GROUNDWATER EXTRACTION AND TREATMENT SYSTEM ANNUAL OPERATIONS REPORT FOR THE PERIOD JANUARY 1, 2011, THROUGH DECEMBER 31, 2011 FORMER YORK NAVAL ORDNANCE PLANT

SAIC Project 4501020172 / 5000 / 100

Prepared for:

Harley-Davidson Motor Company Operations, Inc.

York, PA

March 2012

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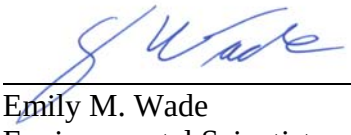
Respectfully submitted,



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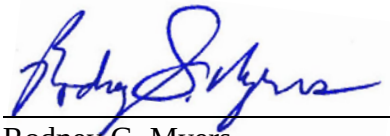

Rodney G. Myers
Project Manager

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cfm	-	cubic feet per minute
cis-1,2-DCE	-	cis-1,2-dichloroethene
DCE	-	1,1-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
GWTS	-	groundwater extraction and treatment system
Harley-Davidson	-	Harley-Davidson Motor Company Operations, Inc.
lbs/day	-	pounds per day
NB4	-	North Building 4
NPBA	-	Northeast Property Boundary Area
NPDES	-	National Pollutant Discharge Elimination System
PADEP	-	Pennsylvania Department of Environmental Protection
PCE	-	tetrachloroethene
ppm	-	parts per million
PTA	-	packed tower aerator
PVC	-	polyvinyl chloride
SAIC	-	SAIC Energy, Environment & Infrastructure, LLC
SRBC	-	Susquehanna River Basin Commission
SVE	-	soil vapor extraction
TCA	-	1,1,1-trichloroethane
TCE	-	trichloroethene
TFO	-	thermal fume oxidizer
µg/L	-	micrograms per liter
VOCs	-	volatile organic compounds
WPL	-	West Parking Lot

EXECUTIVE SUMMARY

This report is a summary of the groundwater extraction and treatment system (GWTS) operations during the calendar year 2011 for the former York Naval Ordnance Plant (fYNOP). The GWTS is located at the Harley-Davidson Motor Company Operations, Inc. (Harley-Davidson) facility in York, Pennsylvania, and has been in operation since November 1990. The system operated with only a few interruptions during the report period of January 1, 2011, through December 31, 2011. The GWTS is designed to accomplish the following:

1. Prevent off-site groundwater and contaminant migration in the Northeast Property Boundary Area (NPBA).

2. Remove volatile organic compound (VOC)-impacted groundwater in the 1,1,1-trichloroethane (TCA) Tank Area near Building 2.

3. Prevent off-site migration of contaminants in groundwater in the West Parking Lot (WPL) Area.

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

The extraction system consists of fifteen (15) active extraction wells: nine (9) in the NPBA, one (1) in the TCA Tank Area, four (4) in the WPL/NB4 Area, and the Softail Dewatering Area's interceptor trench system including one (1) well CW-19.

Several significant maintenance-related modifications or repairs were conducted during the 2011 report period. These included:

- Abandoning soil vapor extraction (SVE) wells and decommissioning the SVE system at the north end of Building 4 (shutdown of this system was completed in late 2010).

- Rerouting of extraction well CW-15A utilities as part of the restructuring and demolition of the west campus.

- Rerouting of extraction well CW-8 conveyance piping, electric, and communications as part of the restructuring and demolition of the west campus.

- Installing a hillside interceptor drain system along the northeast corner of Building 3 and connection to the existing toe drain and Lift Station in May 2011.

- Installing actuated valves on the WPL wells to adjust flows remotely.

- Cleaning and repairing of the effluent discharge pumps.

- Replacing granular-activated carbon (GAC) in the off-gas treatment system.

SAIC Energy, Environment & Infrastructure, LLC (SAIC) estimates that approximately 1,196 pounds of VOCs were removed by the groundwater treatment system during the time period of January through December 2011. The total amount of groundwater extracted during this 12-month reporting period was approximately 154 million gallons. Since initiation of the program, approximately 39,640 pounds of VOCs have been removed.

Groundwater elevation data collected in June and December 2011 indicate that operation of groundwater extraction wells at the NPBA, TCA Tank, and WPL areas resulted in areas of groundwater table depression that capture or minimize off-site migration of VOC-impacted groundwater.

The combined influent total VOC concentrations in captured groundwater averaged 934 micrograms per liter (µg/L) during 2011. Trichloroethene (TCE), TCA, cis-1,2-dichloroethene (cis-1,2-DCE), and tetrachloroethene (PCE) are the predominant VOCs in the influent groundwater entering the packed tower aerator (PTA). The PTA effluent was sampled and reported four times in 2011. The treatment system effluent has maintained non-detectable concentrations of target VOCs during this reporting period.

During 2011, the extraction wells, off-site monitoring locations, and key monitoring wells were sampled for priority pollutant VOCs, metals, and cyanide. The June sampling results were reported in the 2011 Key Well Sampling Report (SAIC, 2011). Site-wide water levels measured in June and December 2011 showed little variation in the configuration of the site groundwater table. Water levels measured in December were generally one to three feet higher compared to June. There was significantly more rainfall in the fall compared to the average rainfall for that time period.

Historically, VOC concentrations in the site-wide extraction wells have shown a generally decreasing trend. Concentrations in the NPBA extraction wells continued to support this trend during 2011. The VOC concentrations in the TCA Tank Area extraction well (CW-8) have exhibited a decreasing concentration trend since June 1996, with negligible TCA concentrations, but total VOC concentrations have stabilized in the 400 to 900 µg/L range since 2001. VOC concentrations have generally decreased at the WPL extraction wells since May 1994. During this time, most of the WPL monitoring wells have exhibited a relatively flat or gradual decreasing concentration trend for the most prevalent VOC in this area (TCE). In 2011, similar trends are evident for all collection and monitoring wells in the WPL.

1.0 INTRODUCTION

This report presents a summary of the operating record for the former York Naval Ordnance Plant (fYNOP) groundwater extraction and treatment system (GWTS) and extraction well quality data and groundwater level data monitored at the site. The fYNOP facility is located at the Harley-Davidson Motor Company Operations, Inc. (Harley-Davidson) York facility in Springettsbury Township, York, Pennsylvania, as shown on Figure 1-1. This report covers a 12-month period from January 1 through December 31, 2011. Groundwater quality data for monitoring wells were collected during the 2011 Key Well annual sampling event. An analysis of these data is presented under a separate report entitled 2011 Key Well Sampling Report (SAIC Energy, Environment & Infrastructure, LLC [SAIC], December 2011). A more complete analysis of the larger data set was conducted as part of the groundwater remedial investigation report (Groundwater Sciences Corporation, Supplemental Remedial Investigation Groundwater Report [Part 1], September 2011).

At the fYNOP, groundwater is extracted from fourteen (14) wells (CW-1, CW-1A, CW-2 through CW-7, CW-7A, CW-8, CW-9, CW-13, CW-15A, and CW-17) operating in three (3) separate areas designated as the Northeast Property Boundary Area (NPBA), the West Parking Lot (WPL) Area (including the North Building 4 [NB4] Area), and the 1,1,1-trichloroethane (TCA) Tank Area. Groundwater is also extracted from a subsurface gravity drainage system located along the upgradient (eastern) perimeter of Harley-Davidson's production facility (Building 3). This collection system, formerly known as the Softail Dewatering System and now known as the Building 3 Dewatering System, was implemented in 2002 and consists of approximately 800 feet of deep interceptor trench and approximately 600 feet of shallow interceptor trench (toe drain). The locations of these collection systems are shown on Figure 1-2. A new toe drain was installed in late 2010 as part of the new construction activities.

All extracted groundwater is piped to a central treatment system located in the groundwater treatment building (Building 41A) for processing through a packed tower aerator (PTA) system prior to discharge to the Codorus Creek, designated as Outfall No. 003 (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 was installed to reduce mineral fouling of the GWTS PTA and effluent discharge pumps and components in June 2010 and has continued to operate throughout 2011. PTA off-gases are treated by a granular-activated carbon (GAC) filter system for removal of volatile organic compounds (VOCs) before being discharged to the atmosphere.

In November 1990, ten (10) extraction wells in the NPBA and TCA Tank Areas were brought on-line while ongoing studies were performed in the WPL. The WPL Area groundwater extraction system was brought on-line in May 1994. In conjunction with the WPL system start-up, PTA off-gases were redirected from the GAC filter to the Thermal Fume Oxidizer (TFO). Finally, the "Softail" Building 3 dewatering system was brought on-line in January 2004.

On December 2, 1993, the National Pollutant Discharge Elimination System (NPDES) permit No. PA0085677 was issued for the system. The most current permit renewal was issued by the

Pennsylvania Department of Environmental Protection (PADEP) on November 22, 2010. The prior permit contained interim and final discharge limits based on relocating the treated groundwater discharge from Johnson Run, a tributary of Codorus Creek, to the Codorus Creek. Since June 2007, treated groundwater has been collected in a wet well located immediately northwest of Building 41A (refer to Figure 1-2). From the wet well, groundwater is pumped through a force main to Outfall 003 located along the Codorus Creek.

The data presented in this annual report were collected by SAIC under contract to Harley-Davidson and are summarized in the following chapter format:

- Chapter 2.0, Geology and Hydrogeology, summarizes the hydrogeologic conditions of the site.

- Chapter 3.0, Site-Wide Groundwater Monitoring, summarizes groundwater levels and quality.

- Chapter 4.0, Groundwater Extraction and Treatment System, describes the design capacity of the system and presents the record of influent and effluent water quality. The VOC loading to the PTA and GAC unit also is presented.

- Chapter 5.0, NPBA Groundwater Extraction System, summarizes water levels and VOC concentrations for each extraction well in the NPBA. System performance is evaluated based upon observed trends in the data.

- Chapter 6.0, TCA Tank Area Groundwater Extraction System, describes operation and performance of extraction well CW-8 located in this area. Water levels and VOC concentration data are used to evaluate system performance.

- Chapter 7.0, West Parking Lot Groundwater Extraction System, describes the operation of extraction wells in this area. System performance, water level data, and VOC trends are presented.

- Chapter 8.0, Building 3 Dewatering System, describes the operation of the groundwater collection system in this area.

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 a document prepared by Groundwater Sciences Corporation in September 2011 entitled, "Supplemental Remedial Investigation Groundwater Report (Part 1)."

3.0 SITE-WIDE GROUNDWATER MONITORING

The groundwater monitoring program at the Harley-Davidson site for this year consisted of:

- Measuring depth to water in all available monitoring and observation wells twice during the year (Table A-1 found in Appendix A).

- Sampling and chemical analysis of water from the collection wells twice during the year (Table A-2 found in Appendix A).

3.1 Groundwater Flow Direction

The depth to water was measured in site-wide groundwater wells two times during the reporting period (June 17, 2011, and December 22, 2011). These measurements were taken from approximately 170 points (including 2 surface water locations in Codorus Creek in June and 1 surface water location in December 2011) during both the June and December groundwater level monitoring events. The depths to water at each monitoring point for these events were converted to groundwater surface elevations and are presented in Table A-1 (found in Appendix A). Figures 3-1 and 3-2 identify the location of each well that was measured, including the classification as a groundwater extraction well (see the green symbol of a circle with a cross and two quadrants filled in), a key groundwater monitoring well (see the red symbol of a circle with a dot inside), or a groundwater monitoring well (see the symbol of a circle with a cross and all quadrants empty).

Several water levels could not be collected due to restructuring activities in December 2011. Extraction well CW-16 and monitoring wells MW-54 and MW-55 were within an active demolition area with demolition debris covering the wellheads. Monitoring wells MW-28 and MW-94 were covered with soil and stone, respectively. Monitoring well MW-56 could not be located due to excavation work. MW-117 was damaged during the demolition of Building 41.

Figures 3-1 and 3-2 present the interpreted shallow groundwater table from water levels measured on June 17 and December 22, 2011, respectively. 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.

A significantly large area centered on the production facility (Building 3) does not have monitoring wells. Groundwater contours in this area were adjusted to account for known surface seeps and the elevations of groundwater depression trenches actively collecting groundwater at the time of the survey. The trench locations and elevations are also shown on Figures 3-1 and 3-2.

The June and December 2011 groundwater table contours are generally similar. In normal precipitation years, June water levels would be declining after winter recharge ceased in May. December water levels generally increase due to groundwater recharge, which starts when trees

drop their leaves in October/November. Amount and timing of precipitation events result in the variations that are noted from year to year. A brief summary of seasonal water level fluctuations is presented below by bedrock aquifer type (also refer to Table 3-1, Table 3-2, and Figure 3-3):

- The water levels in the eastern portion of the site that is underlain by sandstone were approximately one to two feet higher in December 2011 compared to June 2011. This determination was made using data for wells in areas that are not affected by the NPBA extraction wells. The fall months received above average rainfall. Calendar year 2011 was significantly wetter than a normal year (refer to Table 3-1, Table 3-2 and Figure 3-3).

- Water levels in the limestone aquifer were generally one to two feet higher in December 2011 compared to June 2011. The months of August and September were both significantly wetter; whereas October, November, and December were slightly wetter than normal in 2011 compared to an average year (refer to Table 3-1).

4.0 GROUNDWATER EXTRACTION AND TREATMENT SYSTEM

The GWTS serves to remediate groundwater containing dissolved VOCs that is recovered from five main areas of the site: NPBA, TCA Tank, NB4, WPL, and the Softail dewatering system.

4.1 System Description

Extraction wells within the NPBA, TCA Tank Area, NB4, and the WPL groundwater extraction areas remove groundwater by means of electric submersible pumps. A lift station pump removes water from a series of collection trenches in the vicinity of the production plant, Building 3. The pumping water level within each extraction 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 groundwater treatment system is housed in a 30-foot by 40-foot building (Building 41A). The process flow diagram for the system is presented in Figure 1-3. The treatment system consists of a 2,600-gallon equalization tank; a 5-foot-diameter by 47-foot-high PTA capable of treating 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 at a maximum flow rate of 400 gpm 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). Groundwater is then distributed evenly over the top of the polypropylene packing and flows down through the packed section of the PTA, while a 4,000 cubic foot per minute (cfm) centrifugal blower draws air up through the PTA column. The VOCs are effectively "stripped" from the water and then adsorbed to the GAC in the air-phase. The treated groundwater flows to a groundwater pump station located on the north side of Building 41A where it is pumped to a storm water outlet (Outfall No. 3) and discharged to Codorus Creek.

The groundwater treatment system is equipped with a PC-based RSView monitoring system. Remote computer terminals are located in both Harley-Davidson and SAIC offices where extraction well pumping rates and treatment processes can be monitored. System and extraction well pumping rates are adjusted at the site. System data, recorded in an Access® data base (via the RSView monitoring system) during 2011, are included in Appendix B.

4.2 System Maintenance and Modifications

Twice a month, system inspections are performed on the groundwater treatment system at the Harley-Davidson facility. The purpose of these inspections is to ensure effective operation of the system. A summary of operation and maintenance 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.

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

- New electric power source, communication system, water line and meter, natural gas line and meter, natural gas building heater, hot water heater, natural gas building heater, and emergency eye wash and shower were installed to power the GWTS. Plus a new modular office was installed on the east side of Building 41A.

- The conveyance piping, electric, and communications for extraction well CW-8 were rerouted from the wellhead to Building 41A. The conveyance piping formerly ran overhead in Building 2, through Building 10 and Building 41 Industrial Waste Treatment Plant. The buildings were demolished as part of the restructuring and demolition project. The piping was rerouted underground from the wellhead along the west side of former Building 4 and into Building 41A (GWTS) (see Figure 1-2).

- Electrical power to extraction well CW-15A was rerouted from former Building 4 before the building was demolished. The power currently comes from Building 41A to the wellhead.

- The Operations and Maintenance Manual updates are pending to reflect the modifications to the GWTS.

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

- SAIC decommissioned the soil vapor extraction (SVE) system in December 2010. A notification letter of completed decommissioning was sent to the PADEP and the United States Environmental Protection Agency (EPA) on January 12, 2011. The SVE wells were closed and demolished, and the SVE blower system was removed from the north end of Building 4 in early 2011.

- SAIC performed break-through monitoring of the GAC to determine when to complete the GAC change-out. Spent GAC was removed and replaced in March, June, and November 2011.

4.3 Groundwater Withdrawal and VOC Removal

Table 4-1 presents recorded groundwater withdrawal and total VOC removal that have been accomplished through operation of the GWTS. A system-wide total of approximately 39,640 pounds of VOCs have been removed since the groundwater treatment system began

operation in November 1990. On average, prior to start-up of the WPL system in May 1994, approximately 131 gpm of groundwater and 1.2 pounds per day (lbs/day) of total VOCs were being extracted by the system. Since the WPL system became operational, the average groundwater pumping rate from 1995 through December 2011 was approximately 277 gpm with 5.56 lbs/day of total VOCs being removed.

The total amount of groundwater extracted during the period from January 1 through December 31, 2011, was approximately 154 million gallons (an average of 422,927 gallons per day [gpd]; 294 gpm). The 2011 extraction data are approximately 3.0 percent lower than the previous year (2010) when the average values were approximately 435,734 gpd and 303 gpm. This decrease is attributable to the shutdown of the GWTS during restructuring modifications and due to CW-8 being off-line part of the time during the conveyance line relocation. The GWTS was shut down for a total of approximately 12 days in 2011 due to restructuring related activities. PADEP was notified of this activity.

Quarterly PTA influent analyses (shown in Table A-3, Appendix A), along with the measured extraction volumes, are used to calculate the mass of VOCs removed from site groundwater during the reporting period (see Figure 4-1). Using these data, the total estimated mass of VOCs removed from January through December 2011 was 1,196 pounds (99.6 pounds per month). This mass removal rate is approximately 14 percent lower than the value calculated during 2010 (116 pounds per month). This decrease in mass removal rate can be attributed to a lower volume of groundwater removed in 2011 (154,368,351 gallons) compared to 2010 (159,042,802 gallons). Also, a lower overall average influent concentration was determined for 2011 (934 micrograms per liter [μg/L]) compared to 2010 (1,046 μg/L). Estimated lbs/day of total VOCs extracted by the groundwater treatment system for the last five calendar years are shown below:

- 2011 – 3.3 lbs/day
- 2010 – 3.8 lbs/day
- 2009 – 4.3 lbs/day
- 2008 – 4.3 lbs/day
- 2007 – 4.8 lbs/day

From the time that groundwater remediation began in November 1990 until start-up of the WPL extraction system in May 1994, the PTA influent concentrations averaged approximately 750 μg/L of total VOCs. Following start-up of the WPL system, the average total VOC concentration spiked to greater than 10,000 μg/L and then asymptotically decreased to a base level. The average total VOC concentration detected in the PTA influent samples during the 2011 report period was approximately 934 μg/L. The trend in PTA influent total VOC chemistry is illustrated on Figure 4-1. Figure 4-2 shows PTA influent chemistry trends since the start of pumping for tetrachloroethene (PCE), TCA, trichloroethene (TCE), and 1,1-dichloroethene (1,1-DCE).

The PTA effluent was sampled and reported on four times in 2011. Analytical testing results for 2011 are presented in Table A-3 (Appendix A). The treatment system effluent has maintained non-detectable concentrations of target VOCs during this reporting period.

On a quarterly basis, Harley-Davidson submits data to the Susquehanna River Basin Commission (SRBC) regarding groundwater withdrawal associated with the groundwater treatment system in accordance with dockets 19900715 and 19980901. 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. The most recent submittal to the SRBC occurred in January 2012.

5.0 NPBA GROUNDWATER EXTRACTION SYSTEM

Groundwater extraction at the NPBA commenced in November 1990. Nine groundwater extraction wells (CW-1, CW-1A, CW-2, CW-3, CW-4, CW-5, CW-6, CW-7, and CW-7A) pump to the NPBA control building where individual pumping rates are controlled and measured. The groundwater from each well is combined to a common 3-inch-diameter pipe, which transmits the water a distance of approximately 2,300 feet to the groundwater treatment system.

5.1 System Operational Conditions

The majority of the NPBA extraction wells operated continuously during the report period. On occasion, periods of interrupted pumping occurred and were related to various repairs and maintenance of the system.

Table 5-1 presents a record of monthly groundwater withdrawals for each extraction well for this reporting period. During 2011, the NPBA extraction system removed approximately 8.7 million gallons of groundwater at an average rate of approximately 723,754 gallons per month, or 16.4 gpm. This volume is slightly higher than the withdrawal from the NPBA reported for 2010 (13.8 gpm). Figure 5-1 presents a graphical comparison of the 2011 monthly total volumes of groundwater pumped from the NPBA with respect to the other on-site systems. Overall, the NPBA pumped approximately 5.0 percent of the total volume of groundwater withdrawn at the site.

Measured groundwater levels for 2011 are presented in Table A-1. The groundwater contour maps (Figures 3-1 and 3-2) show the effect that the groundwater extraction system imposed on the water table at the NPBA on June 17 and December 22, 2011. Additionally, Table 5-2 summarizes measurements of water levels for extraction wells in the NPBA during 2011. This table also includes design “pump on” and “pump off” water level elevations. The NPBA wells require frequent flow adjustments to maintain a balanced number of pump cycles, which is controlled by the pumping rate of each well. When a flow rate is too low for current conditions, it results in water levels above the “pump on” elevation and a high level alarm.

In 2011, groundwater levels were measured in the groundwater extraction wells on a monthly basis to help determine if proper groundwater drawdown was being maintained. During 2011, up to three wells were noted each month to be above the designed drawdown range.

The groundwater contours on Figures 3-1 and 3-2 indicate that areas of groundwater depression are present along the northeast property boundary. Note that at the time of the June 17, 2011, water level measurement event, one of the NPBA collection wells (CW-1A) was pumping very little (or not pumping) groundwater due to low groundwater levels. In the December 22, 2011, water level measurement event, one of the NPBA collection wells (CW-1A) was pumping very little groundwater due to low groundwater levels.

Maintenance

SAIC replaced several groundwater extraction well pumps and acid-cleaned the underground conveyance piping during the report period. Check valves, Y-strainers, chlorination of CW-3 and CW-6, and other components of the groundwater extraction system are maintained on a twice-per-month schedule. The current maintenance program has been sufficient to keep the system operational. A brief summary of several maintenance issues addressed in 2011 is presented below:

- A new pump end was installed at CW-1 in September 2011.
- A new pump end was installed at CW-2 in February 2011.
- A new pump end was installed at CW-4 in June 2011.
- A new pump end was installed at CW-5 in April 2011, and a new motor starter was installed in November 2011.
- A new motor starter was installed at CW-6 in August 2011.
- The underground groundwater conveyance lines were acid cleaned in June 2011.

5.2 Groundwater Chemistry

In the extraction wells, the dominant VOC is TCE with concentrations ranging from 1.7 µg/L (CW-5, December 14, 2011) to 110 µg/L (CW-7A, June 22 and December 14, 2011). Historical trends of TCE in the NPBA are shown on Figure 5-2. A comparison of individual extraction well VOC concentrations verses the total VOC concentrations is shown on Table 5-3. Historical VOC trends for each collection well are shown on Figures 5-3 through 5-11. The groundwater quality analysis from the 2011 extraction well sampling data is presented in Table A-2 (Appendix A).

6.0 TCA TANK AREA GROUNDWATER EXTRACTION SYSTEM

Groundwater extraction was initiated in November 1990 from CW-8, located south of former Building 91, to prevent TCA migration and remove VOCs from the groundwater in this area. Groundwater extraction was initiated in February 1995 from CW-16 to contain and remediate groundwater beneath the former degreaser area located inside former Building 2, 150 feet east of CW-8. Groundwater from the TCA Tank Area is conveyed a distance of approximately 1,000 feet through a 3-inch-diameter pipe to the groundwater treatment system.

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

In June 2002, extraction well CW-16 was removed from service. The pump at this well had failed. Because of the difficulty of servicing CW-16 due to its location in a congested manufacturing area and the ability of CW-8 to influence this vicinity, it was decided to discontinue groundwater extraction from this well (CW-16).

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

6.1 System Operational Conditions

Except for the rerouted conveyance piping construction, extraction well CW-8 operated the majority of the time during the reporting period. CW-8 was shut down during part of the conveyance line relocation (July 11, 2011, through August 10, 2011). Table 5-1 presents a record of monthly groundwater withdrawals from extraction well CW-8. During 2011, approximately 42 million gallons of groundwater were extracted from the TCA Tank Area, averaging approximately 3.5 million gallons per month (80 gpm). An average of approximately 91 gpm was calculated for the previous report period in 2010.

The groundwater contour maps (Figures 3-1 and 3-2) indicate water level conditions that existed on June 17 and December 22, 2011. The water level at CW-8 was noted to be approximately four to six feet below the elevation measured in nearby wells during the June and December site-wide groundwater level measurement events. Additionally, Table 5-2 summarizes measurements of water levels for the CW-8 extraction well in the TCA Tank Area. The table also lists design “pump on” and “pump off” water level elevations.

During April, May, and September 2011, the observed water level in CW-8 was above the design drawdown level for this well. The observed water level at CW-8 was generally within the designed range for the remainder of 2011.

Based on the monthly total flow data, the CW-8 daily extraction rate averaged approximately 115,000 gpd. This value equates to a monthly average of 3.5 million gallons, which represents a 12.3 percent decrease from 2010 (4 million gallons per month). This well usually operated at its maximum capacity; therefore, an increase in groundwater recharge does not necessarily explain the annual decrease in groundwater extraction. Extraction well CW-8 did not operate for 46 days in 2011, compared to 43 days in 2010. The flow in CW-8 was decreased in the fall of 2011 to allow the GWTS to operate at capacity. The WPL extraction wells were pumping at near capacity to maintain drawdown in the WPL due to above average rainfall. Overall, CW-8 pumped approximately 27 percent of the total volume of groundwater withdrawn at the site in 2011.

Maintenance

There were no unscheduled maintenance actions for CW-8 during 2011. Extraction well CW-8 operated as designed throughout the report period with short interruptions for the conveyance piping, power, and communication rerouting work. Also, CW-8 operated at a reduced flow in the fall to allow the WPL extraction wells to pump at a higher rate to maintain drawdown in the WPL.

6.2 Groundwater Chemistry

As groundwater pump and treat progressed in the TCA Tank Area, the dominant VOC present in the area shifted from TCA to TCE. TCA concentrations in collection wells CW-8 and CW-16 are shown in Figure 6-1. A comparison of individual extraction well VOC verses the total VOC concentrations is shown on Table 5-3. TCE concentrations in collection wells CW-8 and CW-16 are shown in Figure 6-2. On June 27, 2011, the TCA, TCE, and cis-1,2-dichloroethene (cis-1,2-DCE) concentrations were 0 µg/L, 340 µg/L, and 130 µg/L, respectively. The predominant VOC concentrations in collection wells CW-8 and CW-16 are shown in Figure 6-3. The groundwater quality analysis from the 2011 extraction well sampling data is presented in Table A-2 (Appendix A).

7.0 WEST PARKING LOT GROUNDWATER EXTRACTION SYSTEM

Three groundwater extraction wells (CW-9, CW-13, and CW-17) operate in the WPL Area of the Harley-Davidson property. One additional extraction well (CW-15A) is located near the exterior northwest corner of NB4. These four wells are referred to as the WPL wells. The purpose of the WPL groundwater extraction system is to prevent off-site migration of groundwater containing dissolved VOCs and to control the migration of VOCs in a plume located near the northwest corner of former Building 4. 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-9 (1,320 feet), CW-13 (890 feet), CW-15A (310 feet), and CW-17 (590 feet).

Extraction wells CW-9, CW-13, CW-14, and CW-15A began operation in May 1994, and CW-17 began operating in September 1995. Well CW-17 was a replacement extraction well for CW-14, which was discontinued due to excessive sediment buildup in the well.

7.1 System Operational Conditions

Approximately 107 million gallons of groundwater were extracted from the WPL Area during 2011 (see Table 5-1), averaging approximately 8.9 million gallons per month (203 gpm). This groundwater extraction rate represents a 0.4 percent decrease from 2010 when the extraction rate was approximately 204 gpm. A graphical comparison of the WPL groundwater extraction volumes to the other site extraction systems is presented on Figure 5-1. Overall, the WPL wells pumped approximately 67 percent of the total volume of groundwater withdrawn at the site.

The groundwater contour maps (Figures 3-1 and 3-2) show the effect that the groundwater extraction system imposed on the water table at the WPL Area on June 17, 2011, and December 22, 2011. Groundwater contours indicate a general area of groundwater surface depression surrounding the WPL Area.

Table 5-2 summarizes measurements of water levels for the WPL extraction wells. The table also lists design “pump on” and “pump off” water level elevations. A review of Table 5-2 indicates that during 2011, the water levels in three of the four WPL wells, excluding CW-15A, were generally close to the designed range. Approximately, zero to two groundwater extraction wells were noted each month to be above the designed drawdown range. The water level at well CW-15A was below the designed range for three months of 2011.

The SVE system, located in the northwest corner of former Building 4, was decommissioned in December 2010, and the SVE wells were grouted to the surface in January 2011. In October 2011, remediation work began to excavate the former Building 4 North Vapor Degreaser pit—the apparent source of contamination associated with the former SVE system and associated with extraction well CW-15A. The contaminated soil removed around the degreaser pit and the liquid inside the degreaser pit were removed from the site as hazardous waste. An infiltration gallery was installed at the bottom of the excavation for use in the future if desired.

The excavation was backfilled with stone and soil. The top four inches of the excavation were concreted to grade.

Maintenance

The WPL wells operated as designed throughout the report period with short interruptions for maintenance and repairs. The current maintenance program has maintained reliable operation of extraction wells CW-9, CW-13, CW-15A, and CW-17. A brief summary of maintenance issues addressed in 2011 is presented below:

- In March 2011, actuated valves were installed on CW-9, CW-13, and CW-17.
- In April 2011, a new pump end and motor were installed at CW-13.

7.2 Groundwater Chemistry

Historical concentrations of VOCs in the WPL collection wells are shown on Figures 7-1 through 7-5. The dominant VOC is TCE with concentrations ranging from 110 µg/L (CW-17) to 2,900 µg/L (CW-15A). Extraction well CW-15A had the highest concentration of PCE (1,000 µg/L). A comparison of individual extraction well VOC verses the total VOC concentrations is shown on Table 5-3. The groundwater quality analysis from the 2011 extraction well sampling data is presented in Table A-2 (Appendix A).

8.0 BUILDING 3 DEWATERING SYSTEM

Harley-Davidson started excavation activities for the Softail production plant, now referred to as Building 3 production plant, in 2001. This facility was constructed in the eastern portion of the site, in the vicinity of the former test track. Due to the potential for shallow VOC-impacted groundwater to discharge to the surface and to the lowest floor of the facility, a permanent groundwater collection system was designed as part of the project. The permanent groundwater collection system for the Softail site consists of a shallow interceptor trench (or toe drain), a deep interceptor trench and drain, and a capture well (CW-19). All three components of the groundwater collection system are designed to flow to a pumping 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. During 2011, this system collected 1,061,990 gallons of groundwater (refer to Table 5-1). This groundwater recovery rate represents a 94 percent increase from 2010 when the annual recovery rate was 61,650 gallons. The Softail dewatering system or Building 3 production plant dewatering system only operated for 20 days in 2010 due to site-wide restructuring activities. A graphical comparison of the dewatering system groundwater extraction volumes to the other site extraction systems is presented on Figure 5-1. Overall, the dewatering system recovered approximately 0.67 percent of the total volume of groundwater withdrawn at the site.

8.1 Toe Drain System

The northeast corner of the Building 3 site was identified as the area with the most potential for groundwater to discharge to the surface after final grading. To prevent the potential for human contact with the groundwater, a toe drain was installed at the bottom of the slope cut. This was designed to collect groundwater from this area, thus lowering the groundwater levels and minimizing surface discharges downgradient of the toe drain. The toe drain was constructed as a shallow trench drain filled with gravel and four-inch perforated polyvinyl chloride (PVC) piping. The toe drain trench was lined with geotextile fabric to minimize sedimentation of the piping. An impermeable layer was placed on top of the trench to reduce infiltration of surface water into the drain. During site-wide restructuring activities, the hillside was cut to allow the northern expansion of the building. The toe drain was reinstalled along the new toe of the slope (approximately 110 feet to the north of the former toe drain) on October 26, 2010.

A hillside interceptor system was installed on the east hillside and connected to the south end of the toe drain in May 2011. The interceptor system was installed to direct water from a seep in the hillside to the slope drain and to stabilize the hillside. The interceptor system is shaped like a "T." The top of the tee is approximately 20 feet wide, and the long section of the tee is approximately 45 feet long. The piping is four-inch perforated PVC piping wrapped in geotextile fabric to minimize sedimentation of the piping. The area around the piping, as well as the piping itself, is covered with stone.

8.2 Deep Trench Drain

The deep trench drain was installed along the eastern perimeter of the building foundation due to the high probability of groundwater levels encountering the lower floor of the facility. The deep trench drain is sloped to gravity drain to the lift station. The depth varies from 25 feet to 29 feet. Four clean-outs were installed along the 760-foot length of piping. The deep trench drain was constructed of perforated PVC piping in a trench filled with coarse gravel. Prior to installation of the piping and drainage course, the trench was lined with a geotextile fabric to minimize sediment mixing with the gravel. During the Building 3 expansion work, one of the deep clean-outs was abandoned, one was maintained inside the expanded building, and the southernmost clean-out was extended beneath the southern building expansion. In addition, blockage found in two of the clean-outs was removed by contractors following the construction activities in 2011.

8.3 Capture Well (CW-19)

A capture well (CW-19) and force main were installed in the paint sludge pit area of the production plant, Building 3. The paint sludge pit area consists of a 27-foot-deep pit used to house the paint sludge holding tank. CW-19 was installed seven feet deeper than the pit so that the well could be programmed to begin pumping prior to the groundwater level reaching the elevation of the bottom of the pit. The force main was installed to transfer groundwater captured in the well to the lift station. The force main was installed with a slope toward the lift station so that groundwater does not remain in the line after the well pump stops running. Groundwater level has not been recorded in this well. The lowering of groundwater from the deep trench effectively keeps the groundwater below the depth of CW-19. CW-19 did not operate in 2011.

8.4 Lift Station

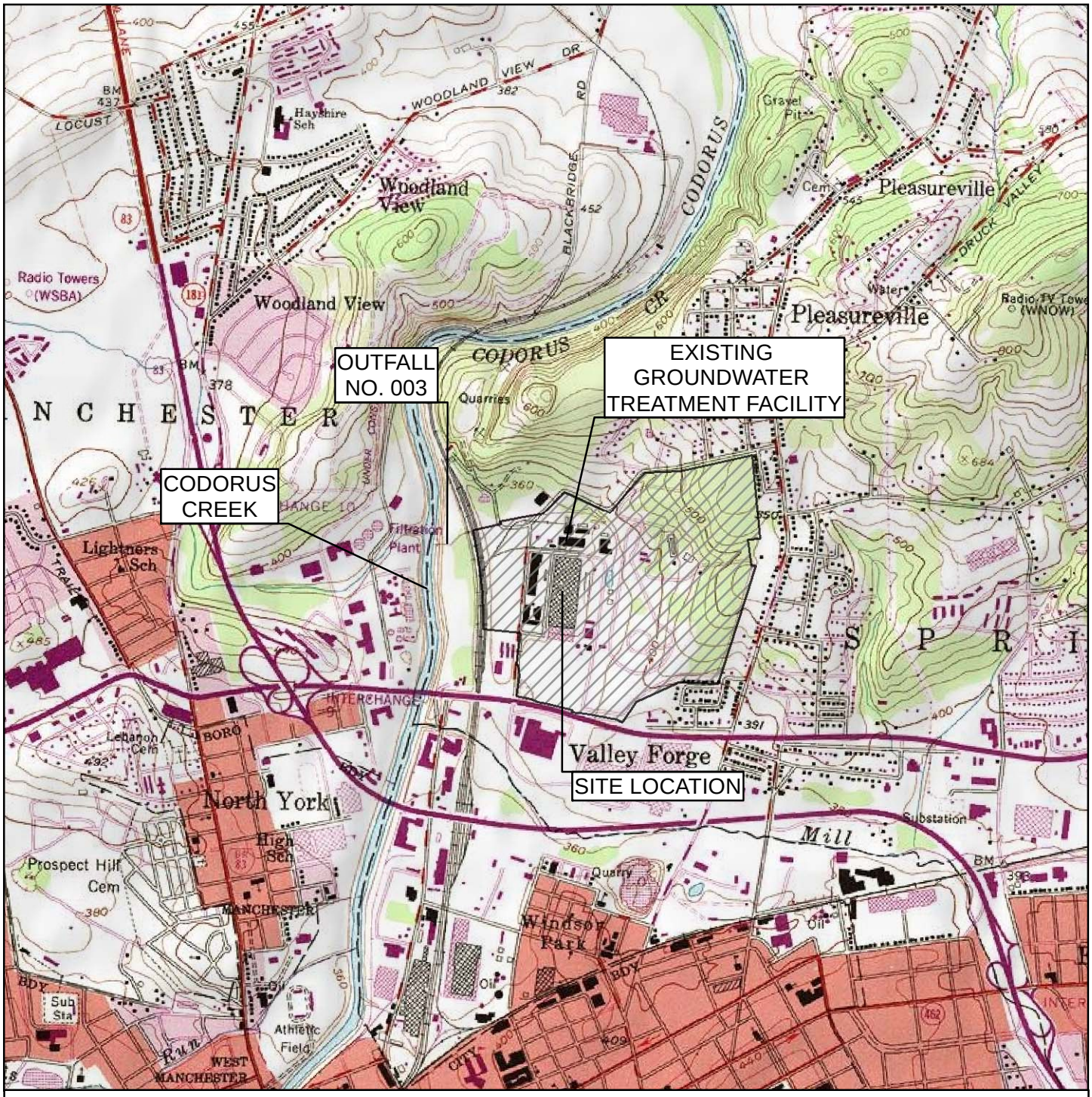
The lift station is located north of the Building 3. The lift station conveys groundwater to the groundwater treatment plant in Building 41A. The lift station controls are automated, and pump operation can be controlled remotely.

8.5 Groundwater Chemistry

Sampling of groundwater collected by the lift station was initially performed in June 2003 in response to a reporting requirement for the SRBC. Groundwater samples were collected from the lift station in June 2011. No water was entering the lift station during the collection well sampling event in December 2011.

A review of the June 2011 lift station sampling results indicated that only one VOC (TCE) was detected at 1.2 μg/L in the toe of the slope sample and 0.89 μg/L in the deep drain sample (the deep drain sample had a J data qualifier – data indicate the presence of a compound that meets the identification criteria, but the result is less than the quantification limit but greater than zero).

FIGURES



NOTE: Map based on USGS 7.5 minute series York quadrangle.

0 1,000 2,000 4,000 '

1 inch = 2,000 feet

N

W E

S

YORK

QUADRANGLE LOCATION

FORMER YORK NAVAL ORDNANCE PLANT

1425 EDEN ROAD, YORK, PA 17402

SITE LOCATION MAP

drawn JEB	checked EMW	approved RGM	figure no. 1-1
date 2/7/2012	date 2/7/2012	date 2/7/2012	
job no. 4501020172/5000/100		file no. Fig1site-loc.mxd	

initials	date	revision

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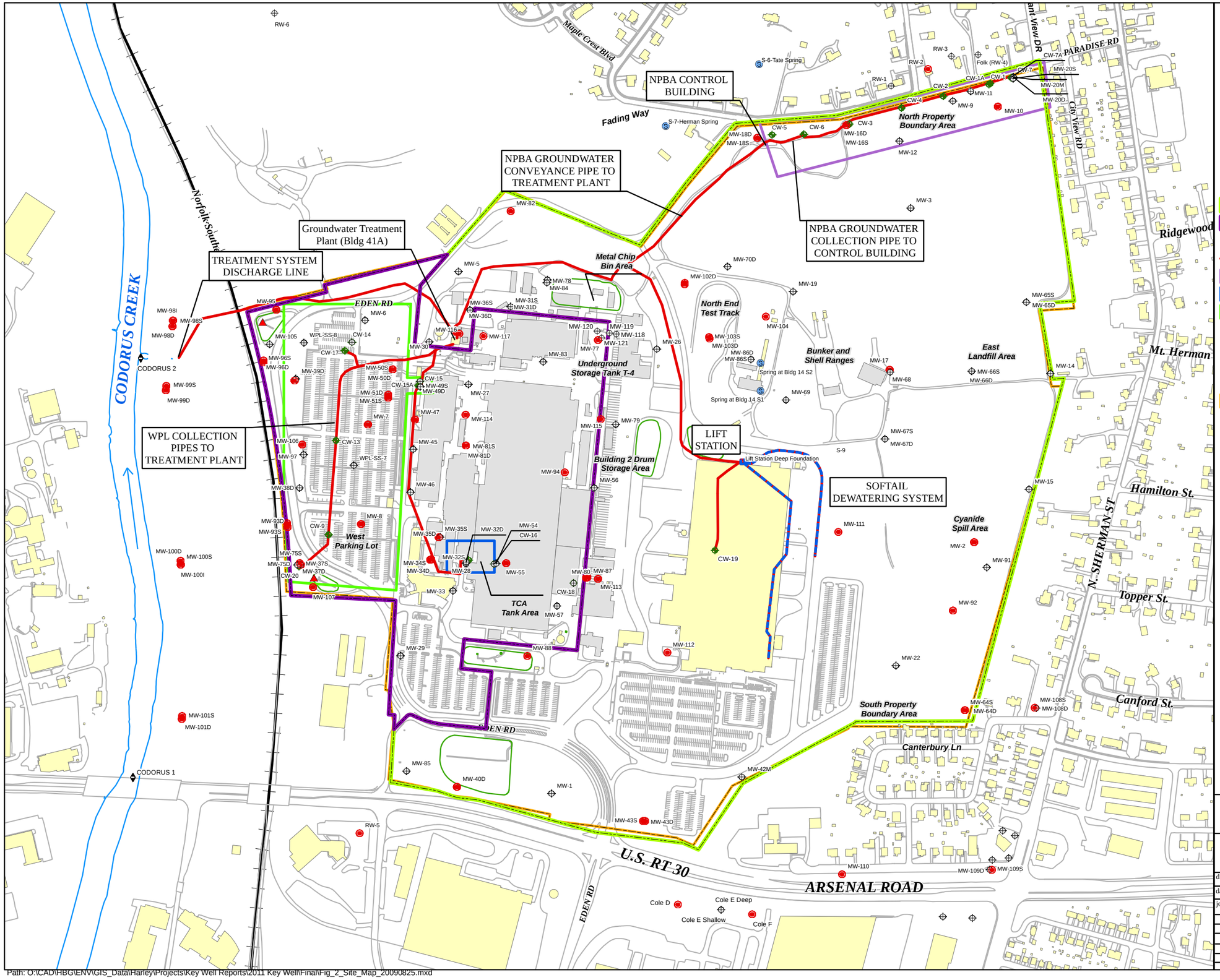

Legend

- Monitoring Well and Designation
- Key Well and Designation
- Extraction Well and Designation; Collection Well, Y
- Stream Gauge and Designation
- Monitoring Well and Designation
- Extraction Well and Designation
- Key Well and Designation
- Spring
- Vortechnic Outlet Structure
- East Campus Boundary
- West Campus Boundary
- Groundwater Interceptor Trenches
- Treatment System Features
- NPBA Area
- TCA Area
- WPL Area
- Codorus Creek
- Stormwater Basin
- Existing Building
- Removed Building
- Harley-Davidson Property Boundary
- Roads Curb Boundary
- Railroad

N

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

0 225 450 900
SCALE IN FEET

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

GROUNDWATER TREATMENT SYSTEM LOCATION

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date	2/13/2011	date	2/13/2011	date	2/13/2011
job no.	4501020172/5000/100			file no.	Fig_2_Site_Map_20090825

figure no. **1-2**

initials	date	revision

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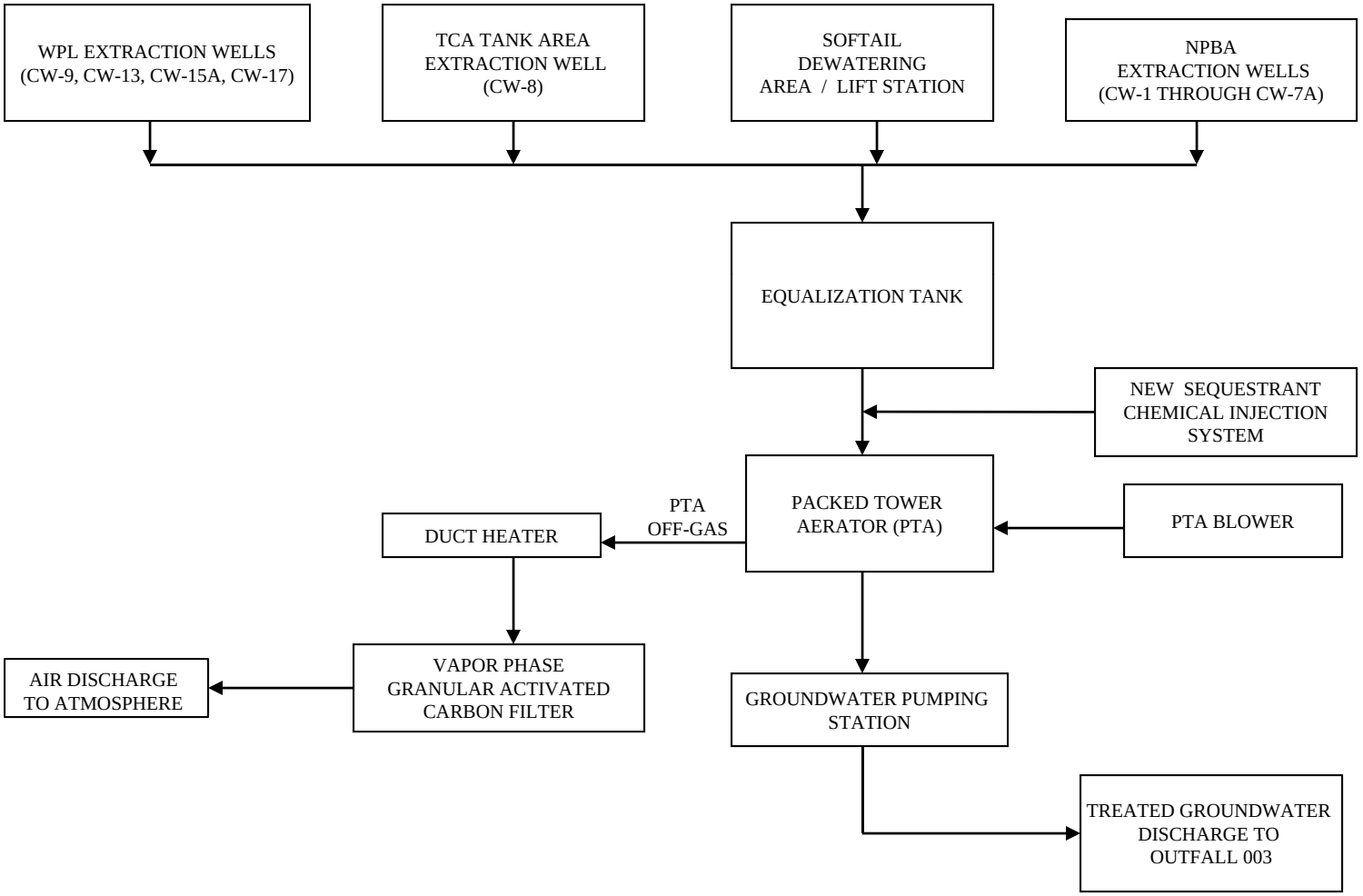
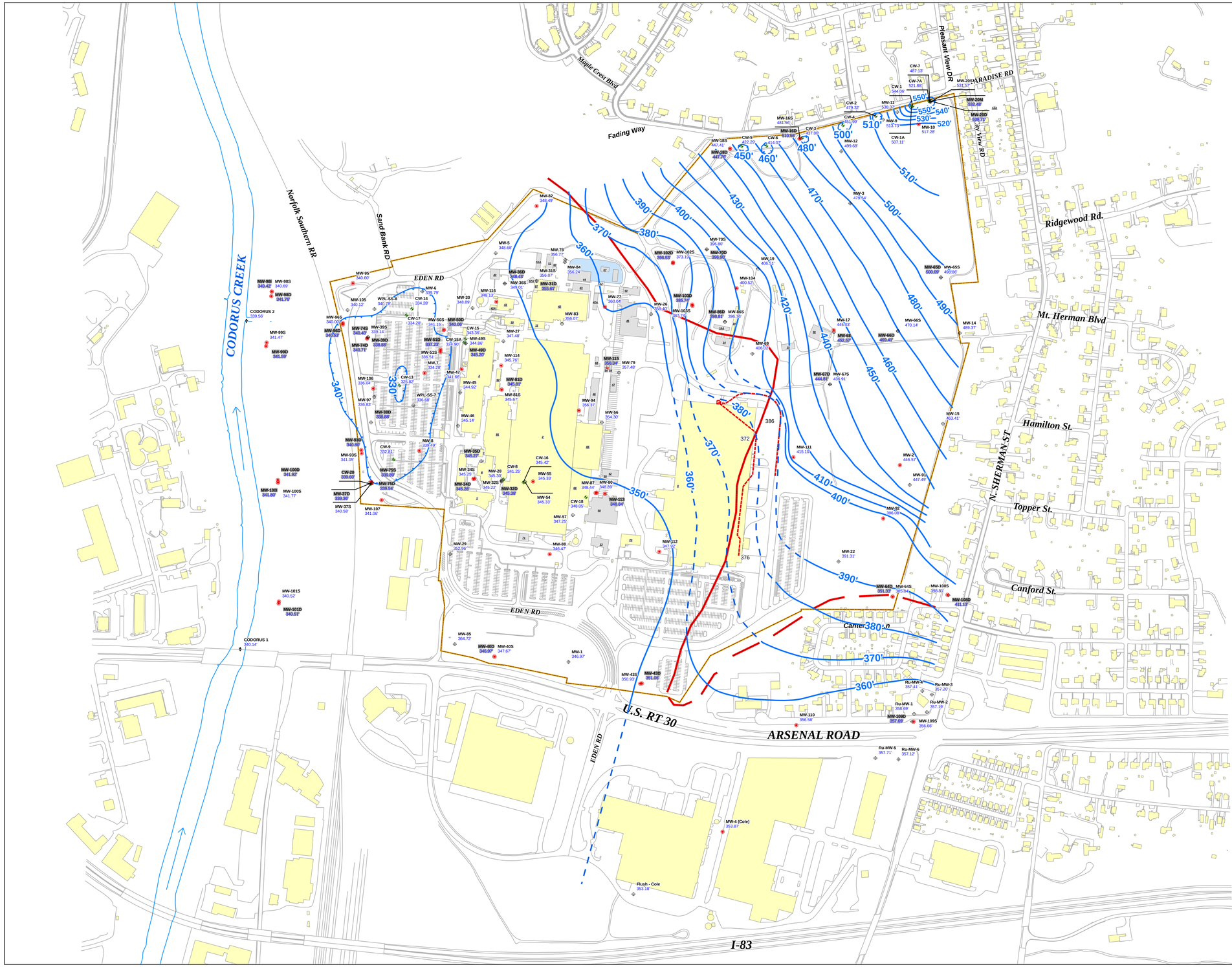
FIGURE 1-3
GROUNDWATER TREATMENT SYSTEM FLOW DIAGRAM
Former York Naval Ordnance Plant



January 10, 2012



Harley-Davidson Motor Co. Operations Inc.
Groundwater Withdrawal: June 17, 2011

Well ID	Daily Flow (Gallons)	Average Daily Pumping Rate (GPM)
CW-1	3,456	2.40
CW-1A	312	0.22
CW-2	644	0.45
CW-3	10,156	7.05
CW-4	3,121	2.17
CW-5	1,851	1.29
CW-6	4,580	3.18
CW-7	1,431	0.99
CW-7A	2,344	1.63
CW-8	143,800	99.86
CW-9	106,648	74.06
CW-13	99,632	69.19
CW-15A	1,233	0.86
CW-17	100,327	69.67
Liftstation	1,180	0.82

Legend

- Monitoring Well and Designation
- Key Well and Designation
- Extraction Well and Designation
- Stream Gauge and Designation
- Groundwater Contour (Feet)
- Inferred Groundwater Contour (Feet)
- Groundwater Contour Sink (Feet)
- Bedrock Contact
- Groundwater Interceptor Trench
- Harley - Davidson Property Boundary
- Existing Buildings
- Removed Buildings
- Stormwater Basin
- Cordorus Creek
- Roads and Curb Boundary

NOTE:

1. *Base data (Buildings, Building Boundaries, Roads and Curbs, and Contour Lines, from NuTec Survey conducted in 2006)*
2. *Gauging data that was used was from the 6/17/2011 gauging event.*
3. *The shallow groundwater elevation was used when contouring at well pairs (in black). Gray water levels are from deep wells and are presented for comparison only.*
4. *The groundwater elevations at MW-29 and MW-85 were not used for contouring because they are considered to be anomalously high.*

0 300 600 1,200

SCALE IN FEET

FORMER YORK NAVAL ORDNANCE PLANT

1425 EDEN ROAD, YORK, PA 17402

GROUNDWATER SURFACE CONTOUR MAP JUNE 2011

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date 9/23/2011	date	date	
job no. 4501020172/8000/100		file no. Fig_3_GW_Con_Jun_11	

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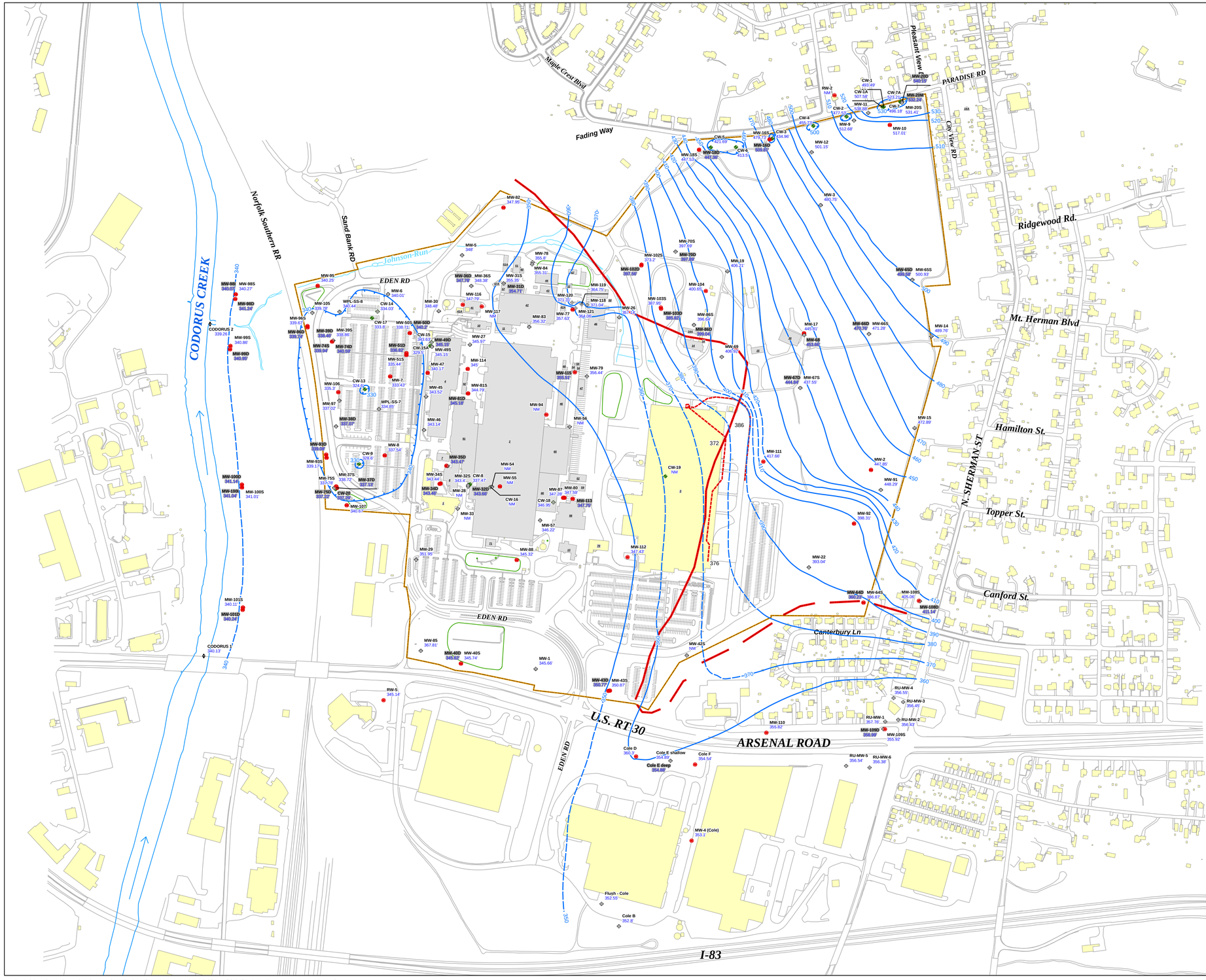

Harley-Davidson Motor Co. Operations Inc.
Groundwater Withdrawal: December 22, 2011

Well ID	Daily Flow (Gallons)	Average Daily Pumping Rate (GPM)
CW-1	3,140	2.18
CW-1A	366	0.25
CW-2	824	0.57
CW-3	7,498	3.68
CW-4	2,935	2.04
CW-5	1,977	1.37
CW-6	4,336	3.01
CW-7	1,148	0.80
CW-7A	2,113	1.47
CW-8	167,325	116.20
CW-9	102,640	71.15
CW-13	110,793	76.94
CW-15A	7,079	4.92
CW-17	114,191	79.30
Liftstation	2,730	1.90

Legend

- Monitoring Well and Designation
- Key Well and Designation
- Extraction Well and Designation
- Stream Gauge and Designation
- Groundwater Contour (Feet)
- Inferred Groundwater Contour (Feet)
- Groundwater Contour Sink (Feet)
- Bedrock Contact
- Groundwater Interceptor Trench
- Harley - Davidson Property Boundary
- Existing Buildings
- Removed Buildings
- Stormwater Basin
- Cordorus Creek
- Johnson Run
- Roads and Curb Boundary

NOTE:

1. *Base data (Buildings, Building Boundaries, Roads and Curbs, and Contour Lines, from NuTec Survey conducted in 2006 and from site survey conducted in 2011)*
2. *Gauging data that was used was from the 12/22/2011 gauging event.*
3. *The shallow groundwater elevation was used when contouring at well pairs (in black). Gray water levels are from deep wells and are presented for comparison only.*
4. *The groundwater elevations at MW-29 and MW-85 were not used for contouring because they are considered to be anomalously high.*
5. *NM - Not Measured*

0 300 600 1,200

SCALE IN FEET

FORMER YORK NAVAL ORDNANCE PLANT

1425 EDEN ROAD, YORK, PA 17402

Groundwater Surface Contour Map December 2011

drawn JEB	checked	approved	figure no. 3-2
date 2/14/2012	date	date	
job no. 4501020172/5000/100		file no. Fig_3-2_GW_Con_Dec_22	

initials	date	revision

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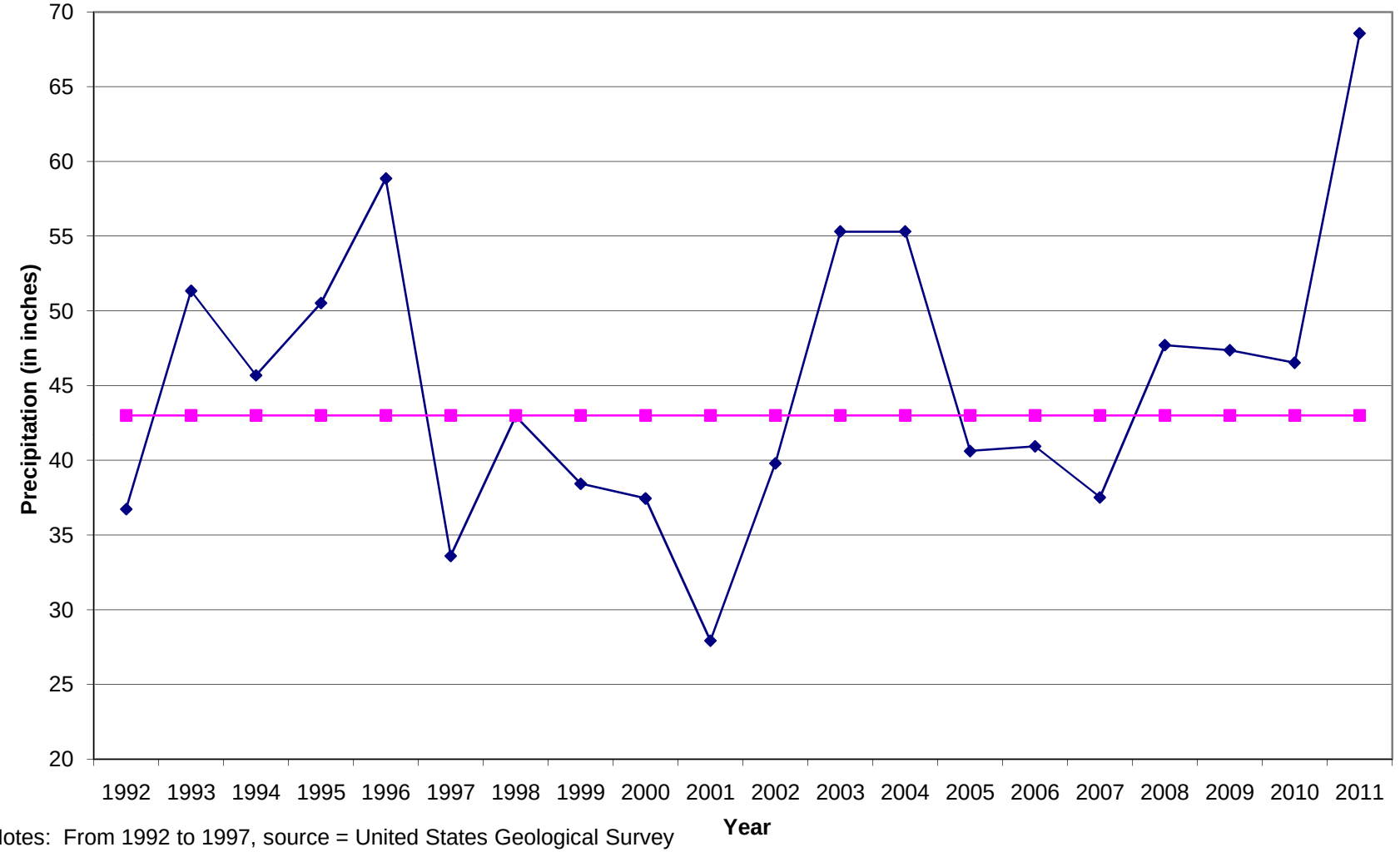
Figure 3-3
Annual Historical Precipitation Data for York, PA
Former York Naval Ordnanace Plant
1425 Eden Road, York PA 17402



Notes: From 1992 to 1997, source = United States Geological Survey
From 1998 to 2002, source = Accuweather.com
From 2003 to 2011, source = Harley-Davidson and weather underground
Normal precipitaion for York, PA is from AccuWeather.com

Figure 4-1
Packed Tower Aerator Influent Chemistry - Total VOC Concentration
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

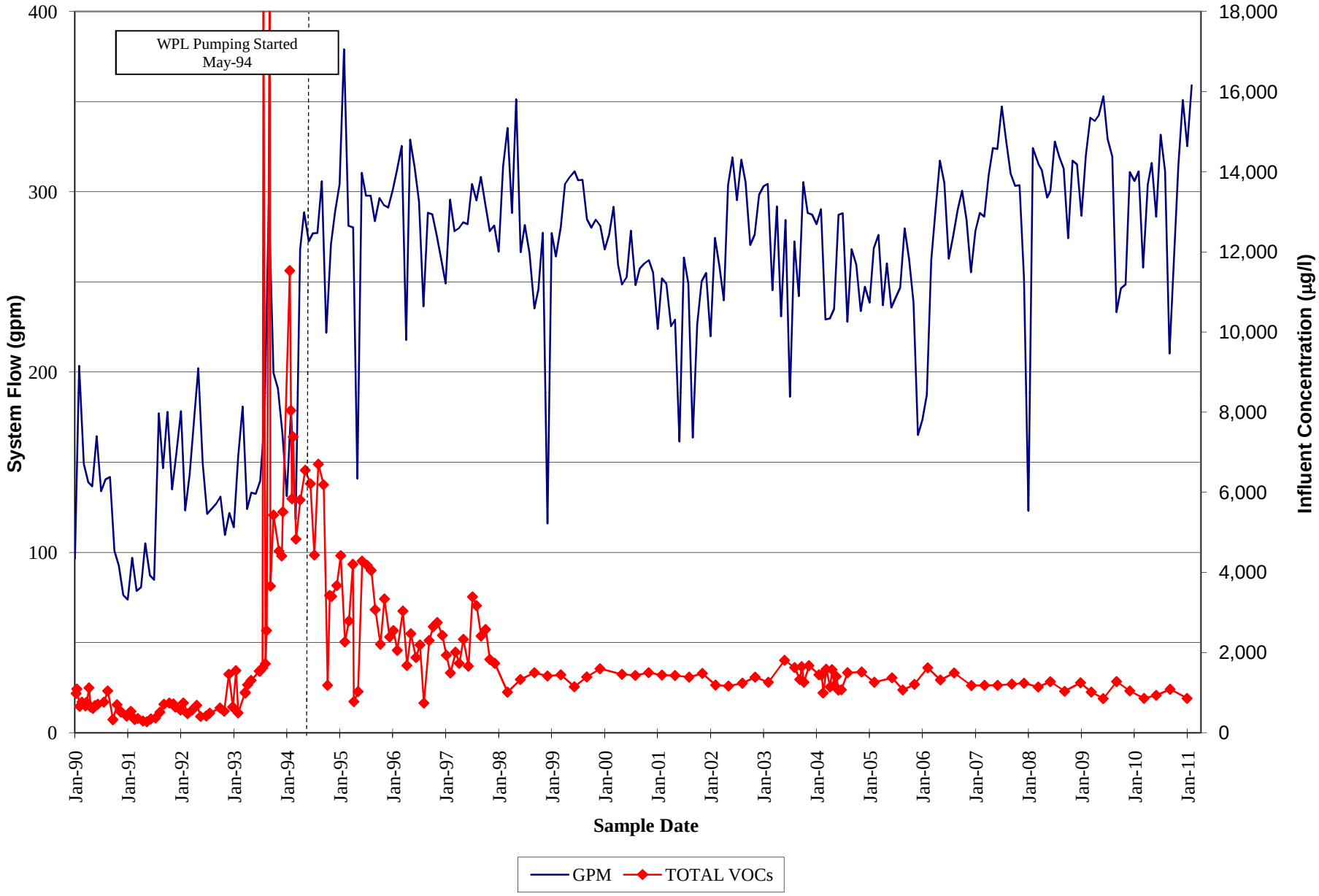


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Figure 4-2
Packed Tower Aerator Influent Chemistry for NPDES Discharge Permit Required Compounds
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

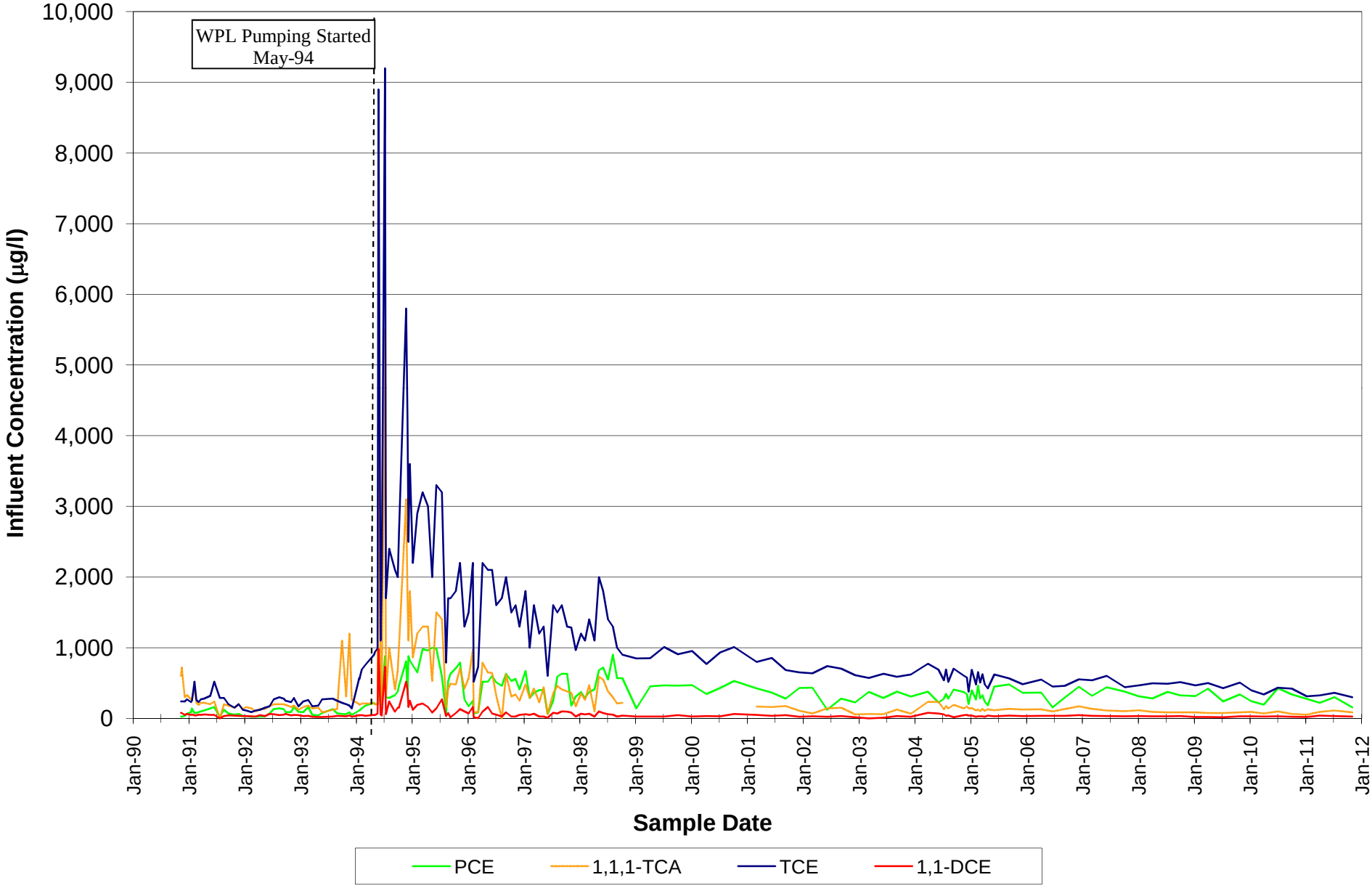

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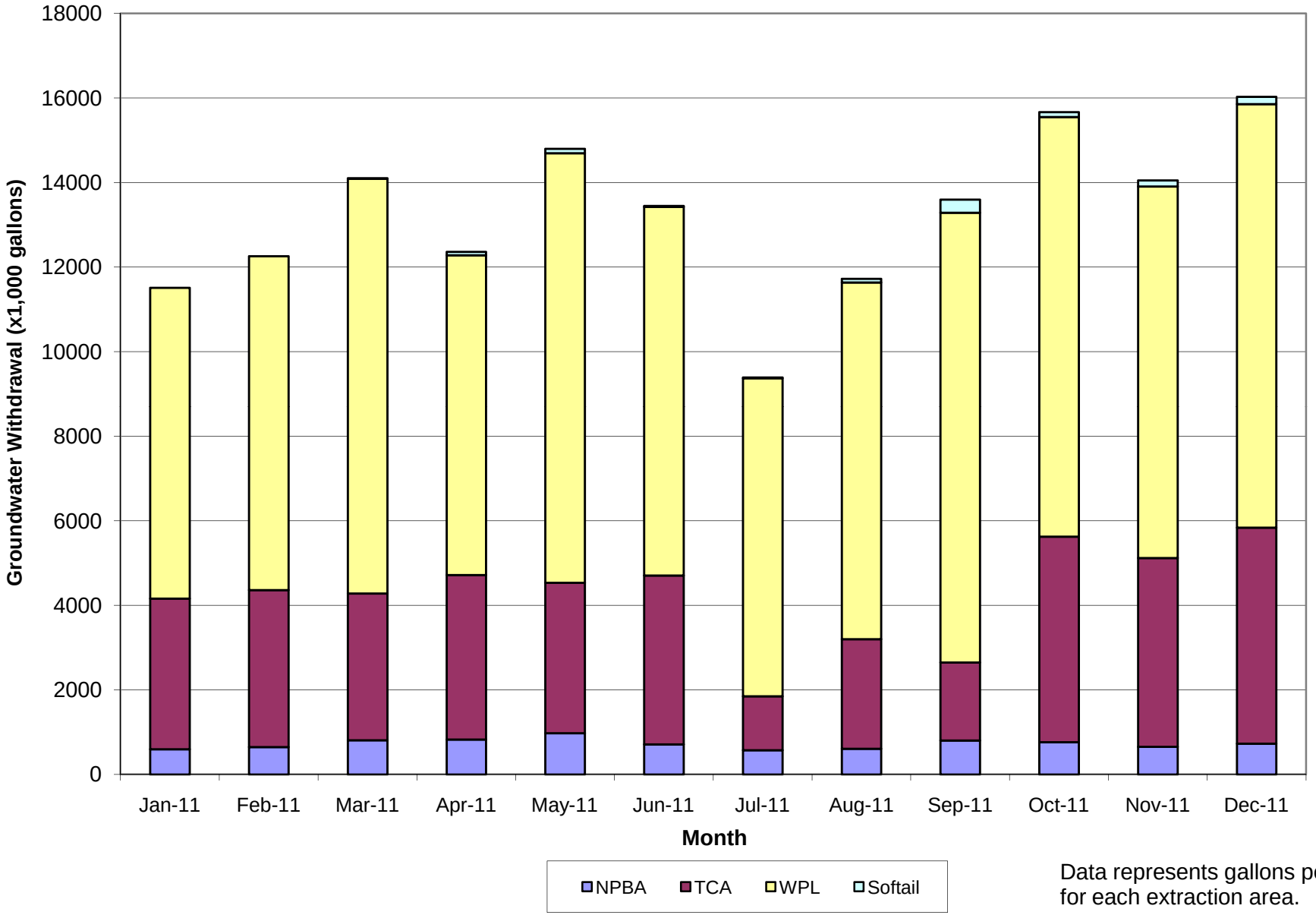
Figure 5-1
2011 Groundwater Withdrawals
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402



Data represents gallons per month for each extraction area.

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Figure 5-2
TCE in NPBA Extraction Wells
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

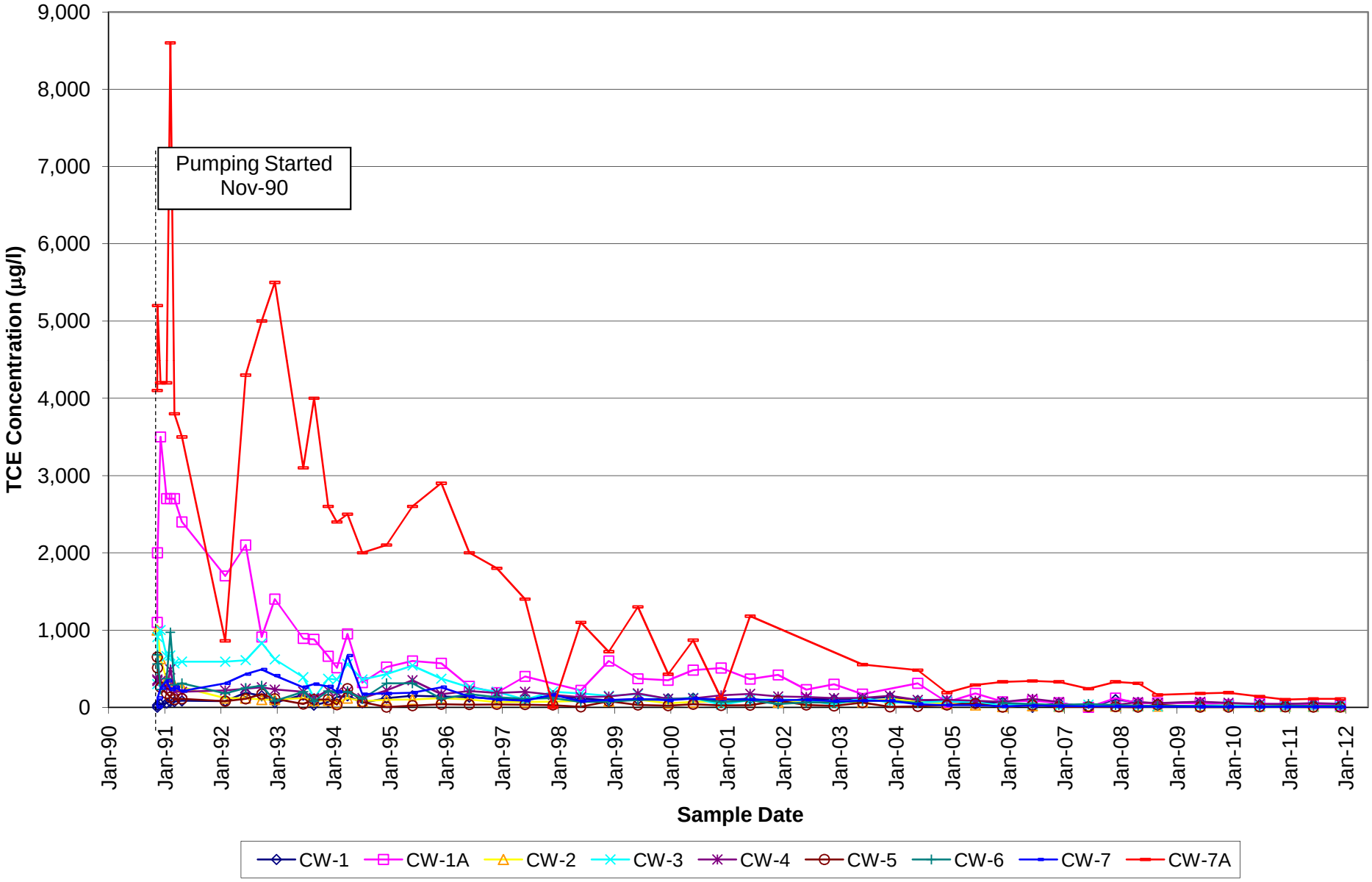

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Figure 5-3
Predominant VOC Concentrations - Extraction Well CW-1
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

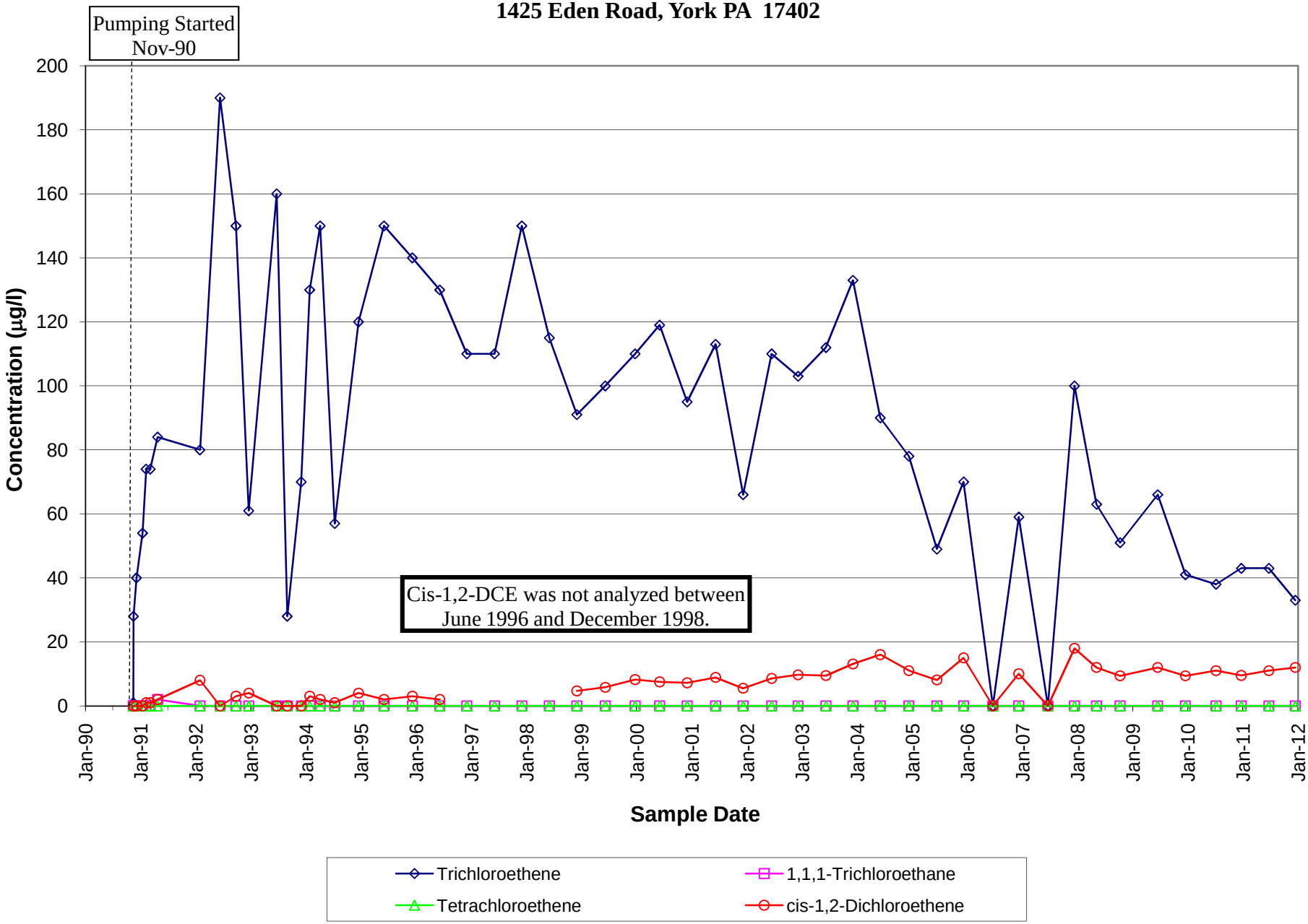

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Figure 5-4
Predominant VOC Concentrations - Extraction Well CW-1A
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

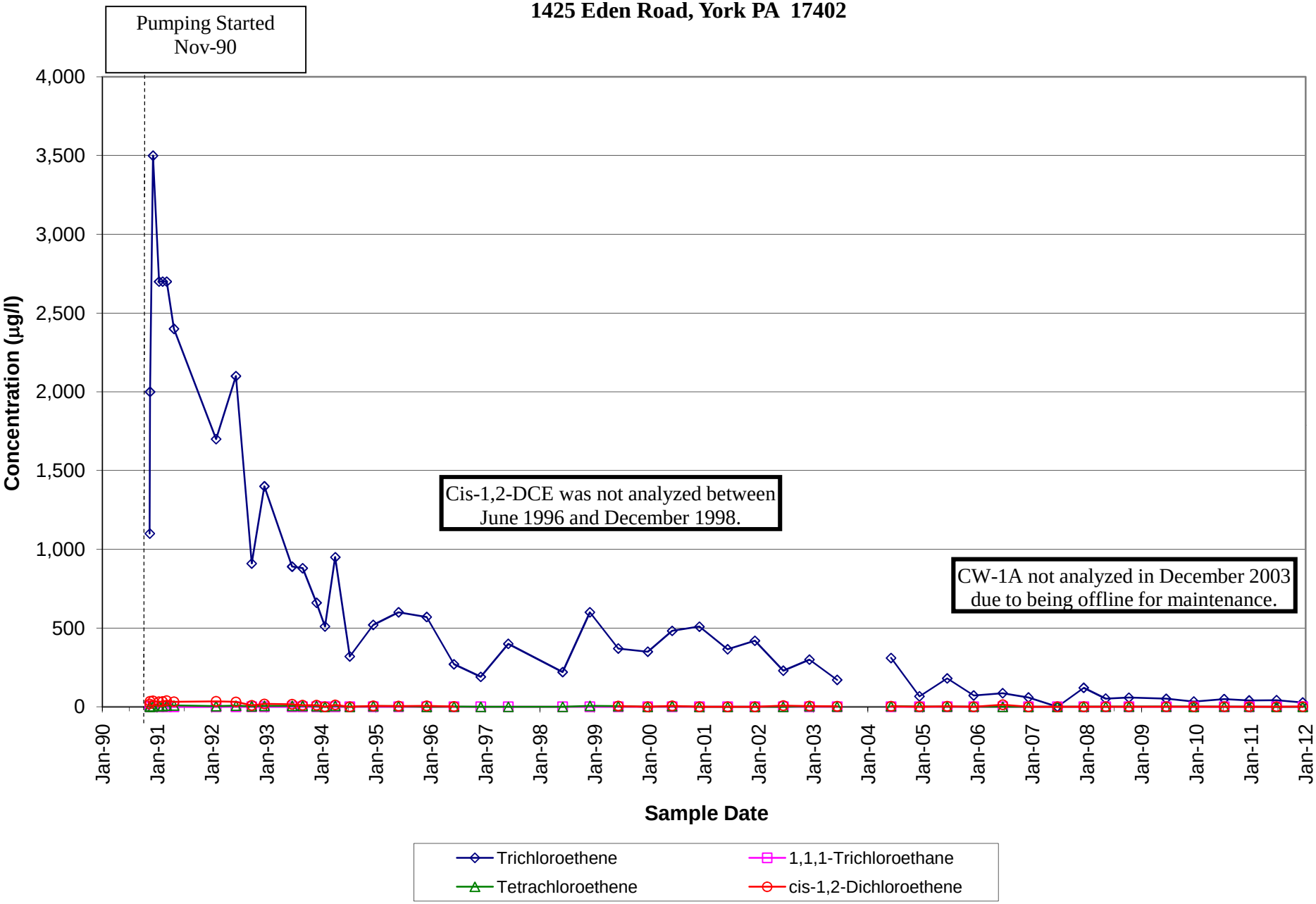

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Figure 5-5
Predominant VOC Concentrations - Extraction Well CW-2
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

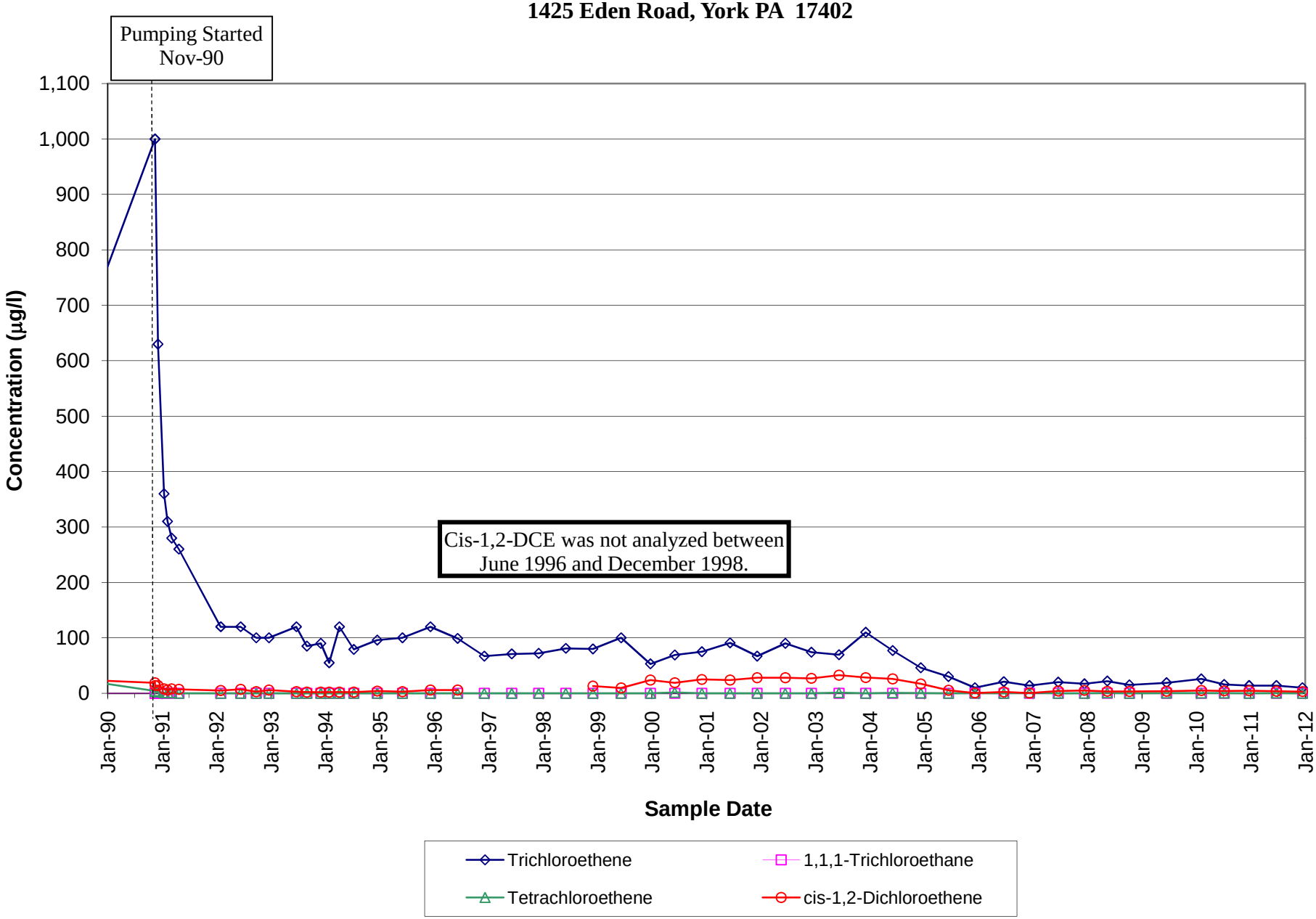

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Figure 5-6
Predominant VOC Concentrations - Extraction Well CW-3
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

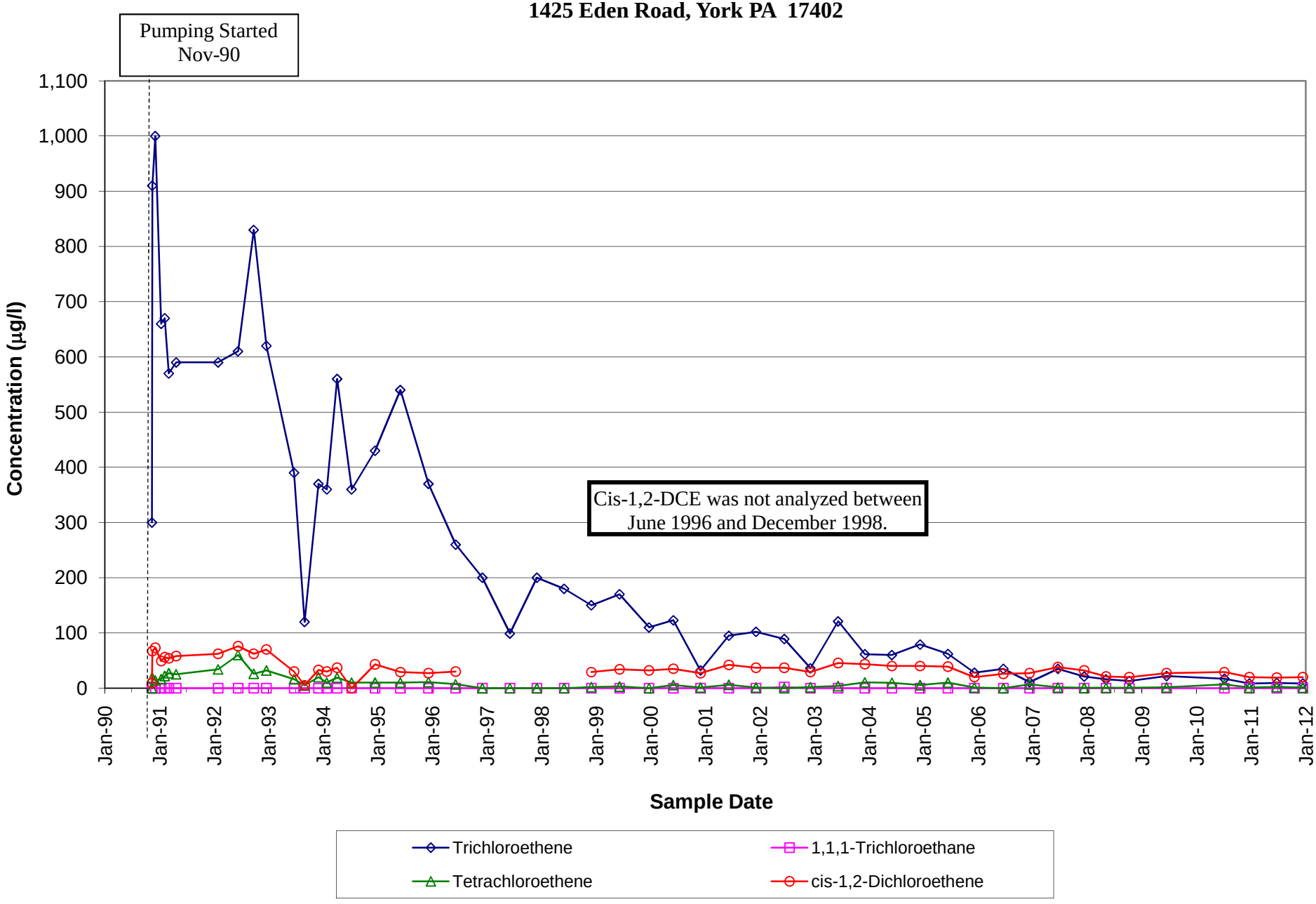

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Figure 5-7
Predominant VOC Concentrations - Extraction Well CW-4
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

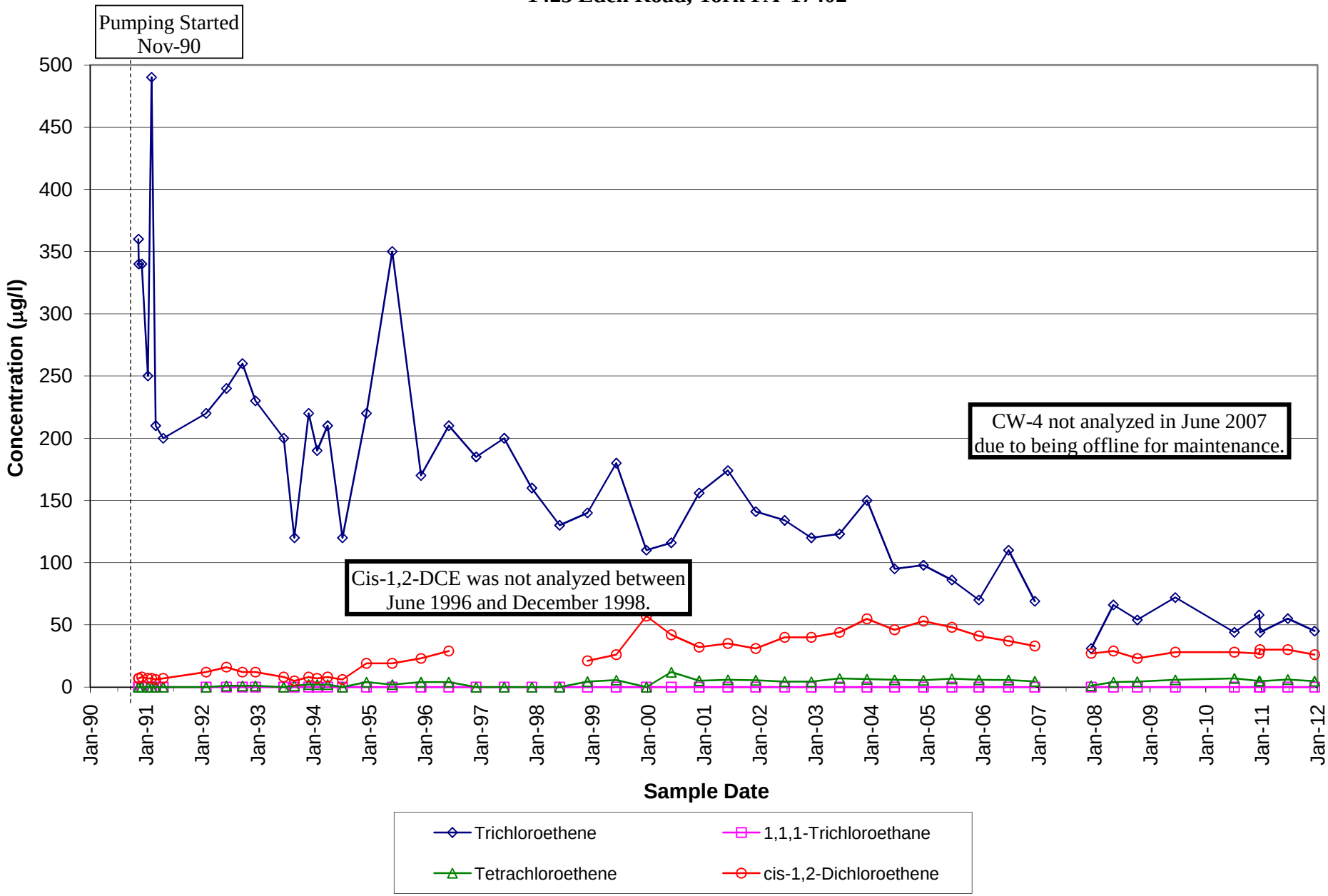

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Figure 5-8
Predominant VOC Concentrations - Extraction Well CW-5
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

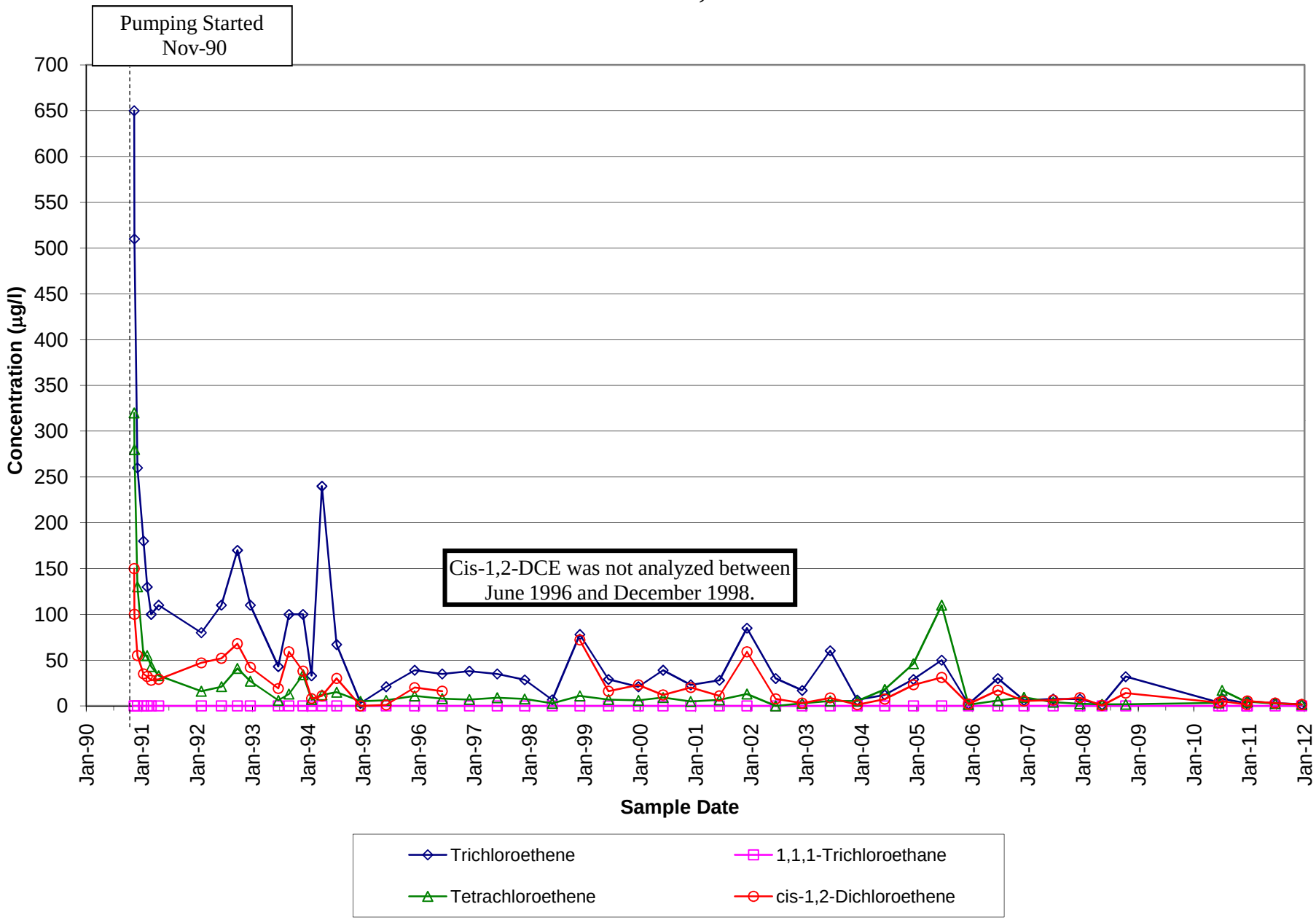

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Figure 5-9
Predominant VOC Concentrations - Extraction Well CW-6
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

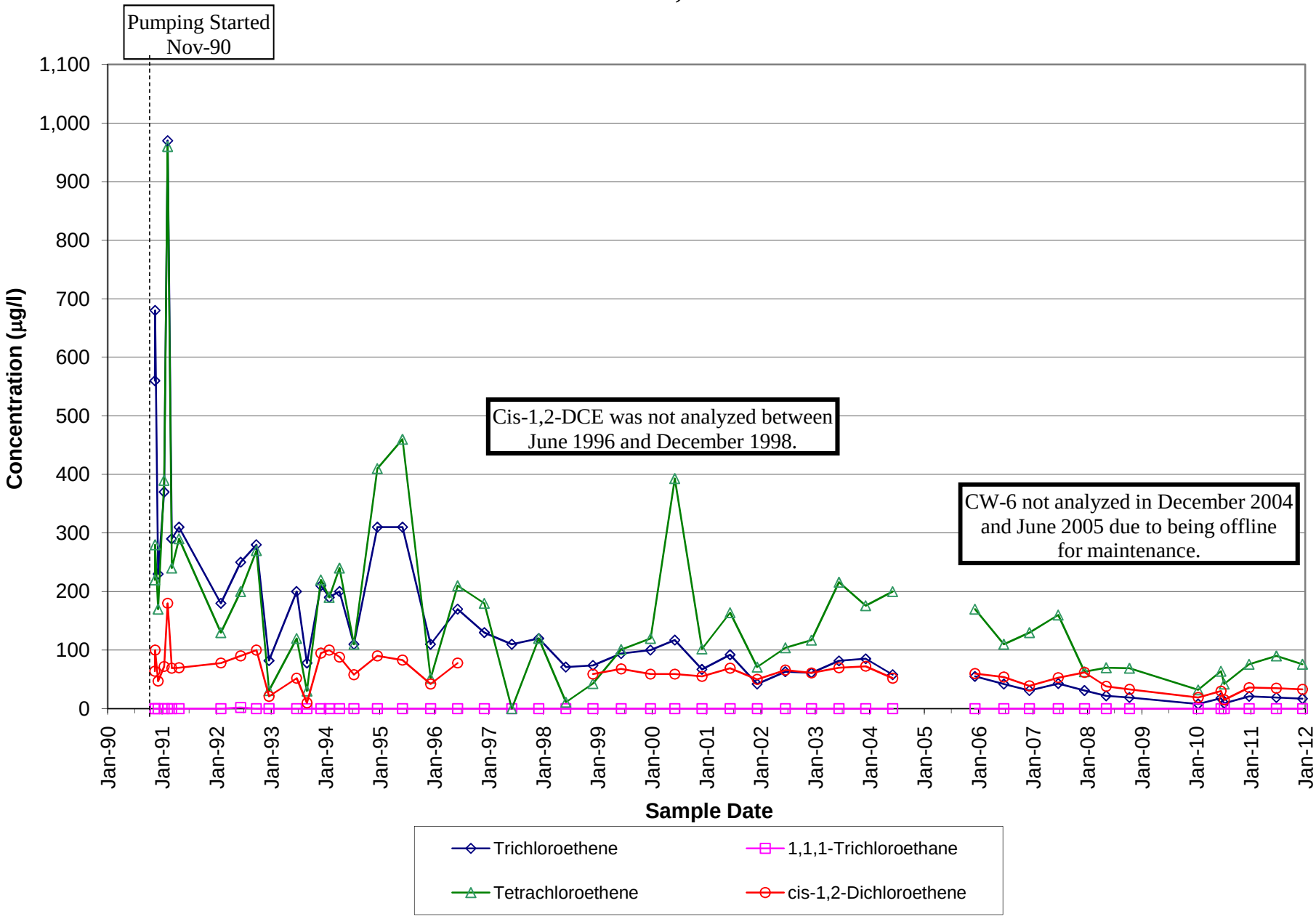

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Figure 5-10
Predominant VOC Concentrations - Extraction Well CW-7
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

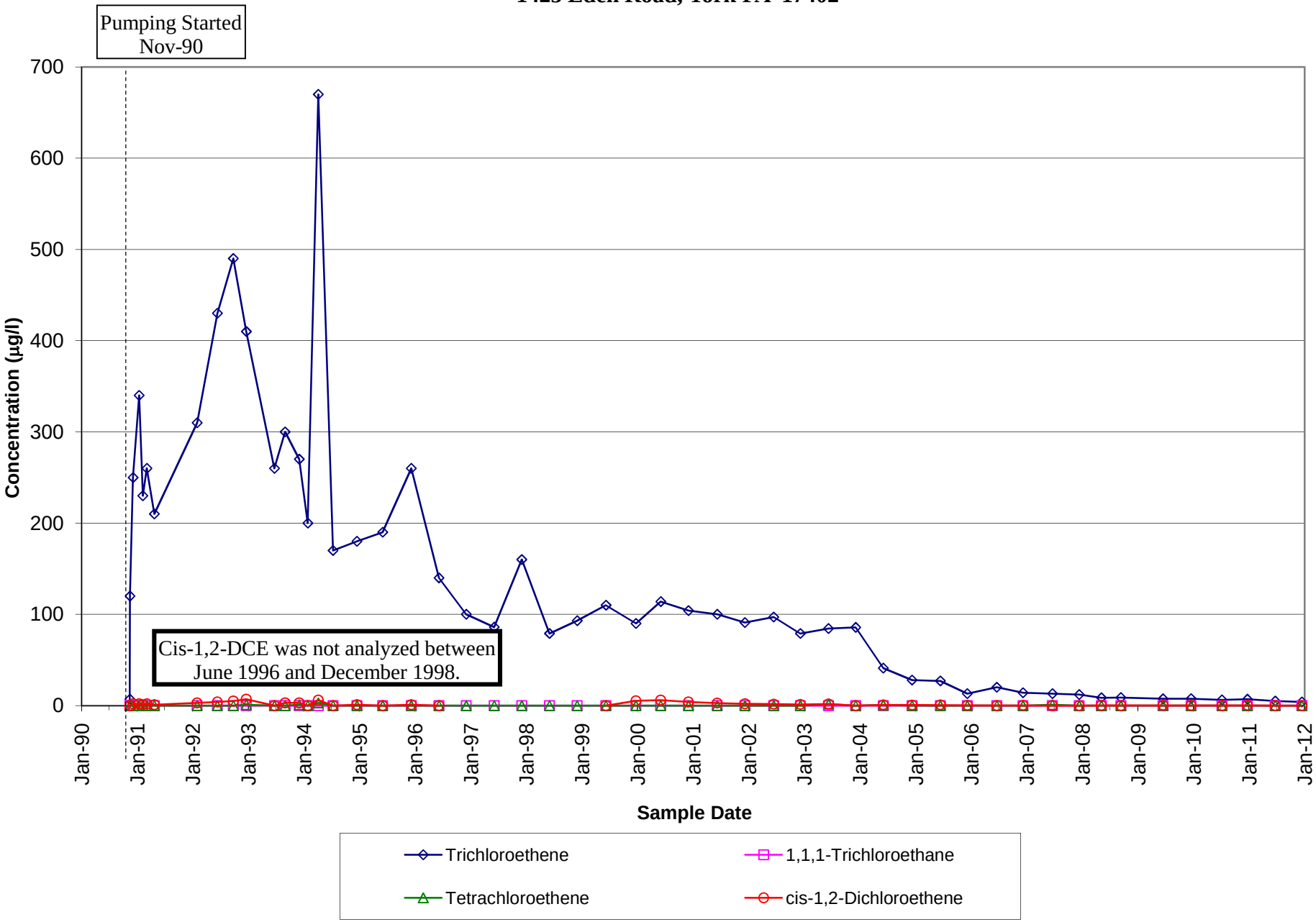

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Figure 5-11
Predominant VOC Concentrations - Extraction Well CW-7A
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

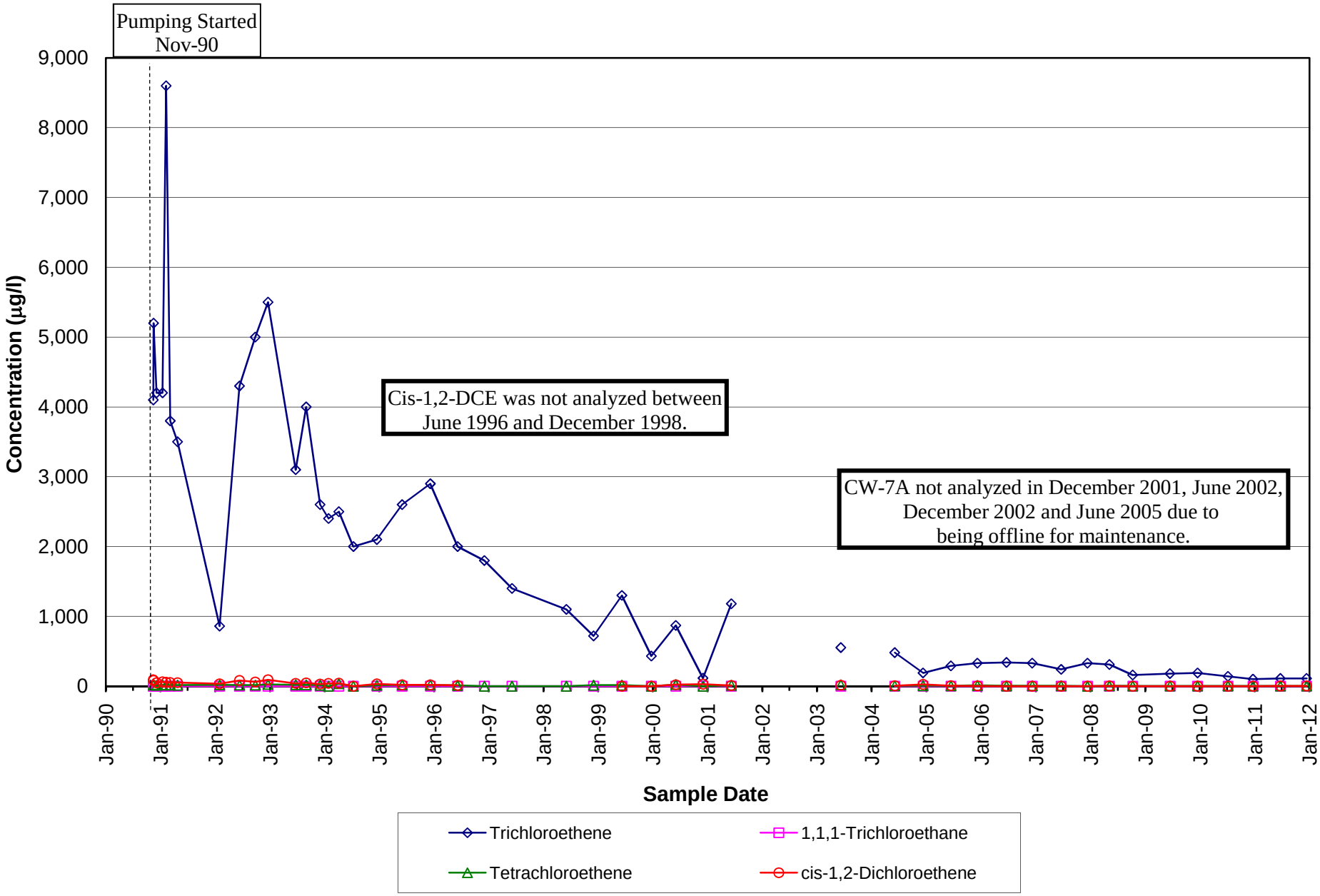

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Figure 6-1
TCA in TCA Tank Area Extraction Wells
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

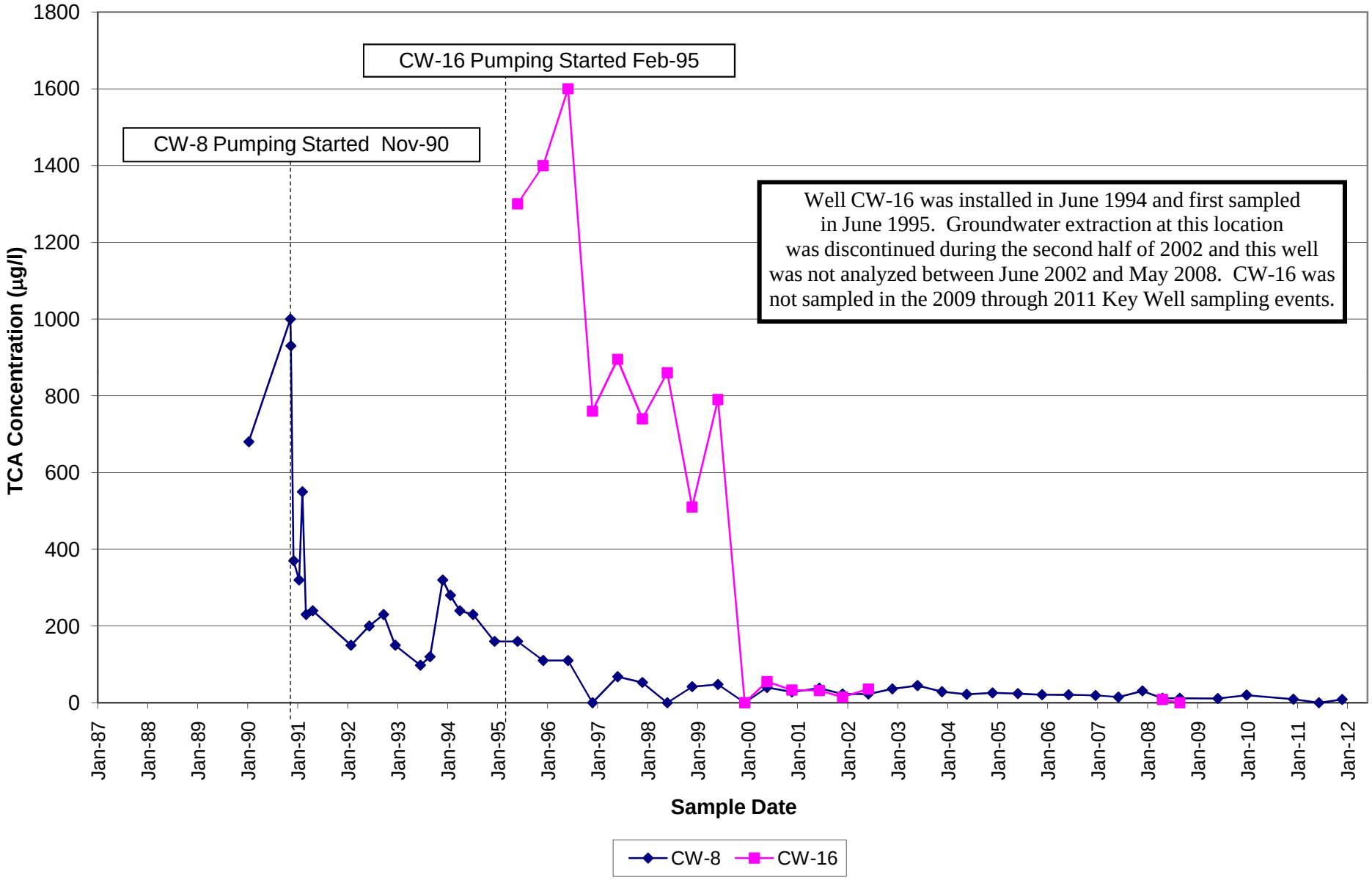

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Figure 6-2
TCE in TCA Tank Area Extraction Wells
Former York Naval Ordnance Plant
1425 Eden Road, York

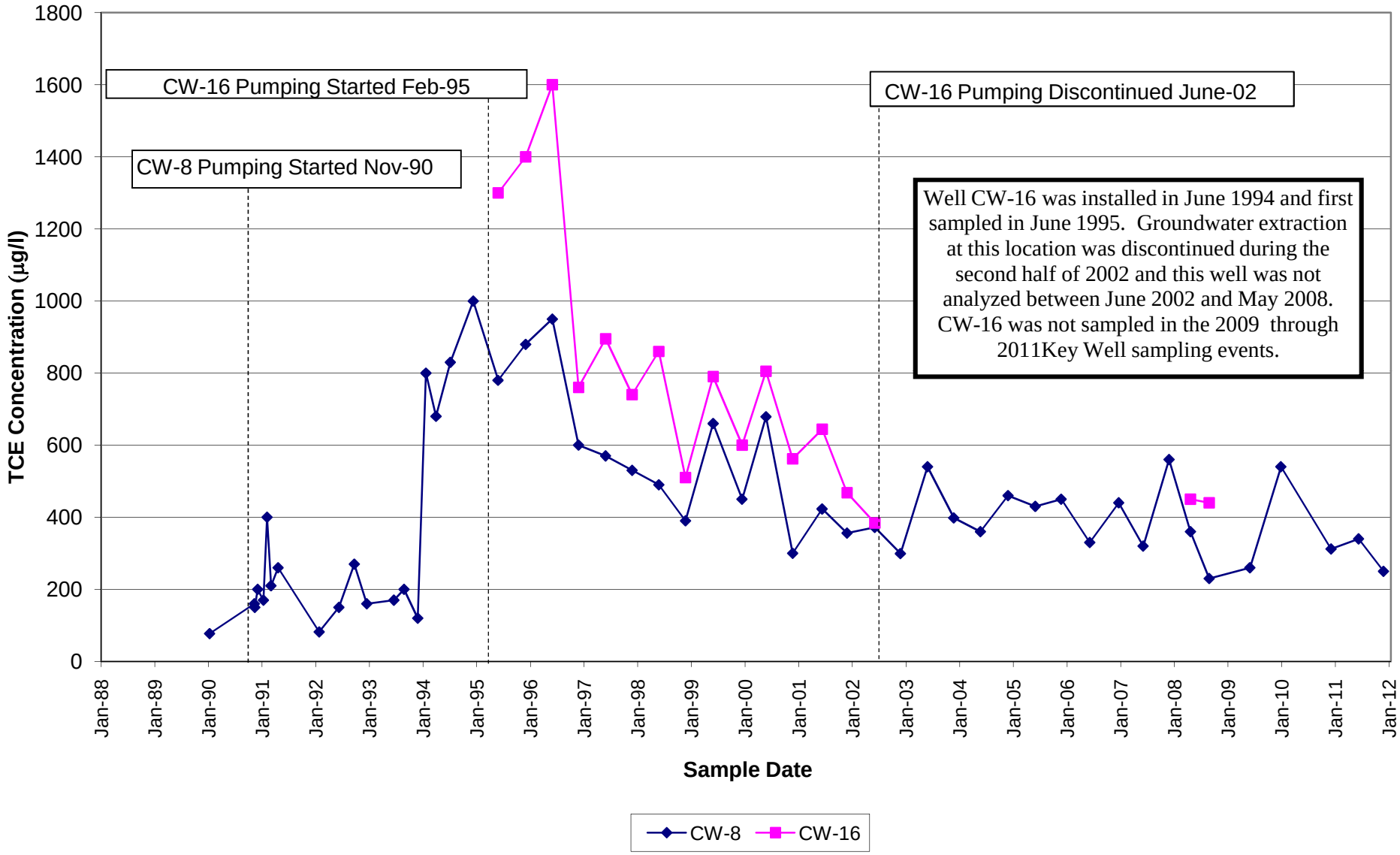

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Figure 6-3
Predominant VOC Concentrations - Extraction Well CW-8
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

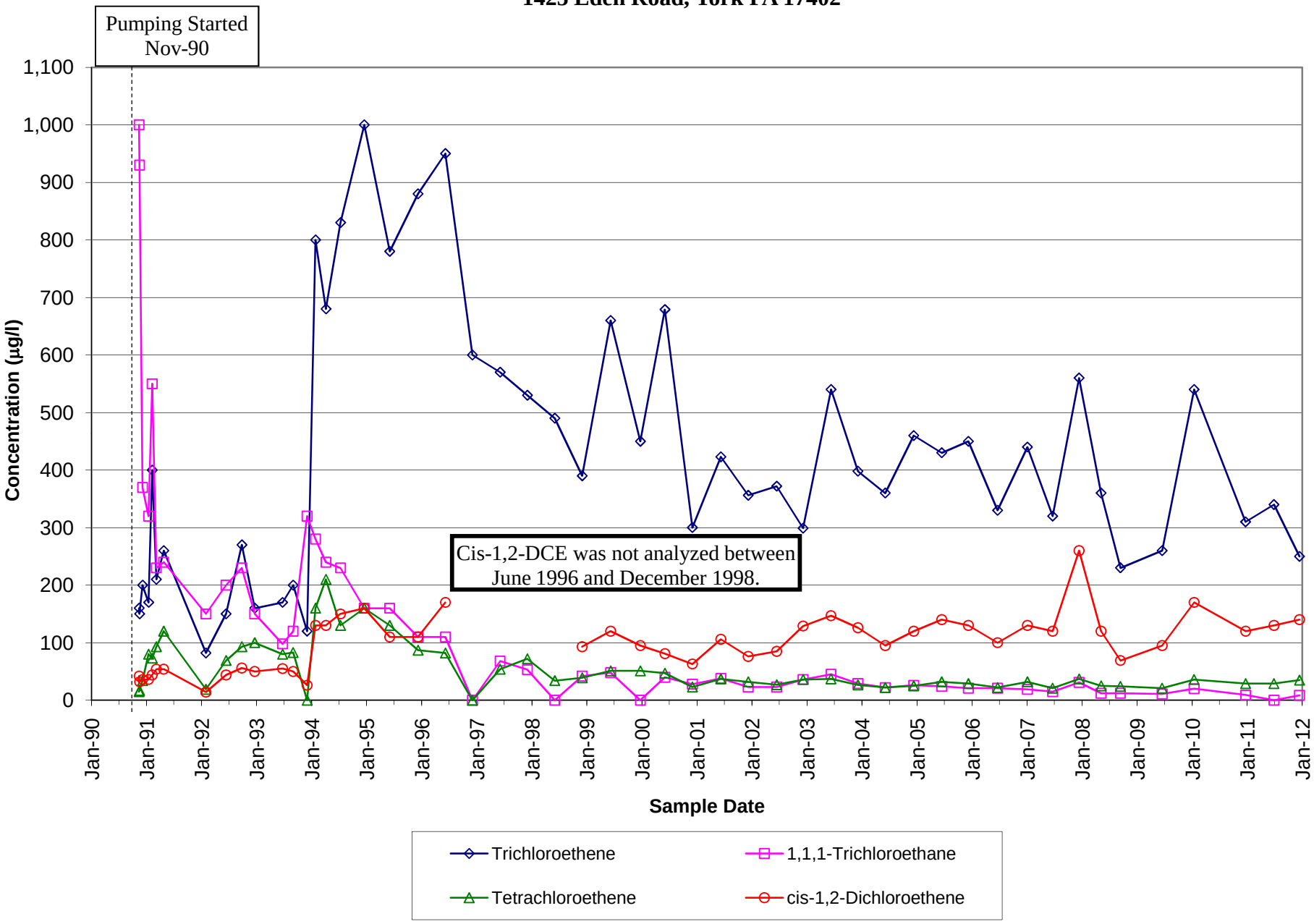

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Figure 7-1
TCE in WPL Extraction Wells
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

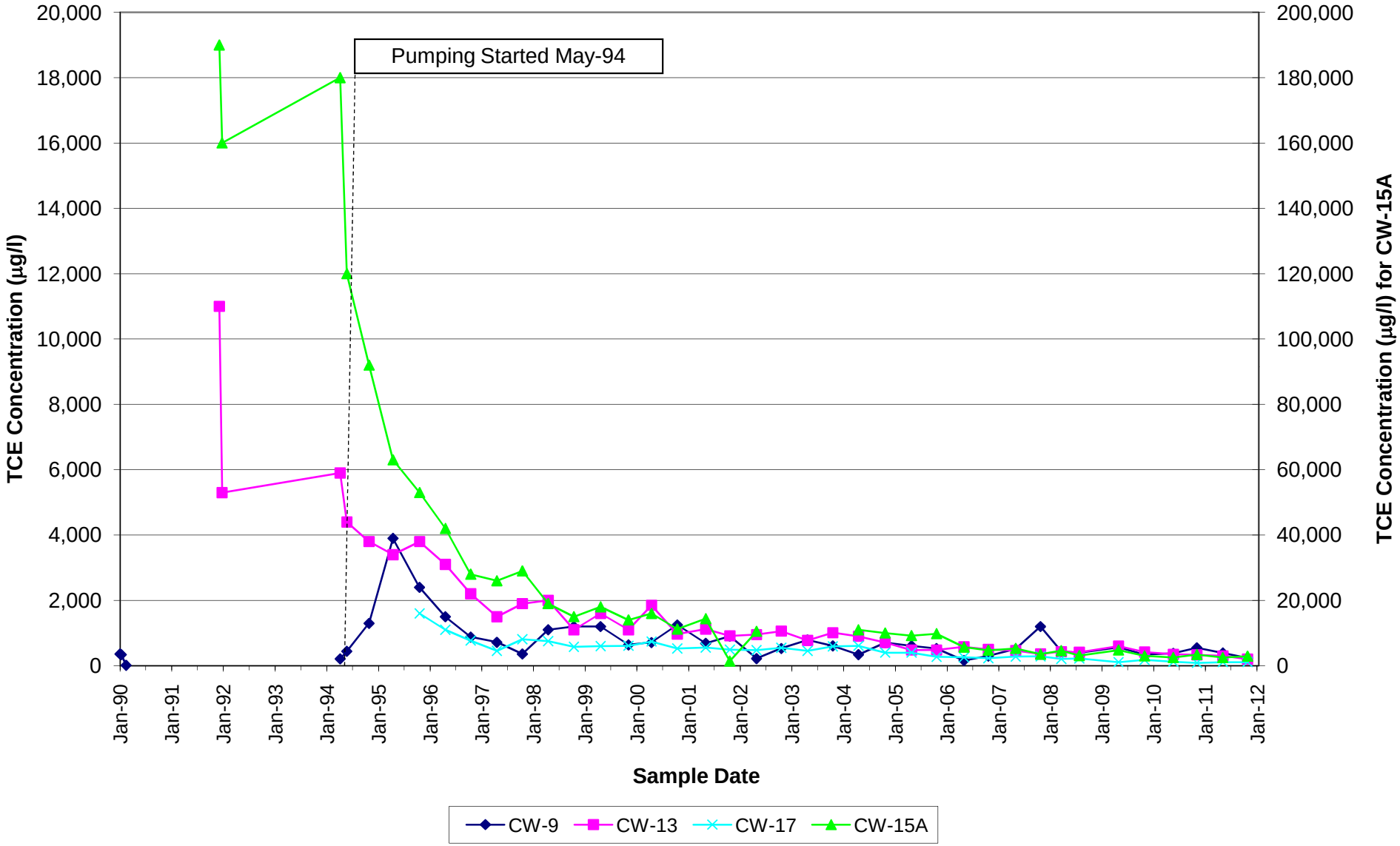

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Figure 7-2
Predominant VOC Concentrations - Extraction Well CW-9
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

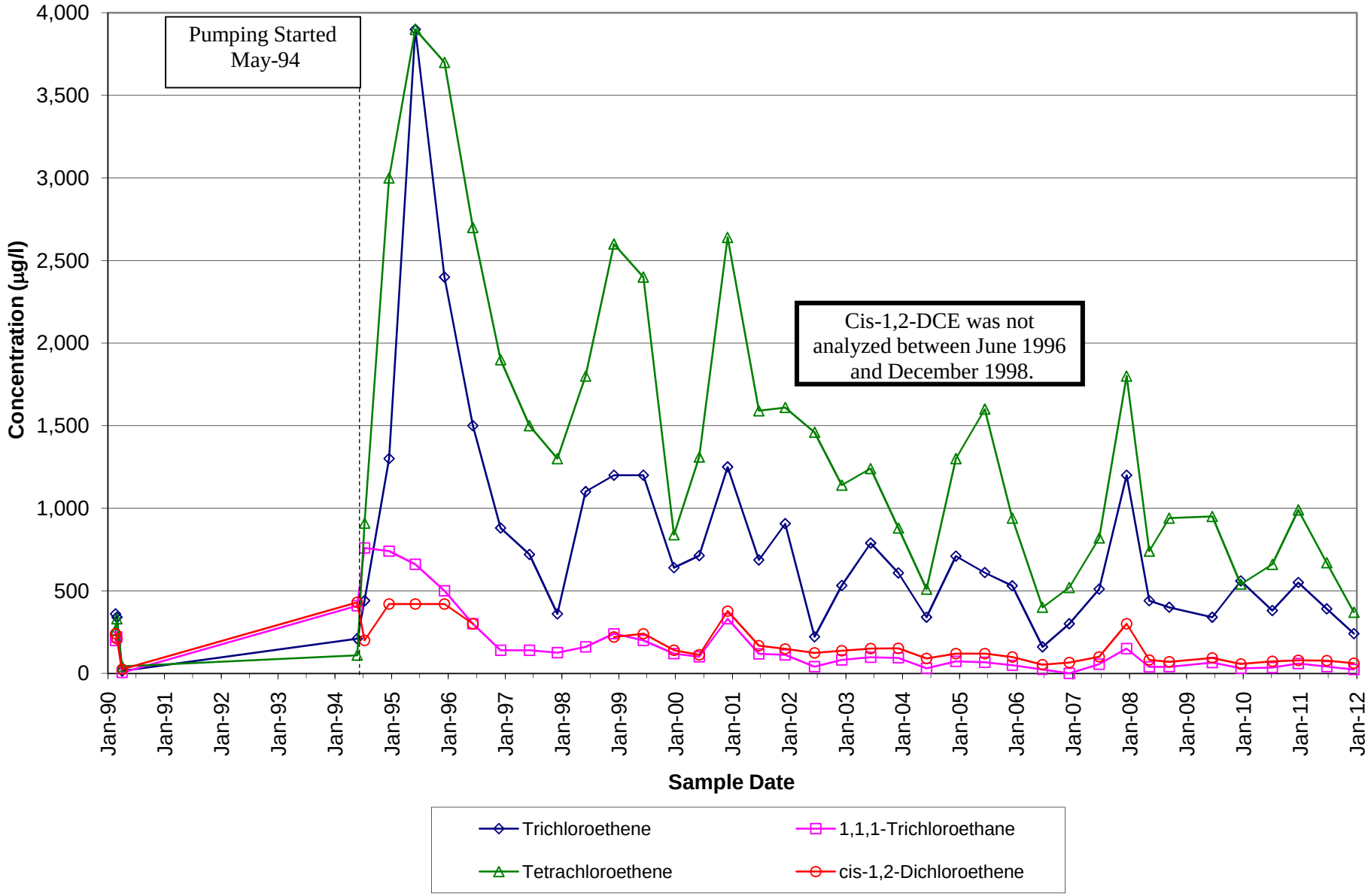

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Figure 7-3
Predominant VOC Concentrations - Extraction Well CW-13
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

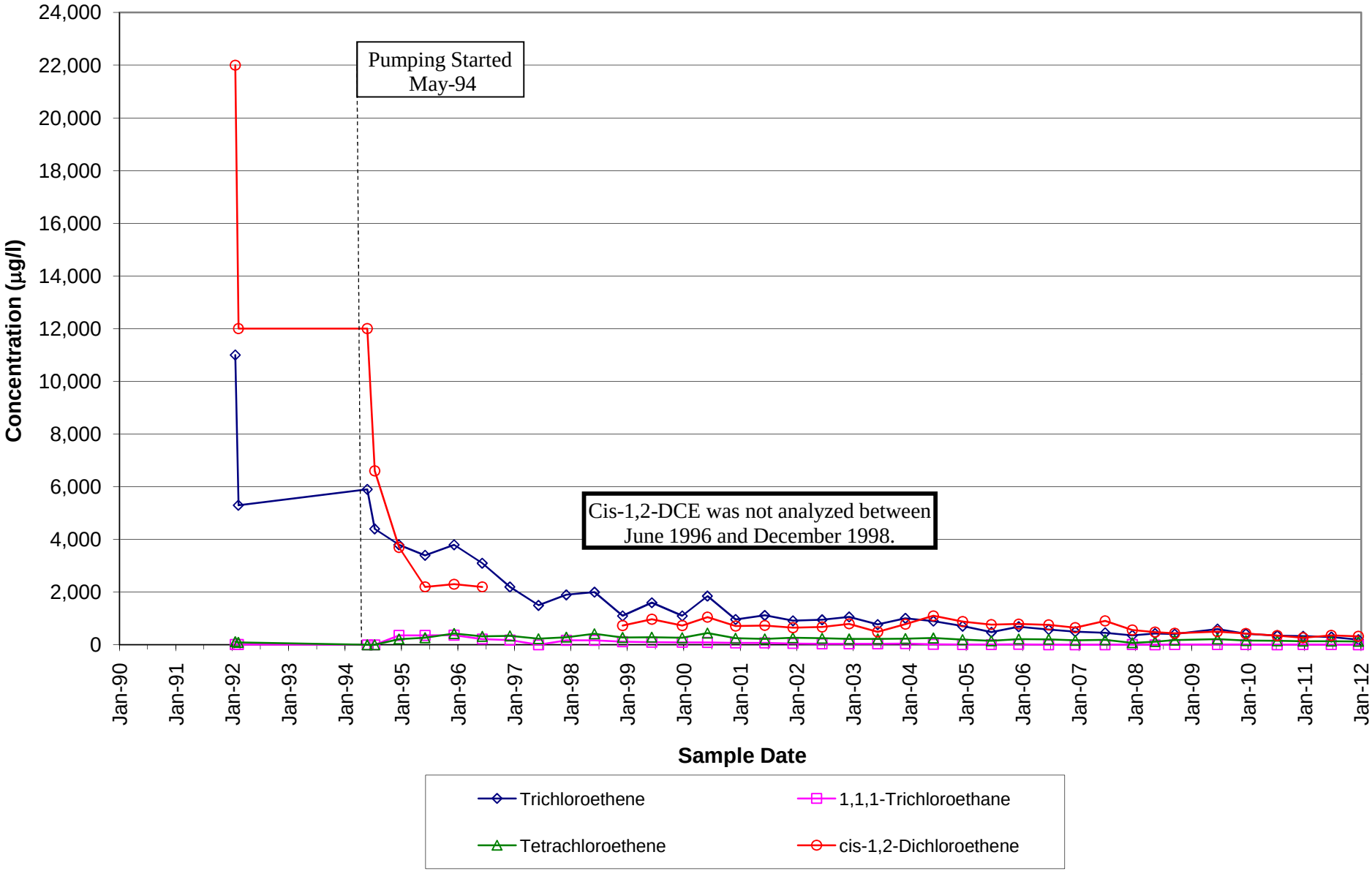

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Figure 7-4
Predominant VOC Concentrations - Extraction Well CW-15A
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

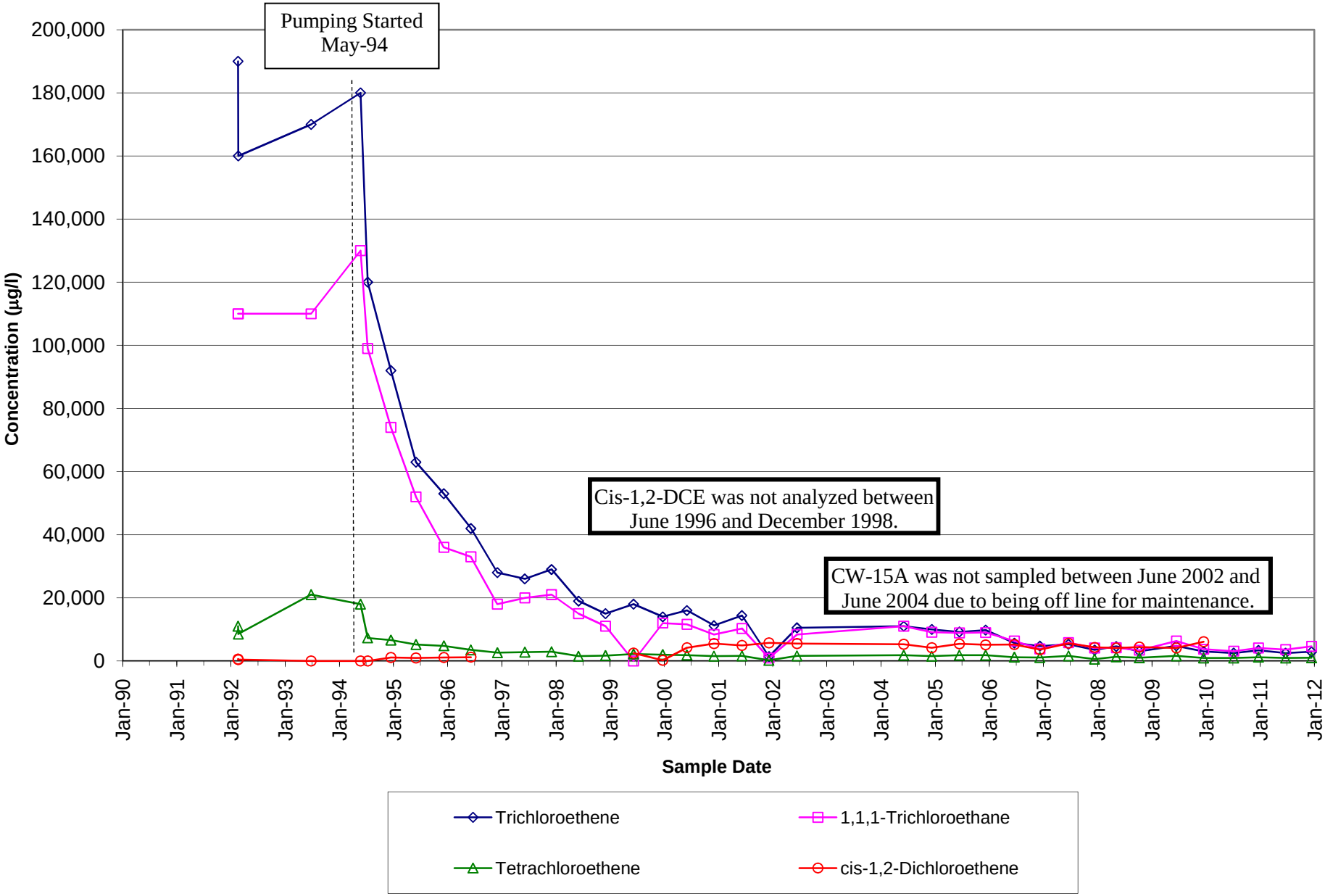

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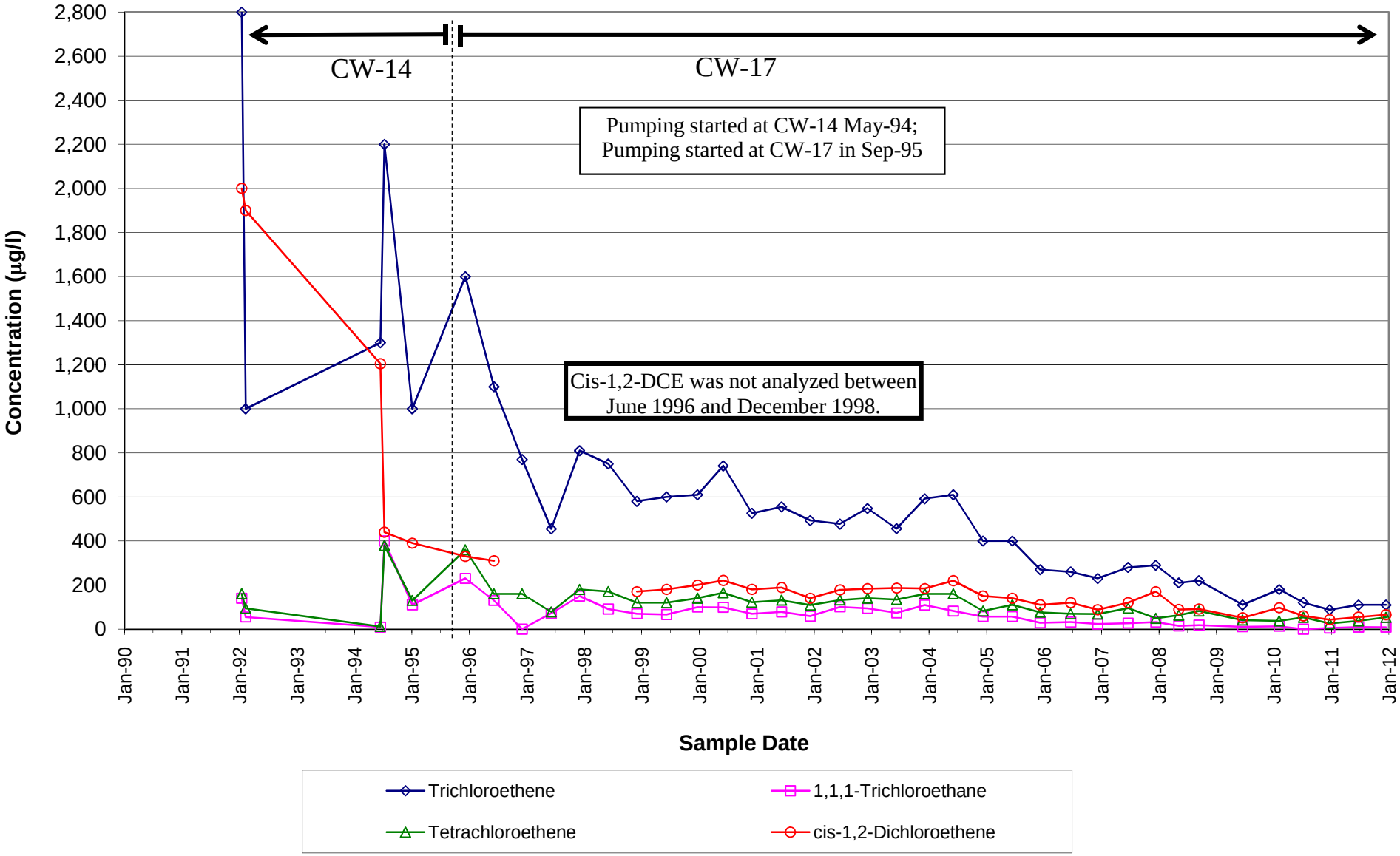
Figure 7-5
Predominant VOC Concentrations
Extraction Wells CW-14 and CW-17
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402



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TABLES

TABLE 3-1
MONTHLY PRECIPITATION COMPARISON
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

Month	2011 Precipitation Amount (inches)	Normal Precipitation Amount (inches)
January	0.80	3.44
February	3.56	2.77
March	5.18	3.65
April	8.42	3.52
May	5.30	4.26
June	3.91	4.31
July	3.40	3.75
August	9.51	3.33
September	17.11	4.10
October	4.17	3.16
November	3.76	3.47
December	3.44	3.24
TOTALS:	68.56	43.00

Notes:

1. 2011 Precipitation data collected by H-D environmental staff at the plant in York, PA.
2. Normal precipitation data for York, PA from Accuweather.com (determined in March 2004)
3. The rain gauge was moved from Outfall 002 to Outfall 004 on June 16, 2011. No data was collected from June 16 through June 30, 2011. Precipitation data from weather underground was used from June 16 through June 30, 2011.

TABLE 3-2
ANNUAL HISTORICAL PRECIPITATION TOTALS
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

Calendar Year	Annual Rainfall (inches)
1992	36.73
1993	51.33
1994	45.68
1995	50.51
1996	58.85
1997	33.60
1998	42.95
1999	38.43
2000	37.45
2001	27.93
2002	39.80
2003	48.61
2004	55.30
2005	40.62
2006	40.93
2007	37.52
2008	47.70
2009	47.37
2010	46.53
2011	68.56

Notes:

1. Precipitation data for 1992 - 1997 from United States Geological Survey
2. Precipitation data for 1998 - 2002 from AccuWeather.com
3. Precipitation data for 2003 - 2011 from Harley-Davidson

TABLE 4-1
VOCs REMOVED FROM COLLECTED GROUNDWATER
JANUARY 1, 2011 - DECEMBER 31, 2011
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

DATE	MONTHLY GROUNDWATER WITHDRAWAL (PTA Totalizer, gallons)	AVERAGE MONTHLY TOTAL VOCs (ppb)		ESTIMATED MONTHLY VOC REMOVAL (pounds)
Jan-11	11,148,771	857		80
Feb-11	11,799,143	857	*	84
Mar-11	13,756,379	857	*	98
Apr-11	11,984,701	933		93
May-11	14,287,002	933	*	111
Jun-11	13,081,407	933	*	102
Jul-11	9,500,548	1086		86
Aug-11	11,605,979	1086	*	105
Sep-11	13,232,434	1086	*	120
Oct-11	15,020,428	860		108
Nov-11	13,529,420	860	*	97
Dec-11	15,422,140	860	*	111
TOTAL	**154,368,351**	**NA**		**1,196**

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
TOTAL	**2,778,465,283**	**39,640**

NOTES:

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

TABLE 5-1
RECORD OF GROUNDWATER WITHDRAWALS
JANUARY 1, 2011 - DECEMBER 31, 2011
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

	NPBA WELLS (gallons)										TCA WELL (gallons)		WPL WELLS (gallons)					Softail De-	MONTHLY
MONTH	CW-1	CW-1A	CW-2	CW-3	CW-4	CW-5	CW-6	CW-7	CW-7A	SUBTOTAL	CW-8	SUBTOTAL	CW-9	CW-13	CW-15A	CW-17	SUBTOTAL	Watering System	TOTAL
Jan-11	82,420	1,490	16,211	239,553	72,962	16,384	120,332	19,592	26,203	595,147	3,562,300	3,562,300	2,515,105	2,823,225	93,461	1,924,683	7,356,474	0	11,513,921
Feb-11	81,346	844	23,443	264,255	64,759	37,423	125,054	20,133	31,420	648,677	3,713,600	3,713,600	2,732,659	2,877,700	120,921	2,165,931	7,897,211	0	12,259,488
Mar-11	96,314	12,496	24,197	282,289	78,726	70,842	147,397	35,854	59,117	807,232	3,475,050	3,475,050	3,165,655	3,218,033	133,032	3,292,455	9,809,175	10,310	14,101,767
Apr-11	98,818	12,557	14,941	267,650	71,631	93,268	147,942	57,255	60,478	824,540	3,893,900	3,893,900	3,039,316	1,389,937	59,445	3,074,044	7,562,742	80,220	12,361,402
May-11	109,797	15,998	19,986	321,182	81,438	82,022	199,534	67,049	74,777	971,783	3,562,800	3,562,800	3,555,127	3,088,017	31,784	3,486,356	10,161,284	105,440	14,801,307
Jun-11	89,605	9,438	16,171	235,597	76,989	47,997	120,971	46,461	65,043	708,272	3,998,400	3,998,400	2,981,569	2,785,296	44,230	2,907,333	8,718,428	24,610	13,449,710
Jul-11	77,836	5,263	15,106	191,380	74,834	34,903	94,478	30,620	49,460	573,880	1,272,700	1,272,700	2,237,074	2,462,143	39,772	2,786,655	7,525,644	15,910	9,388,134
Aug-11	84,230	4,061	16,752	209,713	84,418	28,201	106,206	31,615	43,232	608,428	2,592,875	2,592,875	2,621,281	2,767,817	38,791	3,009,676	8,437,565	84,050	11,722,918
Sep-11	99,233	15,653	21,274	227,937	96,890	76,725	144,863	39,328	79,159	801,062	1,848,271	1,848,271	3,073,653	3,670,512	119,485	3,777,051	10,640,701	310,030	13,600,064
Oct-11	104,818	10,573	19,419	227,468	94,134	58,634	141,007	38,149	68,289	762,491	4,862,122	4,862,122	2,790,467	3,532,999	185,156	3,419,533	9,928,155	113,440	15,666,208
Nov-11	86,750	8,472	22,165	196,453	83,199	54,480	122,175	29,278	50,903	653,875	4,466,969	4,466,969	2,668,057	2,971,884	216,685	2,932,556	8,789,182	143,220	14,053,246
Dec-11	95,269	10,791	22,220	226,569	88,506	59,563	133,906	31,552	61,286	729,662	5,105,953	5,105,953	3,102,769	3,355,847	217,460	3,343,016	10,019,092	174,760	16,029,467
TOTALS	1,106,436	107,636	231,885	2,890,046	968,486	660,442	1,603,865	446,886	669,367	8,685,049	42,354,940	42,354,940	34,482,732	34,943,410	1,300,222	36,119,289	106,845,653	1,061,990	158,947,632

VALUES ARE IN GALLONS FOR EACH EXTRACTION WELL

Note: 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. The difference is utilized to determine the necessity for calibration of the totalizers.

TABLE 5-2
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)	1/18/2011	2/25/2011	3/18/2011	4/29/2011	5/21/2011	6/17/2011	7/20/2011	8/17/2011	9/30/2011	10/25/2011	11/21/2011	12/15/2011
NPBA	CW-1	570.07	495.57	492.57	NM	498.32	492.89	493.8	494.96	544.06	492.42	492.80	494.82	492.82	492.18	494.96
	CW-1A	568.28	508.78	505.78	NM	506.05	504.53	508.48	508.79	507.11	506.93	506.73	508.93	509.04	508.83	506.62
	CW-2	556.95	483.45	480.45	NM	481.36	482.85	481.2	481.10	479.32	483.84	483.43	481.17	481.08	465.6	480.97
	CW-3	518.66	440.66	437.66	NM	438.94	438.88	438.64	438.25	437.00	434.45	440.24	437.86	439.35	438.65	440.71
	CW-4	541.55	458.05	455.05	NM	456.98	455.34	458.06	458.06	451.99	457.31	455.20	455.16	456.94	455.92	458.58
	CW-5	470.34	424.84	421.84	NM	422.55	422.87	451.13	425.32	422.29	423.21	422.13	450.12	424.65	427.83	424.81
	CW-6	484.67	415.57	412.57	NM	413.92	413.75	413.86	413.89	414.07	413.89	413.50	412.98	413.84	412.96	413.86
	CW-7	573.78	493.28	490.28	NM	490.46	493.1	491.09	491.03	487.13	493.17	490.94	491.1	490.67	487.92	490.61
	CW-7A	573.91	523.41	520.41	NM	522.2	522.59	523.42	523.36	521.88	520.39	521.90	523.22	522.03	523.05	524.3
TCA	CW-8	362.70	341.34	337.34	NM	339.33	NM	343.05	343.74	341.25	NM	339.79	343.68	338.95	338.09	NM
WPL	CW-9	356.82	333.79	328.79	NM	NM	334.79	332.34	335.54	332.81	334.51	332.94	NM	331.37	NM	322.4
	CW-13	358.85	327.60	322.60	NM	327.84	327.7	NM	328.20	325.82	327.55	326.04	322.85	325.9	324.5	334.23
	CW-15A	361.40	333.50	328.50	NM	329.16	331.19	331.48	332.45	324.90	334.79	324.05	332.65	332.39	328.15	331.4
	CW-17	358.70	336.37	331.47	NM	334.92	335.12	337.69	336.19	334.28	334.25	333.99	333.62	333.19	334.09	333.91

Notes:
1. ft AMSL - feet above mean sea level
2. NM - Not Measured

TABLE 5-3
COMPARISOM OF INDIVIDUAL VOC VS TOTAL VOC CONCENTRATIONS
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

Wells	TCE Jul-10 (µg/l)	TCE Jun-11 (µg/l)	TCE %* Jun-11 (µg/l)	PCE Jul-10 (µg/l)	PCE Jun-11 (µg/l)	PCE%* Jun-11 (µg/l)
CW-1	38	43	79.6	N.D	N.D.	N.D.
CW-1A	49	42	100	0.92J	0.69J	N.D.
CW-2	16	14	78.2	0.31J	0.34J	N.D.
CW-3	17	9.3	30.5	6.9	2.2	7.2
CW-4	44	55	60.4	4	6	6.7
CW-5	7.9	3.1	35.6	17	2.5	28.7
CW-6	9.3	19	13.2	42	90	62.5
CW-7	6.2	4.9	100	N.D.	N.D.	N.D.
CW-7A	140	110	100	4J	2.3J	N.D.

Well	TCE Dec-10 (µg/l)	TCE Jun-11 (µg/l)	TCE %* Jun-11 (µg/l)	PCE Dec-10 (µg/l)	PCE Jun-11 (µg/l)	PCE%* Jun-11 (µg/l)	TCA Dec-10 (µg/l)	TCA Jun-11 (µg/l)	TCA %* Jun-11 (µg/l)	DCE Dec-10 (µg/l)	DCE Jun-11 (µg/l)	DCE %* Jun-11 (µg/l)
CW-8	310	340	68.1	29	29	5.8	9	N.D.	N.D.	120	130	26.1

Wells	TCE Jul-10 (µg/l)	TCE Jun-11 (µg/l)	TCE %* Jun-11 (µg/l)	PCE Jul-10 (µg/l)	PCE Jun-11 (µg/l)	PCE%* Jun-11 (µg/l)	TCA Jul-10 (µg/l)	TCA Jun-11 (µg/l)	TCA %* Jul-11 (µg/l)	DCE Jul-10 (µg/l)	DCE Jun-11 (µg/l)	DCE %* Jun-11 (µg/l)
CW-9	380	390	34.3	660	670	58.9	35	41J	N.D.	73	77	6.8
CW-13	350	300	37.5	150	140	17.5	N.D.	N.D.	N.D.	350	360	45
CW-15A	2,500	2,500	20.9	910	930	7.8	3,100	3,600	30.1	5,100	4,100	34.3
CW-17	120	110	54.5	53	37	18.3	N.D.	9.2J	N.D.	60	55	27.2

Notes
1. * Represents the percent of the total volatile organic compound concentration
2. N.D. - Not Detected above laboratory reporting limit
3. (µg/l) - Micrograms per liter
4. TCE - Trichloroethene
5. PCE - Tetrachloroethene
6. TCA - 1,1,1-Trichloroethane
7. DCE - 1,2 Dichloroethene
8. Laboratory data flagged as an estimated (J) was not considered a detection

APPENDIX A

Data Tables

TABLE A-1

SITE-WIDE GROUNDWATER LEVELS AND ELEVATION DATA

FORMER YORK NAVAL ORDNANCE PLANT

1425 Eden Road, York PA 17402

Monitoring Location	Date	Time	Reference Elevation (ft. AMSL)	Depth (ft.)	Water Level (ft. AMSL)
CODORUS 1	6/17/2011		379.69	39.55	340.14
CODORUS 2	6/17/2011		341.63	1.27	339.56
Cole B	6/17/2011		363.75	NM	NM
Cole D	6/17/2011		370.15	NM	NM
Cole E deep	6/17/2011		369.17	NM	NM
Cole E shallow	6/17/2011		369.54	NM	NM
Cole F	6/17/2011		370.39	NM	NM
Flush - Cole	6/17/2011	11:22	361.92	8.74	353.18
MW-4 (Cole)	6/17/2011	11:28	367.21	13.34	353.87
CW-1*	6/17/2011		570.07	26.01	544.06
CW-1A*	6/17/2011		568.28	61.17	507.11
CW-2*	6/17/2011		556.95	77.63	479.32
CW-3*	6/17/2011		518.66	81.66	437
CW-4*	6/17/2011		541.55	89.56	451.99
CW-5*	6/17/2011		470.34	48.05	422.29
CW-6*	6/17/2011		484.67	70.6	414.07
CW-7*	6/17/2011		573.78	86.65	487.13
CW-7A*	6/17/2011		573.91	52.03	521.88
CW-8*	6/17/2011	9:37	362.7	21.45	341.25
CW-9*	6/17/2011		356.82	24.01	332.81
CW-13*	6/17/2011		358.85	33.03	325.82
CW-14	6/17/2011		358.92	24.64	334.28
CW-15	6/17/2011		361.48	18.12	343.36
CW-15A*	6/17/2011		361.4	36.5	324.9
CW-16	6/17/2011	11:09	364.6	19.18	345.42
CW-17*	6/17/2011		358.7	24.42	334.28
CW-18	6/17/2011	9:21	364.72	16.67D	348.05D
CW-19	6/17/2011		384.94	D	D
CW-20	6/17/2011		361.49	21.89	339.6
Kinsley Well	6/17/2011		465.83	70.4	395.43
MW-1	6/17/2011	10:32	380.73	33.76	346.97
MW-2	6/17/2011		508.88	62.31	446.57
MW-3	6/17/2011		541.1	61.56	479.54
MW-5	6/17/2011	8:05	369.71	21.03	348.68
MW-6	6/17/2011		359.62	19.83	339.79
MW-7	6/17/2011		359.48	25.2	334.28
MW-8	6/17/2011		358.09	18.6	339.49
MW-9	6/17/2011		558.78	45.05	513.73
MW-10	6/17/2011		567.8	50.52	517.28
MW-11	6/17/2011		563.08	24.71	538.37
MW-12	6/17/2011		535.93	36.25	499.68
MW-14	6/17/2011		519.54	30.17	489.37
MW-15	6/17/2011		524.09	60.68	463.41
MW-16D	6/17/2011		516.51	5.95	510.56

Note:

A= Location was artesian.
D= Location was dry.
*= Active extraction well.
DDC= Gauged on different date due to inaccessibility.
OG= Water was over the gauge.
NM= Not measured.

TABLE A-1

SITE-WIDE GROUNDWATER LEVELS AND ELEVATION DATA

FORMER YORK NAVAL ORDNANCE PLANT

1425 Eden Road, York PA 17402

Monitoring Location	Date	Time	Reference Elevation (ft. AMSL)	Depth (ft.)	Water Level (ft. AMSL)
MW-16S	6/17/2011		516.6	35.04	481.56
MW-17	6/17/2011		456.86	11.83	445.03
MW-18D	6/17/2011		464.19	16.43	447.76
MW-18S	6/17/2011		464.12	16.71	447.41
MW-19	6/17/2011		427.36	20.85	406.51
MW-20D	6/17/2011		573.85	34.14	539.71
MW-20M	6/17/2011		574.19	41.71	532.48
MW-20S	6/17/2011		574.05	42.48	531.57
MW-22	6/17/2011		447.57	56.26	391.31
MW-26	6/17/2011	8:32	379.44	21.04	358.4
MW-27	6/17/2011	8:09	361.29	13.81	347.48
MW-28	6/17/2011	9:33	362.91	17.61	345.3
MW-29	6/17/2011		364.77	11.81	352.96
MW-30	6/17/2011	8:08	362.26	13.37	348.89
MW-31D	6/17/2011	7:53	369.3	13.69	355.61
MW-31S	6/17/2011	7:54	369.28	13.21	356.07
MW-32D	6/17/2011	9:35	362.57	17.19	345.38
MW-32S	6/17/2011	9:36	362.44	17.22	345.22
MW-33	6/17/2011	9:31	363.94	NM	NM
MW-34D	6/17/2011	9:46	361	15.72	345.28
MW-34S	6/17/2011	9:45	361	15.75	345.25
MW-35D	6/17/2011	9:48	360.6	15.33	345.27
MW-35S	6/17/2011	9:58	360.49	NM	NM
MW-36D	6/17/2011	7:51	370.96	22.53	348.43
MW-36S	6/17/2011	7:52	370.95	21.94	349.01
MW-37D	6/17/2011		359.11	19.75	339.36
MW-37S	6/17/2011		359.13	18.55	340.58
MW-38D	6/17/2011		358.62	19.74	338.88
MW-39D	6/17/2011		360.21	21.33	338.88
MW-39S	6/17/2011		360.14	21	339.14
MW-40D	6/17/2011	10:39	374.65	27.68	346.97
MW-40S	6/17/2011	10:38	374.69	27.02	347.67
MW-43D	6/17/2011	10:54	380.08	29.02	351.06
MW-43S	6/17/2011	10:56	379.76	28.83	350.93
MW-45	6/17/2011		359.91	14.99	344.92
MW-46	6/17/2011		359.19	14.05	345.14
MW-47	6/17/2011		360.57	18.91	341.66
MW-49D	6/17/2011		361.44	16.24	345.2
MW-49S	6/17/2011		361.45	16.59	344.86
MW-50D	6/17/2011		360.41	20.35	340.06
MW-50S	6/17/2011		360.4	19.25	341.15
MW-51D	6/17/2011		360.43	23.2	337.23
MW-51S	6/17/2011		360.19	23.68	336.51
MW-54	6/17/2011	9:40	365.26	19.93	345.33

Note:

A= Location was artesian.
D= Location was dry.
*= Active extraction well.
DDC= Gauged on different date due to inaccessibility.
OG= Water was over the gauge.
NM= Not measured.

TABLE A-1

SITE-WIDE GROUNDWATER LEVELS AND ELEVATION DATA

FORMER YORK NAVAL ORDNANCE PLANT

1425 Eden Road, York PA 17402

Monitoring Location	Date	Time	Reference Elevation (ft. AMSL)	Depth (ft.)	Water Level (ft. AMSL)
MW-55	6/17/2011	9:42	365.22	19.89	345.33
MW-56	6/17/2011	8:54	371.83	17.53	354.3
MW-57	6/17/2011	9:26	364.54	17.29	347.25
MW-64D	6/17/2011		416.43	65.1	351.33
MW-64S	6/17/2011		416.34	30.5	385.84
MW-65D	6/17/2011		546.8	46.71	500.09
MW-65S	6/17/2011		546.82	47.96	498.86
MW-66D	6/17/2011		506.92	37.51	469.41
MW-66S	6/17/2011		506.73	36.59	470.14
MW-67D	6/17/2011		446.26	1.45	444.81
MW-67S	6/17/2011		446.26	9.35	436.91
MW-68	6/17/2011		458.06	5.49	452.57
MW-69	6/17/2011		411.9	5.88	406.02
MW-70D	6/17/2011		416.31	19.41	396.9
MW-70S	6/17/2011		416.21	19.41	396.8
MW-74D	6/17/2011		359.79	19.08	340.71
MW-74S	6/17/2011		359.85	19.45	340.4
MW-75D	6/17/2011		359.85	20.31	339.54
MW-75S	6/17/2011		359.03	19.14	339.89
MW-77	6/17/2011	8:34	379.48	19.44	360.04
MW-78	6/17/2011	7:57	375.32	18.55	356.77
MW-79	6/17/2011	8:44	375.84	18.36	357.48
MW-80	6/17/2011	9:00	370.29	21.4	348.89
MW-81D	6/17/2011	8:22	359.89	14.08	345.81
MW-81S	6/17/2011	8:22	360.12	14.45	345.67
MW-82	6/17/2011	10:01	384.27	35.78	348.49
MW-83	6/17/2011	8:27	363.69	7.62	356.07
MW-84	6/17/2011	7:59	376.53	20.29	356.24
MW-85	6/17/2011	10:44	371.54	6.82	364.72
MW-86D	6/17/2011		406.56	7.75	398.81
MW-86S	6/17/2011		406.5	9.74	396.76
MW-87	6/17/2011	9:01	370.64	22.2	348.44
MW-88	6/17/2011	9:29	367.93	21.46	346.47
MW-91	6/17/2011		501.18	53.69	447.49
MW-92	6/17/2011		476.87	80.79	396.08
MW-93D	6/17/2011		360.14	19.34	340.8
MW-93S	6/17/2011		360.76	19.71	341.05
MW-94	6/17/2011	8:38	365.03	8.66	356.37
MW-95	6/17/2011		358.72	18.12	340.6
MW-96D	6/17/2011		361	20.47	340.53
MW-96S	6/17/2011		361.21	21.21	340
MW-97	6/17/2011		357.39	20.56	336.83
MW-98D	6/17/2011		361.41	19.65	341.76
MW-98I	6/17/2011		360.78	20.36	340.42

Note:

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TABLE A-1

SITE-WIDE GROUNDWATER LEVELS AND ELEVATION DATA

FORMER YORK NAVAL ORDNANCE PLANT

1425 Eden Road, York PA 17402

Monitoring Location	Date	Time	Reference Elevation (ft. AMSL)	Depth (ft.)	Water Level (ft. AMSL)
MW-98S	6/17/2011		360.77	20.08	340.69
MW-99D	6/17/2011		359.91	18.32	341.59
MW-99S	6/17/2011		360.37	18.9	341.47
MW-100D	6/17/2011		362.14	20.22	341.92
MW-100I	6/17/2011		361.81	20.01	341.8
MW-100S	6/17/2011		362.28	20.51	341.77
MW-101D	6/17/2011		356.22	15.71	340.51
MW-101S	6/17/2011		356.54	16.02	340.52
MW-102D	6/17/2011		405.23	8.7	396.53
MW-102S	6/17/2011		405.41	32.22	373.19
MW-103D	6/17/2011		401.61	15.87	385.74
MW-103S	6/17/2011		402	14.26	387.74
MW-104	6/17/2011		428.72	28.2	400.52
MW-105	6/17/2011		362.05	21.93	340.12
MW-106	6/17/2011		360.15	24.11	336.04
MW-107	6/17/2011		363.56	22.5	341.06
MW-108D	6/17/2011		426.35	15.22	411.13
MW-108S	6/17/2011		425.46	26.65	398.81
MW-109D	6/17/2011		389.12	31.43	357.69
MW-109S	6/17/2011		388.39	31.73	356.66
MW-110	6/17/2011		378.36	21.78	356.58
MW-111	6/17/2011	11:52	433.63	18.53	415.1
MW-112	6/17/2011	9:14	393.52	45.6	347.92
MW-113	6/17/2011	8:57	371.02	22.18	348.84
MW-114	6/17/2011	8:11	360.71	14.95	345.76
MW-115	6/17/2011	8:41	373.3	16.96	356.34
MW-116	6/17/2011	7:39	364.59	16.46	348.13
Ru-MW-1	6/17/2011		389.69	31	358.69
Ru-MW-2	6/17/2011		391.5	34.31	357.19
Ru-MW-3	6/17/2011		395.86	38.66	357.2
Ru-MW-4	6/17/2011		394.17	36.76	357.41
Ru-MW-5	6/17/2011		378.8	21.09	357.71
Ru-MW-6	6/17/2011		383.28	26.16	357.12
Ru-MW-7	6/17/2011			NM	NM
Ru-MW-8	6/17/2011			NM	NM
RW-2	6/17/2011		548.27	NM	NM
RW-5	6/17/2011		375.54	NM	NM
SOFTAIL LIFT STATION	6/17/2011		392.6	NM	NM
WPL-SS-7	6/17/2011		357.78	21.1	336.68
WPL-SS-8	6/17/2011		364.4	23.62	340.78
CODORUS 1	12/22/2011	8:32	379.69	39.56	340.13
CODORUS 2	12/22/2011	8:54	341.63	NM	NM
Cole B	12/22/2011	11:31	363.75	10.95	352.8
Cole D	12/22/2011	11:38	370.15	9.85	360.3

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TABLE A-1

SITE-WIDE GROUNDWATER LEVELS AND ELEVATION DATA

FORMER YORK NAVAL ORDNANCE PLANT

1425 Eden Road, York PA 17402

Monitoring Location	Date	Time	Reference Elevation (ft. AMSL)	Depth (ft.)	Water Level (ft. AMSL)
Cole E deep	12/22/2011	11:40	369.17	14.29	354.88
Cole E shallow	12/22/2011	11:39	369.54	14.65	354.89
Cole F	12/22/2011	11:42	370.39	15.85	354.54
Flush - Cole	12/22/2011	11:22	361.92	9.37	352.55
MW-4 (Cole)	12/22/2011	11:34	367.21	14.11	353.1
CW-1*	12/22/2011	10:28	570.07	76.58	493.49
CW-1A*	12/22/2011	10:27	568.28	60.7	507.58
CW-2*	12/22/2011	10:39	556.95	79.42	477.53
CW-3*	12/22/2011	10:49	518.66	83.7	434.96
CW-4*	12/22/2011	10:46	541.55	85.82	455.73
CW-5*	12/22/2011	11:06	470.34	48.65	421.69
CW-6*	12/22/2011	11:01	484.67	71.17	413.5
CW-7*	12/22/2011	10:22	573.78	77.6	496.18
CW-7A*	12/22/2011	10:23	573.91	50.7	523.21
CW-8*	12/22/2011	9:58	362.7	25.23	337.47
CW-9*	12/22/2011	10:21	356.82	28.22	328.6
CW-13*	12/22/2011	10:30	358.85	34.25	324.6
CW-14	12/22/2011	9:55	358.92	24.89	334.03
CW-15	12/22/2011	12:07	361.48	17.85	343.63
CW-15A*	12/22/2011	12:08	361.4	31.9	329.5
CW-16	12/22/2011		364.6	NM	NM
CW-17*	12/22/2011	9:53	358.7	24.9	333.8
CW-18	12/22/2011	9:40	364.72	17.77	346.95
CW-19	12/22/2011	10:38	384.94	D	D
CW-20	12/22/2011	9:20	361.49	24.2	337.29
Kinsley Well	12/22/2011	12:07	465.83	69.64	396.19
MW-1	12/22/2011	11:28	380.73	35.07	345.66
MW-2	12/22/2011	9:44	508.88	61.03	447.85
MW-3	12/22/2011	10:56	541.1	60.35	480.75
MW-5	12/22/2011	8:46	369.71	21.71	348
MW-6	12/22/2011	9:51	359.62	19.61	340.01
MW-7	12/22/2011	10:34	359.48	26.05	333.43
MW-8	12/22/2011	10:24	358.09	20.55	337.54
MW-9	12/22/2011	10:37	558.78	46.1	512.68
MW-10	12/22/2011	10:32	567.8	50.79	517.01
MW-11	12/22/2011	10:35	563.08	24.2	538.88
MW-12	12/22/2011	10:43	535.93	34.78	501.15
MW-14	12/22/2011	9:58	519.54	29.78	489.76
MW-15	12/22/2011	9:48	524.09	51.2	472.89
MW-16D	12/22/2011	10:52	516.51	6.7	509.81
MW-16S	12/22/2011	10:51	516.6	36.87	479.73
MW-17	12/22/2011	9:13	456.86	11.05	445.81
MW-18D	12/22/2011	11:09	464.19	16.83	447.36
MW-18S	12/22/2011	11:08	464.12	16.59	447.53

Note:

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TABLE A-1

SITE-WIDE GROUNDWATER LEVELS AND ELEVATION DATA

FORMER YORK NAVAL ORDNANCE PLANT

1425 Eden Road, York PA 17402

Monitoring Location	Date	Time	Reference Elevation (ft. AMSL)	Depth (ft.)	Water Level (ft. AMSL)
MW-19	12/22/2011	8:57	427.36	21.15	406.21
MW-20D	12/22/2011	10:20	573.85	33.7	540.15
MW-20M	12/22/2011	10:19	574.19	41.95	532.24
MW-20S	12/22/2011	10:18	574.05	42.64	531.41
MW-22	12/22/2011	9:26	447.57	54.53	393.04
MW-26	12/22/2011	9:38	379.44	22.3	357.14
MW-27	12/22/2011	8:50	361.29	15.32	345.97
MW-28	12/22/2011		362.91	NM	NM
MW-29	12/22/2011	11:44	364.77	12.82	351.95
MW-30	12/22/2011	8:24	362.26	13.78	348.48
MW-31D	12/22/2011	8:33	369.3	14.59	354.71
MW-31S	12/22/2011	8:32	369.28	13.93	355.35
MW-32D	12/22/2011	9:53	362.57	18.91	343.66
MW-32S	12/22/2011	9:55	362.44	19.04	343.4
MW-33	12/22/2011		363.94	NM	NM
MW-34D	12/22/2011	10:04	361	17.54	343.46
MW-34S	12/22/2011	10:03	361	17.56	343.44
MW-35D	12/22/2011	10:12	360.6	17.13	343.47
MW-35S	12/22/2011		360.49	NM	NM
MW-36D	12/22/2011	8:31	370.96	23.18	347.78
MW-36S	12/22/2011	8:32	370.95	22.57	348.38
MW-37D	12/22/2011	9:27	359.11	21.98	337.13
MW-37S	12/22/2011	9:26	359.13	20.41	338.72
MW-38D	12/22/2011	10:13	358.62	21.55	337.07
MW-39D	12/22/2011	10:01	360.21	21.75	338.46
MW-39S	12/22/2011	10:02	360.14	21.28	338.86
MW-40D	12/22/2011	11:35	374.65	29.03	345.62
MW-40S	12/22/2011	11:34	374.69	28.95	345.74
MW-43D	12/22/2011	12:11	380.08	29.31	350.77
MW-43S	12/22/2011	12:12	379.76	28.89	350.87
MW-45	12/22/2011	12:21	359.91	16.39	343.52
MW-46	12/22/2011	12:38	359.19	16.05	343.14
MW-47	12/22/2011	12:42	360.57	20.4	340.17
MW-49D	12/22/2011	12:11	361.44	16.29	345.15
MW-49S	12/22/2011	12:12	361.45	16.3	345.15
MW-50D	12/22/2011	10:53	360.41	20.21	340.2
MW-50S	12/22/2011	10:56	360.4	21.69	338.71
MW-51D	12/22/2011	10:46	360.43	23.61	336.82
MW-51S	12/22/2011	10:44	360.19	24.75	335.44
MW-52	12/22/2011		367.39	NM	NM
MW-53	12/22/2011		367.15	NM	NM
MW-54	12/22/2011		365.26	NM	NM
MW-55	12/22/2011		365.22	NM	NM
MW-56	12/22/2011		371.83	NM	NM

Note:

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TABLE A-1

SITE-WIDE GROUNDWATER LEVELS AND ELEVATION DATA

FORMER YORK NAVAL ORDNANCE PLANT

1425 Eden Road, York PA 17402

Monitoring Location	Date	Time	Reference Elevation (ft. AMSL)	Depth (ft.)	Water Level (ft. AMSL)
MW-57	12/22/2011	9:30	364.54	18.32	346.22
MW-64D	12/22/2011	9:30	416.43	56.2	360.23
MW-64S	12/22/2011	9:29	416.34	29.47	386.87
MW-65D	12/22/2011	10:03	546.8	47.22	499.58
MW-65S	12/22/2011	10:02	546.82	45.89	500.93
MW-66D	12/22/2011	9:54	506.92	36.16	470.76
MW-66S	12/22/2011	9:53	506.73	35.45	471.28
MW-67D	12/22/2011	9:19	446.26	1.42A	444.84A
MW-67S	12/22/2011	9:18	446.26	8.71	437.55
MW-68	12/22/2011	9:15	458.06	4.4	453.66
MW-69	12/22/2011	9:08	411.9	4.98	406.92
MW-70D	12/22/2011	8:54	416.31	18.42	397.89
MW-70S	12/22/2011	8:53	416.21	18.52	397.69
MW-74D	12/22/2011	10:05	359.79	19.2	340.59
MW-74S	12/22/2011	10:03	359.85	19.91	339.94
MW-75D	12/22/2011	9:23	359.85	22.63	337.22
MW-75S	12/22/2011	9:24	359.03	21.25	337.78
MW-77	12/22/2011	8:34	379.48	21.85	357.63
MW-78	12/22/2011	8:36	375.32	19.52	355.8
MW-79	12/22/2011	10:51	375.84	19.4	356.44
MW-80	12/22/2011	12:59	370.29	22.7	347.59
MW-81D	12/22/2011	10:23	359.89	14.71	345.18
MW-81S	12/22/2011	10:22	360.12	15.33	344.79
MW-82	12/22/2011	12:30	384.27	36.32	347.95
MW-83	12/22/2011	10:32	363.69	7.37	356.32
MW-84	12/22/2011	8:37	376.53	21.22	355.31
MW-85	12/22/2011	11:38	371.54	3.73	367.81
MW-86D	12/22/2011	9:05	406.56	7.52	399.04
MW-86S	12/22/2011	9:04	406.5	9.86	396.64
MW-87	12/22/2011	12:58	370.64	23.36	347.28
MW-88	12/22/2011	9:47	367.93	22.61	345.32
MW-91	12/22/2011	9:42	501.18	52.89	448.29
MW-92	12/22/2011	9:36	476.87	78.56	398.31
MW-93D	12/22/2011	9:31	360.14	21.06	339.08
MW-93S	12/22/2011	9:30	360.76	21.59	339.17
MW-94	12/22/2011		365.03	NM	NM
MW-95	12/22/2011	9:40	358.72	18.47	340.25
MW-96D	12/22/2011	9:46	361	21.26	339.74
MW-96S	12/22/2011	9:44	361.21	21.54	339.67
MW-97	12/22/2011	10:17	357.39	20.37	337.02
MW-98D	12/22/2011	8:57	361.41	20.17	341.24
MW-98I	12/22/2011	9:01	360.78	20.71	340.07
MW-98S	12/22/2011	8:59	360.77	20.5	340.27
MW-99D	12/22/2011	8:48	359.91	18.96	340.95

Note:

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D= Location was dry.
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TABLE A-1

SITE-WIDE GROUNDWATER LEVELS AND ELEVATION DATA

FORMER YORK NAVAL ORDNANCE PLANT

1425 Eden Road, York PA 17402

Monitoring Location	Date	Time	Reference Elevation (ft. AMSL)	Depth (ft.)	Water Level (ft. AMSL)
MW-99S	12/22/2011	8:50	360.37	19.51	340.86
MW-100D	12/22/2011	8:44	362.14	21	341.14
MW-100I	12/22/2011	8:43	361.81	20.77	341.04
MW-100S	12/22/2011	8:42	362.28	21.27	341.01
MW-101D	12/22/2011	8:37	356.22	15.98	340.24
MW-101S	12/22/2011	8:39	356.54	16.43	340.11
MW-102D	12/22/2011	8:48	405.23	7.667	397.56
MW-102S	12/22/2011	8:49	405.41	32.21	373.2
MW-103D	12/22/2011	8:45	401.61	15.79	385.82
MW-103S	12/22/2011	8:43	402	14.05	387.95
MW-104	12/22/2011	9:00	428.72	28.07	400.65
MW-105	12/22/2011	9:42	362.05	22.27	339.78
MW-106	12/22/2011	10:11	360.15	24.85	335.3
MW-107	12/22/2011	9:18	363.56	22.89	340.67
MW-108D	12/22/2011	11:36	426.35	15.21	411.14
MW-108S	12/22/2011	11:37	425.46	20.4	405.06
MW-109D	12/22/2011	11:48	389.12	32.13	356.99
MW-109S	12/22/2011	11:49	388.39	32.47	355.92
MW-110	12/22/2011	11:44	378.36	22.54	355.82
MW-111	12/22/2011	11:18	433.63	15.97	417.66
MW-112	12/22/2011	13:05	393.52	46.09	347.43
MW-113	12/22/2011	13:00	371.02	23.27	347.75
MW-114	12/22/2011	8:50	360.71	15.71	345
MW-115	12/22/2011	10:46	373.3	17.79	355.51
MW-116	12/22/2011	8:27	364.59	16.8	347.79
MW-117	12/22/2011		365.19	NM	NM
MW-118	12/22/2011	8:21	378.3	7.26	371.04
MW-119	12/22/2011	8:24	378.28	13.53	364.75
MW-120	12/22/2011	8:28	378.73	7.42	371.31
Mw-121	12/22/2011	8:32	377.4	13.34	364.06
RU-MW-1	12/22/2011	12:35	389.69	31.93	357.76
RU-MW-2	12/22/2011	12:02	391.5	35.07	356.43
RU-MW-3	12/22/2011	12:03	395.86	39.41	356.45
RU-MW-4	12/22/2011	12:04	394.17	37.62	356.55
RU-MW-5	12/22/2011	12:16	378.8	22.26	356.54
RU-MW-6	12/22/2011	12:15	383.28	26.9	356.38
RU-MW-7	12/22/2011			NM	NM
RU-MW-8	12/22/2011	11:54		27.83	
RW-2	12/22/2011		548.27	NM	NM
RW-5	12/22/2011	11:12	375.54	30.4	345.14
SOFTAIL LIFT STATION	12/22/2011	11:25	392.6	29.04	363.56
WPL-SS-7	12/22/2011	10:28	357.78	22.93	334.85
WPL-SS-8	12/22/2011	9:58	364.4	23.96	340.44

Note:

A= Location was artesian.
D= Location was dry.
*= Active extraction well.
DDC= Gauged on different date due to inaccessibility.
OG= Water was over the gauge.
NM= Not measured.

Table A-2.
Collection Well Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-1 6/22/2011	CW-1 12/14/2011	CW-1A 6/22/2011	CW-1A 12/14/2011	CW-2 6/22/2011	CW-2 12/14/2011	CW-3 6/22/2011	CW-3 12/14/2011	CW-4 6/22/2011
TOTAL VOC													
					54	45	43.82	28.64	18.24	13.19	34.7	35.87	91.1
Volatile Organic Compound													
1,1,1,2-Tetrachloroethane	70	70		0.52	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
1,1,1-Trichloroethane	200	200	200	9100	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.067	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
1,1,2-Trichloroethane	5	5	5	0.24	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
1,1-Dichloroethane	31	160		2.4	2 U	1 UJ	2 U	1 UJ	1 U	1 UJ	1 U	1 UJ	2 U
1,1-Dichloroethene	7	7	7	340	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0065	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
1,2-Dichloroethane	5	5	5	0.15	2 U	1 UJ	2 U	1 UJ	1 U	1 UJ	1 U	1 UJ	2 U
1,2-Dichloropropane	5	5	5	0.39	2 U	1 UJ	2 U	1 UJ	1 U	1 UJ	1 U	1 UJ	2 U
1,4-Dioxane	6.4	32		0.67	400 U	200 U	400 U	200 U	200 U	200 U	200 U	200 U	400 U
2-Butanone	4000	4000		7100	10 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U
2-Hexanone	11	44		47	10 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U
4-Methyl-2-Pentanone	2900	8200		2000	10 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U
Acetone	33000	92000		22000	10 U	5 UJ	10 U	5 UJ	5 U	5 UJ	4.2 J	6.1 J	10 U
Acrylonitrile	0.72	3.7		0.045	40 U	20 U	40 U	20 U	20 U	20 U	20 U	20 U	40 U
Benzene	5	5	5	0.41	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Bromochloromethane	90	90			2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Bromodichloromethane	80	80		0.12	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Bromoform	80	80		8.5	2 U	1 U	2 U	1 U	1 U	1 U	1 U	0.25 J	2 U
Bromomethane	10	10		8.7	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Carbon Disulfide	1500	6200		1000	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Carbon Tetrachloride	5	5	5	0.44	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Chlorobenzene	100	100	100	91	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Chlorodibromomethane	80	80		0.15	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Chloroethane	230	900		21000	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Chloroform	80	80		0.19	2 U	1 U	0.43 J	0.23 J	1 U	1 U	1 U	1 U	2 U
Chloromethane	30	30		190	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
cis-1,2-Dichloroethene	70	70	70	73	11	12	0.7 J	0.89 J	3.9	3.1 J	19	20	30
cis-1,3-Dichloropropene	6.6	26		0.43	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Ethylbenzene	700	700	700	1.5	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Methyl tert-butyl ether	20	20		12	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Methylene chloride	5	5		4.8	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Styrene	100	100	100	1600	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Tetrachloroethene	5	5	5	0.11	2 U	1 U	0.69 J	0.52 J	0.34 J	0.19 J	2.2	0.92 J	6.1
Toluene	1000	1000	1000	2300	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
trans-1,2-Dichloroethene	100	100	100	110	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
trans-1,3-Dichloropropene	6.6	26		0.43	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Trichloroethene	5	5	5	2	43	33	42	27	14	9.9	9.3	8.6	55
Vinyl Chloride	2	2	2	0.016	2 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	2 U
Xylenes (Total)	10000	10000	10000	200	6 U	3 U	6 U	3 U	3 U	3 U	3 U	3 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-2.
Collection Well Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-4 12/14/2011	CW-5 6/22/2011	CW-5 12/14/2011	CW-6 6/22/2011	CW-6 12/14/2011	CW-7 6/22/2011	CW-7 12/14/2011	CW-7A 6/22/2011	CW-7A 12/14/2011	CW-8 6/27/2011
TOTAL VOC														
					75.7	8.87	5.08	144	126.9	6.3	5.1	115.2	115.66	505.6
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.52	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
1,1,1-Trichloroethane	200	200	200	9100	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.067	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
1,1,2-Trichloroethane	5	5	5	0.24	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
1,1-Dichloroethane	31	160		2.4	2 UJ	1 U	1 UJ	5 U	5 UJ	1 U	1 UJ	5 U	5 UJ	20 U
1,1-Dichloroethene	7	7	7	340	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0065	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
1,2-Dichloroethane	5	5	5	0.15	2 UJ	1 U	1 UJ	5 U	5 UJ	1 U	1 UJ	5 U	5 UJ	20 U
1,2-Dichloropropane	5	5	5	0.39	2 UJ	1 U	1 UJ	5 U	5 UJ	1 U	1 UJ	5 U	5 UJ	20 U
1,4-Dioxane	6.4	32		0.67	400 U	200 U	200 U	1000 U	1000 U	200 U	200 U	1000 U	1000 U	4000 U
2-Butanone	4000	4000		7100	10 U	5 U	5 U	25 U	25 U	5 U	5 U	25 U	25 U	100 U
2-Hexanone	11	44		47	10 U	5 U	5 U	25 U	25 U	5 U	5 U	25 U	25 U	100 U
4-Methyl-2-Pentanone	2900	8200		2000	10 U	5 U	5 U	25 U	25 U	5 U	5 U	25 U	25 U	100 U
Acetone	33000	92000		22000	10 UJ	5 U	5 UJ	25 U	25 UJ	5 U	5 UJ	25 U	25 UJ	100 U
Acrylonitrile	0.72	3.7		0.045	40 U	20 U	20 U	100 U	100 U	20 U	20 U	100 U	100 U	400 U
Benzene	5	5	5	0.41	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Bromochloromethane	90	90			2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Bromodichloromethane	80	80		0.12	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Bromoform	80	80		8.5	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Bromomethane	10	10		8.7	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Carbon Disulfide	1500	6200		1000	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Carbon Tetrachloride	5	5	5	0.44	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Chlorobenzene	100	100	100	91	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Chlorodibromomethane	80	80		0.15	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Chloroethane	230	900		21000	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Chloroform	80	80		0.19	2 U	0.17 J	0.18 J	5 U	5 U	1.4	1.2	1.3 J	0.96 J	20 U
Chloromethane	30	30		190	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
cis-1,2-Dichloroethene	70	70	70	73	26	3.1	1.6	35	33	1 U	1 U	1.6 J	1.4 J	130
cis-1,3-Dichloropropene	6.6	26		0.43	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Ethylbenzene	700	700	700	1.5	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Methyl tert-butyl ether	20	20		12	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Methylene chloride	5	5		4.8	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Styrene	100	100	100	1600	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Tetrachloroethene	5	5	5	0.11	4.7	2.5	1.6	90	76	1 U	1 U	2.3 J	3.3 J	29
Toluene	1000	1000	1000	2300	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
trans-1,2-Dichloroethene	100	100	100	110	2 U	1 U	1 U	5 U	0.9 J	1 U	1 U	5 U	5 U	6.6 J
trans-1,3-Dichloropropene	6.6	26		0.43	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Trichloroethene	5	5	5	2	45	3.1	1.7	19	17	4.9	3.9	110	110	340
Vinyl Chloride	2	2	2	0.016	2 U	1 U	1 U	5 U	5 U	1 U	1 U	5 U	5 U	20 U
Xylenes (Total)	10000	10000	10000	200	2 U	3 U	3 U	15 U	15 U	3 U	3 U	15 U	15 U	60 U

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

Table A-2.
Collection Well Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-8 12/14/2011	CW-9 6/22/2011	CW-9 12/14/2011	CW-13 6/22/2011	CW-13 12/14/2011	CW-15A 6/22/2011	CW-15A 12/14/2011	CW-17 6/22/2011	CW-17 12/14/2011	CW-17 Dup 12/14/2011
TOTAL VOC														
					447.1	1178	705.9	823.4	666.5	11970	16293	221	249.4	250.5
Volatile Organic Compound														
1,1,1,2-Tetrachloroethane	70	70		0.52	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
1,1,1-Trichloroethane	200	200	200	9100	8.5 J	41 J	23 J	6.7 J	10 U	3600	4600	9.2 J	8.8 J	8 J
1,1,2,2-Tetrachloroethane	0.84	4.3		0.067	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
1,1,2-Trichloroethane	5	5	5	0.24	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
1,1-Dichloroethane	31	160		2.4	2.6 J	50 U	4.1 J	3.6 J	2.8 J	400 U	93 J	3.5 J	3.8 J	3.7 J
1,1-Dichloroethene	7	7	7	340	11 J	50 U	7.8 J	6.2 J	7.1 J	840	1600	6.3 J	8.8 J	8.8 J
1,2-Dibromoethane	0.05	0.05	0.05	0.0065	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
1,2-Dichloroethane	5	5	5	0.15	20 UJ	50 U	25 UJ	10 U	10 UJ	400 U	500 UJ	10 U	10 UJ	10 UJ
1,2-Dichloropropane	5	5	5	0.39	20 UJ	50 U	25 UJ	10 U	10 UJ	400 U	500 UJ	10 U	10 UJ	10 UJ
1,4-Dioxane	6.4	32		0.67	4000 U	10000 U	5000 U	2000 U	2000 U	80000 U	100000 U	2000 U	2000 U	2000 U
2-Butanone	4000	4000		7100	100 U	250 U	130 U	50 U	50 U	2000 U	2500 U	50 U	50 U	50 U
2-Hexanone	11	44		47	100 U	250 U	130 U	50 U	50 U	2000 U	2500 U	50 U	50 U	50 U
4-Methyl-2-Pentanone	2900	8200		2000	100 U	250 U	130 U	50 U	50 U	2000 U	2500 U	50 U	50 U	50 U
Acetone	33000	92000		22000	100 UJ	250 U	130 UJ	50 U	50 UJ	2000 U	2500 UJ	50 U	50 UJ	50 UJ
Acrylonitrile	0.72	3.7		0.045	400 U	1000 U	500 U	200 U	200 U	8000 U	10000 U	200 U	200 U	200 U
Benzene	5	5	5	0.41	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Bromochloromethane	90	90			20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Bromodichloromethane	80	80		0.12	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Bromoform	80	80		8.5	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Bromomethane	10	10		8.7	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Carbon Disulfide	1500	6200		1000	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Carbon Tetrachloride	5	5	5	0.44	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Chlorobenzene	100	100	100	91	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Chlorodibromomethane	80	80		0.15	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Chloroethane	230	900		21000	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Chloroform	80	80		0.19	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Chloromethane	30	30		190	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	70	70	70	73	140	77	61	360	320	4100	6100	55	65	65
cis-1,3-Dichloropropene	6.6	26		0.43	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Ethylbenzene	700	700	700	1.5	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Methyl tert-butyl ether	20	20		12	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Methylene chloride	5	5		4.8	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Styrene	100	100	100	1600	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Tetrachloroethene	5	5	5	0.11	35	670	370	140	130	930	1000	37	53	55
Toluene	1000	1000	1000	2300	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	100	100	100	110	20 U	50 U	25 U	10 U	2 J	400 U	500 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	6.6	26		0.43	20 U	50 U	25 U	10 U	10 U	400 U	500 U	10 U	10 U	10 U
Trichloroethene	5	5	5	2	250	390	240	300	200	2500	2900	110	110	110
Vinyl Chloride	2	2	2	0.016	20 U	50 U	25 U	6.9 J	4.6 J	400 U	500 U	10 U	10 U	10 U
Xylenes (Total)	10000	10000	10000	200	60 U	150 U	75 U	30 U	30 U	1200 U	1500 U	30 U	30 U	30 U

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

Table A-2.
Collection Well Groundwater Data Summary
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	MSC Used Aquifer R (ug/L)	MSC Used Aquifer NR (ug/L)	Federal MCL (ug/L)	EPA RSL Tap Water (ug/L)	CW-20 6/27/2011
TOTAL VOC					
					12100
Volatile Organic Compound					
1,1,1,2-Tetrachloroethane	70	70		0.52	500 U
1,1,1-Trichloroethane	200	200	200	9100	500 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.067	500 U
1,1,2-Trichloroethane	5	5	5	0.24	500 U
1,1-Dichloroethane	31	160		2.4	500 U
1,1-Dichloroethene	7	7	7	340	500 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0065	500 U
1,2-Dichloroethane	5	5	5	0.15	500 U
1,2-Dichloropropane	5	5	5	0.39	500 U
1,4-Dioxane	6.4	32		0.67	100000 U
2-Butanone	4000	4000		7100	2500 U
2-Hexanone	11	44		47	2500 U
4-Methyl-2-Pentanone	2900	8200		2000	2500 U
Acetone	33000	92000		22000	2500 U
Acrylonitrile	0.72	3.7		0.045	10000 U
Benzene	5	5	5	0.41	500 U
Bromochloromethane	90	90			500 U
Bromodichloromethane	80	80		0.12	500 U
Bromoform	80	80		8.5	500 U
Bromomethane	10	10		8.7	500 U
Carbon Disulfide	1500	6200		1000	500 U
Carbon Tetrachloride	5	5	5	0.44	500 U
Chlorobenzene	100	100	100	91	500 U
Chlorodibromomethane	80	80		0.15	500 U
Chloroethane	230	900		21000	500 U
Chloroform	80	80		0.19	500 U
Chloromethane	30	30		190	500 U
cis-1,2-Dichloroethene	70	70	70	73	6400
cis-1,3-Dichloropropene	6.6	26		0.43	500 U
Ethylbenzene	700	700	700	1.5	500 U
Methyl tert-butyl ether	20	20		12	500 U
Methylene chloride	5	5		4.8	500 U
Styrene	100	100	100	1600	500 U
Tetrachloroethene	5	5	5	0.11	2400
Toluene	1000	1000	1000	2300	500 U
trans-1,2-Dichloroethene	100	100	100	110	500 U
trans-1,3-Dichloropropene	6.6	26		0.43	500 U
Trichloroethene	5	5	5	2	3300
Vinyl Chloride	2	2	2	0.016	500 U
Xylenes (Total)	10000	10000	10000	200	1500 U

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

TABLE A-3
WATER QUALITY ANALYSES
PACKED TOWER AERATOR SAMPLES (January 1, 2011 - December 31, 2011)
Former York Naval Ordnance Plant
1425 Eden Road, York PA 17402

Sample ID		Outfall #003 GWTS	Outfall #003 GWTS	Outfall #003 GWTS	Outfall #003 GWTS
Lab ID		9884111001	9897659001	9914098001	9931875001
Sample Date		1/7/2011	4/1/2011	7/6/2011	10/13/2011
Parameter	Units	Result	Result	Result	Result
1,1-DICHLOROETHENE	µg/l	N.D.@1	N.D.@1	N.D.@1	N.D.@1
TETRACHLOROETHENE	µg/l	N.D.@1	N.D.@1	N.D.@1	N.D.@1
TRICHLOROETHENE	µg/l	N.D.@1	N.D.@1	N.D.@1	N.D.@1
METHYLENE CHLORIDE	µg/l	N.D.@1	N.D.@1	N.D.@1	N.D.@1
VINYL CHLORIDE	µg/l	N.D.@1	N.D.@1	N.D.@1	N.D.@1
TOTAL VOCs	µg/l	0	0	0	0

Sample ID		Influent to #003 GWTS	Influent to #003 GWTS	Influent to #003 GWTS	Influent to #003 GWTS
Lab ID		9884112001	9897660001	9914099001	9931874001
Sample Date		1/7/2011	4/1/2011	7/6/2011	10/13/11
Parameter	Units	Result	Result	Result	Result
1,1,1-TRICHLOROETHANE	µg/l	51.1	93.3	110	86.6
1,1-DICHLOROETHANE	µg/l	5.4	6.7	6.7	5.9
1,1-DICHLOROETHENE	µg/l	20	38.9	31.5	26.6
1,2-DICHLOROETHANE	µg/l	N.D.@1	N.D.@1	N.D.@1	N.D.@1
CHLOROBENZENE	µg/l	1	N.D.@1	1.1	N.D.@1
CHLOROFORM	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
TETRACHLOROETHENE	µg/l	276	220	299	155
TRICHLOROETHENE	µg/l	312	325	360	299
VINYL CHLORIDE	µg/l	N.D.@1	3	4.1	3.4
CIS 1,2-DICHLOROETHENE	µg/l	191	241	272	282
TRANS 1,2-DICHLOROETHENE	µg/l	N.D.@1	4.7	1.9	1.5
TOTAL VOCs	µg/l	857	933	1086	860

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

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

APPENDIX B

2011 Access® Database Summary
Groundwater Treatment Plant Operations

Harley-Davidson Motor Company

Groundwater Treatment Plant Operations

From: 1/1/2011
To: 12/31/2011

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
1/1/2011	1	23.97	1	23.97	407482.4	3	12.00	4	11.98	2033	7.0	0	0	0.00
1/2/2011	1	23.97	1	23.97	448959.5	3	12.00	4	11.98	2169	7.0	0	0	0.00
1/3/2011	1	23.97	1	23.97	445977.6	3	12.00	4	11.98	2185	7.0	0	0	0.00
1/4/2011	1	23.97	1	23.97	444072.1	3	12.00	4	11.98	2175	7.0	0	0	0.00
1/5/2011	1	23.97	1	23.97	437609.9	3	12.00	4	11.98	2158	7.0	0	0	0.00
1/6/2011	1	23.97	1	23.97	432313.7	3	12.00	4	11.97	2148	7.0	0	0	0.00
1/7/2011	1	23.97	1	23.97	429104.2	3	12.00	4	11.97	2145	7.0	0	0	0.00
1/8/2011	1	23.97	1	23.97	427772.4	3	12.00	4	11.97	2157	7.0	0	0	0.00
1/9/2011	1	23.97	1	23.97	426994.7	3	12.00	4	11.98	2160	7.0	0	0	0.00
1/10/2011	1	23.97	1	23.97	427634.3	3	12.00	4	11.98	2157	7.0	0	0	0.00
1/11/2011	1	23.97	1	23.97	426738.3	3	12.00	4	11.97	2411	7.0	0	0	0.00
1/12/2011	1	23.97	1	23.97	421105.2	3	12.00	4	11.97	2399	7.0	0	0	0.00
1/13/2011	1	23.97	1	23.97	420296.6	3	12.00	4	11.97	2405	7.0	0	0	0.00
1/14/2011	1	16.27	1	16.18	283670.2	3	8.15	3	8.12	1536	0.0	0	0	0.00
1/15/2011	0	0.00	0	0.00	0	0	0.00	0	0.00	-8	0.0	0	0	0.00
1/16/2011	0	0.00	0	0.00	145.23	0	0.00	0	0.00	-57	0.0	0	0	0.00
1/17/2011	0	0.00	0	0.00	0	0	0.00	0	0.00	-57	0.0	0	0	0.00
1/18/2011	1	17.67	1	17.65	311654.3	3	9.53	2	8.00	1627	6.0	0	0	0.00
1/19/2011	1	23.97	1	23.97	430658.4	4	11.97	3	12.00	2129	6.0	0	0	0.00
1/20/2011	1	23.97	1	23.97	435571.5	4	11.97	3	12.00	2163	6.0	0	0	0.00
1/21/2011	1	23.97	1	23.97	438157.9	4	11.98	3	12.00	2194	6.0	0	0	0.00
1/22/2011	1	23.97	1	23.97	436560.3	4	11.98	3	12.00	2194	6.0	0	0	0.00
1/23/2011	1	23.97	1	23.97	436855.9	4	11.97	3	12.00	2201	6.0	0	0	0.00
1/24/2011	1	23.97	1	23.97	438127	4	11.97	3	12.00	2188	6.0	0	0	0.00
1/25/2011	1	23.97	1	23.97	437996.2	4	11.97	3	12.00	2165	6.0	0	0	0.00
1/26/2011	1	23.97	1	23.97	352165.2	10	7.98	19	8.00	1961	6.0	0	0	0.00
1/27/2011	1	23.97	1	23.97	294383.3	26	6.42	18	4.00	1830	6.0	0	0	0.00
1/28/2011	1	23.97	1	23.97	295857.2	22	5.98	28	8.00	1839	6.0	0	0	0.00
1/29/2011	1	23.97	1	23.97	294427.6	24	9.65	22	8.00	1849	6.0	0	0	0.00
1/30/2011	1	23.97	1	23.97	294212.3	8	10.30	10	12.00	1848	6.0	0	0	0.00
1/31/2011	1	23.97	3	23.82	372267.8	5	11.72	3	12.00	2023	6.0	0	0	0.00
2/1/2011	1	23.97	1	23.97	420021.6	4	11.97	3	12.00	2121	6.0	0	0	0.00
2/2/2011	1	23.97	1	23.97	428455.3	4	11.98	3	12.00	2133	6.0	0	0	0.00
2/3/2011	1	23.97	1	23.97	432882.2	4	11.98	3	12.00	2161	6.0	0	0	0.00
2/4/2011	1	23.97	1	23.97	433408.5	4	11.97	3	12.00	2164	6.0	0	0	0.00
2/5/2011	1	23.97	1	23.97	433619.7	4	11.97	3	12.00	2157	6.0	0	0	0.00
2/6/2011	1	23.97	1	23.97	433600.1	4	11.98	3	12.00	2153	6.0	0	0	0.00
2/7/2011	1	23.97	1	23.97	433240.7	4	11.97	3	12.00	2140	6.0	0	0	0.00
2/8/2011	1	23.97	1	23.97	433550.7	4	11.98	3	12.00	2172	6.0	0	0	0.00
2/9/2011	1	23.97	1	23.97	433962.7	4	11.98	3	12.00	2184	6.0	0	0	0.00
2/10/2011	1	23.97	1	23.97	434029.6	4	11.97	3	12.00	2189	6.0	0	0	0.00

DATE	Tower Blower Cycles	Tower Blower Hours	Tower Pump Cycles	Tower Pump Hours	Discharge Flow	Effluent P1 Cycles	Effluent P1 Hours	Effluent P2 Cycles	Effluent P2 Hours	KWH	pH	De-Water Flow	SVE Blower Cycles	SVE Blower Hours
2/11/2011	1	23.97	1	23.97	432501.1	4	11.97	3	12.00	2188	6.0	0	0	0.00
2/12/2011	1	23.97	1	23.97	432275.5	4	11.97	3	12.00	2187	6.0	0	0	0.00
2/13/2011	1	23.97	1	23.97	432136.5	4	11.98	3	12.00	2173	6.0	0	0	0.00
2/14/2011	1	23.97	1	23.97	432582.5	4	11.98	3	12.00	2155	6.0	0	0	0.00
2/15/2011	1	23.97	1	23.97	433080	4	11.97	3	12.00	2176	6.0	0	0	0.00
2/16/2011	1	23.97	1	23.97	433263.3	4	11.97	3	12.00	2166	6.0	0	0	0.00
2/17/2011	1	23.97	1	23.97	433155.2	4	11.98	3	12.00	1890	6.0	0	0	0.00
2/18/2011	1	23.97	1	23.97	433293.2	4	11.97	3	12.00	1884	6.0	0	0	0.00
2/19/2011	1	23.97	1	23.97	433023.3	4	11.98	3	12.00	2178	6.0	0	0	0.00
2/20/2011	1	23.97	1	23.97	433074.8	4	11.97	3	12.00	2180	6.0	0	0	0.00
2/21/2011	1	23.97	1	23.97	431188.9	4	11.97	3	12.00	2181	6.0	0	0	0.00
2/22/2011	1	23.97	1	23.97	312985.1	5	5.07	1	4.00	1887	6.0	0	0	0.00
2/23/2011	1	23.97	1	23.97	301544.8	11	8.32	8	8.00	1797	6.0	0	0	0.00
2/24/2011	1	23.97	1	23.97	380235.8	5	9.88	3	12.00	2006	6.0	0	0	0.00
2/25/2011	1	23.97	1	23.97	439696.7	4	11.97	3	12.00	2171	6.0	0	0	0.00
2/26/2011	1	23.97	1	23.97	440990.4	4	11.98	3	12.00	2186	6.0	0	0	0.00
2/27/2011	1	23.97	1	23.97	441070.7	4	11.98	3	12.00	1902	6.0	0	0	0.00
2/28/2011	1	23.97	1	23.97	406274.2	4	11.00	3	10.08	1788	6.0	0	0	0.00
3/1/2011	2	23.97	2	23.92	439983	4	14.07	4	9.90	2159	6.0	0	0	0.00
3/2/2011	1	23.97	1	23.97	442767.1	4	11.97	3	12.00	2171	6.0	0	0	0.00
3/3/2011	1	23.97	1	23.97	442766.1	4	11.98	3	12.00	2194	6.0	0	0	0.00
3/4/2011	1	23.97	1	23.97	443625.1	4	11.98	3	12.00	2176	6.0	0	0	0.00
3/5/2011	1	23.97	1	23.97	443647.8	4	11.97	3	12.00	1895	6.0	0	0	0.00
3/6/2011	1	23.97	1	23.97	443510.8	4	11.97	3	12.00	2147	6.0	0	0	0.00
3/7/2011	1	23.97	1	23.97	447143.6	4	11.98	3	12.00	2176	6.0	0	0	0.00
3/8/2011	1	23.97	1	23.97	545059.6	3	11.98	3	12.00	2183	6.0	0	0	0.00
3/9/2011	1	23.97	1	23.97	460975.5	3	12.05	4	12.02	2189	6.0	0	0	0.00
3/10/2011	3	22.02	9	21.82	407785.2	4	12.27	3	13.68	1964	6.0	0	0	0.00
3/11/2011	1	23.97	1	23.97	476679.9	3	12.27	3	15.98	2195	6.0	0	0	0.00
3/12/2011	1	23.97	1	23.97	418186.2	3	12.00	4	11.87	2051	6.0	0	0	0.00
3/14/2011	1	23.97	1	23.97	375539	4	11.87	3	12.00	1936	6.0	0	0	0.00
3/14/2011	1	23.97	1	23.97	396862.5	1	11.90	3	12.00	1994	6.0	0	0	0.00
3/15/2011	1	23.97	1	23.97	368761.6	4	11.98	3	12.00	1916	6.0	0	0	0.00
3/16/2011	1	23.97	1	23.97	370230.4	4	11.97	3	12.00	1903	6.0	0	0	0.00
3/17/2011	2	14.82	2	14.80	228403.5	4	6.70	2	8.00	1011	6.0	0	0	0.00
3/18/2011	1	23.97	1	23.97	461714	3	17.48	1	20.95	1858	6.0	0	0	0.00
3/19/2011	1	23.97	1	23.97	487309.5	3	16.73	1	23.98	1952	6.0	0	0	0.00
3/20/2011	1	23.97	1	23.97	487478.4	3	18.02	1	23.97	2231	6.0	0	0	0.00
3/21/2011	1	23.97	1	23.97	487378.5	2	20.28	1	23.97	1959	6.0	0	0	0.00
3/22/2011	1	23.97	1	23.97	483839.4	3	16.53	2	22.18	1950	6.0	0	0	0.00
3/23/2011	1	23.97	1	23.97	460938.4	4	12.02	3	12.00	2423	6.0	0	0	0.00
3/24/2011	1	23.97	1	23.97	482339.7	4	12.40	2	17.20	2478	6.0	0	0	0.00
3/25/2011	1	23.97	1	23.97	458326.3	4	12.28	3	18.73	2438	6.0	0	0	0.00
3/26/2011	1	23.97	2	23.87	439540.1	6	13.75	6	11.05	2392	6.0	0	0	0.00
3/27/2011	1	23.97	1	23.97	471986.2	3	12.18	4	12.00	2218	6.0	0	0	0.00
3/28/2011	1	23.97	1	23.97	477138.2	3	12.20	4	12.02	2203	6.0	5850	0	0.00
3/29/2011	1	23.97	1	23.97	469111.4	3	12.20	4	12.00	2210	6.0	440	0	0.00

DATE	Tower Blower Cycles	Tower Blower Hours	Tower Pump Cycles	Tower Pump Hours	Discharge Flow	Effluent P1 Cycles	Effluent P1 Hours	Effluent P2 Cycles	Effluent P2 Hours	KWH	pH	De-Water Flow	SVE Blower Cycles	SVE Blower Hours
3/30/2011	1	23.97	1	23.97	464869.9	3	12.15	4	12.02	2206	6.0	430	0	0.00
3/31/2011	1	23.97	1	23.97	472481.6	3	12.17	4	11.98	2460	6.0	3590	0	0.00
4/1/2011	1	23.97	1	23.97	481512.6	3	12.25	4	12.00	2218	6.0	5230	0	0.00
4/2/2011	1	23.97	1	23.97	473017.2	3	12.20	4	11.98	2206	6.0	2070	0	0.00
4/3/2011	1	23.97	1	23.97	469276.2	3	12.20	4	11.97	2197	6.0	1190	0	0.00
4/4/2011	1	23.97	1	23.97	467421.2	3	12.15	4	11.98	1907	7.0	830	0	0.00
4/5/2011	1	23.97	1	23.97	474452	3	12.20	4	12.00	1924	7.0	3770	0	0.00
4/6/2011		23.97	1	23.97	466607.5	3	12.10	3	12.00	2056	7.0	1030	0	0.00
4/7/2011	1	23.97	1	23.97	466607.5	3	12.20	4	12.00	2057	7.0	1030	0	0.00
4/8/2011	1	23.97	1	23.97	471294	3	12.20	4	12.00	2197	6.0	4310	0	0.00
4/9/2011	1	23.97	1	23.97	465979.2	3	12.13	4	12.00	2171	7.0	3070	0	0.00
4/10/2011	1	23.97	1	23.97	465542.5	3	12.08	4	12.00	1922	7.0	1230	0	0.00
4/11/2011	1	23.97	1	23.97	466055.4	3	12.15	4	12.00	1897	7.0	1930	0	0.00
4/12/2011	2	23.97	2	23.97	469447.2	6	14.58	4	9.48	1910	7.0	4990	0	0.00
4/13/2011	1	23.97	1	23.97	407284.7	4	12.03	3	12.00	1763	7.0	6590	0	0.00
4/14/2011	1	23.97	1	23.97	378603.3	4	11.98	3	12.00	1671	7.0	2660	0	0.00
4/15/2011	1	15.38	1	15.38	246744.5	3	8.56	2	6.70	992	7.0	4527	0	0.00
4/16/2011	0	0.00	0	0.00	0	0	0.00	0	0.00	0	0.0	0	0	0.00
4/17/2011	0	0.00	0	0.00	0	0	0.00	0	0.00	0	0.0	0	0	0.00
4/18/2011	2	12.00	2	12.00	192537.1	2	6.68	1	5.30	774	7.0	3533	0	0.00
4/19/2011	1	23.97	1	23.97	390074.4	4	11.97	3	12.00	1668	7.0	4060	0	0.00
4/20/2011	1	23.97	1	23.97	416473.3	4	11.97	3	12.00	1718	7.0	2760	0	0.00
4/21/2011	1	23.97	1	23.97	422990.1	4	11.97	3	12.00	1729	7.0	1620	0	0.00
4/22/2011	1	23.97	1	23.97	428968.2	4	11.98	3	12.00	2013	7.0	1200	0	0.00
4/23/2011	1	23.97	1	23.97	428425.4	4	11.98	3	12.00	1748	7.0	3140	0	0.00
4/24/2011	1	23.97	1	23.97	426060.5	4	11.97	3	12.00	1732	7.0	2710	0	0.00
4/25/2011	1	23.97	1	23.97	424965.6	4	11.97	3	12.00	1723	7.0	1850	0	0.00
4/26/2011	1	23.97	1	23.97	424063.3	4	11.97	3	12.00	1697	7.0	1250	0	0.00
4/27/2011	1	23.97	1	23.97	423336.2	4	11.97	3	12.00	1699	7.0	950	0	0.00
4/28/2011	1	23.97	1	23.97	430059	4	11.98	3	12.00	1713	7.0	9400	0	0.00
4/29/2011	1	23.97	1	23.97	445796.3	4	11.98	3	12.00	1824	7.0	2060	0	0.00
4/30/2011	1	23.97	1	23.97	461106.3	4	12.00	3	12.00	1917	7.0	1230	0	0.00
5/1/2011	1	23.97	1	23.97	460940.4	4	12.02	3	12.00	1920	7.0	1240	0	0.00
5/2/2011	1	23.97	1	23.97	460939.4	4	12.02	3	12.00	1888	7.0	1210	0	0.00
5/3/2011	1	23.97	1	23.97	460901.3	4	12.02	3	12.00	1864	7.0	810	0	0.00
5/4/2011	1	23.97	1	23.97	460823	4	12.00	3	12.00	1873	7.0	3810	0	0.00
5/5/2011	1	23.97	1	23.97	460898.2	3	11.98	3	12.00	1850	7.0	1370	0	0.00
5/6/2011	1	23.97	1	23.97	460805.5	3	12.00	4	11.98	1842	7.0	920	0	0.00
5/7/2011	1	23.97	1	23.97	460773.6	3	12.00	4	11.98	1839	7.0	890	0	0.00
5/8/2011	1	23.97	1	23.97	460749.9	3	12.00	4	11.98	1842	7.0	510	0	0.00
5/9/2011	1	23.97	1	23.97	460814.8	3	12.00	4	12.00	1842	7.0	500	0	0.00
5/10/2011	1	23.97	1	23.97	460907.5	3	12.00	4	12.00	1841	7.0	460	0	0.00
5/11/2011	1	23.97	1	23.97	460553.2	3	12.00	4	12.02	1834	7.0	300	0	0.00
5/12/2011	1	23.97	1	23.97	460776.7	3	12.00	4	12.02	1869	7.0	280	0	0.00
5/13/2011	1	23.97	1	23.97	461320.5	3	12.00	4	12.00	1882	7.0	130	0	0.00
5/14/2011	1	23.97	1	23.97	461248.4	3	12.00	4	12.00	1893	7.0	260	0	0.00
5/15/2011	1	23.97	1	23.97	460945.6	3	12.00	4	11.98	1867	7.0	6740	0	0.00

DATE	Tower Blower Cycles	Tower Blower Hours	Tower Pump Cycles	Tower Pump Hours	Discharge Flow	Effluent P1 Cycles	Effluent P1 Hours	Effluent P2 Cycles	Effluent P2 Hours	KWH	pH	De-Water Flow	SVE Blower Cycles	SVE Blower Hours
5/16/2011	1	23.97	1	23.97	461123.8	3	12.02	4	11.98	1877	7.0	4300	0	0.00
5/17/2011	1	23.97	1	23.97	461293.7	3	12.03	4	11.98	1876	7.0	6720	0	0.00
5/18/2011	1	23.97	1	23.97	461085.7	3	12.02	4	11.98	1850	7.0	28520	0	0.00
5/19/2011	2	23.83	2	23.75	460115.4	4	9.88	4	13.53	1868	7.0	15700	0	0.00
5/20/2011	1	23.97	1	23.97	457704.2	4	11.98	3	12.00	1858	7.0	12250	0	0.00
5/21/2011	2	23.57	2	23.55	456225.1	4	11.62	3	16.00	1839	7.0	4900	0	0.00
5/22/2011	1	23.97	1	23.97	463879	4	12.15	3	12.00	1858	7.0	2720	0	0.00
5/23/2011	1	23.97	1	23.97	462203.2	4	12.10	3	12.00	1839	7.0	2450	0	0.00
5/24/2011	1	23.97	1	23.97	461468.8	4	12.07	3	12.00	1832	7.0	1880	0	0.00
5/25/2011	1	23.97	1	23.97	461312.3	4	12.02	3	12.00	1831	7.0	1230	0	0.00
5/26/2011	1	23.97	1	23.97	461096	4	12.02	3	12.00	1827	7.0	1260	0	0.00
5/27/2011	1	23.97	1	23.97	461234	4	12.00	3	12.00	1842	7.0	1440	0	0.00
5/28/2011	1	23.97	1	23.97	461155.7	4	12.03	3	12.00	1850	7.0	1180	0	0.00
5/29/2011	1	23.97	1	23.97	461254.6	4	12.02	3	12.00	1848	7.0	650	0	0.00
5/30/2011	1	23.97	1	23.97	461323.6	4	12.02	3	12.00	1847	7.0	410	0	0.00
5/31/2011	1	23.97	1	23.97	461128.9	4	11.98	3	12.00	1869	7.0	400	0	0.00
6/1/2011	2	20.75	2	20.73	401409.5	4	11.32	3	10.37	1606	7.0	580	0	0.00
6/2/2011	2	18.25	2	18.22	290556.8	3	11.88	3	6.25	1266	7.0	0	0	0.00
6/3/2011	1	23.97	1	23.97	431472.1	4	12.82	3	12.00	1783	7.0	0	0	0.00
6/4/2011	1	23.97	1	23.97	475828.1	4	12.18	3	12.00	1894	7.0	0	0	0.00
6/5/2011	1	23.97	1	23.97	477531.7	4	12.22	3	12.00	1891	7.0	0	0	0.00
6/6/2011	1	23.97	1	23.97	467460.3	4	12.12	3	12.00	1883	7.0	0	0	0.00
6/7/2011	1	23.97	1	23.97	460760.2	4	12.02	4	12.00	1881	7.0	0	0	0.00
6/8/2011	1	23.97	1	23.97	460759.2	3	12.00	4	11.98	1874	7.0	0	0	0.00
6/9/2011	1	23.97	1	23.97	460737.5	3	12.00	4	11.98	1872	7.0	0	0	0.00
6/10/2011	1	23.97	1	23.97	460735.5	3	12.00	4	12.00	1878	7.0	0	0	0.00
6/11/2011	1	23.97	1	23.97	460785.9	3	12.00	4	11.98	1886	7.0	0	0	0.00
6/12/2011	1	23.97	1	23.97	462767.7	3	12.08	4	11.98	1887	7.0	8670	0	0.00
6/13/2011	1	23.97	1	23.97	453925.1	3	12.00	4	11.98	1794	7.0	3660	0	0.00
6/14/2011	1	23.97	1	23.97	456414.6	3	12.02	4	11.98	1824	7.0	1230	0	0.00
6/15/2011	1	23.97	1	23.97	461076.4	3	12.00	4	12.02	1878	7.0	410	0	0.00
6/16/2011	1	23.97	1	23.97	460888.9	3	12.00	4	12.00	1883	7.0	380	0	0.00
6/17/2011	1	23.97	1	23.97	460962.1	3	12.02	4	12.00	1887	7.0	1180	0	0.00
6/18/2011	1	23.97	1	23.97	460514	3	12.00	4	12.00	1888	7.0	370	0	0.00
6/19/2011	1	23.97	1	23.97	460483.1	3	12.00	4	11.98	1882	7.0	170	0	0.00
6/20/2011	1	23.97	2	23.35	446217.6	3	12.00	5	11.10	1832	7.0	330	0	0.00
6/21/2011	2	23.88	7	21.23	396169.9	4	10.70	3	10.93	1692	7.0	390	0	0.00
6/22/2011	1	23.97	1	23.97	444332.7	4	11.97	3	12.00	1844	7.0	620	0	0.00
6/23/2011	1	23.97	1	23.97	442705.3	4	11.97	3	12.00	1846	7.0	350	0	0.00
6/24/2011	1	23.97	1	23.97	436108.2	4	11.98	3	12.00	1831	7.0	900	0	0.00
6/25/2011	1	23.97	1	23.97	438295.9	4	11.98	3	12.00	1821	7.0	150	0	0.00
6/26/2011	1	23.97	1	23.97	438861.3	4	11.98	3	12.00	1837	7.0	160	0	0.00
6/27/2011	2	16.50	2	16.17	270284.3	4	8.07	2	8.00	1145	7.0	570	0	0.00
6/28/2011	1	23.97	1	23.97	424683.4	4	11.97	3	12.00	1709	7.0	3170	0	0.00
6/29/2011	1	23.97	1	23.97	434819.6	4	11.97	3	12.00	1794	7.0	1070	0	0.00
6/30/2011	1	23.97	1	23.97	383860.4	3	10.40	4	8.77	1679	7.0	250	0	0.00
7/1/2011	1	23.97	1	23.97	440002.6	3	12.00	4	11.98	1829	7.0	480	0	0.00

DATE	Tower Blower Cycles	Tower Blower Hours	Tower Pump Cycles	Tower Pump Hours	Discharge Flow	Effluent P1 Cycles	Effluent P1 Hours	Effluent P2 Cycles	Effluent P2 Hours	KWH	pH	De-Water Flow	SVE Blower Cycles	SVE Blower Hours
7/2/2011	1	23.97	1	23.97	436186.4	3	12.00	4	11.98	1806	7.0	200	0	0.00
7/3/2011	1	23.97	1	23.97	439014.8	3	12.00	4	11.97	1829	7.0	770	0	0.00
7/4/2011	1	23.97	1	23.97	434673.4	3	12.00	4	11.97	1808	7.0	220	0	0.00
7/5/2011	1	23.97	1	23.97	433387.9	3	12.00	4	11.98	1791	7.0	180	0	0.00
7/6/2011	1	23.97	1	23.97	413189.6	4	10.62	10	11.23	1747	7.0	0	0	0.00
7/7/2011		11.00	1	11.00	199665.9	2	5.79	2	5.17	833	7.0	3644	0	0.00
7/8/2011	2	16.53	1	16.53	299498.9	4	8.69	3	7.75	1250	7.0	5466	0	0.00
7/9/2011	1	23.97	1	23.97	439798.7	4	11.97	3	12.00	1830	7.0	1690	0	0.00
7/10/2011	1	23.97	1	23.97	440489.8	4	11.97	3	12.00	1830	7.0	500	0	0.00
7/11/2011	1	23.97	1	23.97	364546.9	21	10.87	6	8.00	1607	7.0	220	0	0.00
7/12/2011	2	19.57	2	19.13	253386.2	11	8.42	6	8.00	1213	7.0	780	0	0.00
7/13/2011	2	23.78	2	23.77	312417.5	19	9.68	3	12.00	1507	7.0	410	0	0.00
7/14/2011	2	23.62	2	23.60	310074.3	15	12.00	4	9.93	1502	7.0	180	0	0.00
7/15/2011	1	12.12	1	12.12	160496.7	2	6.02	2	6.05	740	7.0	0	0	0.00
7/16/2011	0	0.00	0	0.00	0	0	0.00	0	0.00	-80	7.0	0	0	0.00
7/17/2011	0	0.00	0	0.00	0	0	0.00	0	0.00	-78	7.0	0	0	0.00
7/18/2011	1	17.98	1	17.98	271564.7	3	9.82	2	8.00	1144	7.0	480	0	0.00
7/19/2011	1	23.97	1	23.97	350516.2	15	10.38	3	12.00	1541	7.0	140	0	0.00
7/20/2011	1	23.97	1	23.97	341637.6	19	11.75	3	10.12	1534	7.0	0	0	0.00
7/21/2011	3	15.22	3	13.58	193618.4	6	7.60	3	5.30	350	7.0	130	0	0.00
7/22/2011	2	21.95	3	21.92	310677.9	8	12.00	4	9.23	-116	7.0	0	0	0.00
7/23/2011	1	23.97	1	23.97	338564.1	14	11.43	3	11.30	-131	7.0	100	0	0.00
7/24/2011	1	23.97	1	23.97	330066.6	17	10.02	3	12.00	-110	7.0	0	0	0.00
7/25/2011	3	17.02	3	16.98	225239.4	8	10.17	2	5.67	-74	7.0	320	0	0.00
7/26/2011	2	17.90	2	17.82	246605.7	9	8.02	4	9.02	-147	7.0	0	0	0.00
7/27/2011	2	19.62	2	19.58	273370.2	13	10.40	2	8.00	-136	7.0	0	0	0.00
7/28/2011	2	17.42	2	17.40	243710.4	8	8.68	2	8.00	-131	7.0	0	0	0.00
7/29/2011	1	23.97	1	23.97	335961.3	16	10.57	3	12.00	-114	7.0	0	0	0.00
7/30/2011	1	23.97	1	23.97	331483.9	18	10.25	3	11.85	-114	7.0	0	0	0.00
7/31/2011	1	23.97	1	23.97	330702.1	13	12.00	4	10.75	-113	7.0	0	0	0.00
8/1/2011	2	14.35	2	14.30	198190.5	3	8.00	4	5.93	-127	7.0	1180	0	0.00
8/2/2011	2	23.30	2	22.97	316764.1	13	10.33	3	11.38	-117	7.0	0	0	0.00
8/3/2011	1	23.97	1	23.97	331273.8	16	10.43	3	12.00	618	7.0	120	0	0.00
8/4/2011	1	23.97	1	23.97	334892.1	15	11.20	3	11.15	1513	7.0	0	0	0.00
8/5/2011	1	23.97	1	23.97	329146.8	14	12.00	4	10.70	1535	7.0	0	0	0.00
8/6/2011	1	23.97	1	23.97	323975.2	9	12.00	4	11.35	1522	7.0	120	0	0.00
8/7/2011	1	23.97	1	23.97	323080.1	3	12.00	4	11.82	1515	7.0	1710	0	0.00
8/8/2011	2	16.20	2	16.13	216771.7	2	8.00	4	7.92	987	7.0	0	0	0.00
8/9/2011	1	23.97	1	23.97	322926.6	21	10.55	3	10.97	1504	7.0	1390	0	0.00
8/10/2011	1	23.97	1	23.97	325022.7	19	9.85	3	12.00	1519	7.0	440	0	0.00
8/11/2011	5	18.87	6	18.48	301206	10	10.30	2	8.00	1290	7.0	0	0	0.00
8/12/2011	1	23.97	1	23.97	444297.7	4	11.98	3	12.00	1826	7.0	0	0	0.00
8/13/2011	1	23.97	1	23.97	444682.9	4	11.98	3	12.00	1815	7.0	7180	0	0.00
8/14/2011	1	23.97	1	23.97	444641.7	4	11.97	3	12.00	1820	7.0	1990	0	0.00
8/15/2011	1	23.97	1	23.97	440343.5	4	11.97	3	12.00	1809	7.0	1080	0	0.00
8/16/2011	1	23.97	1	23.97	437477	4	11.97	3	12.00	1794	7.0	530	0	0.00
8/17/2011	1	23.97	1	23.97	441241.7	4	11.98	3	12.00	1813	7.0	0	0	0.00

DATE	Tower Blower Cycles	Tower Blower Hours	Tower Pump Cycles	Tower Pump Hours	Discharge Flow	Effluent P1 Cycles	Effluent P1 Hours	Effluent P2 Cycles	Effluent P2 Hours	KWH	pH	De-Water Flow	SVE Blower Cycles	SVE Blower Hours
8/18/2011	1	23.97	1	23.97	444163.8	4	11.98	3	12.00	1823	7.0	170	0	0.00
8/19/2011	1	23.97	1	23.97	443979.4	4	11.98	3	12.00	1820	7.0	0	0	0.00
8/20/2011	1	23.97	1	23.97	443663.2	4	11.98	3	12.00	1820	7.0	140	0	0.00
8/21/2011	1	23.97	1	23.97	444338.9	4	11.97	3	12.00	1827	7.0	2590	0	0.00
8/22/2011	1	23.97	1	23.97	444094.8	4	11.97	3	12.00	1820	7.0	1400	0	0.00
8/23/2011	1	23.97	1	23.97	443899.1	4	11.97	3	12.00	1817	7.0	220	0	0.00
8/24/2011	1	7.98	1	7.96	95988.8	3	3.77	1	3.77	627	4.0	417	0	0.00
8/25/2011	1	15.96	1	15.92	192006.4	5	7.53	2	7.53	1254	3.0	833	0	0.00
8/26/2011	1	23.97	1	23.97	445568.7	3	12.00	4	11.97	1816	7.0	2060	0	0.00
8/27/2011	1	23.97	1	23.97	445255.6	3	12.00	4	11.98	1819	7.0	3710	0	0.00
8/28/2011	1	23.97	1	23.97	446254.7	3	12.00	4	11.98	1762	7.0	52640	0	0.00
8/29/2011	1	23.97	1	23.97	445534.7	3	12.00	4	11.98	1816	7.0	2620	0	0.00
8/30/2011	1	23.97	1	23.97	446146.6	3	12.00	4	11.97	1795	7.0	920	0	0.00
8/31/2011	1	23.97	1	23.97	449150	3	12.00	4	11.98	1814	7.0	590	0	0.00
9/1/2011	1	23.97	1	23.97	447682.3	3	12.00	4	11.98	1819	7.0	540	0	0.00
9/2/2011	1	23.97	1	23.97	446077.5	3	12.00	4	11.97	1835	7.0	250	0	0.00
9/3/2011	1	23.97	1	23.97	444579.9	3	12.00	4	11.97	1824	7.0	240	0	0.00
9/4/2011	1	23.97	1	23.97	444678.8	3	12.00	4	11.98	1826	7.0	240	0	0.00
9/5/2011	1	23.97	1	23.97	448059.3	3	12.00	4	11.97	1790	7.0	39020	0	0.00
9/6/2011	1	23.97	1	23.97	445400.8	3	12.00	4	11.98	1783	7.0	61890	0	0.00
9/7/2011	1	23.97	1	23.97	444569.6	3	12.00	4	12.90	1751	7.0	66710	0	0.00
9/8/2011	1	23.97	1	23.97	444618	1	19.98	2	20.02	1742	7.0	61270	0	0.00
9/9/2011	1	23.97	1	23.97	431768.8	3	12.00	4	11.98	1699	7.0	9280	0	0.00
9/10/2011	1	23.97	1	23.97	420109.2	3	12.00	4	11.98	1655	7.0	4330	0	0.00
9/11/2011	1	23.97	1	23.97	419255.3	3	12.00	4	11.97	1660	7.0	3610	0	0.00
9/12/2011	1	23.97	1	23.97	421840.6	3	12.00	4	11.98	1665	7.0	3570	0	0.00
9/13/2011	1	23.97	1	23.97	420643.8	3	12.00	4	11.97	1667	7.0	2040	0	0.00
9/14/2011	1	23.97	1	23.97	430750.1	3	12.00	4	11.98	1700	7.0	1700	0	0.00
9/15/2011	1	23.97	1	23.97	444730.3	3	12.00	4	11.98	1744	7.0	7440	0	0.00
9/16/2011	1	23.97	1	23.97	444999.1	3	12.00	4	11.98	1770	7.0	2680	0	0.00
9/17/2011	1	23.97	1	23.97	445715	3	12.00	4	11.97	1774	7.0	1960	0	0.00
9/18/2011	1	23.97	1	23.97	446065.2	3	12.00	4	11.97	1770	7.0	1630	0	0.00
9/19/2011	1	23.97	1	23.97	445131	3	12.00	4	11.98	1755	7.0	1280	0	0.00
9/20/2011	2	22.43	2	22.38	334015.6	3	12.00	4	10.33	1504	7.0	1220	0	0.00
9/21/2011	1	23.97	1	23.97	361010.9	3	12.00	4	11.98	1728	7.0	780	0	0.00
9/22/2011	1	23.97	1	23.97	455601.9	3	12.00	4	12.00	1818	7.0	2740	0	0.00
9/23/2011	1	23.97	1	23.97	469653.2	3	12.00	4	12.02	1826	7.0	3870	0	0.00
9/24/2011	1	23.97	1	23.97	468229.8	3	12.00	4	12.07	1827	7.0	2590	0	0.00
9/25/2011	1	23.97	1	23.97	467345	3	12.00	4	11.98	1827	7.0	1300	0	0.00
9/26/2011	3	20.88	3	20.83	408346.6	5	13.05	4	7.78	1591	7.0	1100	0	0.00
9/27/2011	1	23.97	1	23.97	476512	3	12.37	4	12.08	1834	7.0	10290	0	0.00
9/28/2011	1	23.97	1	23.97	475256.4	3	12.10	4	12.18	1833	7.0	8260	0	0.00
9/29/2011	1	23.97	1	23.97	473593	3	12.00	4	12.05	1828	7.0	5840	0	0.00
9/30/2011	1	23.97	1	23.97	506194.5	1	21.02	2	20.00	1909	7.0	2360	0	0.00
10/1/2011	1	23.97	1	23.97	521989.6	1	23.97	1	23.98	1931	7.0	3320	0	0.00
10/2/2011	1	23.97	1	23.97	529523	1	23.98	1	23.98	1939	7.0	13000	0	0.00
10/3/2011	1	23.97	1	23.97	523540.8	1	23.98	1	23.98	1921	7.0	4640	0	0.00

DATE	Tower Blower		Tower Pump		Discharge	Effluent P1		Effluent P2				De-Water	SVE Blower	
	Cycles	Hours	Cycles	Hours	Flow	Cycles	Hours	Cycles	Hours	KWH	pH	Flow	Cycles	Hours
10/4/2011	1	23.97	1	23.97	524745.9	1	23.98	1	23.97	1928	7.0	2830	0	0.00
10/5/2011	2	22.30	2	22.28	404867.3	3	22.13	2	18.15	1784	7.0	1900	0	0.00
10/6/2011	2	22.77	2	22.72	425282.9	2	22.58	2	18.67	1819	7.0	1060	0	0.00
10/7/2011	2	21.48	2	21.42	459428.4	2	21.22	2	21.37	1715	7.0	1030	0	0.00
10/8/2011	1	23.97	1	23.97	512300.3	2	20.40	1	22.28	1918	7.0	1020	0	0.00
10/9/2011	1	23.97	1	23.97	503591.7	4	15.30	2	17.92	1889	7.0	740	0	0.00
10/10/2011	1	23.97	1	23.97	499552	2	21.73	1	22.32	1899	7.0	750	0	0.00
10/11/2011	2	17.50	3	17.43	363769.2	2	17.37	2	13.30	1405	7.0	760	0	0.00
10/12/2011	1	23.97	1	23.97	500713.9	1	23.98	1	23.98	1961	7.0	1350	0	0.00
10/13/2011	1	23.97	1	23.97	488515.6	2	23.67	1	21.12	1913	7.0	4450	0	0.00
10/14/2011	1	23.97	1	23.97	472713.3	3	15.98	2	18.88	1859	7.0	10210	0	0.00
10/15/2011	1	23.97	1	23.97	501135.2	1	23.98	1	23.98	1969	7.0	3080	0	0.00
10/16/2011	1	23.97	1	23.97	499838.4	1	23.97	1	23.97	1959	7.0	1650	0	0.00
10/17/2011	1	23.97	1	23.97	498281	1	23.97	1	23.97	1944	7.0	1080	0	0.00
10/18/2011	1	23.97	1	23.97	495076.7	1	23.98	3	14.60	1934	7.0	790	0	0.00
10/19/2011	1	23.97	1	23.97	495650.4	2	20.00	3	13.13	1928	7.0	3660	0	0.00
10/20/2011	1	23.97	1	23.97	494565.8	2	19.98	3	13.03	1937	7.0	3430	0	0.00
10/21/2011	1	23.97	1	23.97	488203.5	2	21.57	3	12.63	1932	7.0	1390	0	0.00
10/22/2011	1	23.97	1	23.97	488203.5	3	15.98	3	12.37	1934	7.0	1120	0	0.00
10/23/2011	1	23.97	1	23.97	489244.8	2	19.98	3	12.35	1942	7.0	550	0	0.00
10/24/2011	1	23.97	1	23.97	481746.4	4	12.00	3	12.27	1914	7.0	820	0	0.00
10/25/2011	1	23.97	1	23.97	477683.1	4	12.00	3	12.25	1907	7.0	820	0	0.00
10/26/2011	1	23.97	1	23.97	478632.8	4	12.00	3	12.20	1904	7.0	800	0	0.00
10/27/2011	1	23.97	1	23.97	476399.7	4	11.98	3	12.23	1901	7.0	1810	0	0.00
10/28/2011	1	23.97	1	23.97	473920.5	4	12.03	3	12.22	2180	7.0	1750	0	0.00
10/29/2011	1	23.97	1	23.97	483626.2	3	15.98	3	12.33	2467	7.0	16460	0	0.00
10/30/2011	1	23.97	1	23.97	485204.2	3	15.97	3	12.15	2233	7.0	17130	0	0.00
10/31/2011	1	23.97	1	23.97	482481.8	1	23.97	3	12.27	2213	7.0	10040	0	0.00
11/1/2011	1	23.97	1	23.97	480453.8	4	12.00	3	12.43	1939	7.0	6140	0	0.00
11/2/2011	1	15.03	1	15.03	303595	1	12.72	1	6.96	1375	7.0	2564	0	0.00
11/3/2011	2	11.52	1	11.52	232791	2	9.75	2	5.34	1055	7.0	1966	0	0.00
11/4/2011	1	23.97	1	23.97	509037.3	2	19.98	2	19.52	2011	7.0	1730	0	0.00
11/5/2011	1	23.97	1	23.97	514607.6	1	23.98	1	23.98	2295	7.0	1200	0	0.00
11/6/2011	1	23.97	1	23.97	510829.5	2	20.90	2	20.32	2279	7.0	960	0	0.00
11/7/2011	1	22.97	1	22.97	481177.9	2	16.72	2	18.98	1912	7.0	950	0	0.00
11/8/2011	1	22.97	1	22.97	476986.8	3	18.55	2	19.20	1898	7.0	710	0	0.00
11/9/2011	1	22.97	1	22.97	473581.6	3	18.27	3	12.67	1886	7.0	690	0	0.00
11/10/2011	1	22.97	1	22.97	471637	4	13.87	3	12.07	1863	7.0	1190	0	0.00
11/11/2011	1	22.97	1	22.97	464742.2	3	15.00	3	11.57	2139	7.0	1200	0	0.00
11/12/2011	1	22.97	1	22.97	462837.7	3	11.82	3	11.43	2143	7.0	690	0	0.00
11/13/2011	1	22.97	1	22.97	460632.5	1	19.82	3	11.40	1879	7.0	640	0	0.00
11/14/2011	1	22.97	1	22.97	460689.1	3	11.88	3	11.33	1849	7.0	430	0	0.00
11/15/2011	2	16.57	1	16.42	329180.8	2	8.00	3	8.67	1280	6.0	280	0	0.00
11/16/2011	6	4.25	1	3.93	84318.89	1	3.82	0	0.00	273	7.0	5940	0	0.00
11/17/2011	1	22.97	1	22.97	471172.5	2	18.98	3	11.58	1894	7.0	5610	0	0.00
11/18/2011	1	22.97	1	22.97	468827.2	3	11.88	3	11.53	2151	7.0	1700	0	0.00
11/19/2011	1	22.97	1	22.97	464729.8	3	15.00	3	11.40	2145	7.0	1320	0	0.00

DATE	Tower Blower Cycles	Tower Blower Hours	Tower Pump Cycles	Tower Pump Hours	Discharge Flow	Effluent P1 Cycles	Effluent P1 Hours	Effluent P2 Cycles	Effluent P2 Hours	KWH	pH	De-Water Flow	SVE Blower Cycles	SVE Blower Hours
11/20/2011	1	22.97	1	22.97	462978.8	3	11.93	3	11.35	1883	7.0	1320	0	0.00
11/21/2011	1	22.97	1	22.97	464456.8	3	11.95	3	11.32	1871	7.0	3240	0	0.00
11/22/2011	1	23.97	1	23.97	499183.3	2	16.97	4	13.55	1986	7.0	34350	0	0.00
11/23/2011	1	23.97	1	23.97	506090.5	1	23.98	4	16.15	2020	7.0	37720	0	0.00
11/24/2011	1	23.97	1	23.97	499041.2	1	23.97	2	20.57	2286	7.0	6390	0	0.00
11/25/2011	2	18.73	2	18.72	397679.9	2	18.63	1	6.65	1587	7.0	3920	0	0.00
11/26/2011	1	23.97	1	23.97	511923.4	1	23.98	0	0.00	2282	7.0	3260	0	0.00
11/27/2011	1	23.97	1	23.97	510428.8	1	23.98	0	0.00	2011	7.0	2940	0	0.00
11/28/2011	1	23.97	1	23.97	515953.8	1	23.98	1	13.88	2005	7.0	2500	0	0.00
11/29/2011	1	23.97	1	23.97	519754.5	1	23.97	1	23.98	2030	7.0	6690	0	0.00
11/30/2011	1	23.97	1	23.97	520100.5	1	23.97	1	23.97	2312	7.0	4980	0	0.00
12/1/2011	1	23.97	1	23.97	517727.4	1	23.97	1	23.98	2307	7.0	2490	0	0.00
12/2/2011	1	23.97	1	23.97	517192.8	1	23.98	1	23.98	2316	7.0	2100	0	0.00
12/3/2011	1	23.97	1	23.97	516180.4	1	23.98	1	23.98	2319	7.0	1690	0	0.00
12/4/2011	1	23.97	1	23.97	515988.8	1	23.98	1	23.17	2312	7.0	1660	0	0.00
12/5/2011	2	21.88	2	21.87	468829.2	3	19.17	2	16.07	1836	7.0	1710	0	0.00
12/6/2011	2	17.88	2	17.87	384506.2	2	17.85	2	15.93	1487	7.0	2790	0	0.00
12/7/2011	2	21.87	2	21.85	481042.9	2	21.83	2	20.13	2103	7.0	26520	0	0.00
12/8/2011	1	23.97	1	23.97	524941.6	1	23.98	1	23.97	2328	7.0	22280	0	0.00
12/9/2011	1	23.97	1	23.97	518503	1	23.97	1	23.97	2318	7.0	6920	0	0.00
12/10/2011	1	23.97	1	23.97	517892.2	1	23.97	1	23.98	2320	7.0	4690	0	0.00
12/11/2011	1	23.97	1	23.97	516156.7	1	23.97	1	23.97	2584	7.0	3200	0	0.00
12/12/2011	1	23.97	1	23.97	515801.3	1	23.98	1	23.98	2582	7.0	3220	0	0.00
12/13/2011	1	23.97	1	23.97	516103.1	1	23.97	1	23.98	2340	7.0	3030	0	0.00
12/14/2011	1	23.97	1	23.97	515823	1	23.98	1	23.98	2326	7.0	2730	0	0.00
12/15/2011	1	23.97	1	23.97	516597.5	2	20.78	1	23.97	2311	7.0	3210	0	0.00
12/16/2011	1	23.97	1	23.97	510874.8	3	18.18	4	14.53	2306	7.0	2730	0	0.00
12/17/2011	1	23.97	1	23.97	507039.1	2	23.48	3	21.32	2319	7.0	2190	0	0.00
12/18/2011	1	23.97	1	23.97	504771.1	1	23.98	2	20.68	2581	7.0	2700	0	0.00
12/19/2011	1	23.97	1	23.97	502818.2	1	23.98	1	23.98	2305	7.0	1740	0	0.00
12/20/2011	1	23.97	1	23.97	500128.8	1	23.98	2	21.62	2293	7.0	850	0	0.00
12/21/2011	1	23.97	1	23.97	499569.6	1	23.98	1	23.98	2287	7.0	4280	0	0.00
12/22/2011	1	23.97	1	23.97	498259.4	2	22.58	1	23.98	2014	7.0	2790	0	0.00
12/23/2011	1	23.97	1	23.97	503192.1	1	23.98	1	23.97	2315	7.0	18080	0	0.00
12/24/2011	1	23.97	1	23.97	497295.3	1	23.97	1	23.97	2324	7.0	4460	0	0.00
12/25/2011	1	23.97	1	23.97	496877.1	1	23.98	1	23.97	2324	7.0	3030	0	0.00
12/26/2011	1	23.97	1	23.97	496421.9	1	23.98	1	23.98	2313	7.0	2190	0	0.00
12/27/2011	1	23.97	1	23.97	503653.5	1	23.98	1	23.98	2314	7.0	20550	0	0.00
12/28/2011	1	23.97	1	23.97	500373	1	23.98	1	23.98	2316	7.0	10010	0	0.00
12/29/2011	2	17.20	2	17.15	356290.4	2	17.03	2	13.10	1740	7.0	1380	0	0.00
12/30/2011	1	23.97	1	23.97	501668.7	1	23.98	1	23.98	2310	7.0	6400	0	0.00
12/31/2011	1	23.97	1	23.97	499621.1	1	23.98	1	23.97	2032	7.0	3140	0	0.00

DATE	Tower Blower Cycles	Tower Blower Hours	Tower Pump Cycles	Tower Pump Hours	Discharge Flow	Effluent P1 Cycles	Effluent P1 Hours	Effluent P2 Cycles	Effluent P2 Hours	KWH	pH	De-Water Flow	SVE Blower Cycles	SVE Blower Hours
Sum	406	8292.19	418	8283.76	154368351	1439	4939.12	1153	4723.90	656368		1061990	0	0.00
Max	6	23.97	9	23.97	545060	26	23.98	28	23.98	2584	7.0	66710	0	0.00
Average	1	22.72	1	22.70	422927	4	13.53	3	12.94	1798	6.7	2910	0	0.00

Harley-Davidson Motor Company

TCA and West Parking Lot Area Well Flow Data

Gallons Pumped

From: 1/1/2011

To: 12/31/2011

DATE	CW-8	CW-16	CW-9	CW-20	CW-13	CW-17	CW-15A
1/1/2011	159700	0	94592	0	104470	38104	4194
1/2/2011	159700	0	94358	0	106167	83504	4461
1/3/2011	159800	0	94291	0	106125	80116	3653
1/4/2011	159700	0	94289	0	105927	78041	3529
1/5/2011	159700	0	94337	0	104822	71111	3759
1/6/2011	159700	0	94348	0	103690	65426	3353
1/7/2011	159700	0	94470	0	100196	65342	3429
1/8/2011	159700	0	94397	0	98879	65296	2439
1/9/2011	159800	0	94399	0	98899	65229	1588
1/10/2011	159700	0	94350	0	98857	65110	2205
1/11/2011	159600	0	93608	0	98880	65117	2529
1/12/2011	159700	0	86680	0	98906	64864	2386
1/13/2011	159700	0	85274	0	98855	64703	2099
1/14/2011	107700	0	57559	0	66697	43651	1540
1/15/2011	0	0	53	0	0	0	0
1/16/2011	0	0	51	0	0	0	0
1/17/2011	0	0	54	0	0	0	0
1/18/2011	118000	0	63238	0	73991	47785	0
1/19/2011	160400	0	87523	0	103671	70170	0
1/20/2011	160500	0	87991	0	104793	74515	3010
1/21/2011	160500	0	88115	0	104580	75057	4136
1/22/2011	160500	0	87833	0	103730	74880	2464
1/23/2011	160400	0	87791	0	103588	74854	2115

DATE	CW-8	CW-16	CW-9	CW-20	CW-13	CW-17	CW-15A
1/24/2011	160200	0	90329	0	104391	74798	4517
1/25/2011	156400	0	91296	0	104807	74772	5623
1/26/2011	58100	0	92947	0	104798	74135	5389
1/27/2011	0	0	93467	0	104846	73607	5186
1/28/2011	1500	0	93451	0	104824	73633	5087
1/29/2011	0	0	93474	0	104814	73648	5020
1/30/2011	0	0	93497	0	104803	73636	4917
1/31/2011	81900	0	97043	0	104219	73579	4833
2/1/2011	131300	0	98768	0	104815	74230	4669
2/2/2011	131600	0	101645	0	106593	78452	4555
2/3/2011	131900	0	103330	0	107540	80416	4591
2/4/2011	131900	0	103382	0	107817	80380	4497
2/5/2011	132000	0	103480	0	108050	80252	4404
2/6/2011	132100	0	103495	0	108215	80110	4329
2/7/2011	132000	0	103403	0	108132	80118	4254
2/8/2011	132200	0	103356	0	108144	80356	4288
2/9/2011	132300	0	103337	0	108285	80433	4262
2/10/2011	132200	0	103307	0	108339	80437	4172
2/11/2011	132200	0	103303	0	108375	80466	4049
2/12/2011	132100	0	103228	0	108271	80472	3981
2/13/2011	131900	0	103168	0	108153	80468	3788
2/14/2011	131800	0	103092	0	107787	80435	3660
2/15/2011	131900	0	103004	0	107674	80388	3966
2/16/2011	131800	0	103066	0	107836	80416	3799
2/17/2011	131700	0	103028	0	107939	80453	3710
2/18/2011	131300	0	102984	0	108462	80596	3743
2/19/2011	131600	0	103083	0	108310	80701	3627

DATE	CW-8	CW-16	CW-9	CW-20	CW-13	CW-17	CW-15A
2/20/2011	131600	0	103142	0	108157	80717	3521
2/21/2011	131500	0	101417	0	107996	80654	3558
2/22/2011	131500	0	101014	0	38223	26605	3811
2/23/2011	131500	0	39593	0	65368	48925	4170
2/24/2011	131800	0	59487	0	97360	75186	4932
2/25/2011	136200	0	95854	0	106201	85643	5703
2/26/2011	138000	0	96086	0	106226	86566	5992
2/27/2011	137900	0	96149	0	106195	86666	6042
2/28/2011	137800	0	84458	0	93237	75390	4848
3/1/2011	136600	0	96220	0	106112	85618	5351
3/2/2011	137900	0	96190	0	106178	87909	5292
3/3/2011	137900	0	96142	0	106191	88866	5110
3/4/2011	137800	0	96147	0	106208	88927	5197
3/5/2011	137600	0	96116	0	106180	89457	5365
3/6/2011	137800	0	96063	0	106201	89093	5416
3/7/2011	138400	0	96326	0	106212	91339	5289
3/8/2011	139100	0	95953	0	105732	95807	5610
3/9/2011	139700	0	95580	0	105252	100275	5928
3/10/2011	125900	0	89974	0	97763	90318	5549
3/11/2011	139700	0	96895	0	105221	111029	6603
3/12/2011	70100	0	97986	0	105242	114592	6106
3/14/2011	14000	0	100833	0	105251	122038	5912
3/14/2011	42050	0	99410	0	105247	118315	6009
3/15/2011	0	0	102478	0	105287	127626	5886
3/16/2011	0	0	107263	0	105265	127715	5914
3/17/2011	0	0	68019	0	64985	78744	3650
3/18/2011	106300	0	110169	0	105276	127793	6357

DATE	CW-8	CW-16	CW-9	CW-20	CW-13	CW-17	CW-15A
3/19/2011	137200	0	110188	0	105282	127682	6484
3/20/2011	136400	0	110162	0	105275	127674	4928
3/21/2011	136900	0	110153	0	105236	127637	4264
3/22/2011	134800	0	110175	0	105265	123109	4214
3/23/2011	113400	0	110148	0	105231	120668	2909
3/24/2011	133000	0	110154	0	105246	120672	1873
3/25/2011	121900	0	108903	0	104086	103737	1342
3/26/2011	105600	0	109617	0	104776	100589	1427
3/27/2011	143900	0	110160	0	105233	101043	1269
3/28/2011	139800	0	110181	0	105259	101061	1219
3/29/2011	144000	0	110161	0	105245	101042	937
3/30/2011	143700	0	109123	0	104252	101044	805
3/31/2011	143600	0	108766	0	103844	101036	817
4/1/2011	143700	0	108772	0	103845	101045	1187
4/2/2011	143700	0	108768	0	103843	101032	1388
4/3/2011	143600	0	108772	0	103851	101044	1518
4/4/2011	143300	0	108750	0	103824	101018	1648
4/5/2011	143400	0	108762	0	103835	101036	1569
4/6/2011	143500	0	108810	0	103311	100508	1376
4/7/2011	143600	0	108810	0	103312	100509	1377
4/8/2011	143400	0	107404	0	102096	100369	1356
4/9/2011	143600	0	106929	0	101728	100341	444
4/10/2011	143600	0	106934	0	101725	100342	1543
4/11/2011	143400	0	106952	0	101735	100348	1872
4/12/2011	143000	0	106514	0	101356	99959	1968
4/13/2011	141500	0	106919	0	34349	100398	1418
4/14/2011	143600	0	106926	0	0	104302	1460

DATE	CW-8	CW-16	CW-9	CW-20	CW-13	CW-17	CW-15A
4/15/2011	91400	0	68030	0	0	66937	1028
4/16/2011	0	0	68	0	0	0	0
4/17/2011	0	0	44	0	0	0	0
4/18/2011	72000	0	53782	0	0	52913	829
4/19/2011	144100	0	110619	0	0	108693	2169
4/20/2011	144100	0	117781	0	0	122566	4008
4/21/2011	144100	0	117896	0	0	130409	4759
4/22/2011	144100	0	117916	0	0	137337	2574
4/23/2011	144100	0	117919	0	0	137335	1615
4/24/2011	143900	0	117908	0	0	137330	2014
4/25/2011	143800	0	117878	0	0	137292	2935
4/26/2011	143700	0	117887	0	0	137290	3745
4/27/2011	143600	0	117884	0	0	137300	4177
4/28/2011	143200	0	117915	0	0	137325	4391
4/29/2011	142100	0	117905	0	42658	118061	3274
4/30/2011	142800	0	117862	0	78469	101005	1803
5/1/2011	143200	0	117899	0	78528	101032	1423
5/2/2011	137300	0	117901	0	82949	102817	1220
5/3/2011	125300	0	117831	0	90999	106016	1247
5/4/2011	110100	0	117892	0	97966	111995	987
5/5/2011	99200	0	117883	0	105119	119131	955
5/6/2011	88900	0	117892	0	106661	126241	943
5/7/2011	88600	0	117924	0	106687	127749	928
5/8/2011	89600	0	117930	0	106710	127752	871
5/9/2011	90900	0	117894	0	106689	127717	795
5/10/2011	90500	0	117899	0	106686	127711	756
5/11/2011	91200	0	117922	0	106664	126712	779

DATE	CW-8	CW-16	CW-9	CW-20	CW-13	CW-17	CW-15A
5/12/2011	128600	0	110583	0	102077	106465	798
5/13/2011	143900	0	106657	0	99642	99646	693
5/14/2011	143900	0	106665	0	99662	99661	647
5/15/2011	139600	0	106653	0	99654	99641	692
5/16/2011	141400	0	106657	0	99659	99642	719
5/17/2011	139200	0	106663	0	99663	99652	683
5/18/2011	119700	0	106675	0	99669	99666	744
5/19/2011	127000	0	105558	0	98306	100270	818
5/20/2011	109000	0	109877	0	99662	105657	844
5/21/2011	119700	0	110243	0	97885	106112	877
5/22/2011	111700	0	117509	0	99658	113344	898
5/23/2011	106700	0	119239	0	99634	115073	796
5/24/2011	106100	0	119234	0	99655	117184	914
5/25/2011	107500	0	119248	0	99666	117921	980
5/26/2011	105800	0	119208	0	99634	118119	1399
5/27/2011	104100	0	119230	0	99635	119280	1485
5/28/2011	106000	0	119249	0	99654	119301	1457
5/29/2011	106300	0	119216	0	99658	119316	1512
5/30/2011	109100	0	119231	0	99623	119272	1618
5/31/2011	132700	0	110665	0	99663	106261	2306
6/1/2011	124500	0	92199	0	86164	86747	2758
6/2/2011	37100	0	80986	0	75694	76193	2730
6/3/2011	89400	0	106653	0	99644	113632	1396
6/4/2011	133300	0	106651	0	99643	119302	907
6/5/2011	135400	0	106666	0	99652	119307	649
6/6/2011	142400	0	106657	0	99648	107032	1063
6/7/2011	143700	0	106670	0	99654	100350	1410

DATE	CW-8	CW-16	CW-9	CW-20	CW-13	CW-17	CW-15A
6/8/2011	143500	0	106647	0	99633	100324	1464
6/9/2011	143400	0	106646	0	99633	100326	1943
6/10/2011	143400	0	106670	0	99652	100343	2147
6/11/2011	143500	0	106667	0	99649	100337	2182
6/12/2011	137700	0	106632	0	99624	100313	2107
6/13/2011	143900	0	106644	0	99628	100318	1290
6/14/2011	143900	0	106632	0	99616	100315	978
6/15/2011	143800	0	106668	0	99643	100344	1194
6/16/2011	143800	0	106638	0	99615	100316	1240
6/17/2011	143800	0	106648	0	99632	100327	1233
6/18/2011	143700	0	106661	0	99654	100342	1344
6/19/2011	143600	0	106642	0	99628	100318	1415
6/20/2011	134900	0	103346	0	96592	97232	1450
6/21/2011	120200	0	90609	0	84280	85409	1299
6/22/2011	143200	0	99636	0	92615	93339	1515
6/23/2011	143300	0	99640	0	92631	93349	1523
6/24/2011	139800	0	95434	0	88344	89895	1503
6/25/2011	143300	0	92627	0	85487	93354	1429
6/26/2011	143300	0	92597	0	85466	93321	1193
6/27/2011	76800	0	62347	0	57573	62861	875
6/28/2011	143300	0	92612	0	87614	95438	1380
6/29/2011	143300	0	92610	0	88369	98039	1495
6/30/2011	143200	0	73834	0	70619	78610	1118
7/1/2011	141900	0	87471	0	88746	101295	1431
7/2/2011	143000	0	85468	0	88370	101029	1373
7/3/2011	143000	0	85477	0	88367	101039	1523
7/4/2011	143100	0	85470	0	88357	101036	1522

DATE	CW-8	CW-16	CW-9	CW-20	CW-13	CW-17	CW-15A
7/5/2011	142900	0	85480	0	88366	101043	1510
7/6/2011	116600	0	85481	0	88374	101049	1527
7/7/2011	62040	0	39176	0	40511	46000	697
7/8/2011	93060	0	58765	0	60767	69001	1046
7/9/2011	143600	0	85473	0	88379	101031	1436
7/10/2011	143500	0	85483	0	91239	101682	1526
7/11/2011		0	85480	0	88829	106687	1531
7/12/2011		0	68371	0	70976	85497	1231
7/13/2011		0	84739	0	91855	108506	645
7/14/2011		0	83851	0	90897	107359	1064
7/15/2011		0	43228	0	46802	55286	773
7/16/2011		0	80	0	0	0	0
7/17/2011		0	72	0	0	0	0
7/18/2011		0	69547	0	84059	91810	1161
7/19/2011		0	87899	0	105163	125589	1522
7/20/2011		0	85456	0	102437	123491	1520
7/21/2011		0	48363	0	58036	69891	929
7/22/2011		0	78181	0	93742	112970	1828
7/23/2011		0	85460	0	102469	123499	1654
7/24/2011		0	85476	0	102466	113918	1615
7/25/2011	0	0	59428	0	71286	74182	1075
7/26/2011	0	0	67029	0	76145	79266	1595
7/27/2011	0	0	75666	0	83728	87165	1506
7/28/2011	0	0	67195	0	74359	77388	1225
7/29/2011	0	0	92603	0	102459	106650	1823
7/30/2011	0	0	92608	0	102493	106651	1834
7/31/2011	0	0	92598	0	102466	106645	1650

DATE	CW-8	CW-16	CW-9	CW-20	CW-13	CW-17	CW-15A
8/1/2011	0	0	54964	0	60859	63335	1174
8/2/2011	0	0	88710	0	98159	102195	1790
8/3/2011	0	0	92591	0	102423	106652	1530
8/4/2011	0	0	92587	0	102469	106641	1175
8/5/2011	0	0	92590	0	100517	101434	1344
8/6/2011	0	0	92601	0	99636	99633	1515
8/7/2011	0	0	92611	0	99652	99665	1444
8/8/2011	0	0	62179	0	66944	66935	1417
8/9/2011	0	0	92603	0	99623	99654	1511
8/10/2011	0	0	92609	0	99642	99660	1464
8/11/2011	52452	0	70857	0	76196	76353	1109
8/12/2011	137500	0	87282	0	94394	99621	1294
8/13/2011	140689	0	85461	0	92619	99655	1325
8/14/2011	147463	0	85466	0	92618	99651	1495
8/15/2011	147717	0	83584	0	90688	97773	1083
8/16/2011	147156	0	82666	0	89754	96835	1128
8/17/2011	146641	0	84340	0	91462	98518	1300
8/18/2011	146367	0	85453	0	92610	99647	1444
8/19/2011	146531	0	85470	0	92625	99666	1286
8/20/2011	147107	0	85447	0	92596	99631	1090
8/21/2011	146918	0	85452	0	92603	99637	1373
8/22/2011	147653	0	85467	0	92622	99662	831
8/23/2011	147348	0	85444	0	92595	99624	861
8/24/2011	38780	0	29928	0	32301	34722	389
8/25/2011	77571	0	59864	0	64613	69454	778
8/26/2011	130774	0	87358	0	94479	110025	1385
8/27/2011	136414	0	85462	0	92614	110799	1415

DATE	CW-8	CW-16	CW-9	CW-20	CW-13	CW-17	CW-15A
8/28/2011	89586	0	90300	0	92607	110815	734
8/29/2011	112972	0	98631	0	92623	113671	1135
8/30/2011	99039	0	111859	0	92637	125556	491
8/31/2011	106197	0	111445	0	92637	122557	2481
9/1/2011	107224	0	110883	0	92658	120691	3885
9/2/2011	119029	0	102688	0	92636	111675	3896
9/3/2011	122722	0	99654	0	92656	106695	3890
9/4/2011	122355	0	99664	0	92661	106705	3884
9/5/2011	93074	0	100710	0	92631	116893	3895
9/6/2011	60198	0	111694	0	92652	124081	3735
9/7/2011	26688	0	118588	0	102263	125217	3745
9/8/2011	20440	0	120735	0	106756	125287	4023
9/9/2011	18529	0	121968	0	120055	126847	4023
9/10/2011	0	0	122867	0	127537	127328	4015
9/11/2011	0	0	123437	0	127536	127350	4017
9/12/2011	0	0	123752	0	131240	127255	3979
9/13/2011	0	0	123884	0	135169	127365	4006
9/14/2011	13295	0	123514	0	135089	127285	3017
9/15/2011	25389	0	123773	0	135096	127301	4132
9/16/2011	30075	0	123934	0	135000	127199	4178
9/17/2011	33098	0	123892	0	135035	127550	4169
9/18/2011	33954	0	123855	0	135063	127886	4170
9/19/2011	33408	0	123901	0	135082	127613	4152
9/20/2011	65385	0	43183	0	125882	122095	3763
9/21/2011	90582	0	58460	0	135038	132612	3903
9/22/2011	92189	0	84054	0	135015	131322	3884
9/23/2011	88325	0	84032	0	135047	132052	3895

DATE	CW-8	CW-16	CW-9	CW-20	CW-13	CW-17	CW-15A
9/24/2011	88232	0	84050	0	135033	132506	3898
9/25/2011	88465	0	84045	0	135050	132590	3898
9/26/2011	76954	0	73585	0	117365	116447	3601
9/27/2011	89142	0	84699	0	134934	134724	4199
9/28/2011	89237	0	84686	0	134935	134759	4243
9/29/2011	89198	0	84709	0	134952	134774	4204
9/30/2011	131084	0	84757	0	130446	134947	5186
10/1/2011	147765	0	84735	0	127558	135081	5847
10/2/2011	148799	0	84662	0	127583	135136	5794
10/3/2011	149834	0	84651	0	127573	135190	5752
10/4/2011	157879	0	84559	0	127652	135149	5750
10/5/2011	148208	0	78431	0	114573	124997	5334
10/6/2011	148639	0	79695	0	114097	127471	5485
10/7/2011	140379	0	75682	0	107768	120398	5140
10/8/2011	160051	0	84571	0	120604	133164	5806
10/9/2011	159522	0	84498	0	120699	125403	5862
10/10/2011	165116	0	84446	0	120734	120918	5825
10/11/2011	119661	0	61228	0	87442	87537	4238
10/12/2011	163090	0	84280	0	120752	120705	5809
10/13/2011	160996	0	84347	0	120719	104435	5768
10/14/2011	159485	0	87935	0	116075	82951	5787
10/15/2011	159379	0	96879	0	113731	113738	5754
10/16/2011	160331	0	96854	0	113727	113706	5750
10/17/2011	160998	0	96867	0	113703	112029	5747
10/18/2011	160400	0	96868	0	113738	107725	5694
10/19/2011	162090	0	96880	0	113726	105871	5618
10/20/2011	162644	0	96859	0	113662	104213	5768

DATE	CW-8	CW-16	CW-9	CW-20	CW-13	CW-17	CW-15A
10/21/2011	163163	0	96863	0	113660	98200	5764
10/22/2011	160950	0	96881	0	113692	99674	5751
10/23/2011	161775	0	96860	0	113677	99650	5728
10/24/2011	162926	0	96876	0	109149	98700	5663
10/25/2011	161866	0	96849	0	106693	96291	6591
10/26/2011	161175	0	96872	0	106676	96871	7206
10/27/2011	159770	0	96857	0	106635	96853	7189
10/28/2011	159436	0	96857	0	106659	96857	7183
10/29/2011	159280	0	96876	0	106687	96873	7181
10/30/2011	157187	0	96867	0	106668	96870	7186
10/31/2011	159328	0	96882	0	106687	96877	7186
11/1/2011	159783	0	96888	0	106660	96889	8133
11/2/2011	100799	0	60717	0	66852	60713	5427
11/3/2011	77291	0	46557	0	51261	46554	4162
11/4/2011	164650	0	96857	0	111939	119075	9315
11/5/2011	167287	0	96824	0	113577	127696	9189
11/6/2011	168137	0	96848	0	113601	124146	9034
11/7/2011	162057	0	92795	0	108904	109197	7770
11/8/2011	160506	0	92821	0	108960	106283	7824
11/9/2011	162045	0	92831	0	109020	101032	7869
11/10/2011	161887	0	92843	0	109008	97958	7851
11/11/2011	160637	0	92807	0	104048	95800	7821
11/12/2011	159858	0	92826	0	102266	95505	7756
11/13/2011	159836	0	92837	0	102278	92929	7876
11/14/2011	159549	0	92845	0	102243	92841	7797
11/15/2011	114191	0	66704	0	73433	66679	5605
11/16/2011	26546	0	15780	0	17351	15739	1337

DATE	CW-8	CW-16	CW-9	CW-20	CW-13	CW-17	CW-15A
11/17/2011	158571	0	92835	0	102238	96698	7814
11/18/2011	153540	0	92834	0	102210	98182	7929
11/19/2011	150274	0	92824	0	102224	98168	7853
11/20/2011	150285	0	92845	0	102228	98192	7819
11/21/2011	149165	0	92843	0	102254	99573	7380
11/22/2011	155983	0	96860	0	106681	105251	7251
11/23/2011	162031	0	96882	0	106671	105275	7296
11/24/2011	167276	0	98899	0	106612	107304	7224
11/25/2011	132457	0	79112	0	85083	87031	5594
11/26/2011	169776	0	102463	0	110862	113723	7062
11/27/2011	167050	0	102478	0	110855	113761	7188
11/28/2011	164753	0	102467	0	110854	118956	7138
11/29/2011	162154	0	102482	0	110855	120724	7108
11/30/2011	158595	0	102453	0	110856	120682	7263
12/1/2011	161077	0	102459	0	110820	120696	7187
12/2/2011	159218	0	102477	0	110824	120710	7131
12/3/2011	157927	0	102437	0	110795	120670	7057
12/4/2011	161018	0	102458	0	110802	120211	7263
12/5/2011	156473	0	93296	0	100967	107152	6549
12/6/2011	127943	0	76357	0	82606	87875	5431
12/7/2011	157278	0	93392	0	101061	107499	6603
12/8/2011	176227	0	102425	0	110828	117881	7236
12/9/2011	176438	0	102456	0	110813	117918	7187
12/10/2011	176409	0	102476	0	110829	117932	7187
12/11/2011	176502	0	102451	0	110825	117907	7121
12/12/2011	167269	0	102469	0	110852	117926	7074
12/13/2011	166678	0	102454	0	110823	117905	7245

DATE	CW-8	CW-16	CW-9	CW-20	CW-13	CW-17	CW-15A
12/14/2011	167778	0	102462	0	110803	117923	7226
12/15/2011	167746	0	102473	0	110807	118806	7187
12/16/2011	167325	0	102460	0	110793	114191	7079
12/17/2011	167308	0	102463	0	110843	111067	7205
12/18/2011	167214	0	102488	0	110852	105772	7198
12/19/2011	167188	0	102463	0	110831	103855	7162
12/20/2011	167360	0	102475	0	110818	102501	7072
12/21/2011	167352	0	102474	0	110799	101069	7094
12/22/2011	166856	0	102471	0	110797	100593	7190
12/23/2011	167338	0	102478	0	110812	99688	7297
12/24/2011	167023	0	102457	0	110786	99665	7252
12/25/2011	166999	0	102465	0	110776	99671	7198
12/26/2011	166907	0	102479	0	110816	99685	7187
12/27/2011	166834	0	102462	0	110779	99662	7165
12/28/2011	167863	0	102484	0	110805	99681	7199
12/29/2011	123608	0	73210	0	79260	72021	5153
12/30/2011	176472	0	102464	0	110836	102453	7186
12/31/2011	176325	0	102434	0	110789	102431	7139
Sum	42354940	0	34482732	0	34943410	36119289	1300222
Average	120669	0	94473	0	95735	98957	3562

Harley-Davidson Motor Company

Northeast Property Boundary Area Well Flow Data

Gallons Pumped

From: 1/1/2011

To: 12/31/2011

DATE	CW-1	CW-1A	CW-2	CW-3	CW-4	CW-5	CW-6	CW-7	CW-7A
1/1/2011	2752	96	566	8920	2742	616	4321	734	950
1/2/2011	2735	92	562	8865	2737	618	4311	727	948
1/3/2011	2988	91	559	9008	2774	583	4298	721	942
1/4/2011	3116	91	553	9066	2798	593	4296	716	941
1/5/2011	3096	88	551	8994	2801	581	4234	706	936
1/6/2011	3097	103	553	8948	2796	581	4235	701	939
1/7/2011	3084	93	556	8183	2782	567	4233	705	933
1/8/2011	3056	91	547	7789	2763	565	4248	708	924
1/9/2011	3048	90	542	7744	2754	535	4233	707	923
1/10/2011	3014	83	541	7693	2744	498	4216	707	920
1/11/2011	3003	82	543	7652	2736	496	4210	702	915
1/12/2011	2995	78	545	7589	2721	500	4214	702	909
1/13/2011	2986	78	539	7531	2714	468	4215	701	902
1/14/2011	2044	55	371	5077	1842	308	2844	425	651
1/15/2011	0	0	0	10	0	0	0	0	0
1/16/2011	0	0	0	10	0	0	0	0	0
1/17/2011	0	0	0	10	0	0	0	0	0
1/18/2011	2451	110	602	7106	2448	690	3711	601	928
1/19/2011	3277	115	669	10239	3206	871	5247	834	1095
1/20/2011	2754	54	888	8361	2653	886	4454	663	949
1/21/2011	3030	0	647	8954	2863	829	4749	724	997
1/22/2011	3039	0	622	8949	1605	729	4567	721	979
1/23/2011	3003	0	608	8943	2746	632	4458	716	966
1/24/2011	2995	0	595	9330	2757	580	4351	717	961
1/25/2011	2973	0	592	9427	2681	565	4356	712	955
1/26/2011	2963	0	589	9306	2572	560	4353	711	952
1/27/2011	2981	0	582	9209	2440	538	4370	710	945
1/28/2011	2996	0	577	9153	2337	532	4391	709	943
1/29/2011	2992	0	574	9102	2315	512	4400	706	939
1/30/2011	2978	0	571	9031	2326	491	4407	704	931
1/31/2011	2974	0	567	9354	2309	460	4410	702	930
2/1/2011	2945	0	565	9505	2299	448	4398	702	932
2/2/2011	2937	0	572	9508	2288	1067	4381	701	920
2/3/2011	2942	0	580	9558	2280	1326	4419	704	932
2/4/2011	2939	0	580	9500	2264	1163	4461	704	933

DATE	CW-1	CW-1A	CW-2	CW-3	CW-4	CW-5	CW-6	CW-7	CW-7A
2/5/2011	2931	0	582	9461	2269	1159	4550	704	937
2/6/2011	2923	1	584	9442	2266	1294	4507	706	951
2/7/2011	2920	2	589	9424	2255	1360	4555	707	978
2/8/2011	2916	6	892	9440	2251	1367	4568	707	1035
2/9/2011	2908	10	907	9700	2254	1599	4529	713	1056
2/10/2011	2907	22	879	9562	2251	1481	4543	716	1065
2/11/2011	2906	14	871	9532	2266	422	4565	714	1068
2/12/2011	2899	14	1055	9524	2256	408	4555	714	1070
2/13/2011	2894	9	1066	9543	2235	400	4546	714	1076
2/14/2011	2886	22	1082	9532	2353	1272	4518	716	1090
2/15/2011	2882	19	914	9512	2410	1699	4518	713	1100
2/16/2011	2883	29	901	9490	2405	1589	4514	717	1129
2/17/2011	2884	32	892	9451	2390	1593	4486	718	1154
2/18/2011	2888	36	890	9427	2382	1660	4468	716	1174
2/19/2011	2887	39	957	9421	2364	1604	4455	717	1188
2/20/2011	2886	35	1029	9419	2364	1457	4435	711	1196
2/21/2011	2874	38	1100	9394	2354	1411	4420	713	1209
2/22/2011	2868	27	969	8665	2346	1308	4406	711	1196
2/23/2011	2874	20	697	9286	2339	1264	4407	711	1195
2/24/2011	2870	12	677	9359	2323	1289	4394	711	1208
2/25/2011	2890	20	1209	9356	2300	1898	4369	711	1345
2/26/2011	2900	75	743	9383	2291	2010	4348	719	1413
2/27/2011	2890	165	729	9378	2285	1892	4347	719	1424
2/28/2011	3017	197	932	9483	2419	1983	4392	924	1446
3/1/2011	3052	236	732	9526	2433	2129	4403	757	1490
3/2/2011	3044	278	716	9532	2437	2055	4410	764	1511
3/3/2011	3060	260	702	9502	2438	1959	4410	772	1516
3/4/2011	3030	220	697	9650	2439	1825	4469	766	1523
3/5/2011	3031	206	692	9744	2431	1703	4502	762	1527
3/6/2011	3032	204	722	9742	2418	1897	4497	766	1539
3/7/2011	3038	322	795	9740	2407	2969	4479	772	1662
3/8/2011	3160	391	768	8979	2424	2883	4624	775	1733
3/9/2011	3281	459	741	8217	2440	2798	4768	777	1803
3/10/2011	2992	440	925	9363	2397	2571	4430	760	1744
3/11/2011	3257	564	1290	10063	2650	3081	4805	1847	2243
3/12/2011	3298	581	1363	10076	2692	3109	4745	2760	2409
3/14/2011	3397	542	755	10047	2689	3319	4771	810	2401
3/14/2011	3347	562	30	10062	2690	3214	4758	1785	2405
3/15/2011	3368	511	1588	10003	2678	3138	4770	812	2386
3/16/2011	3529	495	1982	9945	2698	2433	4732	813	2466

DATE	CW-1	CW-1A	CW-2	CW-3	CW-4	CW-5	CW-6	CW-7	CW-7A
3/17/2011	2187	323	570	6273	1670	1207	3093	616	889
3/18/2011	3739	480	557	10697	2674	2571	5119	1175	1728
3/19/2011	1812	466	735	10617	2666	1167	4979	739	2022
3/20/2011	3292	449	716	6935	2655	1400	4960	728	1959
3/21/2011	2096	451	736	4350	2648	1843	5184	719	1937
3/22/2011	2915	441	683	4535	2638	2243	5086	715	1914
3/23/2011	2922	436	649	6513	2626	2302	5022	708	1908
3/24/2011	2942	435	664	9502	2609	2405	4993	703	1918
3/25/2011	3260	422	663	9604	2582	2470	5164	1173	1984
3/26/2011	3389	407	644	9729	2564	1903	5188	1535	2168
3/27/2011	3337	400	628	9716	2513	1429	5074	2152	2140
3/28/2011	3375	395	604	9967	2645	2467	5038	2069	2097
3/29/2011	3384	380	597	9985	2655	1585	5002	2140	2057
3/30/2011	3379	375	615	9885	2620	2295	4976	2085	2040
3/31/2011	3369	366	638	9790	2600	2472	4946	2099	1998
4/1/2011	3360	365	632	9886	2588	2582	4922	2048	1975
4/2/2011	3353	364	641	9997	2577	2660	4930	2057	2009
4/3/2011	3346	345	626	9966	2568	2589	4861	1973	2032
4/4/2011	3325	339	633	9920	2551	2495	4852	2058	2061
4/5/2011	3327	337	623	9893	2536	2586	4830	2026	2069
4/6/2011	6654	318	603	9861	2512	2605	4787	2059	2028
4/7/2011	6654	319	604	9862	2513	2606	4788	2059	2029
4/8/2011	3290	302	660	9829	2478	2632	4970	1960	1858
4/9/2011	3278	328	671	9786	2456	2745	5059	1943	1871
4/10/2011	3279	353	645	9798	2444	2745	5062	2131	1925
4/11/2011	3268	373	619	9763	2564	2801	5119	1848	1926
4/12/2011	3257	379	600	9866	2616	2826	5146	2034	1897
4/13/2011	3281	405	698	10004	2619	2833	5150	2034	1965
4/14/2011	3293	461	711	9986	2605	3189	5103	2132	2055
4/15/2011	2080	375	507	5080	1687	2336	3474	1188	1208
4/16/2011	0	0	0	0	0	0	0	0	0
4/17/2011	0	0	0	0	0	0	0	0	0
4/18/2011	1623	292	395	3964	1316	1822	2711	927	943
4/19/2011	3307	651	757	5534	2717	3914	5798	2239	1727
4/20/2011	3552	628	729	10649	3010	4547	6250	2159	2462
4/21/2011	3549	607	683	10925	2998	4845	6595	2139	2683
4/22/2011	3536	584	606	10587	2818	4849	5768	2241	2652
4/23/2011	3521	570	504	10440	2755	4280	5600	2408	2625
4/24/2011	3513	557	386	10405	2740	4042	5576	2182	2605
4/25/2011	3506	549	228	10366	2712	4034	5493	2294	2596

DATE	CW-1	CW-1A	CW-2	CW-3	CW-4	CW-5	CW-6	CW-7	CW-7A
4/26/2011	3492	541	2	10321	2678	3878	5680	2277	2592
4/27/2011	3479	530	1	10277	2634	3613	5889	2265	2588
4/28/2011	3479	531	0	10252	2612	3664	6395	2002	2590
4/29/2011	3585	575	506	10229	2670	4566	6472	2248	2717
4/30/2011	3631	579	671	10204	2657	4984	6662	2324	2790
5/1/2011	3600	567	635	10196	2637	4399	6637	2134	2760
5/2/2011	3577	551	737	10303	2623	3972	6611	2219	2587
5/3/2011	3555	538	653	10402	2744	3593	6527	2102	2386
5/4/2011	3545	528	665	10411	2715	3394	6488	2024	2354
5/5/2011	3534	519	676	10367	2706	1728	6463	2063	2756
5/6/2011	3521	512	692	10258	2683	3104	6473	2030	2813
5/7/2011	3514	499	669	10195	2649	2520	6447	2226	2716
5/8/2011	3509	488	635	10174	2584	2137	6444	2186	2658
5/9/2011	3495	478	647	10161	2648	1944	6437	2104	2487
5/10/2011	3488	464	662	10136	2628	1880	6426	2085	2649
5/11/2011	3483	458	656	10099	2604	2017	6416	2045	1880
5/12/2011	3477	447	662	10074	2578	2092	6404	2194	1970
5/13/2011	3470	441	642	10057	2550	1174	6382	1928	2186
5/14/2011	3467	435	674	10054	2528	2193	6377	2120	2122
5/15/2011	3459	424	658	10031	2479	394	6341	2190	2057
5/16/2011	3443	415	670	9995	2599	2276	6322	2392	2032
5/17/2011	3415	419	685	10010	2696	1823	6305	2219	2018
5/18/2011	3403	475	693	9871	2669	2218	6284	2222	2023
5/19/2011	3393	524	394	10276	2687	2540	6359	2094	1970
5/20/2011	3541	615	583	10622	2678	3220	6426	2195	2179
5/21/2011	3468	650	765	10503	2577	3967	6325	2173	2525
5/22/2011	3511	639	695	10776	2645	4747	6460	2306	2463
5/23/2011	3431	616	652	10774	2645	4879	6473	2281	2521
5/24/2011	3618	594	639	10781	2642	3618	6500	2386	2647
5/25/2011	3642	570	628	10757	2624	2919	6457	2250	2662
5/26/2011	3739	553	619	10742	2620	3077	6422	2221	2635
5/27/2011	3683	542	602	10712	2604	2810	6454	2054	2689
5/28/2011	3719	527	602	10675	2587	1632	6435	2102	2649
5/29/2011	3729	515	604	10636	2567	2252	6422	2217	2416
5/30/2011	3709	502	599	10596	2552	1197	6388	2237	2229
5/31/2011	3659	493	593	10538	2690	2306	6629	2050	2738
6/1/2011	2999	446	582	9158	2449	2013	4623	1858	2473
6/2/2011	2677	399	550	8069	2212	1723	3833	1658	1710
6/3/2011	3729	481	621	10541	2863	2156	4733	2175	2685
6/4/2011	3817	464	589	10470	2824	2089	4591	2360	2647

DATE	CW-1	CW-1A	CW-2	CW-3	CW-4	CW-5	CW-6	CW-7	CW-7A
6/5/2011	3772	454	570	10418	2794	1832	4539	2255	2497
6/6/2011	3717	439	574	10337	2748	1984	4542	1969	2727
6/7/2011	3696	424	563	10288	2731	2041	4554	2102	2695
6/8/2011	3687	408	547	10213	2731	1925	4543	2169	2623
6/9/2011	3673	393	548	9167	2727	1844	4561	1926	2557
6/10/2011	3655	378	550	9935	2716	1753	4552	1943	2492
6/11/2011	3611	362	538	10233	2674	1719	4538	2090	2442
6/12/2011	3569	349	533	10211	2650	1959	4542	1907	2403
6/13/2011	1343	104	158	3649	1385	788	1986	444	705
6/14/2011	2159	262	510	5906	2072	1292	3670	1242	1469
6/15/2011	3687	357	650	10270	3313	1941	5013	1758	2348
6/16/2011	3585	327	593	10225	3200	1892	4722	1951	2362
6/17/2011	3456	312	644	10156	3121	1851	4580	1431	2344
6/18/2011	3427	299	625	10125	3056	1779	4508	1405	2253
6/19/2011	3400	294	614	10082	2976	1678	4466	1349	2190
6/20/2011	3316	278	640	7193	2831	1554	4339	1700	2123
6/21/2011	2730	260	577	4467	2411	1345	3680	1254	2085
6/22/2011	3051	285	634	5762	2947	1611	4307	1350	2639
6/23/2011	2663	288	642	3899	2929	1643	4221	1493	2571
6/24/2011	3340	274	612	5112	2928	1618	4191	1366	2501
6/25/2011	1234	275	631	7153	2918	1543	4170	1344	2508
6/26/2011	3372	268	617	7289	2918	1413	4163	1373	2414
6/27/2011	1434	143	326	3540	1280	662	1952	635	1100
6/28/2011	0	0	0	0	0	0	0	0	0
6/29/2011	1434	142	326	3539	1280	661	1952	634	1099
6/30/2011	3372	273	607	8190	3305	1688	4900	1320	2381
7/1/2011	3341	249	562	7788	3259	1662	4625	1268	2313
7/2/2011	3317	240	554	5087	2353	1238	3463	1360	2301
7/3/2011	3290	224	529	7757	3071	1539	4472	1302	2345
7/4/2011	1058	225	547	7658	2913	1478	2920	1312	2313
7/5/2011	2390	226	590	7820	2698	1419	0	1213	2126
7/6/2011	3095	217	504	7753	2665	1415	3398	1185	2011
7/7/2011	1402	112	278	3436	1216	649	2172	522	869
7/8/2011	2102	169	418	5153	1825	974	3259	784	1304
7/9/2011	3104	217	547	7964	2715	1508	4737	1006	1765
7/10/2011	3082	198	478	7748	2707	1584	4482	1031	1793
7/11/2011	3070	203	502	7548	2704	1545	4362	1008	1712
7/12/2011	2391	166	452	4421	2146	1224	2835	935	1373
7/13/2011	3014	180	568	7127	2703	1430	4498	1122	1755
7/14/2011	2962	190	547	7370	2672	1155	4317	1304	1857

DATE	CW-1	CW-1A	CW-2	CW-3	CW-4	CW-5	CW-6	CW-7	CW-7A
7/15/2011	1491	87	259	3694	1337	690	2123	572	921
7/16/2011	0	0	0	1	0	0	0	0	0
7/17/2011	0	0	0	1	0	0	0	0	0
7/18/2011	2510	202	564	6149	2494	1197	3832	929	1666
7/19/2011	3294	211	616	8150	3374	1472	4968	1221	2016
7/20/2011	3248	200	589	7903	3209	1433	4664	1133	1934
7/21/2011	1815	144	447	4479	1788	777	2570	787	1116
7/22/2011	2667	188	581	6786	2594	1206	4042	1020	1662
7/23/2011	3233	176	598	8019	3080	1296	2403	1177	1863
7/24/2011	3224	172	573	7875	3067	864	3743	1119	1816
7/25/2011	2189	148	492	4508	2184	638	2063	1004	1352
7/26/2011	2249	148	502	4345	2300	994	2850	930	1401
7/27/2011	2589	164	550	5373	2500	1030	2754	990	1471
7/28/2011	2263	145	517	5722	2194	917	3457	840	1338
7/29/2011	3197	160	606	7954	3065	1254	4708	1168	1730
7/30/2011	3173	154	576	7884	3033	1180	761	1212	1679
7/31/2011	3076	148	560	7907	2968	1135	0	1166	1658
8/1/2011	1825	117	399	4115	1763	708	1087	753	1043
8/2/2011	2841	161	607	7597	2818	857	0	1110	1618
8/3/2011	2904	144	595	8036	2934	1138	19	1147	1624
8/4/2011	2817	141	609	7833	2881	1143	2971	1126	1603
8/5/2011	2861	136	589	7866	2880	1080	4912	1113	1601
8/6/2011	2852	133	572	7768	2851	975	1714	1090	1553
8/7/2011	2835	137	563	7778	2847	976	0	1122	1501
8/8/2011	1880	117	437	4070	1891	733	360	833	1073
8/9/2011	2811	140	601	7957	2920	1042	0	1141	1548
8/10/2011	2748	137	594	7629	2810	1057	2998	1078	1495
8/11/2011	2104	124	495	4487	2148	817	3481	901	1169
8/12/2011	2890	131	594	7390	2827	923	4742	1078	1488
8/13/2011	2946	126	572	7616	2827	943	4718	1128	1456
8/14/2011	2945	126	559	7553	2822	1086	4562	1128	1471
8/15/2011	2935	128	554	7529	2818	978	4500	1126	1434
8/16/2011	2919	120	550	7492	2809	840	4450	1132	1431
8/17/2011	2867	121	547	7441	2803	728	4413	1119	1412
8/18/2011	2841	119	548	7432	2795	661	4401	1075	1443
8/19/2011	2825	126	546	6307	2787	626	4408	1018	1397
8/20/2011	2805	116	536	3942	2780	646	4390	1044	1413
8/21/2011	2787	119	531	5793	2773	657	4420	1029	1410
8/22/2011	2779	117	541	7206	2767	755	4417	1060	1379
8/23/2011	2766	113	533	7211	2765	696	4420	1067	1381

DATE	CW-1	CW-1A	CW-2	CW-3	CW-4	CW-5	CW-6	CW-7	CW-7A
8/24/2011	1016	50	207	2515	1046	230	1621	378	482
8/25/2011	2031	101	414	5030	2091	460	3241	755	963
8/26/2011	3178	122	573	7340	3207	797	5082	1016	1382
8/27/2011	3038	120	536	7461	3173	773	5030	961	1349
8/28/2011	2947	130	666	7402	3164	1553	5004	1059	1435
8/29/2011	3129	190	569	7335	3149	1875	4963	966	1515
8/30/2011	3168	210	561	7279	3141	1417	4949	1041	1564
8/31/2011	2940	189	554	7303	3131	1031	4933	1021	1599
9/1/2011	2852	177	548	7303	3127	967	4916	1037	1617
9/2/2011	2858	169	544	7283	3120	905	4896	988	1613
9/3/2011	2869	156	535	7257	3117	882	4872	1071	1633
9/4/2011	2859	161	534	7221	3118	936	4840	1055	1637
9/5/2011	2849	169	750	7192	3113	1446	4817	986	1689
9/6/2011	2875	408	1061	7339	3100	2226	4751	978	2226
9/7/2011	3205	756	1264	7627	3065	4546	4772	1139	3175
9/8/2011	3400	895	1150	7702	3017	5320	4797	1257	4051
9/9/2011	3446	817	793	7872	3246	5690	4805	1230	3722
9/10/2011	3514	759	754	8088	3409	5971	4941	1434	3474
9/11/2011	3530	696	717	8086	3408	6209	4970	1445	3424
9/12/2011	3530	652	694	8072	3394	5239	4979	1530	3369
9/13/2011	3525	624	676	8016	3350	1548	4918	1334	3348
9/14/2011	3520	606	664	8028	3346	2734	4906	1431	3346
9/15/2011	3523	593	657	8017	3336	3182	4896	1464	3341
9/16/2011	3418	585	658	7942	3317	2777	4848	1393	3302
9/17/2011	3558	574	646	7936	3308	2375	4834	1496	3306
9/18/2011	3420	565	642	7921	3292	2177	4801	1346	3011
9/19/2011	3458	560	640	7894	3272	2411	4773	1380	2316
9/20/2011	3104	526	636	7143	2849	2105	4348	1346	1807
9/21/2011	3585	550	675	7855	3364	632	4952	1415	1882
9/22/2011	3714	550	664	7838	3409	1727	4912	1432	1865
9/23/2011	3610	542	663	7325	3380	2351	4889	1472	2332
9/24/2011	3581	537	660	7246	3374	1460	4859	1389	2425
9/25/2011	3546	523	653	7638	3344	1435	4816	1299	2399
9/26/2011	2728	475	632	4948	2815	1477	4218	1240	2289
9/27/2011	3073	497	679	7862	3225	1890	4917	1436	2665
9/28/2011	3282	500	712	7807	3261	2282	4916	1479	2633
9/29/2011	3305	514	693	7758	3220	2431	4859	1408	2621
9/30/2011	3496	517	680	7721	3194	1394	4845	1418	2641
10/1/2011	3526	506	657	7712	3156	2221	4818	1402	2592
10/2/2011	3497	496	670	7717	3129	2673	4788	1379	2595

DATE	CW-1	CW-1A	CW-2	CW-3	CW-4	CW-5	CW-6	CW-7	CW-7A
10/3/2011	3507	494	674	7703	3107	2507	4739	1329	2592
10/4/2011	3515	481	658	7709	3118	2148	4692	1336	2582
10/5/2011	3186	456	637	7217	2903	2175	4336	1190	2478
10/6/2011	3471	446	650	7076	3075	1537	4467	1208	2717
10/7/2011	3266	407	608	7018	2906	1508	4221	1263	2361
10/8/2011	3537	413	634	7758	3190	2091	4776	1328	2426
10/9/2011	3543	400	616	7621	3220	2025	4731	1242	2396
10/10/2011	3535	408	616	7585	3209	1949	4696	1319	2442
10/11/2011	2525	329	499	5242	2373	1422	3439	1040	1771
10/12/2011	3481	397	629	7527	3279	1832	4791	1260	2415
10/13/2011	3471	362	628	7514	3222	1929	4780	1350	2395
10/14/2011	3475	354	633	7543	3144	2010	4739	1158	2372
10/15/2011	3456	339	640	7503	3117	1891	4662	1254	2298
10/16/2011	3430	322	626	7399	3095	1792	4649	1138	2238
10/17/2011	3416	306	597	7382	3084	1726	4654	1206	2189
10/18/2011	3405	301	596	7384	3067	1666	4649	1199	2142
10/19/2011	3400	297	608	7367	3051	1687	4650	1284	2135
10/20/2011	3395	295	811	7364	3043	1650	4630	1210	2098
10/21/2011	3382	279	777	7325	3023	1720	4577	1233	2045
10/22/2011	3377	274	658	7311	3009	1595	4544	1245	2008
10/23/2011	3370	271	567	7295	2988	1787	4512	1246	2036
10/24/2011	3355	258	551	7277	2972	1574	4492	1220	1995
10/25/2011	3346	246	557	7288	2991	1765	4480	1296	1991
10/26/2011	3337	244	557	7269	2987	1788	4450	1149	1920
10/27/2011	3327	245	562	7268	2969	1582	4442	1167	1883
10/28/2011	3323	236	546	7276	2948	1720	4428	1118	1808
10/29/2011	3326	232	559	7277	2936	1870	4414	1109	1776
10/30/2011	3324	235	576	7272	2918	2226	4385	1151	1776
10/31/2011	3314	244	822	7269	2905	2568	4376	1120	1817
11/1/2011	3313	264	822	7285	2899	2678	4378	1197	1863
11/2/2011	2070	213	404	4491	1796	1687	2770	748	1234
11/3/2011	1588	163	528	3443	1378	1293	2124	574	947
11/4/2011	3403	356	904	7761	3184	2652	4541	1080	2071
11/5/2011	3303	325	856	7635	3243	2210	4508	1095	2004
11/6/2011	3245	309	824	7523	3211	2225	4494	1086	1975
11/7/2011	3110	286	774	7114	3042	2046	4277	1064	1754
11/8/2011	3105	281	763	7067	3016	1725	4258	1058	1451
11/9/2011	3104	273	758	7013	2987	1954	4234	1071	1752
11/10/2011	3101	264	759	6959	2962	1925	4205	1049	1831
11/11/2011	3089	255	777	6883	2934	1775	4169	1006	1799

DATE	CW-1	CW-1A	CW-2	CW-3	CW-4	CW-5	CW-6	CW-7	CW-7A
11/12/2011	3089	238	707	6869	2916	1131	4150	944	1785
11/13/2011	3086	239	781	6837	2893	1397	4117	973	1763
11/14/2011	3088	239	778	6829	2876	1499	4115	1040	1678
11/15/2011	2251	166	569	4899	2064	910	2949	781	1238
11/16/2011	519	72	153	627	438	326	751	225	248
11/17/2011	3288	268	627	6049	2970	1970	4426	947	1631
11/18/2011	3249	237	560	7166	3084	1665	4407	893	1629
11/19/2011	3162	216	528	7082	3203	1162	4401	874	1630
11/20/2011	2949	226	800	7013	3137	1086	4398	905	1627
11/21/2011	2826	217	782	6960	3047	1161	4341	896	1644
11/22/2011	2870	224	836	7235	3119	1593	4485	962	1762
11/23/2011	2878	395	1066	7280	3160	2047	4511	1098	1837
11/24/2011	2874	412	862	7263	3129	2490	4484	1075	1835
11/25/2011	2424	381	731	4404	2287	2151	3613	881	1555
11/26/2011	3202	425	898	7422	2781	2886	4679	1105	2078
11/27/2011	3157	400	871	7362	2754	2593	4636	1147	2076
11/28/2011	3135	379	855	7335	2840	2195	4600	1183	2072
11/29/2011	3135	372	823	7328	2935	2042	4589	1225	2070
11/30/2011	3137	377	769	7319	2914	2006	4565	1096	2064
12/1/2011	3146	353	820	7243	2891	1764	4504	1136	2063
12/2/2011	3142	341	868	7370	2884	1650	4497	1061	2050
12/3/2011	3141	319	823	7417	2862	1558	4458	1012	2048
12/4/2011	3144	311	814	7402	2841	1531	4431	1055	2045
12/5/2011	2902	319	720	6755	2617	1415	4065	1055	1824
12/6/2011	2420	287	617	5392	2158	1188	3367	948	1352
12/7/2011	2924	340	805	6690	2642	1544	4125	1127	1469
12/8/2011	3212	401	862	7632	3051	2196	4535	1162	1896
12/9/2011	3166	453	799	7709	3074	2510	4502	1215	2143
12/10/2011	3157	460	754	7669	3047	2942	4473	1190	2119
12/11/2011	3146	433	729	7606	3006	2684	4434	1091	2117
12/12/2011	3144	417	659	7582	3000	2556	4425	1242	2118
12/13/2011	3139	408	616	7539	2978	2439	4404	1193	2116
12/14/2011	3145	382	790	7508	2959	2296	4380	1270	2117
12/15/2011	3144	377	863	7490	2944	2146	4353	1150	2118
12/16/2011	3140	366	824	7498	2935	1977	4336	1148	2113
12/17/2011	3135	352	808	7490	2917	1807	4318	1129	2051
12/18/2011	3131	350	828	7473	2906	1666	4305	1124	2047
12/19/2011	3123	350	827	7443	2891	1617	4279	1096	2044
12/20/2011	3123	342	864	7447	2898	1565	4438	1243	2048
12/21/2011	3126	311	879	7486	2909	1521	4470	1423	2050

DATE	CW-1	CW-1A	CW-2	CW-3	CW-4	CW-5	CW-6	CW-7	CW-7A
12/22/2011	3148	313	658	7541	2904	1587	4435	909	2056
12/23/2011	3165	314	427	7546	2905	1832	4441	771	2057
12/24/2011	3163	309	375	7496	2921	1862	4429	767	2057
12/25/2011	3158	304	321	7475	2913	1813	4411	766	2055
12/26/2011	3155	297	270	7461	2896	1767	4394	764	2047
12/27/2011	3149	297	582	7451	2899	1774	4377	761	1908
12/28/2011	3148	319	676	7452	2861	2014	4363	706	1854
12/29/2011	2175	290	622	5212	2007	1435	3017	574	1270
12/30/2011	3146	344	876	7560	2914	2516	4467	700	1993
12/31/2011	3012	332	844	7534	2876	2391	4473	764	2041
Sum	1106436	107636	231885	2890046	968486	660442	1603865	446886	669367
Average	3031	295	635	7918	2653	1809	4394	1224	1834

APPENDIX C

2011 Operation and Maintenance Data Summary

TABLE C-1
2011 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		1/7/2011	1/18/2011	2/9/2011	2/25/2011	3/4/2011	3/18/2011	4/1/2011	4/29/2011	5/6/2011	5/21/2011	6/8/2011	6/24/2011	7/6/2011	7/20/2011	8/4/2011	8/17/2011	9/16/2011	9/30/2011	10/13/2011	10/25/2011	11/2/2011	11/21/2011	12/1/2011	12/15/2011
PTA INFL. PUMP																									
Full Load = 17	AMPS	NM	NM	13.14	NM	NM	NM	NM	NM	15.23	NM	NM	NM	NM	NM	10.52	NM	NM	NM	NM	NM	14.59	NM	NM	NM
	FLOW RATE gpm	313	312	307	310	319	357	345	302	337	324	326	308	229	259	229	313	319	358	349	342	336	344	372	380
PTA BLOWER																									
Full Load = 24	AMP READINGS	NM	NM	21.75	NM	NM	NM	NM	NM	21.38	NM	NM	NM	NM	NM	21.18	NM	NM	NM	NM	NM	22.42	NM	NM	NM
	PRESSURE inches water	16.25	16.5	17	16	17.0	15.5	16.25	15.25	15.75	15	14.75	15	14.5	14.5	14.75	15	15.75	15.25	15.25	15.75	16.5	15.75	16	16
TOWER PANEL																									
	VISUAL INSPECT	NA	NA	Y	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	Y	NA	NA	NA
	WARWICK SECURE	NA	NA	Y	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	Y	NA	NA	NA
TOWER SAMPLING																									
	AST EFFLUENT pH	8.5	NM	8.46	NM	8.4	NM	8.1	NM	8.48	NM	8.47	NM	8.4	NM	8.5	NM	8.5	NM	8.5	NM	8.5	NM	8.4	NM
	AST INFLUENT pH	7.17	6.29	7.26	6.50	6.95	6.50	6.67	6.64	7.34	6.7	7.3	6.8	7.3	6.81	7.2	6.90	7.2	6.90	7.5	7.00	7.5	7.06	7.3	7.06
REDUX CHEMICAL INJECTION																									
	LMI PUMP SPEED (%)	64	64	64	64	64	64	64	63	64	64	64	64	61	63	62	63	64	63	63	64	64	64	65	64.00
	LMI INJECTION RATE (milis/min)	16.4	16.3	16.1	16.2	16.8	18.7	17.9	17.5	17.4	16.9	17.1	17.1	12	13.3	12.8	16.2	16.7	19.8	18.3	17.4	17.3	18.2	19	19.50
TCA WELL																									
CW-8; Full Load = 15.9	AMPS	NM	NM	12.78	NM	NM	NM	NM	NM	12.77	NM	NM	NM	NM	NM	OL	NM	NM	NM	NM	NM	12.23	NM	NM	NM
CW-8	FLOW RATE gpm	110	111	90.1	90.1	95.4	100	100	100	100	101	100	100	OL	OL	OL	104.3	63	95	113.5	115	112	110	112.6	119
CW-8	PRESSURE psi	65	68	78	78	75	78	78	75	70	75	70	75	OL	OL	OL	65	90	71	55	56	54	54	50	50
CW-8	CLEAN "Y" STRAINER	N	N	N	N	N	N	N	N	N	N	N	N	OL	OL	OL	N	N	N	N	N	N	N	N	N
CW-8	CLEAN CK. VALVE	N	N	N	N	N	N	N	N	N	N	N	N	OL	OL	OL	N	N	N	N	N	N	N	N	N
CW-8	HIGH LEVEL ALARM	N	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	N	N	N	N
WPL WELLS																									
	TOTAL FLOW RATE gpm	184	170	207	204	205	250	221	182	248	206	214	201	192	219	211	191	276	252	232	215	219	221	241	240
CW-9; Full Load = 15.9	AMPS	NM	NM	16.09	NM	NM	NM	NM	NM	16.56	NM	NM	NM	NM	NM	7.48	NM	NM	NM	NM	NM	11.73	NM	NM	NM
CW-9	FLOW RATE gpm	66.4	54.9	71.9	67	67.1	78.4	76.1	81.4	83.1	78.9	73	69.9	60.4	59.9	63.1	69.1	87.5	60.8	58.9	68.4	68.3	67.5	72.0	72.5
CW-9	PRESSURE psi	18	18	18	19	19	67	65	20	21	60	72	72	110	115	84	120	20	100	118	82	85	85	77	70
CW-9	CLEAN "Y" STRAINER	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
CW-9	HIGH LEVEL ALARM?	N	Y	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	Y	Y	Y	N	N	N	N	N
CW-13; Full Load = 11.5	AMPS	NM	NM	10.32	NM	NM	NM	NM	NM	7.75	NM	NM	NM	NM	NM	6.97	NM	NM	NM	NM	NM	9.93	NM	NM	NM
CW-13	FLOW RATE gpm	68.9	70.1	75.4	74.1	74.1	74.1	73.0	OL	74.9	69.9	70.1	65.1	61.5	72.1	71.4	63.1	94.9	94.9	85.4	74.9	75.4	74.0	78.5	78.3
CW-13	PRESSURE psi	16	16	16	18	19	59	58	OL	49	60	72	72	56	51	52	56	37	60	42	49	49	49	47	47
CW-13	CLEAN "Y" STRAINER	N	N	N	N	N	N	N	OL	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
CW-13	HIGH LEVEL ALARM?	N	Y	N	N	N	N'	N	OL	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	11.4	NM	NM	NM	NM	NM	12.31	NM	NM	NM	NM	NM	8.58	NM	NM	NM	NM	NM	11.93	NM	NM	NM
CW-17	FLOW RATE gpm	45.3	45.1	55.9	57.7	62	902.4	70.5	97	89.5	75.8	70.3	65.5	70.1	87.0	75.5	67.5	89.9	95.1	83.8	68.1	68.0	70.9	85.1	82.8
CW-17	PRESSURE psi	16	16	16	18	18	40	85	30	42	59	88	88	85	45	79	84	22	72	60	95	79	82	49	65
CW-17	CLEAN "Y" STRAINER	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
CW-17	HIGH LEVEL ALARM?	N	Y	N	Y	N	Y	N	Y	Y	Y	N	N	N	N	N	N	Y	N	N	N	N	N	N	N
CW-15A; Full Load = 1.6	AMPS	NM	NM	1.44	NM	NM	NM	NM	NM	1.52	NM	NM	NM	NM	NM	1.04	NM	NM	NM	NM	NM	1.37	NM	NM	NM
CW-15A	FLOW RATE gpm	3.0	OL	3.1	3.9	3.5	4.5	0.9	3.1	0.6	0.4	1	1.1	1	1.0	0.5	0.9	2.9	2.9	4.1	3.9	6.0	5.5	5.0	5.0
CW-15A	PRESSURE psi	72	OL	71	71	76	72	61	50	56	69	46	46	62	73	48	45	86	0.2	78	72	53	62	65	60
CW-15A	CLEAN "Y" STRAINER	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
CW-15A	HIGH LEVEL ALARM?	N	Y	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
AST influent pressure	inches of water	11.1	11.20	11.5	10.0	11.2	10.2	10.7	9.7	10.1	8.5	8.2	8.2	7.7	7.6	6.6	5.1	3.9	3.3	3.2	2.9	2.9	2.5	1.8	3.7
GAC influent pressure	inches of water	8.3	9.4	8.8	8.3	8.2	8.2	8.1	8	8.1	7.8	7.1	7.1	7.3	7.7	7.3	8.1	8.1	7.9	7.9	7.9	8.4	7.8	7.8	7.8
AST pitot pressure	inches of water	0.27	0.27	0.28	0.26	0.27	0.28	0.38	0.29	0.28	0.28	0.27	0.27	0.27	0.38	0.27	0.28	0.25	0.27	0.25	0.27	0.28	0.27	0.27	0.27

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

TABLE C-1
2011 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		1/7/2011	1/18/2011	2/9/2011	2/25/2011	3/4/2011	3/18/2011	4/1/2011	4/29/2011	5/6/2011	5/21/2011	6/8/2011	6/24/2011	7/6/2011	7/20/2011	8/4/2011	8/17/2011	9/16/2011	9/30/2011	10/13/2011	10/25/2011	11/2/2011	11/21/2011	12/1/2011	12/15/2011
NPBA WELLS																									
	VIS. INSP. CONTR. PANEL	NA	NA	Y	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	Y	NA	NA	NA
	WARWICK SECURE	NA	NA	Y	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	Y	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	1	10	0	0	0	2	4	5	4	4	3	4	7	9	9	9	6	5	5	5	8	7	6	8
CW-1; Full Load = 1.6	AMPS	NM	NM	1.43	NM	NM	NM	NM	NM	1.46	NM	NM	NM	NM	NM	1.36	NM	NM	NM	NM	NM	1.38	NM	NM	NM
CW-1	FLOW-RATE gpm	2.2	2.2	2	1.9	2.1	2.4	2.4	2.3	2.4	2.5	2.6	2.3	2.1	2.2	2.0	2.0	2.4	2.3	2.4	2.3	2.3	2.1	2.2	2.2
CW-1	PRESSURE psi	104	110	103	100	100	98	91	86	85	82	76	86	76	70	60	57	113	110	107	105	104	106	110	110
CW-1	CLEAN "Y" STRAINER	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-1	CLEAN CK. VALVE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-1	CLEAN FLOWSENSOR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-1	HIGH LEVEL ALARM?	N	Y	N	Y	N	Y	N	Y	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N
CW-1A; Full Load = 1.6	AMPS	NM	NM	1.5	NM	NM	NM	NM	NM	1.47	NM	NM	NM	NM	NM	1.43	NM	NM	NM	NM	NM	1.44	NM	NM	NM
CW-1A	FLOW-RATE gpm	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
CW-1A	PRESSURE psi	20	30	18	20	30	20	25	20	20	20	20	20	20	25	20	20	20	20	20	20	20	20	20	20
CW-1A	CLEAN "Y" STRAINER	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-1A	CLEAN CK. VALVE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-1A	CLEAN FLOWSENSOR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-1A	HIGH LEVEL ALARM?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CW-2; Full Load = 1.6	AMPS	NM	NM	1.46	NM	NM	NM	NM	NM	1.51	NM	NM	NM	NM	NM	1.50	NM	NM	NM	NM	NM	1.37	NM	NM	NM
CW-2	FLOW-RATE gpm	0.5	1	0.6	1.4	0.6	2.6	0.5	3.3	0.5	1.3	0.5	1	1.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.6
CW-2	PRESSURE psi	30	100	28	100	20	116	30	95	20	110	30	95	40	20	20	20	30	24	20	20	32	12	100	38
CW-2	CLEAN "Y" STRAINER	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-2	CLEAN CK. VALVE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-2	CLEAN FLOWSENSOR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-2	HIGH LEVEL ALARM?	N	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CW-3; Full Load = 1.6	AMPS	NM	NM	1.35	NM	NM	NM	NM	NM	1.33	NM	NM	NM	NM	NM	1.28	NM	NM	NM	NM	NM	1.25	NM	NM	NM
CW-3	FLOW-RATE gpm	5.3	6.3	6.6	6.5	6.9	7	6.7	7.1	7.2	7.4	7.2	3.6	5.4	5.6	5.5	5.2	5.5	5.3	5.3	5.0	4.9	5.0	5.1	5.2
CW-3	PRESSURE psi	0	77	53	56	54	62	60	60	55	50	50	60	60	57	54	55	40	52	58	48	50	50	50	45
CW-3	CLEAN "Y" STRAINER	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-3	CLEAN CK. VALVE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-3	CLEAN FLOWSENSOR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-3	HIGH LEVEL ALARM?	Y	Y	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CW-4; Full Load = 1.6	AMPS	NM	NM	1.34	NM	NM	NM	NM	NM	1.35	NM	NM	NM	NM	NM	1.29	NM	NM	NM	NM	NM	1.31	NM	NM	NM
CW-4	FLOW-RATE gpm	1.9	2	1.5	1.6	1.7	1.8	1.8	1.8	1.9	1.8	2	2	1.9	2.4	2.0	1.9	2.3	2.3	2.5	2.1	2.0	2.2	2.0	1.9
CW-4	PRESSURE psi	93	103	93	82	88	84	78	44	26	20	5	44	87	88	90	90	75	58	47	57	52	20	22	20
CW-4	CLEAN "Y" STRAINER	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-4	CLEAN CK. VALVE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-4	CLEAN FLOWSENSOR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-4	HIGH LEVEL ALARM?	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CW-5; Full Load = 6	AMPS	NM	NM	1.37	NM	NM	NM	NM	NM	1.43	NM	NM	NM	NM	NM	1.33	NM	NM	NM	NM	NM	1.32	NM	NM	NM
CW-5	FLOW-RATE gpm	0.7	0.7	0.9	1.5	1.5	1.9	1.8	3	2.2	2.9	1.4	1.2	1.0	1.0	1.0	1.0	2.0	1.8	1.3	1.3	1.9	1.2	1.3	1.5
CW-5	PRESSURE psi	74	73	82	64	48	18	18	70	Y	70	86	73	94	92	92	92	78	72	87	86	79	100	89	87
CW-5	CLEAN "Y" STRAINER	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-5	CLEAN CK. VALVE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-5	CLEAN FLOWSENSOR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-5	HIGH LEVEL ALARM?	N	Y	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	N	N	
CW-6; Full Load = 1.6	AMPS	NM	NM	1.34	NM	NM	NM	NM	NM	1.31	NM	NM	NM	NM	NM	1.33	NM	NM	NM	NM	NM	1.34	NM	NM	NM
CW-6	FLOW-RATE gpm	2.9	3.2	3.2	3	3.2	3.3	3.4	4.6	4.5	4.5	3.2	3.0	3.4	3.5	OL	3.2	3.3	3.3	3.3	3.1	3.0	3.1	3.1	3.0
CW-6	PRESSURE psi	50	57	46	44	42	42	43	40	38	32	42	40	40	33	OL	39	28	34	32	33	32	28	36	34
CW-6	CLEAN "Y" STRAINER	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-6	CLEAN CK. VALVE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-6	CLEAN FLOWSENSOR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-6	HIGH LEVEL ALARM?	N	Y	N	N	N	Y	N	N	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N
CW-7; Full Load = 1.6	AMPS	NM	NM	1.48	NM	NM	NM	NM	NM	1.47	NM	NM	NM	NM	NM	1.46	NM	NM	NM	NM	NM	1.49	NM	NM	NM
CW-7	FLOW-RATE gpm	1	1	0.5	1.0	1.0	0.7	1.7	1.0	1	1	0.5	1	1.1	1.0	1.0	1.0	1.0	0.5	1.0	1.2	2.4	1.0	0.5	0.5
CW-7	PRESSURE psi	120	100	120	90	95	85	20	55	80	20	20	55	40	60	80	40	40	1.8	40	20	20	18	20	20
CW-7	CLEAN "Y" STRAINER	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-7	CLEAN CK. VALVE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-7	CLEAN FLOWSENSOR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-7	HIGH LEVEL ALARM?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CW-7A; Full Load = 1.6	AMPS	NM	NM	1.45	NM	NM	NM	NM	NM	1.27	NM	NM	NM	NM	NM	1.39	NM	NM	NM	NM	NM	1.23	NM	NM	NM
CW-7A	FLOW-RATE gpm	1.0	1.0	0.9	0.9	1.0	0.4	1.5	1.8	1.3	1.8	1.9	1	1.5	1.1	1.3	1.5	2.4	1.9	1.7	1.4	1.3	1.1	1.4	1.4
CW-7A	PRESSURE psi	90	90	90	90	90	100	90	90	90	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CW-7A	CLEAN "Y" STRAINER	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-7A	CLEAN CK. VALVE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-7A	CLEAN FLOWSENSOR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CW-7A	HIGH LEVEL ALARM?	N	N	N	N	N	Y	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N

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