GROUNDWATER EXTRACTION AND TREATMENT SYSTEM ANNUAL OPERATIONS REPORT FOR THE PERIOD JANUARY 1 THROUGH DECEMBER 31, 2015 FORMER YORK NAVAL ORDNANCE PLANT

Leidos Project 313271.00.00.2000.100

Prepared for:

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

March 2016

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Groundwater Extraction and Treatment System
Annual Operations Report
for the Period
January 1 through December 31, 2015
Former York Naval Ordnance Plant

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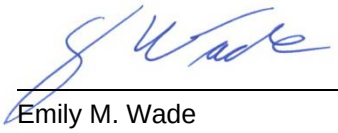
Respectfully submitted,



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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
IDW	-	investigation-derived waste
lbs/day	-	pounds per day
Leidos	-	Leidos, Inc.
MCC	-	motor control center
NB4	-	North Building 4
NPBA	-	Northeast Property Boundary Area
NPDES	-	National Pollutant Discharge Elimination System
NP York	-	NP York 58, LLC
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
RACY	-	Redevelopment Authority of the County of York
RI	-	Remedial Investigation
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 2015 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 for over 25 years (since November 1990).

The West Parking Lot (WPL) collection wells operated during 2015, beginning with the restart of the GWTS on January 27, 2015. A new WPL pumping well (CW-20), located in the southwest corner of the WPL, was brought on-line in April 2014, and was operational, along with the other WPL pumping wells during 2015.

The Northeast Property Boundary Area (NPBA) and lift station systems were 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), and remained off during 2015 pending completion of shutdown monitoring studies. Collection well CW-8, located in the 1,1,1-trichloroethane (TCA) Tank Area near former Building 2 was not operated during 2015, and was abandoned in early 2016.

Approximately 1,500 pounds of volatile organic compounds (VOCs) were removed by the GWTS in the 2015 calendar year. The total amount of groundwater extracted during 2015 was approximately 106 million gallons. Cumulatively, approximately 44,243 pounds of VOCs have been removed by the GWTS since 1990.

Site-wide groundwater elevation data were collected in September and December 2015. Site-wide groundwater sampling was also conducted during 2015. Summaries of this data are presented in this report. Further evaluation of this data will be provided in a separate SGWRI report to be issued during the second quarter 2016.

1.0 INTRODUCTION

This report presents a summary of the operating record for the fYNOP GWTS, and includes collection well water quality, site-wide monitoring well water quality, and groundwater level data obtained during 2015. The fYNOP facility consists of the current Harley-Davidson Motor Company Operations, Inc. (Harley-Davidson) York facility and the West Campus property (as described in the following paragraph) 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, 2015.

Harley-Davidson sold 58 acres of the western portion of the fYNOP to the York County Industrial Development Authority (YCIDA) on June 14, 2012. Transfer of this property from YCIDA to the Redevelopment Authority of the County of York (RACY) was completed on November 9, 2015, with pending sale agreement between RACY and NP York 58, LLC (NP York) for development. The parcel—now addressed as 1445 Eden Road, York, Pennsylvania —extends from west of the current motorcycle manufacturing operations through the WPL and is identified as the "West Campus". The West Campus area encompasses the WPL and former TCA systems. Harley-Davidson retains responsibility for the cleanup of the West Campus, and maintains an easement agreement with the new owners to continue remediation, monitoring, and maintenance activities.

At the fYNOP, groundwater can be extracted from 15 pumping wells (CW-1, CW-1A, CW-2 through CW-7, CW-7A, CW-9, CW-13, CW-15A, CW-17, CW-19, and CW-20) operating in three (3) separate areas designated as the NPBA, the WPL Area (which includes the NB4 Area), and the Building 3 Dewatering System. A new WPL pumping well located in the southwest corner of the WPL (CW-20) was tested and brought on-line during 2014, and along with the other four WPL pumping wells (CW-9, CW-13, CW-15A, and CW-17) was operational during 2015. The other groundwater extraction areas were not operational during 2015. Collection well CW-8, located in the former TCA Tank Area near former Building 2 was not operated during 2015, and was abandoned during January 2016. The 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 in June 2010 to reduce mineral fouling of the GWTS PTA, effluent discharge pumps, and components continued to operate throughout 2015. PTA off-gases are treated by a granular-activated carbon (GAC) filter system for removal of VOCs before being discharged to the atmosphere.

The treatment system operates under a National Pollutant Discharge Elimination System (NPDES) permit No. PA0085677 issued by PADEP. The current permit was issued on November 22, 2010, and expired on November 30, 2015. Harley-Davidson submitted the renewal application in May 2015 in accordance with the PADEP guidelines, therefore, the permit extends as is until a renewed permit is issued. 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 2015, Harley-Davidson conducted groundwater 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 recent groundwater extraction operations have been 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 (EPA and PADEP) approvals for the shutdowns and restarts that affected the GWTS during 2013 through 2015 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 collection wells (CW-1, CW-1A, CW-2 through CW-7, and CW-7A) were shut down on June 19, 2013, and are 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. An annual progress report of this shutdown monitoring was prepared in April (GSC, 2015a)

- 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. An annual progress report of this shutdown monitoring was prepared in April (GSC, 2015b)

- Addendum No. 11 (GSC, 2013c) issued October 21, 2013 – Groundwater Tracer Studies (for the WPL/West Campus and entire GWTS shutdown). This was a work plan that proposed a groundwater tracer study, with injection of dye into various wells, including CW-20, under non-pumping conditions. As a result, the remainder of the active GWTS (WPL and TCA area wells) was shut down for the proposed dye tracer study and monitoring on November 25, 2013.

- Addendum No. 13 (GSC, 2014a) issued March 21, 2014 – Restart of GWTS West Parking Lot (WPL). This was a work plan that extended the Addendum No. 11 tracer study 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, 2014b) 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.

All WPL collection wells (CW-9, CW-13, CW-15A, CW-17, and CW-20) were restarted in January 2015, and operated throughout the remainder of 2015.

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 and 2-2 present the interpreted shallow groundwater table from water levels measured on September 3, and December 9, 2015, respectively, from approximately 200 monitoring points. Both water level measurement events were conducted during active pumping from the WPL collection wells (CW-9, CW-13, CW-15a, CW-17, and CW-20). 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 green symbol) or a groundwater monitoring well (shown with a black symbol). The groundwater contours presented on these maps were generated 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. 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. In the WPL, groundwater flow is redirected locally by the system of capture wells. The operation of groundwater extraction wells appears to prevent groundwater flow from the WPL toward Codorus Creek. 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 and/or a utility leak.

3.0 SITE-WIDE GROUNDWATER MONITORING

The groundwater monitoring program at the fYNOP site for 2015 consisted of:

- Measuring depth to water in all available monitoring and observation wells two times during the year.
- Sampling and chemical analysis of groundwater from the collection wells throughout the year (see results summary in Table A-1 found in Appendix A).
- Sampling and chemical analysis of GWTS influent from the combined active collection wells throughout the year (see results summary in Table A-2 found in Appendix A).
- Selected well sampling events conducted monthly for the first four months of 2015, as part of ongoing SGWRI activities [see monitoring well data summary provided in Table A-3, Appendix A].
- New and selected existing well sampling events conducted during March and April 2015 as part of the Southern Property Boundary Area Investigation [see monitoring well data summary provided in Table A-3, of Appendix A].
- A comprehensive site-wide groundwater sampling event (numerous wells onsite and offsite) conducted during September/October (see results summary in Table A-3, Appendix A).

Further analysis of the site-wide groundwater data will be provided in the SGWRI Part 2 Report to be issued during the second quarter 2016.

4.0 GROUNDWATER TREATMENT SYSTEM

During 2015, the GWTS remediated groundwater containing dissolved VOCs recovered from the WPL Area of the site. The groundwater extraction portion of the system consists of 5 active pumping wells from the WPL Area, and 10 inactive pumping wells from two groundwater pumping areas that are undergoing shut down monitoring. The inactive areas include the NPBA and the Building 3 Dewatering Area. The former TCA Tank Area is no longer functional, as former pumping well CW-8, the controls, and a portion of the underground utilities were abandoned in early 2016.

4.1 System Description

Collection wells within the WPL groundwater extraction area and the NPBA (when in operation) 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. Simultaneous with the downward flow of contaminated water, a 4,000-cubic-foot-per-minute (cfm) centrifugal blower directs fresh air into the lower section of the tower, and up through the packing material. 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).

Automated monitoring and control of the GWTS are facilitated through a series of control panels, Allen-Bradley programmable logic controllers (PLCs) and a patented software package called RSView®. Remote computer terminals are located in both Harley-Davidson and Leidos, Inc. (Leidos) offices where collection well pumping rates and treatment processes can be monitored and the WPL wells may be remotely adjusted. System operational data, recorded in an Access® data base during 2015, 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 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 treatment plant maintenance or repairs were identified and addressed during 2015. A brief summary is presented below:

- Performed breakthrough monitoring of the GAC to determine when to complete the GAC change-out. Spent GAC was replaced in March, August and December 2015.
- The GWTS discharge effluent pumps were removed one at a time to be cleaned and repaired. The repairs included general pump maintenance and replacing damaged parts.
- Damaged GAC ductwork was replaced during a carbon change-out event in August.
- Annual pump flow meter calibrations were completed.

Several noteworthy groundwater treatment-related modifications were conducted. These included:

- Essential operating equipment in the GWTS became obsolete, and Leidos completed upgrades to the GWTS near the end of 2014, while the system was undergoing shutdown monitoring. The upgrade work included new motor control center (MCC) to safely house all 480-volt pump motor starters and breakers, wiring, new PLCs and PLC components, new variable frequency drives (VFDs), a consolidated main control panel, and GWTS and human-machine interface (HMI) operating software. The components were tested, and the GWTS was restarted on January 27, 2015.
- New remote control panels were installed near collection well CW-20 to facilitate operation and control for both CW-20 and CW-9 during the spring of 2014, following plumbing and wiring modifications at well CW-9. Subsequently, the completed work restricted flows at CW-9 to approximately 30 gpm but permits maximum flows at CW-20 of up to 100 gpm. Both of these wells were restarted together on January 27, 2015.

- Collection wells CW-8 and CW-16 were abandoned in early January 2016 by a Pennsylvania Licensed Water Well Driller. A list of proposed wells to be abandoned (in advance of pending site development on the West Campus), including these former TCA Tank Area collection wells, was submitted to EPA and PADEP on October 19, 2015, and were subsequently approved. The abandonments were completed by Tremie pressure grouting from the bottom of the well to the surface using Type II Portland cement with 5% benseal (bentonite). Well vaults and caps were removed, and the surface was sealed flush with concrete. Well abandonment forms were filed electronically via WebDriller as required by the Pennsylvania Department of Conservation and Natural Resources. A closure report, providing the well abandonment detail for 29 site wells was issued to the Pennsylvania Bureau of Topographic and Geologic Survey (Leidos, 2016).
- Leidos completed abandonment of approximately 600 feet of the CW-8 underground utility to the GWTS on December 23, 2015 (see Figure 1-2). Prior to abandonment, wiring was pulled from the abandoned portion of the electric and communication conduits. Then a short section of underground piping and conduits were excavated and capped, just south of a clean-out vault near Gate 3. Abandoned cleanouts and pull boxes were uncovered, underground portions of the piping or conduits were grouted within 3 feet of the structures, and then the vaults were filled with concrete to existing grade.

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 44,243 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, 2015, was approximately 106 million gallons (an average of 289,715 gallons per day [gpd] or 201 gpm). The 2015 extraction volumes are significantly higher than the previous year (2014) when the average flows were approximately 146,615 gpd (or 102 gpm), due to the planned shutdowns during 2014 (see Chapter 1.0). The GWTS was not operating from January 1, 2015, through January 26, 2015. The GWTS was restarted on January 27, 2015, and the five WPL collection wells were activated. The TCA area has been abandoned, and the 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.

During 2015, the GWTS was shut down for 26 days in January prior to its restart; and was off for approximately 6 days later in 2015 due to scheduled or emergency maintenance activities. 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. The quarterly influent samples collected in January, April, July, and October 2015, represent

combined flow-weighted sampling of the five active collection wells (CW-9, CW-13, CW-15A, CW-17, and CW-20) that were pumped to the GWTS. Using these data, the total estimated mass of VOCs removed from January through December 2015 was 1,501 pounds. This mass removal rate is significantly higher than the value calculated during 2014 (approximately 262 pounds), as would be expected due to the extensive period of shutdown. The calculated VOC mass removal rates (pounds per day [lbs/day]) extracted by the GWTS for the last three calendar years are shown below:

- 2015 – 5.7 lbs/day
- 2014 – 2.2 lbs/day [from 118 total days of pumping from CW-20 and 16 days from CW-9]
- 2013 – 3.6 lbs/day

The predominant VOCs in the PTA influent have historically been trichloroethene (TCE), TCA, and tetrachloroethene (PCE) [see Figure 4-2]. Levels of these VOCs have declined with time, and have been somewhat stable over the last few years. The predominant influent VOC changed from TCE to PCE during the spring of 2013, and the concentration of PCE further increased upon startup of CW-20 during 2014. Concurrent with the GWTS shutdown and restart, a spike in the influent concentration of cis-1,2-dichloroethene (cis-1,2-DCE) was noted (see Figure 4-2). Following restart of the GWTS in 2015, the predominant VOCs are now PCE, cis-1,2-DCE, and TCE, with some increased levels of TCA. The changes are notably due to the addition of collection well CW-20.

4.4 Groundwater System Reporting

Groundwater system compliance reporting includes routine monthly and quarterly NPDES permit reports – Discharge Monitoring Reports, quarterly Susquehanna River Basin Commission (SRBC) reporting, and an annual operations report for the GWTS. In accordance with Chapter 110 (formerly Act 220), PADEP also requires an annual groundwater withdrawal report from this facility.

The PTA effluent was sampled and reported four times during 2015. Analytical testing results for the 2015 PTA effluent and influent sampling is 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 non-consumptive 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 the remainder of 2013, and throughout 2014 and 2015 for the five-year NPBA Extraction System Monitored shutdown study. The 2014 shutdown status of the NPBA extraction system was reported to EPA and PADEP in an annual monitoring report (GSC, 2015a). The NPBA wells were started for a short duration in October 2015 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 and 2-2 depict non-pumping conditions for the NPBA wells.

5.2 Maintenance

There was no maintenance activity for the NPBA collection wells during 2015. However, 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 2015.

5.3 Groundwater Chemistry

The groundwater quality analysis data from the comprehensive well sampling (October 2015), which included the inactive NPBA collection wells and several surrounding monitoring wells, is presented in Table A-3 (Appendix A).Further evaluation of the NPBA conditions will be provided in the Year 2 Shutdown monitoring report [prepared by GSC].

6.0 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 West Campus. 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). Approximately 103 million gallons of groundwater were extracted from the WPL Area during 2015 (see Table 6-1).

6.1 System Modifications and Operational Conditions

CW-20 was activated in the spring of 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 up to 100 gpm. The addition of CW-20 provides more efficient control of a VOC source near the southwest corner of the WPL, while continuing to address migration of groundwater from the WPL and areas to the east of the WPL, including the former central plant area (and former TCA Tank area). Following startup of the GWTS on January 27, 2015, the WPL system and all five (5) of its collection wells were operational for the remainder of 2015.

Table 6-2 summarizes measurements of monthly water level references and measurements for the WPL extraction wells during 2015. The table also lists design “pump on” and “pump off” water level elevations for the WPL collection wells. Figure 6-1 illustrates the CW-20 pumping water elevations, showing drawdown that was obtained during most of the reporting period. The groundwater contours shown on Figures 2-1 and 2-2 depict active pumping conditions for all WPL wells.

A gradual reduction in pumping rate was observed in new collection well CW-20 during 2015, while maintaining over 50 feet of constant drawdown. This observation suggests a reduction in well efficiency and will be investigated for possible cleaning and redevelopment of the well screen during early 2016.

6.2 Maintenance

A brief summary of maintenance actions addressed for the WPL Area in 2015 is presented below:

- A broken underground conveyance pipe was repaired at CW-17 in mid-February, 2015.
- CW-17 pump end and motor was replaced.
- CW-15a pump end was replaced.

6.3 Groundwater Chemistry

The groundwater quality analysis data from the 2015 collection well sampling is presented in Table A-1 (Appendix A). Figure 6-2 illustrates the historical concentration of TCE that has been measured in the four original WPL extraction wells (excluding CW-20). The historical concentrations of the dominant VOCs (TCE, PCE, TCA, and cis-1,2-DCE) are illustrated in Figures 6-3 through 6-7 for CW-9, CW-13, CW-15A, CW-17, and CW-20, respectively. The highest concentration of VOCs continue to be found at CW-15A, with the level of TCA (up to 17,000 ug/L) being the highest VOC detected at this extraction well during 2015, followed by cis-1,2-DCE with levels around 11,000 ug/L. TCA is not significant in any of the other WPL extraction wells. Extraction well CW-20 had the second highest levels of VOCs, dominated by PCE at concentrations of approximately 1,500 ug/L, and TCE with a concentration of approximately 600 ug/L. Although the amount of VOCs detected in extraction well CW-17 was less than the other WPL extraction wells, the dominant VOC for this well changed from TCE to cis-1,2-DCE following restart of the GWTS (see Figure 6-6).

Further analysis of the WPL groundwater data and extraction effectiveness will be provided in the SGWRI Part 2 Report.

7.0 BUILDING 3 DEWATERING SYSTEM

The Building 3 Dewatering System was constructed 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 installation), 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.

7.1 System Shutdown Conditions

The Building 3 Dewatering System and Lift Station was shut down on June 19, 2013, and remained off during 2014 and 2015 for the monitored shutdown study. 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 and 2015. The 2014 shutdown status of the Building 3 dewatering system was reported to EPA and PADEP in an annual monitoring report (GSC, 2015b). CW-19 also did not operate in 2015 due to the lack of any groundwater in this well and the in-progress monitored shutdown study. The groundwater contour maps—shown on Figures 2-1, and 2-2 depict non-pumping conditions for the Lift Station and CW-19.

7.2 Groundwater Chemistry

A groundwater sample was collected from the deep drain of the lift station in October 2015. 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 2015. The sampling results for the deep drain are shown in Table A-3 (Appendix A). Further evaluation of the Building 3 Dewatering system conditions will be provided in the Year 2 Shutdown monitoring report [by GSC].

8.0 REFERENCES

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

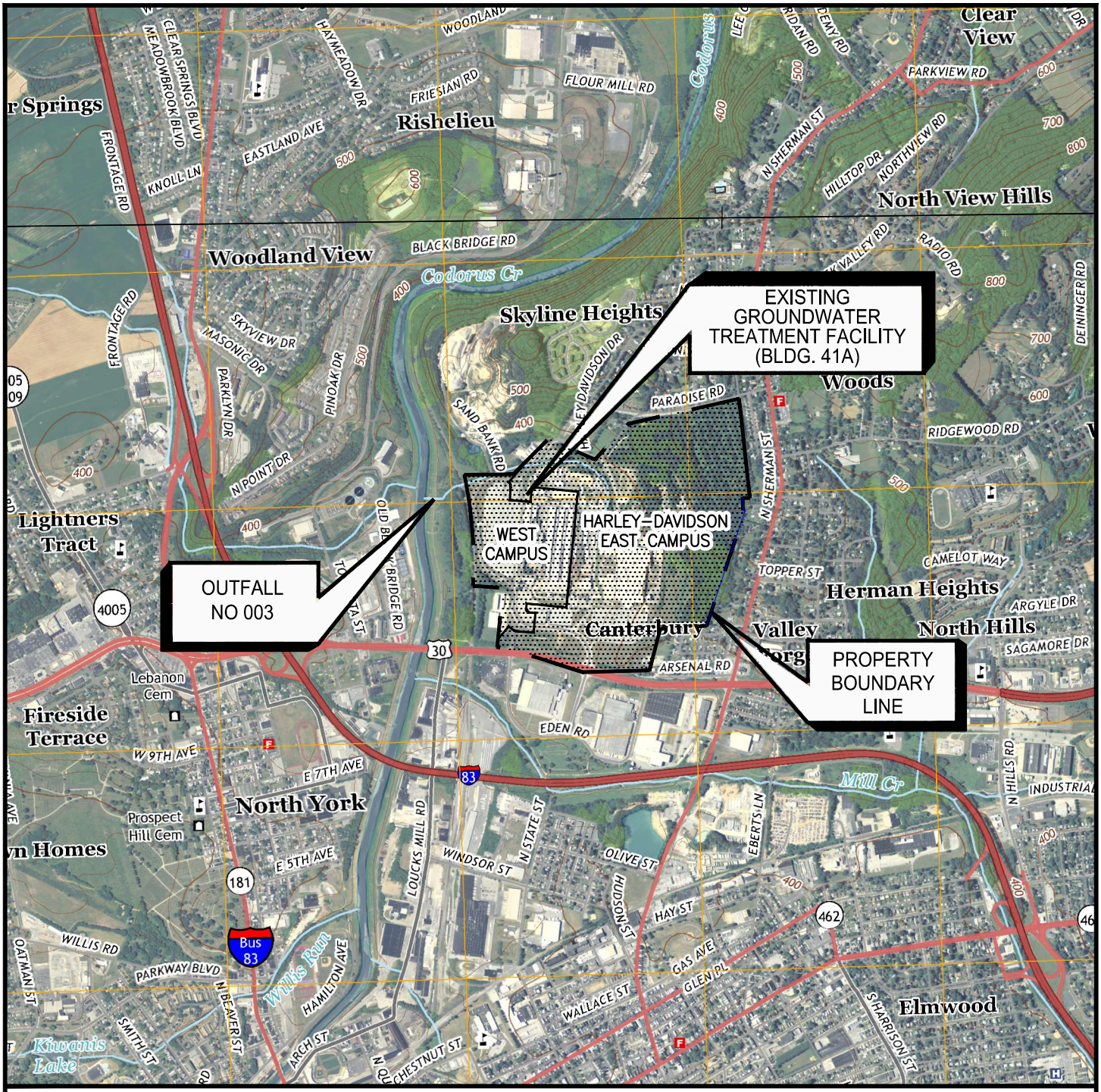
GSC, 2014b. Addendum #14, to Field Sampling Plan for Part 2 of the Supplemental Groundwater Remedial Investigation Former York Naval Ordnance Plant, August 8.

GSC, 2015a. 2014 Annual Monitoring Progress Report for the NPBA Extraction System Shutdown, Former York Naval Ordnance Plant, April.

GSC, 2015b. First Year Progress Report of the Building 3 Footer Drain System Shutdown Monitoring, Former York Naval Ordnance Plant, April.

Leidos, 2016. Well Abandonment Documentation, Harley-Davidson Motor Company Operations, Inc., Former York Naval Ordnance Plant, York PA, Letter to Pennsylvania Bureau of Topographic and Geologic Survey, March 2.

FIGURES



NOTE: BASE MAP FROM THE YORK PA., USGS 7 1/2 MIN TOPOGRAPHIC QUADRANGLE 2013.

2000' 0 2000'
SCALE IN FEET

N

PA STATE PLANES
NAD 83 US FT

PENNSYLVANIA
QUADRANGLE LOCATION

FORMER YORK NAVAL ORDNANCE PLANT
1425 EDEN ROAD, YORK, PA 17402

SITE LOCATION MAP

leidos

job no.	313271.10.00.4000.100	
file no.	OM2015-001.dwg	
drawn RAM	date 11/05/15	figure no. 1
checked	date	
approved	date	

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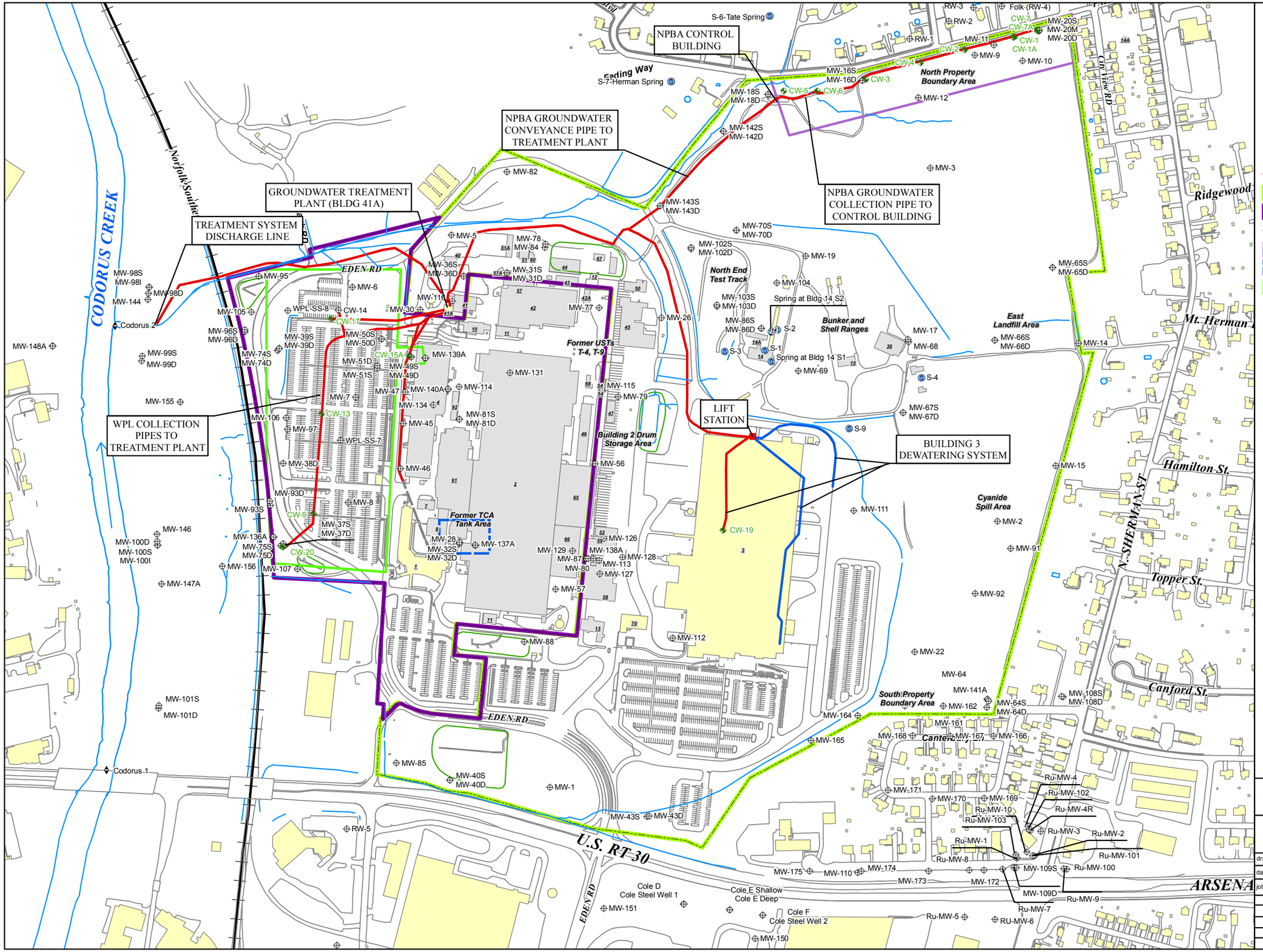

Legend

- Stream Gauge and Designation
- Extraction Well and Designation
- Monitoring Well and Designation
- Spring
- Stream and Ponds
- Abandoned Piping
- Treatment System Features
- Harley-Davidson (East Campus) Boundary
- West Campus Boundary
- Groundwater Interceptor Trenches
- NPBA Area
- Former TCA Area
- WPL Area
- Stormwater Basin
- Existing Building
- Removed Building
- Roads Curb Boundary
- Railroad

N

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

0 205 410 820
SCALE IN FEET

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

GROUNDWATER TREATMENT SYSTEM LOCATION

drawn JEB	checked EMW	approved RGM	figure no.
date 2/13/2011	date 2/13/2011	date 2/13/2011	
job no. 313271.00.00.2000.100		file no. OM_GWTS_Site_Map	

initials	date	revision
RAM	11/15/12	AS BUILT UPDATES

leidos

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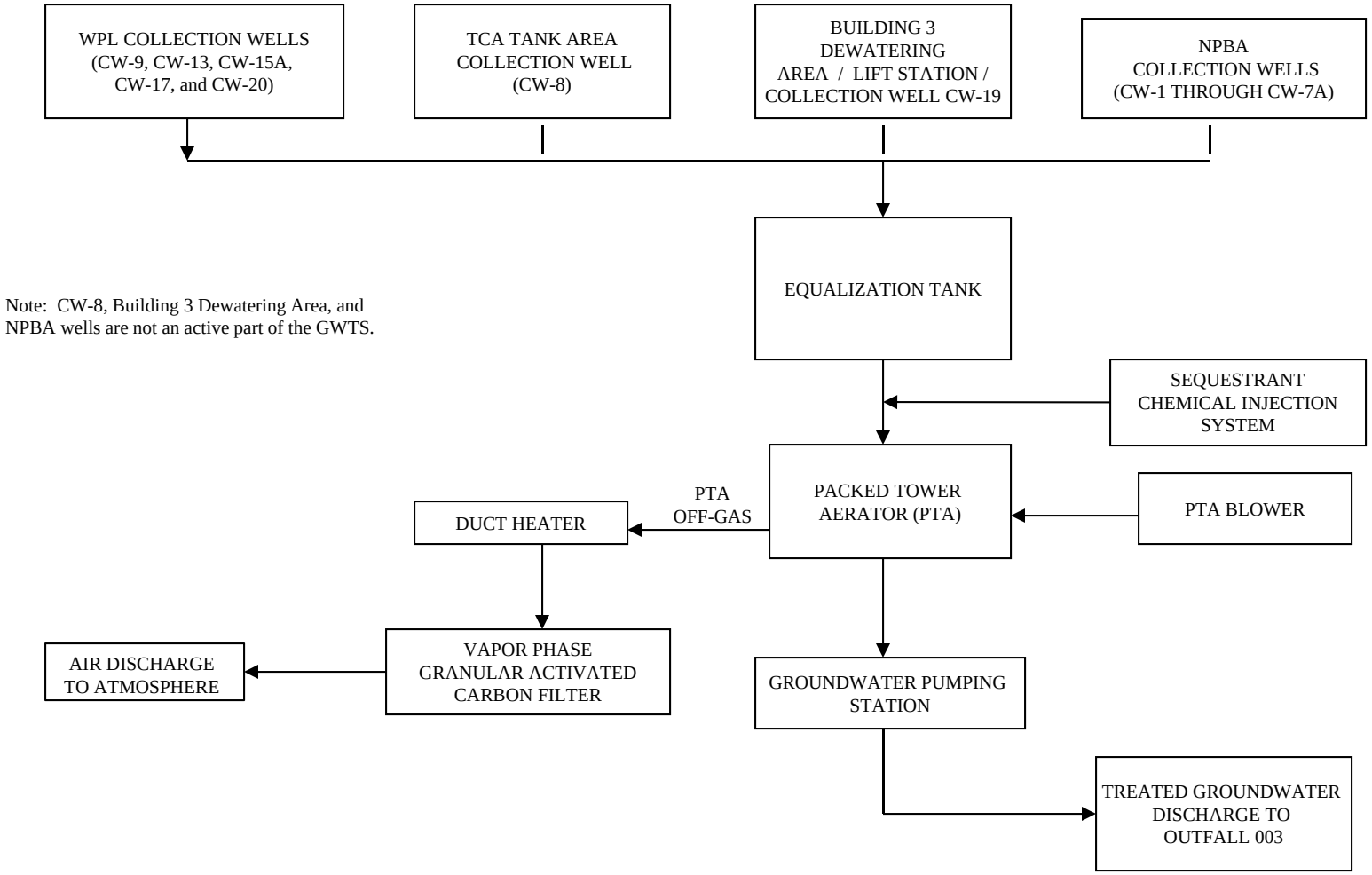
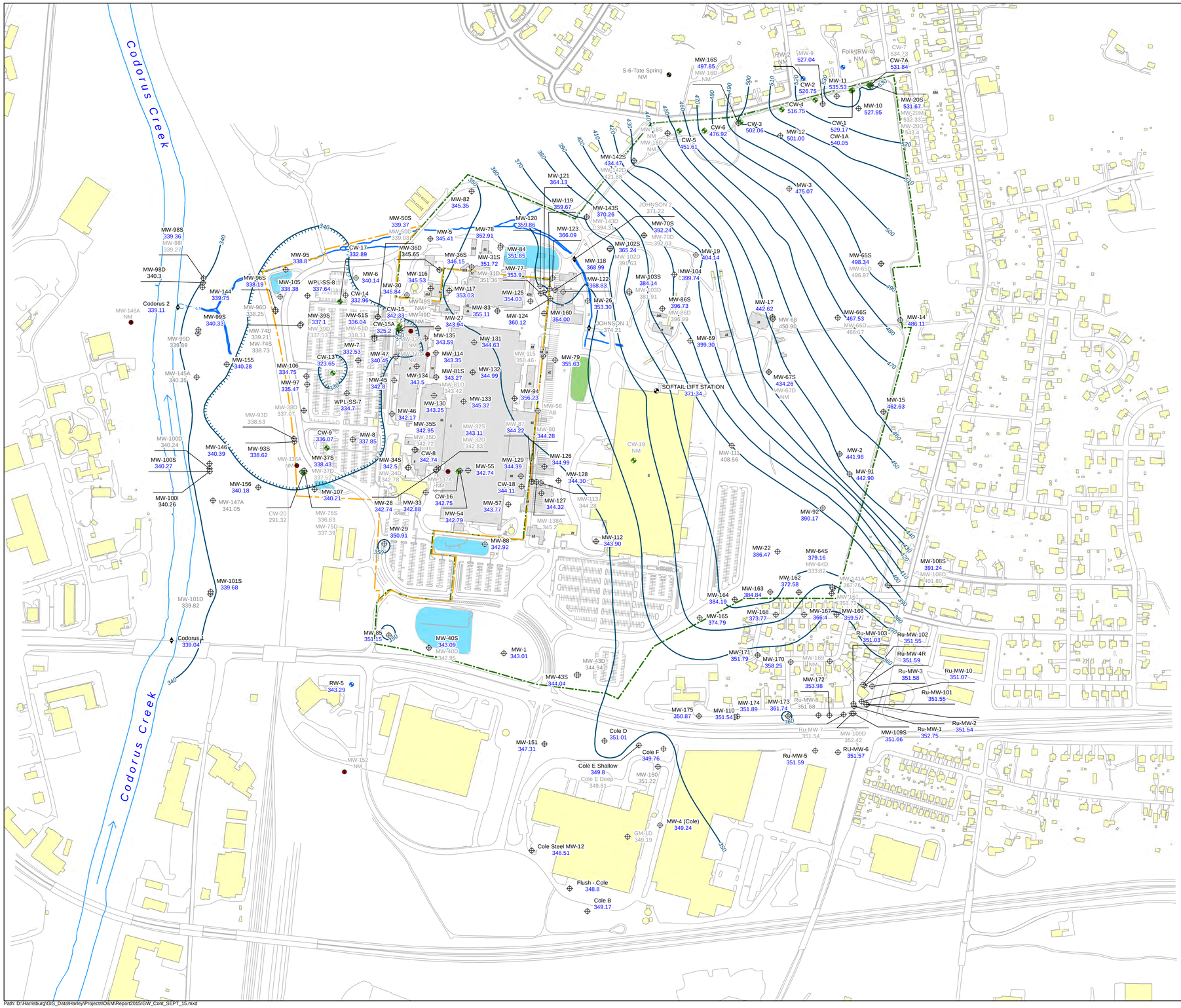
FIGURE 1-3
GROUNDWATER TREATMENT SYSTEM FLOW DIAGRAM
Former York Naval Ordnance Plant





Legend

- Building 3 Lift Station
- Staff Gauge/Stream Gauge
- Collection Well
- Monitoring Well
- Residential Well
- Spring
- Waterloo Locations
- Groundwater Contour 10ft (Shallow Zone)
- Roads Curb Boundary
- West Campus
- Harley-Davidson Motor Company Operations, Inc
- Fire Water Pond
- Stormwater Basin
- Inferred Stream
- Stream
- Existing Building
- Removed Building

MW-15 462.63 — Groundwater Elevation (Ft AMSL) Used in Contouring (Shallow Zone)

MW-64D 333.82 — Groundwater Elevation (Ft AMSL) Not Used in Contouring (Different Zone)

Note:
NM = Not Measured
AB = lost/abandoned

0 150 300 600 Feet

1 inch = 300 feet

1 inch = 300 feet

N

NOTE:
1. Base data (Buildings, Building Boundaries, Roads and Curbs, and Contour Lines) from NuTec Survey conducted in 2006.
2. Gauging data from the 09/03/2015 gauging event.

FORMER YORK NAVAL ORDNANCE PLANT
1425 EDEN ROAD, YORK, PA 17402

GROUNDWATER ELEVATION CONTOUR MAP SEPTEMBER 2015

drawn TAY/JMG	checked KVL	approved RGM	figure no. 2-1
date 01/04/2016	date 03/02/2016	date 03/02/2016	
job no. 313271.00.00.2000.100		file no. GW_Cont_SEPT_15	

initials	date	revision

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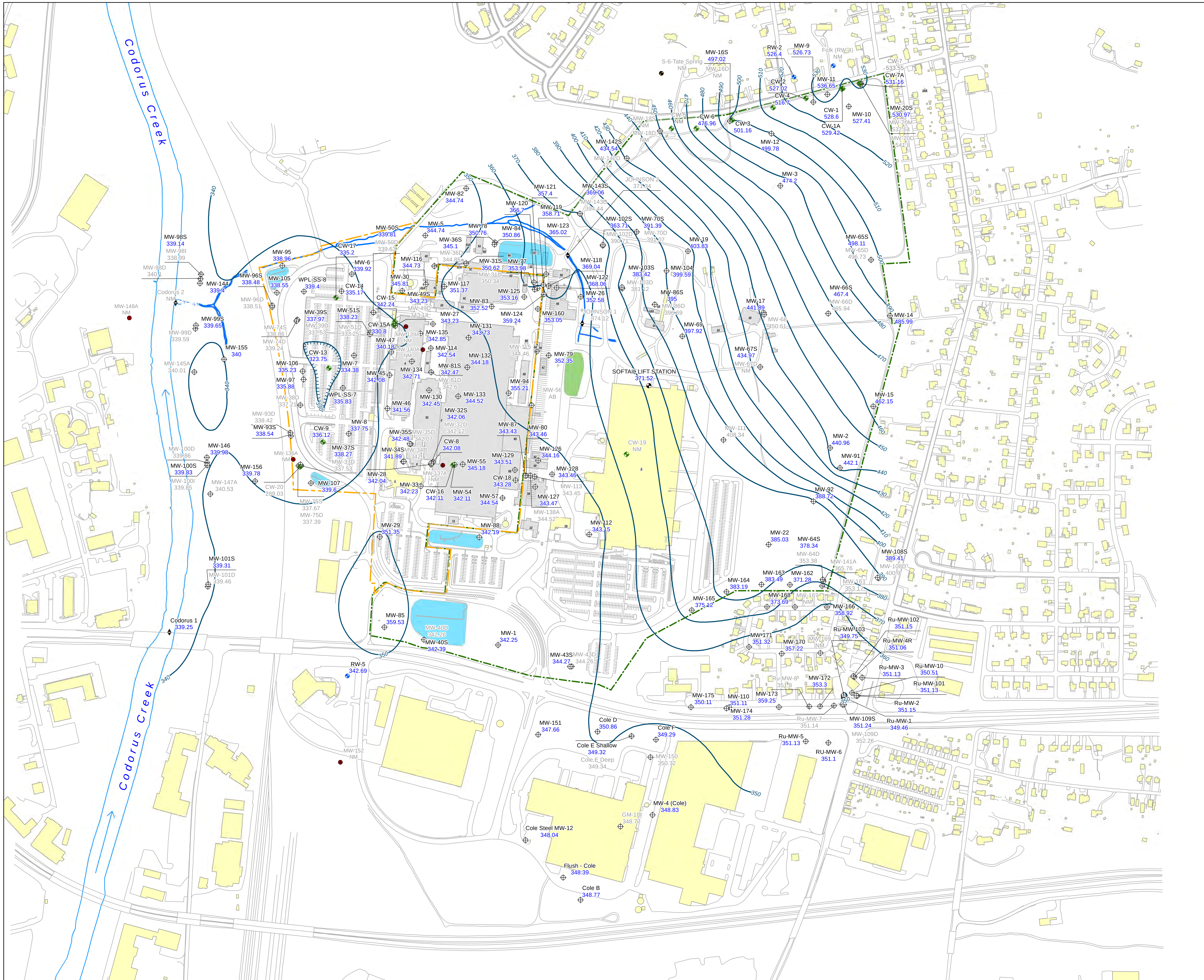

Legend

- Building 3 Lift Station
- Staff Gauge/Stream Gauge
- Collection Well
- Monitoring Well
- Residential Well
- Spring
- Waterloo Locations
- Groundwater Contour 10ft (Shallow Zone)
- Roads Curb Boundary
- West Campus
- Harley-Davidson Motor Company Operations, Inc
- Fire Water Pond
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- Stream
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MW-15 462.63 — Groundwater Elevation (Ft AMSL) Used in Contouring (Shallow Zone)

MW-64D 333.82 — Groundwater Elevation (Ft AMSL) Not Used in Contouring (Different Zone)

Note:
NM = Not Measured
AB = lost/abandoned

NOTE:
1. Base data (Buildings, Building Boundaries, Roads and Curbs, and Contour Lines) from NuTec Survey conducted in 2006.
2. Gauging data from the12/09/2015 gauging event.

FORMER YORK NAVAL ORDNANCE PLANT
1425 EDEN ROAD, YORK, PA 17402

GROUNDWATER ELEVATION CONTOUR MAP DECEMBER 2015

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date 01/04/2016	date 03/02/2016	date 03/02/2016	
job no. 313271.00.00.2000.100		file no. GW_Cont_DEC_15	

initials	date	revision

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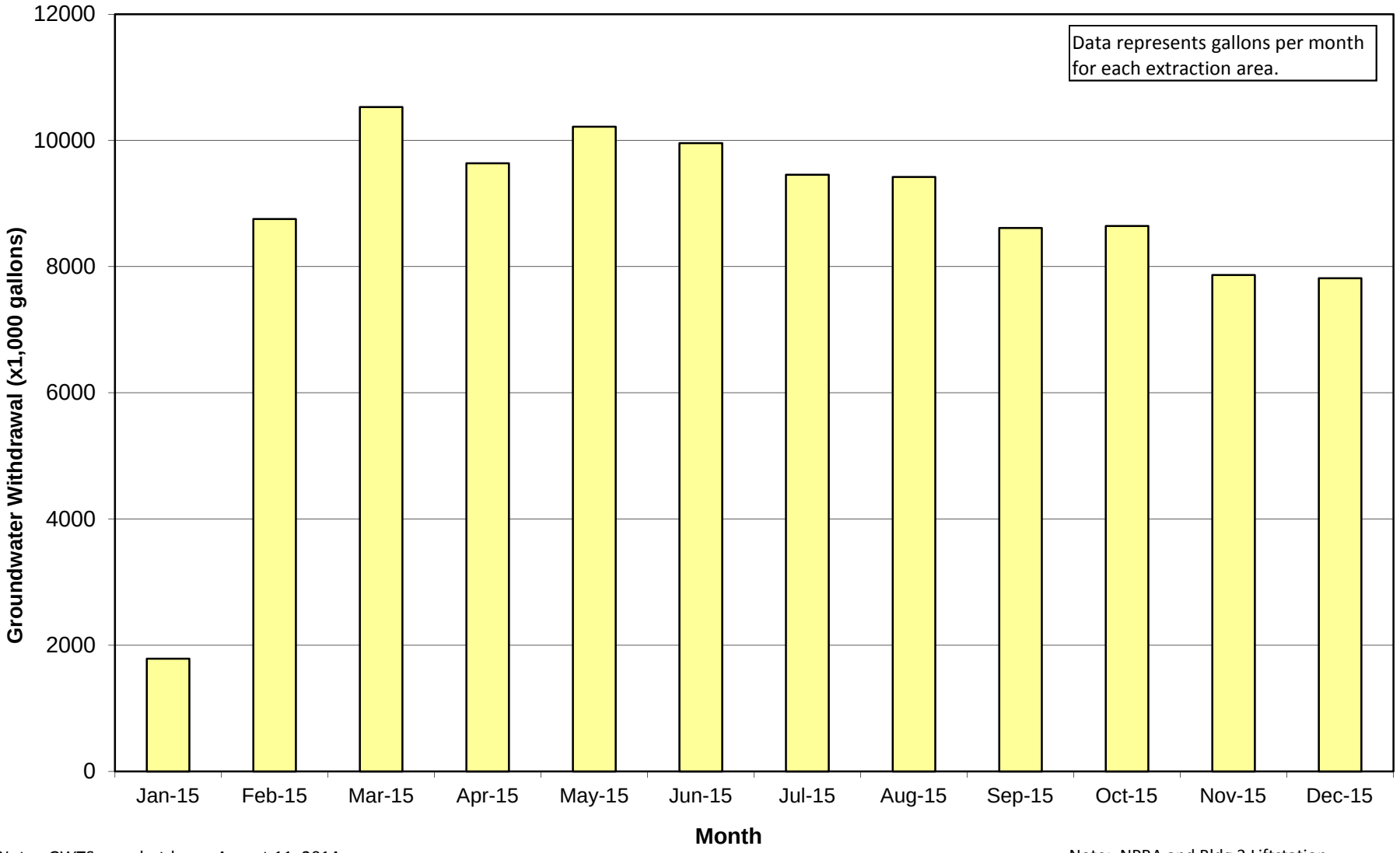
Figure 4-1
2015 Groundwater Withdrawals
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402



Note: GWTS was shutdown August 11, 2014 through January 26, 2015.

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

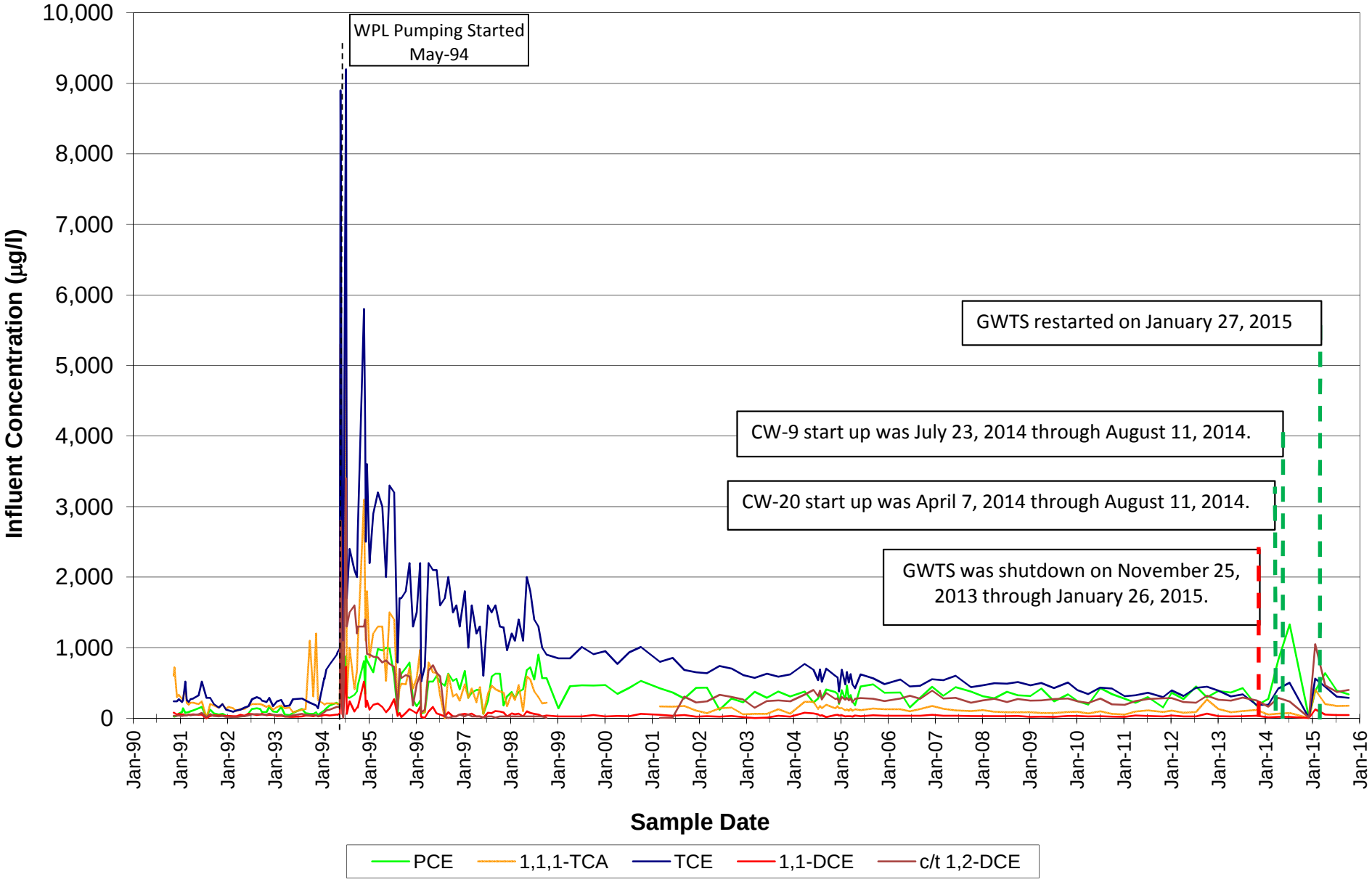


Figure 6-1. CW-20 Water Level Monitoring Data (2015)
(January 26, 2015 - January 21, 2016)

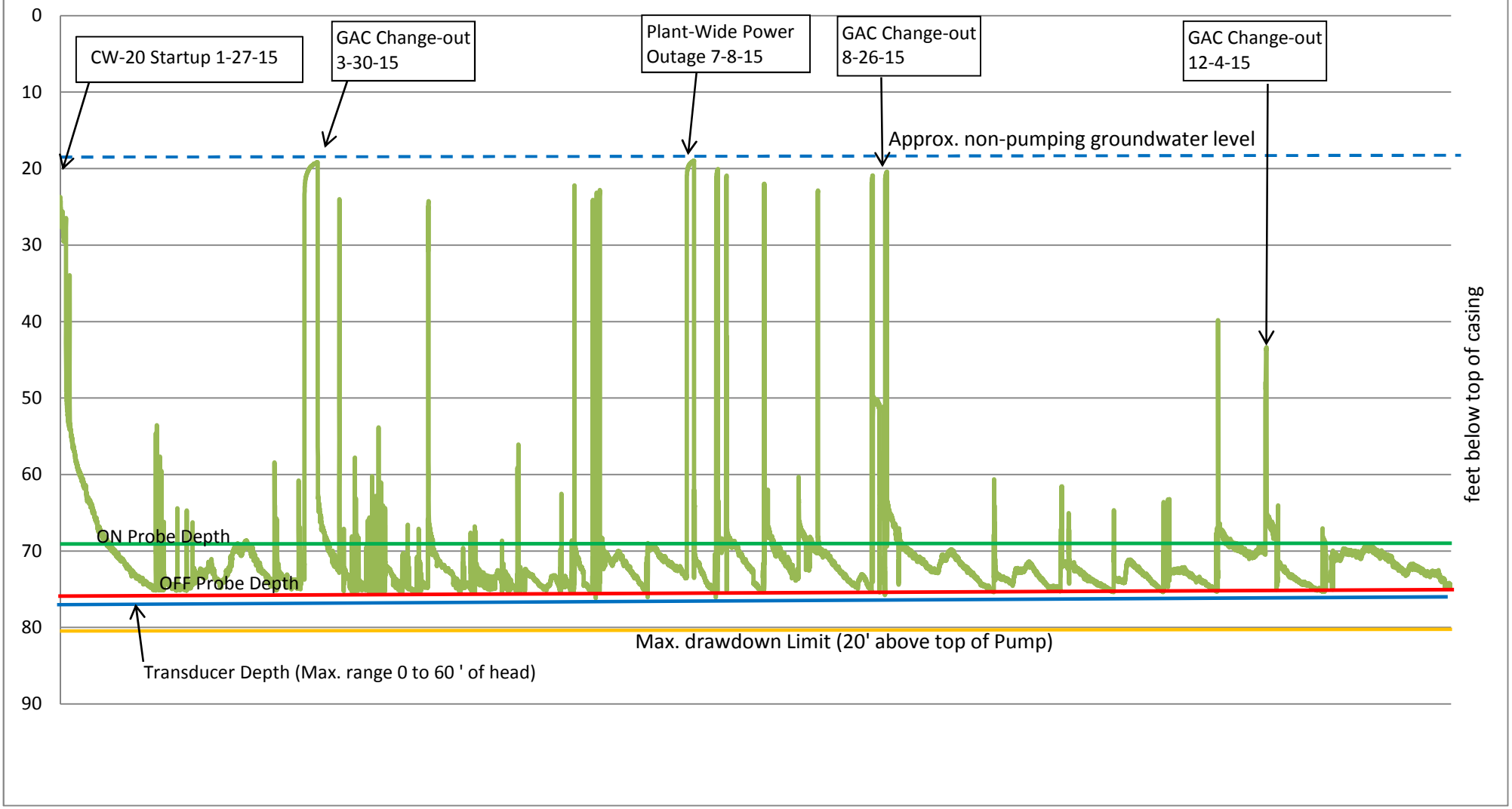


Figure 6-2
TCE in WPL Collection Wells
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

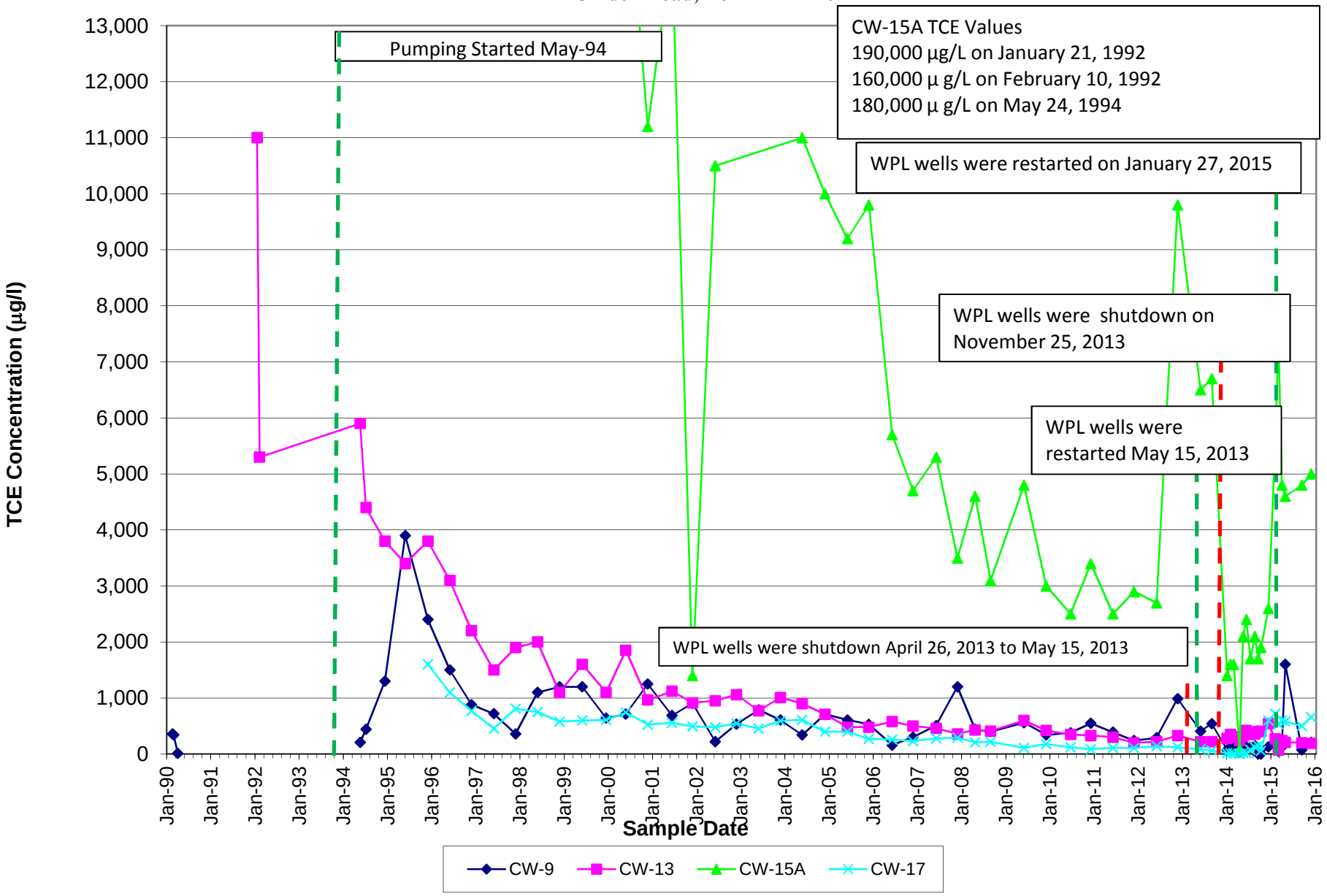


Figure 6-3
Predominant VOC Concentrations - Collection Well CW-9
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

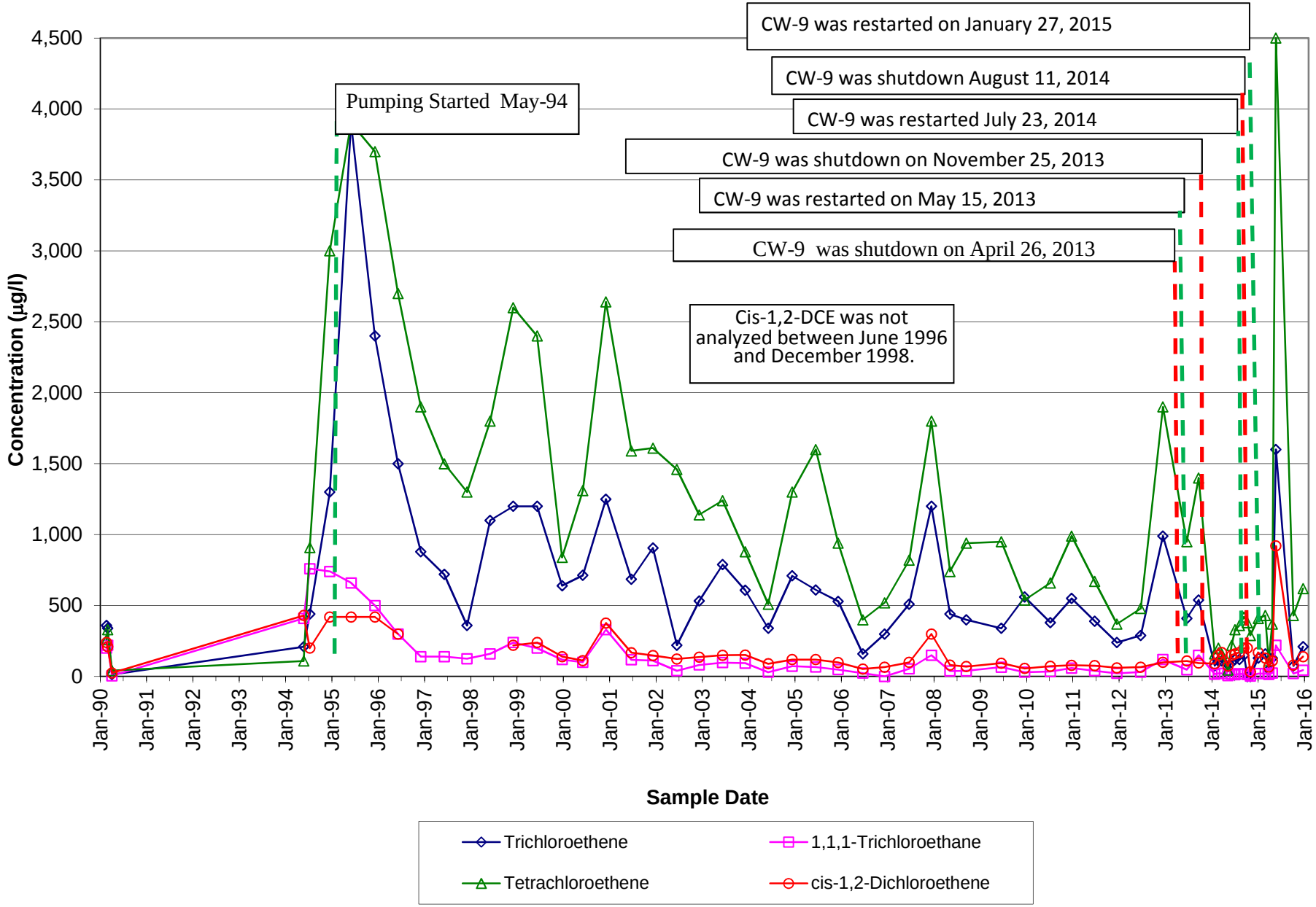


Figure 6-4
Predominant VOC Concentrations - Collection Well CW-13
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

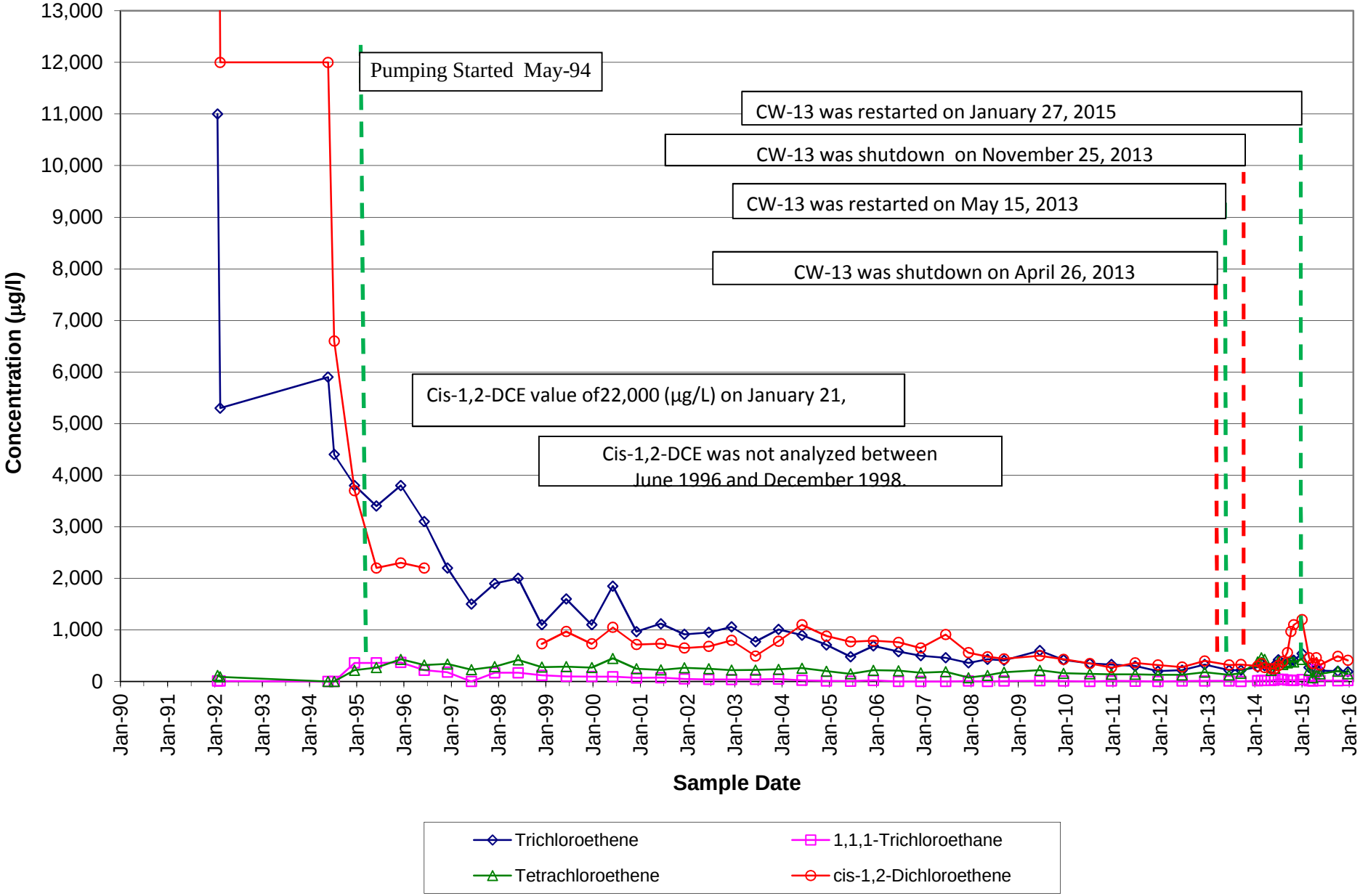


Figure 6-5
Predominant VOC Concentrations - Collection Well CW-15A
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

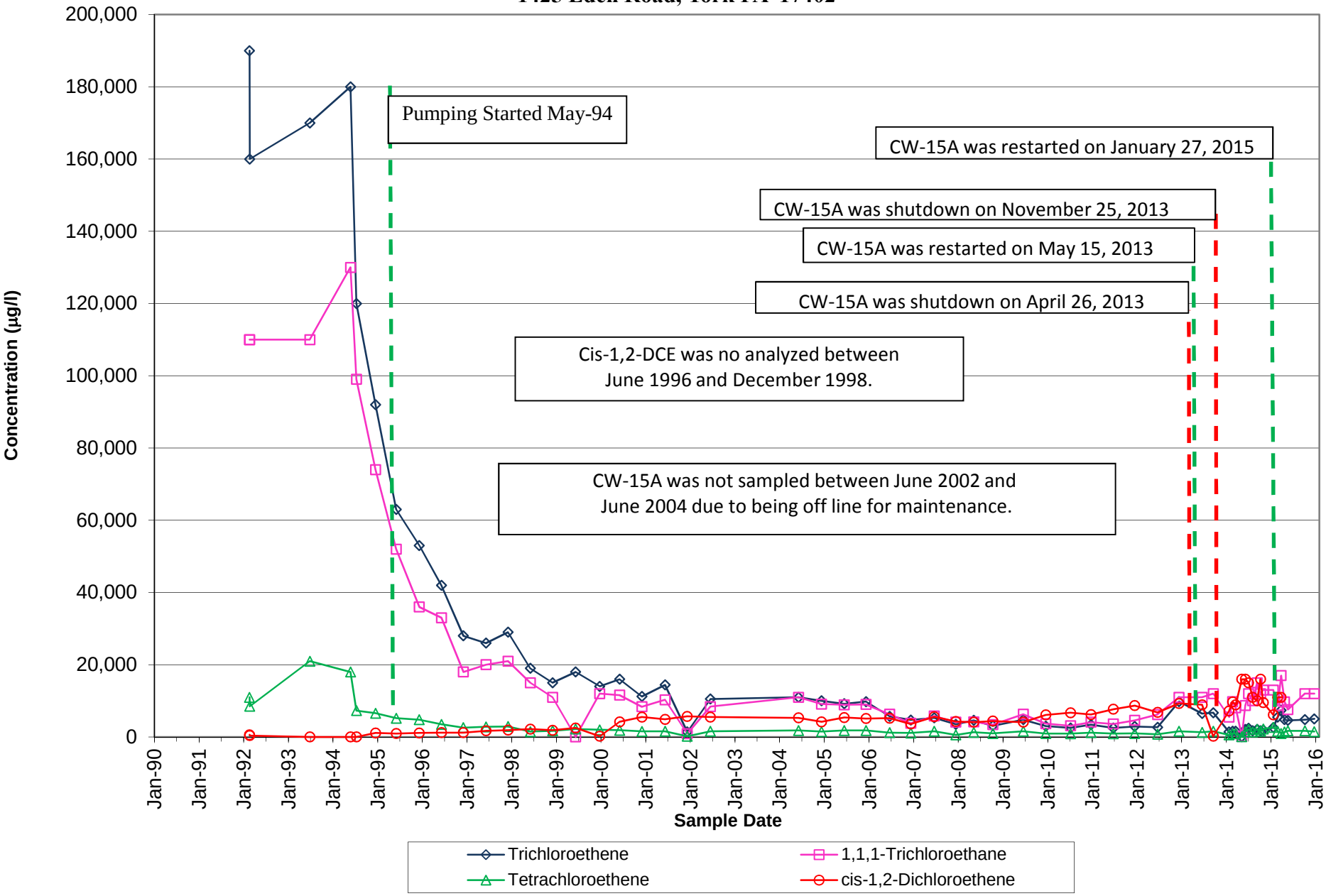


Figure 6-6
Predominant VOC Concentrations
Collection Well CW-17
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

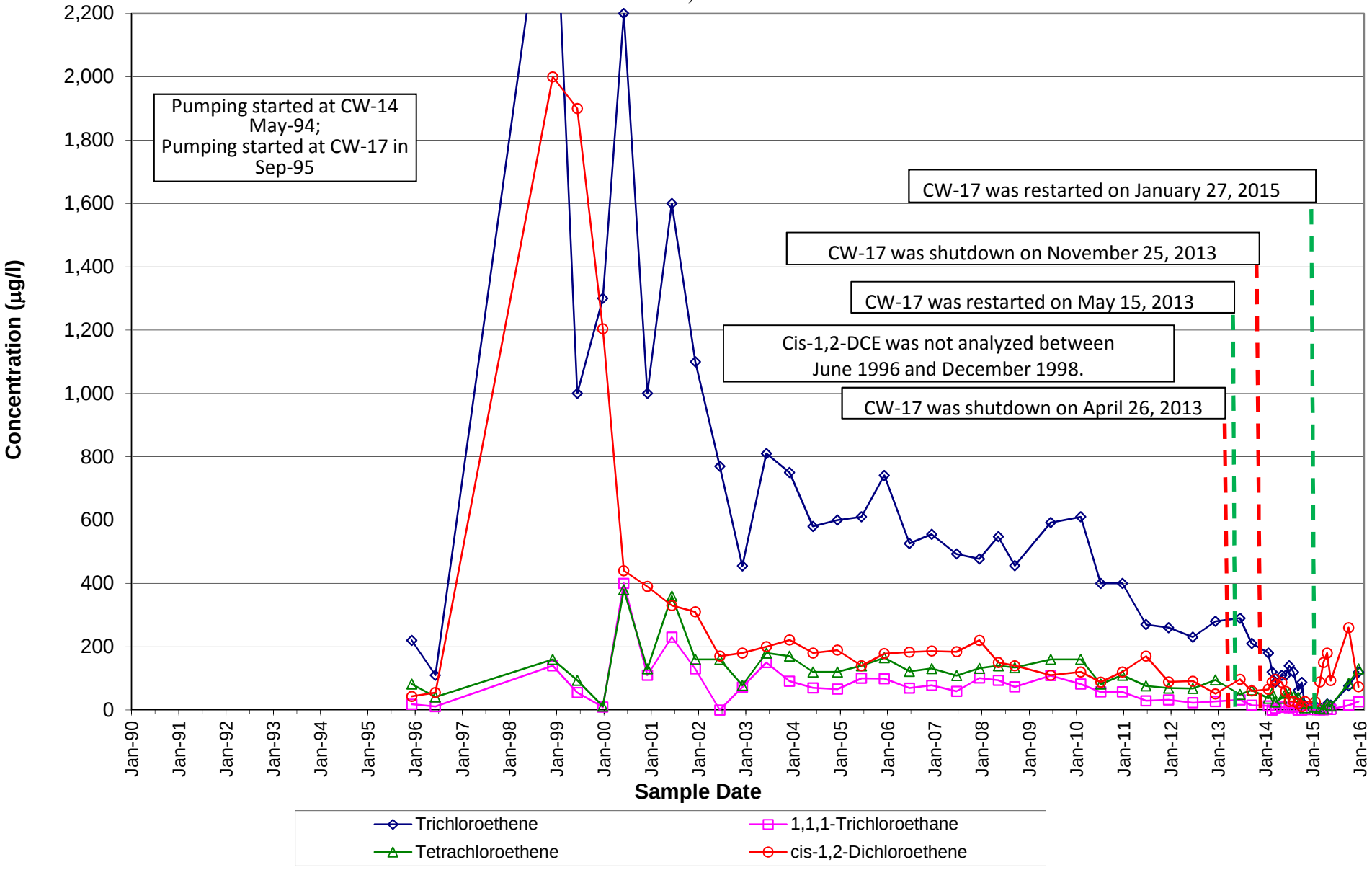
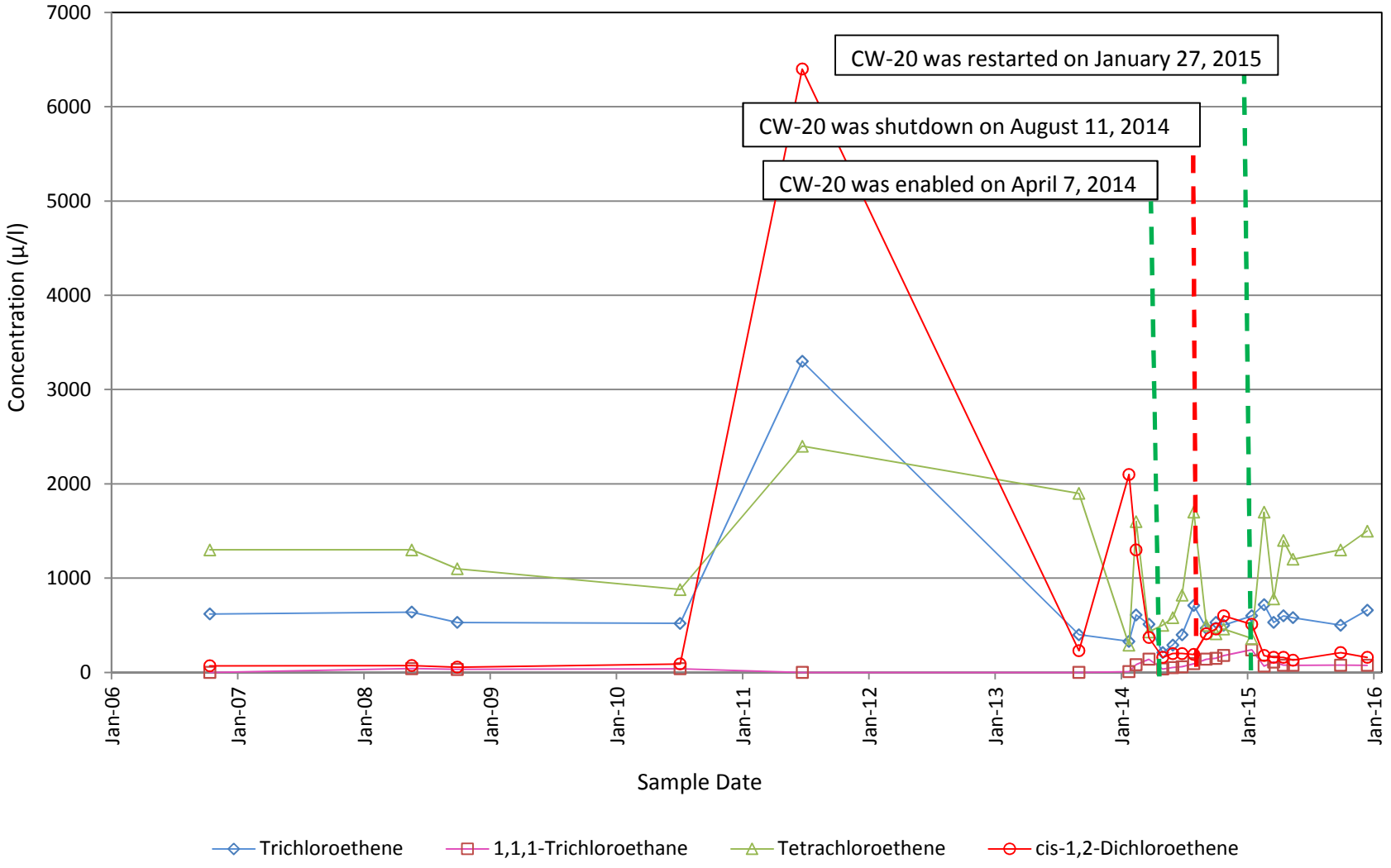


Figure 6-7
Predominate VOC Concentrations
Collection Well CW-20
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402



TABLES

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

JANUARY 1, 2015 - DECEMBER 31, 2015				
DATE	MONTHLY GROUNDWATER WITHDRAWAL (PTA Totalizer, gallons)	AVERAGE MONTHLY TOTAL VOCs (ppb)		ESTIMATED MONTHLY VOC REMOVAL (pounds)
Jan-15	1,756,382	2558		38
Feb-15	9,249,045	2558	*	198
Mar-15	11,044,368	2558	*	236
Apr-15	10,126,828	1814		153
May-15	10,294,792	1814	*	156
Jun-15	10,134,352	1814	*	154
Jul-15	9,728,146	1295		105
Aug-15	9,599,516	1295	*	104
Sep-15	8,860,382	1295	*	96
Oct-15	8,879,208	1258		93
Nov-15	8,043,985	1258	*	84
Dec-15	8,029,117	1258	*	84
TOTAL	**105,746,121**	**NA**		**1,501**

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
2015	105,746,121	1,501
Total	**3,200,653,392**	**44,243**

TABLE 6-1
RECORD OF GROUNDWATER WITHDRAWALS
JANUARY 1, 2015 - DECEMBER 31, 2015
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

MONTH	NPBA WELLS (gallons)										TCA WELL (gallons)		WPL WELLS (gallons)						Building 3 De-Watering System	MONTHLY TOTAL
	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-15	0	0	0	0	0	0	0	0	0	0	0	0	185,526	547,158	22,338	460,353	570,010	1,785,385	0	1,785,385
Feb-15	0	0	0	0	0	0	0	0	0	0	0	0	1,109,436	3,108,088	91,050	1,075,515	3,369,262	8,753,351	0	8,753,351
Mar-15	0	0	0	0	0	0	0	0	0	0	0	0	1,155,945	3,196,841	109,360	2,776,163	3,289,408	10,527,717	0	10,527,717
Apr-15	0	0	0	0	0	0	0	0	0	0	0	0	1,130,890	3,120,770	95,910	2,350,662	2,938,139	9,636,371	0	9,636,371
May-15	0	0	0	0	0	0	0	0	0	0	0	0	1,661,838	3,322,819	95,789	2,331,712	2,805,871	10,218,029	0	10,218,029
Jun-15	0	0	0	0	0	0	0	0	0	0	0	0	1,630,077	3,216,275	105,764	2,858,345	2,146,464	9,956,925	0	9,956,925
Jul-15	0	0	0	0	0	0	0	0	0	0	0	0	1,499,619	3,090,931	97,375	3,030,759	1,735,866	9,454,550	0	9,454,550
Aug-15	0	0	0	0	0	0	0	0	0	0	0	0	1,576,754	3,163,995	94,796	2,967,373	1,618,256	9,421,174	0	9,421,174
Sep-15	0	0	0	0	0	0	0	0	0	0	0	0	1,527,598	3,095,926	91,717	2,492,000	1,405,531	8,612,772	0	8,612,772
Oct-15	0	0	0	0	0	0	0	0	0	0	0	0	1,563,763	3,199,679	102,303	2,509,966	1,268,106	8,643,817	0	8,643,817
Nov-15	0	0	0	0	0	0	0	0	0	0	0	0	1,513,468	3,078,701	93,603	2,145,088	1,037,277	7,868,137	0	7,868,137
Dec-15	0	0	0	0	0	0	0	0	0	0	0	0	1,550,735	3,167,121	84,176	2,023,410	991,322	7,816,764	0	7,816,764
TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	16,105,649	35,308,304	1,084,181	27,021,346	23,175,512	102,694,992	0	102,694,992

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.
--CW-8 pumping was discontinued in November 2013.
--GWTS shutdown on August 11, 2014 through January 26, 2015 except for sampling events. The shutdown was for the FSP Addendum No. 11 study and GWTS upgrades.

TABLE 6-2
GROUNDWATER EXTRACTION 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)	1/1/2015	2/1/2015	3/1/2015	4/29/2015	5/27/2015	6/16/2015	7/23/2015	8/19/2015	9/3/2015	10/23/2015	11/19/2015	12/11/2015
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	NM	NM	333.20	334.21	335.49	336.62	NM	336.07	335.99	336.11	336.12
	CW-13	358.85	327.60	322.60	OL	NM	NM	322.54	323.33	323.13	323.03	NM	323.65	323.37	323.44	323.75
	CW-15A	361.40	333.50	328.50	OL	NM	NM	328.05	330.15	327.25	328.10	NM	325.20	330.15	329.23	330.80
	CW-17	358.70	336.37	331.47	OL	NM	NM	333.56	333.75	332.95	332.42	NM	332.89	334.72	334.72	335.20
	CW-20	361.49	289.49	284.49	OL	286.54	288.63	286.44	288.47	289.77	289.35	287.16	291.32	286.94	287.02	289.03

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.
5. NPBA wells were disabled on June 19, 2013 for the FSP Addendum No. 6 study.
6.GWTS was shutdown August 11, 2014 through January 26. 2015 except for sampling events. The shutdown was for the FSP Addendum No. 11 study and GWTS upgrades.

APPENDIX A

Data Tables

Table A-1.
Collection Well Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-9 1/20/15	CW-9 2/25/15	CW-9 3/25/15	CW-9 4/22/15	CW-9 5/20/15	CW-9 10/5/15	CW-9 12/21/15	CW-13 1/20/15	CW-13 2/25/15	CW-13 3/25/15	CW-13 4/22/15	CW-13 5/20/15	CW-13 10/5/15	CW-13 12/21/15
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78														
Alkalinity																		
ALKALINITY, BICARBONATE					260000 B	230000 B	210000 B	230000 B	210000 B			300000 B	260000 B	280000 B	270000 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					260000 B	230000 B	210000 B	230000 B	210000 B			300000 B	260000 B	280000 B	270000 B	290000 B		
Anions																		
Chloride		250000			240000	190000 B	190000 B	190000	180000 B			350000	170000 B	160000 B	150000	140000 B		
Nitrate As N	10000	10000	10000	32000	6600 B	4300	4000 B	3800	3600 B			8500 B	4300	3900 B	3500	3200 B		
Sulfate					37000	35000	30000	34000	32000			37000	37000	36000	37000	35000		
METAL																		
Calcium					120000 B	100000	95000 B	90000	86000 B			150000 B	130000	130000 B	120000	120000 B		
Magnesium					27000 B	26000	21000	20000	19000			25000 B	23000	19000	17000	16000		
Potassium					30000 B	15000	18000	14000	12000			30000 B	15000	15000	13000	12000		
Sodium					73000 B	80000	91000	73000	72000			87000 B	56000	56000	48000	44000		

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.
Collection Well Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-9 1/20/15	CW-9 2/25/15	CW-9 3/25/15	CW-9 4/22/15	CW-9 5/20/15	CW-9 10/5/15	CW-9 12/21/15	CW-13 1/20/15	CW-13 2/25/15	CW-13 3/25/15	CW-13 4/22/15	CW-13 5/20/15	CW-13 10/5/15	CW-13 12/21/15
TOTAL VOC																		
TOTAL VOC					744.2	751.8	245.4	651.6	7444	613.89	1033.6	2259.7	986.4	508.14	954.3	735.6	933	785.3
Volatile Organic Compound																		
1,1,1,2-Tetrachloroethane	70	70		0.57	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
1,1,1-Trichloroethane	200	200	200	8000	21	21	15	25	220	21	45	39	17 J	9.3	23 J	17 J	17 J	18
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
1,1,2-Trichloroethane	5	5	5	0.28	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
1,1-Dichloroethane	31	160		2.7	5 J	4.5 J	5.0 U	4.4 J	40 J	4	8.6 J	8.7 J	5.4 J	2.5 U	6.3 J	4.6 J	5.9 J	5.7 J
1,1-Dichloroethene	7	7	7	280	6.4 J	6.3 J	4.4 J	6.3 J	54 J	4.5	10 J	19 J	14 J	5	13 J	10 J	12 J	9.9 J
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
1,2-Dichloroethane	5	5	5	0.17	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
1,2-Dichloropropane	5	5	5	0.44	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
1,4-Dioxane	6.4	32		0.78	2500 U	2500 U	1000 U	2500 U	25000 U	400 U	5000 U	5000 U	5000 U	500 U	5000 U	5000 U	5000 UJ	2000 U
2-Butanone	4000	4000		5600	63 U	63 U	25 U	12.5 UJ	630 U	10 U	130 U	130 U	130 U	13 U	25 UJ	130 U	130 U	50 U
2-Hexanone	11	44		38	63 U	63 U	25 U	63 U	630 U	10 U	130 U	130 U	130 U	13 U	130 U	130 U	130 U	50 U
4-Methyl-2-Pentanone	2900	8200		1200	63 U	63 U	25 U	63 U	630 U	10 U	130 U	130 U	130 U	13 U	130 U	130 U	130 U	50 U
Acetone	33000	92000		14000	63 U	63 U	25 U	12.5 UJ	630 U	10 UJ	130 U	130 U	130 U	2.5 UJ	25 UJ	130 U	130 UJ	50 U
Acrylonitrile	0.72	3.7		0.052	250 U	250 U	100 U	250 U	2500 U	40 U	500 U	500 U	500 U	50 U	500 U	500 U	500 U	200 U
Benzene	5	5	5	0.45	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
Bromochloromethane	90	90		83	13 U	13 U	5.0 U	13 U	130 U	2 UJ	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
Bromodichloromethane	80	80		0.13	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
Bromoform	80	80		9.2	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
Bromomethane	10	10		7.5	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 UJ	10 U
Carbon Disulfide	1500	6200		810	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
Carbon Tetrachloride	5	5	5	0.45	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
Chlorobenzene	100	100	100	78	1.8 J	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
Chlorodibromomethane	80	80		0.17	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
Chloroethane	230	900		21000	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 UJ	10 U
Chloroform	80	80		0.22	13 U	13 U	5.0 U	13 U	130 U	0.39 J	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
Chloromethane				190	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
cis-1,2-Dichloroethene	70	70	70	36	170	130	68	110	920	80	140	1200	460	350	460	320	490	410
cis-1,3-Dichloropropene	6.6	26		0.47	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
Ethylbenzene	700	700	700	1.5	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
Methyl tert-butyl ether	20	20		14	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
Methylene chloride	5	5		11	13 U	13 U	5.0 U	5.9 J	110 J B	2.0 U	25 U	25 U	25 U	2.5 U	12 J	24 J B	8.1 J	10 U
Styrene	100	100	100	1200	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
Tetrachloroethene	5	5	5	11	410	430	110	370	4500	430	620	430	220	74	200	150	200	150
Toluene	1000	1000	1000	1100	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	2.5 U	25 U	25 U	25 U	10 U
trans-1,2-Dichloroethene	100	100	100	360	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 U	0.84 J	25 U	25 U	25 U	1.7 J
trans-1,3-Dichloropropene	6.6	26		0.47	13 U	12.5 UJ	5.0 U	13 U	130 U	2.0 U	25 U	25 U	25 UJ	2.5 U	25 U	25 U	25 U	10 U
Trichloroethene	5	5	5	0.49	130	160	48	130	1600	74	210	540	270	69	240	210	200	190
Vinyl Chloride	2	2	2	0.019	13 U	13 U	5.0 U	13 U	130 U	2.0 U	25 U	23 J	25 U	2.5 U	25 U	25 U	25 UJ	10 U
Xylenes (Total)	10000	10000	10000	190	38 U	38 U	15 U	38 U	380 U	6.0 U	75 U	75 U	75 U	7.5 U	75 U	75 U	75 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-1.
Collection Well Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-15A 1/20/15	CW-15A 2/25/15	CW-15A 3/25/15	CW-15A 4/22/15	CW-15A 5/20/15	CW-15A 10/5/15	CW-15A 12/21/15	CW-17 1/20/15	CW-17 2/26/15	CW-17 3/25/15	CW-17 4/22/15	CW-17 5/20/15	CW-17 10/5/15	CW-17 12/21/15
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78						120 J								
Alkalinity																		
ALKALINITY, BICARBONATE					160000 B	270000 B	270000 B	250000 B	200000 B			250000 B	260000 B	230000 B	260000 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					160000 B	270000 B	270000 B	250000 B	200000 B			250000 B	260000 B	230000 B	260000 B	230000 B		
Anions																		
Chloride		250000			110000	300000 B	300000 B	270000	170000 B			190000	120000 B	100000 B	94000	100000 B		
Nitrate As N	10000	10000	10000	32000	1300 B	3700	4900 B	4500	3200 B			3100 B	2300	2100 B	1900	2100 B		
Sulfate					30000	150000	140000	140000	100000			74000	41000	36000	34000	38000		
METAL																		
Calcium					72000 B	200000	190000 B	180000	140000 B			130000 B	120000	110000 B	100000	100000 B		
Magnesium					7400 B	29000	22000	20000	16000			14000 B	15000	11000	10000	11000		
Potassium					8000 B	16000	15000	12000	9100			13000 B	8900	5600	4800	4900 B		
Sodium					46000 B	98000	94000	77000	54000			65000 B	46000 B	39000	32000	35000		

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Table A-1.
Collection Well Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-15A 1/20/15	CW-15A 2/25/15	CW-15A 3/25/15	CW-15A 4/22/15	CW-15A 5/20/15	CW-15A 10/5/15	CW-15A 12/21/15	CW-17 1/20/15	CW-17 2/26/15	CW-17 3/25/15	CW-17 4/22/15	CW-17 5/20/15	CW-17 10/5/15	CW-17 12/21/15
TOTAL VOC																		
TOTAL VOC					31730	28320	47600	28020	21500	32290	32080	867.4	202.9	221.1	179.1	77.6	214.9	118.65
Volatile Organic Compound																		
1,1,1,2-Tetrachloroethane	70	70		0.57	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	13000	8700	17000	9700	7600	12000	12000	64	10	19	11	6.4	11	5.8
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
1,1-Dichloroethane	31	160		2.7	130 J	120 J	1000 U	140 J	250 U	190 J	180 J	4.4 J	2.7 J	5.0 U	2.9 J	3 U	4.2 J	2.2
1,1-Dichloroethene	7	7	7	280	2300	2400	3900	2000	1500	2400	2400	19	6.2	8.1	4.9 J	1.4 J	6.7	3.3
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
1,4-Dioxane	6.4	32		0.78	100000 U	100000 U	200000 U	200000 U	50000 U	100000 UJ	100000 U	1000 U	1000 U	1000 U	1000 U	600 U	1000 UJ	200 U
2-Butanone	4000	4000		5600	2500 U	2500 U	5000 U	1000 UJ	1300 U	2500 U	2500 U	25 U	25 U	25 U	5 UJ	15 U	25 U	5.0 U
2-Hexanone	11	44		38	2500 U	2500 U	5000 U	5000 U	1300 U	2500 U	2500 U	25 U	25 U	25 U	25 U	15 U	25 U	5.0 U
4-Methyl-2-Pentanone	2900	8200		1200	2500 U	2500 U	5000 U	5000 U	1300 U	2500 U	2500 U	25 U	25 U	25 U	25 U	15 U	25 U	5.0 U
Acetone	33000	92000		14000	2500 U	2500 U	5000 U	1000 UJ	1300 U	2500 UJ	2500 U	25 U	25 U	25 U	5 UJ	15 U	25 UJ	5.0 U
Acrylonitrile	0.72	3.7		0.052	10000 U	10000 U	20000 U	20000 U	5000 U	10000 U	10000 U	100 U	100 U	100 U	100 U	60 U	100 U	20 U
Benzene	5	5	5	0.45	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
Bromochloromethane	90	90		83	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
Bromodichloromethane	80	80		0.13	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
Bromoform	80	80		9.2	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
Bromomethane	10	10		7.5	500 U	500 U	1000 U	1000 U	250 U	500 UJ	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5 UJ	1.0 U
Carbon Disulfide	1500	6200		810	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	500 U	500 U	2300	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
Chlorobenzene	100	100	100	78	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
Chlorodibromomethane	80	80		0.17	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
Chloroethane	230	900		21000	500 U	500 U	1000 U	1000 U	250 U	500 UJ	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5 UJ	1.0 U
Chloroform	80	80		0.22	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	0.18 J
Chloromethane				190	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U *	5.0 U	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	11000	10000	16000	9500	6100	11000	11000	260	73	80	65	34	83	48
cis-1,3-Dichloropropene	6.6	26		0.47	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 UJ	5.0 U	5.0 U	3 U	5.0 U	1.0 U
Ethylbenzene	700	700	700	1.5	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
Methyl tert-butyl ether	20	20		14	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
Methylene chloride	5	5		11	500 U	500 U	1000 U	480 J	250 U	200 J	500 U	5 U	5 U	5.0 U	2.3 J	3 U	5.0 U	1.0 U
Styrene	100	100	100	1200	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
Tetrachloroethene	5	5	5	11	2700	1600	1000	1400	1700	1700	1500	290	42	48	32	9.8	46	22
Toluene	1000	1000	1000	1100	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	500 U	500 U	1000 U	1000 U	250 U	500 U	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5.0 U	0.17 J
trans-1,3-Dichloropropene	6.6	26		0.47	500 U	500 UJ	1000 U	1000 U	250 U	500 U	500 U	5 U	5 UJ	5.0 U	5.0 U	3 U	5.0 U	1.0 U
Trichloroethene	5	5	5	0.49	2600	5500	7400	4800	4600	4800	5000	230	69	66	61	26	64	37
Vinyl Chloride	2	2	2	0.019	500 U	500 U	1000 U	1000 U	250 U	500 UJ	500 U	5 U	5 U	5.0 U	5.0 U	3 U	5 UJ	1.0 U
Xylenes (Total)	10000	10000	10000	190	1500 U	1500 U	3000 U	3000 U	750 U	1500 U	1500 U	15 U	15 U	15 U	15 U	9 U	15 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-1.
Collection Well Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-20 1/20/15	CW-20 2/25/15	CW-20 3/25/15	CW-20 4/22/15	CW-20 5/20/15	CW-20 10/5/15	CW-20 12/21/15
1,4 Dioxane											
1,4-Dioxane	6.4	32		0.78							
Alkalinity											
ALKALINITY, BICARBONATE					200000 B	230000 B	220000 B	220000 B	230000 B		
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U		
ALKALINITY, TOTAL					200000 B	230000 B	220000 B	220000 B	230000 B		
Anions											
Chloride		250000			170000	160000 B	170000 B	170000	160000 B		
Nitrate As N	10000	10000	10000	32000	3900 B	3600	3400 B	3300	3100 B		
Sulfate					30000	30000	29000	31000	29000		
METAL											
Calcium					96000 B	96000	91000 B	89000	87000 B		
Magnesium					19000 B	24000	19000	18000	18000		
Potassium					6800 B	6900	7600	6200	6000 B		
Sodium					51000 B	65000	71000	60000	62000		

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.
Collection Well Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-20 1/20/15	CW-20 2/25/15	CW-20 3/25/15	CW-20 4/22/15	CW-20 5/20/15	CW-20 10/5/15	CW-20 12/21/15
TOTAL VOC											
TOTAL VOC					1793	2696	1606	2293	2002	2104	2426
Volatile Organic Compound											
1,1,1,2-Tetrachloroethane	70	70		0.57	50 U	50 U	25 U	50 U	5 U	50 U	25 U
1,1,1-Trichloroethane	200	200	200	8000	240	67	110	77	75	77	76
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	50 U	50 U	25 U	50 U	5 U	50 U	25 U
1,1,2-Trichloroethane	5	5	5	0.28	50 U	50 U	25 U	50 U	5 U	50 U	25 U
1,1-Dichloroethane	31	160		2.7	36 J	12 J	25 U	12 J	5 U	50 U	12 J
1,1-Dichloroethene	7	7	7	280	47 J	17 J	26	18 J	17	17 J	18 J
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	50 U	50 U	25 U	50 U	5 U	50 U	25 U
1,2-Dichloroethane	5	5	5	0.17	50 U	50 U	25 U	50 U	5 U	50 U	25 U
1,2-Dichloropropane	5	5	5	0.44	50 U	50 U	25 U	50 U	5 U	50 U	25 U
1,4-Dioxane	6.4	32		0.78	10000 U	10000 U	5000 U	10000 U	1000 U	10000 UJ	5000 U
2-Butanone	4000	4000		5600	250 U	250 U	130 U	50 UJ	25 U	250 U	130 U
2-Hexanone	11	44		38	250 U	250 U	130 U	250 U	25 U	250 U	130 U
4-Methyl-2-Pentanone	2900	8200		1200	250 U	250 U	130 U	250 U	25 U	250 U	130 U
Acetone	33000	92000		14000	250 U	250 U	130 U	50 UJ	25 U	250 UJ	130 U
Acrylonitrile	0.72	3.7		0.052	1000 U	1000 U	500 U	1000 U	100 U	1000 U	500 U
Benzene	5	5	5	0.45	50 U	50 U	25 U	50 U	5 U	50 U	25 U
Bromochloromethane	90	90		83	50 U	50 U	25 U	50 U	5 U	50 U	25 U
Bromodichloromethane	80	80		0.13	50 U	50 U	25 U	50 U	5 U	50 U	25 U
Bromoform	80	80		9.2	50 U	50 U	25 U	50 U	5 U	50 U	25 U
Bromomethane	10	10		7.5	50 U	50 U	25 U	50 U	5 U	50 UJ	25 U
Carbon Disulfide	1500	6200		810	50 U	50 U	25 U	50 U	5 U	50 U	25 U
Carbon Tetrachloride	5	5	5	0.45	50 U	50 U	25 U	50 U	5 U	50 U	25 U
Chlorobenzene	100	100	100	78	50 U	50 U	25 U	50 U	5 U	50 U	25 U
Chlorodibromomethane	80	80		0.17	50 U	50 U	25 U	50 U	5 U	50 U	25 U
Chloroethane	230	900		21000	50 U	50 U	25 U	50 U	5 U	50 UJ	25 U
Chloroform	80	80		0.22	50 U	50 U	25 U	50 U	5 U	50 U	25 U
Chloromethane				190	50 U	50 U	25 U	50 U	5 U *	50 U	25 U
cis-1,2-Dichloroethene	70	70	70	36	510	180	160	160	130	210	160
cis-1,3-Dichloropropene	6.6	26		0.47	50 U	50 U	25 U	50 U	5 U	50 U	25 U
Ethylbenzene	700	700	700	1.5	50 U	50 U	25 U	50 U	5 U	50 U	25 U
Methyl tert-butyl ether	20	20		14	50 U	50 U	25 U	50 U	5 U	50 U	25 U
Methylene chloride	5	5		11	50 U	50 U	25 U	26 J	5 U	50 U	25 U
Styrene	100	100	100	1200	50 U	50 U	25 U	50 U	5 U	50 U	25 U
Tetrachloroethene	5	5	5	11	360	1700	780	1400	1200	1300	1500
Toluene	1000	1000	1000	1100	50 U	50 U	25 U	50 U	5 U	50 U	25 U
trans-1,2-Dichloroethene	100	100	100	360	50 U	50 U	25 U	50 U	5 U	50 U	25 U
trans-1,3-Dichloropropene	6.6	26		0.47	50 U	50 UJ	25 U	50 U	5 U	50 U	25 U
Trichloroethene	5	5	5	0.49	600	720	530	600	580	500	660
Vinyl Chloride	2	2	2	0.019	50 U	50 U	25 U	50 U	5 U	50 UJ	25 U
Xylenes (Total)	10000	10000	10000	190	150 U	150 U	75 U	150 U	15 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.

TABLE A-2
WATER QUALITY ANALYSES
PACKED TOWER AERATOR SAMPLES (January 1, 2015 - December 31, 2015)
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

Sample ID Lab ID Sample Date Parameter	Units	Outfall #003 GWTS 2050853001 1/22/2015 Result	Outfall #003 GWTS 2063816001 4/8/2015 Result	Outfall #003 GWTS 2081087001 7/7/2015 Result	Outfall #003 GWTS 2100688001 10/8/2015 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 Lab ID Sample Date Parameter	Units	Influent to #003 GWTS 2050854001 1/22/2015 Result	Influent to #003 GWTS 2063817001 4/8/2015 Result	Influent to #003 GWTS 2081086001 7/7/2015 Result	Influent to #003 GWTS 2100689001 10/8/2015 Result
1,1,1-TRICHLOROETHANE	µg/l	403	201	173	176
1,1-DICHLOROETHANE	µg/l	26.5	11.4	8.9	9.2
1,1-DICHLOROETHENE	µg/l	123	50.6	43.3	44.3
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	1.6	N.D.@1	N.D.@1	N.D.@1
TETRACHLOROETHENE	µg/l	383	638	392	338
TRICHLOROETHENE	µg/l	561	446	305	288
VINYL CHLORIDE	µg/l	10	1.1	1.7	1.4
CIS 1,2-DICHLOROETHENE	µg/l	1050	464	371	401
TRANS 1,2-DICHLOROETHENE	µg/l	N.D.@5	1.4	N.D.@1	N.D.@1
TOTAL VOCs	µg/l	2558	1814	1295	1258

All Analysis Performed by ALS ENVIRONMENTAL - 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-3 9/21/15	MW-7 1/15/15	MW-7 2/26/15	MW-7 3/25/15	MW-7 4/22/15	MW-7 5/19/15	MW-9 9/22/15	MW-11 9/23/15	MW-12 9/22/15	MW-15 9/29/15	MW-16D 9/23/15	MW-16S 9/23/15	MW-18D 9/24/15	MW-18S 9/25/15	MW-20D 10/1/15
1,4 Dioxane																			
1,4-Dioxane	6.4	32		0.78															
Alkalinity																			
ALKALINITY, BICARBONATE						110000 B	280000 B	230000 B	260000 B	140000 B									
ALKALINITY, CARBONATE						5000 U	5000 U	5000 U	5000 U	5000 U									
ALKALINITY, TOTAL						110000 B	280000 B	230000 B	260000 B	140000 B									
Anions																			
Chloride		250000				76000	170000 B	120000 B	120000	56000									
Nitrate As N	10000	10000	10000	32000		5100 B	5200	3500 B	3900	1400 B									
Sulfate						18000	39000	35000	30000	13000									
METAL																			
Calcium						48000 B	140000	100000 B	93000	55000 B									
Hexavalent Chromium	100	100		0.035															
Magnesium						4600 B	21000	11000	10000	5200									
Potassium						25000 B	20000	35000	26000	7000									
Sodium						39000 B	56000 B	61000	46000	16000									
METAL (Dissolved)																			
Hexavalent Chromium	100	100		0.035															

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-3 9/21/15	MW-7 1/15/15	MW-7 2/26/15	MW-7 3/25/15	MW-7 4/22/15	MW-7 5/19/15	MW-9 9/22/15	MW-11 9/23/15	MW-12 9/22/15	MW-15 9/29/15	MW-16D 9/23/15	MW-16S 9/23/15	MW-18D 9/24/15	MW-18S 9/25/15	MW-20D 10/1/15
TOTAL VOC																			
TOTAL VOC					34.41	242.1	680.4	562	691.9	431.5	70	3.4	178.4	215.7	24.1	54.58	30.1	33.85	0.36
Volatile Organic Compound																			
1,1,1,2-Tetrachloroethane	70	70		0.57	1 U	5 U	10 U	10 U	10 U	10 U	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 U	6.7	26	36	25	21	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
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1 U	5 U	10 U	10 U	10 U	10 U	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 U	5 U	10 U	10 U	10 U	10 U	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-Dichloroethane	31	160		2.7	1 U	2.1 J	7.4 J	10 U	6.9 J	4.9 J	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-Dichloroethene	7	7	7	280	1 U	5.3	17	16	16	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
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1 U	5 U	10 U	10 U	10 U	10 U	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 U	5 U	10 U	10 U	10 U	10 U	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 U	5 U	10 U	10 U	10 U	10 U	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
1,4-Dioxane	6.4	32		0.78	200 U	1000 U	2000 U	2000 U	2000 U	2000 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 UJ
2-Butanone	4000	4000		5600	5 U	25 U	50 U	50 U	10 UJ	50 U	5.0 U	5.0 U	5 UJ	5 UJ	5.0 U	5.0 U	5.0 U	5 U	5 U
2-Hexanone	11	44		38	5 UJ	25 U	50 U	50 U	50 U	50 U	5 UJ	5 UJ	5 UJ	5.0 U	5 UJ	5.0 U	5.0 U	5 U	5 U
4-Methyl-2-Pentanone	2900	8200		1200	5 U	25 U	50 U	50 U	50 U	50 U	5 UJ	5 UJ	5 UJ	5.0 U	5 UJ	5.0 U	5.0 U	5 U	5 U
Acetone	33000	92000		14000	5 U	5 UJ	50 U	50 U	10 UJ	50 U	5.0 U	5.0 U	5.0 U	5 UJ	5.0 U	5.0 U	5.0 U	5 U	5 U
Acrylonitrile	0.72	3.7		0.052	20 U	100 U	200 U	200 U	200 U	200 U	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 U	5 U	10 U	10 U	10 U	10 U	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 U	5 U	10 U	10 U	10 U	10 U	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 U	5 U	10 U	10 U	10 U	10 U	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 U	5 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 UJ	1.0 U	1 U	1 U
Bromomethane	10	10		7.5	1 U	5 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 UJ
Carbon Disulfide	1500	6200		810	1 U	5 U	10 U	10 U	10 U	10 U	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 U	5 U	10 U	10 U	10 U	10 U	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 U	5 U	10 U	10 U	10 U	10 U	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 U	5 U	10 U	10 U	10 U	10 U	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 U	5 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 UJ	1 UJ	1 UJ
Chloroform	80	80		0.22	2.2	5 U	10 U	10 U	10 U	10 U	1.0 U	0.43 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	0.36 J
Chloromethane				190	1 U	5 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.28 J	1.0 U	0.28 J	1 U
cis-1,2-Dichloroethene	70	70	70	36	0.63 J	74	200	190	200	140	36	1.0 U	52	1.0 U	5.1	42	20	22	1 U
cis-1,3-Dichloropropene	6.6	26		0.47	1 U	5 U	10 UJ	10 U	10 U	10 U	1 UJ	1 UJ	1.0 U	1.0 U	1 UJ	1 UJ	1.0 U	1 U	1 U
Ethylbenzene	700	700	700	1.5	1 U	5 U	10 U	10 U	10 U	10 U	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
Methyl tert-butyl ether	20	20		14	0.19 J	5 U	10 U	10 U	10 U	10 U	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 U	5 U	10 U	10 U	4.0 J	6.6 J	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
Styrene	100	100	100	1200	1 U	5 U	10 U	10 U	10 U	10 U	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	0.39 J	60	210	130	190	96	1.0 U	0.37 J	6.4	210	1.0 U	6.7	1.0 U	1 U	1 U
Toluene	1000	1000	1000	1100	1 U	5 U	10 U	10 U	10 U	10 U	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 U	5 U	10 U	10 U	10 U	10 U	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 U	5 U	10 UJ	10 U	10 U	10 U	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	31	94	220	190	250	150	29	2.6	120	5.7	19	5.6	9.5	11	1 U
Vinyl Chloride	2	2	2	0.019	1 U	5 U	10 U	10 U	10 U	10 U	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.60 J	0.57 J	1 UJ
Xylenes (Total)	10000	10000	10000	190	3 U	15 U	30 U	30 U	30 U	30 U	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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-20M 9/30/15	MW-20S 9/24/15	MW-22 9/29/15	MW-28 9/21/15	MW-32D 9/21/15	MW-32S 9/21/15	MW-32S Dup 9/21/15	MW-37D 1/14/15	MW-37D 2/23/15	MW-37D 3/25/15	MW-37D 4/20/15	MW-37D 5/19/15	MW-37D 9/25/15	MW-37S 1/13/15
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78														
Alkalinity																		
ALKALINITY, BICARBONATE												230000 B	210000 B	210000 B	250000 B	240000 B		240000 B
ALKALINITY, CARBONATE												5000 U	5000 U	5000 U	5000 U	5000 U		5000 U
ALKALINITY, TOTAL												230000 B	210000 B	210000 B	250000 B	240000 B		240000 B
Anions																		
Chloride		250000										170000	140000 B	220000 B	150000	140000		170000
Nitrate As N	10000	10000	10000	32000								5000 B	3500	2400 B	3200	2900 B		3500 B
Sulfate												34000	35000	41000	39000	42000		25000
METAL																		
Calcium												96000 B	87000	87000 B	89000 B	89000 B		90000 B
Hexavalent Chromium	100	100		0.035														
Magnesium												21000 B	22000	20000	21000	18000		21000 B
Potassium												12000 B	6900	7800	6400	6100		27000 B
Sodium												57000 B	63000 B	110000	69000 B	58000		64000 B
METAL (Dissolved)																		
Hexavalent Chromium	100	100		0.035														

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-20M 9/30/15	MW-20S 9/24/15	MW-22 9/29/15	MW-28 9/21/15	MW-32D 9/21/15	MW-32S 9/21/15	MW-32S Dup 9/21/15	MW-37D 1/14/15	MW-37D 2/23/15	MW-37D 3/25/15	MW-37D 4/20/15	MW-37D 5/19/15	MW-37D 9/25/15	MW-37S 1/13/15
TOTAL VOC																		
TOTAL VOC					14.3	87.8	26.77	18.37	1260	886	924	866	1540.8	829.6	1030.4	1147.3	1751	464.48
Volatile Organic Compound																		
1,1,1,2-Tetrachloroethane	70	70		0.57	1 UJ	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
1,1,1-Trichloroethane	200	200	200	8000	1.0 U	1.0 U	0.38 J	8.7	4 J	220	230	71	54	64	54	66	97	24
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
1,1-Dichloroethane	31	160		2.7	1.0 U	1.0 U	1.0 U	1.2	11	55	55	16	3.8 J	4.2 J	4.1	6.8 J	40 U	4.9
1,1-Dichloroethene	7	7	7	280	1.0 U	1.0 U	1.0 U	5	33	41	39	19	10 J	6.4 J	6.3	8.9 J	17 J	4.6
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
1,2-Dichloroethane	5	5	5	0.17	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
1,2-Dichloropropane	5	5	5	0.44	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
1,4-Dioxane	6.4	32		0.78	200 UJ	200 U	200 U	200 U	2000 U	2000 U	2000 U	R	2500 U	2000 U	800 U	2500 U	8000 U	400 U
2-Butanone	4000	4000		5600	5.0 U	5.0 U	5 UJ	5 U	50 U	50 U	50 U	63 U	63 U	50 U	20 U	63 U	200 U	10 U
2-Hexanone	11	44		38	5 UJ	5.0 U	5.0 U	5 U	50 U	50 U	50 U	63 UJ	63 U	50 U	20 U	63 U	200 U	10 U
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U	5.0 U	5.0 U	5 U	50 U	50 U	50 U	63 U	63 U	50 U	20 U	63 U	200 U	10 U
Acetone	33000	92000		14000	5.0 U	5.0 U	5 UJ	5 U	50 U	50 U	50 U	63 U	63 U	50 U	20 U	63 U	200 U	10 U
Acrylonitrile	0.72	3.7		0.052	20 UJ	20 U	20 U	20 U	200 U	200 U	200 U	250 U	250 U	200 U	80 U	250 U	800 U	40 U
Benzene	5	5	5	0.45	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Bromochloromethane	90	90		83	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Bromodichloromethane	80	80		0.13	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Bromoform	80	80		9.2	1 UJ	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Bromomethane	10	10		7.5	1 UJ	1.0 U	1.0 U	1 U	10 UJ	10 UJ	10 UJ	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Carbon Disulfide	1500	6200		810	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Carbon Tetrachloride	5	5	5	0.45	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Chlorobenzene	100	100	100	78	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Chlorodibromomethane	80	80		0.17	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Chloroethane	230	900		21000	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Chloroform	80	80		0.22	1	1.8	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	0.44 J
Chloromethane				190	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
cis-1,2-Dichloroethene	70	70	70	36	1.0 U	1.2	0.39 J	0.76 J	360	240	250	250	73	65	56	69	77	100
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Ethylbenzene	700	700	700	1.5	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Methyl tert-butyl ether	20	20		14	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Methylene chloride	5	5		11	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	6.6 J	40 U	2 U
Styrene	100	100	100	1200	1 UJ	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Tetrachloroethene	5	5	5	11	0.30 J	3.8	13	0.41 J	49	120	130	280	1100	510	680	740	1100	260
Toluene	1000	1000	1000	1100	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
trans-1,2-Dichloroethene	100	100	100	360	1.0 U	1.0 U	1.0 U	1 U	2 J	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	0.54 J
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Trichloroethene	5	5	5	0.49	13	81	13	2.3	780	210	220	230	300	180	230	250	460	70
Vinyl Chloride	2	2	2	0.019	1.0 U	1.0 U	1.0 U	1 U	21	10 U	10 U	13 U	13 U	10 U	4 U	13 U	40 U	2 U
Xylenes (Total)	10000	10000	10000	190	3.0 U	3.0 U	3.0 U	3 U	30 U	30 U	30 U	38 U	38 U	30 U	12 U	38 U	120 U	6 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-37S Dup 1/13/15	MW-37S 2/24/15	MW-37S 3/25/15	MW-37S 4/21/15	MW-37S 5/19/15	MW-37S 9/28/15	MW-39D 1/16/15	MW-39D 2/24/15	MW-39D 3/26/15	MW-39D 4/23/15	MW-39D 5/21/15	MW-45 9/24/15	MW-46 9/18/15	MW-47 9/22/15
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78														
Alkalinity																		
ALKALINITY, BICARBONATE					270000 B	260000 B	250000 B	280000 B	270000 B		310000 B	290000 B	250000 B	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					270000 B	260000 B	250000 B	280000 B	270000 B		310000 B	290000 B	250000 B	240000 B	250000 B			
Anions																		
Chloride		250000			170000	180000 B	130000 B	150000	130000		120000	120000 B	99000 B	91000 B	91000			
Nitrate As N	10000	10000	10000	32000	3500 B	2700	2400 B	2300	2400 B		4200 B	3900	3500 B	2800	3100 B			
Sulfate					26000	33000	30000	32000	36000		36000	37000	35000 B	28000	34000			
METAL																		
Calcium					97000 B	81000	83000 B	92000	78000 B		130000 B	120000	120000 B	110000	100000 B			
Hexavalent Chromium	100	100		0.035														3800
Magnesium					22000 B	25000	21000	22000	20000		14000 B	17000	13000	12000 B	13000			
Potassium					29000 B	15000	24000	20000	14000		7700	8500	7700	6900	6300			
Sodium					66000 B	86000	64000	72000	62000		30000	37000	35000 B	27000 B	29000			
METAL (Dissolved)																		
Hexavalent Chromium	100	100		0.035														3900

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-37S Dup 1/13/15	MW-37S 2/24/15	MW-37S 3/25/15	MW-37S 4/21/15	MW-37S 5/19/15	MW-37S 9/28/15	MW-39D 1/16/15	MW-39D 2/24/15	MW-39D 3/26/15	MW-39D 4/23/15	MW-39D 5/21/15	MW-45 9/24/15	MW-46 9/18/15	MW-47 9/22/15
TOTAL VOC																		
TOTAL VOC					446.6	414.4	311.3	334.75	404.44	401.66	256.36	222.6	162.36	142	75.41	66.7	202.7	14.4
Volatile Organic Compound																		
1,1,1,2-Tetrachloroethane	70	70		0.57	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	18	16	15	18	23	20	6.7	7.8	4.4	3.3	0.41 J	0.38 J	10	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
1,1-Dichloroethane	31	160		2.7	4.4 J	4.2 J	4 U	3.4	4.5	3.1	1.5 J	1.8 J	0.96 J	1.0 J	1 U	0.22 J	4.2 J	1.0 U
1,1-Dichloroethene	7	7	7	280	4.2 J	3.2 J	1.3 J	1.8	2.4	1.2 J	2.4 J	4	2 J	1.4 J	1 U	1.1	4.5 J	0.50 J
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
1,4-Dioxane	6.4	32		0.78	1600 U	1600 U	800 U	200 U	200 U	400 U	600 U	600 U	600 U	600 U	200 U	200 U	1000 U	200 U
2-Butanone	4000	4000		5600	40 U	40 U	20 U	5.0 U	5 U	10 U	15 U	15 U	15 U	15 U	5 U	5.0 U	25 U	5 UJ
2-Hexanone	11	44		38	40 U	40 U	20 U	5.0 U	5 U	10 U	15 U	15 U	15 U	15 U	5 U	5.0 U	25 U	5 UJ
4-Methyl-2-Pentanone	2900	8200		1200	40 U	40 U	20 U	5.0 U	5 U	10 U	15 U	15 U	15 U	15 U	5 U	5.0 U	25 U	5 UJ
Acetone	33000	92000		14000	40 U	40 U	20 U	5.0 U	5 U	10 U	15 U	15 U	15 U	15 U	5 U	5.0 U	25 U	5.0 U
Acrylonitrile	0.72	3.7		0.052	160 U	160 U	80 U	20 U	20 U	40 U	60 U	60 U	60 U	60 U	20 U	20 U	100 U	20 U
Benzene	5	5	5	0.45	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
Bromochloromethane	90	90		83	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
Bromodichloromethane	80	80		0.13	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
Bromoform	80	80		9.2	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
Bromomethane	10	10		7.5	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5 UJ	1.0 U
Carbon Disulfide	1500	6200		810	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
Chlorobenzene	100	100	100	78	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
Chlorodibromomethane	80	80		0.17	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
Chloroethane	230	900		21000	8 U	8 U	4 U	1.0 U	1 U	2 UJ	3 U	3 U	3 U	3.0 U	1 U	1 UJ	5.0 U	1.0 U
Chloroform	80	80		0.22	8 U	8 U	4 U	0.20 J	0.22 J	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
Chloromethane				190	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	93	99	42	51	58	41	85	75	51	50	24	14	84	5.8
cis-1,3-Dichloropropene	6.6	26		0.47	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
Ethylbenzene	700	700	700	1.5	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
Methyl tert-butyl ether	20	20		14	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
Methylene chloride	5	5		11	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	1.3 J	1 U	1.0 U	5.0 U	1.0 U
Styrene	100	100	100	1200	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
Tetrachloroethene	5	5	5	11	270	240	220	220	270	310	50	45	29	19	18	38	35	3.6
Toluene	1000	1000	1000	1100	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	8 U	8 U	4 U	0.35 J	0.32 J	0.36 J	0.76 J	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
Trichloroethene	5	5	5	0.49	57	52	33	40	46	26	110	89	75	66	33	13	65	4.5
Vinyl Chloride	2	2	2	0.019	8 U	8 U	4 U	1.0 U	1 U	2.0 U	3 U	3 U	3 U	3.0 U	1 U	1.0 U	5.0 U	1.0 U
Xylenes (Total)	10000	10000	10000	190	24 U	24 U	12 U	3.0 U	3 U	6.0 U	9 U	9 U	9 U	9.0 U	3 U	3.0 U	15 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-49D 9/22/15	MW-49S 9/23/15	MW-50D 1/15/15	MW-50D 2/26/15	MW-50D 3/26/15	MW-50D 4/22/15	MW-50D 5/20/15	MW-50S 1/16/15	MW-50S 2/27/15	MW-50S 3/27/15	MW-50S 4/23/15	MW-50S 5/21/15	MW-51D 1/15/15
1,4 Dioxane																	
1,4-Dioxane	6.4	32		0.78		4.9											
Alkalinity																	
ALKALINITY, BICARBONATE							290000 B	310000 B	300000 B	310000 B	340000 B	240000 B	230000 B	200000 B	200000 B	220000 B	270000 B
ALKALINITY, CARBONATE							5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL							290000 B	310000 B	300000 B	310000 B	340000 B	240000 B	230000 B	200000 B	200000 B	220000 B	270000 B
Anions																	
Chloride		250000					97000	100000 B	88000	98000	99000 B	170000	170000 B	160000 B	170000 B	180000	240000
Nitrate As N	10000	10000	10000	32000			100 U	100 U	100 U	17 J	22 J B	1800 B	2700 H B	2500 B	2200	2400 B	650 B
Sulfate							260000	270000	230000	270000	250000	68000	57000	55000	50000	59000	67000
METAL																	
Calcium							150000 B	160000	160000 B	160000	150000 B	110000 B	120000 B	130000 B	130000	120000 B	95000 B
Hexavalent Chromium	100	100		0.035													
Magnesium							48000 B	53000	47000	48000	45000	11000 B	16000	15000 B	14000 B	15000	28000 B
Potassium							2500 B	2400	2500	2300	2300 B	9900	9500	9700	9400	8600	26000 B
Sodium							18000 B	18000 B	19000 B	17000	17000	76000	50000 B	51000 B	46000 B	47000	49000 B
METAL (Dissolved)																	
Hexavalent Chromium	100	100		0.035													

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-49D 9/22/15	MW-49S 9/23/15	MW-50D 1/15/15	MW-50D 2/26/15	MW-50D 3/26/15	MW-50D 4/22/15	MW-50D 5/20/15	MW-50S 1/16/15	MW-50S 2/27/15	MW-50S 3/27/15	MW-50S 4/23/15	MW-50S 5/21/15	MW-51D 1/15/15
TOTAL VOC																	
TOTAL VOC					9790	7340	11876	13102	11626	13027	13270	284.3	2103.2	1274	1643.9	6223.3	2234
Volatile Organic Compound																	
1,1,1,2-Tetrachloroethane	70	70		0.57	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
1,1,1-Trichloroethane	200	200	200	8000	1900	830	39 J	16 J	110 J	280	340	29	130	95	65	330	64
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
1,1,2-Trichloroethane	5	5	5	0.28	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
1,1-Dichloroethane	31	160		2.7	520	580	840	720	650	840	760	1.7 J	9.2 J	50 U	9.9 J	25 U	72
1,1-Dichloroethene	7	7	7	280	190 J	160 J	280	290	280	300	370	6.6	54	29 J	30 J	120	150
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
1,2-Dichloroethane	5	5	5	0.17	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
1,2-Dichloropropane	5	5	5	0.44	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
1,4-Dioxane	6.4	32		0.78	40000 U	40000 U	8000 U	8000 U	25000 U	25000 U	25000 U	1000 U	10000 U	10000 U	10000 U	5000 U	5000 U
2-Butanone	4000	4000		5600	1000 UJ	1000 U	200 U	200 U	630 U	125 UJ	630 U	25 U	250 U	250 U	250 U	130 U	130 U
2-Hexanone	11	44		38	1000 UJ	1000 U	200 U	200 U	630 U	630 U	630 U	25 U	250 U	250 U	250 U	130 U	130 U
4-Methyl-2-Pentanone	2900	8200		1200	1000 UJ	1000 U	200 U	200 U	630 U	630 U	630 U	25 U	250 U	250 U	250 U	130 U	130 U
Acetone	33000	92000		14000	1000 U	1000 U	40 UJ	200 U	630 U	125 UJ	630 U	25 U	250 U	250 U	250 U	130 U	130 U
Acrylonitrile	0.72	3.7		0.052	4000 U	4000 U	800 U	800 U	2500 U	2500 U	2500 U	100 U	1000 U	1000 U	1000 U	500 U	500 U
Benzene	5	5	5	0.45	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
Bromochloromethane	90	90		83	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
Bromodichloromethane	80	80		0.13	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
Bromoform	80	80		9.2	200 U	200 UJ	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
Bromomethane	10	10		7.5	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
Carbon Disulfide	1500	6200		810	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
Carbon Tetrachloride	5	5	5	0.45	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	7.7 J	25 U
Chlorobenzene	100	100	100	78	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
Chlorodibromomethane	80	80		0.17	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
Chloroethane	230	900		21000	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
Chloroform	80	80		0.22	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	5.6 J	25 U
Chloromethane				190	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
cis-1,2-Dichloroethene	70	70	70	36	3400	3900	5700	5900	4700	5300	4900	130	850	580	720	3100	570
cis-1,3-Dichloropropene	6.6	26		0.47	200 U	200 UJ	40 U	40 U	130 U	130 U	130 U	5 U	50 UJ	50 U	50 U	25 U	25 U
Ethylbenzene	700	700	700	1.5	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
Methyl tert-butyl ether	20	20		14	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
Methylene chloride	5	5		11	200 U	200 U	40 U	40 U	50 J	63 J	110 J B	5 U	50 U	50 U	39 J	25 U	25 U
Styrene	100	100	100	1200	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
Tetrachloroethene	5	5	5	11	480	170 J	370	430	500	510	550	34	220	120	160	560	78
Toluene	1000	1000	1000	1100	200 U	200 U	40 U	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
trans-1,2-Dichloroethene	100	100	100	360	200 U	200 U	11 J	40 U	130 U	130 U	130 U	5 U	50 U	50 U	50 U	25 U	25 U
trans-1,3-Dichloropropene	6.6	26		0.47	200 U	200 U	40 U	40 UJ	130 U	130 U	130 U	5 UJ	50 UJ	50 U	50 U	25 U	25 U
Trichloroethene	5	5	5	0.49	3300	1700	4600	5700	5300	5700	6200	83	840	450	620	2100	1300
Vinyl Chloride	2	2	2	0.019	200 U	200 U	36 J	46	36 J	34 J	40 J	5 U	50 U	50 U	50 U	25 U	25 U
Xylenes (Total)	10000	10000	10000	190	600 U	600 U	120 U	120 U	380 U	380 U	380 U	15 U	150 U	150 U	150 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-51D 2/27/15	MW-51D 3/27/15	MW-51D 4/23/15	MW-51D 5/21/15	MW-51S 1/15/15	MW-51S 2/26/15	MW-51S 3/26/15	MW-51S 4/22/15	MW-51S 5/20/15	MW-57 9/23/15	MW-64D 4/14/15	MW-64D 9/30/15	MW-64S 4/16/15	MW-64S 10/1/15
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78														
Alkalinity																		
ALKALINITY, BICARBONATE					290000 B	21000 B	210000 B	240000 B	220000 B	220000 B	220000 B	230000 B	200000 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	21000 B	210000 B	240000 B	220000 B	220000 B	220000 B	230000 B	200000 B					
Anions																		
Chloride		250000			170000 B	5500 B	82000 B	110000	180000	170000 B	150000 B	170000	160000 B					
Nitrate As N	10000	10000	10000	32000	880 H B	360 B	980	1300 B	3400 B	2900	2800 B	2600	2800 B					
Sulfate					63000	7200 F1	37000	50000	60000	54000	54000 B	54000	59000					
METAL																		
Calcium					100000 B	11000 B	66000	71000 B	130000 B	130000	120000 B	120000	110000 B					
Hexavalent Chromium	100	100		0.035										39				
Magnesium					30000	690 B	16000 B	21000	15000 B	18000	13000	14000	14000					
Potassium					24000	10000	19000	20000	12000 B	9400	8000	8100	7700 B					
Sodium					49000 B	7000 B	34000 B	39000	55000 B	52000 B	48000 B	47000	44000					
METAL (Dissolved)																		
Hexavalent Chromium	100	100		0.035										38				

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-51D 2/27/15	MW-51D 3/27/15	MW-51D 4/23/15	MW-51D 5/21/15	MW-51S 1/15/15	MW-51S 2/26/15	MW-51S 3/26/15	MW-51S 4/22/15	MW-51S 5/20/15	MW-57 9/23/15	MW-64D 4/14/15	MW-64D 9/30/15	MW-64S 4/16/15	MW-64S 10/1/15
TOTAL VOC																		
TOTAL VOC					1800	9.85	777.09	1495	2939	2405	2093	2146	1985	73.83	771.8	630	115	139
Volatile Organic Compound																		
1,1,1,2-Tetrachloroethane	70	70		0.57	50 U	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
1,1,1-Trichloroethane	200	200	200	8000	35 J	1.0 U	20	48	360	130	110	110	95	1.0 U	2.5 U	2.5 U	1.0 U	2 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	50 U	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
1,1,2-Trichloroethane	5	5	5	0.28	50 U	1 UJ	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
1,1-Dichloroethane	31	160		2.7	56	1.0 U	21	40	19 J	16 J	12 J	15 J	50 U	0.63 J	2.5 U	2.5 U	1.0 U	2 U
1,1-Dichloroethene	7	7	7	280	120	1.0 U	48	66	100	59	52	46 J	46 J	15	2.5 U	2.5 U	1.0 U	2 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	50 U	1 UJ	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
1,2-Dichloroethane	5	5	5	0.17	50 U	1 UJ	0.28 J	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
1,2-Dichloropropane	5	5	5	0.44	50 U	1 UJ	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
1,4-Dioxane	6.4	32		0.78	10000 U	1 UJ	200 U	5000 U	10000 U	10000 U	10000 U	10000 U	10000 U	200 U	500 U	500 UJ	200 U	400 UJ
2-Butanone	4000	4000		5600	250 U	5.0 U	5.0 U	130 U	250 U	250 U	250 U	50 UJ	250 U	5.0 U	13 U	13 U	5.0 U	10 U
2-Hexanone	11	44		38	250 U	5.0 U	5.0 U	130 U	250 U	250 U	250 U	250 U	250 U	5.0 U	13 U	13 U	5.0 U	10 U
4-Methyl-2-Pentanone	2900	8200		1200	250 U	5.0 U	5.0 U	130 U	250 U	250 U	250 U	250 U	250 U	5.0 U	13 U	13 U	5.0 U	10 U
Acetone	33000	92000		14000	250 U	5.0 U	5.0 U	130 U	50 UJ	250 U	250 U	50 UJ	250 U	5.0 U	13 U	13 U	5.0 U	10 U
Acrylonitrile	0.72	3.7		0.052	1000 U	20 U	20 U	500 U	1000 U	1000 U	1000 U	1000 U	1000 U	20 U	50 U	50 U	20 U	40 U
Benzene	5	5	5	0.45	50 U	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
Bromochloromethane	90	90		83	50 U	1 UJ	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
Bromodichloromethane	80	80		0.13	50 U	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
Bromoform	80	80		9.2	50 U	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1 UJ	2.5 U	2.5 U	1.0 U	2 U
Bromomethane	10	10		7.5	50 U	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 UJ	1.0 U	2 UJ
Carbon Disulfide	1500	6200		810	50 U	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
Carbon Tetrachloride	5	5	5	0.45	50 U	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
Chlorobenzene	100	100	100	78	50 U	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
Chlorodibromomethane	80	80		0.17	50 U	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
Chloroethane	230	900		21000	50 U	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 UJ	1.0 U	2 UJ
Chloroform	80	80		0.22	50 U	1.0 U	0.39 J	25 U	50 U	50 U	50 U	50 U	50 U	1.6	2.5 U	2.5 U	1.0 U	2 U
Chloromethane				190	50 U	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
cis-1,2-Dichloroethene	70	70	70	36	520	2.9	230	630	740	820	640	730	620	13	2.5 U	2.5 U	1.0 U	2 U
cis-1,3-Dichloropropene	6.6	26		0.47	50 UJ	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1 UJ	2.5 U	2.5 U	1.0 U	2 U
Ethylbenzene	700	700	700	1.5	50 U	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
Methyl tert-butyl ether	20	20		14	50 U	1 UJ	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
Methylene chloride	5	5		11	50 U	1.0 U	1.0 U	25 U	50 U	50 U	19 J	25 J	24 J B	1.0 U	1.8 J	2.5 U	1.0 U	2 U
Styrene	100	100	100	1200	50 U	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
Tetrachloroethene	5	5	5	11	69	0.65 J	36	51	850	520	580	480	480	3.6	520	420	70	81
Toluene	1000	1000	1000	1100	50 U	1.0 U	1.0 U	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
trans-1,2-Dichloroethene	100	100	100	360	50 U	1.0 U	0.82 J	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1.0 U	2 U
trans-1,3-Dichloropropene	6.6	26		0.47	50 UJ	1.0 U	1.0 U	25 U	50 U	50 UJ	50 U	50 U	50 U	1.0 U	2.5 U	2.5 U	1 UJ	2 U
Trichloroethene	5	5	5	0.49	1000	6.3	420	660	870	860	680	740	720	40	250	210	45	58
Vinyl Chloride	2	2	2	0.019	50 U	1.0 U	0.60 J	25 U	50 U	50 U	50 U	50 U	50 U	1.0 U	2.5 U	2.5 UJ	1.0 U	2 UJ
Xylenes (Total)	10000	10000	10000	190	150 U	3.0 U	3.0 U	75 U	150 U	150 U	150 U	150 U	150 U	3.0 U	7.5 U	7.5 U	3.0 U	6 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-74S 1/16/15	MW-74S 2/24/15	MW-74S 3/26/15	MW-74S 4/23/15	MW-74S 5/21/15	MW-75D 1/14/15	MW-75D 2/24/15	MW-75D 3/27/15	MW-75D 4/21/15	MW-75D 5/19/15	MW-75D 9/25/15	MW-75S 1/14/15	MW-75S 2/24/15
1,4 Dioxane																	
1,4-Dioxane	6.4	32		0.78													
Alkalinity																	
ALKALINITY, BICARBONATE					280000 B	240000 B	220000 B	240000 B	240000 B	210000 B	210000 B	260000 B	270000 B	210000 B		200000 B	210000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U		5000 U	5000 U
ALKALINITY, TOTAL					280000 B	240000 B	220000 B	240000 B	240000 B	210000 B	210000 B	260000 B	270000 B	210000 B		200000 B	210000 B
Anions																	
Chloride		250000			160000	53000 B	65000 B	74000 B	76000	160000	160000 B	170000 B	160000	170000		820000	120000 B
Nitrate As N	10000	10000	10000	32000	3700 B	1700	1900 B	1700	2100 B	3500 B	3400	3200 B	3000	3300 B		21000 B	2400
Sulfate					54000	16000	18000 B	14000	21000	30000	31000	32000	31000	32000		160000	33000
METAL																	
Calcium					130000 B	90000	91000 B	92000	88000 B	100000 B	93000	91000 B	98000	89000 B		90000 B	76000
Hexavalent Chromium	100	100		0.035													
Magnesium					14000 B	11000	9600	9700 B	12000	18000 B	23000	20000 B	18000	18000		20000 B	20000
Potassium					9700	3100	3200	3200	3400	6800 B	7600	8700	7500	6300		8600 B	5600
Sodium					52000	20000	27000 B	24000 B	29000	50000 B	61000	75000 B	59000	56000		56000 B	50000
METAL (Dissolved)																	
Hexavalent Chromium	100	100		0.035													

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-74S 1/16/15	MW-74S 2/24/15	MW-74S 3/26/15	MW-74S 4/23/15	MW-74S 5/21/15	MW-75D 1/14/15	MW-75D 2/24/15	MW-75D 3/27/15	MW-75D 4/21/15	MW-75D 5/19/15	MW-75D 9/25/15	MW-75S 1/14/15	MW-75S 2/24/15
TOTAL VOC																	
TOTAL VOC					1331	73.5	51.89	40.91	72.4	2140	4818	4438	7155	8377	19078	7922.9	17787.4
Volatile Organic Compound																	
1,1,1,2-Tetrachloroethane	70	70		0.57	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
1,1,1-Trichloroethane	200	200	200	8000	210	3.9	2.2	1.5	2.6	270	98	110	120	160	240	100	160
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
1,1,2-Trichloroethane	5	5	5	0.28	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
1,1-Dichloroethane	31	160		2.7	15 J	1.4	0.89 J	0.77 J	1 U	48 J	25 J	50 U	21 J	34 J	34 J	9.9 J	6.4 J
1,1-Dichloroethene	7	7	7	280	66	2.2	1.3	0.84 J	1	62	25 J	50 U	27 J	31 J	54	23 J	41 J
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
1,2-Dichloroethane	5	5	5	0.17	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
1,2-Dichloropropane	5	5	5	0.44	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
1,4-Dioxane	6.4	32		0.78	5000 U	200 U	200 U	200 U	200 U	R	10000 U	10000 U	10000 U	8000 U	10000 U	R	10000 U
2-Butanone	4000	4000		5600	130 U	5 U	5 U	5.0 U	5 U	250 U	250 U	250 U	250 U	200 U	250 U	250 U	250 U
2-Hexanone	11	44		38	130 U	5 U	5 U	5.0 U	5 U	250 UJ	250 U	250 U	250 U	200 U	250 U	250 UJ	250 U
4-Methyl-2-Pentanone	2900	8200		1200	130 U	5 U	5 U	5.0 U	5 U	250 U	250 U	250 U	250 U	200 U	250 U	250 U	250 U
Acetone	33000	92000		14000	130 U	5 U	5 U	5.0 U	5 U	250 U	250 U	250 U	250 U	200 U	250 U	250 U	250 U
Acrylonitrile	0.72	3.7		0.052	500 U	20 U	20 U	20 U	20 U	1000 U	1000 U	1000 U	1000 U	800 U	1000 U	1000 U	1000 U
Benzene	5	5	5	0.45	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Bromochloromethane	90	90		83	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Bromodichloromethane	80	80		0.13	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Bromoform	80	80		9.2	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Bromomethane	10	10		7.5	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Carbon Disulfide	1500	6200		810	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Carbon Tetrachloride	5	5	5	0.45	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Chlorobenzene	100	100	100	78	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Chlorodibromomethane	80	80		0.17	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Chloroethane	230	900		21000	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 UJ	50 U	50 U
Chloroform	80	80		0.22	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Chloromethane				190	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
cis-1,2-Dichloroethene	70	70	70	36	270	30	23	19	34	630	310	98	270	380	550	190	180
cis-1,3-Dichloropropene	6.6	26		0.47	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Ethylbenzene	700	700	700	1.5	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Methyl tert-butyl ether	20	20		14	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Methylene chloride	5	5		11	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	17 J	72	50 U	50 U	50 U
Styrene	100	100	100	1200	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Tetrachloroethene	5	5	5	11	230	14	9.5	6.8	9.8	390	3500	3400	5600	6300	15000	6300	15000
Toluene	1000	1000	1000	1100	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
trans-1,2-Dichloroethene	100	100	100	360	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
trans-1,3-Dichloropropene	6.6	26		0.47	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Trichloroethene	5	5	5	0.49	540	22	15	12	25	740	860	830	1100	1400	3200	1300	2400
Vinyl Chloride	2	2	2	0.019	25 U	1 U	1 U	1.0 U	1 U	50 U	50 U	50 U	50 U	40 U	50 U	50 U	50 U
Xylenes (Total)	10000	10000	10000	190	75 U	3 U	3 U	3.0 U	3 U	150 U	150 U	150 U	150 U	120 U	150 U	150 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-3.
Comprehensive Site-Wide Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-75S 3/25/15	MW-75S 4/21/15	MW-75S 5/19/15	MW-75S 9/25/15	MW-81D 9/24/15	MW-81S 9/24/15	MW-82 9/28/15	MW-87 9/30/15	MW-88 9/28/15	MW-91 9/28/15	MW-92 9/30/15	MW-93D 1/13/15	MW-93D 2/23/15
1,4 Dioxane																	
1,4-Dioxane	6.4	32		0.78								9.7					
Alkalinity																	
ALKALINITY, BICARBONATE					220000 B	210000 B	220000 B									190000 B	180000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U									5000 U	5000 U
ALKALINITY, TOTAL					220000 B	210000 B	220000 B									190000 B	180000 B
Anions																	
Chloride		250000			140000 B	130000	130000									100000	100000 B
Nitrate As N	10000	10000	10000	32000	2300 B	2300	2300 B									650 B	590
Sulfate					35000	33000	32000									27000	28000
METAL																	
Calcium					86000 B	92000	82000 B									81000 B	68000
Hexavalent Chromium	100	100		0.035													
Magnesium					18000	17000	17000									15000 B	16000
Potassium					6000	5900	5400									6600 B	5400
Sodium					63000	55000	53000									41000 B	38000 B
METAL (Dissolved)																	
Hexavalent Chromium	100	100		0.035													

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-75S 3/25/15	MW-75S 4/21/15	MW-75S 5/19/15	MW-75S 9/25/15	MW-81D 9/24/15	MW-81S 9/24/15	MW-82 9/28/15	MW-87 9/30/15	MW-88 9/28/15	MW-91 9/28/15	MW-92 9/30/15	MW-93D 1/13/15	MW-93D 2/23/15
TOTAL VOC																	
TOTAL VOC					16032	14229	15567	19359.8	220.05	1268.6	30.09	905.4	48.62	185.01	162.31	708.2	420
Volatile Organic Compound																	
1,1,1,2-Tetrachloroethane	70	70		0.57	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1 UJ	10 U	5 U
1,1,1-Trichloroethane	200	200	200	8000	240	160	250	250	1.0 U	5.0 U	1.0 U	9.8 J	1.0 U	1.0 U	1.0 U	15	8
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
1,1,2-Trichloroethane	5	5	5	0.28	50 U	50 U	50 U	120	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
1,1-Dichloroethane	31	160		2.7	50 U	50 U	50 U	6.8 J	4.9	13	0.50 J	4.6 J	0.51 J	1.0 U	1.0 U	4.5 J	3.4 J
1,1-Dichloroethene	7	7	7	280	50	31 J	50	53	3.2	16	0.39 J	11 J	0.43 J	1.0 U	1.0 U	5.8 J	4.4 J
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
1,2-Dichloroethane	5	5	5	0.17	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
1,2-Dichloropropane	5	5	5	0.44	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
1,4-Dioxane	6.4	32		0.78	10000 U	10000 U	10000 U	10000 U	200 U	1000 U	200 U	2500 UJ	200 U	200 U	200 UJ	2000 U	1000 U
2-Butanone	4000	4000		5600	250 U	250 U	250 U	250 U	5.0 U	25 U	5.0 U	63 U	5.0 U	5.0 U	5.0 U	50 U	25 U
2-Hexanone	11	44		38	250 U	250 U	250 U	250 U	5.0 U	25 U	5.0 U	63 U	5.0 U	5.0 U	5 UJ	50 U	25 U
4-Methyl-2-Pentanone	2900	8200		1200	250 U	250 U	250 U	250 U	5.0 U	25 U	5.0 U	63 U	5.0 U	5.0 U	5.0 U	50 U	25 U
Acetone	33000	92000		14000	250 U	250 U	250 U	250 U	5.0 U	25 U	5.0 U	63 U	5.0 U	5.0 U	5.0 U	50 U	25 U
Acrylonitrile	0.72	3.7		0.052	1000 U	1000 U	1000 U	1000 U	20 U	100 U	20 U	250 U	20 U	20 U	20 UJ	200 U	100 U
Benzene	5	5	5	0.45	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
Bromochloromethane	90	90		83	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
Bromodichloromethane	80	80		0.13	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
Bromoform	80	80		9.2	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1 UJ	10 U	5 U
Bromomethane	10	10		7.5	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 UJ	1.0 U	1.0 U	1 UJ	10 U	5 U
Carbon Disulfide	1500	6200		810	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
Carbon Tetrachloride	5	5	5	0.45	32 J	50 U	50 U	50 U	0.40 J	5.0 U	1.0 U	2.0 J	1.0 U	1.0 U	1.0 U	10 U	5 U
Chlorobenzene	100	100	100	78	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
Chlorodibromomethane	80	80		0.17	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
Chloroethane	230	900		21000	50 U	50 U	50 U	50 UJ	1 UJ	5 UJ	1 UJ	13 UJ	1 UJ	1.0 U	1.0 U	10 U	5 U
Chloroform	80	80		0.22	50 U	50 U	50 U	50 U	0.73 J	5.0 U	1.0 U	13 U	0.18 J	0.21 J	1.0 U	10 U	5 U
Chloromethane				190	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
cis-1,2-Dichloroethene	70	70	70	36	110	120	140	130	130	470	19 J	460	5.5	1.0 U	0.31 J	170	130
cis-1,3-Dichloropropene	6.6	26		0.47	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
Ethylbenzene	700	700	700	1.5	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
Methyl tert-butyl ether	20	20		14	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
Methylene chloride	5	5		11	50 U	18 J	27 J	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
Styrene	100	100	100	1200	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1 UJ	10 U	5 U
Tetrachloroethene	5	5	5	11	14000	12000	13000	16000	22	15	1.9	28	26	180	150	260	130
Toluene	1000	1000	1000	1100	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
trans-1,2-Dichloroethene	100	100	100	360	50 U	50 U	50 U	50 U	0.82 J	4.6 J	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
trans-1,3-Dichloropropene	6.6	26		0.47	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 U	1.0 U	1.0 U	1.0 U	10 U	5 U
Trichloroethene	5	5	5	0.49	1600	1900	2100	2800	58	750	8.3	390	16	4.8	12	250	140
Vinyl Chloride	2	2	2	0.019	50 U	50 U	50 U	50 U	1.0 U	5.0 U	1.0 U	13 UJ	1.0 U	1.0 U	1.0 U	2.9 J	4.2 J
Xylenes (Total)	10000	10000	10000	190	150 U	150 U	150 U	150 U	3.0 U	15 U	3.0 U	38 U	3.0 U	3.0 U	3.0 U	30 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-93D 3/24/15	MW-93D 4/20/15	MW-93D 5/18/15	MW-93D 9/25/15	MW-93S 1/13/15	MW-93S 2/23/15	MW-93S Dup 2/23/15	MW-93S 3/24/15	MW-93S 4/20/15	MW-93S 5/18/15	MW-93S 9/25/15	MW-93S Dup 9/25/15	MW-94 9/23/15	MW-95 1/15/15
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78														
Alkalinity																		
ALKALINITY, BICARBONATE					190000 B	210000 B	180000 B		200000 B	210000 B	230000 B	220000 B	210000 B	180000 B				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					190000 B	210000 B	180000 B		200000 B	210000 B	230000 B	220000 B	210000 B	180000 B				260000 B
Anions																		
Chloride		250000			95000 B	100000	100000		140000	150000 B	150000 B	170000 B	170000	150000				55000
Nitrate As N	10000	10000	10000	32000	330 B	410	510 B		2200 B	1800	1800	1100 B	1200	1200 B				490 B
Sulfate					29000	31000	31000		29000	35000	35000	27000	31000	36000				49000
METAL																		
Calcium					72000 B	67000 B	63000		73000 B	70000	71000	69000 B	67000 B	61000				100000 B
Hexavalent Chromium	100	100		0.035														
Magnesium					15000	17000	13000		18000 B	21000	21000	17000	21000	15000				6700 B
Potassium					5400	4600	4500		21000 B	14000	14000	9700	9200	9300				4100 B
Sodium					43000	50000 B	35000		71000 B	73000 B	73000 B	94000	100000 B	61000				29000 B
METAL (Dissolved)																		
Hexavalent Chromium	100	100		0.035														

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-93D 3/24/15	MW-93D 4/20/15	MW-93D 5/18/15	MW-93D 9/25/15	MW-93S 1/13/15	MW-93S 2/23/15	MW-93S Dup 2/23/15	MW-93S 3/24/15	MW-93S 4/20/15	MW-93S 5/18/15	MW-93S 9/25/15	MW-93S Dup 9/25/15	MW-94 9/23/15	MW-95 1/15/15
TOTAL VOC																		
TOTAL VOC					337.6	272.4	389.9	340.2	163.15	176.35	179.73	151.73	190.95	246.9	152.85	142.87	1727.4	8.81
Volatile Organic Compound																		
1,1,1,2-Tetrachloroethane	70	70		0.57	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
1,1,1-Trichloroethane	200	200	200	8000	7.9 J	4.2 J	8.5 J	8.2	2.3	3.2	3.4	6	5.8	7.9	6.8	6	2.2 J	0.54 J
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
1,1,2-Trichloroethane	5	5	5	0.28	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
1,1-Dichloroethane	31	160		2.7	3.8 J	2.4 J	3.9 J	2.9	0.77 J	0.9 J	0.98 J	1.1 J	0.93 J	1.7 J	1.1	1.1	8.8	0.47 J
1,1-Dichloroethene	7	7	7	280	3 J	3.8 J	5.6 J	4.3	0.34 J	0.85 J	0.89 J	0.98 J	0.75 J	1.5 J	0.95 J	0.77 J	3.4	1 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
1,2-Dichloroethane	5	5	5	0.17	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
1,2-Dichloropropane	5	5	5	0.44	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
1,4-Dioxane	6.4	32		0.78	2000 U	2000 U	2000 U	200 U	200 U	200 U	200 U	400 U	400 U	1000 U	200 U	200 U	500 U	200 U
2-Butanone	4000	4000		5600	50 U	50 U	50 U	5 U	5 U	5 U	5 U	10 U	10 U	25 U	5 U	5 U	13 U	5 U
2-Hexanone	11	44		38	50 U	50 U	50 U	5 U	5 U	5 U	5 U	10 U	10 U	25 U	5 U	5 U	13 U	5 U
4-Methyl-2-Pentanone	2900	8200		1200	50 U	50 U	50 U	5 U	5 U	5 U	5 U	10 U	10 U	25 U	5 U	5 U	13 U	5 U
Acetone	33000	92000		14000	50 U	50 U	50 U	5 U	5 U	5 U	5 U	10 U	10 U	25 U	5 U	5 U	13 U	5 U
Acrylonitrile	0.72	3.7		0.052	200 U	200 U	200 U	20 U	20 U	20 U	20 U	40 U	40 U	100 U	20 U	20 U	50 U	20 U
Benzene	5	5	5	0.45	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
Bromochloromethane	90	90		83	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
Bromodichloromethane	80	80		0.13	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
Bromoform	80	80		9.2	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
Bromomethane	10	10		7.5	10 U	10 UJ	10 U	1 U	1 U	1 U	1 U	2 UJ	2 UJ	5 U	1 U	1 U	2.5 U	1 U
Carbon Disulfide	1500	6200		810	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
Carbon Tetrachloride	5	5	5	0.45	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
Chlorobenzene	100	100	100	78	10 U	10 U	10 U	1 U	0.32 J	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
Chlorodibromomethane	80	80		0.17	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
Chloroethane	230	900		21000	10 U	10 U	10 U	1 UJ	1 U	1 U	1 U	2 U	2 U	5 U	1 UJ	1 U	2.5 UJ	1 U
Chloroform	80	80		0.22	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
Chloromethane				190	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
cis-1,2-Dichloroethene	70	70	70	36	67	52	75	44	95	85	88	32	36	56	23	22	1200	2.7
cis-1,3-Dichloropropene	6.6	26		0.47	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
Ethylbenzene	700	700	700	1.5	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
Methyl tert-butyl ether	20	20		14	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
Methylene chloride	5	5		11	5.9 J	10 U	6.9 J	1 U	1 U	1 U	1 U	0.65 J	2 U	2.8 J	1 U	1 U	2.5 U	1 U
Styrene	100	100	100	1200	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
Tetrachloroethene	5	5	5	11	130	110	150	160	40	52	51	79	110	130	90	82	33	2.6
Toluene	1000	1000	1000	1100	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	2.5 U	1 U
trans-1,2-Dichloroethene	100	100	100	360	10 U	10 U	10 U	0.26 J	0.42 J	0.4 J	0.46 J	2 U	0.47 J	5 U	1 U	1 U	17	1 U
trans-1,3-Dichloropropene	6.6	26		0.47	10 U	10 U	10 U	1 U	1 U	1 U	1 U	2 UJ	2 U	5 U	1 U	1 U	2.5 U	1 U
Trichloroethene	5	5	5	0.49	120	100	140	120	24	34	35	32	37	47	31	31	450	2.5
Vinyl Chloride	2	2	2	0.019	10 U	10 U	10 U	0.54 J	1 U	1 U	1 U	2 U	2 U	5 U	1 U	1 U	13	1 U
Xylenes (Total)	10000	10000	10000	190	30 U	30 U	30 U	3 U	3 U	3 U	3 U	6 U	6 U	15 U	3 U	3 U	7.5 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-95 2/27/15	MW-95 3/25/15	MW-95 4/22/15	MW-95 5/20/15	MW-96D 1/15/15	MW-96D 2/26/15	MW-96D 3/26/15	MW-96D 4/22/15	MW-96D 5/20/15	MW-96S 1/15/15	MW-96S 2/26/15	MW-96S 3/26/15	MW-96S 4/22/15	MW-96S 5/20/15
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78														
Alkalinity																		
ALKALINITY, BICARBONATE					270000 B	280000 B	270000 B	260000 B	330000 B	260000 B	260000 B	280000 B	270000 B	330000 B	300000 B	270000 B	330000 B	310000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL					270000 B	280000 B	270000 B	260000 B	330000 B	260000 B	260000 B	280000 B	270000 B	330000 B	300000 B	270000 B	330000 B	310000 B
Anions																		
Chloride		250000			60000 B	51000 B	49000	52000 B	170000	140000 B	130000 B	120000	120000 B	180000	160000 B	150000 B	140000	140000 B
Nitrate As N	10000	10000	10000	32000	700 H B	790 B	630	840 B	4000 B	4100	4000 B	3700	3800 B	4600 B	4100	3900 B	3500	3600 B
Sulfate					37000	38000	35000	32000	54000	49000	47000 B	44000	44000	60000	55000	53000 B	49000	51000
METAL																		
Calcium					110000 B	110000 B	100000	96000 B	130000 B	130000	110000 B	110000	110000 B	140000 B	140000	120000 B	120000	120000 B
Hexavalent Chromium	100	100		0.035														
Magnesium					9100	7800	7800	8000	17000 B	22000	16000	16000	15000	20000 B	24000	18000	17000	17000
Potassium					3100	3000	2600	2700 B	7600 B	5900	5000	4700	4400 B	10000 B	11000	12000	7100	7000 B
Sodium					30000 B	26000	21000	23000	57000 B	53000 B	48000 B	43000	40000	67000 B	66000 B	64000 B	55000	56000
METAL (Dissolved)																		
Hexavalent Chromium	100	100		0.035														

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-95 2/27/15	MW-95 3/25/15	MW-95 4/22/15	MW-95 5/20/15	MW-96D 1/15/15	MW-96D 2/26/15	MW-96D 3/26/15	MW-96D 4/22/15	MW-96D 5/20/15	MW-96S 1/15/15	MW-96S 2/26/15	MW-96S 3/26/15	MW-96S 4/22/15	MW-96S 5/20/15
TOTAL VOC																		
TOTAL VOC					15.75	2.7	17.4	10.8	630	662.7	550.8	505	617.5	548.4	1016.5	1167.54	973.79	242.68
Volatile Organic Compound																		
1,1,1,2-Tetrachloroethane	70	70		0.57	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
1,1,1-Trichloroethane	200	200	200	8000	0.46 J	1.0 U	1.0 U	1 U	37	13	11	8.5 J	14	19	9.8 J	11	6.8	1.3
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
1,1,2-Trichloroethane	5	5	5	0.28	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
1,1-Dichloroethane	31	160		2.7	0.29 J	1.0 U	0.30 J	1 U	3 J	2.4 J	1.5 J	1.3 J	10 U	2.8 J	2 J	2 J	1.3 J	1 U
1,1-Dichloroethene	7	7	7	280	0.3 J	1.0 U	1.0 U	1 U	10	7.3 J	4.8 J	4.4 J	3.5 J	6.6 J	4.7 J	3.4	1.9 J	0.38 J
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
1,2-Dichloroethane	5	5	5	0.17	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
1,2-Dichloropropane	5	5	5	0.44	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
1,4-Dioxane	6.4	32		0.78	200 U	200 U	200 U	200 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	500 U	500 U	200 U
2-Butanone	4000	4000		5600	5 U	5.0 U	5.0 U	5 U	50 U	50 U	50 U	10 UJ	50 U	50 U	50 U	13 U	13 U	5 U
2-Hexanone	11	44		38	5 U	5.0 U	5.0 U	5 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	13 U	13 U	5 U
4-Methyl-2-Pentanone	2900	8200		1200	5 U	5.0 U	5.0 U	5 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	13 U	13 U	5 U
Acetone	33000	92000		14000	5 U	5.0 U	5 J	5 U	10 UJ	50 U	50 U	10 UJ	50 U	10 UJ	50 U	13 U	13 U	5 U
Acrylonitrile	0.72	3.7		0.052	20 U	20 U	20 U	20 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	50 U	50 U	20 U
Benzene	5	5	5	0.45	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
Bromochloromethane	90	90		83	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
Bromodichloromethane	80	80		0.13	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
Bromoform	80	80		9.2	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
Bromomethane	10	10		7.5	1 UJ	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
Carbon Disulfide	1500	6200		810	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
Carbon Tetrachloride	5	5	5	0.45	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
Chlorobenzene	100	100	100	78	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
Chlorodibromomethane	80	80		0.17	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
Chloroethane	230	900		21000	1 UJ	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
Chloroform	80	80		0.22	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.53 J	0.45 J	1 U
Chloromethane				190	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U *	10 U	10 U	2.5 U	2.5 U	1 U *
cis-1,2-Dichloroethene	70	70	70	36	6.1	1.6	6.1	6.1	180	150	100	96	140	150	130	120	91	13
cis-1,3-Dichloropropene	6.6	26		0.47	1 UJ	1.0 U	1.0 U	1 U	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
Ethylbenzene	700	700	700	1.5	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
Methyl tert-butyl ether	20	20		14	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
Methylene chloride	5	5		11	1 U	1.0 U	1.0 U	1 U	10 U	10 U	3.5 J	4.8 J	10 U	10 U	10 U	2.5 U	1.8 J	1 U
Styrene	100	100	100	1200	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
Tetrachloroethene	5	5	5	11	4.3	1.0 U	2.8	1.9	180	190	150	120	150	230	690	800	630	200
Toluene	1000	1000	1000	1100	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
trans-1,2-Dichloroethene	100	100	100	360	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.61 J	0.54 J	1 U
trans-1,3-Dichloropropene	6.6	26		0.47	1 UJ	1.0 U	1.0 U	1 U	10 U	10 UJ	10 U	10 U	10 U	10 U	10 UJ	2.5 U	2.5 U	1 U
Trichloroethene	5	5	5	0.49	4.3	1.1	3.2	2.8 J	220	300	280	270	310	140	180	230	240	28
Vinyl Chloride	2	2	2	0.019	1 U	1.0 U	1.0 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.5 U	2.5 U	1 U
Xylenes (Total)	10000	10000	10000	190	3 U	3.0 U	3.0 U	3 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	7.5 U	7.5 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-97 1/15/15	MW-97 2/27/15	MW-97 3/27/15	MW-97 4/21/15	MW-97 Dup 4/21/15	MW-97 5/20/15	MW-98I 1/15/15	MW-98I Dup 1/15/15	MW-98I 2/25/15	MW-98I 3/26/15	MW-98I 4/20/15	MW-98I 5/18/15	MW-98S 1/15/15	MW-98S 2/25/15
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78														
Alkalinity																		
ALKALINITY, BICARBONATE					210000 B	220000 B	220000 B	230000 B	230000 B	230000 B	290000 B	260000 B	290000 B	280000 B	320000 B	300000 B	330000 B	280000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL					210000 B	220000 B	220000 B	230000 B	230000 B	230000 B	290000 B	260000 B	290000 B	280000 B	320000 B	300000 B	330000 B	280000 B
Anions																		
Chloride		250000			130000	130000 B	120000 B	120000	110000	120000 B	58000	58000	69000 B	56000 B	57000	54000	67000	81000 B
Nitrate As N	10000	10000	10000	32000	1700 B	1800 H B	1900 B	1800	1700 B	1800 B	2000 B	2000 B	2400	3400 B	3400	2800 B	2000 B	2400
Sulfate					30000	30000	31000	30000	28000	29000	40000	40000	40000	44000 B	46000	42000	41000	41000
METAL																		
Calcium					94000 B	93000 B	95000 B	99000	96000	88000 B	97000 B	100000 B	120000	120000 B	110000 B	100000	100000 B	110000
Hexavalent Chromium	100	100		0.035														
Magnesium					18000 B	20000	19000 B	17000	17000 B	16000	11000 B	12000 B	15000	12000	14000	11000	11000 B	13000
Potassium					7600 B	6800	7200	7200	7000	6400 B	3200 B	3400 B	3500	3200	2700	2700	3500 B	3400
Sodium					39000 B	40000 B	42000 B	36000	36000	35000	21000 B	23000 B	31000	26000 B	28000 B	21000	25000 B	33000
METAL (Dissolved)																		
Hexavalent Chromium	100	100		0.035														

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-97 1/15/15	MW-97 2/27/15	MW-97 3/27/15	MW-97 4/21/15	MW-97 Dup 4/21/15	MW-97 5/20/15	MW-98I 1/15/15	MW-98I Dup 1/15/15	MW-98I 2/25/15	MW-98I 3/26/15	MW-98I 4/20/15	MW-98I 5/18/15	MW-98S 1/15/15	MW-98S 2/25/15
TOTAL VOC																		
TOTAL VOC					1188.54	1196.4	740.2	984.9	934.67	831.6	103.14	104.48	68.45	40.04	36.25	41.38	121.13	72.43
Volatile Organic Compound																		
1,1,1,2-Tetrachloroethane	70	70		0.57	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	200	8000	7	8.8 J	16 J	15 J	14	11 J	7.2	7.3	3.5	2.2	1.5	2.1	8.5	3.3
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	5	5	5	0.28	0.98 J	25 U	20 U	20 U	0.92 J	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	31	160		2.7	4.6	5.2 J	20 U	20 U	6.8	25 U	0.84 J	0.88 J	0.55 J	1 U	0.3 J	0.45 J	0.83 J	0.53 J
1,1-Dichloroethene	7	7	7	280	4.8	9.2 J	8.2 J	10 J	7.9	8.6 J	2.1	2.3	1.4	0.84 J	0.65 J	0.83 J	2.8	1.6
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	5	5	5	0.17	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	5	5	5	0.44	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dioxane	6.4	32		0.78	500 U	5000 U	4000 U	4000 U	600 U	5000 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
2-Butanone	4000	4000		5600	13 U	130 U	100 U	100 U	15 U	130 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	11	44		38	13 U	130 U	100 U	100 U	15 U	130 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone	2900	8200		1200	13 U	130 U	100 U	100 U	15 U	130 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	33000	92000		14000	13 U	130 U	100 U	100 U	15 U	130 U	5 U	1 UJ	5 U	5 U	2.8 J	5 U	5 U	5 U
Acrylonitrile	0.72	3.7		0.052	50 U	500 U	400 U	400 U	60 U	500 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Benzene	5	5	5	0.45	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromochloromethane	90	90		83	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	80	80		0.13	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	80	80		9.2	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	10	10		7.5	2.5 U	25 UJ	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U
Carbon Disulfide	1500	6200		810	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	5	5	5	0.45	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	100	100	100	78	0.38 J	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	80	80		0.17	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	230	900		21000	2.5 U	25 UJ	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	80	80		0.22	0.58 J	25 U	20 U	20 U	0.55 J	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane				190	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	70	36	480	470	310	340	330	240	31	31	20	11	10	13	34	21
cis-1,3-Dichloropropene	6.6	26		0.47	2.5 U	25 UJ	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	700	700	700	1.5	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	20		14	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5	5		11	2.5 U	25 U	20 U	6.6 J	3 U	23 J B	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	100	100	100	1200	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	5	5	11	70	85	36	88	77	79	31	32	23	14	11	13	39	25
Toluene	1000	1000	1000	1100	2.5 U	25 U	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	100	360	3.2	25 U	20 U	20 U	2.2 J	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	6.6	26		0.47	2.5 U	25 UJ	20 U	20 U	3.0 U	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	5	5	5	0.49	610	610	370	520	490	470	31	31	20	12	10	12	36	21
Vinyl Chloride	2	2	2	0.019	7	8.2 J	20 U	5.3 J	5.3	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes (Total)	10000	10000	10000	190	7.5 U	75 U	60 U	60 U	9.0 U	75 U	3 U	3 U	3 U	3 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-98S 3/26/15	MW-98S Dup 3/26/15	MW-98S 4/20/15	MW-98S Dup 4/20/15	MW-98S 5/18/15	MW-99D 1/14/15	MW-99D 2/25/15	MW-99D 3/24/15	MW-99D 4/21/15	MW-99D 5/19/15	MW-99S 1/15/15	MW-99S 2/25/15	MW-99S 3/24/15	MW-99S 4/20/15
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78														
Alkalinity																		
ALKALINITY, BICARBONATE					290000 B	330000 B	300000 B	310000 B	290000 B	260000 B	240000 B	260000 B	250000 B	220000 B	300000 B	250000 B	270000 B	270000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL					290000 B	330000 B	300000 B	310000 B	290000 B	260000 B	240000 B	260000 B	250000 B	220000 B	300000 B	250000 B	270000 B	270000 B
Anions																		
Chloride		250000			57000	54000 B	57000	57000	60000	48000	49000 B	58000 B F1	55000	77000	57000	71000 B	87000 B	100000
Nitrate As N	10000	10000	10000	32000	4200 B	4100 B	3700	3600	3000 B	2000 B	2200	2300 B	2200 B	2500 B	1900 B	2500	2800 B	3000
Sulfate					48000	47000 B	48000	48000	44000	24000	25000	26000	26000	30000	25000	27000	29000	31000
METAL																		
Calcium					120000 B	120000 B	110000 B	110000 B	110000	91000 B	87000	91000	95000	88000 B	96000 B	98000	110000	94000 B
Hexavalent Chromium	100	100		0.035														
Magnesium					12000	11000	15000	12000	11000	13000 B	15000	13000 B	13000 B	13000	12000 B	14000	14000 B	16000
Potassium					3300	3200	2900	2900	2800	3000 B	2600	3000	2800	3000	3600 B	3300	3800	3400
Sodium					25000 B	24000 B	30000 B	25000 B	23000	19000 B	18000	24000 B	20000	27000	20000 B	26000	37000 B	48000 B
METAL (Dissolved)																		
Hexavalent Chromium	100	100		0.035														

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-98S 3/26/15	MW-98S Dup 3/26/15	MW-98S 4/20/15	MW-98S Dup 4/20/15	MW-98S 5/18/15	MW-99D 1/14/15	MW-99D 2/25/15	MW-99D 3/24/15	MW-99D 4/21/15	MW-99D 5/19/15	MW-99S 1/15/15	MW-99S 2/25/15	MW-99S 3/24/15	MW-99S 4/20/15
TOTAL VOC																		
TOTAL VOC					33.76	39.04	28.24	27.03	31.01	296.2	231.5	232.4	225.5	276.9	146.9	124.72	95.51	73.47
Volatile Organic Compound																		
1,1,1,2-Tetrachloroethane	70	70		0.57	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	200	8000	1.8	2.7	1.2	1.1	1.6	15	7.6	10	8.3	10	11	5.6	5.6	2.6
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
1,1,2-Trichloroethane	5	5	5	0.28	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
1,1-Dichloroethane	31	160		2.7	0.27 J	0.42 J	0.25 J	0.29 J	0.43 J	2.2 J	1.9 J	2.2 J	2.0 J	2 J	2.5 J	1.7	1.3	0.86 J
1,1-Dichloroethene	7	7	7	280	0.59 J	0.92 J	0.59 J	0.54 J	0.68 J	12	9	7.8	7.5	9.8	4.4	3	2.4	1.8
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
1,2-Dichloroethane	5	5	5	0.17	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
1,2-Dichloropropane	5	5	5	0.44	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
1,4-Dioxane	6.4	32		0.78	200 U	200 U	200 U	200 U	200 U	R	1000 U	1000 U	1000 U	1000 U	600 U	200 U	200 U	200 U
2-Butanone	4000	4000		5600	5 U	5 U	5 U	5 U	5 U	25 U	25 U	25 U	25 U	25 U	15 U	5 U	5 U	5 U
2-Hexanone	11	44		38	5 U	5 U	5 U	1 UJ	5 U	25 U	25 U	25 U	25 U	25 U	15 U	5 U	5 U	5 U
4-Methyl-2-Pentanone	2900	8200		1200	5 U	5 U	5 U	5 U	5 U	25 U	25 U	25 U	25 U	25 U	15 U	5 U	5 U	5 U
Acetone	33000	92000		14000	5 U	5 U	5 U	5 U	5 U	25 U	25 U	25 U	25 U	25 U	15 U	5 U	5 U	5 U
Acrylonitrile	0.72	3.7		0.052	20 U	20 U	20 U	20 U	20 U	100 U	100 U	100 U	100 U	100 U	60 U	20 U	20 U	20 U
Benzene	5	5	5	0.45	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
Bromochloromethane	90	90		83	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
Bromodichloromethane	80	80		0.13	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
Bromoform	80	80		9.2	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
Bromomethane	10	10		7.5	1 U	1 U	1 UJ	1 UJ	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 UJ
Carbon Disulfide	1500	6200		810	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
Carbon Tetrachloride	5	5	5	0.45	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
Chlorobenzene	100	100	100	78	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
Chlorodibromomethane	80	80		0.17	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
Chloroethane	230	900		21000	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
Chloroform	80	80		0.22	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	0.21 J	0.21 J	0.21 J
Chloromethane				190	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	70	36	9.1	11	8.6	8.2	9.2	62	47	58	52	62	49	40	31 J	25
cis-1,3-Dichloropropene	6.6	26		0.47	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
Ethylbenzene	700	700	700	1.5	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	20		14	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
Methylene chloride	5	5		11	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2.4 J	1.7 J	5.1	3 U	1 U	1 U	1 U
Styrene	100	100	100	1200	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
Tetrachloroethene	5	5	5	11	12	13	9.4	9	10	15	16	12	14	18	33	35	23 J	18
Toluene	1000	1000	1000	1100	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	100	360	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	0.21 J	1 U	1 U
trans-1,3-Dichloropropene	6.6	26		0.47	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
Trichloroethene	5	5	5	0.49	10	11	8.2	7.9	9.1	190	150	140	140	170	47	39	32 J	25
Vinyl Chloride	2	2	2	0.019	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.0 U	5 U	3 U	1 U	1 U	1 U
Xylenes (Total)	10000	10000	10000	190	3 U	3 U	3 U	3 U	3 U	15 U	15 U	15 U	15 U	15 U	9 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-99S 5/18/15	MW-100D 1/14/15	MW-100D 2/25/15	MW-100D 3/25/15	MW-100D 4/21/15	MW-100D 5/19/15	MW-100I 1/14/15	MW-100I 2/25/15	MW-100I 3/24/15	MW-100I Dup 3/24/15	MW-100I 4/21/15	MW-100I 5/19/15	MW-100S 1/14/15	MW-100S 2/25/15
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78														
Alkalinity																		
ALKALINITY, BICARBONATE					260000 B	240000 B	250000 B	220000 B	260000 B	240000 B	240000 B	240000 B	290000 B	260000 B	220000 B	210000 B	250000 B	260000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
ALKALINITY, TOTAL					260000 B	240000 B	250000 B	220000 B	260000 B	240000 B	240000 B	240000 B	290000 B	260000 B	220000 B	210000 B	250000 B	260000 B
Anions																		
Chloride		250000			100000	110000	120000 B	130000 B	140000	130000	110000	110000 B	110000 B	120000 B	130000	130000	100000	110000 B
Nitrate As N	10000	10000	10000	32000	3000 B	3600 B	3800	3800 B	3700 B	3600 B	3600 B	3800	3600 B	3900 B	3700 B	3900 B	3900 B	3800
Sulfate					32000	34000	35000	35000	36000	35000	34000	35000	33000	37000	36000	37000	34000	35000
METAL																		
Calcium					95000	91000 B	97000	94000 B	95000	93000 B	94000 B	97000	95000 B	92000	99000	90000 B	89000 B	95000
Hexavalent Chromium	100	100		0.035														
Magnesium					13000	17000 B	22000	18000	16000 B	17000	18000 B	22000	19000	18000 B	17000 B	17000	17000 B	22000
Potassium					3500	4600 B	4700	4800	4700	4600	5000 B	4700	4700	4600	4600	4200	4400 B	4300
Sodium					34000	46000 B	53000	58000	52000	53000	49000 B	51000	54000	52000 B	53000	50000	44000 B	48000
METAL (Dissolved)																		
Hexavalent Chromium	100	100		0.035														

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

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-99S 5/18/15	MW-100D 1/14/15	MW-100D 2/25/15	MW-100D 3/25/15	MW-100D 4/21/15	MW-100D 5/19/15	MW-100I 1/14/15	MW-100I 2/25/15	MW-100I 3/24/15	MW-100I Dup 3/24/15	MW-100I 4/21/15	MW-100I 5/19/15	MW-100S 1/14/15	MW-100S 2/25/15
TOTAL VOC																		
TOTAL VOC					83.31	133.06	110.71	12.5	78.93	77.78	78.99	115.6	80.65	82.87	80.27	93.94	219.9	196.55
Volatile Organic Compound																		
1,1,1,2-Tetrachloroethane	70	70		0.57	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
1,1,1-Trichloroethane	200	200	200	8000	3.9	2.2 J	1.1	1.0 U	0.92 J	0.82 J	1.6	1.3	1.4	1.4	0.99 J	1.1	2.9 J	1.8 J
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
1,1,2-Trichloroethane	5	5	5	0.28	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
1,1-Dichloroethane	31	160		2.7	1.1	0.86 J	0.54 J	1.0 U	0.49 J	0.44 J	0.54 J	0.76 J	0.61 J	0.59 J	0.58 J	0.7 J	1.1 J	0.95 J
1,1-Dichloroethene	7	7	7	280	2.1	2 J	1.9	1.0 U	1.3	1.3	1.6	2.3	1.4	1.6	1.5	1.9	2.9 J	2.8
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
1,2-Dichloroethane	5	5	5	0.17	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
1,2-Dichloropropane	5	5	5	0.44	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
1,4-Dioxane	6.4	32		0.78	200 U	R	200 U	200 U	200 U	200 U	R	200 U	200 U	200 U	200 U	200 U	R	400 U
2-Butanone	4000	4000		5600	5 U	25 U	5 U	5.0 U	5.0 U	5 U	5 U	5 U	5 U	5 U	5.0 U	5 U	25 U	10 U
2-Hexanone	11	44		38	5 U	25 U	5 U	5.0 U	5.0 U	5 U	5 U	5 U	5 U	5 U	5.0 U	5 U	25 U	10 U
4-Methyl-2-Pentanone	2900	8200		1200	5 U	25 U	5 U	5.0 U	5.0 U	5 U	5 U	5 U	5 U	5 U	5.0 U	5 U	25 U	10 U
Acetone	33000	92000		14000	5 U	25 U	5 U	1 UJ	5.0 U	5 U	5 U	5 U	5 U	5 U	5.0 U	5 U	25 U	10 U
Acrylonitrile	0.72	3.7		0.052	20 U	100 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	100 U	40 U
Benzene	5	5	5	0.45	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Bromochloromethane	90	90		83	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Bromodichloromethane	80	80		0.13	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Bromoform	80	80		9.2	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Bromomethane	10	10		7.5	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Carbon Disulfide	1500	6200		810	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Carbon Tetrachloride	5	5	5	0.45	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Chlorobenzene	100	100	100	78	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Chlorodibromomethane	80	80		0.17	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Chloroethane	230	900		21000	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Chloroform	80	80		0.22	0.21 J	5 U	0.17 J	1.0 U	0.22 J	0.22 J	0.25 J	0.24 J	0.24 J	0.28 J	0.20 J	0.24 J	5 U	2 U
Chloromethane				190	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
cis-1,2-Dichloroethene	70	70	70	36	29 J	32	26	4.2	20	19	24	28	22	22	21	25	41	37
cis-1,3-Dichloropropene	6.6	26		0.47	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Ethylbenzene	700	700	700	1.5	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Methyl tert-butyl ether	20	20		14	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Methylene chloride	5	5		11	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Styrene	100	100	100	1200	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Tetrachloroethene	5	5	5	11	20	39	34	2.8	22	25	20	35	22	23	22	26	77	74
Toluene	1000	1000	1000	1100	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
trans-1,2-Dichloroethene	100	100	100	360	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
trans-1,3-Dichloropropene	6.6	26		0.47	1 U	5 U	1 UJ	1.0 U	1.0 U	1 U	1 U	1 UJ	1 U	1 U	1.0 U	1 U	5 U	2 UJ
Trichloroethene	5	5	5	0.49	27 J	57	47	5.5	34	31	31	48	33	34	34	39	95	80
Vinyl Chloride	2	2	2	0.019	1 U	5 U	1 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1 U	5 U	2 U
Xylenes (Total)	10000	10000	10000	190	3 U	15 U	3 U	3.0 U	3.0 U	3 U	3 U	3 U	3 U	3 U	3.0 U	3 U	15 U	6 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-100S 3/24/15	MW-100S 4/21/15	MW-100S 5/19/15	MW-102D 10/2/15	MW-102S 10/2/15	MW-103D 10/2/15	MW-103S 10/2/15	MW-107 1/13/15	MW-110 10/1/15	MW-110 Dup 10/1/15	MW-113 9/29/15	MW-114 1/16/15	MW-114 2/26/15	MW-114 3/27/15
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78											23			
Alkalinity																		
ALKALINITY, BICARBONATE					260000 B	250000 B	250000 B					280000 B				240000 B	210000 B	200000 B
ALKALINITY, CARBONATE					5000 U	5000 U	5000 U					5000 U				5000 U	5000 U	5000 U
ALKALINITY, TOTAL					260000 B	250000 B	250000 B					280000 B				240000 B	210000 B	200000 B
Anions																		
Chloride		250000			100000 B	120000	130000					180000				160000	160000 B	160000 B
Nitrate As N	10000	10000	10000	32000	3600 B	3600 B	3700 B					5500 B				610 B	340	610 B
Sulfate					34000	35000	36000					40000				77000	73000	69000
METAL																		
Calcium					93000 B	97000	91000 B					120000 B				120000 B	130000	120000 B
Hexavalent Chromium	100	100		0.035														
Magnesium					18000	17000 B	17000					29000 B				20000 B	25000	23000 B
Potassium					4300	4300	4100					26000 B				8100	9900	10000
Sodium					48000	47000	48000					57000 B				35000	42000 B	43000 B
METAL (Dissolved)																		
Hexavalent Chromium	100	100		0.035														

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-100S 3/24/15	MW-100S 4/21/15	MW-100S 5/19/15	MW-102D 10/2/15	MW-102S 10/2/15	MW-103D 10/2/15	MW-103S 10/2/15	MW-107 1/13/15	MW-110 10/1/15	MW-110 Dup 10/1/15	MW-113 9/29/15	MW-114 1/16/15	MW-114 2/26/15	MW-114 3/27/15
TOTAL VOC																		
TOTAL VOC					148.44	126.4	153.02	141.45	52.82	30.04	130.44	272	82.02	62.03	1577.2	5346	4253	3430.3
Volatile Organic Compound																		
1,1,1,2-Tetrachloroethane	70	70		0.57	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
1,1,1-Trichloroethane	200	200	200	8000	2 J	1.3	1.7 J	1.0 U	3.8	1.0 U	1.1	18	2 U	1 U	15 J	13 U	13 U	10 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
1,1,2-Trichloroethane	5	5	5	0.28	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
1,1-Dichloroethane	31	160		2.7	0.84 J	0.74 J	0.92 J	1.0 U	0.62 J	1.0 U	0.16 J	4.9 J	2 U	1 U	6.2 J	29	24	10 U
1,1-Dichloroethene	7	7	7	280	2.2 J	1.9	2.4	1.0 U	5.7	1.0 U	1.3	5.1	2 U	1 U	25	29	22	29
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
1,2-Dichloroethane	5	5	5	0.17	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
1,2-Dichloropropane	5	5	5	0.44	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
1,4-Dioxane	6.4	32		0.78	1000 U	200 U	400 U	200 UJ	200 U	200 U	200 UJ	1000 U	400 UJ	200 UJ	5000 U	2500 U	2500 U	2000 U
2-Butanone	4000	4000		5600	25 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	10 U	5 U	130 U	63 U	63 U	50 U
2-Hexanone	11	44		38	25 U	5.0 U	10 U	5.0 U	5 UJ	5.0 U	5.0 U	25 U	10 U	5 U	130 U	63 U	63 U	50 U
4-Methyl-2-Pentanone	2900	8200		1200	25 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	10 U	5 U	130 U	63 U	63 U	50 U
Acetone	33000	92000		14000	25 U	5.0 U	10 U	5 UJ	5.0 U	5.0 U	5 UJ	25 U	10 U	5 U	130 U	63 U	63 U	50 U
Acrylonitrile	0.72	3.7		0.052	100 U	20 U	40 U	20 U	20 U	20 U	20 U	100 U	40 U	20 U	500 U	250 U	250 U	200 U
Benzene	5	5	5	0.45	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
Bromochloromethane	90	90		83	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
Bromodichloromethane	80	80		0.13	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
Bromoform	80	80		9.2	5 U	1.0 U	2 U	1.0 U	1 UJ	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
Bromomethane	10	10		7.5	5 U	1.0 U	2 U	1 UJ	1 UJ	1 UJ	1 UJ	5 U	2 UJ	1 UJ	25 U	13 U	13 U	10 U
Carbon Disulfide	1500	6200		810	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
Carbon Tetrachloride	5	5	5	0.45	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
Chlorobenzene	100	100	100	78	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
Chlorodibromomethane	80	80		0.17	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
Chloroethane	230	900		21000	5 U	1.0 U	2 U	1 UJ	1 UJ	1.0 U	1 UJ	5 U	2 UJ	1 UJ	25 U	13 U	13 U	10 U
Chloroform	80	80		0.22	5 U	0.22 J	2 U	0.45 J	1.0 U	0.44 J	0.48 J	5 U	0.72 J	0.63 J	25 U	13 U	13 U	10 U
Chloromethane				190	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
cis-1,2-Dichloroethene	70	70	70	36	31	28	34	10	3.7	2	5.4	110	2 U	1 U	620	2300	2100	1800
cis-1,3-Dichloropropene	6.6	26		0.47	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
Ethylbenzene	700	700	700	1.5	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
Methyl tert-butyl ether	20	20		14	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
Methylene chloride	5	5		11	2.4 J	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
Styrene	100	100	100	1200	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
Tetrachloroethene	5	5	5	11	49	42	51	11	12	9.6	28	83	80	60	31	760	570	490
Toluene	1000	1000	1000	1100	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	13 U	10 U
trans-1,2-Dichloroethene	100	100	100	360	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	12 J	14	4.8 J
trans-1,3-Dichloropropene	6.6	26		0.47	5 U	1.0 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	5 U	2 U	1 U	25 U	13 U	12.5 UJ	10 U
Trichloroethene	5	5	5	0.49	61	52	63	120	27	18	94	51	1.3 J	1.4	880	2200	1500	1100
Vinyl Chloride	2	2	2	0.019	5 U	0.24 J	2 U	1 UJ	1.0 U	1.0 U	1 UJ	5 U	2 UJ	1 UJ	25 U	16	23	6.5 J
Xylenes (Total)	10000	10000	10000	190	15 U	3.0 U	6 U	3.0 U	3.0 U	3.0 U	3.0 U	15 U	6 U	3 U	75 U	38 U	38 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-114 4/23/15	MW-114 5/21/15	MW-114 9/18/15	MW-127 1/16/15	MW-127 2/27/15	MW-127 3/27/15	MW-127 4/23/15	MW-127 5/21/15	MW-127 9/29/15	MW-129 9/18/15	MW-131 9/18/15	MW-132 1/16/15	MW-132 2/27/15	MW-132 3/27/15
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78									6.8	2.1	6.8			
Alkalinity																		
ALKALINITY, BICARBONATE					220000 B	260000 B		330000 B	270000 B	270000 B	280000 B	260000 B				160000 B	160000 B	140000 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					220000 B	260000 B		330000 B	270000 B	270000 B	280000 B	260000 B				160000 B	160000 B	140000 B
Anions																		
Chloride		250000			150000 B	150000		100000	100000 B	110000 B	130000 B	110000				11000	11000 B	9000 B
Nitrate As N	10000	10000	10000	32000	540	690 B		2300 B	2400 H B	2300 B	2000	2100 B				4800 B	4600 H B	4900 B
Sulfate					75000	77000		7700	7600	7600	5600	7700				3700	3900	3200
METAL																		
Calcium					120000	120000 B		100000 B	100000 B	110000 B	100000	92000 B				56000 B	56000 B	50000 B
Hexavalent Chromium	100	100		0.035														
Magnesium					20000 B	21000		19000 B	21000	19000 B	18000 B	19000				3600 B	4100	3300 B
Potassium					8100	7900		4700	4200	4200	4200	3800				1900	1800	1900
Sodium					35000 B	36000		25000	25000 B	34000 B	32000 B	27000				4800	4800 B	5100 B
METAL (Dissolved)																		
Hexavalent Chromium	100	100		0.035														

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-114 4/23/15	MW-114 5/21/15	MW-114 9/18/15	MW-127 1/16/15	MW-127 2/27/15	MW-127 3/27/15	MW-127 4/23/15	MW-127 5/21/15	MW-127 9/29/15	MW-129 9/18/15	MW-131 9/18/15	MW-132 1/16/15	MW-132 2/27/15	MW-132 3/27/15
TOTAL VOC																		
TOTAL VOC					4748.2	8235	3353.6	454.3	436.8	327	426.9	418.69	510.3	3990	764.4	1160.6	1126.8	269
Volatile Organic Compound																		
1,1,1,2-Tetrachloroethane	70	70		0.57	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	5.0 J	32	3.4 J	7.9 J	4.9 J	5.2 J	5.2 J	5.8	5.6 J	20 U	4.0 U	2.5 U	2.5 U	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	1.6 J	2.5 U	2.5 U	1.0 U
1,1-Dichloroethane	31	160		2.7	28	25 U	19	3.1 J	2.5 J	10 U	2.9 J	5 U	3.2 J	20 U	4.2	13	13	1.0 U
1,1-Dichloroethene	7	7	7	280	19	150	18	5.3 J	5.4 J	3.8 J	5.5 J	6	5.7 J	20 U	1.4 J	23	19	3
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
1,4-Dioxane	6.4	32		0.78	2000 U	5000 U	2000 U	2500 U	2500 U	2000 U	2000 U	1000 U	2000 U	4000 U	800 U	500 U	500 U	200 U
2-Butanone	4000	4000		5600	50 U	130 U	50 U	63 U	63 U	50 U	50 U	25 U	50 UJ	100 U	20 U	13 U	13 U	5.0 U
2-Hexanone	11	44		38	50 U	130 U	50 U	63 U	63 U	50 U	50 U	25 U	50 U	100 UJ	20 UJ	13 U	13 U	5.0 U
4-Methyl-2-Pentanone	2900	8200		1200	50 U	130 U	50 U	63 U	63 U	50 U	50 U	25 U	50 U	100 U	20 U	13 U	13 U	5.0 U
Acetone	33000	92000		14000	50 U	130 U	50 U	63 U	63 U	10 UJ	50 U	25 U	50 UJ	100 U	20 U	13 U	13 U	5.0 U
Acrylonitrile	0.72	3.7		0.052	200 U	500 U	200 U	250 U	250 U	200 U	200 U	100 U	200 U	400 U	80 U	50 U	50 U	20 U
Benzene	5	5	5	0.45	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
Bromochloromethane	90	90		83	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
Bromodichloromethane	80	80		0.13	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
Bromoform	80	80		9.2	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
Bromomethane	10	10		7.5	10 U	25 U	10 UJ	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 UJ	1.0 U
Carbon Disulfide	1500	6200		810	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	10 U	25 U	10 U	13 U	13 U	10 U	10 U	1 J	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
Chlorobenzene	100	100	100	78	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
Chlorodibromomethane	80	80		0.17	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
Chloroethane	230	900		21000	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 UJ	1.0 U
Chloroform	80	80		0.22	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	11	2.5 U	2.5 U	1.0 U
Chloromethane				190	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	1900	3700	1500	310	290	220	260	240	290	150	100	590	590	230
cis-1,3-Dichloropropene	6.6	26		0.47	10 U	25 U	10 U	13 U	12.5 UJ	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 UJ	1.0 U
Ethylbenzene	700	700	700	1.5	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
Methyl tert-butyl ether	20	20		14	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
Methylene chloride	5	5		11	6.2 J	25 U	10 U	13 U	13 U	10 U	8.3 J	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
Styrene	100	100	100	1200	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
Tetrachloroethene	5	5	5	11	910	1500	490	18	14	10 U	15	35	14	340	6.2	1.8 J	1.8 J	1.0 U
Toluene	1000	1000	1000	1100	10 U	25 U	10 U	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	63	15 J	8.2 J	13 U	13 U	10 U	10 U	0.89 J	1.8 J	20 U	4.0 U	2.8	3	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	10 U	25 U	10 U	13 U	12.5 UJ	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 UJ	1.0 U
Trichloroethene	5	5	5	0.49	1800	2800	1300	110	120	98	130	130	190	3500	640	530	500	36
Vinyl Chloride	2	2	2	0.019	17	38	15	13 U	13 U	10 U	10 U	5 U	10 U	20 U	4.0 U	2.5 U	2.5 U	1.0 U
Xylenes (Total)	10000	10000	10000	190	30 U	75 U	30 U	38 U	38 U	30 U	30 U	15 U	30 U	60 U	12 U	7.5 U	7.5 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-132 4/23/15	MW-132 5/21/15	MW-132 9/18/15	MW-134 9/18/15	MW-136A 270 - 348 9/17/15	MW-136A 356 - 356.5 9/16/15	MW-136A 372.5 - 373 9/16/15	MW-136A 434 - 434.5 9/16/15	MW-136A 459.5 - 460 9/15/15	MW-141A 4/15/15	MW-142D 10/1/15	MW-142S 10/1/15	MW-143D 9/30/15
1,4 Dioxane																	
1,4-Dioxane	6.4	32		0.78			6.6	6.2									
Alkalinity																	
ALKALINITY, BICARBONATE					140000 B	170000 B											
ALKALINITY, CARBONATE					5000 U	5000 U											
ALKALINITY, TOTAL					140000 B	170000 B											
Anions																	
Chloride		250000			12000 B	14000											
Nitrate As N	10000	10000	10000	32000	4200	4000 B											
Sulfate					2800	4600											
METAL																	
Calcium					60000	59000 B											
Hexavalent Chromium	100	100		0.035													
Magnesium					3700 B	4200											
Potassium					1800	1700											
Sodium					4500 B	4700											
METAL (Dissolved)																	
Hexavalent Chromium	100	100		0.035													

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-132 4/23/15	MW-132 5/21/15	MW-132 9/18/15	MW-134 9/18/15	MW-136A 270 - 348 9/17/15	MW-136A 356 - 356.5 9/16/15	MW-136A 372.5 - 373 9/16/15	MW-136A 434 - 434.5 9/16/15	MW-136A 459.5 - 460 9/15/15	MW-141A 4/15/15	MW-142D 10/1/15	MW-142S 10/1/15	MW-143D 9/30/15
TOTAL VOC																	
TOTAL VOC					1247.6	5398.1	940.3	71.89	20104	13672	22562	15737	3636.7	16.2	2.6	2.05	0.39
Volatile Organic Compound																	
1,1,1,2-Tetrachloroethane	70	70		0.57	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1 UJ
1,1,1-Trichloroethane	200	200	200	8000	5.0 U	25 U	2.5 U	1.0 U	100 U	20 J	29 J	100 U	10 U	1.0 U	1 U	1 U	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
1,1-Dichloroethane	31	160		2.7	15	81	11	1.3	15 J	12 J	14 J	37 J	3.2 J	1.0 U	1 U	1 U	1.0 U
1,1-Dichloroethene	7	7	7	280	24	25 U	15	1.2 J	32 J	21 J	19 J	100 U	4 J	1.0 U	1 U	1 U	1.0 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
1,4-Dioxane	6.4	32		0.78	1000 U	5000 U	500 U	200 U	20000 U	10000 U	10000 U	20000 U	2000 U	200 U	200 UJ	200 UJ	200 UJ
2-Butanone	4000	4000		5600	25 U	130 U	13 U	5.0 U	500 U	250 U	250 U	500 U	180 J	5.0 U	5 U	5 U	5.0 U
2-Hexanone	11	44		38	25 U	130 U	13 UJ	5 UJ	500 U	250 U	250 U	500 U	50 U	5.0 U	5 U	5 U	5 UJ
4-Methyl-2-Pentanone	2900	8200		1200	25 U	130 U	13 U	5.0 U	500 U	250 UJ	250 U	500 U	50 U	5.0 U	5 U	5 U	5.0 U
Acetone	33000	92000		14000	25 U	130 U	13 U	5.0 U	500 U	250 U	250 U	500 U	42 J	5.3	5 U	5 U	5.0 U
Acrylonitrile	0.72	3.7		0.052	100 U	500 U	50 U	20 U	2000 U	1000 U	1000 U	2000 U	850	20 U	20 U	20 U	20 UJ
Benzene	5	5	5	0.45	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
Bromochloromethane	90	90		83	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
Bromodichloromethane	80	80		0.13	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
Bromoform	80	80		9.2	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1 UJ
Bromomethane	10	10		7.5	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 UJ	1 UJ	1 UJ
Carbon Disulfide	1500	6200		810	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
Chlorobenzene	100	100	100	78	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
Chlorodibromomethane	80	80		0.17	5.0 U	25 U	2.5 U	1.0 U	100 UJ	50 U	50 UJ	100 UJ	10 U	1.0 U	1 U	1 U	1.0 U
Chloroethane	230	900		21000	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 UJ	1 UJ	1.0 U
Chloroform	80	80		0.22	5.0 U	25 U	2.5 U	0.19 J	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
Chloromethane				190	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 UJ	1.0 U	1 U	1 U	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	640	3100	440	19	20000	2300	10000	2900	2400	1.4	2.6	1.9	0.39 J
cis-1,3-Dichloropropene	6.6	26		0.47	5.0 U	25 U	2.5 U	1.0 U	100 U	50 UJ	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
Ethylbenzene	700	700	700	1.5	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
Methyl tert-butyl ether	20	20		14	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
Methylene chloride	5	5		11	3.4 J	3.1 J	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
Styrene	100	100	100	1200	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1 UJ
Tetrachloroethene	5	5	5	11	1.9 J	25 U	1.5 J	7	100 U	2100	2500	1800	2.1 J	6.9	1 U	1 U	1.0 U
Toluene	1000	1000	1000	1100	5.0 U	25 U	2.5 U	1.0 U	100 U	50 U	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	3.3 J	14 J	2.8	0.20 J	100 U	50 U	50 U	100 U	4.4 J	1.0 U	1 U	1 U	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	5.0 U	25 U	2.5 U	1.0 U	100 U	50 UJ	50 U	100 U	10 U	1.0 U	1 U	1 U	1.0 U
Trichloroethene	5	5	5	0.49	560	2200	470	43	57 J	9200	10000	11000	140	2.6	1 U	0.15 J	1.0 U
Vinyl Chloride	2	2	2	0.019	5.0 U	25 U	2.5 U	1.0 U	100 U	19 J	50 U	100 U	11	1.0 U	1 UJ	1 UJ	1.0 U
Xylenes (Total)	10000	10000	10000	190	15 U	75 U	7.5 U	3.0 U	300 U	150 U	150 U	300 U	30 U	3.0 U	3 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-143S 9/30/15	MW-145A 1/15/15	MW-145A 2/25/15	MW-145A 3/24/15	MW-145A 4/20/15	MW-145A 5/18/15	MW-145A Dup 5/18/15	MW-147A 1/14/15	MW-147A 2/25/15	MW-147A 3/25/15	MW-147A 4/21/15	MW-147A 5/19/15	MW-147A 9/25/15	MW-161 3/17/15
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78														
Alkalinity																		
ALKALINITY, BICARBONATE						280000 B	250000 B	240000 B	220000 B	250000 B	240000 B	220000 B	230000 B	210000 B	210000 B	220000 B		
ALKALINITY, CARBONATE						5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U		
ALKALINITY, TOTAL						280000 B	250000 B	240000 B	220000 B	250000 B	240000 B	220000 B	230000 B	210000 B	210000 B	220000 B		
Anions																		
Chloride		250000				110000	120000 B	150000 B	150000	140000	130000	550000	130000 B	160000 B	150000	140000		
Nitrate As N	10000	10000	10000	32000		3000 B	3700	3600 B	3800	3600 B	3500 B	18000 B	6000	3900 B	3800 B	3600 B		
Sulfate						34000	35000	34000	38000	37000	35000	170000	35000	34000	36000	36000		
METAL																		
Calcium						99000 B	92000	95000	84000 B	84000	84000	87000 B	94000	97000 B	100000	88000 B		
Hexavalent Chromium	100	100		0.035														
Magnesium						16000 B	21000	18000 B	20000	16000	16000	17000 B	21000	19000	17000 B	17000		
Potassium						5000 B	5100	5600	4900	4700	4700	5600 B	5600	6000	5800	5000		
Sodium						42000 B	54000	68000 B	74000 B	49000	51000	49000 B	60000	75000	61000	54000		
METAL (Dissolved)																		
Hexavalent Chromium	100	100		0.035														

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-143S 9/30/15	MW-145A 1/15/15	MW-145A 2/25/15	MW-145A 3/24/15	MW-145A 4/20/15	MW-145A 5/18/15	MW-145A Dup 5/18/15	MW-147A 1/14/15	MW-147A 2/25/15	MW-147A 3/25/15	MW-147A 4/21/15	MW-147A 5/19/15	MW-147A 9/25/15	MW-161 3/17/15
TOTAL VOC																		
TOTAL VOC					2.2	236	49.34	55.81	31.55	33.54	34.33	43.82	16.2	4.3	20.36	15.85	29.67	360.37
Volatile Organic Compound																		
1,1,1,2-Tetrachloroethane	70	70		0.57	1 UJ	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	1.0 U	10	1	1.3	0.43 J	0.58 J	0.61 J	1.5	1 U	1.0 U	0.35 J	1 U	0.46 J	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
1,1-Dichloroethane	31	160		2.7	1.0 U	2 J	0.3 J	0.33 J	0.18 J	1 U	0.24 J	0.34 J	1 U	1.0 U	0.13 J	1 U	0.14 J	1.0 U
1,1-Dichloroethene	7	7	7	280	1.0 U	4 J	0.8 J	0.93 J	0.53 J	0.48 J	0.68 J	0.88 J	1 U	1.0 U	0.30 J	1 U	0.53 J	1.0 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
1,4-Dioxane	6.4	32		0.78	200 UJ	1000 U	200 U	200 U	200 U	200 U	200 U	R	200 U	200 U	200 U	200 U	200 U	200 U
2-Butanone	4000	4000		5600	5.0 U	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5.0 U	5.0 U	5 U	5 U	5.0 U
2-Hexanone	11	44		38	5 UJ	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5.0 U	5.0 U	5 U	5 U	5.0 U
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5.0 U	5.0 U	5 U	5 U	5.0 U
Acetone	33000	92000		14000	5.0 U	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5.0 U	5.0 U	5 U	5 U	5.0 U
Acrylonitrile	0.72	3.7		0.052	20 UJ	100 U	20 U	20 U	20 U	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	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Bromochloromethane	90	90		83	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Bromodichloromethane	80	80		0.13	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Bromoform	80	80		9.2	1 UJ	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Bromomethane	10	10		7.5	1 UJ	5 U	1 U	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Carbon Disulfide	1500	6200		810	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Chlorobenzene	100	100	100	78	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Chlorodibromomethane	80	80		0.17	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Chloroethane	230	900		21000	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Chloroform	80	80		0.22	1.0 U	5 U	0.24 J	0.25 J	0.21 J	0.28 J	0.3 J	0.2 J	1 U	1.0 U	0.18 J	0.25 J	0.24 J	0.37 J
Chloromethane				190	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	1.0 U	56	13	20	10	10	10	19	5.6	2.4	7.9	5.9	11 J	1.0 U
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Ethylbenzene	700	700	700	1.5	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Methyl tert-butyl ether	20	20		14	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Methylene chloride	5	5		11	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Styrene	100	100	100	1200	1 UJ	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Tetrachloroethene	5	5	5	11	1.0 U	83	15	11	8.2	9.2	9.5	8.9	4.5	1.0 U	4.2	4.3	6.3	270
Toluene	1000	1000	1000	1100	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U	5 U	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Trichloroethene	5	5	5	0.49	2.2	81	19	22	12	13	13	13	6.1	1.9	7.3	5.4	11 J	90
Vinyl Chloride	2	2	2	0.019	1.0 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 U	1.0 U
Xylenes (Total)	10000	10000	10000	190	3.0 U	15 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3.0 U	3.0 U	3 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-161 4/9/15	MW-161 10/2/15	MW-162 3/18/15	MW-162 4/10/15	MW-162 10/1/15	MW-163 3/17/15	MW-163 4/8/15	MW-163 10/2/15	MW-164 3/16/15	MW-164 4/8/15	MW-165 3/17/15	MW-165 4/10/15	MW-166 3/3/15	MW-166 3/25/15	MW-166 10/2/15
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																			
METAL																			
Calcium																			
Hexavalent Chromium	100	100		0.035															
Magnesium																			
Potassium																			
Sodium																			
METAL (Dissolved)																			
Hexavalent Chromium	100	100		0.035															

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-161 4/9/15	MW-161 10/2/15	MW-162 3/18/15	MW-162 4/10/15	MW-162 10/1/15	MW-163 3/17/15	MW-163 4/8/15	MW-163 10/2/15	MW-164 3/16/15	MW-164 4/8/15	MW-165 3/17/15	MW-165 4/10/15	MW-166 3/3/15	MW-166 3/25/15	MW-166 10/2/15
TOTAL VOC																			
TOTAL VOC					350.3	309.56	700.78	891.2	850	42.99	50.92	46.9	2.07	98.27	24.6	23.4	4.7	4.19	3.06
Volatile Organic Compound																			
1,1,1,2-Tetrachloroethane	70	70		0.57	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 UJ	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
1,1-Dichloroethane	31	160		2.7	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
1,1-Dichloroethene	7	7	7	280	1.0 U	1.0 U	4.0 U	1.2 J	5 U	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 U	1.0 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
1,4-Dioxane	6.4	32		0.78	200 U	200 UJ	800 U	800 U	1000 UJ	200 U	200 U	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	20 U	20 U	25 U	5.0 U	5.0 U	5.0 U	0.95 J	97	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	20 U	20 U	25 U	5.0 U	5.0 U	5 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5 UJ
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U	5.0 U	20 U	20 U	25 U	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 U	5.0 U
Acetone	33000	92000		14000	5.0 U	5 UJ	20 U	20 U	25 U	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 U	5.0 U
Acrylonitrile	0.72	3.7		0.052	20 U	20 U	80 U	80 U	100 U	20 U	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	4.0 U	4.0 U	5 U	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 U	1.0 U
Bromochloromethane	90	90		83	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
Bromodichloromethane	80	80		0.13	1.0 U	1.0 U	4.0 U	4.0 U	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 J	0.38 J	1.0 U
Bromoform	80	80		9.2	1.0 U	1.0 U	4.0 U	4.0 U	5 U	1.0 U	1.0 U	1 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 UJ
Bromomethane	10	10		7.5	1.0 U	1 UJ	4.0 U	4.0 U	5 UJ	1.0 U	1.0 U	1 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 UJ
Carbon Disulfide	1500	6200		810	1.0 U	1.0 U	4.0 U	R	5 U	1.0 U	R	1.0 U	1.0 U	1.0 U	1.0 U	R	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
Chlorobenzene	100	100	100	78	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
Chlorodibromomethane	80	80		0.17	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
Chloroethane	230	900		21000	1.0 U	1 UJ	4.0 U	4.0 U	5 UJ	1.0 U	1.0 U	1 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 UJ
Chloroform	80	80		0.22	0.30 J	0.26 J	4.0 U	4.0 U	5 U	0.29 J	0.32 J	0.20 J	1.0 U	1.0 U	1.0 U	1.0 U	2.4	2	0.86 J
Chloromethane				190	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
Ethylbenzene	700	700	700	1.5	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
Methyl tert-butyl ether	20	20		14	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
Methylene chloride	5	5		11	1.0 U	1.0 U	0.78 J	4 U	5 U	1 U	1.0 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100	100	100	1200	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
Tetrachloroethene	5	5	5	11	250	300	540	700	700	40	48	44	0.47 J	0.51 J	7.6	7.4 J	0.80 J	0.85 J	1
Toluene	1000	1000	1000	1100	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	4.0 U	4.0 U	5 U	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 U	1.0 U
Trichloroethene	5	5	5	0.49	100	9.3	160	190	150	2.7	2.6	2.7	0.65 J	0.76 J	17	16 J	1	0.96 J	1.2
Vinyl Chloride	2	2	2	0.019	1.0 U	1 UJ	4.0 U	4.0 U	5 UJ	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 U	1.0 U
Xylenes (Total)	10000	10000	10000	190	3.0 U	3.0 U	12 U	12 U	15 U	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 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-167 3/3/15	MW-167 3/26/15	MW-167 10/2/15	MW-168 3/4/15	MW-168 3/25/15	MW-168 10/2/15	MW-169 3/18/15	MW-169 4/10/15	MW-170 3/4/15	MW-170 3/25/15	MW-171 3/3/15	MW-171 3/25/15	MW-172 3/2/15	MW-172 3/25/15	MW-173 3/3/15	MW-173 3/25/15
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																				
METAL																				
Calcium																				
Hexavalent Chromium	100	100		0.035																
Magnesium																				
Potassium																				
Sodium																				
METAL (Dissolved)																				
Hexavalent Chromium	100	100		0.035																

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	PA MSC	PA MSC	Federal	EPA	MW-167	MW-167	MW-167	MW-168	MW-168	MW-168	MW-169	MW-169	MW-170	MW-170	MW-171	MW-171	MW-172	MW-172	MW-173	MW-173
Depth (ft.)																				
Sample Date	UA R	UA NR	MCL	RSL	3/3/15	3/26/15	10/2/15	3/4/15	3/25/15	10/2/15	3/18/15	4/10/15	3/4/15	3/25/15	3/3/15	3/25/15	3/2/15	3/25/15	3/3/15	3/25/15
Parameter	(ug/L)	(ug/L)	(ug/L)	(ug/L)																
TOTAL VOC																				
TOTAL VOC					15.04	11.81	9.51	0	0	0	0	0	0.79	0.27	77.928	45.53	0.73	0	0	0
Volatile Organic Compound																				
1,1,1,2-Tetrachloroethane	70	70		0.57	1.0 U	1 U	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 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 U	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 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 U	1.0 U	1.0 U	1 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1 UJ	1.0 U	1 UJ	1.0 U	1 UJ	1.0 U	1 UJ
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	31	160		2.7	1.0 U	1 U	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 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	7	7	7	280	1.0 U	1 U	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 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 UJ	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 U	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 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 U	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 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 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	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 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	57	32	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	11	44		38	5.0 U	5 U	5 UJ	5.0 U	5.0 U	5 UJ	5.0 U	5.0 U	5.0 U	5.0 U	0.58 J	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 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.6 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	33000	92000		14000	5.0 U	5 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	14	10	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	20 U	20 U	0.72 J	20 U	20 U	20 U	20 U	20 U
Benzene	5	5	5	0.45	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4	0.17 J	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	90	90		83	1.0 U	1 U	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 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	80	80		0.13	0.84 J	0.31 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.17 J	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 U	1 UJ	1.0 U	1.0 U	1 UJ	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 U	1.0 U
Bromomethane	10	10		7.5	1.0 U	1 U	1 UJ	1.0 U	1.0 U	1 UJ	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 U	1.0 U
Carbon Disulfide	1500	6200		810	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.29 J	0.31 J	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	1.0 U	1 U	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 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 U	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 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 U	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 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	230	900		21000	1.0 U	1 U	1 UJ	1.0 U	1.0 U	1 UJ	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 U	1.0 U
Chloroform	80	80		0.22	3	1.5	0.31 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.62 J	0.27 J	1.0 U	1.0 U	0.73 J	1.0 U	1.0 U	1.0 U
Chloromethane				190	1.0 U	1 U	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 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 U	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 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1 U	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 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 U	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 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert-butyl ether	20	20		14	1.0 U	1 U	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 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	5	5		11	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100	100	100	1200	1.0 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.098 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	5	5	11	8.6	7.6	7.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1	2.4	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	1000	1000	1000	1100	1.0 U	1 U	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	0.29 J	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	1.0 U	1 U	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 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 U	1.0 U	1 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1 UJ	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	2.6	2.4	1.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.14 J	0.36 J	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Chloride	2	2	2	0.019	1.0 U	1 U	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 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (Total)	10000	10000	10000	190	3.0 U	3 U	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 U	3.0 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-174 3/3/15	MW-174 3/25/15	MW-175 3/2/15	MW-175 3/25/15	CW-1 10/6/15	CW-1A 10/6/15	CW-2 10/7/15	CW-3 10/6/15	CW-4 10/7/15	CW-5 10/7/15	CW-6 10/7/15	CW-7 10/7/15	CW-7A 10/6/15	CW-7A Dup 10/6/15	CW-9 10/5/15	CW-13 10/5/15
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																				
METAL																				
Calcium																				
Hexavalent Chromium	100	100		0.035																
Magnesium																				
Potassium																				
Sodium																				
METAL (Dissolved)																				
Hexavalent Chromium	100	100		0.035																

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-174 3/3/15	MW-174 3/25/15	MW-175 3/2/15	MW-175 3/25/15	CW-1 10/6/15	CW-1A 10/6/15	CW-2 10/7/15	CW-3 10/6/15	CW-4 10/7/15	CW-5 10/7/15	CW-6 10/7/15	CW-7 10/7/15	CW-7A 10/6/15	CW-7A Dup 10/6/15	CW-9 10/5/15	CW-13 10/5/15
TOTAL VOC																				
TOTAL VOC					7.08	6.99	2.47	0.9	2.49	30.21	8.88	512.05	35.66	24.9	71.5	2.87	142	132.5	613.89	933
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 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
1,1,1-Trichloroethane	200	200	200	8000	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	21	17 J
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
1,1-Dichloroethane	31	160		2.7	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4	5.9 J
1,1-Dichloroethene	7	7	7	280	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4.5	12 J
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
1,2-Dichloroethane	5	5	5	0.17	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
1,2-Dichloropropane	5	5	5	0.44	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 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	200 U	200 U	200 UJ	200 U	200 U	200 U	400 U	5000 UJ
2-Butanone	4000	4000		5600	5.0 U	5.0 U	5.0 U	5.0 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	130 U
2-Hexanone	11	44		38	5.0 U	5.0 U	5.0 U	5.0 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	130 U
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U	5.0 U	5.0 U	5.0 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	130 U
Acetone	33000	92000		14000	5.0 U	5.0 U	5.0 U	5.0 U	5 U	5 U	5 U	460 J	5 U	5 U	5 UJ	5 U	5 U	5 U	10 UJ	130 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 U	20 U	20 U	20 U	20 U	20 U	40 U	500 U
Benzene	5	5	5	0.45	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
Bromochloromethane	90	90		83	1.0 U	1.0 U	1.0 U	1.0 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	2 UJ	25 U
Bromodichloromethane	80	80		0.13	0.31 J	1.0 U	0.42 J	0.16 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
Bromoform	80	80		9.2	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	12	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
Bromomethane	10	10		7.5	1.0 U	1.0 U	1.0 U	1.0 U	1 UJ	1 UJ	1 UJ	0.55 J	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	2.0 U	25 UJ
Carbon Disulfide	1500	6200		810	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
Carbon Tetrachloride	5	5	5	0.45	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
Chlorobenzene	100	100	100	78	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
Chlorodibromomethane	80	80		0.17	1.0 U	1.0 U	0.15 J	1.0 U	1 U	1 U	1 U	1.7	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
Chloroethane	230	900		21000	1.0 U	1.0 U	1.0 U	1.0 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	2.0 U	25 UJ
Chloroform	80	80		0.22	1.7	0.50 J	1.9	0.74 J	1 U	0.31 J	1 U	1 U	1 U	1 U	1 U	0.83 J	1.4	1.3	0.39 J	25 U
Chloromethane				190	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	0.3 J	1 U	1 U	0.28 J	1 U	1 U	2.0 U	25 U
cis-1,2-Dichloroethene	70	70	70	36	1.0 U	1.0 U	1.0 U	1.0 U	1.2	1 U	0.78 J	36	31	4.6	24 J	1 U	2	2	80	490
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
Ethylbenzene	700	700	700	1.5	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
Methyl tert-butyl ether	20	20		14	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
Methylene chloride	5	5		11	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	8.1 J
Styrene	100	100	100	1200	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
Tetrachloroethene	5	5	5	11	4.7	5.6	1.0 U	1.0 U	0.19 J	1.9	3.2	1 U	0.86 J	15	40 J	1	8.6	9.2	430	200
Toluene	1000	1000	1000	1100	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
trans-1,2-Dichloroethene	100	100	100	360	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1.8	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	25 U
Trichloroethene	5	5	5	0.49	0.37 J	0.89 J	1.0 U	1.0 U	1.1	28	4.9	1 U	3.5	5.3	7.5 J	0.76 J	130	120	74	200
Vinyl Chloride	2	2	2	0.019	1.0 U	1.0 U	1.0 U	1.0 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	2.0 U	25 UJ
Xylenes (Total)	10000	10000	10000	190	3.0 U	3.0 U	3.0 U	3.0 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	6.0 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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-15A 10/5/15	CW-17 10/5/15	CW-18 1/16/15	CW-18 2/26/15	CW-18 Dup 2/26/15	CW-18 3/27/15	CW-18 4/22/15	CW-18 5/20/15	CW-18 9/17/15	CW-20 10/5/15	Lift Station 10/2/15	RW-2 9/16/15	RW-4 Folk 9/16/15	RW-5 9/17/15
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78	120 J													
Alkalinity																		
ALKALINITY, BICARBONATE							260000 B	300000 B	280000 B	300000 B	300000 B	290000 B						
ALKALINITY, CARBONATE							5000 U	5000 U	5000 U	5000 U	5000 U	5000 U						
ALKALINITY, TOTAL							260000 B	300000 B	280000 B	300000 B	300000 B	290000 B						
Anions																		
Chloride		250000					230000	230000 B	230000 B	240000 B	230000	240000 B						
Nitrate As N	10000	10000	10000	32000			37 J B	65 J	51 J	56 J B	120	85 J B						
Sulfate							250000	300000	290000	390000	290000	280000						
METAL																		
Calcium							80000 B	100000	100000	120000 B	100000	95000 B						
Hexavalent Chromium	100	100		0.035														
Magnesium							40000 B	53000	52000	50000 B	42000	42000						
Potassium							11000	11000	12000	12000	10000	11000 B						
Sodium							140000	170000 B	170000 B	200000 B	150000	150000						
METAL (Dissolved)																		
Hexavalent Chromium	100	100		0.035														

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-15A 10/5/15	CW-17 10/5/15	CW-18 1/16/15	CW-18 2/26/15	CW-18 Dup 2/26/15	CW-18 3/27/15	CW-18 4/22/15	CW-18 5/20/15	CW-18 9/17/15	CW-20 10/5/15	Lift Station 10/2/15	RW-2 9/16/15	RW-4 Folk 9/16/15	RW-5 9/17/15
TOTAL VOC																		
TOTAL VOC					32290	214.9	40.08	40.64	39.56	4.77	50.11	38.94	30.96	2104	0	4.03	0.5	2.29
Volatile Organic Compound																		
1,1,1,2-Tetrachloroethane	70	70		0.57	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	12000	11	1 U	1 U	1 U	1.0 U	0.36 J	1 U	1.0 U	77	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	31	160		2.7	190 J	4.2 J	1.4	1.8	1.7	1.0 U	1.6	1.2	2.4	50 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	7	7	7	280	2400	6.7	0.97 J	0.99 J	0.95 J	1.0 U	0.90 J	0.8 J	0.62 J	17 J	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	6.4	32		0.78	100000 UJ	1000 UJ	200 U	200 U	200 U	200 U	200 U	200 U	200 U	10000 UJ	200 U	200 U	200 U	200 U
2-Butanone	4000	4000		5600	2500 U	25 U	5 U	5 U	5 U	5.0 U	1 UJ	5 U	5.0 U	250 U	5.0 U	5.0 U	5 UJ	5.0 U
2-Hexanone	11	44		38	2500 U	25 U	5 U	5 U	5 U	5.0 U	5.0 U	5 U	5.0 U	250 U	5 UJ	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone	2900	8200		1200	2500 U	25 U	5 U	5 U	5 U	5.0 U	5.0 U	5 U	5.0 U	250 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	33000	92000		14000	2500 UJ	25 UJ	5 U	5 U	5 U	5.0 U	1 UJ	5 U	5.0 U	250 UJ	5.0 U	5.0 U	5 UJ	5.0 U
Acrylonitrile	0.72	3.7		0.052	10000 U	100 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	1000 U	20 U	20 U	20 U	20 U
Benzene	5	5	5	0.45	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	90	90		83	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	80	80		0.13	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	80	80		9.2	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1 UJ	1.0 U	1.0 U	1.0 U
Bromomethane	10	10		7.5	500 UJ	5 UJ	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 UJ	1 UJ	1.0 U	1.0 U	1.0 U
Carbon Disulfide	1500	6200		810	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	100	100	100	78	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorodibromomethane	80	80		0.17	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1 UJ	50 U	1.0 U	1.0 U	1.0 U	1 UJ
Chloroethane	230	900		21000	500 UJ	5 UJ	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 UJ	1 UJ	1.0 U	1.0 U	1.0 U
Chloroform	80	80		0.22	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	0.23 J	0.50 J	1.0 U
Chloromethane				190	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1 UJ	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	11000	83	29	30	29	4.3	38	30	19 J	210	1.0 U	1.0 U	1.0 U	1.3
cis-1,3-Dichloropropene	6.6	26		0.47	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	700	700	700	1.5	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert-butyl ether	20	20		14	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	5	5		11	200 J	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100	100	100	1200	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	5	5	11	1700	46	0.41 J	0.45 J	0.51 J	1.0 U	0.80 J	0.34 J	0.34 J	1300	1.0 U	1.0 U	1.0 U	0.17 J
Toluene	1000	1000	1000	1100	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	500 U	5.0 U	1 U	1 U	1 U	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	500 U	5.0 U	1 UJ	1 UJ	1 UJ	1.0 U	1.0 U	1 U	1.0 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	5	5	0.49	4800	64	8.3	7.4	7.4	0.47 J	8.2	6.6	8.6	500	1.0 U	3.8	1.0 U	0.82 J
Vinyl Chloride	2	2	2	0.019	500 UJ	5 UJ	1 U	1 U	1 U	1.0 U	0.25 J	1 U	1.0 U	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (Total)	10000	10000	10000	190	1500 U	15 U	3 U	3 U	3 U	3.0 U	3.0 U	3 U	3.0 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.

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

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	TATE (S-6) 10/2/15
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					
METAL					
Calcium					
Hexavalent Chromium	100	100		0.035	
Magnesium					
Potassium					
Sodium					
METAL (Dissolved)					
Hexavalent Chromium	100	100		0.035	

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	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	TATE (S-6) 10/2/15
TOTAL VOC					
TOTAL VOC					0.23
Volatile Organic Compound					
1,1,1,2-Tetrachloroethane	70	70		0.57	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	1.0 U
1,1-Dichloroethane	31	160		2.7	1.0 U
1,1-Dichloroethene	7	7	7	280	1.0 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1.0 U
1,2-Dichloroethane	5	5	5	0.17	1.0 U
1,2-Dichloropropane	5	5	5	0.44	1.0 U
1,4-Dioxane	6.4	32		0.78	200 U
2-Butanone	4000	4000		5600	5.0 U
2-Hexanone	11	44		38	5 UJ
4-Methyl-2-Pentanone	2900	8200		1200	5.0 U
Acetone	33000	92000		14000	5.0 U
Acrylonitrile	0.72	3.7		0.052	20 U
Benzene	5	5	5	0.45	1.0 U
Bromochloromethane	90	90		83	1.0 U
Bromodichloromethane	80	80		0.13	1.0 U
Bromoform	80	80		9.2	1 UJ
Bromomethane	10	10		7.5	1 UJ
Carbon Disulfide	1500	6200		810	1.0 U
Carbon Tetrachloride	5	5	5	0.45	1.0 U
Chlorobenzene	100	100	100	78	1.0 U
Chlorodibromomethane	80	80		0.17	1.0 U
Chloroethane	230	900		21000	1 UJ
Chloroform	80	80		0.22	0.23 J
Chloromethane				190	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	1.0 U
cis-1,3-Dichloropropene	6.6	26		0.47	1.0 U
Ethylbenzene	700	700	700	1.5	1.0 U
Methyl tert-butyl ether	20	20		14	1.0 U
Methylene chloride	5	5		11	1.0 U
Styrene	100	100	100	1200	1.0 U
Tetrachloroethene	5	5	5	11	1.0 U
Toluene	1000	1000	1000	1100	1.0 U
trans-1,2-Dichloroethene	100	100	100	360	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	1.0 U
Trichloroethene	5	5	5	0.49	1.0 U
Vinyl Chloride	2	2	2	0.019	1.0 U
Xylenes (Total)	10000	10000	10000	190	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.

APPENDIX B

2015 Access® Database Summary
Groundwater Treatment Plant Operations

Leidos Inc.

6310 Allentown Boulevard, Suite 110 / Harrisburg, PA 17112 / 717.901.8100 **leidos.com**

Harley-Davidson Motor Company

Groundwater Treatment Plant Operations

From: 1/1/2015
To: 12/31/2015

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
1/1/2015	0	0.00	0	0.00	0	0	0.00	0	0.00			0		
1/2/2015	0	0.00	0	0.00	0	0	0.00	0	0.00			0		
1/3/2015	0	0.00	0	0.00	0	0	0.00	0	0.00			0		
1/4/2015	0	0.00	0	0.00	0	0	0.00	0	0.00			0		
1/5/2015	0	0.00	0	0.00	0	0	0.00	0	0.00			0		
1/6/2015	0	0.00	0	0.00	0	0	0.00	0	0.00			0		
1/7/2015	77	22.77	9	7.80	5630	1	12.30	2	13.70	4	7.0	0		
1/8/2015	77	22.70	9	7.80	5630	1	12.30	2	13.70	63	7.0	0		
1/9/2015	0	0.00	0	0.00	0	0	0.00	0	0.00	0	7.0	0		
1/10/2015	0	0.00	0	0.00	0	0	0.00	0	0.00	0	7.0	0		
1/11/2015	0	0.00	0	0.00	0	0	0.00	0	0.00	0	7.0	0		
1/12/2015	0	0.00	0	0.00	0	0	0.00	0	0.00	0	7.0	0		
1/13/2015	0	0.00	0	0.00	0									
1/14/2015	0	0.00	0	0.00	0									
1/15/2015	2	3.00	2	3.00	1928	0	0.00	0	0.00	318	6.9	0		
1/16/2015	5	2.00	6	2.00	16740	1	0.00	2	2.00	920	6.4	0		
1/17/2015	0	0.00	0	0.00	0									
1/18/2015	0	0.00	0	0.00	0									
1/19/2015	0	0.00	0	0.00	0									
1/20/2015	0	0.00	0	0.00	0	0	0.00	0	0.00			0		
1/21/2015	0	0.00	0	0.00	0	0	0.00	0	0.00			0		
1/22/2015	1	1.75	1	1.75	26250	0	0.00	0	0.00		7.0	0		
1/23/2015	0	0.00	0	0.00	0	0	0.00	0	0.00			0		
1/24/2015	0	0.00	0	0.00	0	0	0.00	0	0.00			0		
1/25/2015	0	0.00	0	0.00	0	0	0.00	0	0.00			0		
1/26/2015	0	0.00	0	0.00	0	0	0.00	0	0.00	347	6.6	0		
1/27/2015	1	13.30	1	13.30	210738	2	5.70	2	7.50	1127	6.8	0		
1/28/2015	2	24.00	9	24.00	375040	7	11.00	3	12.00	1928	6.8	0		
1/29/2015	1	24.00	1	24.00	380602	4	12.00	3	12.00	1962	6.8	0		
1/30/2015	1	24.00	1	24.00	382145	4	12.00	3	12.00	1937	6.8	0		
1/31/2015	1	24.00	1	24.00	377929	4	12.00	3	12.00	1985	6.8	0		
2/1/2015	1	24.00	1	24.00	366032	4	12.00	3	12.00	1863	6.8	0		
2/2/2015	1	24.00	1	24.00	361821	4	12.00	3	12.00	1883	6.8	0		
2/3/2015	1	24.00	1	24.00	361384	4	12.00	3	12.00	1932	6.8	0		
2/4/2015	1	24.00	1	24.00	356429	4	12.00	3	12.00	1807	6.8	0		
2/5/2015	1	24.00	1	24.00	353604	4	12.00	3	12.00	1909	6.8	0		
2/6/2015	1	24.00	1	24.00	353247	4	12.00	3	12.00	1941	6.8	0		
2/7/2015	1	24.00	1	24.00	346446	4	12.00	3	12.00	1749	6.8	0		
2/8/2015	1	24.00	1	24.00	343160	4	12.00	3	12.00	1728	6.8	0		
2/9/2015	1	24.00	1	24.00	342259	4	12.00	3	12.00	1867	6.8	0		
2/10/2015	1	24.00	1	24.00	339753	4	12.00	3	12.00	1866	6.8	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
2/11/2015	2	24.00	2	24.00	339134	5	12.00	3	12.00	1841	6.9	0		
2/12/2015	1	24.00	1	24.00	338710	4	12.00	3	12.00	1859	6.9	0		
2/13/2015	1	24.00	1	24.00	336577	4	12.00	3	12.00	1956	6.8	0		
2/14/2015	1	24.00	1	24.00	335434	4	12.00	3	12.00	1932	6.9	0		
2/15/2015	1	24.00	1	24.00	334263	4	12.00	3	12.00	2029	6.9	0		
2/16/2015	1	24.00	1	24.00	309610	7	12.00	3	12.00	1898	6.9	0		
2/17/2015	1	24.00	1	24.00	294061	7	12.00	3	12.00	1739	6.9	0		
2/18/2015	1	24.00	1	24.00	293876	6	12.00	3	12.00	1748	6.9	0		
2/19/2015	1	24.00	1	24.00	292509	5	12.00	3	12.00	1820	6.9	0		
2/20/2015	1	24.00	1	24.00	291473	6	12.00	4	12.00	1803	6.9	0		
2/21/2015	1	24.00	1	24.00	290173	6	12.00	4	12.00	1799	6.9	0		
2/22/2015	1	24.00	1	24.00	290444	4	12.00	4	12.00	1593	6.9	0		
2/23/2015	1	24.00	1	24.00	290524	5	12.00	4	12.00	1745	6.9	0		
2/24/2015	1	24.00	1	24.00	290361	4	12.00	4	12.00	1784	6.9	0		
2/25/2015	1	24.00	1	24.00	315030	5	12.00	4	12.00	1739	6.9	0		
2/26/2015	1	24.00	1	24.00	362835	3	12.00	4	12.00	1918	6.8	0		
2/27/2015	1	24.00	1	24.00	359948	3	12.00	4	12.00	1885	6.9	0		
2/28/2015	1	24.00	1	24.00	359948	3	12.00	4	12.00	1885	6.9	0		
3/1/2015	1	24.00	1	24.00	359948	3	12.00	4	12.00	1885	6.9	0		
3/2/2015	1	24.00	1	24.00	357061	4	12.00	4	12.00	1851	6.9	0		
3/3/2015	1	24.00	1	24.00	356807	3	12.00	4	12.00	1914	6.9	0		
3/4/2015	1	24.00	1	24.00	357271	3	12.00	4	12.00	1698	6.9	0		
3/5/2015	1	24.00	1	24.00	358244	3	12.00	4	12.00	1868	6.9	0		
3/6/2015	1	24.00	1	24.00	358383	3	12.00	4	12.00	1875	6.9	0		
3/7/2015	1	24.00	1	24.00	358859	3	12.00	4	12.00	1757	6.9	0		
3/8/2015	1	24.00	1	24.00	358189	3	12.00	4	12.00	1800	6.9	0		
3/9/2015	1	24.00	1	24.00	360057	3	12.00	4	12.00	1622	6.9	0		
3/10/2015	1	24.00	1	24.00	362876	3	12.00	4	12.00	1656	6.9	0		
3/11/2015	1	24.00	1	24.00	365630	3	12.00	4	12.00	1543	6.9	0		
3/12/2015	1	24.00	1	24.00	370864	3	12.00	4	12.00	1568	6.9	0		
3/13/2015	1	24.00	1	24.00	377554	3	12.00	4	12.00	1697	6.8	0		
3/14/2015	1	24.00	1	24.00	381423	3	12.00	4	12.00	1634	6.9	0		
3/15/2015	1	24.00	1	24.00	391532	3	12.00	4	12.00	1608	6.9	0		
3/16/2015	1	24.00	1	24.00	395850	3	12.00	4	12.00	1683	6.9	0		
3/17/2015	1	24.00	1	24.00	397810	3	12.00	4	12.00	1552	6.9	0		
3/18/2015	1	24.00	1	24.00	399231	3	12.00	4	12.00	1761	6.8	0		
3/19/2015	1	24.00	1	24.00	400817	3	12.00	4	12.00	1743	6.8	0		
3/20/2015	1	24.00	1	24.00	401247	3	12.00	4	12.00	1882	6.8	0		
3/21/2015	1	24.00	1	24.00	401926	3	12.00	4	12.00	1726	6.9	0		
3/22/2015	1	24.00	1	24.00	400993	3	12.00	4	12.00	1618	6.8	0		
3/23/2015	1	24.00	1	24.00	390683	3	12.00	4	12.00	1709	6.8	0		
3/24/2015	1	24.00	1	24.00	378496	3	12.00	4	12.00	1799	6.9	0		
3/25/2015	1	24.00	1	24.00	379603	3	12.00	4	12.00	1772	6.9	0		
3/26/2015	1	24.00	2	24.00	382546	4	12.00	5	12.00	1601	6.9	0		
3/27/2015	1	24.00	1	24.00	392204	3	12.00	4	12.00	1548	6.9	0		
3/28/2015	1	24.00	1	24.00	389311	3	12.00	4	12.00	1887	6.9	0		
3/29/2015	1	24.00	1	24.00	362738	13	12.00	4	11.00	1704	6.9	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
3/30/2015	3	7.00	3	6.00	96215	2	3.00	1	4.00	567	6.4	0		
3/31/2015	0	0.00	0	0.00	0	0	0.00	0	0.00	225	4.6	0		
4/1/2015	0	0.00	0	0.00	0	0	0.00	0	0.00	275	2.9	0		
4/2/2015	1	7.30	1	7.30	107760	2	3.10	1	4.00	651	6.8	0		
4/3/2015	1	23.90	1	23.90	356719	6	11.70	3	12.00	1445	6.8	0		
4/4/2015	1	23.90	1	23.90	356512	7	11.60	3	12.00	1474	6.8	0		
4/5/2015	1	23.90	1	23.90	356315	4	11.90	3	12.00	1488	6.8	0		
4/6/2015	1	23.90	1	23.90	375629	4	11.90	3	12.00	1478	6.8	0		
4/7/2015	1	23.90	1	23.90	380856	4	11.90	3	12.00	1455	6.8	0		
4/8/2015	2	23.50	2	23.40	369374	6	11.30	5	12.00	1491	6.8	0		
4/9/2015	1	23.90	1	23.90	383375	4	11.90	3	12.00	1545	6.8	0		
4/10/2015	1	23.90	1	23.90	378666	4	11.90	3	12.00	1518	6.8	0		
4/11/2015	1	23.90	1	23.90	372721	4	11.90	3	12.00	1464	6.8	0		
4/12/2015	1	23.90	1	23.90	368246	4	11.90	3	12.00	1500	6.8	0		
4/13/2015	1	23.90	1	23.90	365148	4	11.90	3	12.00	1447	6.8	0		
4/14/2015	1	23.90	1	23.90	363736	4	11.90	3	12.00	1443	6.8	0		
4/15/2015	1	23.90	1	23.90	363708	5	11.80	3	12.00	1438	6.8	0		
4/16/2015	1	23.90	1	23.90	355165	6	11.70	3	12.00	1419	6.8	0		
4/17/2015	1	23.90	1	23.90	353050	4	11.90	3	12.00	1400	6.8	0		
4/18/2015	1	23.90	1	23.90	351126	4	11.80	4	12.00	1396	6.9	0		
4/19/2015	1	23.90	1	23.90	349047	4	11.90	3	12.00	1405	6.8	0		
4/20/2015	1	23.90	1	23.90	349548	4	11.90	3	12.00	1408	6.8	0		
4/21/2015	1	23.90	1	23.90	349739	4	11.90	3	12.00	1403	6.8	0		
4/22/2015	1	23.90	1	23.90	349543	4	11.90	3	12.00	1440	6.8	0		
4/23/2015	1	23.90	1	23.90	349053	4	11.90	3	12.00	1478	6.9	0		
4/24/2015	1	23.90	1	23.90	347893	4	11.90	3	12.00	1511	6.8	0		
4/25/2015	1	23.90	1	23.90	347289	4	11.90	3	12.00	1510	6.8	0		
4/26/2015	1	23.90	1	23.90	347460	4	11.90	3	12.00	1416	6.8	0		
4/27/2015	1	23.90	1	23.90	347613	4	11.90	3	12.00	1425	6.8	0		
4/28/2015	1	23.90	1	23.90	346221	4	11.90	3	12.00	1413	6.8	0		
4/29/2015	1	23.90	1	23.90	343125	4	11.90	3	12.00	1403	6.8	0		
4/30/2015	1	23.90	1	23.90	342191	4	11.90	3	12.00	1396	6.8	0		
5/1/2015	5	21.40	5	21.30	305017	3	11.50	4	9.70	1274	6.9	0		
5/2/2015	1	23.90	1	23.90	341935	4	12.00	4	11.80	1395	6.9	0		
5/3/2015	1	23.90	1	23.90	341194	3	12.00	5	11.80	1400	6.9	0		
5/4/2015	1	23.90	1	23.90	338222	4	12.00	4	11.80	1387	6.9	0		
5/5/2015	1	23.90	1	23.90	337384	3	12.00	4	11.90	1376	6.9	0		
5/6/2015	1	23.90	1	23.90	336641	3	12.00	4	11.90	1382	6.9	0		
5/7/2015	1	23.90	1	23.90	336515	3	12.00	4	11.90	1387	6.9	0		
5/8/2015	1	23.90	1	23.90	336523	3	12.00	4	11.90	1388	6.9	0		
5/9/2015	1	23.90	1	23.90	336493	3	12.00	4	11.90	1388	6.9	0		
5/10/2015	1	23.90	1	23.90	334665	3	12.00	4	11.90	1386	6.9	0		
5/11/2015	1	23.90	1	23.90	333371	3	12.00	4	11.90	1384	6.9	0		
5/12/2015	1	23.90	1	23.90	332171	3	12.00	4	11.90	1387	6.9	0		
5/13/2015	1	23.90	1	23.90	330698	3	12.00	4	11.90	1397	6.9	0		
5/14/2015	1	23.90	1	23.90	329238	3	12.00	4	11.90	1394	6.9	0		
5/15/2015	1	23.90	1	23.90	329110	3	12.00	4	11.90	1384	6.9	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
5/16/2015	1	23.90	1	23.90	328432	3	12.00	4	11.90	1382	6.9	0		
5/17/2015	1	23.90	1	23.90	328734	3	12.00	4	11.90	1373	6.9	0		
5/18/2015	1	23.90	1	23.90	329020	3	12.00	4	11.90	1377	6.9	0		
5/19/2015	1	23.90	1	23.90	329971	3	12.00	4	11.90	1378	6.9	0		
5/20/2015	1	23.90	1	23.90	331597	3	12.00	4	11.90	1383	6.9	0		
5/21/2015	1	23.90	1	23.90	335426	3	12.00	4	11.90	1406	6.8	0		
5/22/2015	1	23.90	1	23.90	336002	3	12.00	4	11.90	1396	6.9	0		
5/23/2015	1	23.90	1	23.90	335403	3	12.00	4	11.90	1410	6.8	0		
5/24/2015	1	23.90	1	23.90	333998	3	12.00	4	11.90	1398	6.9	0		
5/25/2015	1	23.90	1	23.90	332238	3	12.00	4	11.90	1387	6.9	0		
5/26/2015	1	23.90	1	23.90	329985	3	12.00	4	11.90	1386	7.0	0		
5/27/2015	1	23.90	1	23.90	329526	3	12.00	4	11.90	1389	6.9	0		
5/28/2015	1	23.90	1	23.90	329141	3	12.00	4	11.90	1389	6.9	0		
5/29/2015	1	23.90	1	23.90	328918	3	12.00	4	11.90	1392	6.9	0		
5/30/2015	1	23.90	1	23.90	328638	3	12.00	4	11.90	1390	7.0	0		
5/31/2015	1	23.90	1	23.90	328586	3	12.00	4	11.90	1392	7.0	0		
6/1/2015	1	23.90	1	23.90	328808	3	12.00	4	11.90	1388	6.9	0		
6/2/2015	1	23.90	1	23.90	329515	3	12.00	4	11.90	1398	6.8	0		
6/3/2015	1	23.90	1	23.90	331754	3	12.00	4	11.90	1400	6.9	0		
6/4/2015	1	23.90	1	23.90	334107	3	12.00	4	11.90	1395	6.8	0		
6/5/2015	1	23.90	1	23.90	340066	3	12.00	4	11.90	1392	6.9	0		
6/6/2015	1	23.90	1	23.90	341425	3	12.00	4	11.90	1392	6.9	0		
6/7/2015	1	23.90	1	23.90	340265	3	12.00	4	11.90	1394	6.9	0		
6/8/2015	1	23.90	1	23.90	340673	4	12.00	4	11.70	1385	6.9	0		
6/9/2015	1	23.90	1	23.90	341584	3	12.00	4	11.90	1397	6.9	0		
6/10/2015	1	23.90	1	23.90	341070	3	12.00	4	11.90	1394	6.9	0		
6/11/2015	1	23.90	1	23.90	341785	3	12.00	4	11.90	1382	6.9	0		
6/12/2015	1	23.90	1	23.90	339085	3	12.00	4	11.90	1375	7.0	0		
6/13/2015	1	23.90	1	23.90	334191	4	12.00	4	11.70	1384	6.9	0		
6/14/2015	1	23.90	1	23.90	329863	3	12.00	8	11.20	1370	6.9	0		
6/15/2015	1	23.90	1	23.90	336635	3	12.00	4	11.90	1391	6.9	0		
6/16/2015	1	23.90	1	23.90	337587	3	12.00	4	11.90	1399	7.0	0		
6/17/2015	1	23.90	1	23.90	337506	3	12.00	4	11.90	1410	6.9	0		
6/18/2015	1	23.90	1	23.90	341994	3	12.00	4	11.90	1402	7.0	0		
6/19/2015	1	23.90	1	23.90	342511	3	12.00	4	11.90	1396	7.0	0		
6/20/2015	1	23.90	1	23.90	342384	3	12.00	4	11.90	1404	6.9	0		
6/21/2015	1	23.90	1	23.90	340343	3	12.00	4	11.90	1397	7.0	0		
6/22/2015	1	23.90	1	23.90	340566	3	12.00	4	11.90	1400	7.0	0		
6/23/2015	1	23.90	1	23.90	340261	3	12.00	4	11.90	1392	7.0	0		
6/24/2015	1	23.90	1	23.90	339750	3	12.00	4	11.90	1402	6.9	0		
6/25/2015	1	23.90	1	23.90	339178	3	12.00	4	11.90	1393	6.9	0		
6/26/2015	1	23.90	1	23.90	340429	3	12.00	4	11.90	1399	6.9	0		
6/27/2015	1	23.90	1	23.90	332926	3	12.00	4	11.90	1395	6.9	0		
6/28/2015	1	23.90	1	23.90	333893	3	12.00	4	11.90	1392	6.9	0		
6/29/2015	1	23.90	1	23.90	335879	3	12.00	4	11.90	1397	6.9	0		
6/30/2015	1	23.90	1	23.90	338319	3	12.00	4	11.90	1381	6.9	0		
7/1/2015	1	23.90	1	23.90	338067	3	12.00	4	11.90	1386	6.9	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
7/2/2015	1	23.90	1	23.90	338099	3	12.00	4	11.90	1388	6.9	0		
7/3/2015	1	23.90	1	23.90	338020	3	12.00	4	11.90	1396	6.9	0		
7/4/2015	1	23.90	1	23.90	337769	3	12.00	4	11.90	1399	6.9	0		
7/5/2015	1	23.90	1	23.90	337414	3	12.00	4	11.90	1395	6.9	0		
7/6/2015	1	23.90	1	23.90	337481	3	12.00	4	11.90	1402	7.0	0		
7/7/2015	1	8.25	1	8.25	116273	1	6.00	3	4.45	484	7.0	0		
7/8/2015	0	0.00	0	0.00	0	0	0.00	0	0.00	0	0.0	0		
7/9/2015	1	19.15	1	19.15	270016.0	2	6.00	4	10.35	1125	7.0	0		
7/10/2015	1	23.90	1	23.90	339570	4	12.00	4	11.80	1402	7.0	0		
7/11/2015	1	23.90	1	23.90	340229	3	12.00	4	11.90	1401	7.0	0		
7/12/2015	1	23.90	1	23.90	340473	3	12.00	4	11.90	1397	7.0	0		
7/13/2015	1	23.90	1	23.90	340678	3	12.00	4	11.90	1389	7.0	0		
7/14/2015	1	23.90	1	23.90	332166	3	12.00	8	11.10	1363	6.9	0		
7/15/2015	1	23.90	1	23.90	295036	16	11.60	13	9.80	1290	7.0	0		
7/16/2015	1	23.90	1	23.90	338346	4	11.90	3	12.00	1391	7.0	0		
7/17/2015	2	20.70	2	20.60	291668	4	8.50	4	12.00	1209	7.0	0		
7/18/2015	1	23.90	1	23.90	339613	10	11.70	3	11.50	1389	7.0	0		
7/19/2015	1	23.90	1	23.90	340081	7	12.00	4	11.60	1385	7.0	0		
7/20/2015	1	23.90	1	23.90	340167	3	12.00	4	11.90	1386	7.0	0		
7/21/2015	1	23.90	1	23.90	340001	3	12.00	4	11.90	1382	7.0	0		
7/22/2015	1	23.90	1	23.90	339880	3	12.00	4	11.90	1396	7.0	0		
7/23/2015	1	23.90	1	23.90	339690	3	12.00	4	11.90	1404	6.9	0		
7/24/2015	1	23.90	1	23.90	339749	3	12.00	4	11.90	1393	7.0	0		
7/25/2015	1	23.90	1	23.90	340415	3	12.00	4	11.90	1396	7.1	0		
7/26/2015	1	23.90	1	23.90	331286	4	12.00	6	11.40	1382	7.0	0		
7/27/2015	1	23.90	1	23.90	331287	4	12.00	5	11.40	1382	7.0	0		
7/28/2015	1	23.90	1	23.90	329609	3	12.00	4	11.90	1390	7.0	0		
7/29/2015	1	23.90	1	23.90	330844	3	12.00	4	11.90	1384	7.0	0		
7/30/2015	1	23.90	1	23.90	327189	4	12.00	4	11.80	1378	7.0	0		
7/31/2015	1	23.90	1	23.90	327030	3	12.00	4	11.90	1390	7.0	0		
8/1/2015	1	23.90	1	23.90	327428	3	12.00	4	11.90	1397	7.0	0		
8/2/2015	1	23.90	1	23.90	327338	3	12.00	4	11.90	1389	7.0	0		
8/3/2015	1	23.90	1	23.90	327373	3	12.00	4	11.90	1385	7.0	0		
8/4/2015	1	23.90	1	23.90	324144	4	12.00	4	11.80	1377	7.0	0		
8/5/2015	1	23.90	1	23.90	320380	5	12.00	4	11.80	1384	7.0	0		
8/6/2015	1	23.90	1	23.90	320061	6	12.00	4	11.70	1382	7.0	0		
8/7/2015	1	23.90	1	23.90	322273	5	12.00	4	11.80	1377	6.9	0		
8/8/2015	1	23.90	1	23.90	320207	6	12.00	4	11.70	1380	7.0	0		
8/9/2015	1	23.90	1	23.90	319663	6	12.00	4	11.70	1379	7.0	0		
8/10/2015	2	23.00	2	22.90	307099	10	11.20	4	11.10	1324	7.0	0		
8/11/2015	1	23.90	1	23.90	316506	13	11.10	3	12.00	1366	6.9	0		
8/12/2015	1	23.90	1	23.90	314856	7	11.70	3	12.00	1371	7.0	0		
8/13/2015	1	23.90	1	23.90	314773	7	11.70	3	12.00	1390	7.0	0		
8/14/2015	1	23.90	1	23.90	315267	6	11.80	3	12.00	1392	7.0	0		
8/15/2015	1	23.90	1	23.90	315127	6	11.80	3	12.00	1384	7.0	0		
8/16/2015	1	23.90	1	23.90	315115	6	11.80	3	12.00	1383	7.0	0		
8/17/2015	1	23.90	1	23.90	314541	7	11.70	3	12.00	1382	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
8/18/2015	1	23.90	1	23.90	314187	7	11.70	3	12.00	1382	7.0	0		
8/19/2015	1	23.90	1	23.90	314202	7	11.70	3	12.00	1379	7.0	0		
8/20/2015	1	23.90	1	23.90	313961	5	11.70	4	12.00	1365	7.0	0		
8/21/2015	1	23.90	1	23.90	318067	4	11.90	3	12.00	1395	7.0	0		
8/22/2015	1	23.90	1	23.90	319168	4	11.90	3	12.00	1378	7.0	0		
8/23/2015	1	23.90	1	23.90	318463	4	11.90	3	12.00	1376	7.0	0		
8/24/2015	2	16.70	2	16.60	210976	5	7.90	8	7.90	953	7.0	0		
8/25/2015	1	23.90	1	23.90	293830	19	12.00	7	10.30	1349	7.0	0		
8/26/2015	1	23.90	1	23.90	302626	6	12.00	4	11.70	1352	6.9	0		
8/27/2015	1	23.90	1	23.90	273066	19	11.60	10	9.80	1287	6.9	0		
8/28/2015	1	23.90	1	23.90	282806	6	11.50	6	12.00	1320	6.9	0		
8/29/2015	1	23.90	1	23.90	305414	6	11.80	3	12.00	1366	7.0	0		
8/30/2015	1	23.90	1	23.90	305296	7	11.70	3	12.00	1365	7.0	0		
8/31/2015	1	23.90	1	23.90	305303	7	11.70	3	12.00	1366	7.0	0		
9/1/2015	1	23.90	1	23.90	304894	7	11.70	3	12.00	1367	7.0	0		
9/2/2015	1	23.90	1	23.90	304567	6	11.80	3	12.00	1360	7.0	0		
9/3/2015	1	23.90	1	23.90	305461	6	11.70	3	12.00	1369	7.0	0		
9/4/2015	1	23.90	1	23.90	305772	7	11.70	3	12.00	1368	7.0	0		
9/5/2015	1	23.90	1	23.90	305186	7	11.70	3	12.00	1365	7.0	0		
9/6/2015	1	23.90	1	23.90	304951	7	11.70	3	12.00	1368	7.0	0		
9/7/2015	1	23.90	1	23.90	238185	27	10.70	10	10.20	1223	7.0	0		
9/8/2015	1	23.90	1	23.90	207611	12	12.00	4	11.30	1160	7.1	0		
9/9/2015	1	23.90	1	23.90	207553	12	12.00	4	11.40	1158	7.1	0		
9/10/2015	1	23.90	1	23.90	207813	12	12.00	4	11.40	1157	7.0	0		
9/11/2015	1	23.90	1	23.90	272693	7	12.00	4	11.70	1280	7.0	0		
9/12/2015	1	23.90	1	23.90	310923	4	12.00	4	11.90	1330	6.9	0		
9/13/2015	1	23.90	1	23.90	311703	5	11.90	3	11.80	1328	6.9	0		
9/14/2015	1	23.90	1	23.90	312030	7	11.70	3	12.00	1330	7.0	0		
9/15/2015	1	23.90	1	23.90	312196	7	11.70	3	12.00	1335	7.0	0		
9/16/2015	1	23.90	1	23.90	312052	6	11.80	3	12.00	1334	6.9	0		
9/17/2015	1	23.90	1	23.90	311407	7	11.70	3	12.00	1331	7.0	0		
9/18/2015	1	23.90	1	23.90	311114	5	11.80	3	12.00	1332	7.0	0		
9/19/2015	1	23.90	1	23.90	310781	7	11.70	3	12.00	1330	7.0	0		
9/20/2015	1	23.90	1	23.90	310645	5	11.80	3	12.00	1333	6.9	0		
9/21/2015	1	23.90	1	23.90	310419	6	11.80	3	12.00	1332	6.9	0		
9/22/2015	1	23.90	1	23.90	310799	5	11.90	3	12.00	1330	6.9	0		
9/23/2015	1	23.90	1	23.90	310601	6	11.80	3	12.00	1332	6.9	0		
9/24/2015	1	23.90	1	23.90	310405	6	11.80	3	12.00	1328	6.9	0		
9/25/2015	1	23.90	1	23.90	309107	5	11.90	3	12.00	1333	6.9	0		
9/26/2015	1	23.90	1	23.90	308774	6	11.80	3	12.00	1333	6.9	0		
9/27/2015	1	23.90	1	23.90	308413	5	11.90	3	12.00	1332	6.9	0		
9/28/2015	1	23.90	1	23.90	308564	5	11.90	3	12.00	1319	7.0	0		
9/29/2015	1	23.90	1	23.90	307441	6	11.70	3	12.00	1312	7.0	0		
9/30/2015	1	23.90	1	23.90	308322	5	11.90	3	12.00	1323	7.0	0		
10/1/2015	1	23.90	1	23.90	308962	7	11.70	3	12.00	1341	6.9	0		
10/2/2015	1	23.90	1	23.90	309745	5	11.90	3	12.00	1362	6.9	0		
10/3/2015	1	23.90	1	23.90	310215	6	11.80	3	12.00	1362	6.9	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
10/4/2015	1	23.90	1	23.90	303342	9	11.40	3	12.00	1350	6.9	0		
10/5/2015	1	23.90	1	23.90	300275	7	11.70	3	12.00	1347	6.9	0		
10/6/2015	1	23.90	1	23.90	300773	6	11.70	3	11.90	1347	7.0	0		
10/7/2015	1	23.90	1	23.90	300439	7	11.90	3	11.60	1333	6.9	0		
10/8/2015	1	23.90	1	23.90	298922	6	12.00	4	11.70	1324	6.9	0		
10/9/2015	1	23.90	1	23.90	300465	5	12.00	4	11.80	1321	6.9	0		
10/10/2015	1	23.90	1	23.90	304986	6	12.00	4	11.70	1357	6.9	0		
10/11/2015	1	23.90	1	23.90	305227	6	12.00	4	11.70	1354	6.9	0		
10/12/2015	1	23.90	1	23.90	298090	7	12.00	5	11.50	1327	6.9	0		
10/13/2015	1	23.90	1	23.90	295274	6	12.00	4	11.70	1316	6.9	0		
10/14/2015	1	23.90	1	23.90	294164	6	12.00	4	11.70	1325	6.9	0		
10/15/2015	1	23.90	1	23.90	293705	6	12.00	4	11.70	1329	6.9	0		
10/16/2015	1	23.90	1	23.90	294042	6	12.00	4	11.70	1353	6.9	0		
10/17/2015	1	23.90	1	23.90	292412	6	12.00	4	11.70	1392	6.9	0		
10/18/2015	1	23.90	1	23.90	254874	13	10.90	18	10.60	1497	6.9	0		
10/19/2015	1	23.90	1	23.90	268635	7	11.30	7	12.00	1496	6.9	0		
10/20/2015	1	23.90	1	23.90	271720	10	11.50	3	12.00	1366	6.9	0		
10/21/2015	1	23.90	1	23.90	271045	10	11.50	3	12.00	1341	7.0	0		
10/22/2015	1	23.90	1	23.90	270072	10	11.50	3	12.00	1325	7.0	0		
10/23/2015	1	23.90	1	23.90	269143	9	11.60	3	12.00	1324	6.9	0		
10/24/2015	1	23.90	1	23.90	269058	10	11.50	3	12.00	1365	6.9	0		
10/25/2015	1	23.90	1	23.90	268837	9	11.60	3	11.90	1336	6.9	0		
10/26/2015	1	23.90	1	23.90	268000	10	11.90	3	11.50	1366	6.9	0		
10/27/2015	1	23.90	1	23.90	267860	8	12.00	4	11.60	1416	6.9	0		
10/28/2015	1	23.90	1	23.90	267635	7	12.00	4	11.70	1330	7.0	0		
10/29/2015	1	23.90	1	23.90	269021	11	12.00	4	11.40	1320	6.9	0		
10/30/2015	1	23.90	1	23.90	274538	8	12.00	4	11.60	1368	6.9	0		
10/31/2015	1	23.90	1	23.90	277732	6	12.00	4	11.70	1440	6.9	0		
11/1/2015	1	23.90	1	23.90	279374	6	12.00	4	11.70	1344	6.9	0		
11/2/2015	1	22.90	1	22.90	267527	6	12.00	5	10.60	1283	6.9	0		
11/3/2015	1	22.90	1	22.90	268025	6	12.00	4	10.70	1284	6.9	0		
11/4/2015	1	22.90	1	22.90	267967	6	12.00	4	10.70	1280	6.9	0		
11/5/2015	1	22.90	1	22.90	267808	6	12.00	4	10.70	1263	7.0	0		
11/6/2015	1	23.90	1	23.90	279234	6	12.00	4	11.70	1302	7.0	0		
11/7/2015	1	23.90	1	23.90	278619	6	12.00	4	11.70	1326	6.9	0		
11/8/2015	1	23.90	1	23.90	275867	9	12.00	5	11.40	1354	6.9	0		
11/9/2015	1	23.90	1	23.90	275302	8	12.00	4	11.60	1450	6.9	0		
11/10/2015	1	23.90	1	23.90	275506	6	12.00	4	11.70	1342	6.9	0		
11/11/2015	1	23.90	1	23.90	275718	6	12.00	4	11.70	1349	6.9	0		
11/12/2015	1	23.90	1	23.90	275566	6	11.80	3	11.90	1354	6.9	0		
11/13/2015	1	23.90	1	23.90	275286	7	11.70	4	12.00	1360	6.9	0		
11/14/2015	1	23.90	1	23.90	272602	10	11.40	4	12.00	1425	6.9	0		
11/15/2015	1	23.90	1	23.90	271729	11	11.50	3	12.00	1478	6.9	0		
11/16/2015	1	23.90	1	23.90	270975	10	11.50	3	12.00	1359	6.9	0		
11/17/2015	1	23.90	1	23.90	268593	12	11.40	3	12.00	1371	7.0	0		
11/18/2015	1	23.90	1	23.90	268401	12	11.40	3	12.00	1374	7.0	0		
11/19/2015	1	23.90	1	23.90	267407	10	11.50	3	12.00	1328	6.9	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
11/20/2015	1	23.90	1	23.90	265506	12	11.40	3	12.00	1385	6.9	0		
11/21/2015	1	23.90	1	23.90	262601	11	11.80	4	11.40	1483	7.0	0		
11/22/2015	1	23.90	1	23.90	263087	12	12.00	4	11.30	1457	7.0	0		
11/23/2015	1	23.90	1	23.90	261884	13	12.00	4	11.20	1711	7.0	0		
11/24/2015	1	23.90	1	23.90	261051	12	12.00	4	11.30	1569	7.0	0		
11/25/2015	1	23.90	1	23.90	259240	12	12.00	4	11.30	1516	7.0	0		
11/26/2015	1	23.90	1	23.90	259194	12	12.00	4	11.30	1450	7.0	0		
11/27/2015	1	23.90	1	23.90	258662	10	11.70	3	11.70	1371	7.0	0		
11/28/2015	1	23.90	1	23.90	257556	13	11.20	3	12.00	1360	7.0	0		
11/29/2015	1	23.90	1	23.90	257107	12	11.40	3	12.00	1421	7.0	0		
11/30/2015	1	23.90	1	23.90	256591	12	11.40	3	12.00	1689	7.0	0		
12/1/2015	1	23.90	1	23.90	256972	13	11.30	3	12.00	1438	6.9	0		
12/2/2015	1	23.90	1	23.90	257543	13	11.30	3	12.00	1359	6.9	0		
12/3/2015	1	23.90	1	23.90	257807	13	11.30	3	11.90	1385	6.9	0		
12/4/2015	2	16.40	2	16.40	176830	6	8.00	4	8.00	1008	7.0	0		
12/5/2015	1	23.90	1	23.90	257798	14	11.90	8	11.00	1578	7.0	0		
12/6/2015	1	23.90	1	23.90	259669	18	12.00	6	10.70	1541	6.9	0		
12/7/2015	1	23.90	1	23.90	262193	11	12.00	4	11.40	1530	7.0	0		
12/8/2015	1	23.90	1	23.90	261614	12	12.00	4	11.30	1574	6.9	0		
12/9/2015	1	23.90	1	23.90	261840	11	12.00	4	11.40	1536	6.9	0		
12/10/2015	1	23.90	1	23.90	261754	12	11.50	3	11.80	1381	7.0	0		
12/11/2015	1	23.90	1	23.90	261707	12	11.40	3	12.00	1389	6.9	0		
12/12/2015	1	23.90	1	23.90	261444	13	11.30	3	12.00	1364	7.0	0		
12/13/2015	1	23.90	1	23.90	261543	11	11.40	3	12.00	1342	6.9	0		
12/14/2015	1	23.90	1	23.90	261526	10	11.50	3	12.00	1335	7.0	0		
12/15/2015	1	23.90	1	23.90	261034	13	11.30	3	12.00	1342	7.0	0		
12/16/2015	1	23.90	1	23.90	259972	12	11.40	3	12.00	1379	7.0	0		
12/17/2015	1	23.90	1	23.90	259700	10	11.60	3	11.80	1376	7.0	0		
12/18/2015	1	23.90	1	23.90	259739	12	12.00	4	11.30	1476	6.9	0		
12/19/2015	1	23.90	1	23.90	257254	13	12.00	4	11.20	1672	6.8	0		
12/20/2015	1	23.90	1	23.90	257716	12	12.00	4	11.30	1631	6.9	0		
12/21/2015	1	23.90	1	23.90	256555	12	12.00	4	11.30	1528	7.0	0		
12/22/2015	1	23.90	1	23.90	255685	12	12.00	4	11.30	1379	7.0	0		
12/23/2015	1	23.90	1	23.90	255669	12	12.00	4	11.30	1354	7.0	0		
12/24/2015	1	23.90	1	23.90	256644	12	11.40	3	11.90	1325	7.0	0		
12/25/2015	1	23.90	1	23.90	259126	12	11.40	3	12.00	1345	7.0	0		
12/26/2015	1	23.90	1	23.90	262107	14	11.20	3	12.00	1374	7.0	0		
12/27/2015	1	23.90	1	23.90	264851	10	11.50	3	12.00	1366	7.0	0		
12/28/2015	1	23.90	1	23.90	268394	12	11.40	3	12.00	1477	6.9	0		
12/29/2015	1	23.90	1	23.90	275328	10	11.70	3	12.00	1486	7.0	0		
12/30/2015	1	23.90	1	23.90	275329	12	11.70	3	12.00	1487	7.0	0		
12/31/2015	1	23.90	1	23.90	283774	7	11.70	3	12.00	1414	6.9	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
Sum	511	7998.52	384	7967.15	105772371	1986	3965.30	1277	3965.20	489230		0		
Max	77	24.00	9	24.00	401926	27	12.30	18	13.70	2029	7.1	0		
Average	1	21.91	1	21.83	289787	6	11.01	4	11.01	1406	6.9	0		

APPENDIX C

2015 Operation and Maintenance Data Summary

Leidos Inc.

6310 Allentown Boulevard, Suite 110 / Harrisburg, PA 17112 / 717.901.8100 **leidos.com**

2015 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
Date		1/1/2015	1/31/2015	2/11/2015	2/27/2015	3/5/2015	3/19/2015	4/6/2015	4/29/2015	5/4/2015	5/27/2015	6/3/2015	6/16/2015	7/7/2015	7/23/2015	8/5/2015	8/19/2015	9/11/2015	9/25/2015	10/8/2015	10/23/2015	11/5/2015	11/19/2015	12/11/2015	12/23/2015
PTA INFL. PUMP																									
Full Load = 17	AMPS	NM	NM	NM	NM	NM	NM	NM	9.6	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	8.3	NM	NM	NM	8.10
	FLOW RATE gpm	OL	OL	280	272	233	267	274	221	229	244	234	247	239	246	224	220	216	234	209	196	202	187	187	165
PTA BLOWER																									
Full Load = 24	AMP READINGS	NM	NM	NM	NM	NM	NM	NM	21.42	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	21.8	NM	NM	NM	21.73
	PRESSURE inches water	OL	OL	16.1	16.1	15.6	15.9	15.6	15.1	15.1	14.3	14.6	14	14.1	14.3	14.2	14.2	13.9	14.4	14.7	14.6	14.5	14.3	14.9	14.5
TOWER PANEL																									
	VISUAL INSPECT	NA	NA	NA	NA	NA	NA	NA	OK	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	OK	NA	NA	NA	OK
	WARWICK SECURE	NA	NA	NA	NA	NA	NA	NA	OK	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	OK	NA	NA	NA	OK
TOWER SAMPLING																									
	AST EFFLUENT pH	OL	OL	8.09	NM	8.14	NM	8.2	NM	8.08	NM	7.93	NM	8.0	NM	7.87	NM	8.1	NM	8.0	NM	7.9	NM	8.0	NM
	AST INFLUENT pH	OL	OL	6.73	6.83	6.49	6.80	6.41	6.8	6.77	6.87	6.36	6.9	6.4	6.91	6.39	6.98	6.4	6.91	6.4	6.92	6.4	6.95	6.4	6.96
REDUX CHEMICAL INJECTION																									
	LMI PUMP SPEED (%)	OL	OL	OL	OL	OL	62	40	41	43	42	42	OL	40	43	37	37	38	40	38	34	38	32	36	24.00
	LMI INJECTION RATE (milis/min)	OL	OL	OL	OL	OL	15.8	13.6	13.7	12.2	12.5	12	OL	12.6	12.7	11.3	11.2	11.5	10.8	10.8	9.5	10.4	10.2	9.9	9.90
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	223	251	237	OL	239	226	232	226	227	234	230	228	220	215	211	206	205	102	191	183	176	174
CW-9; Full Load = 5.5	AMPS	NM	NM	NM	NM	NM	NM	NM	2.48	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	3.37	NM	NM	NM	3.32
CW-9	FLOW RATE gpm	OL	OL	27.6	27	27.3	27.6	28.1	27.4	32.4	37.9	38.3	38.3	36.4	36.2	36.6	35.8	36.7	35.2	35.5	34.3	35.5	35.0	35.2	35.3
CW-9	PRESSURE psi	OL	OL	2	8	7	8	8	7	6	5	6	5	7	7	4	4	4	6	6	6	6	6	4	4
CW-9	CLEAN "Y" STRAINER	OL	OL	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	NM	N	N	N	N	N	N
CW-9	HIGH LEVEL ALARM?	OL	OL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-13; Full Load = 11.5	AMPS	NM	NM	NM	NM	NM	NM	NM	10.14	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	10.70	NM	NM	NM	10.03
CW-13	FLOW RATE gpm	OL	OL	77.7	77.5	762.0	76.8	77.0	77.0	75.1	74.9	75.0	74.6	74.5	74.8	72.4	72.1	72.9	72.3	72.6	72.6	72.8	72.9	71.9	71.9
CW-13	PRESSURE psi	OL	OL	41	40	42	43	43	42	43	44	45	44	44	44	47	47	48	48	58	45	58	48	47	47
CW-13	CLEAN "Y" STRAINER	OL	OL	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CW-13	HIGH LEVEL ALARM?	OL	OL	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CW-17; Full Load = 11.5	AMPS	NM	NM	NM	NM	NM	NM	NM	11.47	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	9.65	NM	NM	NM	9.57
CW-17	FLOW RATE gpm	OL	OL	32	62.2	52	78.1	54.8	54.4	49.9	56.3	56	67.9	72.2	74.6	67.8	67.5	67.4	67.1	64.5	46.7	54.9	49.1	45.0	42.3
CW-17	PRESSURE psi	OL	OL	40	92	110	50	106	105	110	103	105	80	60	55	70	70	50	44	48	67	65	60	68	68
CW-17	CLEAN "Y" STRAINER	OL	OL	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CW-17	HIGH LEVEL ALARM?	OL	OL	N	N	N	Y	Y	N	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N
CW-15A; Full Load = 1.6	AMPS	NM	NM	NM	NM	NM	NM	NM	1.28	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1.43	NM	NM	NM	1.38
CW-15A	FLOW RATE gpm	OL	OL	2.5	2.1	2.2	2.9	2.6	2.2	2.1	2.2	2.2	2.2	2.4	2.3	2.2	2.1	2.1	2.1	2.4	2.1	2.3	2.1	1.6	2.0
CW-15A	PRESSURE psi	OL	OL	79	79	79	88	66	64	66	62	50	62	52	63	78	78	56	52	40	46	26	16	8	84
CW-15A	CLEAN "Y" STRAINER	OL	OL	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CW-15A	HIGH LEVEL ALARM?	OL	OL	Y	N	Y	N	N	N	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	Y	N
CW-20 Full Load = 17.3	AMPS	NM	NM	NM	NM	NM	NM	NM	12.77	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	12.4	NM	NM	NM	11.79
CW-20	FLOW RATE gpm	OL	OL	84.8	81.8	79.3	79.3	75.8	68.3	67.8	55.7	56.1	50.5	43.3	42.7	40.7	40.9	33.1	31.3	30.5	27.5	25.7	23.7	23.3	21.5
CW-20	PRESSURE psi	OL	OL	22	22	27	26	34	40	42	54	55	60	66	51	40	40	75	78	77	75	75	75	75	80
CW-20	CLEAN "Y" STRAINER	OL	OL	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CW-20	HIGH LEVEL ALARM?	OL	OL	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
AST influent pressure	inches of water	OL	OL	11.0	9.9	9.6	9.5	9.2	10.2	10.2	9.1	9.2	8.8	8.8	8.5	8.4	8.4	8.0	8.2	9.6	7.8	7.1	8.1	10.2	9.4
GAC influent pressure	inches of water	OL	OL	8.6	8.9	8.9	9.0	8.5	8.8	8.8	7.9	8.3	7.9	8.2	8.2	7.9	7.9	7.7	7.8	8.3	8.8	8.6	7.8	8.4	8.1
AST pitot pressure	inches of water	OL	OL	0.29	0.3	0.28	0.31	0.3	0.28	0.28	0.27	0.28	0.27	0.25	0.27	0.25	0.25	0.25	0.28	0.28	0.27	0.25	0.26	0.28	0.27

Notes:

Y - Yes NA - Not Applicable OL - Off Line

N - No NM - Not Measured

2015 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		1/1/2015	1/31/2015	2/11/2015	2/27/2015	3/5/2015	3/19/2015	4/6/2015	4/29/2015	5/4/2015	5/27/2015	6/3/2015	6/16/2015	7/7/2015	7/23/2015	8/5/2015	8/19/2015	9/11/2015	9/25/2015	10/8/2015	10/23/2015	11/5/2015	11/19/2015	12/11/2015	12/23/2015
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	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
	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	OL

Notes:

Y - Yes NA - Not Applicable OL - Off Line

N - No NM - Not Measured