014	MW-43D 10/23/2014	MW-43S 10/23/2014	MW-47 10/24/2014	MW-49D 10/23/2014	MW-49S 10/29/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78										16
Alkalinity														
ALKALINITY, BICARBONATE					280000 B	270000 B	290000 B						280000 B	
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U						5000 U	
ALKALINITY, TOTAL					280000 B	270000 B	290000 B						280000 B	
Anions														
Chloride		250000			160000 B	110000 B	130000 B						95000	
Nitrate As N	10000	10000	10000	32000	4500 B	4000	4300 B						100 U	
Sulfate					34000 B	39000 B	41000 B						160000	
Sulfide, Total													3000 U	
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium					100000 B	120000 B	120000							
Ferric Iron													280	
FERROUS IRON													330 HF	
Hexavalent Chromium	100	100		0.035								2200	10 U	
Magnesium					23000 B	16000	14000 B							
Potassium					24000	7100	8300 B							
Sodium					47000	31000 B	31000 B							
METAL (Dissolved)														
Calcium													160000	
Ferric Iron														
Hexavalent Chromium	100	100		0.035								2500	10 U	
Iron			300	14000									610	
Magnesium													54000	
Manganese	300	300	50	430									42 B	
Potassium													2600 B	
Sodium													32000 B	
Other														
Carbon Dioxide													11000	
Ethane													0.33 J	
Ethene													2.1	
Methane													1.3	
Other (Dissolved)														
Dissolved Organic Carbon													1000	
TOTAL VOC														
TOTAL VOC					283.5	252.04	226.62	1.1	0	25.7	0.57	0.22	10537	12470
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
1,1,1-Trichloroethane	200	200	200	8000	7.3	4.9	4.7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1300	1600
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.21 J	500 U
1,1,2-Trichloroethane	5	5	5	0.28	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.33 J	500 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-37S 10/29/2014	MW-39D 10/7/2014	MW-39D 10/30/2014	MW-40D 10/23/2014	MW-40S 10/23/2014	MW-43D 10/23/2014	MW-43S 10/23/2014	MW-47 10/24/2014	MW-49D 10/23/2014	MW-49S 10/29/2014
1,1-Dichloroethane	31	160		2.7	2.3	1.4 J	1.4 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	930	1200 *
1,1-Dichloroethene	7	7	7	280	1.9 J	2.2 J	2.6 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	240	340 J
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
1,2-Dichloroethane	5	5	5	0.17	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.25 J	500 U
1,2-Dichloropropane	5	5	5	0.44	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	400 U	600 U	600 U	200 U	200 U	200 U	200 U	200 U	200 U	100000 U
2-Butanone	4000	4000		5600	10 U	15 U	15 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2500 U
2-Hexanone	11	44		38	10 U	15 U	15 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2500 U
4-Methyl-2-Pentanone	2900	8200		1200	10 U	15 U	15 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2500 U
Acetone	33000	92000		14000	10 U	15 U	15 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	46	2500 U
Acrylonitrile	0.72	3.7		0.052	40 U	60 U	60 U	20 U	20 U	20 U	20 U	20 U	20 U	10000 U
Benzene	5	5	5	0.45	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.19 J	500 U
Bromochloromethane	90	90		83	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
Bromodichloromethane	80	80		0.13	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
Bromoform	80	80		9.2	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
Bromomethane	10	10		7.5	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
Carbon Disulfide	1500	6200		810	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.48 J	500 U
Carbon Tetrachloride	5	5	5	0.45	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
Chlorobenzene	100	100	100	78	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
Chlorodibromomethane	80	80		0.17	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
Chloroethane	230	900		21000	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3	500 U
Chloroform	80	80		0.22	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
Chloromethane				190	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
cis-1,2-Dichloroethene	70	70	70	36	40	89	77	1.0 U	1.0 U	6.1	1.0 U	1.0 U	4800	7000
cis-1,3-Dichloropropene	6.6	26		0.47	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
Ethylbenzene	700	700	700	1.5	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
Methylene chloride	5	5		11	2.0 U	3.0 U	0.92 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.17 J	500 U
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
Tetrachloroethene	5	5	5	11	210	54	50	1.0 U	1.0 U	7.6	0.40 J	1.0 U	380	330 J
Toluene	1000	1000	1000	1100	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.15 J	500 U
trans-1,2-Dichloroethene	100	100	100	360	2.0 U	0.54 J	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.9	500 U
trans-1,3-Dichloropropene	6.6	26		0.47	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	500 U
Trichloroethene	5	5	5	0.49	22	100	90	1.1	1.0 U	12	0.17 J	0.22 J	2800	2000
Vinyl Chloride	2	2	2	0.019	2.0 U	3.0 U	3.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	30	500 U
Xylenes (Total)	10000	10000	10000	190	6.0 U	9.0 U	9.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1500 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-50D 10/8/2014	MW-50D 10/29/2014	MW-50S 10/9/2014	MW-50S 10/30/2014	MW-51D 10/9/2014	MW-51D 10/30/2014	MW-51S 10/8/2014	MW-51S 10/29/2014	MW-57 10/16/2014	MW-64D 10/22/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78										
Alkalinity														
ALKALINITY, BICARBONATE					290000 B	250000 B	190000 B	210000 B	240000 B	270000 B	220000 B	240000 B		190000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U		5000 U
ALKALINITY, TOTAL					290000 B	250000 B	190000 B	210000 B	240000 B	270000 B	220000 B	240000 B		190000 B
Anions														
Chloride		250000			94000 B	99000 B	180000 B	220000 B	150000 B	220000 B	180000 B	200000 B		6000
Nitrate As N	10000	10000	10000	32000	100 U	100 U	2400	2800 B	1200	1000 B	2800	3000 B		3800
Sulfate					230000	260000 B	61000	72000 B	59000	72000 B	68000 B	68000 B		1400
Sulfide, Total										3000 U		3000 U		3000 U
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium					150000	150000 B	140000	130000 B	95000	150000 B	130000	130000 B		
Ferric Iron										100 U		100 U		100 U
FERROUS IRON										50 U		50 U		50 U
Hexavalent Chromium	100	100		0.035						10 UJ		140		
Magnesium					46000	45000 B	15000	14000 B	28000	27000 B	15000	15000 B		
Potassium					2300 B	2200	9800 B	9600	34000 B	68000	10000 B	10000		
Sodium					16000 B	16000	63000 B	57000 B	57000 B	100000 B	50000 B	50000		
METAL (Dissolved)														
Calcium										83000 B		130000 B		74000
Ferric Iron														
Hexavalent Chromium	100	100		0.035						10 UJ		140		
Iron			300	14000						50 U		50 U		7.8 J
Magnesium										26000 B		15000 B		4700
Manganese	300	300	50	430						18 B		75 B		1.0 J
Potassium										57000		10000		3100 B
Sodium										86000 B		51000		7700 B
Other														
Carbon Dioxide										2300		14000 J		2700
Ethane										0.50 U		0.50 U		0.50 U
Ethene										0.34 J		0.63		0.50 U
Methane										0.66 B		1		0.50 U
Other (Dissolved)														
Dissolved Organic Carbon										1200		1600		340 J
TOTAL VOC														
TOTAL VOC					9897	12482	1806.9	1638.6	1798.9	1593	2402	3041	120.58	26.4
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	18 J	21 J	160	140	34 J	30	200	310	0.38 J	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-50D 10/8/2014	MW-50D 10/29/2014	MW-50S 10/9/2014	MW-50S 10/30/2014	MW-51D 10/9/2014	MW-51D 10/30/2014	MW-51S 10/8/2014	MW-51S 10/29/2014	MW-57 10/16/2014	MW-64D 10/22/2014
1,1-Dichloroethane	31	160		2.7	750	1000	9.9 J	8.6 J	68	62	18 J	21 J	1.2	1.0 U
1,1-Dichloroethene	7	7	7	280	260	390	45 J	37 J	130	120	74	100	18	1.0 U
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	8000 U	8000 U	10000 U	10000 U	10000 U	5000 U	10000 U	10000 U	200 U	200 U
2-Butanone	4000	4000		5600	200 U	200 U	250 U	250 U	250 U	130 U	250 U	250 U	5.0 U	5.0 U
2-Hexanone	11	44		38	200 U	200 U	250 U	250 U	250 U	130 U	250 U	250 U	5.0 U	5.0 U
4-Methyl-2-Pentanone	2900	8200		1200	200 U	200 U	250 U	250 U	250 U	130 U	250 U	250 U	5.0 U	5.0 U
Acetone	33000	92000		14000	200 U	200 U	250 U	250 U	250 U	130 U	250 U	250 U	5.0 U	5.0 U
Acrylonitrile	0.72	3.7		0.052	800 U	800 U	1000 U	1000 U	1000 U	500 U	1000 U	1000 U	20 U	20 U
Benzene	5	5	5	0.45	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Bromochloromethane	90	90		83	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Bromodichloromethane	80	80		0.13	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Bromoform	80	80		9.2	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Bromomethane	10	10		7.5	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Carbon Disulfide	1500	6200		810	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Chlorobenzene	100	100	100	78	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Chlorodibromomethane	80	80		0.17	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Chloroethane	230	900		21000	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Chloroform	80	80		0.22	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Chloromethane				190	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	4900	6100	800	720	500	470	880	990	30	1.0 U
cis-1,3-Dichloropropene	6.6	26		0.47	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Ethylbenzene	700	700	700	1.5	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Methylene chloride	5	5		11	40 U	40 U	12 J	33 J	7.9 J	18 J	50 U	50 U	1.0 U	1.0 U
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Tetrachloroethene	5	5	5	11	340	530	220	200	59	53	520	700	5	19
Toluene	1000	1000	1000	1100	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	40 U	40 U	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Trichloroethene	5	5	5	0.49	3600	4400	560	500	1000	840	710	920	66	7.4
Vinyl Chloride	2	2	2	0.019	29 J	41	50 U	50 U	50 U	25 U	50 U	50 U	1.0 U	1.0 U
Xylenes (Total)	10000	10000	10000	190	120 U	120 U	150 U	150 U	150 U	75 U	150 U	150 U	3.0 U	3.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-74S 10/7/2014	MW-74S 10/30/2014	MW-75D 10/7/2014	MW-75D 10/29/2014	MW-75S 10/6/2014	MW-75S 10/29/2014	MW-77 10/17/2014	MW-82 10/23/2014	MW-82 Dup 10/23/2014	MW-85 10/24/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78										
Alkalinity														
ALKALINITY, BICARBONATE					250000 B	260000 B	220000 B	180000 B	210000 B	200000 B				
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U				
ALKALINITY, TOTAL					250000 B	260000 B	220000 B	180000 B	210000 B	200000 B				
Anions														
Chloride		250000			160000 B	180000 B	150000 B	170000 B	150000 B	170000 B				
Nitrate As N	10000	10000	10000	32000	3400	3400 B	3300	3700 B	3800	4100 B				
Sulfate					54000 B	58000 B	28000 B	30000 B	32000 B	32000 B				
Sulfide, Total														
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium					130000 B	130000 B	93000 B	100000 B	88000 B	91000 B				
Ferric Iron														
FERROUS IRON														
Hexavalent Chromium	100	100		0.035										
Magnesium					17000	14000 B	20000	18000 B	19000	18000 B				
Potassium					9100	8000	6600	6300	7600	7900				
Sodium					58000 B	48000 B	50000 B	48000	55000	53000				
METAL (Dissolved)														
Calcium														
Ferric Iron														
Hexavalent Chromium	100	100		0.035										
Iron			300	14000										
Magnesium														
Manganese	300	300	50	430										
Potassium														
Sodium														
Other														
Carbon Dioxide														
Ethane														
Ethene														
Methane														
Other (Dissolved)														
Dissolved Organic Carbon														
TOTAL VOC														
TOTAL VOC					936.3	1354.9	2112.2	1945	8875	8386	1748.8	32.19	30.39	0
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	98	220	170	200	83	120	5.0 UJ	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-74S 10/7/2014	MW-74S 10/30/2014	MW-75D 10/7/2014	MW-75D 10/29/2014	MW-75S 10/6/2014	MW-75S 10/29/2014	MW-77 10/17/2014	MW-82 10/23/2014	MW-82 Dup 10/23/2014	MW-85 10/24/2014
1,1-Dichloroethane	31	160		2.7	14 J	25 U	50	56	50 U	50 U	5.0 UJ	0.58 J	1.0 U	1.0 U
1,1-Dichloroethene	7	7	7	280	40	86	45 J	49 J	22 J	26 J	5.0 UJ	0.41 J	0.39 J	1.0 U
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	5000 U	5000 U	10000 U	10000 U	10000 U	10000 U	1000 UJ	200 U	200 U	200 U
2-Butanone	4000	4000		5600	130 U	130 U	250 U	250 U	250 U	250 U	25 UJ	5.0 U	5.0 U	5.0 U
2-Hexanone	11	44		38	130 U	130 U	250 U	250 U	250 U	250 U	25 UJ	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone	2900	8200		1200	130 U	130 U	250 U	250 U	250 U	250 U	25 UJ	5.0 U	5.0 U	5.0 U
Acetone	33000	92000		14000	130 U	130 U	250 U	250 U	250 U	250 U	25 UJ	5.0 U	5.0 U	5.0 U
Acrylonitrile	0.72	3.7		0.052	500 U	500 U	1000 U	1000 U	1000 U	1000 U	100 UJ	20 U	20 U	20 U
Benzene	5	5	5	0.45	25 U	25 U	50 U	50 U	50 U	50 U	1200 J	1.0 U	1.0 U	1.0 U
Bromochloromethane	90	90		83	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
Bromodichloromethane	80	80		0.13	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
Bromoform	80	80		9.2	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
Bromomethane	10	10		7.5	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
Carbon Disulfide	1500	6200		810	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
Chlorobenzene	100	100	100	78	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	80	80		0.17	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
Chloroethane	230	900		21000	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
Chloroform	80	80		0.22	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
Chloromethane				190	25 U	25 U	50 U	50 U	50 U	50 U	9.8 J	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	250	310	540	620	170	240	5.0 UJ	22	21	1.0 U
cis-1,3-Dichloropropene	6.6	26		0.47	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
Ethylbenzene	700	700	700	1.5	25 U	25 U	50 U	50 U	50 U	50 U	92 J	1.0 U	1.0 U	1.0 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	25 U	25 U	50 U	50 U	50 U	50 U	350 J	1.0 U	1.0 U	1.0 U
Methylene chloride	5	5		11	4.3 J	8.9 J	7.2 J	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	5	5	11	190	200	680	420	7400	6800	5.0 UJ	1.9	1.7	1.0 U
Toluene	1000	1000	1000	1100	25 U	25 U	50 U	50 U	50 U	50 U	45 J	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
Trichloroethene	5	5	5	0.49	340	530	620	600	1200	1200	5.0 UJ	7.3	7.3	1.0 U
Vinyl Chloride	2	2	2	0.019	25 U	25 U	50 U	50 U	50 U	50 U	5.0 UJ	1.0 U	1.0 U	1.0 U
Xylenes (Total)	10000	10000	10000	190	75 U	75 U	150 U	150 U	150 U	150 U	52 J	3.0 U	3.0 U	3.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-87 10/14/2014	MW-88 10/27/2014	MW-93D 10/8/2014	MW-93D 10/28/2014	MW-93S 10/8/2014	MW-93S 10/28/2014	MW-95 10/8/2014	MW-95 10/30/2014	MW-96D 10/8/2014	MW-96D 10/30/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78	16									
Alkalinity														
ALKALINITY, BICARBONATE							180000 B	160000 B	230000 B	190000 B	300000 B	300000 B	260000 B	280000 B
ALKALINITY, CARBONATE							5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL							180000 B	160000 B	230000 B	190000 B	300000 B	300000 B	260000 B	280000 B
Anions														
Chloride		250000					110000 B	97000	130000 B	130000	86000 B	63000	150000 B	170000 B
Nitrate As N	10000	10000	10000	32000			710	310	1500	1700	1200	710	3700	4100 B
Sulfate							27000 B	27000	35000 B	35000	53000 B	50000	52000 B	54000 B
Sulfide, Total														
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium							71000	69000 B	61000	66000 B	120000	120000	120000	130000
Ferric Iron														
FERROUS IRON														
Hexavalent Chromium	100	100		0.035										
Magnesium							14000	13000	16000	17000	9200	7900 B	15000	17000 B
Potassium							5500 B	5500	15000 B	18000	5400 B	5500 B	5800 B	6800 B
Sodium							35000 B	36000 B	59000 B	65000 B	33000 B	30000 B	49000 B	57000 B
METAL (Dissolved)														
Calcium														
Ferric Iron														
Hexavalent Chromium	100	100		0.035										
Iron			300	14000										
Magnesium														
Manganese	300	300	50	430										
Potassium														
Sodium														
Other														
Carbon Dioxide														
Ethane														
Ethene														
Methane														
Other (Dissolved)														
Dissolved Organic Carbon														
TOTAL VOC														
TOTAL VOC					779.7	203.04	832.9	220.7	239.97	183.2	240.71	133.2	516	459.5
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
1,1,1-Trichloroethane	200	200	200	8000	10 J	1 U	12	5.9	4.1	4.3	16	7.8	17	15
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
1,1,2-Trichloroethane	5	5	5	0.28	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

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Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-87 10/14/2014	MW-88 10/27/2014	MW-93D 10/8/2014	MW-93D 10/28/2014	MW-93S 10/8/2014	MW-93S 10/28/2014	MW-95 10/8/2014	MW-95 10/30/2014	MW-96D 10/8/2014	MW-96D 10/30/2014
1,1-Dichloroethane	31	160		2.7	15 U	1 U	5.1 J	1.0 J *	1.0 U	1.6 J *	1.9	1.2	10 U	2.7 J
1,1-Dichloroethene	7	7	7	280	9.1 J	1 U	6.3 J	6.8	0.73 J	4.3	6.3	3.1	9.0 J	7.5 J
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
1,2-Dichloroethane	5	5	5	0.17	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
1,2-Dichloropropane	5	5	5	0.44	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	3000 U	200 R	2000 U	400 U	200 U	400 U	200 U	200 U	2000 U	2000 U
2-Butanone	4000	4000		5600	75 U	5 U	50 U	10 U	5.0 U	10 U	5.0 U	5.0 U	50 U	50 U
2-Hexanone	11	44		38	75 U	5 U	50 U	10 U	5.0 U	10 U	5.0 U	5.0 U	50 U	50 U
4-Methyl-2-Pentanone	2900	8200		1200	75 U	5 U	50 U	10 U	5.0 U	10 U	5.0 U	5.0 U	50 U	50 U
Acetone	33000	92000		14000	75 U	5 U	50 U	10 U	5.0 U	10 U	5.0 U	5.0 U	50 U	50 U
Acrylonitrile	0.72	3.7		0.052	300 U	20 U	200 U	40 U	20 U	40 U	20 U	20 U	200 U	200 U
Benzene	5	5	5	0.45	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
Bromochloromethane	90	90		83	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
Bromodichloromethane	80	80		0.13	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
Bromoform	80	80		9.2	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
Bromomethane	10	10		7.5	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
Carbon Disulfide	1500	6200		810	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
Carbon Tetrachloride	5	5	5	0.45	2.6 J	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.1	10 U	10 U
Chlorobenzene	100	100	100	78	15 U	1 U	10 U	2.0 U	1.6	2.0 U	1.0 U	1.0 U	10 U	10 U
Chlorodibromomethane	80	80		0.17	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
Chloroethane	230	900		21000	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
Chloroform	80	80		0.22	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	0.28 J	1.0 U	10 U	10 U
Chloromethane				190	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
cis-1,2-Dichloroethene	70	70	70	36	500	1.5	300	64	120	53	69	39	140	130
cis-1,3-Dichloropropene	6.6	26		0.47	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
Ethylbenzene	700	700	700	1.5	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
Methylene chloride	5	5		11	5.0 J	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	4.3 J
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
Tetrachloroethene	5	5	5	11	23	0.78 J	230	71	78	56	85	46	140	130
Toluene	1000	1000	1000	1100	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
trans-1,2-Dichloroethene	100	100	100	360	15 U	1 U	1.7 J	2.0 U	0.54 J	2.0 U	0.23 J	1.0 U	10 U	10 U
trans-1,3-Dichloropropene	6.6	26		0.47	15 U	1 U	10 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
Trichloroethene	5	5	5	0.49	230	0.76 J	270	72	35	64	62	35	210	170
Vinyl Chloride	2	2	2	0.019	15 U	1 U	7.8 J	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	10 U	10 U
Xylenes (Total)	10000	10000	10000	190	45 U	3 U	30 U	6.0 U	3.0 U	6.0 U	3.0 U	3.0 U	30 U	30 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

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Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-96S 10/8/2014	MW-96S 10/30/2014	MW-97 10/9/2014	MW-97 10/30/2014	MW-98D 10/29/2014	MW-98I 10/7/2014	MW-98I 10/29/2014	MW-98S 10/7/2014	MW-98S 10/29/2014	MW-99D 10/7/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78										
Alkalinity														
ALKALINITY, BICARBONATE					320000 B	310000 B	230000 B	250000 B	41000 B	280000 B	290000 B	300000 B	300000 B	230000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL					320000 B	310000 B	230000 B	250000 B	41000 B	280000 B	290000 B	300000 B	300000 B	230000 B
Anions														
Chloride		250000			170000 B	180000 B	110000 B	130000 B	1100 B	47000 B	36000 B	54000 B	65000 B	49000 B
Nitrate As N	10000	10000	10000	32000	3900	4400 B	1700 J	1600 B	57 J B	1800	1300 B	1700	2100 B	1500
Sulfate					64000 B	62000 B	29000	33000 B	12000 B	40000 B	28000 B	41000 B	46000 B	19000 B
Sulfide, Total											3000 U		3000 U	
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium					130000	140000	94000	93000	7500 B	100000 B	110000 B	110000 B	120000 B	88000 B
Ferric Iron											100 U		100 U	
FERROUS IRON											50 U		50 U	
Hexavalent Chromium	100	100		0.035										
Magnesium					18000	20000 B	19000	17000 B	3600 B	12000	11000 B	12000	11000 B	13000
Potassium					7100 B	8200 B	7800 B	8200 B	2500	3000	3200	3000	3300	5100
Sodium					62000 B	68000 B	39000 B	37000 B	3000	19000 B	20000	22000 B	23000	18000 B
METAL (Dissolved)														
Calcium											110000 B		120000 B	
Ferric Iron											50 U			
Hexavalent Chromium	100	100		0.035										
Iron			300	14000							50 U		50 U	
Magnesium											11000 B		12000 B	
Manganese	300	300	50	430							24 B		0.17 J B	
Potassium											3200		3300	
Sodium											20000		24000	
Other														
Carbon Dioxide											12000 J		14000 J	
Ethane											0.50 U		0.50 U	
Ethene											0.50 U		0.50 U	
Methane											0.14 J		0.085 J	
Other (Dissolved)														
Dissolved Organic Carbon											1100		1100	
TOTAL VOC														
TOTAL VOC					476	387.7	913.09	776.66	0	72.65	110.68	99.17	144.3	152.6
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
1,1,1-Trichloroethane	200	200	200	8000	11	8.5 J	6.4	5.1	1.0 U	4.6	7.1	6.6	9.1	13
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
1,1,2-Trichloroethane	5	5	5	0.28	10 U	10 U	0.84 J	0.93 J	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-96S 10/8/2014	MW-96S 10/30/2014	MW-97 10/9/2014	MW-97 10/30/2014	MW-98D 10/29/2014	MW-98I 10/7/2014	MW-98I 10/29/2014	MW-98S 10/7/2014	MW-98S 10/29/2014	MW-99D 10/7/2014
1,1-Dichloroethane	31	160		2.7	10 U	10 U	4.1	4.1	1.0 U	0.65 J	0.98 J	0.77 J	1.1 J	3.4 J
1,1-Dichloroethene	7	7	7	280	5.0 J	3.5 J	4.6	4.7	1.0 U	1.4	2.6	1.8	3.1	7.2
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
1,2-Dichloroethane	5	5	5	0.17	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
1,2-Dichloropropane	5	5	5	0.44	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	2000 U	2000 U	500 U	500 U	200 U	200 U	200 U	200 U	400 U	1000 U
2-Butanone	4000	4000		5600	50 U	50 U	13 U	13 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	25 U
2-Hexanone	11	44		38	50 U	50 U	13 U	13 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	25 U
4-Methyl-2-Pentanone	2900	8200		1200	50 U	50 U	13 U	13 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	25 U
Acetone	33000	92000		14000	50 U	50 U	13 U	13 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	25 U
Acrylonitrile	0.72	3.7		0.052	200 U	200 U	50 U	50 U	20 U	20 U	20 U	20 U	40 U	100 U
Benzene	5	5	5	0.45	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Bromochloromethane	90	90		83	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Bromodichloromethane	80	80		0.13	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Bromoform	80	80		9.2	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Bromomethane	10	10		7.5	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Carbon Disulfide	1500	6200		810	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Carbon Tetrachloride	5	5	5	0.45	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Chlorobenzene	100	100	100	78	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Chlorodibromomethane	80	80		0.17	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Chloroethane	230	900		21000	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Chloroform	80	80		0.22	10 U	10 U	0.45 J	0.43 J	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Chloromethane				190	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
cis-1,2-Dichloroethene	70	70	70	36	110	92	310	300	1.0 U	22	34	28	42	42
cis-1,3-Dichloropropene	6.6	26		0.47	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Ethylbenzene	700	700	700	1.5	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Methylene chloride	5	5		11	10 U	3.7 J	2.5 U	4.5	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Tetrachloroethene	5	5	5	11	250	200	70	68	1.0 U	23	34	33	48	17
Toluene	1000	1000	1000	1100	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
trans-1,2-Dichloroethene	100	100	100	360	10 U	10 U	1.2 J	1.2 J	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	10 U	10 U	2.5 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Trichloroethene	5	5	5	0.49	100	80	510	380	1.0 U	21	32	29	41	70
Vinyl Chloride	2	2	2	0.019	10 U	10 U	5.5	7.7	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U
Xylenes (Total)	10000	10000	10000	190	30 U	30 U	7.5 U	7.5 U	3.0 U	3.0 U	3.0 U	3.0 U	6.0 U	15 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-99D 10/30/2014	MW-99S 10/7/2014	MW-99S Dup 10/7/2014	MW-99S 10/30/2014	MW-99S Dup 10/30/2014	MW-100D 10/6/2014	MW-100D Dup 10/6/2014	MW-100D 10/28/2014	MW-100I 10/6/2014
1,4 Dioxane													
1,4-Dioxane	6.4	32		0.78									
Alkalinity													
ALKALINITY, BICARBONATE					250000 B	250000 B	260000 B	260000 B	260000 B	240000 B	230000 B	230000 B	250000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL					250000 B	250000 B	260000 B	260000 B	260000 B	240000 B	230000 B	230000 B	250000 B
Anions													
Chloride		250000			53000 B	49000 B	49000 B	55000 B	51000 B	110000 B	110000 B	110000	110000 B
Nitrate As N	10000	10000	10000	32000	2000 B	1600	1700	1900 B	1800 B	3600	3500	3400	3800
Sulfate					24000 B	21000 B	21000 B	24000 B	22000 B	36000 B	36000 B	37000	39000 B
Sulfide, Total					3000 U			3000 U	3000 U			3000 U	
Cyanide													
Cyanide, Free	200	200	200	1.5									
Cyanide, Total	200	200		1.5									
METAL													
Calcium					92000 B	89000 B	93000 B	100000 B	93000 B	85000 B	83000 B	85000 B	87000 B
Ferric Iron					100 U			100 U	100 U			100 U	
FERROUS IRON					50 U			50 U	50 U			250 U	
Hexavalent Chromium	100	100		0.035									
Magnesium					11000 B	12000	12000	11000 B	11000 B	16000	16000	16000	17000
Potassium					3800	3200	3200	3300	3100	4000	3900	4100	4700
Sodium					16000 B	18000 B	18000 B	18000 B	17000 B	42000	42000	43000 B	45000
METAL (Dissolved)													
Calcium					95000 B			100000 B	99000 B			87000 B	
Ferric Iron													
Hexavalent Chromium	100	100		0.035									
Iron			300	14000	50 U			50 U	50 U			50 U	
Magnesium					11000 B			12000 B	12000 B			16000	
Manganese	300	300	50	430	0.79 J B			4.3 J B	4.4 J B			35 B	
Potassium					3900			3400	3200			4200	
Sodium					17000 B			19000 B	18000 B			44000 B	
Other													
Carbon Dioxide					6100			6300	6900			5400	
Ethane					0.50 U			0.50 U	0.50 U			0.50 U	
Ethene					0.50 U			0.50 U	0.50 U			0.50 U	
Methane					0.12 J B			0.10 J B	0.099 J B			0.41 J	
Other (Dissolved)													
Dissolved Organic Carbon					710 J			510 J	620 J			18000	
TOTAL VOC													
TOTAL VOC					229	103.28	88.1	100.54	101.3	100.08	101.28	143.8	57.87
Volatile Organic Compound													
1,1,1,2-Tetrachloroethane	70	70		0.57	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	15	6	4.4	5.8	5.8	0.82 J	0.92 J	3.2 J	0.69 J
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-99D 10/30/2014	MW-99S 10/7/2014	MW-99S Dup 10/7/2014	MW-99S 10/30/2014	MW-99S Dup 10/30/2014	MW-100D 10/6/2014	MW-100D Dup 10/6/2014	MW-100D 10/28/2014	MW-100I 10/6/2014
1,1-Dichloroethane	31	160		2.7	5.0 U	1.7	1.5	1.8	1.8	0.66 J	1.0 U	4.0 U	1.0 U
1,1-Dichloroethene	7	7	7	280	11	2.4	2.2	2.7	2.7	1.6 J	1.6	3.6 J	0.97 J
1,2,4-Trimethylbenzene	15	62		15									
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
1,3,5-Trimethylbenzene	13	53		120									
1,4-Dioxane	6.4	32		0.78	1000 U	200 U	200 U	200 U	200 U	400 U	200 U	800 U	200 U
2-Butanone	4000	4000		5600	25 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	20 U	5.0 U
2-Hexanone	11	44		38	25 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	20 U	5.0 U
4-Methyl-2-Pentanone	2900	8200		1200	25 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	20 U	5.0 U
Acetone	33000	92000		14000	25 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	20 U	5.0 U
Acrylonitrile	0.72	3.7		0.052	100 U	20 U	20 U	20 U	20 U	40 U	20 U	80 U	20 U
Benzene	5	5	5	0.45	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Bromochloromethane	90	90		83	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Bromodichloromethane	80	80		0.13	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Bromoform	80	80		9.2	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Bromomethane	10	10		7.5	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Carbon Disulfide	1500	6200		810	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Chlorobenzene	100	100	100	78	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Chlorodibromomethane	80	80		0.17	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Chloroethane	230	900		21000	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Chloroform	80	80		0.22	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	0.23 J	4.0 U	0.21 J
Chloromethane				190	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	53	35	31	35	35	24	26	42	16
cis-1,3-Dichloropropene	6.6	26		0.47	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Ethylbenzene	700	700	700	1.5	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Isopropylbenzene	840	3500		450									
Methyl tert-butyl ether	20	20		14	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Methylene chloride	5	5		11	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Naphthalene	100	100		0.17									
Styrene	100	100	100	1200	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Tetrachloroethene	5	5	5	11	20	22	20	24	24	32	34	43	17
Toluene	1000	1000	1000	1100	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	5.0 U	0.18 J	1.0 U	0.24 J	1.0 U	2.0 U	0.17 J	4.0 U	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	4.0 U	1.0 U
Trichloroethene	5	5	5	0.49	130	36	29	31	32	41	38	52	23
Vinyl Chloride	2	2	2	0.019	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	0.36 J	4.0 U	1.0 U
Xylenes (Total)	10000	10000	10000	190	15 U	3.0 U	3.0 U	3.0 U	3.0 U	6.0 U	3.0 U	12 U	3.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-100I 10/28/2014	MW-100I Dup 10/28/2014	MW-100S 10/6/2014	MW-100S 10/28/2014	MW-101D 10/13/2014	MW-101D Dup 10/13/2014	MW-101S 10/13/2014	MW-102D 10/21/2014	MW-102S 10/21/2014
1,4 Dioxane													
1,4-Dioxane	6.4	32		0.78									
Alkalinity													
ALKALINITY, BICARBONATE					220000 B	230000 B	240000 B	240000 B					
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U					
ALKALINITY, TOTAL					220000 B	230000 B	240000 B	240000 B					
Anions													
Chloride		250000			110000	110000	100000 B	100000					
Nitrate As N	10000	10000	10000	32000	3400	3600	3600	3500					
Sulfate					35000	36000	36000 B	35000					
Sulfide, Total								3000 U					
Cyanide													
Cyanide, Free	200	200	200	1.5									
Cyanide, Total	200	200		1.5									
METAL													
Calcium					88000 B	91000 B	84000 B	90000 B					
Ferric Iron								100 U					
FERROUS IRON								50 U					
Hexavalent Chromium	100	100		0.035									
Magnesium					17000	17000	16000	17000					
Potassium					4600	4700	4300	4000					
Sodium					45000 B	47000 B	39000	42000 B					
METAL (Dissolved)													
Calcium								89000 B					
Ferric Iron													
Hexavalent Chromium	100	100		0.035									
Iron			300	14000				50 U					
Magnesium								17000					
Manganese	300	300	50	430				36 B					
Potassium								4000					
Sodium								42000 B					
Other													
Carbon Dioxide								5300					
Ethane								0.50 U					
Ethene								0.50 U					
Methane								0.38 J					
Other (Dissolved)													
Dissolved Organic Carbon								1100					
TOTAL VOC													
TOTAL VOC					72.96	30.05	180.26	35.1	228.43	228.34	225.16	162.35	64.32
Volatile Organic Compound													
1,1,1,2-Tetrachloroethane	70	70		0.57	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
1,1,1-Trichloroethane	200	200	200	8000	1	1.6	1.6	1.0 U	1.0 U	1.0 U	0.93 J	1 U	9.5
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-100I 10/28/2014	MW-100I Dup 10/28/2014	MW-100S 10/6/2014	MW-100S 10/28/2014	MW-101D 10/13/2014	MW-101D Dup 10/13/2014	MW-101S 10/13/2014	MW-102D 10/21/2014	MW-102S 10/21/2014
1,1-Dichloroethane	31	160		2.7	0.42 J	0.35 J	1	1.0 U	0.34 J	0.31 J	0.22 J	1 U	0.92 J
1,1-Dichloroethene	7	7	7	280	1.3	1.0 U	2.9	1.0 U	1.0 U	1.0 U	0.37 J	1 U	8.9
1,2,4-Trimethylbenzene	15	62		15									
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
1,2-Dichloroethane	5	5	5	0.17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
1,2-Dichloropropane	5	5	5	0.44	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
1,3,5-Trimethylbenzene	13	53		120									
1,4-Dioxane	6.4	32		0.78	200 U	200 U	200 U	200 U	200 R	200 R	200 R	200 U	200 U
2-Butanone	4000	4000		5600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5 U	5 U
2-Hexanone	11	44		38	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5 U	5 U
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5 U	5 U
Acetone	33000	92000		14000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5 U	5 U
Acrylonitrile	0.72	3.7		0.052	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Benzene	5	5	5	0.45	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Bromochloromethane	90	90		83	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Bromodichloromethane	80	80		0.13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Bromoform	80	80		9.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Bromomethane	10	10		7.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Carbon Disulfide	1500	6200		810	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Carbon Tetrachloride	5	5	5	0.45	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Chlorobenzene	100	100	100	78	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Chlorodibromomethane	80	80		0.17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Chloroethane	230	900		21000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Chloroform	80	80		0.22	0.24 J	1.0 U	0.26 J	1.0 U	0.39 J	0.33 J	0.44 J	0.35 J	1 U
Chloromethane				190	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	70	36	21	9.1	40	7.1	16	16	11	11	4
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Ethylbenzene	700	700	700	1.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Isopropylbenzene	840	3500		450									
Methyl tert-butyl ether	20	20		14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Methylene chloride	5	5		11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Naphthalene	100	100		0.17									
Styrene	100	100	100	1200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Tetrachloroethene	5	5	5	11	20	10	59	12	2.5	2.4	5.4	11	13
Toluene	1000	1000	1000	1100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	100	360	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U
Trichloroethene	5	5	5	0.49	29	9	75	16	6.8	6.9	6.8	140	28
Vinyl Chloride	2	2	2	0.019	1.0 U	1.0 U	0.50 J	1.0 U	2.4	2.4	1.0 U	1 U	1 U
Xylenes (Total)	10000	10000	10000	190	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3 U	3 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-102S Dup 10/21/2014	MW-103D 10/17/2014	MW-103D Dup 10/17/2014	MW-103S 10/17/2014	MW-106 10/17/2014	MW-107 10/7/2014	MW-107 10/30/2014	MW-108D 10/21/2014	MW-108S 10/22/2014
1,4 Dioxane													
1,4-Dioxane	6.4	32		0.78									
Alkalinity													
ALKALINITY, BICARBONATE										310000 B	380000 B		
ALKALINITY, CARBONATE										5000 U	5000 U		
ALKALINITY, TOTAL										310000 B	380000 B		
Anions													
Chloride		250000								160000 B	200000 B		
Nitrate As N	10000	10000	10000	32000						3400	5100 B		
Sulfate										46000 B	76000 B		
Sulfide, Total													
Cyanide													
Cyanide, Free	200	200	200	1.5									
Cyanide, Total	200	200		1.5									
METAL													
Calcium										110000 B	140000		
Ferric Iron													
FERROUS IRON													
Hexavalent Chromium	100	100		0.035									
Magnesium										31000	39000 B		
Potassium										23000	41000 B		
Sodium										47000 B	37000 B		
METAL (Dissolved)													
Calcium													
Ferric Iron													
Hexavalent Chromium	100	100		0.035									
Iron			300	14000									
Magnesium													
Manganese	300	300	50	430									
Potassium													
Sodium													
Other													
Carbon Dioxide													
Ethane													
Ethene													
Methane													
Other (Dissolved)													
Dissolved Organic Carbon													
TOTAL VOC													
TOTAL VOC					70.3	86.89	86.87	169.93	827.43	244.7	117.4	1.32	1
Volatile Organic Compound													
1,1,1,2-Tetrachloroethane	70	70		0.57	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	11	1.0 UJ	1.0 UJ	1.3 J	5.5 J	13	5.9	1 U	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-102S Dup 10/21/2014	MW-103D 10/17/2014	MW-103D Dup 10/17/2014	MW-103S 10/17/2014	MW-106 10/17/2014	MW-107 10/7/2014	MW-107 10/30/2014	MW-108D 10/21/2014	MW-108S 10/22/2014
1,1-Dichloroethane	31	160		2.7	1	1.0 UJ	1.0 UJ	0.22 J	2.7 J	5.0 U	1.8 J	1 U	1.0 U
1,1-Dichloroethene	7	7	7	280	9.8	1.0 UJ	1.0 UJ	1.7 J	4.6 J	4.7 J	1.7 J	1 U	1.0 U
1,2,4-Trimethylbenzene	15	62		15									
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
1,3,5-Trimethylbenzene	13	53		120									
1,4-Dioxane	6.4	32		0.78	200 U	200 UJ	200 UJ	200 UJ	400 UJ	1000 U	1000 U	200 U	200 U
2-Butanone	4000	4000		5600	5 U	5.0 UJ	5.0 UJ	5.0 UJ	10 UJ	25 U	25 U	5 U	5.0 U
2-Hexanone	11	44		38	5 U	5.0 UJ	5.0 UJ	5.0 UJ	10 UJ	25 U	25 U	5 U	5.0 U
4-Methyl-2-Pentanone	2900	8200		1200	5 U	5.0 UJ	5.0 UJ	5.0 UJ	10 UJ	25 U	25 U	5 U	5.0 U
Acetone	33000	92000		14000	5 U	5.0 UJ	5.0 UJ	5.0 UJ	10 UJ	25 U	25 U	5 U	5.0 U
Acrylonitrile	0.72	3.7		0.052	20 U	20 UJ	20 UJ	20 UJ	40 UJ	100 U	100 U	20 U	20 U
Benzene	5	5	5	0.45	1 U	1.0 UJ	1.0 UJ	1.0 UJ	0.26 J	5.0 U	5.0 U	1 U	1.0 U
Bromochloromethane	90	90		83	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
Bromodichloromethane	80	80		0.13	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
Bromoform	80	80		9.2	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
Bromomethane	10	10		7.5	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
Carbon Disulfide	1500	6200		810	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
Chlorobenzene	100	100	100	78	1 U	1.0 UJ	1.0 UJ	1.0 UJ	0.57 J	5.0 U	5.0 U	1 U	1.0 U
Chlorodibromomethane	80	80		0.17	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
Chloroethane	230	900		21000	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
Chloroform	80	80		0.22	1 U	0.59 J	0.57 J	0.51 J	2.0 UJ	5.0 U	5.0 U	0.37 J	1
Chloromethane				190	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	4.5	6.3 J	5.5 J	7.2 J	570 J	120	54	1 U	1.0 U
cis-1,3-Dichloropropene	6.6	26		0.47	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
Ethylbenzene	700	700	700	1.5	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
Isopropylbenzene	840	3500		450									
Methyl tert-butyl ether	20	20		14	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
Methylene chloride	5	5		11	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	2.0 J	1 U	1.0 U
Naphthalene	100	100		0.17									
Styrene	100	100	100	1200	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
Tetrachloroethene	5	5	5	11	14	11 J	9.8 J	29 J	74 J	60	31	0.43 J	1.0 U
Toluene	1000	1000	1000	1100	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.8 J	5.0 U	5.0 U	1 U	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	1 U	1.0 UJ	1.0 UJ	1.0 UJ	2.0 UJ	5.0 U	5.0 U	1 U	1.0 U
Trichloroethene	5	5	5	0.49	30	69 J	71 J	130 J	150 J	47	21	0.52 J	1.0 U
Vinyl Chloride	2	2	2	0.019	1 U	1.0 UJ	1.0 UJ	1.0 UJ	17 J	5.0 U	5.0 U	1 U	1.0 U
Xylenes (Total)	10000	10000	10000	190	3 U	3.0 UJ	3.0 UJ	3.0 UJ	6.0 UJ	15 U	15 U	3 U	3.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-109D 10/24/2014	MW-109S 10/24/2014	MW-110 10/22/2014	MW-113 10/16/2014	MW-114 10/9/2014	MW-114 10/30/2014	MW-116 10/15/2014	MW-125 12/17/2014	MW-126 10/14/2014	MW-127 10/9/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78				36						
Alkalinity														
ALKALINITY, BICARBONATE							180000 B		230000 B	150000 B				290000 B
ALKALINITY, CARBONATE							5000 U		5000 U	5000 U				5000 U
ALKALINITY, TOTAL							180000 B		230000 B	150000 B				290000 B
Anions														
Chloride		250000					35000		140000 B	220000 B				76000 B
Nitrate As N	10000	10000	10000	32000			5900		530	100 U				2000
Sulfate							5600		76000	43000 B				7200
Sulfide, Total							3000 U							
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium									130000	89000				99000
Ferric Iron							100 U							
FERROUS IRON							50 U							
Hexavalent Chromium	100	100		0.035										
Magnesium									23000	17000 B				19000
Potassium									9000 B	24000 B				4100 B
Sodium									39000 B	56000 B				20000 B
METAL (Dissolved)														
Calcium							86000							
Ferric Iron														
Hexavalent Chromium	100	100		0.035										
Iron			300	14000			50 U							
Magnesium							11000							
Manganese	300	300	50	430			0.52 J							
Potassium							2900 B							
Sodium							19000 B							
Other														
Carbon Dioxide							5100							
Ethane							0.50 U							
Ethene							0.50 U							
Methane							0.50 U							
Other (Dissolved)														
Dissolved Organic Carbon							590 J							
TOTAL VOC														
TOTAL VOC					7.56	9.2	56.95	1636.2	3531.9	1915.1	11650	0	6.58	523.2
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
1,1,1-Trichloroethane	200	200	200	8000	1.0 U	1.0 U	1.0 U	18 J	4.0 J	13 U	50 UJ		1.0 U	6.2 J
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-109D 10/24/2014	MW-109S 10/24/2014	MW-110 10/22/2014	MW-113 10/16/2014	MW-114 10/9/2014	MW-114 10/30/2014	MW-116 10/15/2014	MW-125 12/17/2014	MW-126 10/14/2014	MW-127 10/9/2014
1,1-Dichloroethane	31	160		2.7	1.0 U	1.0 U	1.0 U	5.0 J	30	8.6 J	20 J		1.0 U	3.0 J
1,1-Dichloroethene	7	7	7	280	1.0 U	1.0 U	1.0 U	28	32	8.0 J	95 J		1.0 U	6.0 J
1,2,4-Trimethylbenzene	15	62		15								5.0 U		
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
1,2-Dichloroethane	5	5	5	0.17	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
1,2-Dichloropropane	5	5	5	0.44	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
1,3,5-Trimethylbenzene	13	53		120								5.0 U		
1,4-Dioxane	6.4	32		0.78	200 U	200 U	200 U	5000 U	2500 U	2500 U	10000 UJ		200 U	2500 U
2-Butanone	4000	4000		5600	5.0 U	5.0 U	5.0 U	130 U	63 U	63 U	250 UJ		5.0 U	63 U
2-Hexanone	11	44		38	5.0 U	5.0 U	5.0 U	130 U	63 U	63 U	250 UJ		5.0 U	63 U
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U	5.0 U	5.0 U	130 U	63 U	63 U	250 UJ		5.0 U	63 U
Acetone	33000	92000		14000	5.0 U	5.0 U	5.0 U	130 U	63 U	63 U	250 UJ		5.0 U	63 U
Acrylonitrile	0.72	3.7		0.052	20 U	20 U	20 U	500 U	250 U	250 U	1000 UJ		20 U	250 U
Benzene	5	5	5	0.45	0.87 J	4	1.0 U	25 U	13 U	13 U	50 UJ	5.0 U	1.0 U	13 U
Bromochloromethane	90	90		83	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
Bromodichloromethane	80	80		0.13	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
Bromoform	80	80		9.2	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
Bromomethane	10	10		7.5	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
Carbon Disulfide	1500	6200		810	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
Carbon Tetrachloride	5	5	5	0.45	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
Chlorobenzene	100	100	100	78	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
Chlorodibromomethane	80	80		0.17	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
Chloroethane	230	900		21000	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
Chloroform	80	80		0.22	1.0 U	1.0 U	0.65 J	25 U	13 U	13 U	50 UJ		1.0 U	13 U
Chloromethane				190	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		0.34 J	13 U
cis-1,2-Dichloroethene	70	70	70	36	1.0 U	1.0 U	1.0 U	660	1500	1800	5900		3.8	360
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
Ethylbenzene	700	700	700	1.5	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ	5.0 U	1.0 U	13 U
Isopropylbenzene	840	3500		450								5.0 U		
Methyl tert-butyl ether	20	20		14	5.9	4.6	1.0 U	25 U	13 U	13 U	50 UJ	5.0 U	1.0 U	13 U
Methylene chloride	5	5		11	0.79 J	0.60 J	1.0 U	15 J	13 U	22	26 J		1.0 U	12 J
Naphthalene	100	100		0.17								5.0 U		
Styrene	100	100	100	1200	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
Tetrachloroethene	5	5	5	11	1.0 U	1.0 U	55	35	540	13 U	2400		0.24 J	16
Toluene	1000	1000	1000	1100	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ	5.0 U	1.0 U	13 U
trans-1,2-Dichloroethene	100	100	100	360	1.0 U	1.0 U	1.0 U	5.2 J	9.9 J	7.8 J	19 J		1.0 U	13 U
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	25 U	13 U	13 U	50 UJ		1.0 U	13 U
Trichloroethene	5	5	5	0.49	1.0 U	1.0 U	1.3	870	1400	4.7 J	2800		2.2	120
Vinyl Chloride	2	2	2	0.019	1.0 U	1.0 U	1.0 U	25 U	16	64	390 J		1.0 U	13 U
Xylenes (Total)	10000	10000	10000	190	3.0 U	3.0 U	3.0 U	75 U	38 U	38 U	150 UJ	10 U	3.0 U	38 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-127 10/14/2014	MW-127 10/31/2014	MW-128 Dup 10/15/2014	MW-128 10/15/2014	MW-129 10/14/2014	MW-130 10/14/2014	MW-131 10/15/2014	MW-132 10/9/2014	MW-132 10/15/2014
1,4 Dioxane													
1,4-Dioxane	6.4	32		0.78	10				2.7	12	9.9		23
Alkalinity													
ALKALINITY, BICARBONATE					280000 B	270000 B						190000 B	180000 B
ALKALINITY, CARBONATE					5000 U	5000 U						5000 U	5000 U
ALKALINITY, TOTAL					280000 B	270000 B						190000 B	180000 B
Anions													
Chloride		250000			77000	84000						16000 B	16000
Nitrate As N	10000	10000	10000	32000	2300	2100						4000	4100
Sulfate					7300	7500						5000	4800
Sulfide, Total													
Cyanide													
Cyanide, Free	200	200	200	1.5									
Cyanide, Total	200	200		1.5									
METAL													
Calcium					99000 B	94000 B						65000	63000 B
Ferric Iron													
FERROUS IRON													
Hexavalent Chromium	100	100		0.035									
Magnesium					19000	18000						5100	4700
Potassium					3900	3800						1900 B	1800
Sodium					19000 B	20000 B						5800 B	5000 B
METAL (Dissolved)													
Calcium													
Ferric Iron													
Hexavalent Chromium	100	100		0.035									
Iron			300	14000									
Magnesium													
Manganese	300	300	50	430									
Potassium													
Sodium													
Other													
Carbon Dioxide													
Ethane													
Ethene													
Methane													
Other (Dissolved)													
Dissolved Organic Carbon													
TOTAL VOC													
TOTAL VOC					514.1	331.3	118.75	120.3	1098.4	898.2	1800	2196.6	2100
Volatile Organic Compound													
1,1,1,2-Tetrachloroethane	70	70		0.57	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
1,1,1-Trichloroethane	200	200	200	8000	7.8 J	1.6	1.6 J	1.8 J	10 U	5.0 U	13 UJ	25 U	5.0 UJ
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
1,1,2-Trichloroethane	5	5	5	0.28	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-127 10/14/2014	MW-127 10/31/2014	MW-128 Dup 10/15/2014	MW-128 10/15/2014	MW-129 10/14/2014	MW-130 10/14/2014	MW-131 10/15/2014	MW-132 10/9/2014	MW-132 10/15/2014
1,1-Dichloroethane	31	160		2.7	10 U	1.0 U	0.55 J	5.0 U	10 U	14	6.8 UJ	25 U	25 UJ
1,1-Dichloroethene	7	7	7	280	6.1 J	0.98 J	1.7 J	2.0 J	3.5 J	18	13 UJ	45	39 UJ
1,2,4-Trimethylbenzene	15	62		15									
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
1,2-Dichloroethane	5	5	5	0.17	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
1,2-Dichloropropane	5	5	5	0.44	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
1,3,5-Trimethylbenzene	13	53		120									
1,4-Dioxane	6.4	32		0.78	2000 U	200 U	600 U	1000 U	2000 U	1000 U	2500 UJ	5000 U	1000 UJ
2-Butanone	4000	4000		5600	50 U	5.0 U	15 U	25 U	50 U	25 U	63 UJ	130 U	25 UJ
2-Hexanone	11	44		38	50 U	5.0 U	15 U	25 U	50 U	25 U	63 UJ	130 U	25 UJ
4-Methyl-2-Pentanone	2900	8200		1200	50 U	5.0 U	15 U	25 U	50 U	25 U	63 UJ	130 U	25 UJ
Acetone	33000	92000		14000	50 U	5.0 U	15 U	25 U	50 U	25 U	63 UJ	130 U	25 UJ
Acrylonitrile	0.72	3.7		0.052	200 U	20 U	60 U	100 U	200 U	100 U	250 UJ	500 U	100 UJ
Benzene	5	5	5	0.45	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
Bromochloromethane	90	90		83	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
Bromodichloromethane	80	80		0.13	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
Bromoform	80	80		9.2	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
Bromomethane	10	10		7.5	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
Carbon Disulfide	1500	6200		810	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
Carbon Tetrachloride	5	5	5	0.45	1.5 J	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
Chlorobenzene	100	100	100	78	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
Chlorodibromomethane	80	80		0.17	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
Chloroethane	230	900		21000	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
Chloroform	80	80		0.22	10 U	1.0 U	3.0 U	5.0 U	10 U	1.2 J	14 UJ	25 U	5.0 UJ
Chloromethane				190	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
cis-1,2-Dichloroethene	70	70	70	36	350	300	75	75	180	480	220 UJ	1200	1100
cis-1,3-Dichloropropene	6.6	26		0.47	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
Ethylbenzene	700	700	700	1.5	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
Isopropylbenzene	840	3500		450									
Methyl tert-butyl ether	20	20		14	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
Methylene chloride	5	5		11	3.7 J	0.72 J	1.7 J B	1.8 J	5.4 J B	1.4 J	6.8 UJ	25 U	2.6 UJ
Naphthalene	100	100		0.17									
Styrene	100	100	100	1200	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
Tetrachloroethene	5	5	5	11	15	10	4.2	3.7 J	64	10	9.4 UJ	5.0 J	2.7 UJ
Toluene	1000	1000	1000	1100	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
trans-1,2-Dichloroethene	100	100	100	360	10 U	1.0 U	3.0 U	5.0 U	5.5 J	3.6 J	13 UJ	6.6 J	5.0 UJ
trans-1,3-Dichloropropene	6.6	26		0.47	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	5.0 UJ
Trichloroethene	5	5	5	0.49	130	18	34	36	840	370	1800	940	1000
Vinyl Chloride	2	2	2	0.019	10 U	1.0 U	3.0 U	5.0 U	10 U	5.0 U	13 UJ	25 U	2.3 UJ
Xylenes (Total)	10000	10000	10000	190	30 U	3.0 U	9.0 U	15 U	30 U	15 U	38 UJ	75 U	15 UJ

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-132 10/31/2014	MW-133 10/15/2014	MW-134 10/15/2014	MW-135 10/16/2014	MW-136A 270 - 348 10/29/2014	MW-136A 356 - 356.5 10/23/2014	MW-136A 375.5 - 373 10/23/2014	MW-136A 434 - 434.5 10/22/2014	MW-136A 459.5 - 460 10/30/2014
1,4 Dioxane													
1,4-Dioxane	6.4	32		0.78		1.4 J	94	22	0.39 J	9.8	7.3	1.9	
Alkalinity													
ALKALINITY, BICARBONATE					150000 B								
ALKALINITY, CARBONATE					5000 U								
ALKALINITY, TOTAL					150000 B								
Anions													
Chloride		250000			15000								
Nitrate As N	10000	10000	10000	32000	4100								
Sulfate					5000								
Sulfide, Total													
Cyanide													
Cyanide, Free	200	200	200	1.5					25	2 U	2 U	2 U	
Cyanide, Total	200	200		1.5					10 U	10 U	10 U	10 U	
METAL													
Calcium					60000 B								
Ferric Iron													
FERROUS IRON													
Hexavalent Chromium	100	100		0.035					110	10 U	10 U	10 U	
Magnesium					4400								
Potassium					1600								
Sodium					4900 B								
METAL (Dissolved)													
Calcium													
Ferric Iron													
Hexavalent Chromium	100	100		0.035					10 U	10 U	10 U	10 U	
Iron			300	14000									
Magnesium													
Manganese	300	300	50	430									
Potassium													
Sodium													
Other													
Carbon Dioxide													
Ethane													
Ethene													
Methane													
Other (Dissolved)													
Dissolved Organic Carbon													
TOTAL VOC													
TOTAL VOC					1755.7	97.1	680	2458.4	2126.9	3244	3505	16500	3017.7
Volatile Organic Compound													
1,1,1,2-Tetrachloroethane	70	70		0.57	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
1,1,1-Trichloroethane	200	200	200	8000	2.5 U	1.0 UJ	2.5 UJ	140	10 U	210	200	100 U	10 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
1,1,2-Trichloroethane	5	5	5	0.28	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-132 10/31/2014	MW-133 10/15/2014	MW-134 10/15/2014	MW-135 10/16/2014	MW-136A 270 - 348 10/29/2014	MW-136A 356 - 356.5 10/23/2014	MW-136A 375.5 - 373 10/23/2014	MW-136A 434 - 434.5 10/22/2014	MW-136A 459.5 - 460 10/30/2014
1,1-Dichloroethane	31	160		2.7	14	0.51 UJ	29 UJ	8.4 J	10 U	58	54	100 U	1.7 J
1,1-Dichloroethene	7	7	7	280	22	3.1 J	40 UJ	48	10 U	52	51	100 U	10 U
1,2,4-Trimethylbenzene	15	62		15									
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
1,2-Dichloroethane	5	5	5	0.17	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
1,2-Dichloropropane	5	5	5	0.44	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
1,3,5-Trimethylbenzene	13	53		120									
1,4-Dioxane	6.4	32		0.78	500 U	200 UJ	500 UJ	8000 U	2000 U	10000 U	10000 U	20000 U	2000 U
2-Butanone	4000	4000		5600	13 U	20 J	13 UJ	200 U	50 U	250 U	250 U	500 U	38 J
2-Hexanone	11	44		38	13 U	5.0 UJ	13 UJ	200 U	50 U	250 U	250 U	500 U	50 U
4-Methyl-2-Pentanone	2900	8200		1200	13 U	5.0 UJ	13 UJ	200 U	50 U	250 U	250 U	500 U	50 U
Acetone	33000	92000		14000	13 U	2.6 UJ	13 UJ	200 U	50 U	250 U	250 U	500 U	50 U
Acrylonitrile	0.72	3.7		0.052	50 U	20 UJ	50 UJ	800 U	200 U	1000 U	1000 U	2000 U	170 J
Benzene	5	5	5	0.45	2.5 U	1.0 UJ	2.3 UJ	40 U	10 U	50 U	50 U	100 U	10 U
Bromochloromethane	90	90		83	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
Bromodichloromethane	80	80		0.13	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
Bromoform	80	80		9.2	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
Bromomethane	10	10		7.5	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
Carbon Disulfide	1500	6200		810	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
Carbon Tetrachloride	5	5	5	0.45	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
Chlorobenzene	100	100	100	78	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
Chlorodibromomethane	80	80		0.17	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
Chloroethane	230	900		21000	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
Chloroform	80	80		0.22	2.5 U	1.0 UJ	0.62 UJ	40 U	9.9 J	50 U	50 U	100 U	10 U
Chloromethane				190	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
cis-1,2-Dichloroethene	70	70	70	36	970	17 J	190	1200	67	1100	1500	14000	2700
cis-1,3-Dichloropropene	6.6	26		0.47	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
Ethylbenzene	700	700	700	1.5	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
Isopropylbenzene	840	3500		450									
Methyl tert-butyl ether	20	20		14	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
Methylene chloride	5	5		11	2.5 U	1.0 UJ	1.4 UJ	32 J B	10 U	50 U	50 U	100 U	18
Naphthalene	100	100		0.17									
Styrene	100	100	100	1200	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
Tetrachloroethene	5	5	5	11	18	0.28 UJ	130	360	1700	410	300	100	2.7 J
Toluene	1000	1000	1000	1100	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
trans-1,2-Dichloroethene	100	100	100	360	1.7 J	1.0 UJ	1.7 UJ	40 U	10 U	14 J	50 U	100 U	2.8 J
trans-1,3-Dichloropropene	6.6	26		0.47	2.5 U	1.0 UJ	2.5 UJ	40 U	10 U	50 U	50 U	100 U	10 U
Trichloroethene	5	5	5	0.49	730	57	360	670	350	1400	1400	2400	80
Vinyl Chloride	2	2	2	0.019	2.5 U	1.0 UJ	3.0 UJ	40 U	10 U	50 U	50 U	100 U	4.5 J
Xylenes (Total)	10000	10000	10000	190	7.5 U	3.0 UJ	7.5 UJ	120 U	30 U	150 U	150 U	300 U	30 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-137A 295.5 - 296 10/21/2014	MW-137A 343 - 343.5 10/20/2014	MW-137A 374.5 - 375 10/20/2014	MW-137A 420 - 420.5 10/17/2014	MW-137A 434.5 - 435 10/17/2014	MW-138A 10/23/2014	MW-139A 343 - 343.5 10/16/2014	MW-139A 365 - 365.5 10/15/2014	MW-139A 421.5 - 422 10/16/2014
1,4 Dioxane													
1,4-Dioxane	6.4	32		0.78									
Alkalinity													
ALKALINITY, BICARBONATE					260000 B								120000 B
ALKALINITY, CARBONATE					5000 U								5000 U
ALKALINITY, TOTAL					260000 B								120000 B
Anions													
Chloride		250000			160000								940 J
Nitrate As N	10000	10000	10000	32000	2400								100 U
Sulfate					60000								4300
Sulfide, Total					3000 U								6600
Cyanide													
Cyanide, Free	200	200	200	1.5									
Cyanide, Total	200	200		1.5									
METAL													
Calcium													
Ferric Iron					100 U								100 U
FERROUS IRON					50 U								230 HF
Hexavalent Chromium	100	100		0.035									
Magnesium													
Potassium													
Sodium													
METAL (Dissolved)													
Calcium					150000								18000 B
Ferric Iron													
Hexavalent Chromium	100	100		0.035									
Iron			300	14000	50 U								130
Magnesium					23000								4900
Manganese	300	300	50	430	21								58 B
Potassium					8600 B								1500
Sodium					76000 B								15000 B
Other													
Carbon Dioxide					6100								6300
Ethane					0.27 J								0.6
Ethene					0.42 J								1.1
Methane					0.45 J B								1000
Other (Dissolved)													
Dissolved Organic Carbon					1700								3300
TOTAL VOC													
TOTAL VOC					2349	572.21	537.02	109.15	624.75	28.8	60.04	28.45	13.44
Volatile Organic Compound													
1,1,1,2-Tetrachloroethane	70	70		0.57	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	200	8000	250	5.3	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
1,1,2-Trichloroethane	5	5	5	0.28	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-137A 295.5 - 296 10/21/2014	MW-137A 343 - 343.5 10/20/2014	MW-137A 374.5 - 375 10/20/2014	MW-137A 420 - 420.5 10/17/2014	MW-137A 434.5 - 435 10/17/2014	MW-138A 10/23/2014	MW-139A 343 - 343.5 10/16/2014	MW-139A 365 - 365.5 10/15/2014	MW-139A 421.5 - 422 10/16/2014
1,1-Dichloroethane	31	160		2.7	15 J	7.7	6.8	1.2 J	0.69 J	1.0 U	0.4 J	1 U	1 U
1,1-Dichloroethene	7	7	7	280	74	4.7	3	2 UJ	0.69 J	0.35 J	1 U	1 U	1 U
1,2,4-Trimethylbenzene	15	62		15									
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
1,2-Dichloroethane	5	5	5	0.17	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
1,2-Dichloropropane	5	5	5	0.44	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	13	53		120									
1,4-Dioxane	6.4	32		0.78	10000 U	500 U	500 U	400 UJ	400 UJ	200 U	200 U	200 U	200 U
2-Butanone	4000	4000		5600	250 U	55	12 J	16 J	20 J	1.3 J	14	5.3	3.6 J
2-Hexanone	11	44		38	250 U	13 U	13 U	10 UJ	10 UJ	5.0 U	5 U	5 U	5 U
4-Methyl-2-Pentanone	2900	8200		1200	250 U	13 U	13 U	10 UJ	10 UJ	5.0 U	5 U	5 U	5 U
Acetone	33000	92000		14000	250 U	13 U	13 U	10 UJ	10 UJ	8.4	7	4.7 J	2.7 J
Acrylonitrile	0.72	3.7		0.052	1000 U	3.1 J	2.7 J	15 J	540 J	20 U	2.9 J	1.1 J	4.3 J
Benzene	5	5	5	0.45	50 U	0.27 J	2.5 U	0.3 J	0.47 J	1.0 U	0.19 J	0.18 J	0.22 J
Bromochloromethane	90	90		83	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
Bromodichloromethane	80	80		0.13	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
Bromoform	80	80		9.2	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
Bromomethane	10	10		7.5	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
Carbon Disulfide	1500	6200		810	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	0.38 J	1 U	1 U	1 U
Carbon Tetrachloride	5	5	5	0.45	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
Chlorobenzene	100	100	100	78	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
Chlorodibromomethane	80	80		0.17	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
Chloroethane	230	900		21000	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
Chloroform	80	80		0.22	50 U	0.83 J	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
Chloromethane				190	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	70	36	1100	480	510	73 J	50 J	12	33	15	1.6
cis-1,3-Dichloropropene	6.6	26		0.47	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
Ethylbenzene	700	700	700	1.5	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
Isopropylbenzene	840	3500		450									
Methyl tert-butyl ether	20	20		14	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
Methylene chloride	5	5		11	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
Naphthalene	100	100		0.17									
Styrene	100	100	100	1200	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
Tetrachloroethene	5	5	5	11	160	0.39 J	2.5 U	2 UJ	2.0 UJ	1.0 U	0.36 J	0.46 J	0.43 J
Toluene	1000	1000	1000	1100	50 U	0.39 J	0.38 J	0.35 J	0.80 J	0.27 J	1.2	1.3	0.59 J
trans-1,2-Dichloroethene	100	100	100	360	50 U	0.66 J	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	6.6	26		0.47	50 U	2.5 U	2.5 U	2 UJ	2.0 UJ	1.0 U	1 U	1 U	1 U
Trichloroethene	5	5	5	0.49	750	13	1.4 J	2.2 J	11 J	6.1	0.3 J	0.41 J	1 U
Vinyl Chloride	2	2	2	0.019	50 U	0.87 J	0.74 J	1.1 J	1.1 J	1.0 U	0.69 J	1 U	1 U
Xylenes (Total)	10000	10000	10000	190	150 U	7.5 U	7.5 U	6 UJ	6.0 UJ	3.0 U	3 U	3 U	3 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-140A 209.5 - 210 10/14/2014	MW-140A 323.5 - 324 10/14/2014	MW-140A 372 - 372.5 10/13/2014	MW-140A 407.5 - 408 10/13/2014	MW-141A 10/21/2014	MW-142D 10/13/2014	MW-142S 10/13/2014	MW-143D 10/13/2014	MW-143S 10/15/2014
1,4 Dioxane													
1,4-Dioxane	6.4	32		0.78									
Alkalinity													
ALKALINITY, BICARBONATE									130000 B				
ALKALINITY, CARBONATE									5000 U				
ALKALINITY, TOTAL									130000 B				
Anions													
Chloride		250000							9100				
Nitrate As N	10000	10000	10000	32000					560				
Sulfate									11000				
Sulfide, Total									3000 U				
Cyanide													
Cyanide, Free	200	200	200	1.5									
Cyanide, Total	200	200		1.5									
METAL													
Calcium													
Ferric Iron									100 U				
FERROUS IRON									50 U				
Hexavalent Chromium	100	100		0.035									
Magnesium													
Potassium													
Sodium													
METAL (Dissolved)													
Calcium									42000				
Ferric Iron													
Hexavalent Chromium	100	100		0.035									
Iron			300	14000					17 J				
Magnesium									11000				
Manganese	300	300	50	430					190				
Potassium									3300 B				
Sodium									11000 B				
Other													
Carbon Dioxide									1000 U				
Ethane									0.5 U				
Ethene									0.5 U				
Methane									14 B				
Other (Dissolved)													
Dissolved Organic Carbon									570 J				
TOTAL VOC													
TOTAL VOC					1844.7	813.3	359.31	578.03	11.6	206.2	201.6	200.34	2.74
Volatile Organic Compound													
1,1,1,2-Tetrachloroethane	70	70		0.57	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	6.8 J	10 U	1.5	2.5	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-140A 209.5 - 210 10/14/2014	MW-140A 323.5 - 324 10/14/2014	MW-140A 372 - 372.5 10/13/2014	MW-140A 407.5 - 408 10/13/2014	MW-141A 10/21/2014	MW-142D 10/13/2014	MW-142S 10/13/2014	MW-143D 10/13/2014	MW-143S 10/15/2014
1,1-Dichloroethane	31	160		2.7	67	33	5.5	10	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	7	7	7	280	3 J	10 U	1.6	2.1	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	15	62		15									
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	13	53		120									
1,4-Dioxane	6.4	32		0.78	2000 U	2000 U	200 R	200 R	200 U	200 R	200 R	200 R	200 U
2-Butanone	4000	4000		5600	50 U	320	41	160	5 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	11	44		38	50 U	50 U	5 U	0.71 J	5 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone	2900	8200		1200	50 U	50 U	5 U	5 U	5 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	33000	92000		14000	43 J	70	11	31	5 U	5.0 U	5.0 U	5.0 U	5.0 U
Acrylonitrile	0.72	3.7		0.052	200 U	22 J	5.2 J	19 J	20 U	20 U	20 U	20 U	20 U
Benzene	5	5	5	0.45	10 U	10 U	0.14 J	0.28 J	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	90	90		83	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	80	80		0.13	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	80	80		9.2	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	10	10		7.5	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	1500	6200		810	10 U	10 U	0.24 J	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	100	100	100	78	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	80	80		0.17	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	230	900		21000	3.4 J	4.4 J	1.4	3 J	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	80	80		0.22	10 U	10 U	1 U	0.18 J	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane				190	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	1600	320	66	110	1.4	6.2	1.6	0.34 J	1.0 U
cis-1,3-Dichloropropene	6.6	26		0.47	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	700	700	700	1.5	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	840	3500		450									
Methyl tert-butyl ether	20	20		14	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	5	5		11	5.9 J B	4.6 J B	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	100	100		0.17									
Styrene	100	100	100	1200	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	5	5	11	10 U	10 U	0.86 J	0.44 J	6.8	1.0 U	1.0 U	1.0 U	0.84 J
Toluene	1000	1000	1000	1100	1.5 J	10 U	0.47 J B	0.51 J	1 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	2.4 J	10 U	1 U	0.31 J	1 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	10 U	10 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	5	5	0.49	1.7 J	2.3 J	4.4	3	3.4	1.0 U	1.0 U	1.0 U	1.9
Vinyl Chloride	2	2	2	0.019	110	37	20	35	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (Total)	10000	10000	10000	190	30 U	30 U	3 U	3 U	3 U	3.0 U	3.0 U	3.0 U	3.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-144 10/13/2014	MW-145A 10/6/2014	MW-145A 10/30/2014	MW-146 10/14/2014	MW-147A 10/6/2014	MW-147A 10/28/2014	MW-148A 72.5 - 73 10/28/2014	MW-148A 136 - 136.5 10/28/2014	MW-148A 218.5 - 219 10/28/2014	MW-150 10/27/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78										
Alkalinity														
ALKALINITY, BICARBONATE						240000 B	240000 B	270000 B	250000 B	210000 B				
ALKALINITY, CARBONATE						5000 U	5000 U	5000 U	5000 U	5000 U				
ALKALINITY, TOTAL						240000 B	240000 B	270000 B	250000 B	210000 B				
Anions														
Chloride		250000				110000 B	110000 B	100000	110000 B	120000				
Nitrate As N	10000	10000	10000	32000		3400	3500 B	4700	3500	3600				
Sulfate						37000 B	38000 B	40000	35000 B	37000				
Sulfide, Total								3000 UJ		3000 U				
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium						87000 B	100000 B		84000 B	85000 B				
Ferric Iron								100 U		100 U				
FERROUS IRON								50 U		50 U				
Hexavalent Chromium	100	100		0.035										
Magnesium						15000	16000 B		16000	16000				
Potassium						4300	4600		4800	4900				
Sodium						40000	40000 B		44000	46000 B				
METAL (Dissolved)														
Calcium								110000 B		85000 B				
Ferric Iron														
Hexavalent Chromium	100	100		0.035										
Iron			300	14000				50 U		24 J				
Magnesium								20000		16000				
Manganese	300	300	50	430				6.7 B		2.8 J B				
Potassium								3800		5000				
Sodium								44000 B		46000 B				
Other														
Carbon Dioxide								13000		6800				
Ethane								0.50 U		0.50 U				
Ethene								0.50 U		0.50 U				
Methane								0.15 J		0.27 J				
Other (Dissolved)														
Dissolved Organic Carbon								1000		1200				
TOTAL VOC														
TOTAL VOC					2.91	123.81	174.6	124.3	25.83	6	0	0	0	214.8
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	200	8000	1.0 U	4.7	6	1.7 J	0.41 J	1.0 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-144 10/13/2014	MW-145A 10/6/2014	MW-145A 10/30/2014	MW-146 10/14/2014	MW-147A 10/6/2014	MW-147A 10/28/2014	MW-148A 72.5 - 73 10/28/2014	MW-148A 136 - 136.5 10/28/2014	MW-148A 218.5 - 219 10/28/2014	MW-150 10/27/2014
1,1-Dichloroethane	31	160		2.7	1.0 U	1.1	1.5 J	1.0 J	0.17 J	1.0 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	7	280	1.0 U	2.6	3.1 J	1.5 J	0.45 J	1.0 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	5	5	5	0.17	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	5	5	5	0.44	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	200 U	200 U	1000 U	600 U	200 U	200 U	200 U	200 U	200 U	200 R
2-Butanone	4000	4000		5600	5.0 U	5.0 U	25 U	15 U	5.0 U	5.0 U	5 U	5 U	5 U	5 U
2-Hexanone	11	44		38	5.0 U	5.0 U	25 U	15 U	5.0 U	5.0 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U	5.0 U	25 U	15 U	5.0 U	5.0 U	5 U	5 U	5 U	5 U
Acetone	33000	92000		14000	5.0 U	5.0 U	25 U	15 U	5.0 U	5.0 U	5 U	5 U	5 U	5 U
Acrylonitrile	0.72	3.7		0.052	20 U	20 U	100 U	60 U	20 U	20 U	20 U	20 U	20 U	20 U
Benzene	5	5	5	0.45	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Bromochloromethane	90	90		83	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Bromodichloromethane	80	80		0.13	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Bromoform	80	80		9.2	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Bromomethane	10	10		7.5	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Carbon Disulfide	1500	6200		810	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	5	5	5	0.45	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Chlorobenzene	100	100	100	78	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	80	80		0.17	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Chloroethane	230	900		21000	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Chloroform	80	80		0.22	1.0 U	0.22 J	5.0 U	3.0 U	0.20 J	1.0 U	1 U	1 U	1 U	1 U
Chloromethane				190	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	70	36	1.2	28	37	33	12	2.5	1 U	1 U	1 U	8.4
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Ethylbenzene	700	700	700	1.5	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Methylene chloride	5	5		11	1.0 U	1.0 U	5.0 U	1.1 J B	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	5	5	11	0.74 J	44	71	52	5.7	1.3	1 U	1 U	1 U	1 U
Toluene	1000	1000	1000	1100	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	100	360	1.0 U	0.19 J	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Trichloroethene	5	5	5	0.49	0.97 J	43	56	34	6.9	2.2	1 U	1 U	1 U	6.4
Vinyl Chloride	2	2	2	0.019	1.0 U	1.0 U	5.0 U	3.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U
Xylenes (Total)	10000	10000	10000	190	3.0 U	3.0 U	15 U	9.0 U	3.0 U	3.0 U	3 U	3 U	3 U	3 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-151 10/28/2014	MW-152 23 - 23.5 10/27/2014	MW-152 137.5 - 138 10/24/2014	MW-155 10/13/2014	MW-156 10/14/2014	MW-160 12/17/2014	Cole (Flush) 10/24/2014	Cole B 10/24/2014	Cole D 10/24/2014
1,4 Dioxane													
1,4-Dioxane	6.4	32		0.78									
Alkalinity													
ALKALINITY, BICARBONATE													
ALKALINITY, CARBONATE													
ALKALINITY, TOTAL													
Anions													
Chloride		250000											
Nitrate As N	10000	10000	10000	32000									
Sulfate													
Sulfide, Total													
Cyanide													
Cyanide, Free	200	200	200	1.5									
Cyanide, Total	200	200		1.5									
METAL													
Calcium													
Ferric Iron													
FERROUS IRON													
Hexavalent Chromium	100	100		0.035									
Magnesium													
Potassium													
Sodium													
METAL (Dissolved)													
Calcium													
Ferric Iron													
Hexavalent Chromium	100	100		0.035									
Iron			300	14000									
Magnesium													
Manganese	300	300	50	430									
Potassium													
Sodium													
Other													
Carbon Dioxide													
Ethane													
Ethene													
Methane													
Other (Dissolved)													
Dissolved Organic Carbon													
TOTAL VOC													
TOTAL VOC					0	0	0.3	18.87	3.41	600.3	0	0	3.8
Volatile Organic Compound													
1,1,1,2-Tetrachloroethane	70	70		0.57	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	MW-151 10/28/2014	MW-152 23 - 23.5 10/27/2014	MW-152 137.5 - 138 10/24/2014	MW-155 10/13/2014	MW-156 10/14/2014	MW-160 12/17/2014	Cole (Flush) 10/24/2014	Cole B 10/24/2014	Cole D 10/24/2014
1,1-Dichloroethane	31	160		2.7	1.0 U	1.0 U	1.0 U	1.0 U	0.49 J		1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	7	7	7	280	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	15	62		15						25			
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	13	53		120						5.0 U			
1,4-Dioxane	6.4	32		0.78	200 U	200 U	200 U	200 U	200 U		200 U	200 U	200 U
2-Butanone	4000	4000		5600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		5.0 U	5.0 U	5.0 U
2-Hexanone	11	44		38	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		5.0 U	5.0 U	5.0 U
Acetone	33000	92000		14000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U		5.0 U	5.0 U	5.0 U
Acrylonitrile	0.72	3.7		0.052	20 U	20 U	20 U	20 U	20 U		20 U	20 U	20 U
Benzene	5	5	5	0.45	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	400	1.0 U	1.0 U	1.0 U
Bromochloromethane	90	90		83	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
Bromodichloromethane	80	80		0.13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
Bromoform	80	80		9.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
Bromomethane	10	10		7.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
Carbon Disulfide	1500	6200		810	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
Chlorobenzene	100	100	100	78	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
Chlorodibromomethane	80	80		0.17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
Chloroethane	230	900		21000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
Chloroform	80	80		0.22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
Chloromethane				190	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	1.0 U	1.0 U	1.0 U	17	0.65 J		1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
Ethylbenzene	700	700	700	1.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	39	1.0 U	1.0 U	1.0 U
Isopropylbenzene	840	3500		450						5.5			
Methyl tert-butyl ether	20	20		14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	5	5		11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
Naphthalene	100	100		0.17						3.8 J			
Styrene	100	100	100	1200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	5	5	11	1.0 U	1.0 U	1.0 U	1.0 U	1.4		1.0 U	1.0 U	3.8
Toluene	1000	1000	1000	1100	1.0 U	1.0 U	0.30 J	1.0 U	1.0 U	76	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U
Trichloroethene	5	5	5	0.49	1.0 U	1.0 U	1.0 U	0.37 J	0.87 J		1.0 U	1.0 U	1.0 U
Vinyl Chloride	2	2	2	0.019	1.0 U	1.0 U	1.0 U	1.5	1.0 U		1.0 U	1.0 U	1.0 U
Xylenes (Total)	10000	10000	10000	190	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	51	3.0 U	3.0 U	3.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	Cole F 10/28/2014	Cole Steel 10/24/2014	CW-1 10/13/2014	CW-1A 10/14/2014	CW-2 10/14/2014	CW-3 10/15/2014	CW-4 10/14/2014	CW-5 10/16/2014	CW-6 10/16/2014
1,4 Dioxane													
1,4-Dioxane	6.4	32		0.78									
Alkalinity													
ALKALINITY, BICARBONATE					240000 B						110000 B		
ALKALINITY, CARBONATE					5000 U						5000 U		
ALKALINITY, TOTAL					240000 B						110000 B		
Anions													
Chloride		250000			63000						28000		
Nitrate As N	10000	10000	10000	32000	3000						100 U		
Sulfate					12000						29000		
Sulfide, Total					3000 U						3000 UJ		
Cyanide													
Cyanide, Free	200	200	200	1.5									
Cyanide, Total	200	200		1.5									
METAL													
Calcium													
Ferric Iron					100 U						2800		
FERROUS IRON					50 U						2700 HF		
Hexavalent Chromium	100	100		0.035									
Magnesium													
Potassium													
Sodium													
METAL (Dissolved)													
Calcium					80000 B						33000 B		
Ferric Iron													
Hexavalent Chromium	100	100		0.035									
Iron			300	14000	50 U						5500 B		
Magnesium					7600						11000		
Manganese	300	300	50	430	0.57 J B						570 B		
Potassium					1900						1300		
Sodium					31000 B						10000 B		
Other													
Carbon Dioxide					6900						14000		
Ethane					0.50 U						0.50 U		
Ethene					0.50 U						0.50 U		
Methane					0.50 U						1.6		
Other (Dissolved)													
Dissolved Organic Carbon					770 J						320 J		
TOTAL VOC													
TOTAL VOC					2.93	1.58	203.6	34.75	18	118.03	42.8	36.7	47.5
Volatile Organic Compound													
1,1,1,2-Tetrachloroethane	70	70		0.57	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,1,1-Trichloroethane	200	200	200	8000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	Cole F 10/28/2014	Cole Steel 10/24/2014	CW-1 10/13/2014	CW-1A 10/14/2014	CW-2 10/14/2014	CW-3 10/15/2014	CW-4 10/14/2014	CW-5 10/16/2014	CW-6 10/16/2014
1,1-Dichloroethane	31	160		2.7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,1-Dichloroethene	7	7	7	280	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,2,4-Trimethylbenzene	15	62		15									
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,2-Dichloroethane	5	5	5	0.17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,2-Dichloropropane	5	5	5	0.44	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,3,5-Trimethylbenzene	13	53		120									
1,4-Dioxane	6.4	32		0.78	200 U	200 U	200 R	200 U	200 U	200 U	200 U	200 U	200 UJ
2-Butanone	4000	4000		5600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
2-Hexanone	11	44		38	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ
Acetone	33000	92000		14000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	76	5.0 U	5.0 U	5.0 UJ
Acrylonitrile	0.72	3.7		0.052	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 UJ
Benzene	5	5	5	0.45	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Bromochloromethane	90	90		83	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Bromodichloromethane	80	80		0.13	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Bromoform	80	80		9.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.1	1.0 U	1.0 U	1.0 UJ
Bromomethane	10	10		7.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Carbon Disulfide	1500	6200		810	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Carbon Tetrachloride	5	5	5	0.45	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Chlorobenzene	100	100	100	78	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Chlorodibromomethane	80	80		0.17	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.54 J	1.0 U	1.0 U	1.0 UJ
Chloroethane	230	900		21000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Chloroform	80	80		0.22	1.0 U	1.0 U	1.0 U	0.44 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Chloromethane				190	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
cis-1,2-Dichloroethene	70	70	70	36	1.0 U	0.68 J	1.8	0.51 J	2.6	36	36	4.5	20 J
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Ethylbenzene	700	700	700	1.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Isopropylbenzene	840	3500		450									
Methyl tert-butyl ether	20	20		14	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Methylene chloride	5	5		11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Naphthalene	100	100		0.17									
Styrene	100	100	100	1200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Tetrachloroethene	5	5	5	11	2.6	1.0 U	1.0 U	2.8	1.4	0.41 J	1.2	24	22 J
Toluene	1000	1000	1000	1100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
trans-1,2-Dichloroethene	100	100	100	360	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.58 J	1.0 U	1.0 U	1.0 UJ
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Trichloroethene	5	5	5	0.49	0.33 J	0.90 J	1.8	31	14	1.4	5.6	8.2	5.5 J
Vinyl Chloride	2	2	2	0.019	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Xylenes (Total)	10000	10000	10000	190	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-7 10/15/2014	CW-7A 10/15/2014	CW-8 10/30/2014	CW-9 1/23/2014	CW-9 2/21/2014	CW-9 3/18/2014	CW-9 5/7/2014	CW-9 6/5/2014	CW-9 7/2/2014	CW-9 8/5/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78										
Alkalinity														
ALKALINITY, BICARBONATE							180000 B	230000 B	220000 B	220000 B	220000 B	180000 B	220000	230000 B
ALKALINITY, CARBONATE							5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL							180000 B	230000 B	220000 B	220000 B	220000 B	180000 B	220000	230000 B
Anions														
Chloride		250000					160000 B	240000	200000 B	250000	240000	280000 B	260000 B	190000
Nitrate As N	10000	10000	10000	32000			4200 B	6800	7300 E	8000	6600	8500	7300	4700
Sulfate							21000 B	40000	36000	42000	37000	43000 B	40000	33000
Sulfide, Total							3000 U							
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium								120000	83000	120000 B	110000	100000 B	110000	91000
Ferric Iron							100 U							
FERROUS IRON							50 U							
Hexavalent Chromium	100	100		0.035										
Magnesium								28000	28000 B	28000	31000	26000	30000	23000
Potassium								25000	20000	30000	30000	30000 B	30000	19000
Sodium								69000 B	58000	83000	81000 B	76000 B	72000	68000
METAL (Dissolved)														
Calcium							84000 B							
Ferric Iron														
Hexavalent Chromium	100	100		0.035										
Iron			300	14000			76							
Magnesium							16000 B							
Manganese	300	300	50	430			130 B							
Potassium							9500							
Sodium							55000 B							
Other														
Carbon Dioxide							4200							
Ethane							2.4							
Ethene							0.50 U							
Methane							3.2 B							
Other (Dissolved)														
Dissolved Organic Carbon							850 J							
TOTAL VOC														
TOTAL VOC					2.53	99.4	540.6	353.7	495.5	505.5	171.07	503.1	639.6	686.7
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
1,1,1-Trichloroethane	200	200	200	8000	1.0 U	1.0 UJ	38	17	23	22	6.9	18	13	19
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-7 10/15/2014	CW-7A 10/15/2014	CW-8 10/30/2014	CW-9 1/23/2014	CW-9 2/21/2014	CW-9 3/18/2014	CW-9 5/7/2014	CW-9 6/5/2014	CW-9 7/2/2014	CW-9 8/5/2014
1,1-Dichloroethane	31	160		2.7	1.0 U	1.0 UJ	14	5.5 J	6.7 J	6.3 J	2.6	13 U	5 J	4.3 J
1,1-Dichloroethene	7	7	7	280	1.0 U	1.0 UJ	12 J	4.2 J	5.8 J	7.4 J	3.4	5.1 J	5 J	6 J
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
1,2-Dichloroethane	5	5	5	0.17	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
1,2-Dichloropropane	5	5	5	0.44	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	200 U	200 UJ	2500 U	2500 U	2000 U	2000 U	200 U	2500 U	2000 U	2500 U
2-Butanone	4000	4000		5600	5.0 U	5.0 UJ	63 U	63 U	50 U	25 J	5 U	63 U	50 U	63 U
2-Hexanone	11	44		38	5.0 U	5.0 UJ	63 U	63 U	50 U	50 U	5 U	63 U	50 U	63 U
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U	5.0 UJ	63 U	63 U	50 U	50 U	5 U	63 U	50 U	63 U
Acetone	33000	92000		14000	5.0 U	5.0 UJ	63 U	63 U	50 U	50 U	5 U	63 U	50 U	63 U
Acrylonitrile	0.72	3.7		0.052	20 U	20 UJ	250 U	250 U	200 U	200 U	20 U	250 U	200 U	250 U
Benzene	5	5	5	0.45	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
Bromochloromethane	90	90		83	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
Bromodichloromethane	80	80		0.13	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
Bromoform	80	80		9.2	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
Bromomethane	10	10		7.5	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
Carbon Disulfide	1500	6200		810	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
Carbon Tetrachloride	5	5	5	0.45	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1.5	13 U	10 U	13 U
Chlorobenzene	100	100	100	78	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	0.41 J	13 U	5.2 J	13 U
Chlorodibromomethane	80	80		0.17	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
Chloroethane	230	900		21000	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
Chloroform	80	80		0.22	0.92 J	1.2 J	13 U	13 U	10 U	10 U	0.26 J	13 U	10 U	13 U
Chloromethane				190	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
cis-1,2-Dichloroethene	70	70	70	36	1.0 U	3.7 J	250	91	150	170	74	150	160	170
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
Ethylbenzene	700	700	700	1.5	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
Methylene chloride	5	5		11	1.0 U	1.0 UJ	13 U	13 U	10 U	4.8 J	1 U	11 J	1.4 J	7.4 J
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
Tetrachloroethene	5	5	5	11	0.85 J	5.5 J	120	160	200	160	46	220	330	360
Toluene	1000	1000	1000	1100	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
trans-1,2-Dichloroethene	100	100	100	360	1.0 U	1.0 UJ	6.6 J	13 U	10 U	10 U	1 U	13 U	10 U	13 U
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
Trichloroethene	5	5	5	0.49	0.76 J	89	100	76	110	110	36	99	120	120
Vinyl Chloride	2	2	2	0.019	1.0 U	1.0 UJ	13 U	13 U	10 U	10 U	1 U	13 U	10 U	13 U
Xylenes (Total)	10000	10000	10000	190	3.0 U	3.0 UJ	38 U	38 U	30 U	30 U	3 U	38 U	30 U	38 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-9 9/10/2014	CW-9 10/8/2014	CW-9 10/31/2014	CW-13 1/23/2014	CW-13 2/21/2014	CW-13 3/18/2014	CW-13 5/7/2014	CW-13 6/5/2014	CW-13 7/2/2014	CW-13 8/5/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78										
Alkalinity														
ALKALINITY, BICARBONATE					290000 B	240000 B	270000 B	250000 B	250000 B	240000 B	250000 B	220000 B	250000	260000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL					290000 B	240000 B	270000 B	250000 B	250000 B	240000 B	250000 B	220000 B	250000	260000 B
Anions														
Chloride		250000			230000 B	240000	250000	230000	230000 B	290000	320000	370000 B	330000 B	280000
Nitrate As N	10000	10000	10000	32000	6200	6400	5500	4700	6400 E	8200	8900	12000	10000 J	7800
Sulfate					36000 B	36000 B	39000	33000	32000	35000	32000	42000 B	40000	36000
Sulfide, Total														
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium					120000 B	110000	110000 B	120000	110000	140000 B	150000	150000 B	150000	160000
Ferric Iron														
FERROUS IRON														
Hexavalent Chromium	100	100		0.035										
Magnesium					31000	25000	26000	20000	25000 B	25000	28000	25000	29000	24000
Potassium					27000	25000 B	28000	18000	20000	30000	32000	33000 B	29000	22000
Sodium					83000	69000 B	72000 B	65000 B	72000	100000	99000 B	93000 B	81000	82000
METAL (Dissolved)														
Calcium														
Ferric Iron														
Hexavalent Chromium	100	100		0.035										
Iron			300	14000										
Magnesium														
Manganese	300	300	50	430										
Potassium														
Sodium														
Other														
Carbon Dioxide														
Ethane														
Ethene														
Methane														
Other (Dissolved)														
Dissolved Organic Carbon														
TOTAL VOC														
TOTAL VOC					798.9	741.2	346.92	997	1199	1048.7	757	894	1201	1161
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
1,1,1-Trichloroethane	200	200	200	8000	18	15	2.8	16 J	19	18 J	18 J	28	43	41
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
1,1,2-Trichloroethane	5	5	5	0.28	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-9 9/10/2014	CW-9 10/8/2014	CW-9 10/31/2014	CW-13 1/23/2014	CW-13 2/21/2014	CW-13 3/18/2014	CW-13 5/7/2014	CW-13 6/5/2014	CW-13 7/2/2014	CW-13 8/5/2014
1,1-Dichloroethane	31	160		2.7	5.8 J	6.0 J	0.82 J	7 J	8 J	25 U	25 U	20 U	10 J	12 J
1,1-Dichloroethene	7	7	7	280	5.1 J	5.7 J	0.77 J	14 J	12 J	13 J	29	17 J	28	21 J
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
1,2-Dichloroethane	5	5	5	0.17	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
1,2-Dichloropropane	5	5	5	0.44	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	2500 U	2500 U	200 U	5000 U	2500 U	5000 U	5000 U	4000 U	5000 U	5000 U
2-Butanone	4000	4000		5600	63 U	63 U	5.0 U	130 U	63 U	130 U	130 U	100 U	130 U	130 U
2-Hexanone	11	44		38	63 U	63 U	5.0 U	130 U	63 U	130 U	130 U	100 U	130 U	130 U
4-Methyl-2-Pentanone	2900	8200		1200	63 U	63 U	5.0 U	130 U	63 U	130 U	130 U	100 U	130 U	130 U
Acetone	33000	92000		14000	63 U	63 U	5.0 U	130 U	63 U	130 U	130 U	100 U	130 U	130 U
Acrylonitrile	0.72	3.7		0.052	250 U	250 U	20 U	500 U	250 U	500 U	500 U	400 U	500 U	500 U
Benzene	5	5	5	0.45	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Bromochloromethane	90	90		83	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Bromodichloromethane	80	80		0.13	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Bromoform	80	80		9.2	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Bromomethane	10	10		7.5	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Carbon Disulfide	1500	6200		810	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Carbon Tetrachloride	5	5	5	0.45	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Chlorobenzene	100	100	100	78	13 U	2.2 J	0.53 J	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Chlorodibromomethane	80	80		0.17	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Chloroethane	230	900		21000	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Chloroform	80	80		0.22	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Chloromethane				190	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
cis-1,2-Dichloroethene	70	70	70	36	200	200	33	300	350	270	250	250	310	390
cis-1,3-Dichloropropene	6.6	26		0.47	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Ethylbenzene	700	700	700	1.5	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Methylene chloride	5	5		11	13 U	13 U	1.0 U	25 U	13 U	7.7 J	25 U	19 J	25 U	17 J
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Tetrachloroethene	5	5	5	11	420	380	290	380	460	430	220	260	390	330
Toluene	1000	1000	1000	1100	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
trans-1,2-Dichloroethene	100	100	100	360	13 U	2.3 J	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
trans-1,3-Dichloropropene	6.6	26		0.47	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Trichloroethene	5	5	5	0.49	150	130	19	280	350	310	240	320	420	350
Vinyl Chloride	2	2	2	0.019	13 U	13 U	1.0 U	25 U	13 U	25 U	25 U	20 U	25 U	25 U
Xylenes (Total)	10000	10000	10000	190	38 U	38 U	3.0 U	75 U	38 U	75 U	75 U	60 U	75 U	75 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-13 9/10/2014	CW-13 10/8/2014	CW-13 10/30/2014	CW-15A 1/23/2014	CW-15A 2/21/2014	CW-15A 3/18/2014	CW-15A 5/7/2014	CW-15A 6/5/2014	CW-15A 7/2/2014	CW-15A 8/5/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78										
Alkalinity														
ALKALINITY, BICARBONATE					310000 B	290000 B	260000 B	170000 B	170000 B	150000 B	100000 B	110000 B	160000	170000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL					310000 B	290000 B	260000 B	170000 B	170000 B	150000 B	100000 B	110000 B	160000	170000 B
Anions														
Chloride		250000			300000 B	320000 B	330000 B	95000	86000 B	91000	46000	77000 B	77000 B	64000
Nitrate As N	10000	10000	10000	32000	8600	7500	7300 B	1100	1100	1200	890	1300	1100	930
Sulfate					38000 B	37000 B	39000 B	38000	35000	38000	19000	31000 B	27000	23000
Sulfide, Total							3000 U							
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium					150000 B	140000	140000 B	75000	59000	70000 B	42000	51000 B	60000	59000
Ferric Iron							100 U							
FERROUS IRON							50 U							
Hexavalent Chromium	100	100		0.035										
Magnesium					28000	23000	23000 B	7900	8900 B	8200	5800	6600	8700	7800
Potassium					25000	24000 B	25000	6900	6000	7100	4600	5800 B	6100	6500
Sodium					91000	80000 B	79000 B	32000 B	35000	42000	24000 B	35000 B	36000	36000
METAL (Dissolved)														
Calcium							140000 B							
Ferric Iron														
Hexavalent Chromium	100	100		0.035										
Iron			300	14000			12 J							
Magnesium							24000 B							
Manganese	300	300	50	430			310 B							
Potassium							25000							
Sodium							79000 B							
Other														
Carbon Dioxide							9800							
Ethane							1.8							
Ethene							0.5							
Methane							5.4 B							
Other (Dissolved)														
Dissolved Organic Carbon							2500							
TOTAL VOC														
TOTAL VOC					1351.4	1830.2	1976.8	15370	23800	21760	576	21160	28102	24970
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
1,1,1-Trichloroethane	200	200	200	8000	30	25	22 J	5500	9800	8100	160	8700	12000	10000
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
1,1,2-Trichloroethane	5	5	5	0.28	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-13 9/10/2014	CW-13 10/8/2014	CW-13 10/30/2014	CW-15A 1/23/2014	CW-15A 2/21/2014	CW-15A 3/18/2014	CW-15A 5/7/2014	CW-15A 6/5/2014	CW-15A 7/2/2014	CW-15A 8/5/2014
1,1-Dichloroethane	31	160		2.7	9.9 J	25 U	25 U	500 U	1000 U	120 J	20 U	500 U	130 J	150 J
1,1-Dichloroethene	7	7	7	280	22 J	19 J	15 J	1100	2100	1900	49	1200	1700	2200
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
1,2-Dichloroethane	5	5	5	0.17	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
1,2-Dichloropropane	5	5	5	0.44	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	5000 U	5000 U	5000 U	100000 U	200000 U	100000 U	4000 U	100000 U	100000 U	200000 U
2-Butanone	4000	4000		5600	130 U	130 U	130 U	2500 U	5000 U	2500 U	100 U	2500 U	2500 U	5000 U
2-Hexanone	11	44		38	130 U	130 U	130 U	2500 U	5000 U	2500 U	100 U	2500 U	2500 U	5000 U
4-Methyl-2-Pentanone	2900	8200		1200	130 U	130 U	130 U	2500 U	5000 U	2500 U	100 U	2500 U	2500 U	5000 U
Acetone	33000	92000		14000	130 U	130 U	130 U	2500 U	5000 U	2500 U	100 U	2500 U	2500 U	5000 U
Acrylonitrile	0.72	3.7		0.052	500 U	500 U	500 U	10000 U	20000 U	10000 U	400 U	10000 U	10000 U	20000 U
Benzene	5	5	5	0.45	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Bromochloromethane	90	90		83	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Bromodichloromethane	80	80		0.13	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Bromoform	80	80		9.2	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Bromomethane	10	10		7.5	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Carbon Disulfide	1500	6200		810	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Carbon Tetrachloride	5	5	5	0.45	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Chlorobenzene	100	100	100	78	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Chlorodibromomethane	80	80		0.17	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Chloroethane	230	900		21000	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Chloroform	80	80		0.22	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Chloromethane				190	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
cis-1,2-Dichloroethene	70	70	70	36	560	970	1100	6800	9300	8900	190	7200	9700	8900
cis-1,3-Dichloropropene	6.6	26		0.47	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Ethylbenzene	700	700	700	1.5	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Methylene chloride	5	5		11	25 U	25 U	15 J	500 U	1000 U	230 J	20 U	560	72 J	620 J
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Tetrachloroethene	5	5	5	11	360	390	380	570	1000	910	80	1400	2100	1400
Toluene	1000	1000	1000	1100	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
trans-1,2-Dichloroethene	100	100	100	360	25 U	5.2 J	4.8 J	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
trans-1,3-Dichloropropene	6.6	26		0.47	25 U	25 U	25 U	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Trichloroethene	5	5	5	0.49	360	400	410	1400	1600	1600	97	2100	2400	1700
Vinyl Chloride	2	2	2	0.019	9.5 J	21 J	30	500 U	1000 U	500 U	20 U	500 U	500 U	1000 U
Xylenes (Total)	10000	10000	10000	190	75 U	75 U	75 U	1500 U	3000 U	1500 U	60 U	1500 U	1500 U	3000 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-15A 9/10/2014	CW-15A 10/8/2014	CW-15A 10/30/2014	CW-17 1/23/2014	CW-17 2/21/2014	CW-17 3/18/2014	CW-17 5/7/2014	CW-17 6/5/2014	CW-17 7/2/2014	CW-17 8/5/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78			390							
Alkalinity														
ALKALINITY, BICARBONATE					210000 B	200000 B	180000 B	220000 B	190000 B	190000 B	190000 B	190000 B	210000	240000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL					210000 B	200000 B	180000 B	220000 B	190000 B	190000 B	190000 B	190000 B	210000	240000 B
Anions														
Chloride		250000			100000 B	120000 B	130000 B	190000	220000 B	230000	180000	240000 B	200000 B	230000
Nitrate As N	10000	10000	10000	32000	1100	740	1000 B	3300	3300	3900	3600	4600	3900	4200
Sulfate					33000 B	38000 B	35000 B	55000	52000	51000	45000	57000 B	53000	56000
Sulfide, Total							3000 U							
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium					74000 B	79000	79000 B	110000	96000	110000 B	100000	110000 B	100000	130000
Ferric Iron							130							
FERROUS IRON							50 U							
Hexavalent Chromium	100	100		0.035										
Magnesium					9900	9300	8800 B	9600	12000 B	11000	12000	12000	13000	14000
Potassium					7300	7000 B	7700	15000	17000	21000	17000	21000 B	19000	23000
Sodium					55000	49000 B	49000 B	73000 B	90000	98000	83000 B	85000 B	74000	100000
METAL (Dissolved)														
Calcium							79000 B							
Ferric Iron														
Hexavalent Chromium	100	100		0.035										
Iron			300	14000			130							
Magnesium							8600 B							
Manganese	300	300	50	430			690 B							
Potassium							7600							
Sodium							50000 B							
Other														
Carbon Dioxide							7200							
Ethane							0.74							
Ethene							0.30 J							
Methane							1.0 B							
Other (Dissolved)														
Dissolved Organic Carbon							2500							
TOTAL VOC														
TOTAL VOC					38100	33880	35090	50.64	52.18	35.42	19.25	68.6	56.72	274.3
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
1,1,1-Trichloroethane	200	200	200	8000	15000	12000	13000	1.3	1.3	0.85 J	0.45 J	3.4	2.2	15
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
1,1,2-Trichloroethane	5	5	5	0.28	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

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Comprehensive Site-Wide Groundwater Data Summary
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Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-15A 9/10/2014	CW-15A 10/8/2014	CW-15A 10/30/2014	CW-17 1/23/2014	CW-17 2/21/2014	CW-17 3/18/2014	CW-17 5/7/2014	CW-17 6/5/2014	CW-17 7/2/2014	CW-17 8/5/2014
1,1-Dichloroethane	31	160		2.7	500 U	180 J	180 J	0.7 J	0.58 J	0.39 J	1 U	1 U	0.56 J	2.1 J
1,1-Dichloroethene	7	7	7	280	2900	2400	2600	0.84 J	0.8 J	0.48 J	0.6 J	1.2	0.78 J	5.7
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
1,2-Dichloroethane	5	5	5	0.17	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
1,2-Dichloropropane	5	5	5	0.44	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	100000 U	100000 U	100000 U	200 U	200 U	200 U	200 U	200 U	200 U	1000 U
2-Butanone	4000	4000		5600	2500 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U
2-Hexanone	11	44		38	2500 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U
4-Methyl-2-Pentanone	2900	8200		1200	2500 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U
Acetone	33000	92000		14000	2500 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U
Acrylonitrile	0.72	3.7		0.052	10000 U	10000 U	10000 U	20 U	20 U	20 U	20 U	20 U	20 U	100 U
Benzene	5	5	5	0.45	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Bromochloromethane	90	90		83	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Bromodichloromethane	80	80		0.13	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Bromoform	80	80		9.2	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Bromomethane	10	10		7.5	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Carbon Disulfide	1500	6200		810	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Carbon Tetrachloride	5	5	5	0.45	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Chlorobenzene	100	100	100	78	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Chlorodibromomethane	80	80		0.17	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Chloroethane	230	900		21000	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Chloroform	80	80		0.22	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	0.18 J	5 U
Chloromethane				190	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
cis-1,2-Dichloroethene	70	70	70	36	16000	16000	15000	27	27	20	11	27	25	89
cis-1,3-Dichloropropene	6.6	26		0.47	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Ethylbenzene	700	700	700	1.5	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Methylene chloride	5	5		11	500 U	500 U	210 J	1 U	1 U	1 U	1 U	1 U	1 U	2.5 J
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Tetrachloroethene	5	5	5	11	2100	1600	2200	6.8	9.5	5.6	3.3	18	13	84
Toluene	1000	1000	1000	1100	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
trans-1,2-Dichloroethene	100	100	100	360	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
trans-1,3-Dichloropropene	6.6	26		0.47	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Trichloroethene	5	5	5	0.49	2100	1700	1900	14	13	8.1	3.9	19	15	76
Vinyl Chloride	2	2	2	0.019	500 U	500 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Xylenes (Total)	10000	10000	10000	190	1500 U	1500 U	1500 U	3 U	3 U	3 U	3 U	3 U	3 U	15 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-17 9/10/2014	CW-17 10/8/2014	CW-17 10/31/2014	CW-18 10/9/2014	CW-18 10/30/2014	CW-20 1/29/2014	CW-20 2/19/2014	CW-20 3/28/2014	CW-20 5/7/2014	CW-20 6/5/2014
1,4 Dioxane														
1,4-Dioxane	6.4	32		0.78										
Alkalinity														
ALKALINITY, BICARBONATE					250000 B	300000 B	260000 B	280000 B	250000 B	180000 B	230000 B	200000 B	210000 B	180000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL					250000 B	300000 B	260000 B	280000 B	250000 B	180000 B	230000 B	200000 B	210000 B	180000 B
Anions														
Chloride		250000			190000 B	200000 B	170000	190000 B	240000 B	94000	140000	160000	160000	180000 B
Nitrate As N	10000	10000	10000	32000	2900	2800	2400	260	230 B	100 U	410	3600	4100	5300
Sulfate					64000 B	67000 B	61000	210000	230000 B	29000	33000	28000	30000	37000 B
Sulfide, Total														
Cyanide														
Cyanide, Free	200	200	200	1.5										
Cyanide, Total	200	200		1.5										
METAL														
Calcium					130000 B	120000	110000 B	100000	91000	62000 B	70000	120000	94000	86000 B
Ferric Iron														
FERROUS IRON														
Hexavalent Chromium	100	100		0.035										
Magnesium					15000	13000	10000	42000	41000 B	20000	21000	18000	25000	21000
Potassium					17000	16000 B	14000	12000 B	12000 B	4100	5400	7500	14000	14000 B
Sodium					88000	74000 B	66000 B	130000 B	130000 B	45000 B	68000	50000	64000 B	60000 B
METAL (Dissolved)														
Calcium														
Ferric Iron														
Hexavalent Chromium	100	100		0.035										
Iron			300	14000										
Magnesium														
Manganese	300	300	50	430										
Potassium														
Sodium														
Other														
Carbon Dioxide														
Ethane														
Ethene														
Methane														
Other (Dissolved)														
Dissolved Organic Carbon														
TOTAL VOC														
TOTAL VOC					437.3	549.22	205.1	87.25	76.77	2739.7	3641.1	1542	931	1129.6
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.57	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
1,1,1-Trichloroethane	200	200	200	8000	26	39	13	0.39 J	1.0 U	8.8 J	83	140	36 J	51
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
1,1,2-Trichloroethane	5	5	5	0.28	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table A-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-17 9/10/2014	CW-17 10/8/2014	CW-17 10/31/2014	CW-18 10/9/2014	CW-18 10/30/2014	CW-20 1/29/2014	CW-20 2/19/2014	CW-20 3/28/2014	CW-20 5/7/2014	CW-20 6/5/2014
1,1-Dichloroethane	31	160		2.7	3.2 J	3.7	10 U	1.0 U	0.86 J	4.1 J	28	36	50 U	25 U
1,1-Dichloroethene	7	7	7	280	8.1	15	3.1 J	1.7	1.6	6.8 J	19	39	25 J	8.6 J
1,2,4-Trimethylbenzene	15	62		15										
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
1,2-Dichloroethane	5	5	5	0.17	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
1,2-Dichloropropane	5	5	5	0.44	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
1,3,5-Trimethylbenzene	13	53		120										
1,4-Dioxane	6.4	32		0.78	1000 U	200 U	2000 U	200 U	200 U	2000 U	1000 U	5000 U	10000 U	5000 U
2-Butanone	4000	4000		5600	25 U	5.0 U	50 U	5.0 U	5.0 U	50 U	25 U	130 U	250 U	130 U
2-Hexanone	11	44		38	25 U	5.0 U	50 U	5.0 U	5.0 U	50 U	25 U	130 U	250 U	130 U
4-Methyl-2-Pentanone	2900	8200		1200	25 U	5.0 U	50 U	5.0 U	5.0 U	50 U	25 U	130 U	250 U	130 U
Acetone	33000	92000		14000	25 U	5.0 U	50 U	5.0 U	5.0 U	50 U	25 U	130 U	250 U	130 U
Acrylonitrile	0.72	3.7		0.052	100 U	20 U	200 U	20 U	20 U	200 U	100 U	500 U	1000 U	500 U
Benzene	5	5	5	0.45	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
Bromochloromethane	90	90		83	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
Bromodichloromethane	80	80		0.13	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
Bromoform	80	80		9.2	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
Bromomethane	10	10		7.5	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
Carbon Disulfide	1500	6200		810	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
Carbon Tetrachloride	5	5	5	0.45	5.0 U	0.44 J	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
Chlorobenzene	100	100	100	78	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
Chlorodibromomethane	80	80		0.17	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
Chloroethane	230	900		21000	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
Chloroform	80	80		0.22	5.0 U	0.60 J	10 U	1.0 U	1.0 U	10 U	1.1 J	25 U	50 U	25 U
Chloromethane				190	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
cis-1,2-Dichloroethene	70	70	70	36	150	180	93	52	50	2100	1300	370	160	200
cis-1,3-Dichloropropene	6.6	26		0.47	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
Ethylbenzene	700	700	700	1.5	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
Isopropylbenzene	840	3500		450										
Methyl tert-butyl ether	20	20		14	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
Methylene chloride	5	5		11	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	17 J	50 U	25 U
Naphthalene	100	100		0.17										
Styrene	100	100	100	1200	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
Tetrachloroethene	5	5	5	11	130	160	39	0.99 J	0.97 J	290	1600	430	500	580
Toluene	1000	1000	1000	1100	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
trans-1,2-Dichloroethene	100	100	100	360	5.0 U	0.48 J	10 U	0.17 J	1.0 U	10 U	5 U	25 U	50 U	25 U
trans-1,3-Dichloropropene	6.6	26		0.47	5.0 U	1.0 U	10 U	1.0 U	1.0 U	10 U	5 U	25 U	50 U	25 U
Trichloroethene	5	5	5	0.49	120	150	57	32	23	330	610	510	210	290
Vinyl Chloride	2	2	2	0.019	5.0 U	1.0 U	10 U	1.0 U	0.34 J	10 U	5 U	25 U	50 U	25 U
Xylenes (Total)	10000	10000	10000	190	15 U	3.0 U	30 U	3.0 U	3.0 U	30 U	15 U	75 U	150 U	75 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

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Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-20 7/2/2014	CW-20 8/5/2014	CW-20 9/10/2014	CW-20 10/8/2014	CW-20 10/31/2014	Softail Lift Station 10/23/2014	MW-4 (Cole) 10/24/2014	RW-2 10/20/2014	RW-4 Folk 10/24/2014
1,4 Dioxane													
1,4-Dioxane	6.4	32		0.78									
Alkalinity													
ALKALINITY, BICARBONATE					200000	210000 B	240000 B	230000 B	240000 B			8000 B	
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U			5000 U	
ALKALINITY, TOTAL					200000	210000 B	240000 B	230000 B	240000 B			8000 B	
Anions													
Chloride		250000			170000 B	150000	150000 B	160000 B	170000			11000	
Nitrate As N	10000	10000	10000	32000	4600	3900	3700	3700	3600			4200	
Sulfate					34000	31000	28000 B	29000 B	31000			2200	
Sulfide, Total												3000 U	
Cyanide													
Cyanide, Free	200	200	200	1.5									
Cyanide, Total	200	200		1.5									
METAL													
Calcium					84000	88000	95000 B	91000	96000 B				
Ferric Iron												100 U	
FERROUS IRON												150 HF	
Hexavalent Chromium	100	100		0.035									
Magnesium					23000	19000	22000	17000	18000				
Potassium					11000	8500	6500	6000 B	6100				
Sodium					52000	60000	58000	49000 B	51000 B				
METAL (Dissolved)													
Calcium												4200	
Ferric Iron													
Hexavalent Chromium	100	100		0.035									
Iron			300	14000								88	
Magnesium												3300 B	
Manganese	300	300	50	430								140	
Potassium												1800	
Sodium												5800 B	
Other													
Carbon Dioxide												16000	
Ethane												0.50 U	
Ethene												0.50 U	
Methane												0.95	
Other (Dissolved)													
Dissolved Organic Carbon												490 J	
TOTAL VOC													
TOTAL VOC					1495	2760	1590	1631	1900	0	0	3.27	0
Volatile Organic Compound													
1,1,1,2-Tetrachloroethane	70	70		0.57	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	60	93	140	150	180	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

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Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-20 7/2/2014	CW-20 8/5/2014	CW-20 9/10/2014	CW-20 10/8/2014	CW-20 10/31/2014	Softail Lift Station 10/23/2014	MW-4 (Cole) 10/24/2014	RW-2 10/20/2014	RW-4 Folk 10/24/2014
1,1-Dichloroethane	31	160		2.7	50 U	13 J	40 J	41 J	57	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	7	7	7	280	15 J	25 J	30 J	40 J	38 J	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	15	62		15									
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	13	53		120									
1,4-Dioxane	6.4	32		0.78	10000 U	10000 U	10000 U	10000 U	10000 U	200 U	200 U	200 U	200 U
2-Butanone	4000	4000		5600	250 U	250 U	250 U	250 U	250 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	11	44		38	250 U	250 U	250 U	250 U	250 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone	2900	8200		1200	250 U	250 U	250 U	250 U	250 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	33000	92000		14000	250 U	250 U	250 U	250 U	250 U	5.0 U	5.0 U	5.0 U	5.0 U
Acrylonitrile	0.72	3.7		0.052	1000 U	1000 U	1000 U	1000 U	1000 U	20 U	20 U	20 U	20 U
Benzene	5	5	5	0.45	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	90	90		83	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	80	80		0.13	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	80	80		9.2	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	10	10		7.5	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	1500	6200		810	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	100	100	100	78	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	80	80		0.17	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	230	900		21000	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	80	80		0.22	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	0.17 J	1.0 U
Chloromethane				190	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	200	190	410	460	600	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	6.6	26		0.47	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	700	700	700	1.5	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	840	3500		450									
Methyl tert-butyl ether	20	20		14	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	5	5		11	50 U	29 J	50 U	50 U	65	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	100	100		0.17									
Styrene	100	100	100	1200	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	5	5	11	820	1700	500	410	460	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	1000	1000	1000	1100	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	5	5	0.49	400	710	470	530	500	1.0 U	1.0 U	3.1	1.0 U
Vinyl Chloride	2	2	2	0.019	50 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (Total)	10000	10000	10000	190	150 U	150 U	150 U	150 U	150 U	3.0 U	3.0 U	3.0 U	3.0 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

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Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	RW-5 10/23/2014	TATE (S-6) 10/22/2014
1,4 Dioxane						
1,4-Dioxane	6.4	32		0.78		
Alkalinity						
ALKALINITY, BICARBONATE						
ALKALINITY, CARBONATE						
ALKALINITY, TOTAL						
Anions						
Chloride		250000				
Nitrate As N	10000	10000	10000	32000		
Sulfate						
Sulfide, Total						
Cyanide						
Cyanide, Free	200	200	200	1.5		
Cyanide, Total	200	200		1.5		
METAL						
Calcium						
Ferric Iron						
FERROUS IRON						
Hexavalent Chromium	100	100		0.035		
Magnesium						
Potassium						
Sodium						
METAL (Dissolved)						
Calcium						
Ferric Iron						
Hexavalent Chromium	100	100		0.035		
Iron			300	14000		
Magnesium						
Manganese	300	300	50	430		
Potassium						
Sodium						
Other						
Carbon Dioxide						
Ethane						
Ethene						
Methane						
Other (Dissolved)						
Dissolved Organic Carbon						
TOTAL VOC						
TOTAL VOC					8.14	0
Volatile Organic Compound						
1,1,1,2-Tetrachloroethane	70	70		0.57	1.0 U	1 U
1,1,1-Trichloroethane	200	200	200	8000	1.0 U	1 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U	1 U
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	1 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

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1,1-Dichloroethane	31	160		2.7	1.0 U	1 U
1,1-Dichloroethene	7	7	7	280	1.0 U	1 U
1,2,4-Trimethylbenzene	15	62		15		
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	1 U
1,2-Dichloroethane	5	5	5	0.17	1.0 U	1 U
1,2-Dichloropropane	5	5	5	0.44	1.0 U	1 U
1,3,5-Trimethylbenzene	13	53		120		
1,4-Dioxane	6.4	32		0.78	200 U	200 U
2-Butanone	4000	4000		5600	5.0 U	5 U
2-Hexanone	11	44		38	5.0 U	5 U
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U	5 U
Acetone	33000	92000		14000	5.0 U	5 U
Acrylonitrile	0.72	3.7		0.052	20 U	20 U
Benzene	5	5	5	0.45	1.0 U	1 U
Bromochloromethane	90	90		83	1.0 U	1 U
Bromodichloromethane	80	80		0.13	1.0 U	1 U
Bromoform	80	80		9.2	1.0 U	1 U
Bromomethane	10	10		7.5	1.0 U	1 U
Carbon Disulfide	1500	6200		810	1.0 U	1 U
Carbon Tetrachloride	5	5	5	0.45	1.0 U	1 U
Chlorobenzene	100	100	100	78	1.0 U	1 U
Chlorodibromomethane	80	80		0.17	1.0 U	1 U
Chloroethane	230	900		21000	1.0 U	1 U
Chloroform	80	80		0.22	1.0 U	1 U
Chloromethane				190	1.0 U	1 U
cis-1,2-Dichloroethene	70	70	70	36	5.8	1 U
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1 U
Ethylbenzene	700	700	700	1.5	1.0 U	1 U
Isopropylbenzene	840	3500		450		
Methyl tert-butyl ether	20	20		14	1.0 U	1 U
Methylene chloride	5	5		11	1.0 U	1 U
Naphthalene	100	100		0.17		
Styrene	100	100	100	1200	1.0 U	1 U
Tetrachloroethene	5	5	5	11	0.34 J	1 U
Toluene	1000	1000	1000	1100	1.0 U	1 U
trans-1,2-Dichloroethene	100	100	100	360	1.0 U	1 U
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1 U
Trichloroethene	5	5	5	0.49	2	1 U
Vinyl Chloride	2	2	2	0.019	1.0 U	1 U
Xylenes (Total)	10000	10000	10000	190	3.0 U	3 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

APPENDIX B

2014 Access® Database Summary
Groundwater Treatment Plant Operations

Leidos Engineering, LLC
6310 Allentown Boulevard, Suite 110 / Harrisburg, PA 17112 / 717.901.8100 leidos.com/engineering

Harley-Davidson Motor Company

Groundwater Treatment Plant Operations

From: 1/1/2014
To: 12/31/2014

DATE	Tower Blower Cycles	Tower Blower Hours	Tower Pump Cycles	Tower Pump Hours	Discharge Flow	Effluent P1 Cycles	Effluent P1 Hours	Effluent P2 Cycles	Effluent P2 Hours	KWH	pH	De-Water Flow	SVE Blower Cycles	SVE Blower Hours
1/1/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	566	7.0	0	0	0.00
1/2/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	570	7.0	0	0	0.00
1/3/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	601	7.0	0	0	0.00
1/4/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	598	7.0	0	0	0.00
1/5/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	591	7.0	0	0	0.00
1/6/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	406	7.0	0	0	0.00
1/7/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	660	7.0	0	0	0.00
1/8/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	623	7.0	0	0	0.00
1/9/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	567	7.0	0	0	0.00
1/10/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	557	7.0	0	0	0.00
1/11/2014	0	0.00	0	0.00	3.09	0	0.00	0	0.00	341	7.0	0	0	0.00
1/12/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	331	7.0	0	0	0.00
1/13/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	363	7.0	0	0	0.00
1/14/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	303	7.0	0	0	0.00
1/15/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	377	7.0	0	0	0.00
1/16/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	422	7.0	0	0	0.00
1/17/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	378	7.0	0	0	0.00
1/18/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	598	7.0	0	0	0.00
1/19/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	602	7.0	0	0	0.00
1/20/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	368	7.0	0	0	0.00
1/21/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	614	7.0	0	0	0.00
1/22/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	641	7.0	0	0	0.00
1/23/2014	2	0.57	3	0.40	3629.72	2	0.78	0	0.00	670	7.0	0	0	0.00
1/24/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	652	7.0	0	0	0.00
1/25/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	645	7.0	0	0	0.00
1/30/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	2600	7.0	0	0	0.00
1/31/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	3056	7.0	0	0	0.00
2/1/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	3437	7.0	0	0	0.00
2/2/2014	0	0.00	0	0.00	5.15	0	0.00	0	0.00	3809	7.0	0	0	0.00
2/3/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	4392	7.0	0	0	0.00
2/4/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	617	7.0	0	0	0.00
2/5/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	611	7.0	0	0	0.00
2/6/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	627	7.0	0	0	0.00
2/7/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	631	7.0	0	0	0.00
2/8/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	644	7.0	0	0	0.00
2/9/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	655	7.0	0	0	0.00
2/10/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	648	7.0	0	0	0.00
2/11/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	651	7.0	0	0	0.00
2/12/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	665	7.0	0	0	0.00
2/13/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	650	7.0	0	0	0.00
2/14/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	449	7.0	0	0	0.00

DATE	Tower Blower Cycles	Tower Blower Hours	Tower Pump Cycles	Tower Pump Hours	Discharge Flow	Effluent P1 Cycles	Effluent P1 Hours	Effluent P2 Cycles	Effluent P2 Hours	KWH	pH	De-Water Flow	SVE Blower Cycles	SVE Blower Hours
2/15/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	632	7.0	0	0	0.00
2/16/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	642	7.0	0	0	0.00
2/17/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	624	7.0	0	0	0.00
2/18/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	433	7.0	0	0	0.00
2/19/2014	0	0.00	0	0.00	8.24	0	0.00	0	0.00	395	7.0	0	0	0.00
2/20/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	387	7.0	0	0	0.00
2/21/2014	2	1.02	2	0.58	3966.53	2	1.35	1	0.02	392	7.0	0	0	0.00
2/22/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	363	7.0	0	0	0.00
2/23/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	363	7.0	0	0	0.00
2/24/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	428	7.0	0	0	0.00
2/25/2014	545	4.17	0	0.00	12.36	0	0.00	0	0.00	629	7.0	0	0	0.00
2/26/2014	0	0.00	0	0.00	30.9	0	0.00	0	0.00	629	7.0	0	0	0.00
2/27/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	648	7.0	0	0	0.00
2/28/2014	0	0.00	0	0.00	1.03	0	0.00	0	0.00	646	7.0	0	0	0.00
3/1/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	592	7.0	0	0	0.00
3/2/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	566	7.0	0	0	0.00
3/3/2014	0	0.00	0	0.00	1.03	0	0.00	0	0.00	642	7.0	0	0	0.00
3/4/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	630	7.0	0	0	0.00
3/5/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	429	7.0	0	0	0.00
3/6/2014	0	0.00	0	0.00	7.21	0	0.00	0	0.00	377	7.0	0	0	0.00
3/7/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	569	7.0	0	0	0.00
3/8/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	334	7.0	0	0	0.00
3/9/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	0	7.0	0	0	0.00
3/10/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	13	7.0	0	0	0.00
3/11/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	7	7.0	0	0	0.00
3/12/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	6	7.0	0	0	0.00
3/13/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	13	7.0	0	0	0.00
3/14/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	15	7.0	0	0	0.00
3/15/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	8	7.0	0	0	0.00
3/16/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	6	7.0	0	0	0.00
3/17/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	15	7.0	0	0	0.00
3/18/2014	1	1.02	1	1.02	3035	0	0.00	0	0.00	14	7.0	0	0	0.00
3/19/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	8	6.0	0	0	0.00
3/20/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	9	7.0	0	0	0.00
3/21/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	8	7.0	0	0	0.00
3/22/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	499	7.0	0	0	0.00
3/23/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	828	7.0	0	0	0.00
3/24/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	1420	7.0	0	0	0.00
3/25/2014	1	0.10	1	0.07	1604.74	0	0.00	0	0.00	616	7.0	0		
3/26/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	617	7.0	0		
3/27/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	392	7.0	0		
3/28/2014	2	0.63	2	0.53	4172.53	0	0.00	0	0.00	315	6.0	0		
3/29/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	160	7.0	0		
3/30/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	399	7.0	0		
3/31/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	337	7.0	0		
4/1/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	284	7.0	0		
4/2/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	149	7.0	0		

DATE	Tower Blower Cycles	Tower Blower Hours	Tower Pump Cycles	Tower Pump Hours	Discharge Flow	Effluent P1 Cycles	Effluent P1 Hours	Effluent P2 Cycles	Effluent P2 Hours	KWH	pH	De-Water Flow	SVE Blower Cycles	SVE Blower Hours
4/3/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	135	7.0	0		
4/4/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	160	7.0	0		
4/5/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	291	7.0	0		
4/6/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	312	7.0	0		
4/7/2014	1	13.93	1	13.93	81463.73	10	3.78	10	7.97	488	7.0	0		
4/8/2014	3	23.42	3	23.30	129375.2	36	6.55	36	8.58	684	7.0	0		
4/9/2014	1	23.97	1	23.97	128480.1	45	5.75	46	6.58	688	7.0	0		
4/10/2014	1	23.97	1	23.97	128852	51	6.02	44	5.87	689	7.0	0		
4/11/2014	1	23.97	1	23.97	134015.4	64	7.55	31	4.55	884	7.0	4940		
4/12/2014	2	15.95	2	15.85	82272.28	35	3.90	28	3.43	698	7.0	0		
4/13/2014	2	4.58	4	4.45	25998.23	1	0.10	17	2.18	261	7.0	0		
4/14/2014	1	23.97	1	23.97	129982.9	49	6.10	48	5.82	983	7.0	5340		
4/15/2014	2	17.88	2	17.83	92504.3	40	4.42	33	4.00	805	7.0	0		
4/16/2014	2	18.15	2	18.08	106165.2	45	5.47	30	4.15	1047	7.0	0		
4/17/2014	1	23.97	1	23.97	145238.2	43	5.75	52	7.85	1226	7.0	0		
4/18/2014	1	23.97	1	23.97	144534.8	47	6.25	47	7.32	1219	7.0	0		
4/19/2014	1	23.97	1	23.97	144133	58	8.00	37	5.58	1040	7.0	0		
4/20/2014	1	23.97	1	23.97	143821	49	6.97	43	7.07	1040	7.0	0		
4/21/2014	1	23.97	1	23.97	143363.6	44	6.48	45	8.00	1032	7.0	0		
4/22/2014	1	23.97	1	23.97	143074.2	45	7.60	38	8.00	1022	7.0	0		
4/23/2014	1	23.97	1	23.97	142844.5	45	8.57	30	8.00	1042	7.0	0		
4/24/2014	2	18.72	2	18.67	113030.1	28	6.32	22	7.60	845	7.0	0		
4/25/2014	2	16.18	1	16.18	77780.45	20	5.85	8	4.37	802	7.0	0		
4/26/2014	1	23.97	0	23.97	144754.1	30	10.13	10	10.30	1205	7.0	0		
4/27/2014	1	23.97	0	23.97	144259.7	28	11.30	6	9.68	1212	7.0	0		
4/28/2014	1	23.97	0	23.97	143926	20	10.03	3	12.00	1200	7.0	0		
4/29/2014	1	23.97	0	23.97	143713.8	19	10.67	3	11.62	1216	7.0	0		
4/30/2014	1	23.89	0	23.97	143241.1	29	24.00	8	21.12	1196	7.0	0		
5/1/2014	2	23.89	0	23.97	143241.1	29	24.00	8	21.12	1196	7.0	0		
5/2/2014	1	23.97	0	23.97	145245.5	15	11.40	3	11.23	1180	7.0	0		
5/3/2014	1	23.97	0	23.97	145089.9	15	10.58	4	12.00	1178	7.0	0		
5/4/2014	1	23.97	0	23.97	144700.6	14	10.58	4	12.00	1183	7.0	0		
5/5/2014	1	23.97	0	23.97	143451.2	15	11.38	4	11.07	1179	7.0	0		
5/6/2014	1	23.97	0	23.97	143504.8	11	12.00	4	10.98	1173	7.0	0		
5/7/2014	1	23.97	0	23.97	146553.5	23	11.88	3	9.90	1195	7.0	0		
5/8/2014	1	23.97	0	23.97	142988.7	21	9.97	3	12.00	1167	7.0	0		
5/9/2014	1	23.97	0	23.97	143091.7	22	10.10	3	11.70	1162	7.0	0		
5/10/2014	1	23.97	0	23.97	142708.6	16	12.00	4	10.55	1159	7.0	0		
5/11/2014	1	23.97	0	23.97	142695.2	11	12.00	4	11.05	1161	7.0	0		
5/12/2014	8	17.65	7	17.65	99197.23	6	9.73	3	6.62	786	7.0	0		
5/13/2014	1	23.97	1	23.97	142060.7	4	11.85	3	12.00	990	7.0	0		
5/14/2014	1	23.97	1	23.97	141918.5	4	11.93	3	12.00	1012	7.0	0		
5/15/2014	1	23.97	1	23.97	141435.5	4	11.90	3	12.00	983	7.0	0		
5/16/2014	1	23.97	1	23.97	142270.8	4	11.87	3	12.00	1001	7.0	0		
5/17/2014	1	23.97	1	23.97	142343.9	6	11.60	3	12.00	1006	7.0	0		
5/18/2014	1	23.97	1	23.97	142191.5	5	11.63	3	12.00	1016	7.0	0		
5/19/2014	1	23.97	1	23.97	141917.5	5	11.65	3	12.00	1003	7.0	0		

DATE	Tower Blower Cycles	Tower Blower Hours	Tower Pump Cycles	Tower Pump Hours	Discharge Flow	Effluent P1 Cycles	Effluent P1 Hours	Effluent P2 Cycles	Effluent P2 Hours	KWH	pH	De-Water Flow	SVE Blower Cycles	SVE Blower Hours
5/20/2014	1	23.97	1	23.97	141698.1	18	11.77	3	10.52	999	7.0	0		
5/21/2014	1	23.97	1	23.97	141670.3	10	12.00	4	11.00	1005	7.0	0		
5/22/2014	1	23.97	1	23.97	141582.8	3	12.00	4	11.75	987	7.0	0		
5/23/2014	1	23.97	1	23.97	141680.6	3	12.00	4	11.73	1009	7.0	0		
5/24/2014	1	23.97	1	23.97	141523	3	12.00	4	11.77	1000	7.0	0		
5/25/2014	1	23.97	1	23.97	141409.7	3	12.00	4	11.73	996	7.0	0		
5/26/2014	1	23.97	1	23.97	141218.1	3	12.00	4	11.77	988	7.0	0		
5/27/2014	1	23.97	1	23.97	141019.4	3	12.00	4	11.78	982	7.0	0		
5/28/2014	1	23.97	1	23.97	141009.1	2	16.13	2	7.77	990	7.0	0		
5/29/2014	1	23.97	1	23.97	140979.2	1	4.02	1	19.85	1013	7.0	0		
5/30/2014	1	23.97	1	23.97	141629.1	1	4.03	2	19.83	992	7.0	0		
5/31/2014	1	23.97	1	23.97	141416.9	0	0.00	1	23.97	980	7.0	0		
6/1/2014	1	23.97	1	23.97	141284.1	0	0.00	1	23.98	984	7.0	0		
6/2/2014	2	16.97	2	16.93	100152	1	11.28	2	5.70	701	7.0	0		
6/3/2014	1	23.97	1	23.97	141050.3	2	15.28	2	8.47	993	7.0	0		
6/4/2014	1	23.97	1	23.97	141140.9	2	13.52	2	10.30	996	7.0	0		
6/5/2014	1	23.97	1	23.97	144709.8	2	9.17	2	14.53	999	7.0	0		
6/6/2014	1	23.97	1	23.97	141139.9	0	0.00	1	23.98	989	7.0	0		
6/7/2014	1	23.97	1	23.97	140976.1	0	0.00	1	23.97	984	7.0	0		
6/8/2014	1	23.97	1	23.97	140863.8	1	18.75	1	5.23	985	7.0	0		
6/9/2014	1	23.97	1	23.97	140583.7	1	23.97	0	0.00	976	7.0	0		
6/10/2014	1	23.97	1	23.97	140584.7	1	23.97	0	0.00	991	7.0	0		
6/11/2014	1	23.97	1	23.97	140556.9	1	23.98	0	0.00	999	7.0	0		
6/12/2014	1	23.97	1	23.97	140399.3	2	4.38	1	19.55	996	7.0	0		
6/13/2014	1	23.97	1	23.97	140873.1	1	23.97	0	0.00	996	7.0	0		
6/14/2014	1	23.97	1	23.97	140879.3	1	23.97	0	0.00	1000	7.0	0		
6/15/2014	1	23.97	1	23.97	140669.2	1	23.97	0	0.00	998	7.0	0		
6/16/2014	1	23.97	1	23.97	140401.4	1	16.98	1	6.88	990	7.0	0		
6/17/2014	1	23.97	1	23.97	140164.5	0	0.00	1	23.97	993	7.0	0		
6/18/2014	1	23.97	1	23.97	140120.2	0	0.00	1	23.97	1002	7.0	0		
6/19/2014	1	23.97	1	23.97	140085.1	1	8.22	2	15.65	1006	7.0	0		
6/20/2014	1	23.97	1	23.97	140013	0	0.00	1	23.97	1000	7.0	0		
6/21/2014	1	23.97	1	23.97	139908	0	0.00	1	23.97	995	7.0	0		
6/22/2014	1	23.97	1	23.97	139598	0	0.00	1	23.97	988	7.0	0		
6/23/2014	1	23.97	1	23.97	139310.6	0	0.00	1	23.97	989	7.0	0		
6/24/2014	1	23.97	1	23.97	139179.8	0	0.00	1	23.98	988	7.0	0		
6/25/2014	1	23.97	1	23.97	139118	0	0.00	1	23.97	990	7.0	0		
6/26/2014	1	23.97	1	23.97	139325	0	0.00	1	23.97	1007	7.0	0		
6/27/2014	1	23.97	1	23.97	140049.1	1	15.88	1	8.08	1017	7.0	0		
6/28/2014	1	23.97	1	23.97	139826.6	1	23.98	0	0.00	1007	7.0	0		
6/29/2014	1	23.97	1	23.97	139928.6	1	23.97	0	0.00	1009	7.0	0		
6/30/2014	1	23.97	1	23.97	139358	1	23.97	0	0.00	1011	7.0	0		
7/1/2014	1	23.97	1	23.97	139228.2	1	23.97	0	0.00	1014	7.0	0		
7/2/2014	1	23.97	1	23.97	142315.1	1	8.73	1	15.15	1024	7.0	0		
7/3/2014	2	23.12	2	23.12	125865	1	1.00	2	20.55	946	7.0	0		
7/4/2014	1	23.97	1	23.97	139719.5	0	0.00	1	23.98	1014	7.0	0		
7/5/2014	1	23.97	1	23.97	139211.7	0	0.00	1	23.97	1003	7.0	0		

DATE	Tower Blower Cycles	Tower Blower Hours	Tower Pump Cycles	Tower Pump Hours	Discharge Flow	Effluent P1 Cycles	Effluent P1 Hours	Effluent P2 Cycles	Effluent P2 Hours	KWH	pH	De-Water Flow	SVE Blower Cycles	SVE Blower Hours
7/6/2014	1	23.97	1	23.97	138860.5	0	0.00	1	23.97	998	7.0	0		
7/7/2014	2	23.45	2	23.38	136191.8	1	15.83	1	7.62	987	7.0	0		
7/8/2014	1	9.02	1	9.02	52559.24	1	7.82	1	1.18	381	7.0	0		
7/9/2014	0	0.00	0	0.00	0	1	0.00	0	0.00	0	0.0	0		
7/10/2014	1	19.33	1	19.33	112635.3	1	16.76	1	2.53	818	7.0	0		
7/11/2014	1	23.97	1	23.97	138866.7	0	0.00	1	23.98	1003	7.0	0		
7/12/2014	1	23.97	1	23.97	138466	0	0.00	1	23.98	1003	7.0	0		
7/13/2014	1	23.97	1	23.97	138164.2	0	0.00	1	23.97	997	7.0	0		
7/14/2014	1	23.97	1	23.97	138118.9	13	3.75	14	15.68	994	7.0	0		
7/15/2014	2	20.90	2	20.85	120924.1	14	10.52	12	8.03	874	7.0	0		
7/16/2014	1	23.97	1	23.97	138069.4	28	9.55	10	10.97	998	7.0	0		
7/17/2014	1	23.97	1	23.97	137886.1	44	9.10	25	8.00	992	7.0	0		
7/18/2014	1	23.97	1	23.97	137893.3	46	7.70	34	8.00	1001	7.0	0		
7/19/2014	1	23.97	1	23.97	137632.7	45	7.18	39	8.00	994	7.0	0		
7/20/2014	1	23.97	1	23.97	137435	46	6.75	41	8.00	989	7.0	0		
7/21/2014	1	23.97	1	23.97	137231	52	7.63	37	6.87	980	7.0	0		
7/22/2014	1	23.97	1	23.97	137030.2	54	8.00	37	6.48	981	7.0	0		
7/23/2014	2	23.95	2	23.93	178421.8	30	8.43	32	10.60	1045	7.0	0		
7/24/2014	1	23.97	1	23.97	186098.3	42	11.47	18	8.00	1058	7.0	0		
7/25/2014	1	21.30	1	21.25	99256.98	17	4.05	15	6.58	850	4.0	0		
7/26/2014	1	0.05	1	0.00	35.02	0	0.00	0	0.00	101	5.0	0		
7/27/2014	0	0.00	0	0.00	2435.95	0	0.00	0	0.00	101	5.0	0		
7/28/2014	1	10.98	1	10.98	88174.18	2	5.47	2	5.42	549	7.0	0		
7/29/2014	1	23.97	1	23.97	190594.3	4	11.88	3	12.00	1068	7.0	0		
7/30/2014	1	23.97	1	23.97	189136.8	6	11.65	3	12.00	1065	7.0	0		
7/31/2014	1	23.97	1	23.97	188123.3	7	11.58	3	12.00	1053	7.0	0		
8/1/2014	1	23.97	1	23.97	187467.2	7	11.57	3	12.00	1060	7.0	0		
8/2/2014	1	23.97	1	23.97	184462.7	4	11.75	5	11.73	1055	7.0	0		
8/3/2014	1	23.97	1	23.97	166101.9	15	12.00	13	9.73	1034	7.0	0		
8/4/2014	1	23.97	1	23.97	170582.4	14	11.85	7	10.48	1037	7.0	0		
8/5/2014	1	23.97	1	23.97	188635.2	14	10.97	3	12.00	1069	7.0	0		
8/6/2014	1	23.97	1	23.97	184590.4	14	11.03	4	12.00	1057	7.0	0		
8/7/2014	1	23.97	1	23.97	184844.8	9	11.43	3	12.00	1057	7.0	0		
8/8/2014	1	23.97	1	23.97	176981.8	7	10.62	7	11.83	1044	7.0	0		
8/9/2014	1	23.97	1	23.97	185935.6	6	12.00	4	11.55	1052	7.0	0		
8/10/2014	1	23.97	1	23.97	185662.6	6	12.00	4	11.55	1049	7.0	0		
8/11/2014	1	7.90	1	7.88	61165.52	2	4.00	2	3.77	411	7.0	0		
8/12/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	78	7.0	0		
8/13/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	83	7.0	0		
8/14/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	80	7.0	0		
8/15/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	81	7.0	0		
8/16/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	83	7.0	0		
8/17/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	80	7.0	0		
8/18/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	83	7.0	0		
8/19/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	87	7.0	0		
8/20/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	87	7.0	0		
8/21/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	87	7.0	0		

DATE	Tower Blower Cycles	Tower Blower Hours	Tower Pump Cycles	Tower Pump Hours	Discharge Flow	Effluent P1 Cycles	Effluent P1 Hours	Effluent P2 Cycles	Effluent P2 Hours	KWH	pH	De-Water Flow	SVE Blower Cycles	SVE Blower Hours
8/22/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	89	7.0	0		
8/23/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	79	7.0	0		
8/24/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	81	7.0	0		
8/25/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	82	7.0	0		
8/26/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	86	7.0	0		
8/27/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	96	7.0	0		
8/28/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	105	7.0	0		
8/29/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	102	7.0	0		
8/30/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	100	7.0	0		
8/31/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	111	7.0	0		
9/1/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	111	7.0	0		
9/2/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	105	7.0	0		
9/3/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	91	7.0	0		
9/4/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	94	7.0	0		
9/5/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	91	7.0	0		
9/6/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	96	7.0	0		
9/7/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	86	7.0	0		
9/8/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	83	7.0	0		
9/9/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	84	7.0	0		
9/10/2014	2	0.87	2	0.72	5876.15	0	0.00	2	0.93	118	6.0	0		
9/11/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	82	7.0	0		
9/12/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	85	7.0	0		
9/13/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	92	7.0	0		
9/14/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	96	7.0	0		
9/15/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	85	7.0	0		
9/16/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	75	7.0	0		
9/17/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	76	7.0	0		
9/18/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	77	7.0	0		
9/19/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	79	7.0	0		
9/20/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	78	7.0	0		
9/21/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	81	7.0	0		
9/22/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	74	7.0	0		
9/23/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	75	7.0	0		
9/24/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	75	7.0	0		
9/25/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	73	7.0	0		
9/26/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	69	7.0	0		
9/27/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	72	7.0	0		
9/28/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	72	7.0	0		
9/29/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	73	7.0	0		
9/30/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	72	7.0	0		
10/1/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	74	7.0	0		
10/2/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	73	7.0	0		
10/3/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	71	7.0	0		
10/4/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	70	7.0	0		
10/5/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	83	7.0	0		
10/6/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	73	7.0	0		
10/7/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	83	7.0	0		

DATE	Tower Blower Cycles	Tower Blower Hours	Tower Pump Cycles	Tower Pump Hours	Discharge Flow	Effluent P1 Cycles	Effluent P1 Hours	Effluent P2 Cycles	Effluent P2 Hours	KWH	pH	De-Water Flow	SVE Blower Cycles	SVE Blower Hours
10/8/2014	2	0.90	2	0.83	0	0	0.00	0	0.00	122	6.0	0		
10/9/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	72	6.0	0		
10/10/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	76	6.0	0		
10/11/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	123	6.0			
10/12/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	123	6.0			
10/13/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	123	6.0	0		
10/13/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	369	6.0	0		
10/14/2014	1	0.12	2	0.03	0	0	0.00	0	0.00	89	6.0	0		
10/15/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	83	6.0	0		
10/16/2014	1	0.07	1	0.02	0	0	0.00	0	0.00	86	6.0	0		
10/17/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	78	6.0	0		
10/18/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	81	6.0	0		
10/19/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	92	6.0	0		
10/20/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	117	6.0	0		
10/21/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	90	6.0	0		
10/22/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	103	6.0	0		
10/23/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	109	6.0	0		
10/24/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	90	6.0	0		
10/25/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	117	6.0			
10/26/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	117	6.0			
10/27/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	117	6.0			
10/28/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	117	6.0	0		
10/29/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	87	6.0	0		
10/30/2014	2	0.62	3	0.35	0	0	0.00	0	0.00	131	7.0	0		
10/31/2014	1	0.72	2	0.37	0	0	0.00	0	0.00	142	7.0	0		
11/1/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	112	7.0	0		
11/2/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	120	7.0	0		
11/3/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	270	7.0	0		
11/4/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	87	7.0	0		
11/5/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	90	6.0	0		
11/6/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	100	6.0	0		
11/7/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	112	6.0	0		
11/8/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	287	6.0	0		
11/9/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	132	6.0	0		
11/10/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	271	6.0	0		
11/11/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	95	6.0	0		
11/12/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	94	6.0	0		
11/13/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	340	6.0	0		
11/14/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
11/15/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
11/16/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
11/17/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
11/18/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
11/19/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
11/20/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
11/21/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
11/22/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		

DATE	Tower Blower Cycles	Tower Blower Hours	Tower Pump Cycles	Tower Pump Hours	Discharge Flow	Effluent P1 Cycles	Effluent P1 Hours	Effluent P2 Cycles	Effluent P2 Hours	KWH	pH	De-Water Flow	SVE Blower Cycles	SVE Blower Hours
11/23/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
11/24/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
11/25/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
11/26/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
11/27/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
11/28/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
11/29/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
11/30/2014	0	0.00	0	0.00	0	0	0.00	0	0.00	162	6.0	0		
Sum	708	2850.57	150	2844.05	17287880	1742	1184.95	1201	1408.48	190676		10280	0	0.00
Max	545	23.97	7	23.97	190594	64	24.00	52	23.98	4392	7.0	5340	0	0.00
Average	2	8.61	0	8.59	52229	5	3.58	4	4.26	576	6.8	32	0	0.00

APPENDIX C

2014 Operation and Maintenance Data Summary

Leidos Engineering, LLC
6310 Allentown Boulevard, Suite 110 / Harrisburg, PA 17112 / 717.901.8100 leidos.com/engineering

TABLE C-1
2014 OPERATION AND MAINTENANCE DATA SUMMARY
former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

TECHNICIAN		SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL
Date		1/1/2014	1/31/2014	2/1/2014	2/28/2014	3/1/2014	3/31/2014	4/10/2014	4/23/2014	5/14/2014	5/28/2014	6/6/2014	6/19/2014	7/8/2014	7/30/2014	8/11/2014	8/27/2014	9/1/2014	9/30/2014	10/1/2014	10/31/2014	11/1/2014	11/30/2014	12/1/2014	12/31/2014
PTA INFL. PUMP																									
Full Load = 17	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	FLOW RATE gpm	OL	OL	OL	OL	OL	OL	91	94	96	99	100	97	91	137	127	OL	OL	OL	OL	OL	OL	OL	OL	OL
PTA BLOWER																									
Full Load = 24	AMP READINGS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	PRESSURE inches water	OL	OL	OL	OL	OL	OL	14.5	14.5	14.5	14.0	14.0	13.5	13.5	14.5	14.25	OL	OL	OL	OL	OL	OL	OL	OL	OL
TOWER PANEL																									
	VISUAL INSPECT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	WARWICK SECURE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOWER SAMPLING																									
	AST EFFLUENT pH	OL	OL	OL	OL	OL	OL	8.1	NM	7.92	NM	8.11	NM	8.2	NM	8.15	OL	OL	OL	OL	OL	OL	OL	OL	OL
	AST INFLUENT pH	OL	OL	OL	OL	OL	OL	6.62	NM	6.61	NM	6.57	NM	6.6	NM	6.88	OL	OL	OL	OL	OL	OL	OL	OL	OL
REDUX CHEMICAL INJECTION																									
	LMI PUMP SPEED (%)	OL	OL	OL	OL	OL	OL	55	56	55	56	56	56	56	58	57	OL	OL	OL	OL	OL	OL	OL	OL	OL
	LMI INJECTION RATE (milis/min)	OL	OL	OL	OL	OL	OL	4.8	5.0	5.1	4.8	5.2	5.0	4.8	6.9	7.0	OL	OL	OL	OL	OL	OL	OL	OL	OL
TCA WELL																									
CW-8; Full Load = 15.9	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CW-8	FLOW RATE gpm	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-8	PRESSURE psi	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-8	CLEAN "Y" STRAINER	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-8	CLEAN CK. VALVE	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-8	HIGH LEVEL ALARM	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
WPL WELLS																									
	TOTAL FLOW RATE gpm	OL	OL	OL	OL	OL	OL	83	95	97	97	96	95	93	116	113	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-9; Full Load = 5.5	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CW-9	FLOW RATE gpm	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	27.5	25.7	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-9	PRESSURE psi	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	2	6	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-9	CLEAN "Y" STRAINER	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	N	N	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-9	HIGH LEVEL ALARM?	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	Y	Y	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-13; Full Load = 11.5	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	OL	NM	NM	
CW-13	FLOW RATE gpm	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-13	PRESSURE psi	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-13	CLEAN "Y" STRAINER	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-13	HIGH LEVEL ALARM?	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-17; Full Load = 11.5	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	OL	NM	NM	
CW-17	FLOW RATE gpm	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-17	PRESSURE psi	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-17	CLEAN "Y" STRAINER	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-17	HIGH LEVEL ALARM?	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-15A; Full Load = 1.6	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	OL	NM	NM	
CW-15A	FLOW RATE gpm	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-15A	PRESSURE psi	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-15A	CLEAN "Y" STRAINER	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-15A	HIGH LEVEL ALARM?	OL	OL	OL	OL	OL	OL	OL	OL	Y	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-20 Full Load = 17.3	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CW-20	FLOW RATE gpm	OL	OL	OL	OL	OL	OL	82.8	95.4	96.8	98.0	96.2	95.1	92.4	88.9	87.8	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-20	PRESSURE psi	OL	OL	OL	OL	OL	OL	30	18	18	18	18	19	18	18	20	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-20	CLEAN "Y" STRAINER	OL	OL	OL	OL	OL	OL	N	N	N	N	N	N	NM	N	N	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-20	HIGH LEVEL ALARM?	OL	OL	OL	OL	OL	OL	Y	Y	Y	Y	Y	Y	Y	Y	N	OL	OL	OL	OL	OL	OL	OL	OL	OL
AST influent pressure	inches of water	OL	OL	OL	OL	OL	OL	8.7	9.5	9.3	8.3	8.6	8.6	8.2	8.4	8.0	OL	OL	OL	OL	OL	OL	OL	OL	OL
GAC influent pressure	inches of water	OL	OL	OL	OL	OL	OL	8.1	7.6	7.2	7	7.2	7.1	6.5	7.5	7.5	OL	OL	OL	OL	OL	OL	OL	OL	OL
AST pitot pressure	inches of water	OL	OL	OL	OL	OL	OL	0.26	0.25	0.26	0.25	0.25	0.25	0.25	0.25	12.60	OL	OL	OL	OL	OL	OL	OL	OL	OL

Notes:
Y - Yes NA - Not Applicable OL - Off Line
N - No NM - Not Measured

TABLE C-1
2014 OPERATION AND MAINTENANCE DATA SUMMARY
former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

TECHNICIAN		SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL	SRL
Date		1/1/2014	1/31/2014	2/1/2014	2/28/2014	3/1/2014	3/31/2014	4/10/2014	4/23/2014	5/14/2014	5/28/2014	6/6/2014	6/19/2014	7/8/2014	7/30/2014	8/11/2014	8/27/2014	9/1/2014	9/30/2014	10/1/2014	10/31/2014	11/1/2014	11/30/2014	12/1/2014	12/31/2014
NPBA WELLS																								
	VIS. INSP. CONTR. PANEL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	WARWICK SECURE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SUMP PUMP OPR. CHK.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	MANIFOLD PRESS. psi	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CW-1; Full Load = 1.6	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CW-1	FLOW-RATE gpm	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-1	PRESSURE psi	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-1	CLEAN "Y" STRAINER	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-1	CLEAN CK. VALVE	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-1	CLEAN FLOWSENSOR	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-1	HIGH LEVEL ALARM?	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-1A; Full Load = 1.6	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CW-1A	FLOW-RATE gpm	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-1A	PRESSURE psi	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-1A	CLEAN "Y" STRAINER	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-1A	CLEAN CK. VALVE	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-1A	CLEAN FLOWSENSOR	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-1A	HIGH LEVEL ALARM?	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-2; Full Load = 1.6	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CW-2	FLOW-RATE gpm	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-2	PRESSURE psi	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-2	CLEAN "Y" STRAINER	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-2	CLEAN CK. VALVE	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-2	CLEAN FLOWSENSOR	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-2	HIGH LEVEL ALARM?	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-3; Full Load = 1.6	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CW-3	FLOW-RATE gpm	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-3	PRESSURE psi	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-3	CLEAN "Y" STRAINER	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-3	CLEAN CK. VALVE	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-3	CLEAN FLOWSENSOR	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-3	HIGH LEVEL ALARM?	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-4; Full Load = 1.6	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CW-4	FLOW-RATE gpm	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-4	PRESSURE psi	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-4	CLEAN "Y" STRAINER	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-4	CLEAN CK. VALVE	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-4	CLEAN FLOWSENSOR	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-4	HIGH LEVEL ALARM?	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-5; Full Load = 6	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CW-5	FLOW-RATE gpm	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-5	PRESSURE psi	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-5	CLEAN "Y" STRAINER	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-5	CLEAN CK. VALVE	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-5	CLEAN FLOWSENSOR	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-5	HIGH LEVEL ALARM?	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-6; Full Load = 1.6	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CW-6	FLOW-RATE gpm	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-6	PRESSURE psi	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-6	CLEAN "Y" STRAINER	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-6	CLEAN CK. VALVE	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-6	CLEAN FLOWSENSOR	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-6	HIGH LEVEL ALARM?	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-7; Full Load = 1.6	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CW-7	FLOW-RATE gpm	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-7	PRESSURE psi	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-7	CLEAN "Y" STRAINER	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-7	CLEAN CK. VALVE	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-7	CLEAN FLOWSENSOR	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-7	HIGH LEVEL ALARM?	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-7A; Full Load = 1.6	AMPS	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CW-7A	FLOW-RATE gpm	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-7A	PRESSURE psi	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-7A	CLEAN "Y" STRAINER	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-7A	CLEAN CK. VALVE	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-7A	CLEAN FLOWSENSOR	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
CW-7A	HIGH LEVEL ALARM?	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL

Notes:
Y - Yes NA - Not Applicable OL - Off Line
N - No NM - Not Measured