Groundwater Quality Sampling Results for Wyckoff/Eagle Harbor Superfund Site—October 2014

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This technical memorandum summarizes the results of the October 2014 lower aquifer groundwater sampling event conducted at the Wyckoff/Eagle Harbor Superfund Site on Bainbridge Island, Washington. The objective of the ongoing sampling is to evaluate long-term concentration trends for the contaminants of concern (COCs) in lower aquifer groundwater. A secondary objective for this event was to assess the effects of the April 30, 2014, to November 3, 2014, upper aquifer recovery well and groundwater treatment system (GWTS) shutdown on lower aquifer groundwater quality.

Historical results (September 2009, May 2010, June 2012, and May 2013) from 24 previously sampled lower aquifer monitoring wells and one upper aquifer monitoring well were evaluated prior to selecting the wells to be sampled for the October 2014 event. The upper aquifer well was eliminated from the October 2014 sampling event because it was redundant with upper aquifer groundwater sampling performed in May 2014. Eleven of the 24 historically sampled lower aquifer wells were selected for sampling based on the following considerations:

- Location relative to upper aquifer nonaqueous-phase liquid (NAPL) geographic Zones[1]
- Presence and thickness of NAPL within the upper aquifer above the aquitard
- Aquitard Thickness
- Historic polycyclic aromatic hydrocarbon (PAH) concentrations in lower aquifer wells

Lower aquifer monitoring wells selected for sampling during the October 2014 event included: CW-05, CW-09, CW-15, 99CD-MW-02, P-3L, P-4L, PZ-11, VG-1L, VG-2L, VG-4L, and VG-5L (**Figure 1** and **Table 1**). Lower aquifer piezometer PZ-11 was selected for sampling to assess groundwater quality upgradient of the former process area (FPA).

1. Groundwater Sampling

The Groundwater Sampling Event Planning (GSEP) form and Analytical Services Request Form (ASRF) were used for laboratory coordination and sample event planning. Copies of the completed GSEP form and ASRF for the October 2014 sampling event are included in **Appendix A**.

[1] Upper aquifer NAPL geographic zones include the: Core area, East Shallow (LNAPL), North Shallow (LNAPL), North Deep (DNAPL), and Other Periphery (Draft NAPL Focused Feasibility Study, CH2M HILL, 2014).

The October 2014 groundwater sampling was performed in accordance with the procedures outlined in the 2005 Addendum to the Groundwater Sampling and Analysis Plan (SAP) (December 29, 2005). A copy of the SAP addendum is provided in **Appendix A** as part of the GSEP.

Groundwater sampling was performed by CH2M HILL from October 20 to 22, 2014. Eleven monitoring wells and piezometers were sampled. Groundwater sampling procedures included purging the well or piezometer, measurement of field water quality parameters while purging, sample collection, and sample packing and shipment to the laboratory. Depth-to-groundwater measurements were taken prior to and after purging each well and piezometer with a manual water level indicator. A Mini Rae photoionization detector (PID) was used to monitor the field personnel breathing zone during well purging and sample collection activities.

1.1 Purging

A peristaltic pump was used to purge wells and piezometers prior to sampling. The peristaltic pump was equipped with new polyethylene tubing. The purge tubing was set so that the suction tip was near the center of the well screen.

At upgradient piezometer PZ-11, which is located south of the FPA, purge water was discharged into a 5-gallon bucket. Purge water was then emptied from the bucket into the decontamination pad drain for treatment through the onsite GWTS. At the wells located within the FPA footprint, the purge water was discharged onto the ground surface, away from the well head.

1.2 Field Water Quality Parameters

A Horiba U-22 water quality meter was used to collect groundwater quality field parameters during well purging. Field parameters were recorded approximately every 3 minutes. Results were recorded in the field notebook as they were collected. Purging was continued until the field parameter measurements stabilized between successive readings. Sampling field records are provided in **Appendix B**. The groundwater field parameters recorded immediately before sampling at each location are provided in **Table 2** under the chemical group “General.”

1.3 NAPL Thickness Measurements

NAPL thickness measurements were not collected during the October 2014 sampling event; however, visual observations of NAPL present on the measuring tape used to sound each well after sampling were recorded on the sampling log. Previous measurements during the June 2012 groundwater sampling event detected NAPL in lower aquifer wells VG2L, P3L, and CW15. These three wells are located in the northern portion of the FPA, on the point, where acenapthene and other PAH constituents have been consistently detected near or above clean-up levels. In 2012, NAPL measurements were not attempted at monitoring well PZ11. However, based on PZ11 water quality results, the presence of NAPL in the vicinity of this well is possible.

Field observations made during the October 2014 event were consistent with the June 2012 measurements. NAPL was visually detected on the sounding tape at VG2L, P3L, and CW15. Additionally, NAPL was detected at two locations where it was not previously observed in June 2012: CW05 (as NAPL on the sounding tape) and 99CDMW02A (as a slight sheen on the sounding tape). Visible NAPL was not observed on the measuring tape in well PZ11 during the October 2014 monitoring event.

1.4 Sample Collection

Samples were collected at all 11 locations for semivolatile organic compounds (SVOCs), polynuclear aromatic hydrocarbons (PAHs), pentachlorophenol (PCP) , and total petroleum hydrocarbons (TPH) for diesel and motor oil (TPH-Dx plus motor oil) range hydrocarbons. Quality-control samples included two field duplicate samples collected at monitoring wells CW-05 and VG-2L, one matrix spike and matrix spike duplicate (MS/MSD) collected at well CW-15, and two laboratory duplicates collected at wells PZ-11 and VG-4L.

Groundwater samples were collected into certified pre-cleaned, pre-labeled sample bottles. After collection, samples were placed in iced coolers to maintain an internal temperature of 4 degrees Celsius (°C) and sealed

with strapping tape and chain-of-custody seals. The coolers were maintained under chain-of-custody and stored overnight in the locked onsite office trailer. The coolers were re-packed with fresh ice the following morning, and secured with strapping tape and custody seals for delivery to the U.S. Environmental Protection Agency (EPA) Region 10 Manchester Environmental Laboratory (MEL) located in Port Orchard, Washington. All samples were shipped via Federal Express Priority Overnight to the laboratory within one day of sample collection. Samples were received by the laboratory within 2 days of collection, with the exception of PZ-11, which was sampled on the last day of the event, shipped on the day of collection, and received one day following collection. Sample tracking numbers for the October 2014 sampling event are provided in **Table 1**.

2. Groundwater Sample Laboratory Analysis

Groundwater samples obtained from the monitoring wells were analyzed at MEL for SVOCs (SW-846 Method 8270D), PAH compounds listed in the GSEP (SW-846 Method 8270D with SIM on non-detects), PCP (SW-846 Method 8041), and TPH constituents (Method NWTPH-Dx). **Appendix C** contains the Scribe chain-of-custody forms for the sample deliveries.

SVOC analytical results were submitted electronically by MEL to the EPA Region 10 Task Order Project Officer (TOPO) on December 9, 2014; the TPH results on December 12, 2014; the PAH results on December 16, 2014; and the PCP results on December 17, 2014. Quality assurance review of the data packages was conducted by MEL to submitting the data deliverables to the TOPO. The SVOC data package was reviewed by Chris Pace/EPA on December 4, 2014. The TPH data package was reviewed by Dana Walker/EPA on December 11, 2014; the PAH data package was reviewed by Dana Walker/EPA on December 15, 2014; and the PCP data package was reviewed by Dana Walker/EPA on December 17, 2014. The laboratory data packages are presented in **Appendix D**. Analytical results from this event were added to the Wyckoff project electronic database maintained by CH2M HILL.

3. Groundwater Sample Analytical Results

The October 2014 analytical results for the lower aquifer monitoring wells were compared to the groundwater clean-up levels (CULs) defined in the *EPA Superfund Record of Decision: Wyckoff Co./Eagle Harbor EPA ID: WAD009248295 OU 02, 04 Bainbridge Island, WA* ("2000 ROD") (EPA, 2000) in **Table 2**. The groundwater CULs specified in the 2000 ROD are based on protection of marine surface water quality and sediment. The *Draft NAPL Focused Feasibility Study for OU2/OU4* (CH2M HILL, 2014) contains a remedial action objective (RAO) to restore the lower aquifer's beneficial use. As currently defined, this would consist of: 1) achieving a level of clean-up in the lower aquifer, which is subject to saltwater intrusion, to a level that protects marine aquatic life and recreational beach users at the point of groundwater discharge; and 2) achieving drinking water maximum contaminant levels for that portion of the lower aquifer not subject to saltwater intrusion.

Based on a site-specific specific conductivity and total dissolved solids (TDS) concentration correlation, lower aquifer groundwater with a TDS concentration greater than 10,000 milligrams per liter (mg/L) would be characterized as affected by saltwater intrusion and defined as Class III (non-potable groundwater) under EPA guidance (EPA, 1986) and Washington State Department Ecology regulations [WAC 173-340-720 (2)]. Four of the 11 monitoring wells sampled during the October 2014 event contained TDS levels greater than 10,000 mg/L. These wells are located approximately 100 feet inland of the shoreline defined by the upper aquifer perimeter sheet-pile wall.

3.1 Lower Aquifer

Eleven lower aquifer monitoring wells were sampled during the October 2014 event. The laboratory analysis results from six well locations (VG1L, VG4L, VG5L, P4L, CW09, and 99CDMW02) were reported to contain non-detectable or very low concentrations below CULs. Four of the wells (VG1L, CW09, P4L, and VG4L) are located just inside the upper aquifer perimeter sheet-pile wall while the two remaining wells (VG4L and 99CDMW02) are north of the steam pilot area.

Samples collected from the five remaining lower aquifer monitoring wells (CW05, CW15, P3L, PZ11, and VG2L) were reported to have at least one constituent at a concentration exceeding the CUL. All five of these wells are located in the northern portion of the FPA on the point except for PZ11, which is upgradient from the FPA.

The October 2014 laboratory results showed the following:

- PZ11 – this upgradient well had one PAH constituent, acenaphthene at 10 micrograms per liter (µg/L), that was reported at a concentration exceeding its groundwater CUL.
- CW05 - Monitoring well CW05 had seven PAH constituents reported at concentrations above groundwater CULs (acenaphthene, benzo(a)anthracene, benzo(b)fluoranthene, chrysene, fluoranthene, fluorene, and naphthalene). The highest observed concentration of 450 µg/L was reported for naphthalene, which has a CUL of 83 µg/L. A concentration of 820 µg/L was reported for the field duplicate sample. The total high molecular weight PAH (HPAH) concentration of 7.73 µg/L, which represents the calculated sum for 10 individual PAH compounds, was also reported above its groundwater CUL of 0.254 µg/L. Concentrations for each of the seven PAH constituents and HPAH also exceeded CULs in the field duplicate sample.
- CW15 – Monitoring well CW15 had eight PAH constituents that were reported at concentrations exceeding their groundwater CULs (acenaphthene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, fluoranthene, and indeno(1,2,3-cd)pyrene). The highest observed concentration of 170 µg/L was reported for acenaphthene, which has a clean-up level of 3.0 µg/L. The calculated HPAH concentration of 14.5 µg/L was also above its groundwater CUL.
- P3L – Monitoring well P3L had five PAH constituents (acenaphthene, benzo(a)anthracene, chrysene, fluoranthene, and fluorene) and HPAH reported at concentrations exceeding the corresponding groundwater CULs. The highest observed concentration of 50 µg/L was reported for acenaphthene.
- VG2L - Monitoring well VG2L had nine PAH constituents reported at concentrations exceeding their corresponding CULs (acenaphthene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, fluoranthene, fluorene, and naphthalene). The highest observed concentration of 110 µg/L was reported for naphthalene. The calculated HPAH concentration of 6.6 µg/L was also reported above its groundwater CUL. Six of the nine constituents and HPAH detected above CULs in the regular sample also exceeded CULs in the field duplicate. Benzo(a)pyrene, benzo(b)fluoranthene, and benzo(k)fluoranthene were not detected in the field duplicate sample.

Based on the PAH constituents detected above their corresponding CULs, acenaphthene was selected as an indicator constituent to present the spatial distribution of PAH constituents in the lower aquifer. Acenaphthene was selected as the most appropriate indicator constituent because it was detected above its CUL of 3 µg/L in all of the monitoring wells with PAH concentrations detected above their CULs. **Figure 2** presents the resulting concentration isopleth for acenapthene. There are two areas at the Site where acenapthene and other PAH constituent concentrations are consistently detected near or above clean-up levels. One area is in the northern portion of the Site and encompasses monitoring wells CW05, CW15, P3L, and VG2L; the other area is in the southwest portion of the Site, surrounding upgradient well PZ11.

3.2 Summary of Water Quality Historical Trends

Historical data for the lower aquifer and upper aquifer wells located in the FPA are presented in **Tables 3** and **4**. **Table 3** presents the lower aquifer groundwater sample results reported since April 1994, and **Table 4** presents the upper aquifer groundwater sample results reported since March 2004.

Figure 3 is a time-series plot of the PAH constituent, acenaphthene, for wells VG2L and CW09, which are located on the east side of the point; upgradient well PZ11; and north point wells CW05, CW15, and P3L. Acenaphthene has been consistently detected above the CUL at wells CW15, P3L, and VG2L since sampling began as far back as 1994. Acenaphthene concentrations in well CW05 declined below the CUL, where they

remained through 2009, but have since risen above the CUL to 170 µg/L by October 2014. Acenaphthane concentrations at well CW15 have fluctuated around 100 µg/L for the 1994 through 2014 period, while concentrations at well P3L have risen steadily from 4.4 µg/L in 2009 to 50 µg/L in 2014. Acenaphthene concentrations at upgradient well PZ11 have fluctuated above and below the CUL with concentrations above the CUL detected in four of the six sampling events dating back to 2006.

Based on the October 2014 salinity levels, seven of the monitoring wells are influenced by saltwater intrusion. The location of the freshwater-saltwater interface in the lower aquifer shifts in response to daily tidal fluctuations. The location of this interface may influence PAH concentrations in the groundwater samples. Excluding tidal influence effects, acenaphthene concentrations appear to be relatively stable except at wells P3L and CW05 located on the north side of the point (north point) and at VG2L located on the east side of the point (east point). Based on laboratory testing of DNAPL samples collected from the upper aquifer in May 2014, the effective solubility of acenaphthene is estimated at 48 µg/L. Acenaphthene concentrations above this level at wells CW05, CW15, P3L, and VG2L may indicate the presence of DNAPL in the vicinity of the well.

The October 2014 acenaphthene concentration at well P3L is the highest detected to date but within an order of magnitude of previous results. The acenaphthene results for VG2L in October 2014 are similar to June 2012 results. At well CW05, acenaphthene concentrations have been relatively stable above the CUL since May 2010, with an increase to the highest detection for this well in October 2014. **Figure 3** shows that acenaphthene concentrations in PZ11, in the southwest upgradient portion of the FPA, have remained relatively stable (with slight fluctuation) above the CUL since May 2010. Wells in the center area of the FPA between the northern and southwestern portion showed no detects of acenaphthene in October 2014. The elevated levels of acenaphthene and naphthalene in the vicinity of well CW05 may indicate a preferred DNAPL transport pathway between the upper and lower aquifers.

4. Summary and Conclusions

The October 2014 lower aquifer groundwater sampling event was performed October 20 through 22, 2014, in accordance with the procedures outlined in the SAP addendum. Eleven monitoring wells and piezometers were sampled for SVOC, PAH, PCP, and TPH constituents and analyzed by MEL. Of the eleven locations sampled, six (VG1L, VG4L, VG5L, P4L, CW09, and 99CDMW02) contained non-detectable or very low concentrations of site-related COCs below CULs. The remaining samples collected at monitoring wells CW05, CW15, P3L, PZ11, and VG2L contained one or more COCs at concentrations above the CULs specified in the 2000 ROD.

Based on the review of current and historical analytical data for the upper and lower aquifer, two areas of the lower aquifer are identified with elevated PAH concentrations: one in the northern portion of the FPA in the vicinity of monitoring wells CW05, CW15, P3L, and VG2L, and one southwest of the FPA near well PZ11. These areas may indicate the presence of a preferred contaminant transport pathway between the upper and lower aquifer or the presence of NAPL in the aquitard in these areas.

June 2012 NAPL measurements and October 2014 NAPL observations indicate the presence of NAPL in the lower aquifer in the vicinity of five lower aquifer wells (VG-2L, P-3L, and CW15 in 2012 and 2014, and CW05 and 99CDMW02A in 2014) located in the northern portion of the FPA where elevated PAH concentrations occur. This is consistent with the water quality conditions observed in the lower aquifer in that same area. NAPL measurements were not attempted at monitoring well PZ11 in 2012, and NAPL was not observed on the sounding tape used at PZ11 in October 2014. But based on PZ11 water quality results, the presence of NAPL in the vicinity of this well is possible.

Although acenaphthene concentrations at wells CW15, CW05, P3L, and VG2L increased between May 2013 and October 2014, the increase at three of the four wells (**Figure 3**) reflects a continuation of concentration increases that began in 2012. Due to slow rates of NAPL and possibly dissolved-phase contaminant migration across the aquitard, lower aquifer groundwater quality changes associated with the April 30,

2014, to November 3, 2014, recovery well and GWTP temporary shutdown may not be immediately evident. Future sampling and analysis of lower aquifer monioring wells is needed before the effects of GWTP shutdowns can be determined.

CH2M HILL recommends that the next lower aquifer monitoring event include the following:

- Water level measurements at all lower aquifer well locations. The measurements should be performed on a declining tide, and tidal stage readings should be recorded at the beginning and end of the water level measurement period. This information will be used to prepare a groundwater elevation contour and flow map to assist with evaluating COC distribution.
- Measurement for NAPL presence and thickness at all lower aquifer well locations. This will require rental of an interface probe with a 150-foot depth capability.
- Sampling of monitoring wells VG3L, P2L, and P4L in addition to those sampled in October 2014 to define the extent of PAH contamination in the northern FPA.
- Sampling of monitoring wells PZ12 and PZ10 to define the extent of PAH contamination around PZ11.
- For future groundwater sampling events, purge water with COCs above CULs should be collected in containers and transported to the decontamination pad drain for treatment in the GWTS.

5. References

CH2M HILL. 2014. *Draft NAPL Focused Feasibility Study for OU2/OU4*.

U.S. Environmental Protection Agency (EPA). 2000. *EPA Superfund Record of Decision: Wyckoff Co./Eagle Harbor EPA ID: WAD009248295 OU 02, 04 Bainbridge Island, WA* ("2000 ROD").

U.S. Environmental Protection Agency (EPA). 1986. *Guidelines for Groundwater Classification Under the EPA Groundwater Protection Strategy.*

Tables

TABLE 1

October 2014 Groundwater Sample Numbers, Lower Aquifer

Sample Location	Project Sample Number	EPA Sample Number
99CDMW02	99CDMW02-1014	14424109
CW05	CW05-1014	14424106
CW09	CW09-1014	14424101
CW15	CW15-1014	14424104
MW50 (field duplicate of CW05)	MW50-1014	14424107
MW80 (field duplicate of VG2L)	MW80-1014	14424103
P3L	P3L-1014	14424105
P4L	P4L-1014	14424108
PZ11	PZ11-1014	14424112
VG1L	VG1L-1014	14424100
VG2L	VG2L-1014	14424102
VG4L	VG4L-1014	14424110
VG5L	VG5L-1014	14424111

TABLE 2
Lower Aquifer Results - October 2014
Wyckoff/Eagle Harbor Superfund Site

			Well No:	PZ11-1014	99CDMW02-1014	VG4L-1014	VG5L-1014	VG1L-1014	CW09-1014	CW15-1014	CW05-1014	CW05-1014-FD	P3L-1014	P4L-1014	VG2L-1014	VG2L-1014-FD
			Aquifer:	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower
			Sample Collection Date:	22-Oct-14	21-Oct-14	21-Oct-14	21-Oct-14	20-Oct-14	20-Oct-14	21-Oct-14	21-Oct-14	21-Oct-14	20-Oct-14	20-Oct-14	20-Oct-14	20-Oct-14
			Well Location	Upgradient	Inland (Class II Groundwater)			Perimeter (Class II Groundwater)			Perimeter (Class III Groundwater)					
Chemical Group	**Analyte**	**Units**	**Groundwater Cleanup Level (ug/L)***													
General	Dissolved Oxygen	mg/L	--	0	0	3.03	0	0	0	0	0	--	0	0	2.21	--
General	Oxidization Reduction Potential	mV	--	131	-132	19	-115	6	-2	-124	-299	--	-231	-127	-198	--
General	pH	units	--	6.48	8.64	7.91	7.94	7.15	7.08	6.98	7.41	--	7.13	7.59	7.08	--
General	Salinity	ppt	--	0.1	0.1	0.1	0.1	1.7	9.1	4.8	10.4	--	14.2	11.9	15.1	--
General	Specific Conductivity	mS/cm	--	0.161	0.264	0.233	0.278	3.23	15.7	8.51	17.8	--	23.8	20.1	25.1	--
General	Temperature	deg C	--	11.64	13.96	13.72	14	13.61	13.14	13.59	13.79	--	13.13	13.4	13.82	--
General	Turbidity	NTU	--	12.4	11.2	0	5.3	4.4	8.2	0	7.9	--	0	0	0	--
BNA	1,1'-Biphenyl	µg/L	--	**3.2**	1 U	1 U	1 U	1 U	1 U	1 U	**23**	**19**	1.1 U	1.1 U	**2.1**	**1.9**
BNA	1,2,4,5-Tetrachlorobenzene	µg/L	--	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ
BNA	1,2,4-Trichlorobenzene	µg/L	--	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ
BNA	1-Methylnaphthalene	µg/L	--	**8**	1 U	1 U	1 U	1 U	1 U	**1.9**	**190**	**160**	**9.9**	1.1 U	**36**	**33**
BNA	2,3,4,6-Tetrachlorophenol	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	2,4,5-Trichlorophenol	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**2.8**	**2.4**	1.1 U	1.1 U	1 U	1 U
BNA	2,4,6-Trichlorophenol	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	2,4-Dichlorophenol	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**1.4**	**1.3**	1.1 U	1.1 U	1 U	1 U
BNA	2,4-Dimethylphenol	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	2,4-Dinitrophenol	µg/L	--	2.1 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2.1 UJ
BNA	2,4-Dinitrotoluene	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	2,6-Dinitrotoluene	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	2-Chloronaphthalene	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	2-Chlorophenol	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	2-Methylphenol	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	2-Nitroaniline	µg/L	--	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
BNA	2-Nitrophenol	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	3,3'-Dichlorobenzidine	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	3-Nitroaniline	µg/L	--	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
BNA	4,6-Dinitro-2-methylphenol	µg/L	--	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
BNA	4-Bromophenyl-Phenylether	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	4-Chloro-3-methylphenol	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	4-Chloroaniline	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	4-Chlorophenyl-Phenylether	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	4-Methylphenol	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	4-Nitroaniline	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	4-Nitrophenol	µg/L	--	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
BNA	9H-Carbazole	µg/L	--	**11**	1 U	1 U	1 U	1 U	1 U	1 U	**100**	**91**	**2.1**	1.1 U	**26**	**24**
BNA	Atrazine	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	Benzaldehyde	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	bis(2-Chloroethoxy)methane	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	bis(2-Chloroethyl)ether	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	bis(2-chloroisopropyl)ether	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	µg/L	--	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
BNA	Butylbenzylphthalate	µg/L	--	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
BNA	Caffeine	µg/L	--	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ
BNA	Caprolactam	µg/L	--	4.2 UJ	4.2 UJ	4.2 UJ	4.2 UJ	4.2 UJ	4.2 UJ	4.2 UJ	4.3 UJ	4.3 UJ	4.3 UJ	4.3 UJ	4.2 UJ	4.2 UJ
BNA	Dibenzofuran	µg/L	--	**8.2**	1 U	1 U	1 U	1 U	1 U	**3**	**75**	**65**	**1.5**	1.1 U	**12**	**11**
BNA	Diethyl phthalate	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	Dimethylphthalate	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	Di-n-Butylphthalate	µg/L	--	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
BNA	Di-n-octylphthalate	µg/L	--	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
BNA	Ethanone, 1-phenyl-	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	Hexachlorobenzene	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	Hexachlorobutadiene	µg/L	--	4.2 UJ	4.2 UJ	4.2 UJ	4.2 UJ	4.2 UJ	4.2 UJ	4.2 UJ	4.3 UJ	4.3 UJ	4.3 UJ	4.3 UJ	4.2 UJ	4.2 UJ
BNA	Hexachlorocyclopentadiene	µg/L	--	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ
BNA	Hexachloroethane	µg/L	--	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ
BNA	Isophorone	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	Nitrobenzene	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U

TABLE 2
Lower Aquifer Results - October 2014
Wyckoff/Eagle Harbor Superfund Site

			Well No:	PZ11-1014	99CDMW02-1014	VG4L-1014	VG5L-1014	VG1L-1014	CW09-1014	CW15-1014	CW05-1014	CW05-1014-FD	P3L-1014	P4L-1014	VG2L-1014	VG2L-1014-FD
			Aquifer:	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower
			Sample Collection Date:	22-Oct-14	21-Oct-14	21-Oct-14	21-Oct-14	20-Oct-14	20-Oct-14	21-Oct-14	21-Oct-14	21-Oct-14	20-Oct-14	20-Oct-14	20-Oct-14	20-Oct-14
			Well Location	Upgradient	Inland (Class II Groundwater)			Perimeter (Class II Groundwater)			Perimeter (Class III Groundwater)					
Chemical Group	**Analyte**	**Units**	**Groundwater Cleanup Level (ug/L)***													
BNA	N-Nitrosodinpropylamine	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	n-Nitrosodiphenylamine	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
BNA	Phenol	µg/L	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U
PAH	2-Methylnaphthalene	µg/L	--	**0.049**	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.029 U	**0.16**	**2.3**	**0.22**	0.029 U	**3.2**	**3.5**
PAH	Acenaphthene	µg/L	3.0	**10**	0.029 U	0.031 U	0.029 U	0.029 U	**0.029**	**170**	**170**	**180**	**50**	0.029 U	**40**	**38**
PAH	Acenaphthylene	µg/L	--	**0.46**	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	**1.4**	**2.6**	**2.3**	**0.36**	0.029 U	**0.56**	**0.54**
PAH	Anthracene	µg/L	9.0	**0.26**	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	**4.3**	**3.7**	**4.4**	**2.1**	0.029 U	**1.5**	**1.4**
PAH	Benzo(a)anthracene	µg/L	0.03	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	**0.85**	**0.18**	**0.19**	**0.064**	0.029 U	**0.28**	**0.17**
PAH	Benzo(a)pyrene	µg/L	0.03	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	**0.24**	0.029 U	0.029 U	0.029 U	0.029 U	**0.084**	0.065 U
PAH	Benzo(b)fluoranthene	µg/L	0.03	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	**0.35**	**0.048**	**0.042**	0.029 U	0.029 U	**0.12**	0.065 U
PAH	Benzo(g,h,i)perylene	µg/L	--	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	**0.058**	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.065 U
PAH	Benzo(k)fluoranthene	µg/L	0.03	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	**0.23**	0.029 U	0.029 U	0.029 U	0.029 U	**0.061**	0.065 U
PAH	Chrysene	µg/L	0.03	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	**0.78**	**0.1**	**0.061**	**0.052**	0.029 U	**0.23**	**0.14**
PAH	Dibenzo(a,h)anthracene	µg/L	0.007	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.065 U
PAH	Fluoranthene	µg/L	3.0	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	**0.041**	**8**	**4.5**	**4.6**	**3.9**	**0.06**	**3.6**	**3.4**
PAH	Fluorene	µg/L	3.0	**2.4**	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	**2.5**	**55**	**61**	**4.4**	**0.089**	**5.3**	**4.9**
PAH	HPAH	µg/L	0.25	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	**0.041 C**	**14.46 C**	**7.73 C**	**7.89 C**	**6.22 C**	**0.096 C**	**6.58 C**	**5.61 C**
PAH	Indeno(1,2,3-cd)pyrene	µg/L	0.0296	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	**0.056**	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.065 U
PAH	Naphthalene	µg/L	83	**57**	**0.16**	**0.035**	**0.14**	**0.036**	0.029 U	**0.69**	**450**	**820**	**8.4**	**0.031**	**110**	**100**
PAH	Phenanthrene	µg/L	--	**0.28**	**0.049**	0.031 U	0.029 U	0.029 U	0.029 U	**1.1**	**44**	**47**	**13**	**0.088**	**14**	**13**
PAH	Pyrene	µg/L	15	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	**3.9**	**2.9**	**3**	**2.2**	**0.036**	**2.2**	**1.9**
PCP	Pentachlorophenol	µg/L	4.9	0.074 U	0.074 U	0.079 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	**0.54**	0.074 U	0.074 U	0.074 U	0.17 U
TPH	TPH-GC/Diesel Range Organics	mg/L	--	**0.34**	0.19 U	0.19 U	0.19 U	0.19 UJ	0.19 U	**0.68**	**3.7**	**3.9**	**0.47**	0.19 U	**0.88**	**0.88**
TPH	TPH-GC/Motor Oil Range Organics	mg/L	--	0.47 U	0.48 U	0.47 U	0.48 U	0.46 UJ	0.47 U	0.48 U	0.48 U	0.48 U	0.48 U	0.47 U	0.48 U	0.48 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
PCP = Pentachlorophenol
TPH = total petroleum hydrocarbons

µg/L = micrograms per liter
mg/L = milligrams per liter
ppt = parts per trillion

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000
Bold = analyte was detected
Shade/bold = detected result exceeds cleanup level

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW01 03/17/2004	CW01 4/27/1994	CW01 11/14/1995	CW01 01/26/2006	CW01 09/21/2006	CW01 01/7/2008	CW01 2/19/2009	CW01 9/17/2009	CW01 5/6/2010	CW01 5/9/2013
General	Dissolved Oxygen	mg/L	--	--	--	--	**6.61**	**8.28**	**7.68**	**7.93**	**9.26**	**8.31**	**9.33**
General	Eh	mV	--	--	--	--	--	--	--	--	--	--	--
General	Oxidization Reduction Potentia	mV	--	--	--	--	**28**	**278**	**54**	**218**	**91**	**184**	**179**
General	pH	units	--	--	--	--	**6.54**	**6.53**	**7.31**	**7.43**	**6.8**	**7.56**	**7.09**
General	Salinity	%***	--	--	--	--	**--**	**0.01**	**0**	**0.01**	**0**	**0**	**0.01**
General	Specific Conductivity	mS	--	--	--	--	**0.26**	**0.313**	**0.346**	**0.313**	**0.346**	**0.37**	**0.368**
General	Temperature	°C	--	--	--	--	**10.8**	**12.51**	**10.7**	**14.7**	**12.7**	**11.32**	**13.1**
General	Turbidity	ntu	--	--	--	--	**6.2**	**1.2**	**206**	**23.9**	**195**	**98.3**	**60.9**
BNA	1,1'-Biphenyl	ug/L	--	**0.036 J**	--	--	5 U	0.4 U	1 U	0.94 U	0.89 UJ	0.48 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	--	--	5 U	--	--	--	--	0.48 U	1 U
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	0.4 UJ	1 U	0.94 U	0.89 U	0.48 UJ	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	--	--	0.4 UJ	1 U	0.94 U	0.89 U	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	--	--	0.4 U	1 U	0.94 U	0.89 UJ	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	--	--	0.4 UJ	1 U	0.94 U	0.89 U	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	--	--	0.4 UJ	1 U	0.94 U	0.89 U	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	--	--	--	0.4 U	1 U	--	0.89 U	0.48 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	--	--	--	0.48 U	2 U
BNA	2,4,5-Trichlorophenol	ug/L	--	0.37 U	--	--	20 U	0.8 U	1 U	1.9 UJ	0.89 U	0.48 UJ	2 U
BNA	2,4,6-Trichlorophenol	ug/L	--	0.74 U	--	--	5 U	0.4 U	1 U	1.9 U	0.89 U	0.48 UJ	2 U
BNA	2,4-Dichloropheno	ug/L	--	0.74 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 U	1 U
BNA	2,4-Dimethylpheno	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 UJ	1 U
BNA	2,4-Dinitropheno	ug/L	--	--	--	--	20 U	4 U	10 U	7.5 U	0.89 U	0.48 UJ	4.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	1.9 U	--	--	5 U	0.8 U	1 U	0.94 U	0.89 U	0.48 U	2 U
BNA	2,6-Dinitrotoluene	ug/L	--	0.74 U	--	--	5 U	0.4 U	2 U	1.9 U	0.89 U	0.96 U	2 U
BNA	2-Chloronaphthalene	ug/L	--	0.37 U	--	--	5 U	0.4 U	4 U	0.94 U	0.89 U	0.48 U	1 U
BNA	2-Chloropheno	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	**0.025 J**	--	--	5 U	0.4 U	--	--	--	--	--
BNA	2-Methylpheno	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	0.94 U	1.8 U	0.48 U	1 U
BNA	2-Nitroaniline	ug/L	--	1.9 U	--	--	20 U	0.8 U	1 U	0.94 U	0.89 U	0.48 U	2 U
BNA	2-Nitrophenol	ug/L	--	1.9 U	--	--	5 U	0.4 U	1 U	1.9 U	0.89 U	0.48 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	1.9 U	--	--	5 UJ	0.8 UJ	1 U	15 UJ	0.89 UJ	0.48 U	1 U
BNA	3-Nitroaniline	ug/L	--	1.9 U	--	--	20 U	0.8 U	1 U	0.94 UJ	0.89 U	0.48 U	2 U
BNA	4,6-Dinitro-2-methylpheno	ug/L	--	3.7 U	--	--	20 U	2 U	4 U	1.9 U	0.89 U	0.96 U	4.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 U	1 U
BNA	4-Chloro-3-methylpheno	ug/L	--	0.37 U	--	--	5 U	0.8 U	1 U	1.9 U	0.89 U	0.48 U	2 U
BNA	4-Chloroaniline	ug/L	--	0.37 U	--	--	5 U	0.4 UJ	2 U	19 UJ	0.89 U	0.48 UJ	1 UJ
BNA	4-Chlorophenyl-phenylethe	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 U	1 U
BNA	4-Methylpheno	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 U	1 U
BNA	4-Nitroaniline	ug/L	--	--	--	--	20 U	0.8 U	1 U	3.8 UJ	0.89 UJ	0.48 U	4.1 U
BNA	4-Nitrophenol	ug/L	--	1.9 U	--	--	20 U	4 U	4 U	19 U	0.89 U	0.48 UJ	4.1 U
BNA	9H-Carbazole	ug/L	--	0.37 U	--	--	--	0.4 U	4 U	1.9 U	0.89 U	0.48 U	1 U
BNA	Acenaphthene	ug/L	3.0	0.37 U	--	--	5 U	0.4 U	--	--	--	--	--
BNA	Acenaphthylene	ug/L	--	0.37 U	--	--	5 U	0.4 U	--	--	--	--	--
BNA	Anthracene	ug/L	9.0	0.37 U	--	--	5 U	0.4 U	--	--	--	--	--
BNA	Atrazine	ug/L	--	0.74 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 U	1 U
BNA	Benzaldehyde	ug/L	--	0.74 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 UJ	2 U
BNA	Benzenemethano	ug/L	--	--	--	--	--	0.8 U	2 U	R	1.8 UJ	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	0.37 U	--	--	5 U	0.4 U	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	0.74 U	--	--	5 U	0.4 U	--	--	--	--	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW01 03/17/2004	CW01 4/27/1994	CW01 11/14/1995	CW01 01/26/2006	CW01 09/21/2006	CW01 01/7/2008	CW01 2/19/2009	CW01 9/17/2009	CW01 5/6/2010	CW01 5/9/2013
BNA	Benzo(b)fluoranthene	ug/L	0.030	1.9 U	--	--	5 U	0.4 U	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	1.9 U	--	--	5 U	0.4 U	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	0.37 U	--	--	5 U	0.4 U	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	--	--	--	--	4 UJ	4 UJ	7.5 UJ	2.8 U	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 UJ	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	1.9 U	--	--	5 U	1 UJ	1 U	1.9 U	0.92 U	0.48 U	2 U
BNA	Butylbenzylphthalate	ug/L	--	1.9 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 U	2 U
BNA	Caffeine	ug/L	--	--	--	--	--	0.4 U	1 U	--	--	0.48 UJ	1 U
BNA	Caprolactam	ug/L	--	1.9 U	--	--	5 UJ	2 UJ	1 U	19 U	0.89 UJ	0.48 UJ	**2.7 J**
BNA	Chrysene	ug/L	0.030	0.37 U	--	--	5 U	0.4 U	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	1.9 U	--	--	5 U	0.8 U	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 U	1 U
BNA	Diethylphthalate	ug/L	--	0.37 U	--	--	5 U	0.4 U	**0.3 J**	1.9 U	0.89 U	0.48 U	1 U
BNA	Dimethylphthalate	ug/L	--	0.37 U	--	--	5 U	0.4 U	**0.4 J**	0.94 U	0.89 U	0.48 UJ	1 U
BNA	Di-n-butylphthalate	ug/L	--	0.74 U	--	--	5 U	0.4 U	1 U	1.9 U	0.89 U	0.48 U	2 U
BNA	Di-n-octylphthalate	ug/L	--	1.9 U	--	--	5 U	0.8 U	1 U	1.9 U	0.89 U	0.48 U	2 U
BNA	Ethanone, 1-phenyl-	ug/L	--	0.74 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 U	1 U
BNA	Fluoranthene	ug/L	3.0	0.37 U	--	--	5 U	0.4 U	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	0.37 U	--	--	5 U	0.4 U	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	0.37 U	--	--	5 U	0.4 UJ	1 U	0.94 U	0.89 U	0.48 UJ	1 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	1.9 U	--	--	5 U	0.4 UJ	2 U	1.9 U	0.89 U	0.48 UJ	2 UJ
BNA	Hexachloroethane	ug/L	--	0.37 U	--	--	5 U	0.4 UJ	1 U	0.94 U	0.89 U	0.48 UJ	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	3.7 U	--	--	5 U	0.4 U	--	--	--	--	--
BNA	Isophorone	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 U	1 U
BNA	Naphthalene	ug/L	83	0.04 J	--	--	5 U	0.4 U	--	0.94 U	--	--	--
BNA	Nitrobenzene	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	--	0.89 U	0.48 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	1.9 U	--	--	--	0.4 UJ	--	0.94 U	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 U	2 U
BNA	n-Nitrosodiphenylamine	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	--	0.89 UJ	0.48 UJ	1 UJ
BNA	Pentachlorophenol	ug/L	4.9	3.7 U	--	--	5 U	0.8 U	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	0.37 U	--	--	5 U	0.4 U	--	--	--	--	--
BNA	Phenol	ug/L	--	0.37 U	--	--	5 U	0.4 U	1 U	0.94 U	0.89 U	0.48 U	1 U
BNA	Pyrene	ug/L	15	0.37 U	--	--	5 U	0.4 U	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	--	0.4 U	1 U	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	--	--	**0.059 J**	--	--	--	--	**--**	--	--
PAH	2-Chloronaphthalene	ug/L	--	--	10 UJ	0.43 U	--	--	--	--	**--**	--	--
PAH	2-Methylnaphthalene	ug/L	--	**0.022 J**	10 UJ	**0.12 J**	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Acenaphthene	ug/L	3.0	0.046 U	10 UJ	**0.075 J**	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Acenaphthylene	ug/L	--	0.046 U	10 UJ	**0.051 J**	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Anthracene	ug/L	9	0.046 U	10 UJ	0.31 J	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Benzo(a)anthracene	ug/L	0.030	0.046 U	10 UJ	0.43 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Benzo(a)pyrene	ug/L	0.030	0.093 U	10 UJ	**0.23 J**	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	0.093 U	10 UJ	**0.32 J**	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Benzo(g,h,i)perylene	ug/L	--	0.093 U	10 UJ	0.43 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	0.046 U	10 UJ	**0.12 J**	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Chrysene	ug/L	0.030	0.046 U	10 UJ	**0.38 J**	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW01 03/17/2004	CW01 4/27/1994	CW01 11/14/1995	CW01 01/26/2006	CW01 09/21/2006	CW01 01/7/2008	CW01 2/19/2009	CW01 9/17/2009	CW01 5/6/2010	CW01 5/9/2013
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.093 U	10 UJ	0.43 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Fluoranthene	ug/L	3.0	0.046 U	10 UJ	0.8 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Fluorene	ug/L	3.0	0.046 U	10 UJ	0.43 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	HPAH	ug/L	0.25	0 C	--	--	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	0.093 U	10 UJ	0.43 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Naphthalene	ug/L	83	0.046 U	10 UJ	**0.25 J**	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Phenanthrene	ug/L	--	**0.0089 J**	10 UJ	0.56 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Pyrene	ug/L	15	0.046 U	10 UJ	**0.56**	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U
PCP	Pentachloropheno	ug/L	4.9	0.037 U	--	--	0.074 U	0.038 U	0.074 U	0.074 U	0.074 U	0.077 U	0.077 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	190 U	--	--	190 U	96 U	93 U	190 U	94 U	94 U	100 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	--	--	--	460 U	240 U	190 U	460 U	190 U	190 U	190 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000
**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D
*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW02 03/17/2004	CW02 01/23/2006	CW02 09/18/2006	CW02 01/10/2008	CW02 2/16/2009	CW02 9/14/2009	CW02 5/3/2010	CW02 6/18/2012	CW02 5/6/2013
General	Dissolved Oxygen	mg/L	--	--	**3.28**	**3.27**	**3.27**	**0**	**5.38**	**1.58**	**2.2**	**1.72**
General	Eh	mV	--	--	--	--	--	--	**--**	**--**	**--**	--
General	Oxidization Reduction Potential	mV	--	--	**99**	**63**	**85**	**130**	**40**	**107**	**113**	**72**
General	pH	units	--	--	**7.1**	**7.01**	**7.07**	**6.81**	**7.01**	**7.35**	**7.51**	**7.18**
General	Salinity	%***	--	--	**0.11**	**0.12**	**0.13**	**0.1**	**0.07**	**0.1**	**0.2**	**0.13**
General	Specific Conductivity	mS	--	--	**2.25**	**2.55**	**2.71**	**2.79**	**1.56**	**1.34**	**0.333**	**2.67**
General	Temperature	°C	--	--	**12.3**	**13.75**	**12.2**	**11.74**	**14.14**	**12.45**	**12.8**	**13.59**
General	Turbidity	ntu	--	--	**14.8**	**85.1**	**88**	**44.6**	**0**	**22.9**	**110**	**60.3**
BNA	1,1'-Biphenyl	ug/L	--	**0.033 J**	5 UJ	0.4 U	1 U	0.98 U	0.86 UJ	0.45 UJ	1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	5 U	--	--	--	--	0.45 UJ	1 U	1 U
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	0.98 U	0.86 UJ	0.45 UJ	1 UJ	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	0.98 U	0.86 UJ	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	0.4 U	1 U	0.98 UJ	0.86 UJ	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	0.98 U	0.86 UJ	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	0.98 U	0.86 UJ	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	--	0.4 U	1 U	--	0.86 UJ	0.45 UJ	1 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	--	0.45 U	1 U	2 U
BNA	2,4,5-Trichlorophenol	ug/L	--	0.37 U	20 U	0.8 U	1 U	2 UJ	0.86 UJ	0.45 UJ	1 U	2 U
BNA	2,4,6-Trichlorophenol	ug/L	--	0.74 U	5 U	0.4 U	1 U	2 UJ	0.86 UJ	0.45 UJ	1 U	2 U
BNA	2,4-Dichlorophenol	ug/L	--	0.74 U	5 U	0.4 U	1 U	0.98 UJ	0.86 UJ	0.45 UJ	1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	0.37 U	5 U	0.4 U	1 U	0.98 UJ	0.86 UJ	0.45 UJ	1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	--	20 U	4 U	10 U	7.8 UJ	0.86 UJ	0.45 UJ	2.1 U	4 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	1.9 U	5 U	0.8 U	1 U	0.98 UJ	0.86 UJ	0.45 U	1 U	2 U
BNA	2,6-Dinitrotoluene	ug/L	--	0.74 U	5 U	0.4 U	2 U	2 U	0.86 UJ	0.9 U	1 U	2 U
BNA	2-Chloronaphthalene	ug/L	--	0.37 U	5 U	0.4 U	4 U	0.98 U	0.86 UJ	0.45 UJ	1 U	1 U
BNA	2-Chlorophenol	ug/L	--	0.37 U	5 U	0.4 U	1 U	0.98 UJ	0.86 UJ	0.45 UJ	1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	0.37 U	5 U	0.4 U	1 U	0.98 U	1.7 UJ	0.45 UJ	1 U	1 U
BNA	2-Nitroaniline	ug/L	--	1.9 U	20 U	0.8 U	1 U	0.98 UJ	0.86 UJ	0.45 U	1 U	2 U
BNA	2-Nitrophenol	ug/L	--	1.9 U	5 U	0.4 U	1 U	2 U	0.86 UJ	0.45 UJ	1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	1.9 U	5 U	0.8 UJ	1 U	R	0.86 UJ	0.45 U	2.1 U	1 U
BNA	3-Nitroaniline	ug/L	--	1.9 U	20 U	0.8 U	1 U	0.98 UJ	0.86 UJ	0.45 U	1 U	2 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	3.7 U	20 UJ	2 U	4 U	2 UJ	0.86 UJ	0.9 U	1 U	4 U
BNA	4-Bromophenyl-phenylether	ug/L	--	0.37 U	5 U	0.4 U	1 U	0.98 U	0.86 UJ	0.45 U	1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	0.37 U	5 U	0.8 U	1 U	2 UJ	0.86 UJ	0.45 UJ	1 U	2 U
BNA	4-Chloroaniline	ug/L	--	0.37 U	5 U	0.4 UJ	2 U	R	0.86 UJ	0.45 UJ	1 UJ	1 UJ
BNA	4-Chlorophenyl-phenylether	ug/L	--	0.37 U	5 U	0.4 U	1 U	0.98 U	0.86 UJ	0.45 UJ	1 U	1 U
BNA	4-Methylphenol	ug/L	--	0.37 U	5 U	0.4 U	1 U	0.98 U	0.86 UJ	0.45 UJ	1 U	1 U
BNA	4-Nitroaniline	ug/L	--	--	20 U	0.8 U	1 U	3.9 UJ	R	0.45 U	2.1 U	4 U
BNA	4-Nitrophenol	ug/L	--	1.9 U	20 U	4 U	4 U	20 UJ	0.86 UJ	0.45 UJ	1 U	4 U
BNA	9H-Carbazole	ug/L	--	0.37 U	--	0.4 U	4 U	2 UJ	0.86 UJ	0.45 U	1 U	1 U
BNA	Acenaphthene	ug/L	3.0	0.37 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Acenaphthylene	ug/L	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW02 03/17/2004	CW02 01/23/2006	CW02 09/18/2006	CW02 01/10/2008	CW02 2/16/2009	CW02 9/14/2009	CW02 5/3/2010	CW02 6/18/2012	CW02 5/6/2013
BNA	Anthracene	ug/L	9.0	0.37 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Atrazine	ug/L	--	0.74 U	5 U	0.4 U	1 U	0.98 UJ	0.86 UJ	0.45 U	1 U	1 U
BNA	Benzaldehyde	ug/L	--	0.74 U	5 U	0.4 U	1 U	0.98 U	0.86 UJ	0.45 UJ	1 U	2 U
BNA	Benzenemethanol	ug/L	--	--	--	0.8 U	2 U	R	1.7 UJ	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	0.37 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	0.74 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	1.9 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	1.9 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	0.37 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	--	--	**4 J**	4 U	7.8 UJ	2.3 UJ	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	0.37 U	5 U	0.4 U	1 U	0.98 U	0.86 UJ	0.45 UJ	1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	0.37 U	5 U	0.4 U	1 U	0.98 U	0.86 UJ	0.45 UJ	1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	0.37 U	5 U	0.4 U	1 U	0.98 U	0.86 UJ	0.45 UJ	1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	1.9 U	5 UJ	1 UJ	1 U	2 U	2.4 UJ	0.45 U	1 U	2 U
BNA	Butylbenzylphthalate	ug/L	--	1.9 U	5 UJ	0.4 U	1 U	0.98 U	0.86 UJ	0.45 U	1 U	2 U
BNA	Caffeine	ug/L	--	--	--	0.4 UJ	1 U	--	--	0.45 U	1 U	1 U
BNA	Caprolactam	ug/L	--	1.9 U	5 UJ	0.8 UJ	1 U	20 U	R	0.45 UJ	1 UJ	2 UJ
BNA	Chrysene	ug/L	0.030	0.37 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	1.9 U	5 U	0.8 U	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	0.37 U	5 U	0.4 U	1 U	0.98 U	0.86 UJ	0.45 UJ	1 U	1 U
BNA	Diethylphthalate	ug/L	--	0.37 U	5 UJ	0.4 U	1 U	2 UJ	0.86 UJ	0.45 U	1 U	1 U
BNA	Dimethylphthalate	ug/L	--	0.37 U	5 UJ	0.4 U	1 U	0.98 UJ	0.86 UJ	0.45 U	1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	0.74 U	5 UJ	0.4 U	1 U	2 UJ	0.86 UJ	0.45 U	1 U	1 U
BNA	Di-n-octylphthalate	ug/L	--	1.9 U	5 UJ	0.8 U	1 U	2 U	0.86 UJ	0.45 U	1 U	2 U
BNA	Ethanone, 1-phenyl-	ug/L	--	0.74 U	5 U	0.4 U	1 U	0.98 U	0.86 UJ	0.45 UJ	1 U	1 U
BNA	Fluoranthene	ug/L	3.0	0.37 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	0.37 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	0.37 U	5 U	0.4 U	1 U	0.98 U	0.86 UJ	0.45 U	1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	0.37 U	5 U	0.4 UJ	1 U	0.98 U	0.86 UJ	0.45 UJ	1 UJ	1 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	1.9 U	5 U	0.4 UJ	2 U	2 U	0.86 UJ	0.45 UJ	1 UJ	2 U
BNA	Hexachloroethane	ug/L	--	0.37 U	5 U	0.4 UJ	1 U	0.98 U	0.86 UJ	0.45 UJ	1 UJ	1 U
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	3.7 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	0.37 U	5 U	0.4 U	1 U	0.98 U	0.86 UJ	0.45 UJ	1 U	1 U
BNA	Naphthalene	ug/L	83	0.37 U	5 U	0.4 UJ	--	0.98 U	--	--	--	--
BNA	Nitrobenzene	ug/L	--	0.37 U	5 U	0.4 U	1 U	--	0.86 UJ	0.45 UJ	1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	1.9 U	--	0.4 UJ	--	0.98 U	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	0.37 U	5 U	0.4 U	1 U	0.98 UJ	0.86 UJ	0.45 UJ	1 U	2 U
BNA	n-Nitrosodiphenylamine	ug/L	--	0.37 U	5 U	0.4 U	1 U	--	0.86 UJ	0.45 UJ	1 U	1 UJ
BNA	Pentachlorophenol	ug/L	4.9	3.7 U	5 U	0.8 U	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Phenol	ug/L	--	0.37 U	5 U	0.4 UJ	1 U	0.98 U	0.86 UJ	0.45 UJ	1 U	1 U
BNA	Pyrene	ug/L	15	0.37 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	0.4 U	1 U	--	--	--	--	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW02 03/17/2004	CW02 01/23/2006	CW02 09/18/2006	CW02 01/10/2008	CW02 2/16/2009	CW02 9/14/2009	CW02 5/3/2010	CW02 6/18/2012	CW02 5/6/2013
PAH	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	**--**	--	**--**	--
PAH	2-Chloronaphthalene	ug/L	--	--	--	--	--	--	**--**	--	**--**	--
PAH	2-Methylnaphthalene	ug/L	--	0.046 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Acenaphthene	ug/L	3.0	0.046 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Acenaphthylene	ug/L	--	0.046 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Anthracene	ug/L	9	0.046 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Benzo(a)anthracene	ug/L	0.030	0.046 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Benzo(a)pyrene	ug/L	0.030	0.093 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	0.093 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Benzo(g,h,i)perylene	ug/L	--	0.093 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	0.046 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Chrysene	ug/L	0.030	0.046 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.093 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Fluoranthene	ug/L	3.0	0.046 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Fluorene	ug/L	3.0	0.046 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	HPAH	ug/L	0.25	0 C	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	0.093 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Naphthalene	ug/L	83	0.046 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	**0.06**	**0.043**	**0.071**
PAH	Phenanthrene	ug/L	--	0.046 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Pyrene	ug/L	15	0.046 U	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PCP	Pentachlorophenol	ug/L	4.9	0.037 U	0.074 U	0.037 U	0.074 U	0.077 U	0.074 U	0.077 U	0.077 U	0.076 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	190 U	190 U	93 U	93 U	190 U	93 U	94 U	97 U	98 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	--	460 U	230 U	**300**	460 U	190 U	190 U	190 U	200 U

Notes:

BNA = base/neutral and acid extractables

General = general chemistry

HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon

PAH = polynuclear aromatic hydrocarbons

TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.

U = The analyte was not detected at or above the reported value.

C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000

**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.

*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW05 4/28/1994	CW05 11/15/1995	CW05 11/06/2002	CW05 12/05/2002	CW05 01/08/2003	CW05 03/18/2004	CW05 01/24/2006	CW05 09/19/2006	CW05 01/9/2008	CW05 2/17/2009	CW05 9/15/2009	CW05 5/4/2010	CW05 6/19/2012	CW05 5/7/2013	CW05 10/21/2014	CW05-FD 10/21/2014
General	Dissolved Oxygen	mg/L	--	--	--	--	--	--	--	**1.61**	**1.02**	**0.36**	**0**	**4.39**	**0**	**0.3**	**0**	0	--
General	Eh	mV	--	--	--	--	--	--	--	--	--	--	--	**--**	**--**	--	--	--	--
General	Oxidization Reduction Potential	mV	--	--	--	--	--	--	--	**24**	**-15**	**-38**	**-28**	**-38**	**-26**	**-225**	**-240**	**-299**	--
General	pH	units	--	--	--	--	--	--	--	**6.87**	**6.52**	**7.19**	**7.2**	**7.15**	**7.33**	**7.28**	**6.71**	**7.41**	--
General	Salinity	%***	--	--	--	--	--	--	--	**0.82**	**1.22**	**2.6**	**1.79**	**1.52**	**1.7**	**1.6**	**1.45**	**10.4**	--
General	Specific Conductivity	mS	--	--	--	--	--	--	--	**14.4**	**20.6**	**40.7**	**29.1**	**25.1**	**28.4**	**2.57**	**24.2**	**17.8**	--
General	Temperature	°C	--	--	--	--	--	--	--	**12.1**	**13.43**	**11.5**	**14.9**	**13.46**	**11.82**	**12.3**	**12.25**	**13.79**	--
General	Turbidity	ntu	--	--	--	--	--	--	--	**11.9**	**50**	**0.4**	**6.4**	**0**	**15.5**	**7**	**40.4**	**7.9**	--
BNA	1,1'-Biphenyl	ug/L	--	--	--	--	--	--	0.74 U	5 U	0.4 U	1 U	1 U	0.94 UJ	**15.3**	**21**	**9.9**	**23**	**19**
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	--	--	--	--	--	5 U	--	--	--	--	0.47 U	1 U	1 U	1.1 UJ	1.1 UJ
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	--	0.4 UJ	1 U	1 UJ	0.94 U	0.47 UJ	1 UJ	1 U	1.1 UJ	1.1 UJ
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	0.4 UJ	1 U	1 UJ	0.94 U	--	--	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	--	--	--	--	--	0.4 U	1 U	1 U	0.94 UJ	--	--	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	0.4 UJ	1 U	1 U	0.94 U	--	--	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	0.4 UJ	1 U	1 UJ	0.94 U	--	--	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	0.4 UJ	1 U	--	0.94 U	--	**92**	**89**	**190**	**160**
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	0.47 U	1 U	2 U	1.1 U	1.1 U
BNA	2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	--	0.37 U	20 U	0.8 U	1 U	2 U	0.94 U	**0.65 J**	1 U	2 U	**2.8**	**2.4**
BNA	2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	--	0.74 U	5 U	0.4 U	1 U	2 U	0.94 U	**0.62 J**	1 U	2 U	1.1 U	1.1 U
BNA	2,4-Dichlorophenol	ug/L	--	--	--	--	--	--	0.74 U	5 U	0.4 U	1 U	1 U	0.94 U	0.47 U	1 U	1 U	**1.4**	**1.3**
BNA	2,4-Dimethylphenol	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 UJ	1 U	1 U	0.94 U	0.47 UJ	1 U	1 U	1.1 U	1.1 U
BNA	2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	--	20 U	4 U	10 U	8 U	0.94 U	0.47 U	2.1 U	4 UJ	2.1 UJ	2.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	--	--	--	--	--	1.9 U	5 U	0.8 U	1 U	1 U	0.94 U	0.47 U	1 U	2 U	1.1 U	1.1 U
BNA	2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	0.74 U	5 U	0.4 U	2 U	2 U	0.94 U	0.94 U	1 U	2 U	1.1 U	1.1 U
BNA	2-Chloronaphthalene	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 U	4 U	1 U	0.94 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	2-Chlorophenol	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 UJ	1 U	1 U	0.94 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	2-Methylnaphthalene	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 UJ	--	--	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 UJ	1 U	1 U	1.9 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	2-Nitroaniline	ug/L	--	--	--	--	--	--	1.9 U	20 U	0.8 U	1 U	1 U	0.94 U	0.47 U	1 U	2 U	2.1 U	2.1 U
BNA	2-Nitrophenol	ug/L	--	--	--	--	--	--	1.9 U	5 U	0.4 U	1 U	2 U	0.94 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	--	1.9 U	5 UJ	0.8 UJ	1 U	16 UJ	0.94 UJ	0.47 UJ	2.1 U	1 U	1.1 U	1.1 U
BNA	3-Nitroaniline	ug/L	--	--	--	--	--	--	1.9 U	20 U	0.8 UJ	1 U	1 U	0.94 U	0.47 U	1 U	2 U	2.1 U	2.1 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	3.7 U	20 U	2 U	4 U	2 U	0.94 U	0.94 U	1 U	4 U	2.1 U	2.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.94 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.8 U	1 U	2 U	0.94 U	0.47 U	1 U	2 U	1.1 U	1.1 U
BNA	4-Chloroaniline	ug/L	--	--	--	--	--	--	0.37 UJ	5 U	0.4 UJ	2 U	20 UJ	0.94 U	0.47 UJ	1 UJ	1 UJ	1.1 U	1.1 U
BNA	4-Chlorophenyl-phenylether	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.94 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	4-Methylphenol	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 UJ	1 U	1 U	0.94 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	4-Nitroaniline	ug/L	--	--	--	--	--	--	--	20 U	0.8 U	1 U	4 U	0.94 UJ	0.47 U	2.1 U	4 U	1.1 U	1.1 U
BNA	4-Nitrophenol	ug/L	--	--	--	--	--	--	1.9 U	20 U	4 U	4 U	20 U	0.94 U	0.47 UJ	1 U	4 U	2.1 U	2.1 U
BNA	9H-Carbazole	ug/L	--	--	--	--	--	--	0.37 U	--	0.4 U	4 U	2 U	0.94 U	**45**	**53**	**39**	**100**	**91**
BNA	Acenaphthene	ug/L	3.0	--	--	--	--	--	**0.033 J**	5 U	0.4 U	--	--	--	**--**	**--**	--	**--**	**--**
BNA	Acenaphthylene	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	**--**	**--**	--	**--**	**--**
BNA	Anthracene	ug/L	9.0	--	--	--	--	--	**0.32 J**	5 U	0.4 U	--	--	--	**--**	**--**	--	**--**	**--**
BNA	Atrazine	ug/L	--	--	--	--	--	--	0.74 U	5 U	0.4 U	1 U	1 U	0.94 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	Benzaldehyde	ug/L	--	--	--	--	--	--	0.74 U	5 U	0.4 U	1 U	1 U	0.94 U	0.47 UJ	**2**	**1.2 J**	1.1 U	1.1 U
BNA	Benzenemethanol	ug/L	--	--	--	--	--	--	--	--	0.8 UJ	2 U	R	1.9 UJ	**--**	**--**	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	--	--	--	--	--	**0.17 J**	5 U	0.4 U	--	--	--	--	**--**	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	--	--	--	--	0.74 U	5 U	0.4 U	--	--	--	--	**--**	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	--	--	--	--	1.9 U	5 U	0.4 U	--	--	--	--	**--**	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	1.9 U	5 U	0.4 U	--	--	--	--	**--**	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	--	**--**	--	--	--
BNA	Benzoic acid	ug/L	--	--	--	--	--	--	--	--	4 UJ	5 UJ	8 UJ	3.1 U	--	**--**	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.94 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 UJ	1 U	1 U	0.94 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 UJ	1 U	1 U	0.94 U	0.47 UJ	1 U	1 U	1.1 U	1.1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	--	--	--	--	--	1.9 U	5 U	1 UJ	1 U	2 U	0.94 U	0.47 U	1 U	2 U	2.1 U	2.1 U
BNA	Butylbenzylphthalate	ug/L	--	--	--	--	--	--	1.9 U	5 U	0.42 U	1 U	1 U	0.94 U	0.47 U	1 U	2 U	2.1 U	2.1 U
BNA	Caffeine	ug/L	--	--	--	--	--	--	--	--	0.4 U	1 U	--	--	0.47 UJ	1 U	1 U	1.1 UJ	1.1 UJ
BNA	Caprolactam	ug/L	--	--	--	--	--	--	1.9 UJ	5 UJ	0.79 UJ	1 U	20 U	0.94 UJ	0.47 UJ	1 UJ	2 UJ	4.3 UJ	4.3 UJ
BNA	Chrysene	ug/L	0.030	--	--	--	--	--	**0.14 J**	5 U	0.4 U	--	--	--	--	--	--	--	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW05 4/28/1994	CW05 11/15/1995	CW05 11/06/2002	CW05 12/05/2002	CW05 01/08/2003	CW05 03/18/2004	CW05 01/24/2006	CW05 09/19/2006	CW05 01/9/2008	CW05 2/17/2009	CW05 9/15/2009	CW05 5/4/2010	CW05 6/19/2012	CW05 5/7/2013	CW05 10/21/2014	CW05-FD 10/21/2014
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	--	--	--	--	1.9 U	5 U	0.8 U	--	--	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.94 U	**29 J**	**55**	**45**	**75**	**65**
BNA	Diethylphthalate	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	2 U	0.94 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	Dimethylphthalate	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.94 U	0.47 UJ	1 U	1 U	1.1 U	1.1 U
BNA	Di-n-butylphthalate	ug/L	--	--	--	--	--	--	0.74 U	5 U	0.4 U	1 U	2 U	0.94 U	0.47 U	1 U	1 U	2.1 U	2.1 U
BNA	Di-n-octylphthalate	ug/L	--	--	--	--	--	--	1.9 U	5 U	0.79 U	1 U	2 U	0.94 U	0.47 U	1 U	2 U	2.1 U	2.1 U
BNA	Ethanone, 1-phenyl-	ug/L	--	--	--	--	--	--	0.74 U	5 U	0.4 U	1 U	1 U	0.94 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	Fluoranthene	ug/L	3.0	--	--	--	--	--	**2**	5 U	**1.2**	--	--	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.94 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	Hexachlorobutadiene	ug/L	--	--	--	--	--	--	0.37 UJ	5 U	0.4 UJ	1 U	1 U	0.94 U	0.47 UJ	1 UJ	1 UJ	4.3 UJ	4.3 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	1.9 UJ	5 U	0.4 UJ	2 U	2 U	0.94 U	0.47 UJ	1 UJ	2 UJ	1.1 UJ	1.1 UJ
BNA	Hexachloroethane	ug/L	--	--	--	--	--	--	0.37 UJ	5 U	0.4 UJ	1 U	1 U	0.94 U	0.47 UJ	1 UJ	1 UJ	1.1 UJ	1.1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	--	--	--	--	3.7 U	5 U	0.4 U	--	--	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 UJ	1 U	1 U	0.94 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	Naphthalene	ug/L	83	--	--	--	--	--	0.37 U	5 U	0.4 UJ	--	1 U	--	**--**	--	--	--	--
BNA	Nitrobenzene	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 UJ	1 U	--	0.94 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	n-Nitrosodimethylamine	ug/L	--	--	--	--	--	--	1.9 U	--	0.4 UJ	--	1 U	--	--	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.94 U	0.47 U	1 U	2 U	1.1 U	1.1 U
BNA	n-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	--	0.94 UJ	0.47 UJ	1 U	1 UJ	1.1 U	1.1 U
BNA	Pentachlorophenol	ug/L	4.9	--	--	--	--	--	3.7 U	5 U	0.79 U	--	--	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--	--	--
BNA	Phenol	ug/L	--	--	--	--	--	--	0.37 U	5 U	0.4 UJ	1 U	1 U	0.94 U	0.47 U	1 U	1 U	1.1 U	1.1 U
BNA	Pyrene	ug/L	15	--	--	--	--	--	**1.3**	5 U	**0.76**	--	--	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	--	--	--	--	0.4 U	1 U	--	--	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	--	0.43 U	**0.17 J**	0.37 U	0.38 U	--	--	--	--	--	**--**	--	--	--	--	**--**
PAH	2-Chloronaphthalene	ug/L	--	20 UJ	0.43 U	0.36 U	0.37 U	0.38 U	--	--	--	--	--	**--**	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	20 UJ	0.43 U	**0.23 J**	0.37 U	0.38 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	**220**	**1.8**	**0.081**	**0.16**	**2.3**
PAH	Acenaphthene	ug/L	3.0	**8 J**	**4.6**	**0.43**	0.37 U	**0.092 J**	**0.023 J**	**0.049**	**0.056**	0.029 U	0.029 U	**0.074**	**74**	**81**	**87**	**170**	**180**
PAH	Acenaphthylene	ug/L	--	20 UJ	**0.21 J**	0.36 U	0.37 U	0.38 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	**1.6**	**1.9**	**1.8**	**2.6**	**2.3**
PAH	Anthracene	ug/L	9	20 U	**0.3 J**	**0.19 J**	**0.29 J**	**0.11 J**	**0.33**	**0.037 J**	0.038 U	0.029 U	0.029 U	0.029 U	**2.9**	**3.3**	**3.6**	**3.7**	**4.4**
PAH	Benzo(a)anthracene	ug/L	0.030	20 UJ	0.43 U	0.36 U	0.37 U	0.38 U	**0.15**	**0.18**	**0.13**	**0.14**	**0.11**	**0.13**	**0.43 J**	0.1 U	**0.31**	**0.18**	**0.19**
PAH	Benzo(a)pyrene	ug/L	0.030	20 UJ	**0.24 J**	0.36 U	0.37 U	0.38 U	**0.058 J**	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	**0.043 J**	0.03 U	**0.097**	0.029 U	0.029 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	20 UJ	**0.41 J**	0.36 U	0.37 U	0.38 U	**0.054 J**	**0.041**	**0.034 J**	**0.034**	**0.035**	**0.035**	**0.099 J**	0.033 U	**0.16**	**0.048**	**0.042**
PAH	Benzo(g,h,i)perylene	ug/L	--	20 UJ	0.43 U	0.36 U	0.37 U	0.38 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U	0.029 U	0.029 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	20 UJ	**0.15 J**	0.36 U	0.37 U	0.38 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	**0.085**	0.029 U	0.029 U
PAH	Chrysene	ug/L	0.030	20 UJ	**0.44**	**0.054 J**	0.37 U	**0.085 J**	**0.13**	**0.18**	**0.14**	**0.12**	**0.071**	**0.091**	**0.087**	0.1 U	**0.26**	**0.1**	**0.061**
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	20 UJ	0.43 U	0.73 U	0.74 U	1.9 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U	0.029 U	0.029 U
PAH	Fluoranthene	ug/L	3.0	**11 J**	**2.6**	**1.4**	**1.9**	**1.2**	**2.3**	**1.9**	**1.4**	**1.5**	**0.9**	**1.3**	**2.6**	**3.3**	**3.6**	**4.5**	**4.6**
PAH	Fluorene	ug/L	3.0	**6 J**	0.43 U	**0.44**	0.37 U	**0.077 J**	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	**28**	**40**	**38**	**55**	**61**
PAH	HPAH	ug/L	0.25	--	--	**2.214 C**	**3.1 C**	**2.055 C**	**3.992 C**	**3.5 C**	**2.7 C**	**2.704 C**	**1.676 C**	**2.396 C**	**4.859 C**	**4.8 C**	**7.212 C**	**7.73 C**	**7.89 C**
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	20 UJ	0.43 U	1.8 U	1.9 U	1.9 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	**0.03 U**	0.03 U	0.03 U	0.029 U	0.029 U
PAH	Naphthalene	ug/L	83	20 UJ	**1.6**	**0.49**	0.37 U	**0.057 J**	0.046 U	**0.048**	**0.035**	0.029 U	**0.059**	**3,600**	**890**	**260**	**450**	**820**
PAH	Phenanthrene	ug/L	--	20 U	0.43 U	**1.1**	0.37 U	**0.29 J**	0.046 U	**0.033 J**	0.038 U	0.029 U	0.029 U	0.029 U	**19**	**36**	**38**	**44**	**47**
PAH	Pyrene	ug/L	15	20 UJ	**1.6**	**0.76**	**1.2**	**0.77**	**1.3**	**1.2**	**0.97**	**0.91**	**0.56**	**0.84**	**1.6**	**1.5**	**2.7**	**2.9**	**3**
PCP	Pentachlorophenol	ug/L	4.9	--	--	--	--	--	0.037 U	0.074 U	0.038 U	0.074 U	0.075 U	0.074 U	**80**	0.076 U	0.076 U	0.074 U	**0.54**
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	--	--	--	--	--	190 U	190 U	93 U	93 U	190 U	93 U	**7,000**	**2,700**	95 U	**3,700**	**3,900**
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	--	--	--	--	--	--	460 U	230 U	190 U	480 U	190 U	190 U	190 U	190 U	480 U	480 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons
* From Wyckoff ROD 2/2000
**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.
*** Salinity reported in ppt (parts per trillion) in October 2014

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aro
quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluor
dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW09 11/14/1995	CW09 11/06/2002	CW09 12/05/2002	CW09 01/08/2003	CW09 03/18/2004	CW09 01/23/2006	CW09 09/18/2006	CW09 01/10/2008	CW09 2/19/2009	CW09 9/14/2009	CW09 5/3/2010	CW09 6/18/2012	CW09 5/6/2013	CW09 10/21/2014
General	Dissolved Oxygen	mg/L	--	--	--	--	--	--	**2.22**	**0.44**	**0.26**	**0**	**5.22**	**0**	**0.3**	**0**	**0**
General	Eh	mV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General	Oxidization Reduction Potential	mV	--	--	--	--	--	--	**65**	**-57**	**-47**	**-32**	**-29**	**-48**	**-31**	**-48**	**-2**
General	pH	units	--	--	--	--	--	--	**6.65**	**7**	**7.06**	**6.98**	**6.86**	**7.16**	**7.51**	**7.32**	**7.08**
General	Salinity	%***	--	--	--	--	--	--	**0.82**	**0.8**	**2**	**1.1**	**1.32**	**1.5**	**1.3**	**3.2**	**9.1**
General	Specific Conductivity	mS	--	--	--	--	--	--	**14.4**	**16.3**	**31.9**	**19.6**	**22**	**25**	**2.21**	**49.9**	**15.7**
General	Temperature	°C	--	--	--	--	--	--	**11.8**	**13.71**	**11.2**	**11.76**	**13.97**	**13.03**	**13.4**	**14.81**	**13.14**
General	Turbidity	ntu	--	--	--	--	--	--	**2.8**	**25.1**	**28.5**	**23.5**	**0**	--	**180**	**144.4**	**8.2**
BNA	1,1'-Biphenyl	ug/L	--	--	--	--	--	0.74 U	5 U	0.4 U	1 U	1 U	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	--	--	--	--	5 U	--	--	--	--	0.44 UJ	1.1 U	1 U	1 UJ
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	0.4 UJ	1 U	1 U	0.86 UJ	0.44 UJ	1.1 UJ	1 U	1 UJ
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	0.4 UJ	1 U	1 U	0.86 UJ	--	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	--	--	--	--	0.4 U	1 U	1 UJ	0.86 UJ	--	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	0.4 UJ	1 U	1 U	0.86 UJ	--	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	0.4 UJ	1 U	1 U	0.86 UJ	--	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	0.4 U	1 U	--	0.86 UJ	0.44 UJ	**1.6**	1 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	--	0.44 U	1.1 U	2 U	1 U
BNA	2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	0.37 U	20 U	0.8 U	1 U	2.1 UJ	0.86 UJ	0.44 UJ	1.1 U	2 U	1 U
BNA	2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	0.74 U	5 U	0.4 U	1 U	2.1 UJ	0.86 UJ	0.44 UJ	1.1 U	2 U	1 U
BNA	2,4-Dichlorophenol	ug/L	--	--	--	--	--	0.74 U	5 U	0.4 U	1 U	1 UJ	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 UJ	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	20 U	4 U	10 U	8.3 UJ	0.86 UJ	0.44 UJ	2.1 U	4.1 UJ	2.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	--	--	--	--	1.9 U	5 U	0.8 U	1 U	1 UJ	0.86 UJ	0.44 U	1.1 U	2 U	1 U
BNA	2,6-Dinitrotoluene	ug/L	--	--	--	--	--	0.74 U	5 U	0.4 U	2 U	2.1 U	0.86 UJ	0.88 U	1.1 U	2 U	1 U
BNA	2-Chloronaphthalene	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	4 U	1 U	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	2-Chlorophenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 UJ	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	2-Nitroaniline	ug/L	--	--	--	--	--	1.9 U	20 U	0.8 U	1 U	1 UJ	0.86 UJ	0.44 U	1.1 U	2 U	2.1 U
BNA	2-Nitrophenol	ug/L	--	--	--	--	--	1.9 U	5 U	0.4 U	1 U	2.1 U	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	1.9 U	5 U	0.8 UJ	1 U	R	0.86 UJ	0.44 U	2.1 U	1 U	1 U
BNA	3-Nitroaniline	ug/L	--	--	--	--	--	1.9 U	20 U	0.8 U	1 U	1 UJ	0.86 UJ	0.44 U	1.1 U	2 U	2.1 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	3.7 U	20 UJ	2 U	4 U	2.1 UJ	0.86 UJ	0.88 U	1.1 U	4.1 U	2.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.86 UJ	0.44 U	1.1 U	1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.8 U	1 U	2.1 UJ	0.86 UJ	0.44 UJ	1.1 U	2 U	1 U
BNA	4-Chloroaniline	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 UJ	2 U	R	0.86 UJ	0.44 UJ	1.1 UJ	1 UJ	1 U
BNA	4-Chlorophenyl-phenylether	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	4-Methylphenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	4-Nitroaniline	ug/L	--	--	--	--	--	--	20 U	0.8 U	1 U	4.2 UJ	R	0.44 U	2.1 U	4.1 U	1 U
BNA	4-Nitrophenol	ug/L	--	--	--	--	--	1.9 U	20 U	4 U	4 U	21 UJ	0.86 UJ	0.44 UJ	1.1 U	4.1 U	2.1 U
BNA	9H-Carbazole	ug/L	--	--	--	--	--	**0.062 J**	--	0.4 U	4 U	2.1 UJ	0.86 UJ	0.44 U	1.1 U	1 U	1 U
BNA	Acenaphthene	ug/L	3.0	--	--	--	--	**0.28 J**	5 U	**0.11 J**	--	--	--	--	--	--	--
BNA	Acenaphthylene	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Anthracene	ug/L	9.0	--	--	--	--	**0.015 J**	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Atrazine	ug/L	--	--	--	--	--	0.74 U	5 U	0.4 U	1 U	1 UJ	0.86 UJ	0.44 U	1.1 U	1 U	1 U
BNA	Benzaldehyde	ug/L	--	--	--	--	--	0.74 U	5 U	0.4 U	1 U	**0.23 J**	0.86 UJ	0.44 UJ	1.1 U	2 U	1 U
BNA	Benzenemethanol	ug/L	--	--	--	--	--	--	--	0.8 U	2 U	R	0.86 UJ	--	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	--	--	--	0.74 U	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	--	--	--	1.9 U	5 U	**0.29 J**	--	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	1.9 U	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	--	--	--	--	--	--	4 UJ	4 U	8.3 UJ	2.5 UJ	--	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	--	--	--	--	1.9 U	5 U	1 UJ	**1.2**	2.1 U	0.86 UJ	0.44 U	2.1 U	2 U	2.1 U
BNA	Butylbenzylphthalate	ug/L	--	--	--	--	--	1.9 U	5 U	0.46 U	1 U	1 U	0.86 UJ	0.44 U	1.1 U	2 U	2.1 U
BNA	Caffeine	ug/L	--	--	--	--	--	--	--	0.4 UJ	1 U	--	--	0.44 U	1.1 U	1 U	1 UJ
BNA	Caprolactam	ug/L	--	--	--	--	--	1.9 U	5 UJ	0.79 UJ	1 U	21 U	R	0.44 UJ	1.1 UJ	2 UJ	4.2 UJ
BNA	Chrysene	ug/L	0.030	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW09 11/14/1995	CW09 11/06/2002	CW09 12/05/2002	CW09 01/08/2003	CW09 03/18/2004	CW09 01/23/2006	CW09 09/18/2006	CW09 01/10/2008	CW09 2/19/2009	CW09 9/14/2009	CW09 5/3/2010	CW09 6/18/2012	CW09 5/6/2013	CW09 10/21/2014
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	--	--	--	1.9 U	5 U	0.8 U	--	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	--	--	--	--	**0.12 J**	5 U	**0.07 J**	1 U	1 U	0.86 UJ	0.44 UJ	**2.2**	1 U	1 U
BNA	Diethylphthalate	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	2.1 UJ	0.86 UJ	0.44 U	1.1 U	1 U	1 U
BNA	Dimethylphthalate	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 UJ	0.86 UJ	0.44 U	1.1 U	1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	--	--	--	--	0.74 U	5 U	0.4 U	1 U	2 UJ	0.86 UJ	**4.7**	1.1 U	1 U	2.1 U
BNA	Di-n-octylphthalate	ug/L	--	--	--	--	--	1.9 U	5 U	**0.65 J**	1 U	2.1 U	0.86 UJ	0.44 U	1.1 U	2 U	2.1 U
BNA	Ethanone, 1-phenyl-	ug/L	--	--	--	--	--	0.74 U	5 U	0.4 U	1 U	1 U	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	Fluoranthene	ug/L	3.0	--	--	--	--	**0.054 J**	5 U	**0.11 J**	--	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	--	--	--	**0.065 J**	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.86 UJ	0.44 U	1.1 U	1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 UJ	1 U	1 U	0.86 UJ	0.44 UJ	1.1 UJ	1 UJ	4.2 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	1.9 U	5 U	0.4 UJ	2 U	2.1 U	0.86 UJ	0.44 UJ	1.1 UJ	2 U	1 UJ
BNA	Hexachloroethane	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 UJ	1 U	1 U	0.86 UJ	0.44 UJ	1.1 UJ	1 U	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	--	--	--	3.7 U	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 U	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	Naphthalene	ug/L	83	--	--	--	--	**0.4**	5 U	0.4 UJ	--	1 U	--	--	--	--	--
BNA	Nitrobenzene	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	--	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	--	--	--	--	1.9 U	--	0.4 UJ	--	1 U	--	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	1 UJ	0.86 UJ	0.44 UJ	1.1 U	2 U	1 U
BNA	n-Nitrosodiphenylamine	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	1 U	--	0.86 UJ	0.44 UJ	1.1 U	1 UJ	1 U
BNA	Pentachlorophenol	ug/L	4.9	--	--	--	--	3.7 U	5 U	0.79 U	--	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	--	--	--	**0.15 J**	5 U	**0.17 J**	--	--	--	--	--	--	--
BNA	Phenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 UJ	1 U	1 U	0.86 UJ	0.44 UJ	1.1 U	1 U	1 U
BNA	Pyrene	ug/L	15	--	--	--	--	**0.036 J**	5 U	**0.08 J**	--	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	--	--	--	0.4 U	1 U	--	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	0.44 U	**1.1**	0.39 U	**0.24 J**	--	--	--	--	--	--	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	0.44 U	0.37 U	0.39 U	0.38 U	--	--	--	--	--	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	0.44 U	**0.22 J**	0.39 U	**0.023 J**	0.046 U	0.037 U	0.037 U	0.03 U	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U
PAH	Acenaphthene	ug/L	3.0	0.44 U	**1.3**	**0.07 J**	**0.23 J**	**0.21**	0.037 U	**0.14**	**0.086**	0.029 U	**0.1**	**0.049**	**14**	**0.058**	**0.029**
PAH	Acenaphthylene	ug/L	--	**0.28 J**	0.37 U	0.39 U	0.38 U	0.046 U	0.037 U	0.037 U	0.03 U	0.029 U	0.029 U	0.031 U	**0.26**	0.03 U	0.029 U
PAH	Anthracene	ug/L	9	0.44 U	**0.21 J**	0.39 U	**0.023 J**	0.046 U	**0.18**	**0.031 J**	**0.029 J**	0.029 U	0.029 U	0.031 U	**2.9**	0.03 U	0.029 U
PAH	Benzo(a)anthracene	ug/L	0.030	0.44 U	0.37 U	0.39 U	0.38 U	0.046 U	**0.089**	0.037 U	0.03 U	0.029 U	0.029 U	0.031 U	**2.7**	0.03 U	0.029 U
PAH	Benzo(a)pyrene	ug/L	0.030	**0.38 J**	**0.045 J**	0.39 U	0.38 U	0.093 U	**0.035 J**	0.037 U	0.03 U	0.029 U	0.029 U	0.031 U	**0.8**	0.03 U	0.029 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	**0.71**	**0.084 J**	0.39 U	0.38 U	0.093 U	**0.06**	0.037 U	0.03 U	0.029 U	0.029 U	0.031 U	**1.7**	0.03 U	0.029 U
PAH	Benzo(g,h,i)perylene	ug/L	--	0.44 U	0.37 U	0.39 U	0.38 U	0.093 U	0.037 U	0.037 U	0.03 U	0.029 U	0.029 U	0.031 U	**0.18**	0.03 U	0.029 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	**0.33 J**	**0.032 J**	0.39 U	0.38 U	0.046 U	**0.027 J**	0.037 U	0.03 U	0.029 U	0.029 U	0.031 U	**1.8**	0.03 U	0.029 U
PAH	Chrysene	ug/L	0.030	**0.72**	**0.16 J**	0.39 U	0.38 U	0.046 U	**0.11**	0.037 U	0.03 U	0.029 U	0.029 U	0.031 U	**2**	0.03 U	0.029 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.44 U	0.74 U	0.78 U	1.9 U	0.093 U	0.037 U	0.037 U	0.03 U	0.029 U	0.029 U	0.031 U	**0.065**	0.03 U	0.029 U
PAH	Fluoranthene	ug/L	3.0	0.44 U	**0.98**	**0.057 J**	**0.058 J**	**0.045 J**	**0.49**	**0.071**	**0.061**	**0.04**	0.029 U	**0.081**	**13**	**0.04**	**0.041**
PAH	Fluorene	ug/L	3.0	0.44 U	**0.58**	0.39 U	**0.06 J**	**0.027 J**	0.037 U	0.037 U	0.03 U	0.029 U	0.029 U	0.031 U	**7.8**	0.03 U	0.029 U
PAH	HPAH	ug/L	0.25	--	**1.911 C**	**0.057 C**	**0.113 C**	**0.073 C**	**1.1 C**	**0.12 C**	**0.097 C**	**0.04 C**	0.029 U	**0.117 C**	**30.425 C**	**0.04 C**	**0.041 C**
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	0.44 U	1.9 U	2 U	1.9 U	0.093 U	0.037 U	0.037 U	0.03 U	0.029 U	0.029 U	0.031 U	**0.18**	0.03 U	0.029 U
PAH	Naphthalene	ug/L	83	**62.9**	**8.6**	**0.22 J**	**3**	**0.097**	**0.029 J**	0.037 U	0.03 U	0.029 U	0.029 U	**0.073**	**0.22**	**0.038**	0.029 U
PAH	Phenanthrene	ug/L	--	**0.99**	**2**	**0.1 J**	**0.18 J**	**0.032 J**	**0.037 J**	**0.17**	**0.063**	0.029 U	0.029 U	0.031 U	**20**	0.03 U	0.029 U
PAH	Pyrene	ug/L	15	0.44 U	**0.61**	0.39 U	**0.055 J**	**0.028 J**	**0.32**	**0.049**	**0.036**	0.029 U	0.029 U	**0.036**	**8**	0.03 U	0.029 U
PCP	Pentachlorophenol	ug/L	4.9	--	--	--	--	0.037 U	**0.82**	0.037 U	0.077 U	0.075 U	0.074 U	0.078 U	0.077 U	0.076 U	0.074 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	--	--	--	--	190 U	190 U	93 U	96 U	190 U	93 U	96 U	**310**	96 U	190 U
TPH	TPH-GC/Motor Oil Range Orgar	ug/L	--	--	--	--	--	--	460 U	230 U	190 U	460 U	190 U	190 U	190 U	190 U	470 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000

**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.

*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW12 11/14/1995	CW12 03/18/2004	CW12 01/25/2006	CW12 09/20/2006	CW12 01/9/2008	CW12 2/18/2009	CW12 9/16/2009	CW12 5/5/2010	CW12 6/20/2012	CW12 5/8/2013
General	Dissolved Oxygen	mg/L	--	--	--	**5.12**	**2.26**	**2.84**	**8.09**	**2.98**	**1.61**	**2.63**	**2.19**
General	Eh	mV	--	--	--	--	--	--	--	**--**	**--**	**--**	--
General	Oxidization Reduction Potentia	mV	--	--	--	**132**	**272**	**-4**	**25**	**160**	**121**	**70**	**57**
General	pH	units	--	--	--	**6.78**	**6.65**	**8.75**	**7.63**	**6.81**	**7.56**	7.2	**7.72**
General	Salinity	%***	--	--	--	**0**	**0.01**	**0**	**0.01**	**0**	**0**	0	**0**
General	Specific Conductivity	mS	--	--	--	**0.319**	**0.282**	**0.329**	**0.286**	**0.327**	**0.33**	0.344	**0.963**
General	Temperature	°C	--	--	--	**13.41**	**16**	**12.1**	**12.49**	**14.92**	**12.65**	13.05	**14.22**
General	Turbidity	ntu	--	--	--	**1.2**	**22.7**	**23.2**	**31.8**	**24.9**	**11.2**	**59.9**	**84.2**
BNA	1,1'-Biphenyl	ug/L	--	--	0.74 U	5 U	0.39 UJ	1 U	**3**	0.93 UJ	0.44 U	1.1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	--	5 U	--	--	--	--	0.44 U	1.1 U	1 U
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	--	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 UJ	1.1 UJ	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	--	0.39 UJ	1 U	0.98 U	0.93 UJ	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	--	0.39 UJ	1 U	0.98 U	0.93 UJ	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	--	0.39 UJ	1 U	0.98 U	0.93 UJ	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	--	0.39 UJ	1 U	0.98 U	0.93 UJ	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	--	--	0.39 UJ	1 U	--	0.93 UJ	0.44 U	1.1 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	--	--	0.44 U	1.1 U	2 U
BNA	2,4,5-Trichlorophenol	ug/L	--	--	0.37 U	20 U	0.78 UJ	1 U	2 UJ	0.93 UJ	0.44 UJ	1.1 U	2 U
BNA	2,4,6-Trichlorophenol	ug/L	--	--	0.74 U	5 U	0.39 UJ	1 U	2 U	0.93 UJ	0.44 UJ	1.1 U	2 U
BNA	2,4-Dichloropheno	ug/L	--	--	0.74 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	2,4-Dimethylpheno	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 UJ	1.1 U	1 U
BNA	2,4-Dinitropheno	ug/L	--	--	--	20 U	4 UJ	10 U	7.8 U	0.93 UJ	0.44 UJ	2.2 U	4.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	--	1.9 U	5 U	0.78 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	2 U
BNA	2,6-Dinitrotoluene	ug/L	--	--	0.74 U	5 U	0.39 UJ	2 U	2 U	0.93 UJ	0.88 U	1.1 U	2 U
BNA	2-Chloronaphthalene	ug/L	--	--	0.37 U	5 U	0.39 UJ	4 U	0.98 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	2-Chloropheno	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	--	0.37 U	5 U	0.39 UJ	--	--	--	--	--	--
BNA	2-Methylpheno	ug/L	--	--	0.37 U	5 U	--	1 U	0.98 U	1.9 UJ	0.44 U	1.1 U	1 U
BNA	2-Nitroaniline	ug/L	--	--	1.9 U	20 U	0.78 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	2 U
BNA	2-Nitrophenol	ug/L	--	--	1.9 U	5 U	0.39 UJ	1 U	2 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	--	1.9 U	5 UJ	0.78 UJ	1 U	16 UJ	0.93 UJ	0.44 UJ	2.2 U	1 U
BNA	3-Nitroaniline	ug/L	--	--	1.9 U	20 U	0.78 UJ	1 U	0.98 UJ	0.93 UJ	0.44 U	1.1 U	2 U
BNA	4,6-Dinitro-2-methylpheno	ug/L	--	--	3.7 U	20 UJ	2 UJ	4 U	2 U	0.93 UJ	0.88 U	1.1 U	4.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	4-Chloro-3-methylpheno	ug/L	--	--	0.37 U	5 U	0.78 UJ	1 U	2 U	0.93 UJ	0.44 U	1.1 U	2 U
BNA	4-Chloroaniline	ug/L	--	--	0.37 U	5 U	0.39 UJ	2 U	20 UJ	0.93 UJ	0.44 UJ	1.1 UJ	1 UJ
BNA	4-Chlorophenyl-phenylethe	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	4-Methylpheno	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	4-Nitroaniline	ug/L	--	--	--	20 U	0.78 UJ	1 U	3.9 UJ	0.93 UJ	0.44 U	2.2 U	4.1 U
BNA	4-Nitrophenol	ug/L	--	--	1.9 U	20 U	4 UJ	4 U	20 U	0.93 UJ	0.44 UJ	1.1 U	4.1 U
BNA	9H-Carbazole	ug/L	--	--	0.37 U	--	0.39 UJ	4 U	**2**	0.93 UJ	0.44 U	1.1 U	1 U
BNA	Acenaphthene	ug/L	3.0	--	**0.067 J**	5 U	0.39 UJ	--	--	--	--	--	--
BNA	Acenaphthylene	ug/L	--	--	0.37 U	5 U	0.39 UJ	--	--	--	--	--	--
BNA	Anthracene	ug/L	9.0	--	**0.031 J**	5 U	0.39 UJ	--	--	--	--	--	--
BNA	Atrazine	ug/L	--	--	0.74 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	Benzaldehyde	ug/L	--	--	0.74 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 UJ	1.1 U	2 U
BNA	Benzenemethano	ug/L	--	--	--	--	0.78 UJ	2 U	R	1.9 UJ	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	--	0.37 U	5 U	0.39 UJ	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	0.74 U	5 U	0.39 UJ	--	--	--	--	--	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW12 11/14/1995	CW12 03/18/2004	CW12 01/25/2006	CW12 09/20/2006	CW12 01/9/2008	CW12 2/18/2009	CW12 9/16/2009	CW12 5/5/2010	CW12 6/20/2012	CW12 5/8/2013
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	1.9 U	5 U	0.39 UJ	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	1.9 U	5 U	0.39 UJ	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	0.37 U	5 U	0.39 UJ	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	--	--	--	4 UJ	4 U	7.8 UJ	2.9 UJ	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 UJ	1.1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	--	1.9 U	5 U	1 UJ	**4.8**	2 U	0.93 UJ	0.44 U	1.1 U	2 U
BNA	Butylbenzylphthalate	ug/L	--	--	1.9 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	2 U
BNA	Caffeine	ug/L	--	--	--	--	0.39 UJ	1 U	--	--	0.44 UJ	1.1 U	1 U
BNA	Caprolactam	ug/L	--	--	1.9 U	5 UJ	1.2 UJ	1 U	20 U	0.93 UJ	0.44 UJ	1.1 UJ	2 UJ
BNA	Chrysene	ug/L	0.030	--	0.37 U	5 U	0.39 UJ	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	1.9 U	5 U	0.78 UJ	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	--	**0.067 J**	5 U	0.39 UJ	1 U	**8.7**	0.93 UJ	0.44 U	1.1 U	1 U
BNA	Diethylphthalate	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	2 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	Dimethylphthalate	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 UJ	1.1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	--	0.74 U	5 U	0.39 UJ	1 U	2 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	Di-n-octylphthalate	ug/L	--	--	1.9 U	5 U	0.78 UJ	1 U	2 U	0.93 UJ	0.44 U	1.1 U	2 U
BNA	Ethanone, 1-phenyl-	ug/L	--	--	0.74 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	Fluoranthene	ug/L	3.0	--	**0.089 J**	5 U	0.39 UJ	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	0.37 U	5 U	0.39 UJ	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 UJ	1.1 UJ	1 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	--	1.9 U	5 U	0.39 UJ	2 U	2 U	0.93 UJ	0.44 UJ	1.1 UJ	2 UJ
BNA	Hexachloroethane	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 UJ	1.1 UJ	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	3.7 U	5 U	0.39 UJ	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	Naphthalene	ug/L	83	--	0.37 U	5 U	0.39 UJ	--	0.98 U	--	--	--	--
BNA	Nitrobenzene	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	--	0.93 UJ	0.44 U	1.1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	--	1.9 U	--	0.39 UJ	--	0.98 U	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	2 U
BNA	n-Nitrosodiphenylamine	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	--	0.93 UJ	0.44 UJ	1.1 U	1 UJ
BNA	Pentachloropheno	ug/L	4.9	--	3.7 U	5 U	0.78 UJ	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	**0.15 J**	5 U	0.39 UJ	--	--	--	--	--	--
BNA	Phenol	ug/L	--	--	0.37 U	5 U	0.39 UJ	1 U	0.98 U	0.93 UJ	0.44 U	1.1 U	1 U
BNA	Pyrene	ug/L	15	--	**0.079 J**	5 U	0.39 UJ	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	0.39 UJ	1 U	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	**195**	--	--	--	--	--	**--**	--	**--**	--
PAH	2-Chloronaphthalene	ug/L	--	0.43 U	--	--	--	--	--	**--**	--	**--**	--
PAH	2-Methylnaphthalene	ug/L	--	**38.8**	0.046 U	0.037 U	0.037 U	0.031 U	**3.5**	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Acenaphthene	ug/L	3.0	**237**	**0.058**	0.037 U	0.037 U	0.031 U	**19**	0.029 U	**0.044**	0.03 U	0.03 U
PAH	Acenaphthylene	ug/L	--	**5.3**	0.046 U	0.037 U	0.037 U	0.031 U	**0.27**	**0.61**	0.031 U	0.03 U	0.03 U
PAH	Anthracene	ug/L	9	**17.6**	**0.031 J**	0.037 U	0.037 U	**0.057**	**2.7**	**0.43**	**0.039**	**0.063**	**0.063**
PAH	Benzo(a)anthracene	ug/L	0.030	**1.8**	**0.01 J**	0.037 U	0.037 U	0.031 U	**0.48**	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Benzo(a)pyrene	ug/L	0.030	**0.36 J**	0.093 U	0.037 U	0.037 U	0.031 U	**0.11**	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	**0.73**	0.093 U	0.037 U	0.037 U	0.031 U	**0.21**	**0.047**	0.031 U	0.03 U	0.03 U
PAH	Benzo(g,h,i)perylene	ug/L	--	0.43 U	0.093 U	0.037 U	0.037 U	0.031 U	**0.037**	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	**0.3 J**	0.046 U	0.037 U	0.037 U	0.031 U	**0.079**	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Chrysene	ug/L	0.030	**2**	**0.013 J**	0.037 U	0.037 U	0.031 U	**0.48**	**0.065**	0.031 U	0.03 U	0.03 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW12 11/14/1995	CW12 03/18/2004	CW12 01/25/2006	CW12 09/20/2006	CW12 01/9/2008	CW12 2/18/2009	CW12 9/16/2009	CW12 5/5/2010	CW12 6/20/2012	CW12 5/8/2013
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.43 U	0.093 U	0.037 U	0.037 U	0.031 U	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Fluoranthene	ug/L	3.0	**29.7**	**0.085**	0.037 U	0.037 U	0.031 U	**6.3**	**0.063**	0.031 U	0.03 U	0.03 U
PAH	Fluorene	ug/L	3.0	**153**	**0.017 J**	0.037 U	0.037 U	0.031 U	**15**	**0.051**	0.031 U	0.03 U	0.03 U
PAH	HPAH	ug/L	0.25	--	**0.154 C**	0.037 U	0.037 U	0.031 U	**11.026 C**	**0.253 C**	0.031 U	0.03 U	0.03 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	0.43 U	0.093 U	0.037 U	0.037 U	0.031 U	**0.03**	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Naphthalene	ug/L	83	**1,404**	0.046 U	0.037 U	0.037 U	0.031 U	**19**	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Phenanthrene	ug/L	--	**110**	**0.12**	0.037 U	**0.033 J**	0.031 U	**29**	**0.061**	0.031 U	0.03 U	0.03 U
PAH	Pyrene	ug/L	15	**14.2**	**0.046 J**	0.037 U	0.037 U	0.031 U	**3.3**	**0.078**	0.031 U	0.03 U	0.03 U
PCP	Pentachloropheno	ug/L	4.9	--	0.037 U	0.074 U	0.037 U	0.078 U	0.075 U	**0.086**	0.078 U	0.077 U	0.077 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	**--**	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	**--**	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	**--**	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	--	190 U	190 U	93 U	96 U	190 U	94 U	94 U	96 U	100 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	--	--	460 U	230 U	**330**	480 U	190 U	190 U	190 U	190 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons
* From Wyckoff ROD 2/2000

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.

*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW15 11/14/1995	CW15 11/06/2002	CW15 12/05/2002	CW15 01/08/2003	CW15 03/18/2004	CW15 01/24/2006	CW15-FD 01/24/2006	CW15 09/19/2006	CW15-FD 09/19/2006	CW15 01/9/2008	CW15-FD 01/9/2008	CW15 2/17/2009	CW15-FD 2/17/2009	CW15 9/15/2009	CW15-FD 9/15/2009
General	Dissolved Oxygen	mg/L	--	--	--	--	--	--	**1.33**	--	**0**	--	**0.24**	--	**0**	--	**4.37**	--
General	Eh	mV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	--
General	Oxidization Reduction Potential	mV	--	--	--	--	--	--	-281	--	0.8	--	**-252**	**--**	**-286**	**--**	**-109**	**--**
General	pH	units	--	--	--	--	--	--	**6.63**	--	**6.41**	--	**6.96**	--	**6.98**	--	**6.75**	--
General	Salinity	%***	--	--	--	--	--	--	**0.3**	--	--	--	**1.7**	--	**1.17**	--	**0.59**	--
General	Specific Conductivity	mS	--	--	--	--	--	--	**5.72**	--	**14**	--	**28.7**	--	**19.6**	--	**9.99**	--
General	Temperature	°C	--	--	--	--	--	--	**11.8**	--	**-212**	--	**11.3**	--	**14.6**	--	**13.81**	--
General	Turbidity	ntu	--	--	--	--	--	--	**27**	--	**49.5**	--	**0**	--	**90.3**	--	**0**	--
BNA	1,1'-Biphenyl	ug/L	--	--	--	--	--	**17**	5 U	**1.3 J**	**0.74**	**0.85**	**5.2**	**5.7**	**1.8**	**1.6**	**0.8 J**	1 UJ
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	--	--	--	--	5 U	5 U	--	--	--	--	--	--	**--**	--
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	--	0.4 UJ	0.4 UJ	0.9 U	0.9 U	1 UJ	0.94 U	0.94 U	1 UJ
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	0.4 UJ	0.4 UJ	0.9 U	0.9 U	1 UJ	0.94 U	0.94 U	1 UJ
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	--	--	--	--	--	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 UJ	1 UJ
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	0.4 UJ	0.4 UJ	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	0.4 UJ	0.4 UJ	0.9 U	0.9 U	1 UJ	0.94 U	0.94 U	1 UJ
BNA	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	**11**	**13**	**36**	**42**	--	--	**12**	**0.9 J**
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BNA	2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	0.37 U	20 U	20 U	0.8 U	0.8 U	0.9 U	0.9 U	2 U	1.9 UJ	0.94 U	1 UJ
BNA	2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	0.74 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	2 UJ	1.9 U	0.94 U	1 UJ
BNA	2,4-Dichlorophenol	ug/L	--	--	--	--	--	0.74 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	2,4-Dimethylphenol	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 UJ	0.94 U	0.94 U	1 UJ
BNA	2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	20 U	20 U	4 U	4 U	9 U	9.4 U	8 U	7.5 U	0.94 U	1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	--	--	--	--	1.9 U	5 U	5 U	0.8 U	0.8 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	2,6-Dinitrotoluene	ug/L	--	--	--	--	--	0.74 U	5 U	5 U	0.4 U	0.4 U	2 U	2 U	2 U	1.9 U	0.94 U	1 UJ
BNA	2-Chloronaphthalene	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 U	0.4 U	4 U	4 U	1 U	0.94 U	0.94 U	1 UJ
BNA	2-Chlorophenol	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	2-Methylnaphthalene	ug/L	--	--	--	--	--	**57**	5 U	**2.1 J**	**1.5**	**1.5**	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	1.9 U	2 UJ
BNA	2-Nitroaniline	ug/L	--	--	--	--	--	1.9 U	20 U	20 U	0.8 U	0.8 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	2-Nitrophenol	ug/L	--	--	--	--	--	1.9 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	1.9 U	0.94 U	1 UJ
BNA	3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	1.9 U	5 U	5 UJ	0.8 UJ	0.8 UJ	0.9 U	0.9 U	16 UJ	15 UJ	0.94 UJ	1 UJ
BNA	3-Nitroaniline	ug/L	--	--	--	--	--	1.9 U	20 U	20 U	0.8 U	0.8 U	0.9 U	0.9 U	1 UJ	0.94 UJ	0.94 U	1 UJ
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	3.7 U	20 U	20 U	2 U	2 U	4 U	4 U	2 U	1.9 U	0.94 U	1 UJ
BNA	4-Bromophenyl-phenylether	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.8 U	0.8 UJ	0.9 U	0.9 U	2 UJ	1.9 UJ	0.94 U	1 UJ
BNA	4-Chloroaniline	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 UJ	0.4 UJ	2 U	2 U	20 UJ	19 UJ	0.94 UJ	1 UJ
BNA	4-Chlorophenyl-phenylether	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	4-Methylphenol	ug/L	--	--	--	--	--	0.04 J	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	4-Nitroaniline	ug/L	--	--	--	--	--	--	20 U	20 U	0.8 U	0.8 U	0.9 U	0.9 U	4 U	3.8 UJ	0.94 UJ	1 UJ
BNA	4-Nitrophenol	ug/L	--	--	--	--	--	1.9 U	20 U	20 U	4 U	4 U	4 U	4 U	R	19 U	0.94 U	1 UJ
BNA	9H-Carbazole	ug/L	--	--	--	--	--	**16**	--	--	**2.8**	**3.4**	**10**	**11 J**	**3.4**	**3.6**	**3**	1 UJ
BNA	Acenaphthene	ug/L	3.0	--	--	--	--	**73**	**18**	**39**	**14**	**17**	--	--	--	--	**--**	--
BNA	Acenaphthylene	ug/L	--	--	--	--	--	**0.35 J**	5 U	5 U	**0.11 J**	**0.12 J**	--	--	--	--	**--**	--
BNA	Anthracene	ug/L	9.0	--	--	--	--	**12**	5 U	5 U	**0.35 J**	**0.4 J**	--	--	--	--	**--**	--
BNA	Atrazine	ug/L	--	--	--	--	--	0.74 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	Benzaldehyde	ug/L	--	--	--	--	--	0.74 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	Benzenemethanol	ug/L	--	--	--	--	--	--	--	--	0.8 U	0.8 U	2 U	2 U	R	R	1.9 UJ	2 UJ
BNA	Benzo(a)anthracene	ug/L	0.030	--	--	--	--	**5.5**	5 U	5 U	0.4 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	--	--	--	**1**	5 U	5 U	0.4 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	--	--	--	**1.3 J**	5 U	5 U	0.4 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	**0.19 J**	5 U	5 U	0.4 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	--	--	--	**1.2**	5 U	5 U	0.4 U	0.4 U	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	--	--	--	--	--	--	--	4 UJ	4 UJ	5 UJ	5 U	8 UJ	7.5 UJ	4 UJ	4.2 UJ
BNA	bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 U	0.4 U	0.9 U	1 U	1 U	0.94 U	0.94 U	1 UJ
BNA	bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	bis(2-chloroisopropyl)ether	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 UJ	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	--	--	--	--	1.9 U	5 U	5 U	1 UJ	1 UJ	0.9	0.9 U	2 U	1.9 U	0.94 U	1 UJ
BNA	Butylbenzylphthalate	ug/L	--	--	--	--	--	1.9 U	5 U	5 U	0.4 U	0.4 U	1 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	Caffeine	ug/L	--	--	--	--	--	--	--	--	0.4 UJ	0.4 U	0.9 U	0.9 U	--	--	--	--
BNA	Caprolactam	ug/L	--	--	--	--	--	1.9 U	5 UJ	5 UJ	0.8 UJ	**1.1 J**	0.9 U	0.9 U	20 UJ	19 U	0.94 UJ	1 UJ
BNA	Chrysene	ug/L	0.030	--	--	--	--	**4.7**	5 U	5 U	0.4 U	0.4 U	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	--	--	--	1.9 U	5 U	5 U	0.8 U	0.8 U	--	--	--	--	--	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW15 5/4/2010	CW15-FD 5/4/2010	CW15 6/19/2012	CW15-FD 6/19/2012	CW15 5/7/2013	CW15-FD 5/7/2013	CW15 10/21/2014
General	Dissolved Oxygen	mg/L	--	**0**	--	**0.49**	--	**0**	--	**0**
General	Eh	mV	--	**--**	--	--	--	--	--	--
General	Oxidization Reduction Potential	mV	--	**-269**	**--**	**-310**	--	**-302**	--	**-124**
General	pH	units	--	**6.73**	--	**7.1**	--	**7.1**	--	**6.98**
General	Salinity	%***	--	**1**	--	**1.5**	--	**2.8**	--	**4.8**
General	Specific Conductivity	mS	--	**16.8**	--	**24.3**	--	**43.3**	--	**8.51**
General	Temperature	°C	--	**11.81**	--	**12.36**	--	**13.37**	--	**13.59**
General	Turbidity	ntu	--	**3.1**	--	**7.8**	--	**48.2**	--	**0**
BNA	1,1'-Biphenyl	ug/L	--	**4.8**	**3.7**	**1.5**	**2.1**	**7.2 J**	**6.7**	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	0.5 U	0.47 U	1 U	1 U	1 UJ	1 U	1 UJ
BNA	1,2,4-Trichlorobenzene	ug/L	--	0.5 UJ	0.47 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	--	--	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	**32**	**29**	**14 J**	**22**	**56**	**55**	**1.9**
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	0.5 U	0.47 U	1 U	1 U	2.1 U	2.1 U	1 U
BNA	2,4,5-Trichlorophenol	ug/L	--	0.5 UJ	0.47 UJ	1 U	1 U	2.1 UJ	2.1 U	1 U
BNA	2,4,6-Trichlorophenol	ug/L	--	0.5 UJ	0.47 UJ	1 U	1 U	2.1 U	2.1 U	1 U
BNA	2,4-Dichlorophenol	ug/L	--	0.48 U	0.47 U	1 U	1 U	1 U	1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	0.5 UJ	0.47 UJ	1 U	1 U	1 U	1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	0.5 UJ	0.47 UJ	2.1 U	2.1 U	4.2 UJ	4.2 UJ	2.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	0.5 U	0.47 U	1 UJ	1 U	2.1 U	2.1 U	1 U
BNA	2,6-Dinitrotoluene	ug/L	--	1 U	0.94 U	1 UJ	1 U	2.1 U	2.1 U	1 U
BNA	2-Chloronaphthalene	ug/L	--	0.5 U	0.47 U	1 U	1 U	1 U	1 U	1 U
BNA	2-Chlorophenol	ug/L	--	0.5 U	0.47 U	1 UJ	1 U	1 U	1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	0.5 U	0.47 U	1 U	1 U	1 U	1 U	1 U
BNA	2-Nitroaniline	ug/L	--	0.5 U	0.47 U	1 U	1 U	2.1 U	2.1 U	2.1 U
BNA	2-Nitrophenol	ug/L	--	0.5 U	0.47 U	1 U	1 U	1 U	1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	0.5 UJ	0.47 UJ	2.1 U	2.1 U	1 UJ	1 U	1 U
BNA	3-Nitroaniline	ug/L	--	0.5 UJ	0.47 U	1 U	1 U	2.1 UJ	2.1 U	2.1 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	1 U	0.94 U	1 U	1 U	4.2 U	4.2 U	2.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	0.5 U	0.47 U	1 U	1 U	1 U	1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	0.5 U	0.47 U	1 U	1 U	2.1 U	2.1 U	1 U
BNA	4-Chloroaniline	ug/L	--	0.5 UJ	0.47 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
BNA	4-Chlorophenyl-phenylether	ug/L	--	0.5 U	0.47 U	1 U	1 U	1 U	1 U	1 U
BNA	4-Methylphenol	ug/L	--	0.5 U	0.47 U	1 U	1 U	1 U	1 U	1 U
BNA	4-Nitroaniline	ug/L	--	0.5 U	0.47 U	2.1 U	2.1 U	**2.5 J**	4.2 U	1 U
BNA	4-Nitrophenol	ug/L	--	0.5 UJ	0.47 UJ	1 U	1 U	4.2 UJ	4.2 U	2.1 U
BNA	9H-Carbazole	ug/L	--	**17**	**14**	**8.7**	**7.4**	**14**	**14**	1 U
BNA	Acenaphthene	ug/L	3.0	**--**	**--**	**--**	**--**	--	--	--
BNA	Acenaphthylene	ug/L	--	**--**	**--**	**--**	**--**	--	--	--
BNA	Anthracene	ug/L	9.0	**--**	**--**	**--**	**--**	--	--	--
BNA	Atrazine	ug/L	--	0.5 U	0.47 U	1 U	1 U	1 U	1 U	1 U
BNA	Benzaldehyde	ug/L	--	0.5 UJ	0.47 UJ	1 U	1 U	2.1 U	2.1 U	1 U
BNA	Benzenemethanol	ug/L	--	--	--	--	--	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	--	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	--	--	--	--	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	0.5 U	0.47 U	1 UJ	1 U	1 U	1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	0.5 U	0.47 U	1 UJ	1 U	1 U	1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	0.5 UJ	0.47 UJ	1 UJ	1 U	1 U	1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	0.5 U	0.47 U	1 U	1 U	2 U	2 U	2.1 U
BNA	Butylbenzylphthalate	ug/L	--	0.5 U	0.47 U	1 U	1 U	2.1 U	2.1 U	2.1 U
BNA	Caffeine	ug/L	--	0.5 UJ	0.47 UJ	1 U	1 U	1 UJ	1 U	1 UJ
BNA	Caprolactam	ug/L	--	0.5 UJ	0.47 UJ	1 UJ	1 UJ	2.1 UJ	2.1 UJ	4.2 UJ
BNA	Chrysene	ug/L	0.030	--	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	--	--	--	--	--	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW15 11/14/1995	CW15 11/06/2002	CW15 12/05/2002	CW15 01/08/2003	CW15 03/18/2004	CW15 01/24/2006	CW15-FD 01/24/2006	CW15 09/19/2006	CW15-FD 09/19/2006	CW15 01/9/2008	CW15-FD 01/9/2008	CW15 2/17/2009	CW15-FD 2/17/2009	CW15 9/15/2009	CW15-FD 9/15/2009
BNA	Dibenzofuran	ug/L	--	--	--	--	--	**59**	**7**	**14**	**4.6**	**5.5**	**24**	**26**	**29**	**27**	**26**	**3.5 J**
BNA	Diethylphthalate	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	2 U	1.9 U	0.94 U	1 UJ
BNA	Dimethylphthalate	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	Di-n-butylphthalate	ug/L	--	--	--	--	--	0.74 U	5 U	5 U	0.4 U	0.4 U	1 U	0.9 U	2 U	1.9 U	0.94 U	1 UJ
BNA	Di-n-octylphthalate	ug/L	--	--	--	--	--	1.9 U	5 U	5 U	0.81 U	0.81 U	0.9 U	0.9 U	2 U	1.9 U	0.94 U	1 UJ
BNA	Ethanone, 1-phenyl-	ug/L	--	--	--	--	--	0.74 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	Fluoranthene	ug/L	3.0	--	--	--	--	**47**	**1.9 J**	**1.8 J**	**1.3**	**1.4**	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	--	--	--	**58**	**2.1 J**	**4.1 J**	**2.4**	**2.6**	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	Hexachlorobutadiene	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 UJ	0.4 UJ	0.9 U	0.9 U	1 UJ	0.94 U	0.94 U	1 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	1.9 U	5 U	5 U	0.4 UJ	0.4 UJ	2 U	2 U	2 UJ	1.9 U	0.94 U	1 UJ
BNA	Hexachloroethane	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 UJ	0.4 UJ	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	--	--	--	**0.21 J**	5 U	5 U	0.4 U	0.4 U	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	Naphthalene	ug/L	83	--	--	--	--	**270**	52	**100**	45 J	58 J	**265**	**300**	1 U	0.94 U	--	--
BNA	Nitrobenzene	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	--	--	0.94 U	1 UJ
BNA	n-Nitrosodimethylamine	ug/L	--	--	--	--	--	1.9 U	--	--	0.4 UJ	0.4 UJ	--	--	1 U	0.94 U	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	--	--	--	--	0.37 U	5 UJ	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	n-Nitrosodiphenylamine	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	--	--	0.94 UJ	1 UJ
BNA	Pentachlorophenol	ug/L	4.9	--	--	--	--	3.7 U	5 U	5 U	0.81 U	0.81 U	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	--	--	--	**160**	**17**	**19**	**8.5**	**9.5**	--	--	--	--	--	--
BNA	Phenol	ug/L	--	--	--	--	--	0.37 U	5 U	5 U	0.4 U	0.4 U	0.9 U	0.9 U	1 U	0.94 U	0.94 U	1 UJ
BNA	Pyrene	ug/L	15	--	--	--	--	**27**	5 U	5 U	**0.71**	**0.75**	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	--	--	--	--	0.4 U	0.4 U	0.9 U	0.9 U	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	**125**	**16.4**	**7.2**	**16.3**	--	--	--	--	--	--	--	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	0.45 U	0.37 U	0.38 U	0.38 U	--	--	--	--	--	--	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	**147**	**10.1**	0.38 U	**8.7**	**51**	**3.6**	**0.72**	**4.4**	**3**	**12**	**10**	**1.3**	**0.53**	0.029 U	0.029 U
PAH	Acenaphthene	ug/L	3.0	**140**	**41.3**	**57.6**	**131**	**79**	**71**	**73**	**21**	**16**	**85**	**70**	**60**	**35**	**160**	**160**
PAH	Acenaphthylene	ug/L	--	**1.7**	**0.36 J**	**0.52**	**0.99**	**0.23 J**	**0.46**	**0.43**	**0.27**	**0.24**	**0.39**	**0.33**	**0.37**	**0.21**	**0.67**	**0.79**
PAH	Anthracene	ug/L	9	**11.4**	2.7	2.1	4.5	**12**	1.2	0.98	0.9	0.87	1.4	1.2	1.4	1	1.9	1.8
PAH	Benzo(a)anthracene	ug/L	0.030	**0.85**	**1.2**	**0.95**	**1.7**	**5.8**	**0.15**	**0.14**	**0.29**	**0.72**	**0.15**	**0.13**	**0.14**	**0.11**	**0.18**	**0.17**
PAH	Benzo(a)pyrene	ug/L	0.030	**0.27 J**	**0.2 J**	**0.19 J**	**0.34 J**	**0.93**	**0.022 J**	**0.021 J**	**0.066**	**0.13**	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U	0.029 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	**0.45**	**0.41**	**0.36 J**	**0.64**	**1.3**	**0.048**	**0.046**	**0.14**	**0.22**	**0.048**	**0.036**	**0.054**	**0.031**	**0.064**	**0.059**
PAH	Benzo(g,h,i)perylene	ug/L	--	0.45 U	**0.046 J**	0.38 U	**0.078 J**	**0.16**	0.037 U	0.037 U	0.037 U	0.037 U	0.029 UJ	0.029 U	0.03 U	0.03 U	0.029 U	0.029 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	**0.19 J**	**0.14 J**	**0.15 J**	**0.22 J**	**0.94**	**0.02 J**	**0.019 J**	**0.09**	**0.17**	0.029 U	0.029 U	**0.024 J**	0.03 U	0.029 U	0.029 U
PAH	Chrysene	ug/L	0.030	**0.9**	**0.96**	**0.87**	**1.5**	**4.5**	**0.17**	**0.16**	**0.32**	**0.66**	**0.14**	**0.13**	**0.13**	**0.098**	**0.14**	**0.14**
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.45 U	0.74 U	0.75 U	1.9 U	**0.14**	0.037 U	0.037 U	0.037 U	0.037 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U	0.029 U
PAH	Fluoranthene	ug/L	3.0	**22.3**	**9.6**	**6.3**	**14**	**52**	**2.1**	**1.7**	**2**	**3**	**2.3**	**1.9**	**3.4**	**2.7**	**3.3**	**3.5**
PAH	Fluorene	ug/L	3.0	**71.2**	**26.8**	**33.9**	**51.7**	**66**	**6.6**	**3.3**	**4.2**	**4.6**	**11**	**9**	**14**	**6.8**	**0.13**	**0.61**
PAH	HPAH	ug/L	0.25	--	**17.756 C**	**12.32 C**	**26.347 C**	**92.02 C**	**3.6 C**	**3 C**	**4.1 C**	**6.8 C**	**3.738 C**	**3.186 C**	**5.348 C**	**4.139 C**	**5.284 C**	**5.569 C**
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	0.45 U	1.9 U	1.9 U	**0.069 J**	**0.25**	0.037 U	0.037 U	0.037 U	0.037 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U	0.029 U
PAH	Naphthalene	ug/L	83	**1,154**	**98.8**	**4.2**	**49.3**	**390**	**220**	**91**	**120**	**81**	265 **	300 **	**47**	**24**	**0.5**	**1.4**
PAH	Phenanthrene	ug/L	--	**124**	**38.9**	**38.6**	**78.2**	**170**	**30**	**28**	**11**	**8.1**	**33**	**29**	**35**	**27**	**6.8**	**15**
PAH	Pyrene	ug/L	15	**10.6**	**5.2**	**3.5**	**7.8**	**26**	**1.1**	**0.95**	**1.2**	**1.9**	**1.1**	**0.99**	**1.6**	**1.2**	**1.6**	**1.7**
PCP	Pentachlorophenol	ug/L	4.9	--	--	--	--	0.037 U	0.074 U	0.074 U	0.037 U	0.037 U	0.074 U	0.074 U	**0.077**	0.077 U	0.074 U	0.074 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	--	--	--	--	190 U	**1,200**	**1,100**	**350**	**350**	**770**	**900**	**500**	**590**	**550**	**600**
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	--	--	--	--	--	460 U	460 U	240 U	230 U	190 U	190 U	460 U	460 U	190 U	190 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons
* From Wyckoff ROD 2/2000
**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.
*** Salinity reported in ppt (parts per trillion) in October 2014

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

J = The analyte was positively identified; the quantitation is an estir
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysen dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	CW15 5/4/2010	CW15-FD 5/4/2010	CW15 6/19/2012	CW15-FD 6/19/2012	CW15 5/7/2013	CW15-FD 5/7/2013	CW15 10/21/2014
BNA	Dibenzofuran	ug/L	--	**30**	**26**	**21**	**25**	**45**	**39**	**3**
BNA	Diethylphthalate	ug/L	--	0.5 U	0.47 U	1 U	1 U	1 U	1 U	1 U
BNA	Dimethylphthalate	ug/L	--	0.5 UJ	0.47 UJ	1 U	1 U	1 U	1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	0.5 U	0.47 U	1 U	1 U	1 U	1 U	2.1 U
BNA	Di-n-octylphthalate	ug/L	--	0.5 U	0.47 U	1 U	1 U	2.1 U	2.1 U	2.1 U
BNA	Ethanone, 1-phenyl-	ug/L	--	0.5 U	0.47 U	1 UJ	1 U	1 U	1 U	1 U
BNA	Fluoranthene	ug/L	3.0	--	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	0.5 U	0.47 U	1 U	1 U	1 U	1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	0.5 UJ	0.47 UJ	1 UJ	1 UJ	1 UJ	1 UJ	4.2 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	0.5 UJ	0.47 UJ	1 UJ	1 UJ	2.1 UJ	2.1 UJ	1 UJ
BNA	Hexachloroethane	ug/L	--	0.5 UJ	0.47 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	0.5 U	0.47 U	1 U	1 U	1 U	1 U	1 U
BNA	Naphthalene	ug/L	83	--	--	--	--	--	--	--
BNA	Nitrobenzene	ug/L	--	0.5 U	0.47 U	1 UJ	1 U	1 U	1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	--	--	--	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	0.5 U	0.47 U	1 UJ	1 U	2.1 U	2.1 U	1 U
BNA	n-Nitrosodiphenylamine	ug/L	--	0.5 UJ	0.47 UJ	1 UJ	1 U	1 UJ	1 UJ	1 U
BNA	Pentachlorophenol	ug/L	4.9	--	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	--	--	--	--	--	--
BNA	Phenol	ug/L	--	0.5 U	0.47 U	1 U	1 U	1 U	1 U	1 U
BNA	Pyrene	ug/L	15	--	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	**8.6**	**0.26**	**1.7**	**1.2**	**1.6**	**1.4**	0.029 U
PAH	Acenaphthene	ug/L	3.0	**170**	**180**	**66**	**56**	**93**	**100**	**170**
PAH	Acenaphthylene	ug/L	--	**1.8**	**1.7**	**1.2**	**0.99**	**1.6**	**1.8**	**1.4**
PAH	Anthracene	ug/L	9	2.7	2.1	**2.2**	**2.2**	**4.6**	**9.9**	**4.3**
PAH	Benzo(a)anthracene	ug/L	0.030	**0.31 J**	**0.31 J**	0.17 U	0.14 U	**3.9**	**6.7**	**0.85**
PAH	Benzo(a)pyrene	ug/L	0.030	0.031 U	0.031 U	**0.049**	0.03 U	**1**	**2.2**	**0.24**
PAH	Benzo(b)fluoranthene	ug/L	0.030	**0.09 J**	**0.092 J**	0.069 U	0.043 U	**1.5**	**3.1**	**0.35**
PAH	Benzo(g,h,i)perylene	ug/L	--	0.031 UJ	0.031 UJ	0.03 U	0.03 U	**0.19**	**0.41**	**0.058**
PAH	Benzo(k)fluoranthene	ug/L	0.030	0.031 U	0.031 U	0.042 U	0.03 U	**0.86**	**2**	**0.23**
PAH	Chrysene	ug/L	0.030	**0.12**	**0.12**	0.16 U	0.13 U	**3.8**	**6.9**	**0.78**
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.031 U	0.031 U	0.03 U	0.03 U	**0.076**	**0.18**	0.029 U
PAH	Fluoranthene	ug/L	3.0	**3.9**	**4.6**	**2.7**	**2.6**	**13**	**37**	**8**
PAH	Fluorene	ug/L	3.0	**36**	**21**	**7.4**	**5.7**	**32**	**31**	**2.5**
PAH	HPAH	ug/L	0.25	**6.42 C**	**7.222 C**	**3.9 C**	**3.8 C**	**33.316 C**	**84.9 C**	**14.46 C**
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	0.031 U	0.031 U	0.03 U	0.03 U	**0.19**	**0.41**	**0.056**
PAH	Naphthalene	ug/L	83	**340**	**130**	**98**	**68**	**160**	**140**	**0.69**
PAH	Phenanthrene	ug/L	--	**37**	**30**	**17**	**15**	**40**	**69**	**1.1**
PAH	Pyrene	ug/L	15	**2**	**2.1**	**1.2**	**1.2**	**8.8**	**26**	**3.9**
PCP	Pentachlorophenol	ug/L	4.9	**0.31**	**0.19**	0.078 U	0.076 U	0.077 U	0.078 U	0.074 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	**2,100**	**1,500**	**830**	**720**	98 U	97 U	**680**
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	190 U	190 U	190 U	190 U	200 U	190 U	480 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons
* From Wyckoff ROD 2/2000
**CW-15 and CW15-FD naphthalene was reported by lab with BNA resul
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3-cd)pyrene.

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	02CD-MW01 01/08/2003	02CD-MW01 03/18/2004	02CD-MW01 01/23/2006	02CD-MW01 09/18/2006	02CD-MW01 01/10/2008	02CD-MW01 2/16/2009	02CD-MW01 9/14/2009	02CD-MW01 5/3/2010	02CD-MW01 6/18/2012	02CD-MW01 5/6/2013
General	Dissolved Oxygen	mg/L	--	--	--	**2.01**	**0.93**	**4.17**	**1.95**	**2.24**	**0**	**2**	**1.06**
General	Eh	mV	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	--
General	Oxidization Reduction Potentia	mV	--	--	--	**-152**	**33**	**39**	**-60**	**-105**	**-28**	**127**	**65**
General	pH	units	--	--	--	**8.29**	**8.87**	**8.52**	**9.03**	**8.54**	**7.6**	**8.93**	**8.98**
General	Salinity	%***	--	--	--	**0.01**	**0.01**	**0**	**0.01**	**0**	**0**	**0**	**0**
General	Specific Conductivity	mS	--	--	--	**0.223**	**0.318**	**3**	**0.269**	**0.388**	**0.294**	**37.7**	**0.945**
General	Temperature	°C	--	--	--	**15.6**	**17.38**	**13.7**	**13.16**	**15.97**	**13.73**	**13.6**	**15.08**
General	Turbidity	ntu	--	--	--	**41.6**	**33.5**	**35.3**	**28.2**	**9.7**	**29.6**	**21**	**83.3**
BNA	1,1'-Biphenyl	ug/L	--	--	**0.027 J**	5 UJ	0.39 U	0.9 U	1 U	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	--	5 U	--	--	--	--	0.48 UJ	1.1 U	1 U
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	--	0.39 UJ	0.9 U	1 U	0.89 UJ	0.48 UJ	1.1 UJ	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	--	0.39 UJ	0.9 U	1 U	0.89 UJ	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	--	0.39 U	0.9 U	1 UJ	0.89 UJ	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	--	0.39 UJ	0.9 U	1 U	0.89 UJ	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	--	0.39 UJ	0.9 U	1 U	0.89 UJ	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	--	--	0.39 U	0.9 U	--	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	--	--	0.48 U	1.1 U	2 U
BNA	2,4,5-Trichlorophenol	ug/L	--	--	0.37 U	20 U	0.78 U	0.9 U	2 UJ	0.89 UJ	0.48 UJ	1.1 U	2 U
BNA	2,4,6-Trichlorophenol	ug/L	--	--	0.74 U	5 U	0.39 U	0.9 U	2 UJ	0.89 UJ	0.48 UJ	1.1 U	2 U
BNA	2,4-Dichloropheno	ug/L	--	--	0.74 U	5 U	0.39 U	0.9 U	1 UJ	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	2,4-Dimethylpheno	ug/L	--	--	0.37 U	5 U	0.39 U	0.9 U	1 UJ	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	2,4-Dinitropheno	ug/L	--	--	--	20 U	4 U	9.3 U	8.2 UJ	0.89 UJ	0.48 UJ	2.1 U	4.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	--	1.9 U	5 U	0.78 U	0.9 U	1 UJ	0.89 UJ	0.48 U	1.1 U	2 U
BNA	2,6-Dinitrotoluene	ug/L	--	--	0.74 U	5 U	0.39 U	1.9 U	2 U	0.89 UJ	0.96 U	1.1 U	2 U
BNA	2-Chloronaphthalene	ug/L	--	--	0.37 U	5 U	0.39 U	4 U	1 U	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	2-Chloropheno	ug/L	--	--	0.37 U	5 U	0.39 U	0.9 U	1 UJ	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	2-Methylpheno	ug/L	--	--	0.37 U	5 U	0.39 U	0.9 U	1 U	1.78 UJ	0.48 UJ	1.1 U	1 U
BNA	2-Nitroaniline	ug/L	--	--	1.9 U	20 U	0.78 U	0.9 U	1 UJ	0.89 UJ	0.48 U	1.1 U	2 U
BNA	2-Nitrophenol	ug/L	--	--	1.9 U	5 U	0.39 U	0.9 U	2 U	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	--	1.9 U	5 U	0.78 UJ	0.9 U	-- R	0.89 UJ	0.48 U	2.1 U	1 U
BNA	3-Nitroaniline	ug/L	--	--	1.9 U	20 U	0.78 U	0.9 U	1 UJ	0.89 UJ	0.48 U	1.1 U	2 U
BNA	4,6-Dinitro-2-methylpheno	ug/L	--	--	3.7 U	20 UJ	2 U	4 U	2 UJ	0.89 UJ	0.96 U	1.1 U	4.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	--	0.37 U	5 UJ	0.39 U	0.9 U	1 U	0.89 UJ	0.48 U	1.1 U	1 U
BNA	4-Chloro-3-methylpheno	ug/L	--	--	0.37 U	5 U	0.78 U	0.9 U	2 UJ	0.89 UJ	0.48 UJ	1.1 U	2 U
BNA	4-Chloroaniline	ug/L	--	--	0.37 U	5 U	0.39 UJ	2 U	R	0.89 UJ	0.48 UJ	1.1 UJ	1 UJ
BNA	4-Chlorophenyl-phenylethe	ug/L	--	--	0.37 U	5 UJ	0.39 U	0.9 U	1 U	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	4-Methylpheno	ug/L	--	--	0.37 U	5 U	0.39 U	0.9 U	1 U	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	4-Nitroaniline	ug/L	--	--	--	20 U	0.78 U	0.9 U	4.1 UJ	R	0.48 U	2.1 U	4.1 U
BNA	4-Nitrophenol	ug/L	--	--	1.9 U	20 U	4 U	4 U	20 UJ	0.89 UJ	0.48 UJ	1.1 U	4.1 U
BNA	9H-Carbazole	ug/L	--	--	0.37 U	--	**0.12 J**	4 U	2 UJ	0.89 UJ	0.48 U	1.1 U	1 U
BNA	Acenaphthene	ug/L	3.0	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Acenaphthylene	ug/L	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Anthracene	ug/L	9.0	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Atrazine	ug/L	--	--	0.74 U	5 U	0.39 U	0.9 U	1 UJ	0.89 UJ	0.48 U	1.1 U	1 U
BNA	Benzaldehyde	ug/L	--	--	0.74 U	5 U	0.39 U	0.9 U	1 U	0.89 UJ	0.48 UJ	1.1 U	2 U
BNA	Benzenemethano	ug/L	--	--	--	--	0.78 U	1.9 U	-- R	1.78 UJ	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	0.74 U	5 U	0.39 U	--	--	--	--	--	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	02CD-MW01 01/08/2003	02CD-MW01 03/18/2004	02CD-MW01 01/23/2006	02CD-MW01 09/18/2006	02CD-MW01 01/10/2008	02CD-MW01 2/16/2009	02CD-MW01 9/14/2009	02CD-MW01 5/3/2010	02CD-MW01 6/18/2012	02CD-MW01 5/6/2013
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	1.9 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	1.9 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	--	--	--	**9.6 J**	4 U	8.2 UJ	0.89 UJ	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	--	0.37 U	5 U	0.39 U	0.9 U	1 U	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	--	0.37 U	5 U	0.39 U	0.9 U	1 U	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	--	0.37 U	5 U	0.39 U	0.9 U	1 U	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	--	1.9 U	5 UJ	1 UJ	0.9 U	2 U	2.1 UJ	0.48 U	1.1 U	2 U
BNA	Butylbenzylphthalate	ug/L	--	--	1.9 U	5 UJ	0.54 U	0.9 U	1 U	0.89 UJ	0.48 U	1.1 U	2 U
BNA	Caffeine	ug/L	--	--	--	--	0.39 UJ	0.9 U	--	--	0.48 U	1.1 U	1 U
BNA	Caprolactam	ug/L	--	--	1.9 U	**1.6 J**	0.78 UJ	0.9 U	20 U	R	0.48 UJ	1.1 UJ	2 UJ
BNA	Chrysene	ug/L	0.030	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	1.9 U	5 U	0.78 U	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	--	0.37 U	5 UJ	0.39 U	0.9 U	1 U	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	Diethylphthalate	ug/L	--	--	0.37 U	5 UJ	0.39 U	0.9 U	2 UJ	0.89 UJ	0.48 U	1.1 U	1 U
BNA	Dimethylphthalate	ug/L	--	--	0.37 U	5 UJ	0.39 U	0.9 U	1 UJ	0.89 UJ	0.48 U	1.1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	--	0.74 U	5 UJ	0.39 U	0.9 U	2 UJ	0.89 UJ	0.48 U	1.1 U	1 U
BNA	Di-n-octylphthalate	ug/L	--	--	1.9 U	5 UJ	0.78 U	0.9 U	2 U	0.89 UJ	0.48 U	1.1 U	2 U
BNA	Ethanone, 1-phenyl-	ug/L	--	--	0.74 U	5 U	0.39 U	0.9 U	1 U	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	Fluoranthene	ug/L	3.0	--	0.37 U	5 U	**0.1 J**	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	0.37 U	5 UJ	0.39 U	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	--	0.37 U	5 U	0.39 U	0.9 U	1 U	0.89 UJ	0.48 U	1.1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	--	0.37 U	5 U	0.39 UJ	0.9 U	1 U	0.89 UJ	0.48 UJ	1.1 UJ	1 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	--	1.9 U	5 U	0.39 UJ	2 U	2 U	0.89 UJ	0.48 UJ	1.1 UJ	2 U
BNA	Hexachloroethane	ug/L	--	--	0.37 U	5 U	0.39 UJ	0.9 U	1 U	0.89 UJ	0.48 UJ	1.1 UJ	1 U
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	3.7 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	--	0.37 U	5 U	0.39 U	0.9 U	1 U	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	Naphthalene	ug/L	83	--	0.37 U	5 U	0.39 U	--	1 U	--	--	--	--
BNA	Nitrobenzene	ug/L	--	--	0.37 U	5 U	0.39 U	0.9 U	--	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	--	1.9 U	--	0.39 UJ	--	1 U	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	--	0.37 U	5 U	0.39 U	0.9 U	1 UJ	0.89 UJ	0.48 UJ	1.1 U	2 U
BNA	n-Nitrosodiphenylamine	ug/L	--	--	0.37 U	5 U	0.39 U	0.9 U	--	0.89 UJ	0.48 UJ	1.1 U	1 UJ
BNA	Pentachlorophenol	ug/L	4.9	--	3.7 U	5 U	0.78 U	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Phenol	ug/L	--	--	0.37 U	5 U	0.39 U	0.9 U	1 U	0.89 UJ	0.48 UJ	1.1 U	1 U
BNA	Pyrene	ug/L	15	--	0.37 U	5 U	**0.1 J**	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	**0.22 J**	0.9 U	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	0.37 U	--	--	--	--	--	**--**	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	0.37 U	--	--	--	--	--	**--**	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	0.37 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Acenaphthene	ug/L	3.0	**0.033 J**	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Acenaphthylene	ug/L	--	0.37 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Anthracene	ug/L	9	**0.041 J**	**0.011 J**	0.037 U	0.038 U	0.029 U	**0.059**	**0.042**	**0.24**	**0.041**	**0.042**
PAH	Benzo(a)anthracene	ug/L	0.030	0.37 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Benzo(a)pyrene	ug/L	0.030	0.37 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	**0.057 J**	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Benzo(g,h,i)perylene	ug/L	--	0.37 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	0.37 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Chrysene	ug/L	0.030	**0.05 J**	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U

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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	02CD-MW01 01/08/2003	02CD-MW01 03/18/2004	02CD-MW01 01/23/2006	02CD-MW01 09/18/2006	02CD-MW01 01/10/2008	02CD-MW01 2/16/2009	02CD-MW01 9/14/2009	02CD-MW01 5/3/2010	02CD-MW01 6/18/2012	02CD-MW01 5/6/2013
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	1.9 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Fluoranthene	ug/L	3.0	**0.16 J**	**0.0097 J**	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Fluorene	ug/L	3.0	0.37 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	HPAH	ug/L	0.25	**0.417 C**	**0.0097 C**	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	1.9 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Naphthalene	ug/L	83	**0.039 J**	0.046 U	**0.033 J**	0.038 U	0.029 U	0.029 U	0.029 U	**0.081**	**0.032**	**0.038**
PAH	Phenanthrene	ug/L	--	**0.059 J**	**0.0073 J**	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Pyrene	ug/L	15	**0.15 J**	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U
PCP	Pentachloropheno	ug/L	4.9	--	0.037 U	0.074 U	0.038 U	0.075 U	0.074 U	0.074 U	0.077 U	0.076 U	0.077 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	--	190 U	190 U	93 U	93 U	190 U	93 U	98 U	97 U	96 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	--	--	**580**	230 U	190 U	460 U	190 U	200 U	190 U	190 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons
* From Wyckoff ROD 2/2000

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.

*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	99CD-MW02 11/07/2002	99CD-MW02 12/05/2002	99CD-MW02 01/08/2003	99CD-MW02 03/19/2004	99CD-MW02 06/14/2004	99CD-MW02 01/24/2006	99CD-MW02 09/19/2006	99CD-MW02 01/10/2008	99CD-MW02 2/17/2009	99CD-MW02 9/16/2009	99CD-MW02 5/4/2010	99CD-MW02 6/19/2012	99CD-MW02 5/7/2013	99CD-MW02 10/21/2014
General	Dissolved Oxygen	mg/L	--	--	--	--	--	--	**2.53**	**4.62**	**5.97**	**3.7**	**4.09**	**2.8**	**2.7**	**3.63**	**0**
General	Eh	mV	--	--	--	--	--	--	--	--	--	--	**--**	**--**	**--**	--	**--**
General	Oxidization Reduction Potential	mV	--	--	--	--	--	--	**-259**	**-1**	**-64**	**-92**	**-161**	**53**	**-71**	**-2**	**-132**
General	pH	units	--	--	--	--	--	--	**8.11**	**7.56**	**7.92**	**7.99**	**7.75**	**8.24**	**8.16**	**8.09**	**8.64**
General	Salinity	%***	--	--	--	--	--	--	**0.01**	**0.001**	**0**	**0.01**	**0**	**0**	**0**	**0**	**0.1**
General	Specific Conductivity	mS	--	--	--	--	--	--	**0.231**	**0.292**	**0.289**	**0.299**	**0.331**	**0.244**	**33.1**	**0.864**	**0.264**
General	Temperature	°C	--	--	--	--	--	--	**12.6**	**14**	**11.7**	**15.2**	**14.8**	**12.47**	**13**	**14.24**	**13.96**
General	Turbidity	ntu	--	--	--	--	--	--	**18**	**99.8**	**10**	**47.8**	**21**	**50.7**	**210**	**179**	**11.2**
BNA	1,1'-Biphenyl	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 UJ	0.49 U	1 U	1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	--	--	--	--	5 U	--	--	--	--	0.49 U	1 U	1 U	1 UJ
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	0.4 UJ	0.9 U	0.98 UJ	0.96 U	0.49 UJ	1 UJ	1 U	1 UJ
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	0.4 UJ	0.9 U	0.98 UJ	0.96 U	--	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	--	--	--	--	0.4 U	0.9 U	0.98 U	0.96 UJ	--	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	0.4 UJ	0.9 U	0.98 U	0.96 U	--	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	0.4 UJ	0.9 U	0.98 UJ	0.96 U	--	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	0.4 U	0.9 U	--	0.96 U	0.49 U	1 U	1 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	--	0.49 U	1 U	2 U	1 U
BNA	2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	0.37 U	20 U	0.8 U	0.9 U	2 U	0.96 U	0.49 UJ	1 U	2 U	1 U
BNA	2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	2 U	0.96 U	0.49 UJ	1 U	2 U	1 U
BNA	2,4-Dichlorophenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 UJ	1 U	1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	20 U	4 U	9.4 U	7.8 U	0.96 U	0.49 UJ	2.1 U	4.1 UJ	2.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	--	--	--	--	3.7 U	5 U	0.8 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	2 U	1 U
BNA	2,6-Dinitrotoluene	ug/L	--	--	--	--	--	1.9 U	5 U	0.4 U	1.9 U	2 U	0.96 U	0.98 U	1 U	2 U	1 U
BNA	2-Chloronaphthalene	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	4 U	0.98 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	2-Chlorophenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	--	--	--	--	**0.16 J**	5 U	0.4 U	--	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	1.9 U	0.49 U	1 U	1 U	1 U
BNA	2-Nitroaniline	ug/L	--	--	--	--	--	1.9 U	20 U	0.8 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	2 U	2.1 U
BNA	2-Nitrophenol	ug/L	--	--	--	--	--	1.9 U	5 U	0.4 U	0.9 U	2 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	3.7 U	5 UJ	0.8 UJ	0.9 U	16 UJ	0.96 UJ	0.49 UJ	2.1 U	1 U	1 U
BNA	3-Nitroaniline	ug/L	--	--	--	--	--	1.9 U	20 U	0.8 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	2 U	2.1 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	3.7 U	20 U	2 U	4 U	2 U	0.96 U	0.98 U	1 U	4.1 U	2.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.8 U	0.9 U	2 U	0.96 U	0.49 U	1 U	2 U	1 U
BNA	4-Chloroaniline	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 UJ	2 U	20 UJ	0.96 U	0.49 UJ	1 UJ	1 UJ	1 U
BNA	4-Chlorophenyl-phenylether	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	4-Methylphenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	4-Nitroaniline	ug/L	--	--	--	--	--	--	20 U	0.8 U	0.9 U	3.9 U	0.96 UJ	0.49 U	2.1 U	4.1 U	1 U
BNA	4-Nitrophenol	ug/L	--	--	--	--	--	1.9 U	20 U	4 U	4 U	20 U	0.96 U	0.49 UJ	1 U	4.1 U	2.1 U
BNA	9H-Carbazole	ug/L	--	--	--	--	--	**0.074 J**	--	0.4 U	4 U	2 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	Acenaphthene	ug/L	3.0	--	--	--	--	**0.22 J**	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Acenaphthylene	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Anthracene	ug/L	9.0	--	--	--	--	**0.046 J**	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Atrazine	ug/L	--	--	--	--	--	0.74 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	Benzaldehyde	ug/L	--	--	--	--	--	0.74 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 UJ	1 U	2 U	1 U
BNA	Benzenemethanol	ug/L	--	--	--	--	--	--	--	0.8 U	2 U	R	1.9 UJ	--	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	--	--	--	--	--	--	4 UJ	4 U	7.8 UJ	1 U	--	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	1 U	1 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	99CD-MW02 11/07/2002	99CD-MW02 12/05/2002	99CD-MW02 01/08/2003	99CD-MW02 03/19/2004	99CD-MW02 06/14/2004	99CD-MW02 01/24/2006	99CD-MW02 09/19/2006	99CD-MW02 01/10/2008	99CD-MW02 2/17/2009	99CD-MW02 9/16/2009	99CD-MW02 5/4/2010	99CD-MW02 6/19/2012	99CD-MW02 5/7/2013	99CD-MW02 10/21/2014
BNA	bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 UJ	1 U	1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	--	--	--	--	0.37 U	5 U	1 UJ	0.9 U	2 U	0.96 U	0.49 U	1 U	2 U	2.1 U
BNA	Butylbenzylphthalate	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	2 U	2.1 U
BNA	Caffeine	ug/L	--	--	--	--	--	--	--	0.4 U	0.9 U	--	--	0.49 UJ	1 U	1 U	1 UJ
BNA	Caprolactam	ug/L	--	--	--	--	--	0.74 U	5 UJ	**1.1 J**	0.9 U	20 U	0.96 UJ	0.49 UJ	1 UJ	2 UJ	4.2 UJ
BNA	Chrysene	ug/L	0.030	--	--	--	--	0.37 U	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	--	--	--	1.9 U	5 U	0.8 U	--	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	--	--	--	--	**0.12 J**	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	Diethylphthalate	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	2 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	Dimethylphthalate	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 UJ	1 U	1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	2 U	0.96 U	0.49 U	1 U	1 U	2.1 U
BNA	Di-n-octylphthalate	ug/L	--	--	--	--	--	1.9 U	5 U	0.8 U	0.9 U	2 U	0.96 U	0.49 U	1 U	2 U	2.1 U
BNA	Ethanone, 1-phenyl-	ug/L	--	--	--	--	--	**0.14 J**	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	Fluoranthene	ug/L	3.0	--	--	--	--	**0.28 J**	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	--	--	--	**0.14 J**	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 UJ	0.9 U	0.98 U	0.96 U	0.49 UJ	1 UJ	1 UJ	4.2 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	0.74 U	5 U	0.4 UJ	2 U	2 U	0.96 U	0.49 UJ	1 UJ	2 UJ	1 UJ
BNA	Hexachloroethane	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 UJ	0.9 U	0.98 U	0.96 U	0.49 UJ	1 UJ	1 UJ	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	--	--	--	1.9 U	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	Naphthalene	ug/L	83	--	--	--	--	1.8	5 U	0.14 J	--	0.98 U	--	--	--	--	--
BNA	Nitrobenzene	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	--	0.96 U	0.49 U	1 U	1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	--	--	--	--	0.37 U	--	0.4 UJ	--	0.98 U	--	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	2 U	1 U
BNA	n-Nitrosodiphenylamine	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	--	0.96 UJ	0.49 UJ	1 U	1 UJ	1 U
BNA	Pentachlorophenol	ug/L	4.9	--	--	--	--	**0.94 J**	5 U	**2.3**	--	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	--	--	--	**0.29 J**	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Phenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.4 U	0.9 U	0.98 U	0.96 U	0.49 U	1 U	1 U	1 U
BNA	Pyrene	ug/L	15	--	--	--	--	**0.16 J**	5 U	0.4 U	--	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	--	--	--	0.4 U	0.9 U	--	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	0.38 U	0.38 U	0.37 U	--	--	--	--	--	--	--	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	0.38 U	0.38 U	0.37 U	--	--	--	--	--	--	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	0.38 U	0.38 U	0.37 U	0.046 U	**0.14**	**0.14**	0.038 U	**0.043**	**0.048**	0.029 U	**0.038**	**0.064**	0.031 U	0.029 U
PAH	Acenaphthene	ug/L	3.0	**0.021 J**	**0.092 J**	**0.15 J**	**0.048**	**0.24**	**0.11**	0.038 U	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U
PAH	Acenaphthylene	ug/L	--	0.38 U	0.38 U	0.37 U	0.046 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U
PAH	Anthracene	ug/L	9	0.38 U	0.38 U	0.37 U	0.046 U	0.044 J	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U
PAH	Benzo(a)anthracene	ug/L	0.030	0.38 U	0.38 U	0.37 U	0.046 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U
PAH	Benzo(a)pyrene	ug/L	0.030	0.38 U	0.38 U	0.37 U	0.093 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	0.38 U	0.38 U	0.37 U	0.093 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U
PAH	Benzo(g,h,i)perylene	ug/L	--	0.38 U	0.38 U	0.37 U	0.093 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	0.38 U	0.38 U	0.37 U	0.046 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U
PAH	Chrysene	ug/L	0.030	0.38 U	0.38 U	0.37 U	0.046 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.75 U	0.77 U	1.9 U	0.093 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U
PAH	Fluoranthene	ug/L	3.0	**0.11 J**	**0.069 J**	**0.07 J**	**0.085**	**0.3**	**0.2**	**0.032 J**	0.029 U	0.029 U	**0.064**	0.029 U	0.03 U	0.031 U	0.029 U
PAH	Fluorene	ug/L	3.0	0.38 U	**0.05 J**	**0.11 J**	**0.025 J**	**0.16**	**0.041**	0.038 U	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U
PAH	HPAH	ug/L	0.25	**0.23 C**	**0.069 C**	**0.131 C**	**0.119 C**	**0.44 C**	**0.33 C**	**0.032 J**	0.029 U	0.029 U	**0.107 C**	0.029 U	0.03 U	0.031 U	0.029 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	1.9 U	1.9 U	1.9 U	0.093 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U
PAH	Naphthalene	ug/L	83	0.38 U	0.38 U	**0.024 J**	0.046 U	**1.7**	**2.1**	**0.19**	**0.61**	**0.58**	0.029 U	**0.29**	**0.9**	**0.098**	**0.16**
PAH	Phenanthrene	ug/L	--	0.38 U	**0.039 J**	**0.079 J**	**0.02 J**	**0.28**	**0.11**	0.038 U	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	**0.038**	**0.049**
PAH	Pyrene	ug/L	15	**0.12 J**	0.38 U	**0.061 J**	**0.034 J**	**0.14**	**0.13**	0.038 U	0.029 U	0.029 U	**0.043**	0.029 U	0.03 U	0.031 U	0.029 U
PCP	Pentachlorophenol	ug/L	4.9	--	--	--	--	**0.43**	**1.2**	**3.2**	**0.71**	**1.1**	**0.55 J**	**0.16**	**0.61**	0.079 U	0.074 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	99CD-MW02 11/07/2002	99CD-MW02 12/05/2002	99CD-MW02 01/08/2003	99CD-MW02 03/19/2004	99CD-MW02 06/14/2004	99CD-MW02 01/24/2006	99CD-MW02 09/19/2006	99CD-MW02 01/10/2008	99CD-MW02 2/17/2009	99CD-MW02 9/16/2009	99CD-MW02 5/4/2010	99CD-MW02 6/19/2012	99CD-MW02 5/7/2013	99CD-MW02 10/21/2014
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--	--	**--**	--	**--**	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--	--	**--**	--	**--**	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--	--	**--**	--	**--**	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	--	--	--	--	93 U	190 U	96 U	93 U	190 U	93 U	98 U	96 U	97 U	190 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	--	--	--	--	--	460 U	240 U	**250**	460 U	190 U	200 U	190 U	190 U	480 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000

**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.

*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	99CD-MW04 11/07/2002	99CD-MW04 12/05/2002	99CD-MW04 01/08/2003	99CD-MW04 03/19/2004	99CD-MW04 06/14/2004	99CD-MW04 01/24/2006	99CD-MW04 09/18/2006	99CD-MW04 01/09/2008	99CD-MW04 2/18/2009	99CD-MW04 9/16/2009	99CD-MW04 5/5/2010	99CD-MW04 6/20/2012	99CD-MW04 5/8/2013
General	Dissolved Oxygen	mg/L	--	--	--	--	--	--	**4.38**	**3.65**	**4.19**	**1.67**	**5.1**	**0.81**	**2.9**	**1.13**
General	Eh	mV	--	--	--	--	--	--	--	--	--	--	**--**	**--**	**--**	--
General	Oxidization Reduction Potential	mV	--	--	--	--	--	--	**-78**	**18**	**-15**	**26**	**76**	**-50**	**9**	**-86**
General	pH	units	--	--	--	--	--	--	**7.57**	**6.89**	**7.97**	**8.05**	**6.65**	**7.9**	**7.82**	**7.84**
General	Salinity	%***	--	--	--	--	--	--	**0.01**	**0.01**	**0**	**0.01**	**0**	**0**	**0**	**0**
General	Specific Conductivity	mS	--	--	--	--	--	--	**0.213**	**0.274**	**0.308**	**0.325**	**0.313**	**0.284**	**35.1**	**0.933**
General	Temperature	°C	--	--	--	--	--	--	**14.4**	**15.76**	**13.6**	**15.9**	**15.37**	**13.33**	**13.8**	**13.95**
General	Turbidity	ntu	--	--	--	--	--	--	**4.7**	**25**	**66.4**	**34.6**	**145**	**77.5**	**100**	**397**
BNA	1,1'-Biphenyl	ug/L	--	--	--	--	--	0.37 U	5 UJ	0.39 U	1 U	1 U	0.94 UJ	0.48 U	1.1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	--	--	--	--	5 U	--	--	--	--	0.48 U	1.1 U	1 U
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	0.39 UJ	1 U	1 U	0.94 U	0.48 UJ	1.1 UJ	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	0.39 UJ	1 U	1 U	0.94 U	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	--	--	--	--	0.39 U	1 U	1 U	0.94 UJ	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	0.39 UJ	1 U	1 U	0.94 U	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	0.39 UJ	1 U	1 U	0.94 U	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	0.39 UJ	1 U	--	0.94 U	0.48 U	1.1 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	--	0.48 U	1.1 U	2 U
BNA	2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	0.37 U	20 U	0.78 U	1 U	2 UJ	0.94 U	0.48 UJ	1.1 U	2 U
BNA	2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 U	1 U	2 U	0.94 U	0.48 UJ	1.1 U	2 U
BNA	2,4-Dichlorophenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 UJ	1 U	1 U	0.94 U	0.48 UJ	1.1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	--	--	--	--	--	20 U	3.8 U	10 U	8 U	0.94 U	0.48 UJ	2.1 U	4.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	--	--	--	--	3.7 U	5 U	0.78 U	1 U	1 U	0.94 U	0.48 U	1.1 U	2 U
BNA	2,6-Dinitrotoluene	ug/L	--	--	--	--	--	1.9 U	5 U	0.39 U	2 U	2 U	0.94 U	0.96 U	1.1 U	2 U
BNA	2-Chloronaphthalene	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 U	4 U	1 U	0.94 U	0.48 U	1.1 U	1 U
BNA	2-Chlorophenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 UJ	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 UJ	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 UJ	1 U	1 U	1.9 U	0.48 U	1.1 U	1 U
BNA	2-Nitroaniline	ug/L	--	--	--	--	--	1.9 U	20 U	0.39 U	1 U	1 U	0.94 U	0.48 U	1.1 U	2 U
BNA	2-Nitrophenol	ug/L	--	--	--	--	--	1.9 U	5 U	0.39 U	1 U	2 U	0.94 U	0.48 U	1.1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	3.7 U	5 UJ	0.78 UJ	1 U	16 UJ	0.94 UJ	0.48 UJ	2.1 U	1 U
BNA	3-Nitroaniline	ug/L	--	--	--	--	--	1.9 U	20 U	0.78 UJ	1 U	1 UJ	0.94 U	0.48 U	1.1 U	2 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	3.7 U	20 UJ	1.9 U	4 U	2 U	0.94 U	0.96 U	1.1 U	4.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.78 U	1 U	2 U	0.94 U	0.48 U	1.1 U	2 U
BNA	4-Chloroaniline	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 UJ	2 U	20 UJ	0.94 UJ	0.48 UJ	1.1 UJ	1 UJ
BNA	4-Chlorophenyl-phenylether	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U
BNA	4-Methylphenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 UJ	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U
BNA	4-Nitroaniline	ug/L	--	--	--	--	--	--	20 U	0.78 U	1 U	4 UJ	0.94 UJ	0.48 U	2.1 U	4.1 U
BNA	4-Nitrophenol	ug/L	--	--	--	--	--	1.9 U	20 U	3.8 U	4 U	20 U	0.94 U	0.48 UJ	1.1 U	4.1 U
BNA	9H-Carbazole	ug/L	--	--	--	--	--	0.37 U	--	0.39 U	4 U	2 U	0.94 U	0.48 U	1.1 U	1 U
BNA	Acenaphthene	ug/L	3.0	--	--	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Acenaphthylene	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Anthracene	ug/L	9.0	--	--	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Atrazine	ug/L	--	--	--	--	--	0.74 U	5 U	0.39 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U
BNA	Benzaldehyde	ug/L	--	--	--	--	--	0.74 U	5 U	0.39 U	1 U	1 U	0.94 U	0.48 UJ	1.1 U	2 U
BNA	Benzenemethanol	ug/L	--	--	--	--	--	--	--	0.78 UJ	2 U	R	1.9 UJ	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	--	--	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	--	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	--	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	--	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	--	--	--	--	--	--	3.9 UJ	5 UJ	8 UJ	0.94 UJ	--	--	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	99CD-MW04 11/07/2002	99CD-MW04 12/05/2002	99CD-MW04 01/08/2003	99CD-MW04 03/19/2004	99CD-MW04 06/14/2004	99CD-MW04 01/24/2006	99CD-MW04 09/18/2006	99CD-MW04 01/09/2008	99CD-MW04 2/18/2009	99CD-MW04 9/16/2009	99CD-MW04 5/5/2010	99CD-MW04 6/20/2012	99CD-MW04 5/8/2013
BNA	bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 UJ	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 UJ	1 U	1 U	0.94 U	0.48 UJ	1.1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	--	--	--	--	0.37 U	5 UJ	1 UJ	1.1	2 U	0.94 U	0.48 U	1.1 U	2 U
BNA	Butylbenzylphthalate	ug/L	--	--	--	--	--	0.37 U	5 UJ	0.4 U	1 U	1 U	0.94 U	0.48 U	1.1 U	2 U
BNA	Caffeine	ug/L	--	--	--	--	--	--	--	0.39 U	1 U	--	--	0.48 UJ	1.1 U	1 U
BNA	Caprolactam	ug/L	--	--	--	--	--	0.74 U	5 UJ	0.78 UJ	1 U	20 U	0.94 UJ	0.48 UJ	1.1 UJ	2 UJ
BNA	Chrysene	ug/L	0.030	--	--	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	--	--	--	1.9 U	5 U	0.78 U	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U
BNA	Diethylphthalate	ug/L	--	--	--	--	--	0.37 U	5 UJ	0.39 U	**0.1 J**	2 U	0.94 U	0.48 U	1.1 U	1 U
BNA	Dimethylphthalate	ug/L	--	--	--	--	--	0.37 U	5 UJ	0.39 U	1 U	1 U	0.94 U	0.48 UJ	1.1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	--	--	--	--	0.37 U	5 UJ	0.39 U	1 U	2 U	0.94 U	0.48 U	1.1 U	1 U
BNA	Di-n-octylphthalate	ug/L	--	--	--	--	--	1.9 U	5 UJ	0.78 U	1 U	2 U	0.94 U	0.48 U	1.1 U	2 U
BNA	Ethanone, 1-phenyl-	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U
BNA	Fluoranthene	ug/L	3.0	--	--	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	--	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 UJ	1 U	1 U	0.94 U	0.48 UJ	1.1 UJ	1 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	0.74 U	5 U	0.39 UJ	2 U	2 U	0.94 U	0.48 UJ	1.1 UJ	2 UJ
BNA	Hexachloroethane	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 UJ	1 U	1 U	0.94 U	0.48 UJ	1.1 UJ	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	--	--	--	1.9 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 UJ	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U
BNA	Naphthalene	ug/L	83	--	--	--	--	0.37 U	5 U	0.39 UJ	--	1 U	--	--	--	--
BNA	Nitrobenzene	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 UJ	1 U	--	0.94 U	0.48 U	1.1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	--	--	--	--	0.37 U	--	0.39 UJ	--	1 U	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 U	1 U	1 U	0.94 U	0.48 U	1.1 U	2 U
BNA	n-Nitrosodiphenylamine	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 U	1 U	--	0.94 UJ	0.48 UJ	1.1 U	1 UJ
BNA	Pentachlorophenol	ug/L	4.9	--	--	--	--	1.9 U	5 U	0.78 U	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Phenol	ug/L	--	--	--	--	--	0.37 U	5 U	0.39 UJ	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U
BNA	Pyrene	ug/L	15	--	--	--	--	0.37 U	5 U	0.39 U	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	--	--	--	0.39 U	1 U	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	0.37 U	0.37 U	0.37 U	--	--	--	--	--	--	**--**	--	**--**	--
PAH	2-Chloronaphthalene	ug/L	--	0.37 U	0.37 U	0.37 U	--	--	--	--	--	--	**--**	--	**--**	--
PAH	2-Methylnaphthalene	ug/L	--	0.37 U	0.37 U	0.37 U	**0.023 J**	**0.011 J**	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Acenaphthene	ug/L	3.0	0.37 U	0.37 U	**0.072 J**	**0.046 J**	**0.011 J**	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Acenaphthylene	ug/L	--	0.37 U	0.37 U	0.37 U	0.046 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Anthracene	ug/L	9	**0.034 J**	0.37 U	**0.026 J**	0.046 U	0.046 U	0.037 U	0.038 U	**0.037**	0.029 U	0.029 U	0.031 U	**0.033**	**0.033**
PAH	Benzo(a)anthracene	ug/L	0.030	0.37 U	0.37 U	0.37 U	0.046 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Benzo(a)pyrene	ug/L	0.030	0.37 U	0.37 U	0.37 U	0.093 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 UJ	0.031 U	0.03 U	0.03 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	0.37 U	0.37 U	0.37 U	0.093 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 UJ	0.031 U	0.03 U	0.03 U
PAH	Benzo(g,h,i)perylene	ug/L	--	0.37 U	0.37 U	0.37 U	0.093 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 UJ	0.031 U	0.03 U	0.03 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	0.37 U	0.37 U	0.37 U	0.046 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 UJ	0.031 U	0.03 U	0.03 U
PAH	Chrysene	ug/L	0.030	0.37 U	0.37 U	0.37 U	0.046 U	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.74 U	0.74 U	1.9 U	0.093 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 UJ	0.031 U	0.03 U	0.03 U
PAH	Fluoranthene	ug/L	3.0	**0.039 J**	0.37 U	**0.048 J**	**0.08**	0.046 U	0.037 U	0.038 U	**0.051**	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Fluorene	ug/L	3.0	0.37 U	0.37 U	**0.029 J**	**0.029 J**	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U
PAH	HPAH	ug/L	0.25	**0.039 C**	**0 C**	**0.102 C**	**0.119 C**	**0 C**	0.037 U	0.038 U	**0.089 C**	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	1.9 U	1.9 U	1.9 U	0.093 U	0.093 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 UJ	0.031 U	0.03 U	0.03 U
PAH	Naphthalene	ug/L	83	0.37 U	**0.046 J**	**0.31 J**	**0.11**	**0.052**	**0.024 J**	**0.031 J**	**0.18**	0.029 U	**0.11**	**0.052**	0.03 U	0.03 U
PAH	Phenanthrene	ug/L	--	**0.02 J**	0.37 U	**0.077 J**	**0.074**	0.046 U	0.037 U	0.038 U	0.029 U	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U
PAH	Pyrene	ug/L	15	0.37 U	0.37 U	**0.054 J**	**0.039 J**	0.046 U	0.037 U	0.038 U	**0.038**	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	99CD-MW04 11/07/2002	99CD-MW04 12/05/2002	99CD-MW04 01/08/2003	99CD-MW04 03/19/2004	99CD-MW04 06/14/2004	99CD-MW04 01/24/2006	99CD-MW04 09/18/2006	99CD-MW04 01/09/2008	99CD-MW04 2/18/2009	99CD-MW04 9/16/2009	99CD-MW04 5/5/2010	99CD-MW04 6/20/2012	99CD-MW04 5/8/2013
PCP	Pentachlorophenol	ug/L	4.9	--	--	--	--	0.037 U	0.074 U	0.038 U	0.075 U	0.074 U	0.074 U	0.078 U	0.077 U	0.077 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	--	--	--	--	93 U	190 U	93 U	100 U	190 U	93 U	96 U	96 U	100 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	--	--	--	--	--	460 U	230 U	200 U	460 U	190 U	190 U	190 U	190 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000
**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.
*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	MWC2 4/25/1994	MWC2 11/13/1995	EWC1 4/25/1994	EWC1 11/13/1995	SE-02 2/16/2009	SE-02 9/14/2009	SE-02 5/3/2010	SE-02 6/18/2012	SE-02 5/6/2013
General	Dissolved Oxygen	mg/L	--	--	--	--	--	**9.14**	**2.76**	**3.43**	**6.25**	**4.69**
General	Eh	mV	--	--	--	--	--	--	**--**	**--**	**--**	--
General	Oxidization Reduction Potential	mV	--	--	--	--	--	**96**	**135**	**43**	**239**	**239**
General	pH	units	--	--	--	--	--	**6.95**	**6.88**	**4.43**	**7.1**	**7.33**
General	Salinity	%***	--	--	--	--	--	**0.01**	**0**	**0**	--	**0**
General	Specific Conductivity	mS	--	--	--	--	--	**0.235**	**0.362**	**0.401**	**507**	**0.881**
General	Temperature	°C	--	--	--	--	--	**10.84**	**13.45**	**11.8**	**11.32**	**13.85**
General	Turbidity	ntu	--	--	--	--	--	**16.7**	**3.8**	**41.5**	**13.9**	**19.8**
BNA	1,1'-Biphenyl	ug/L	--	--	--	--	--	1 U	0.86 UJ	0.45 U	1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	--	--	--	--	--	0.45 UJ	1 U	1 U
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 UJ	1 UJ	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	--	--	1 U	0.86 U	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	--	--	1 UJ	0.86 UJ	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	--	--	1 U	0.86 U	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	--	--	1 U	0.86 U	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	0.86 U	0.45 UJ	1 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	--	0.45 U	1 U	2 U
BNA	2,4,5-Trichlorophenol	ug/L	--	--	--	--	--	2 UJ	0.86 U	0.45 UJ	1 U	2 U
BNA	2,4,6-Trichlorophenol	ug/L	--	--	--	--	--	2 UJ	0.86 U	0.45 UJ	1 U	2 U
BNA	2,4-Dichlorophenol	ug/L	--	--	--	--	--	1 UJ	0.86 U	0.45 UJ	1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	--	--	--	--	1 UJ	0.86 U	0.45 UJ	1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	--	--	--	--	8.2 UJ	0.86 UJ	0.45 UJ	2.1 U	4.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	--	--	--	--	1 UJ	0.86 U	0.45 U	1 U	2 U
BNA	2,6-Dinitrotoluene	ug/L	--	--	--	--	--	2 U	0.86 U	0.9 U	1 U	2 U
BNA	2-Chloronaphthalene	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 UJ	1 U	1 U
BNA	2-Chlorophenol	ug/L	--	--	--	--	--	1 UJ	0.86 U	0.45 UJ	1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	--	--	--	--	1 U	1.7 U	0.45 UJ	1 U	1 U
BNA	2-Nitroaniline	ug/L	--	--	--	--	--	1 UJ	0.86 U	0.45 UJ	1 U	2 U
BNA	2-Nitrophenol	ug/L	--	--	--	--	--	2 U	0.86 U	0.45 UJ	1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	--	--	--	--	R	0.86 UJ	0.45 U	2.1 U	1 U
BNA	3-Nitroaniline	ug/L	--	--	--	--	--	1 UJ	0.86 U	0.45 UJ	1 U	2 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	2 UJ	0.86 U	0.9 U	1 U	4.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 U	1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	2 UJ	0.86 U	0.45 UJ	1 U	2 U
BNA	4-Chloroaniline	ug/L	--	--	--	--	--	R	0.86 U	0.45 UJ	1 UJ	1 UJ
BNA	4-Chlorophenyl-phenylether	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 UJ	1 U	1 U
BNA	4-Methylphenol	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 UJ	1 U	1 U
BNA	4-Nitroaniline	ug/L	--	--	--	--	--	4.1 UJ	0.86 UJ	0.45 UJ	2.1 U	4.1 U
BNA	4-Nitrophenol	ug/L	--	--	--	--	--	20 UJ	0.86 UJ	0.45 UJ	1 U	4.1 U
BNA	9H-Carbazole	ug/L	--	--	--	--	--	2 UJ	0.86 U	0.45 U	1 U	1 U
BNA	Acenaphthene	ug/L	3.0	--	--	--	--	--	--	--	--	--
BNA	Acenaphthylene	ug/L	--	--	--	--	--	--	--	--	--	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	MWC2 4/25/1994	MWC2 11/13/1995	EWC1 4/25/1994	EWC1 11/13/1995	SE-02 2/16/2009	SE-02 9/14/2009	SE-02 5/3/2010	SE-02 6/18/2012	SE-02 5/6/2013
BNA	Anthracene	ug/L	9.0	--	--	--	--	--	--	--	--	--
BNA	Atrazine	ug/L	--	--	--	--	--	1 UJ	0.86 U	0.45 U	1 U	1 U
BNA	Benzaldehyde	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 UJ	1 U	2 U
BNA	Benzenemethanol	ug/L	--	--	--	--	--	R	1.7 UJ	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	--	--	--	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	--	--	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	--	--	--	--	8.2 UJ	0.86 UJ	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 UJ	1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 UJ	1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 UJ	1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	--	--	--	--	2 U	0.86 U	0.45 U	1 U	2 U
BNA	Butylbenzylphthalate	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 U	1 U	2 U
BNA	Caffeine	ug/L	--	--	--	--	--	--	--	0.45 U	1 U	1 U
BNA	Caprolactam	ug/L	--	--	--	--	--	20 U	0.86 UJ	0.45 UJ	1 UJ	2 UJ
BNA	Chrysene	ug/L	0.030	--	--	--	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	--	--	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 UJ	1 U	1 U
BNA	Diethylphthalate	ug/L	--	--	--	--	--	2 UJ	0.86 U	0.45 U	1 U	1 U
BNA	Dimethylphthalate	ug/L	--	--	--	--	--	1 UJ	0.86 U	0.45 U	1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	--	--	--	--	2 UJ	0.86 U	0.45 U	1 U	1 U
BNA	Di-n-octylphthalate	ug/L	--	--	--	--	--	2 U	0.86 U	0.45 U	1 U	2 U
BNA	Ethanone, 1-phenyl-	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 UJ	1 U	1 U
BNA	Fluoranthene	ug/L	3.0	--	--	--	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	--	--	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 U	1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 UJ	1 UJ	1 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	2 U	0.86 U	0.45 UJ	1 UJ	2 U
BNA	Hexachloroethane	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 UJ	1 UJ	1 U
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	--	--	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 UJ	1 U	1 U
BNA	Naphthalene	ug/L	83	--	--	--	--	1 U	--	--	--	--
BNA	Nitrobenzene	ug/L	--	--	--	--	--	--	0.86 U	0.45 UJ	1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	--	--	--	--	1 U	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	--	--	--	--	1 UJ	0.86 U	0.45 UJ	1 U	2 U
BNA	n-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	0.86 UJ	0.45 UJ	1 U	1 UJ
BNA	Pentachlorophenol	ug/L	4.9	--	--	--	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	--	--	--	--	--	--	--	--
BNA	Phenol	ug/L	--	--	--	--	--	1 U	0.86 U	0.45 UJ	1 U	1 U
BNA	Pyrene	ug/L	15	--	--	--	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	--	--	--	--	--	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	MWC2 4/25/1994	MWC2 11/13/1995	EWC1 4/25/1994	EWC1 11/13/1995	SE-02 2/16/2009	SE-02 9/14/2009	SE-02 5/3/2010	SE-02 6/18/2012	SE-02 5/6/2013
PAH	1-Methylnaphthalene	ug/L	--	--	0.41 U	--	0.44 U	--	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	10 U	0.41 U	10 U	0.44 U	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	10 U	0.41 U	10 U	**0.32 J**	0.029 U	0.029 U	0.029 U	0.03 U	**0.031**
PAH	Acenaphthene	ug/L	3.0	10 UJ	0.41 U	10 U	**0.034 J**	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PAH	Acenaphthylene	ug/L	--	10 U	0.41 U	10 U	**0.15 J**	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PAH	Anthracene	ug/L	9	10 U	0.41 U	10 U	**8.3**	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PAH	Benzo(a)anthracene	ug/L	0.030	10 U	0.41 U	10 U	0.44 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PAH	Benzo(a)pyrene	ug/L	0.030	10 U	0.41 U	10 U	**0.15 J**	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	10 U	0.41 U	10 U	**0.32 J**	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PAH	Benzo(g,h,i)perylene	ug/L	--	10 U	0.41 U	10 U	0.44 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	10 U	0.41 U	10 U	**0.11 J**	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PAH	Chrysene	ug/L	0.030	10 U	0.41 U	10 U	**0.85**	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	10 U	0.41 U	10 U	0.44 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PAH	Fluoranthene	ug/L	3.0	10 U	0.41 U	10 U	**0.34 J**	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PAH	Fluorene	ug/L	3.0	10 U	0.41 U	10 U	**0.75**	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PAH	HPAH	ug/L	0.25	--	--	--	--	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	10 U	0.41 U	10 U	0.44 U	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PAH	Naphthalene	ug/L	83	10 U	0.41 U	**2 J**	**3**	0.029 U	0.029 U	**0.048**	**0.1**	**0.07**
PAH	Phenanthrene	ug/L	--	10 U	**0.068 J**	10 U	**1.2**	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PAH	Pyrene	ug/L	15	10 UJ	0.41 U	10 U	**0.27 J**	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U
PCP	Pentachlorophenol	ug/L	4.9	--	--	--	--	0.074 U	0.074 U	0.075 U	0.076 U	0.078 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	--	--	--	--	190 U	93 U	94 U	95 U	96 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	--	--	--	--	460 U	190 U	190 U	190 U	190 U

Notes:

BNA = base/neutral and acid extractables

General = general chemistry

HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon

PAH = polynuclear aromatic hydrocarbons

TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.

U = The analyte was not detected at or above the reported value.

C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000

**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.

*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-03 09/14/2004	PZ-03 01/23/2006	PZ-03 09/18/2006	PZ-03 01/7/2008	PZ-03 2/19/2009	PZ-03 9/17/2009	PZ-03 5/5/2010	PZ-03 6/21/2012	PZ-03 5/9/2013
General	Dissolved Oxygen	mg/L	--	**0.28**	**1.76**	**0**	**0.24**	**0**	**7.37**	**0**	**0**	**0**
General	Eh	mV	--	**260**	--	--	--	--	**--**	**--**	**--**	--
General	Oxidization Reduction Potential	mV	--	--	**-79**	**-68**	**-83**	**78**	**-85**	**-124**	**-68**	**-57**
General	pH	units	--	**6.38**	**6.58**	**6.95**	**6.81**	**6.68**	**7**	**7.13**	**7.28**	**7.42**
General	Salinity	%***	--	--	**0.27**	**0.03**	**0.3**	**0**	**0**	**0.1**	**0.05**	**0.1**
General	Specific Conductivity	mS	--	**0.431**	**5.17**	**0.732**	**6.52**	**0.94**	**0.532**	**2.24**	**0.858**	**0.999**
General	Temperature	°C	--	**12.26**	**12.1**	**12.88**	**11.2**	**11.66**	**13.78**	**11.44**	**11.61**	**12.59**
General	Turbidity	ntu	--	**49**	**28**	**8.2**	**0.4**	**9.7**	**3.1**	**31**	**10**	**47.6**
BNA	1,1'-Biphenyl	ug/L	--	5 U	5 UJ	0.4 U	1 U	0.98 U	1 UJ	0.48 U	1.1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	5 U	5 U	--	--	--	--	0.48 UJ	1.1 U	1 UJ
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	0.98 U	1 U	0.48 UJ	1.1 UJ	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	0.98 U	1 U	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	0.4 U	1 U	0.98 U	1 UJ	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	0.98 U	1 U	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	0.98 U	1 U	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	--	0.4 U	1 U	--	1 U	0.48 U	1.1 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	--	0.48 U	1.1 U	2 U
BNA	2,4,5-Trichlorophenol	ug/L	--	20 U	20 U	0.8 U	1 U	2 U	1 U	0.48 UJ	1.1 U	2 U
BNA	2,4,6-Trichlorophenol	ug/L	--	5 U	5 U	0.4 U	1 U	2 U	1 U	0.48 UJ	1.1 U	2 U
BNA	2,4-Dichlorophenol	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 U	1.1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 UJ	1.1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	20 U	20 U	4 U	10 U	7.8 U	1 U	0.48 UJ	2.1 U	4.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	5 U	5 U	0.8 U	1 U	0.98 U	1 U	0.48 U	1.1 U	2 U
BNA	2,6-Dinitrotoluene	ug/L	--	5 U	5 U	0.4 U	2 U	2 U	1 U	0.96 U	1.1 U	2 U
BNA	2-Chloronaphthalene	ug/L	--	5 U	5 U	0.4 U	4 U	0.98 U	1 U	0.48 U	1.1 U	1 U
BNA	2-Chlorophenol	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 U	1.1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	2 U	0.48 U	1.1 U	1 U
BNA	2-Nitroaniline	ug/L	--	20 U	20 U	0.4 U	1 U	0.98 U	1 U	0.48 U	1.1 U	2 U
BNA	2-Nitrophenol	ug/L	--	5 U	5 U	0.4 U	1 U	2 UJ	1 U	0.48 U	1.1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	5 U	5 U	0.8 UJ	1 U	R	1 UJ	0.48 UJ	2.1 U	1 UJ
BNA	3-Nitroaniline	ug/L	--	20 U	20 U	0.8 U	1 U	0.98 UJ	1 U	0.48 U	1.1 U	2 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	20 U	20 UJ	1.98 U	4 U	2 U	1 U	0.96 U	1.1 U	4.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 U	1.1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	5 U	5 U	0.8 U	1 U	2 U	1 U	0.48 U	1.1 U	2 U
BNA	4-Chloroaniline	ug/L	--	5 U	5 U	0.4 UJ	2 U	R	1 U	0.48 UJ	1.1 UJ	1 UJ
BNA	4-Chlorophenyl-phenylether	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 U	1.1 U	1 U
BNA	4-Methylphenol	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 U	1.1 U	1 U
BNA	4-Nitroaniline	ug/L	--	20 U	20 U	0.8 U	1 U	3.9 UJ	1 UJ	0.48 U	2.1 U	4.1 U
BNA	4-Nitrophenol	ug/L	--	20 U	20 U	4 U	4 U	20 U	1 U	0.48 UJ	1.1 U	4.1 U
BNA	9H-Carbazole	ug/L	--	--	--	0.4 U	4 U	2 U	1 U	0.48 U	1.1 U	1 U
BNA	Acenaphthene	ug/L	3.0	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Acenaphthylene	ug/L	--	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Anthracene	ug/L	9.0	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Atrazine	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 U	1.1 U	1 U

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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-03 09/14/2004	PZ-03 01/23/2006	PZ-03 09/18/2006	PZ-03 01/7/2008	PZ-03 2/19/2009	PZ-03 9/17/2009	PZ-03 5/5/2010	PZ-03 6/21/2012	PZ-03 5/9/2013
BNA	Benzaldehyde	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 UJ	1.1 U	2 U
BNA	Benzenemethanol	ug/L	--	--	--	0.8 U	2 U	R	2 UJ	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	--	--	4 UJ	5 UJ	7.8 UJ	3 U	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 U	1.1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 U	1.1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 UJ	1.1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	5 UJ	5 UJ	1 UJ	1 U	2 U	1 U	0.48 U	1.1 U	2 U
BNA	Butylbenzylphthalate	ug/L	--	**0.62 J**	5 UJ	0.5 U	1 U	0.98 U	1 U	0.48 U	1.1 U	2 U
BNA	Caffeine	ug/L	--	--	--	0.4 UJ	1 U	--	--	0.48 UJ	1.1 U	1 U
BNA	Caprolactam	ug/L	--	**0.34 J**	5 UJ	0.79 UJ	1 U	20 U	1 UJ	0.48 UJ	1.1 UJ	2 UJ
BNA	Chrysene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	5 U	5 U	0.8 U	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 U	1.1 U	1 U
BNA	Diethylphthalate	ug/L	--	5 U	5 UJ	0.4 U	**0.1 J**	2 U	1 U	0.48 U	1.1 U	1 U
BNA	Dimethylphthalate	ug/L	--	5 U	5 UJ	0.4 U	1 U	0.98 U	1 U	0.48 UJ	1.1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	5 UJ	5 UJ	0.58 U	1 U	2 U	1 U	0.48 U	1.1 U	1 U
BNA	Di-n-octylphthalate	ug/L	--	5 U	5 UJ	0.79 U	1 U	2 U	1 U	0.48 U	1.1 U	2 U
BNA	Ethanone, 1-phenyl-	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 U	1.1 U	1 U
BNA	Fluoranthene	ug/L	3.0	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 U	1.1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	5 U	5 U	0.4 UJ	1 U	0.98 U	1 U	0.48 UJ	1.1 UJ	1 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	5 U	5 U	0.4 UJ	2 U	2 U	1 U	0.48 UJ	1.1 UJ	2 UJ
BNA	Hexachloroethane	ug/L	--	5 U	5 U	0.4 UJ	1 U	0.98 U	1 U	0.48 UJ	1.1 UJ	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 U	1.1 U	1 U
BNA	Naphthalene	ug/L	83	5 U	5 U	0.4 UJ	--	0.98 U	--	--	--	--
BNA	Nitrobenzene	ug/L	--	5 U	5 U	0.4 U	1 U	--	1 U	0.48 U	1.1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	--	--	0.4 UJ	--	0.98 U	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	5 U	5 U	0.4 U	1 U	0.98 U	1 U	0.48 U	1.1 U	2 U
BNA	n-Nitrosodiphenylamine	ug/L	--	5 U	5 U	0.4 U	1 U	--	1 UJ	0.48 UJ	1.1 U	1 UJ
BNA	Pentachlorophenol	ug/L	4.9	5 U	5 U	0.79 U	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Phenol	ug/L	--	5 U	5 U	0.4 UJ	1 U	0.98 U	1 U	0.48 U	1.1 U	1 U
BNA	Pyrene	ug/L	15	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	0.4 U	1 U	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U
PAH	Acenaphthene	ug/L	3.0	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-03 09/14/2004	PZ-03 01/23/2006	PZ-03 09/18/2006	PZ-03 01/7/2008	PZ-03 2/19/2009	PZ-03 9/17/2009	PZ-03 5/5/2010	PZ-03 6/21/2012	PZ-03 5/9/2013
PAH	Acenaphthylene	ug/L	--	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U
PAH	Anthracene	ug/L	9	--	**0.026 J**	**0.041**	**0.075**	**0.059**	**0.056**	**0.099**	**0.061**	**0.058**
PAH	Benzo(a)anthracene	ug/L	0.030	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U
PAH	Benzo(a)pyrene	ug/L	0.030	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U
PAH	Benzo(g,h,i)perylene	ug/L	--	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U
PAH	Chrysene	ug/L	0.030	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U
PAH	Fluoranthene	ug/L	3.0	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U
PAH	Fluorene	ug/L	3.0	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U
PAH	HPAH	ug/L	0.25	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U
PAH	Naphthalene	ug/L	83	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	**0.057**	0.03 U
PAH	Phenanthrene	ug/L	--	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U
PAH	Pyrene	ug/L	15	--	0.037 U	0.038 U	0.029 U	0.029 U	0.03 U	0.031 U	0.03 U	0.03 U
PCP	Pentachlorophenol	ug/L	4.9	--	0.074 U	0.038 U	0.075 U	0.075 U	0.077 U	0.078 U	0.078 U	0.076 U
TPH	Diesel (#2)	mg/L	--	0.46 UJ	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	0.19 UJ	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	0.23 UJ	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	--	190 U	93 U	93 U	190 U	96 U	94 U	96 U	100 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	--	460 U	230 U	190 U	480 U	190 U	190 U	190 U	190 U

Notes:

BNA = base/neutral and acid extractables

General = general chemistry

HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon

PAH = polynuclear aromatic hydrocarbons

TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.

U = The analyte was not detected at or above the reported value.

C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000

**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.

*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-05 09/16/2004	PZ-05 01/25/2006	PZ-05 01/7/2008	PZ-08 09/14/2004	PZ-08 01/26/2006	PZ-08 09/20/2006	PZ-08 01/8/2008
General	Dissolved Oxygen	mg/L	--	**5.26**	**8.01**	**7.09**	**0.23**	**1.68**	**0**	**0.36**
General	Eh	mV	--	**210**	--	--	**221**	--	--	--
General	Oxidization Reduction Potential	mV	--	--	**30**	**135**	--	**117**	**15**	**153**
General	pH	units	--	**6.52**	**6.55**	**6.59**	**5.84**	**6.34**	**6.22**	**6.46**
General	Salinity	%***	--	--	--	**0**	--	--	**0.01**	**0**
General	Specific Conductivity	mS	--	**0.524**	**0.42**	**0.377**	**0.194**	**0.167**	**0.206**	**0.869**
General	Temperature	°C	--	**14.86**	**8.67**	**7.7**	**11.06**	**9.9**	**11.46**	**10.1**
General	Turbidity	ntu	--	**12.2**	**6**	**3.6**	**4.8**	**3.1**	**3.3**	**19.6**
BNA	1,1'-Biphenyl	ug/L	--	5 U	5 UJ	1 U	5 U	5 U	0.4 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	5 U	5 U	--	5 U	5 U	--	--
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	1 U	--	--	0.4 UJ	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	1 U	--	--	0.4 UJ	1 U
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	1 U	--	--	0.4 U	1 U
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	1 U	--	--	0.02 UJ	1 U
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	1 U	--	--	0.4 UJ	1 U
BNA	1-Methylnaphthalene	ug/L	--	--	--	1 U	--	--	0.4 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	--	--
BNA	2,4,5-Trichlorophenol	ug/L	--	20 U	20 U	1 U	**0.15 J**	20 U	0.8 U	1 U
BNA	2,4,6-Trichlorophenol	ug/L	--	5 U	5 U	1 U	**0.22 J**	5 U	0.4 U	1 U
BNA	2,4-Dichlorophenol	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.4 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.4 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	20 U	20 U	10 U	20 U	20 U	4 U	10 U
BNA	2,4-Dinitrotoluene	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.8 U	1 U
BNA	2,6-Dinitrotoluene	ug/L	--	5 U	5 U	2 U	5 U	5 U	0.4 U	2 U
BNA	2-Chloronaphthalene	ug/L	--	5 U	5 U	4 U	**0.22 J**	5 U	0.4 U	4 U
BNA	2-Chlorophenol	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.4 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	5 U	5 U	--	**0.27 J**	5 U	0.4 U	--
BNA	2-Methylphenol	ug/L	--	5 U	5 U	1 U	**0.26 J**	5 U	--	1 U
BNA	2-Nitroaniline	ug/L	--	20 U	20 U	1 U	**0.12 J**	20 U	0.8 U	1 U
BNA	2-Nitrophenol	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.4 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	5 U	5 UJ	1 U	5 U	5 UJ	0.8 UJ	1 U
BNA	3-Nitroaniline	ug/L	--	20 U	20 U	1 U	20 U	20 U	0.8 U	1 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	20 U	20 UJ	4 U	20 U	20 U	2 U	4 U
BNA	4-Bromophenyl-phenylether	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.4 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	5 U	5 U	1 U	**0.2 J**	5 U	0.8 U	1 U
BNA	4-Chloroaniline	ug/L	--	5 U	5 U	2 U	5 U	5 U	0.4 UJ	2 U
BNA	4-Chlorophenyl-phenylether	ug/L	--	5 U	5 U	1 U	**0.16 J**	5 U	0.4 U	1 U
BNA	4-Methylphenol	ug/L	--	5 U	5 U	1 U	**0.28 J**	5 U	0.4 U	1 U
BNA	4-Nitroaniline	ug/L	--	20 U	20 U	1 U	20 U	20 U	0.8 U	1 U
BNA	4-Nitrophenol	ug/L	--	20 U	20 U	4 U	20 U	20 U	4 U	4 U
BNA	9H-Carbazole	ug/L	--	--	--	4 U	--	--	0.4 U	4 U
BNA	Acenaphthene	ug/L	3.0	5 U	5 U	--	**0.15 J**	5 U	0.4 U	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-05 09/16/2004	PZ-05 01/25/2006	PZ-05 01/7/2008	PZ-08 09/14/2004	PZ-08 01/26/2006	PZ-08 09/20/2006	PZ-08 01/8/2008
BNA	Acenaphthylene	ug/L	--	5 U	5 U	--	**0.19 J**	5 U	0.4 U	--
BNA	Anthracene	ug/L	9.0	5 U	5 U	--	**0.19 J**	5 U	0.4 U	--
BNA	Atrazine	ug/L	--	5 U	5 U	1 U	**2.1 J**	5 U	**1.8**	**2.9**
BNA	Benzaldehyde	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.4 U	1 U
BNA	Benzenemethanol	ug/L	--	--	--	2 U	--	--	0.8 U	2 U
BNA	Benzo(a)anthracene	ug/L	0.030	5 U	5 U	--	5 U	5 U	0.4 U	--
BNA	Benzo(a)pyrene	ug/L	0.030	5 U	5 U	--	5 U	5 U	0.4 U	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	5 U	5 U	--	5 U	5 U	0.4 U	--
BNA	Benzo(g,h,i)perylene	ug/L	--	5 U	5 U	--	5 U	5 U	0.4 U	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	5 U	5 U	--	5 U	5 U	0.4 U	--
BNA	Benzoic acid	ug/L	--	--	--	5 UJ	--	--	4 UJ	5 UJ
BNA	bis(2-Chloroethoxy)methane	ug/L	--	5 U	5 U	1 U	**0.16 J**	5 U	0.4 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	5 U	5 U	1 U	**0.2 J**	5 U	0.4 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.4 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	5 UJ	5 UJ	1 U	5 UJ	5 U	1 UJ	1 U
BNA	Butylbenzylphthalate	ug/L	--	5 UJ	5 UJ	1 U	**0.53 J**	5 U	0.4 U	1 U
BNA	Caffeine	ug/L	--	--	--	1 U	--	--	0.4 U	1 U
BNA	Caprolactam	ug/L	--	**0.25 J**	5 UJ	1 U	**0.26 J**	5 UJ	0.79 UJ	1 U
BNA	Chrysene	ug/L	0.030	5 U	5 U	--	5 U	5 U	0.4 U	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	5 U	5 U	--	5 U	5 U	0.8 U	--
BNA	Dibenzofuran	ug/L	--	5 U	5 U	1 U	**0.19 J**	5 U	0.4 U	1 U
BNA	Diethylphthalate	ug/L	--	5 U	5 UJ	**0.1 J**	**0.17 J**	5 U	0.4 U	**0.1 J**
BNA	Dimethylphthalate	ug/L	--	5 U	5 UJ	1 U	5 U	5 U	0.4 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	5 UJ	5 UJ	1 U	5 UJ	5 U	0.4 U	1 U
BNA	Di-n-octylphthalate	ug/L	--	5 U	5 UJ	1 U	5 U	5 U	0.79 U	1 U
BNA	Ethanone, 1-phenyl-	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.4 U	1 U
BNA	Fluoranthene	ug/L	3.0	5 U	5 U	--	5 U	5 U	0.4 U	--
BNA	Fluorene	ug/L	3.0	5 U	5 U	--	**0.17 J**	5 U	--	--
BNA	Hexachlorobenzene	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.4 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	5 U	5 U	1 U	**0.25 J**	5 U	0.4 UJ	1 U
BNA	Hexachlorocyclopentadiene	ug/L	--	5 U	5 U	2 U	5 U	5 U	0.4 UJ	2 U
BNA	Hexachloroethane	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.4 UJ	1 U
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	5 U	5 U	--	5 U	5 U	0.4 U	--
BNA	Isophorone	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.4 U	1 U
BNA	Naphthalene	ug/L	83	5 U	5 U	--	**0.28 J**	5 U	0.4 UJ	--
BNA	Nitrobenzene	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.4 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	--	--	--	--	--	0.4 UJ	--
BNA	n-Nitrosodinpropylamine	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.4 U	1 U
BNA	n-Nitrosodiphenylamine	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.4 U	1 U
BNA	Pentachlorophenol	ug/L	4.9	5 U	5 U	--	5 U	5 U	0.79 U	--
BNA	Phenanthrene	ug/L	--	5 U	5 U	--	5 U	5 U	0.4 U	--
BNA	Phenol	ug/L	--	5 U	5 U	1 U	5 U	5 U	0.4 U	1 U

Table 3
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-05 09/16/2004	PZ-05 01/25/2006	PZ-05 01/7/2008	PZ-08 09/14/2004	PZ-08 01/26/2006	PZ-08 09/20/2006	PZ-08 01/8/2008
BNA	Pyrene	ug/L	15	5 U	5 U	--	5 U	5 U	0.4 U	--
BNA	Retene	ug/L	--	--	--	1 U	--	--	0.4 U	1 U
PAH	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	--	0.037 U	0.03 U	--	0.037 U	0.037 U	0.029 U
PAH	Acenaphthene	ug/L	3.0	--	0.037 U	0.03 U	--	0.037 U	0.037 U	0.029 U
PAH	Acenaphthylene	ug/L	--	--	0.037 U	0.03 U	--	0.037 U	0.037 U	**0.026 J**
PAH	Anthracene	ug/L	9	--	0.037 U	0.03 U	--	**0.15**	**0.083**	**0.37**
PAH	Benzo(a)anthracene	ug/L	0.030	--	0.037 U	0.03 U	--	0.037 U	0.037 U	0.029 U
PAH	Benzo(a)pyrene	ug/L	0.030	--	0.037 U	0.03 U	--	0.037 U	0.037 U	0.029 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	--	0.037 U	0.03 U	--	0.037 U	0.037 U	0.029 U
PAH	Benzo(g,h,i)perylene	ug/L	--	--	0.037 U	0.03 U	--	0.037 U	0.037 U	0.029 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	--	0.037 U	0.03 U	--	0.037 U	0.037 U	0.029 U
PAH	Chrysene	ug/L	0.030	--	0.037 U	0.03 U	--	0.037 U	0.037 U	0.029 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	--	0.037 U	0.03 U	--	0.037 U	0.037 U	0.029 U
PAH	Fluoranthene	ug/L	3.0	--	0.037 U	0.03 U	--	0.037 U	0.037 U	0.029 U
PAH	Fluorene	ug/L	3.0	--	0.037 U	0.03 U	--	0.037 U	0.037 U	0.029 U
PAH	HPAH	ug/L	0.25	--	0.037 U	0.03 U	--	0.037 U	0.037 U	0.029 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	--	0.037 U	0.03 U	--	0.037 U	0.037 U	0.029 U
PAH	Naphthalene	ug/L	83	--	0.037 U	0.03 U	--	0.037 U	**0.073**	0.029 U
PAH	Phenanthrene	ug/L	--	--	0.037 U	0.03 U	--	0.037 U	0.037 U	0.029 U
PAH	Pyrene	ug/L	15	--	0.037 U	0.03 U	--	0.037 U	0.037 U	0.029 U
PCP	Pentachlorophenol	ug/L	4.9	--	0.074 U	0.077 U	--	0.074 U	0.037 U	0.074 U
TPH	Diesel (#2)	mg/L	--	0.46 UJ	--	--	0.46 UJ	--	--	--
TPH	Gasoline	mg/L	--	0.19 UJ	--	--	0.19 UJ	--	--	--
TPH	Lube Oil	mg/L	--	0.23 UJ	--	--	0.23 UJ	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	--	190 U	96 U	--	190 U	96 U	93 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	--	460 U	190 U	--	460 U	240 U	190 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000
**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.
*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-09 09/16/2004	PZ-09 01/26/2006	PZ-09 09/21/2006	PZ-09 01/8/2008	PZ-09 2/19/2009	PZ-09 9/16/2009	PZ-09 5/5/2010	PZ-09 6/21/2012	PZ-09 5/9/2013
General	Dissolved Oxygen	mg/L	--	**2.73**	**5**	**4.39**	**6.53**	**1.77**	**7.04**	**0.31**	**4.72**	**3.84**
General	Eh	mV	--	**224**	--	--	--	--	**--**	**--**	**--**	--
General	Oxidization Reduction Potentia	mV	--	--	**135**	**287**	**163**	**405**	**266**	**189**	**191**	**198**
General	pH	units	--	**5.93**	**6.59**	**6.44**	**6.62**	**6.06**	**6.58**	**6.51**	**6.47**	**6.49**
General	Salinity	%***	--	--	**0.01**	**0.01**	**0**	**0**	**0**	**0**	**0.02**	**0.01**
General	Specific Conductivity	mS	--	**0.197**	**0.16**	**0.188**	**0.209**	**0.301**	**0.224**	**0.206**	**0.4**	**0.258**
General	Temperature	°C	--	**10.78**	**10**	**11.6**	**9.6**	**9.24**	**11.86**	**9.18**	**8.95**	**9.2**
General	Turbidity	ntu	--	**6.49**	**2.3**	**43.4**	**0**	**327**	**36.7**	**9.8**	**0**	**15.7**
BNA	1,1'-Biphenyl	ug/L	--	5 U	5 UJ	0.4 U	1 U	1 U	0.96 UJ	0.48 U	1.1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	5 U	5 U	--	--	--	--	0.48 U	1.1 U	1 U
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	1 U	0.96 U	0.48 UJ	1.1 UJ	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	1 U	0.96 U	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	0.4 U	1 U	1 U	0.96 UJ	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	1 U	0.96 U	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	1 U	0.96 U	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	--	0.4 U	1 U	--	0.96 U	0.48 U	1.1 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	--	0.48 U	1.1 U	2 U
BNA	2,4,5-Trichlorophenol	ug/L	--	20 U	20 U	0.8 U	1 U	2.1 U	0.96 U	0.48 UJ	1.1 U	2 U
BNA	2,4,6-Trichlorophenol	ug/L	--	5 U	5 U	0.4 U	1 U	2.1 U	0.96 U	0.48 UJ	1.1 U	2 U
BNA	2,4-Dichloropheno	ug/L	--	5 U	5 U	0.4 U	1 U	1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	2,4-Dimethylpheno	ug/L	--	5 U	5 U	0.4 U	1 U	1 U	0.96 U	0.48 UJ	1.1 U	1 U
BNA	2,4-Dinitropheno	ug/L	--	20 U	20 U	4 U	10 U	8.3 UJ	0.96 U	0.48 UJ	2.1 U	4.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	5 U	5 U	0.8 U	1 U	1 U	0.96 U	0.48 U	1.1 U	2 U
BNA	2,6-Dinitrotoluene	ug/L	--	5 U	5 U	0.4 U	2 U	2.1 U	0.96 U	0.96 U	1.1 U	2 U
BNA	2-Chloronaphthalene	ug/L	--	5 U	5 U	0.4 U	4 U	1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	2-Chloropheno	ug/L	--	5 U	5 U	0.4 U	1 U	1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	2-Methylpheno	ug/L	--	5 U	5 U	0.4 U	1 U	1 U	1.9 U	0.48 U	1.1 U	1 U
BNA	2-Nitroaniline	ug/L	--	20 U	20 U	0.8 U	1 U	1 U	0.96 U	0.48 U	1.1 U	2 U
BNA	2-Nitrophenol	ug/L	--	5 U	5 U	0.4 U	1 U	2.1 UJ	0.96 U	0.48 U	1.1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	5 U	5 UJ	0.8 UJ	1 U	R	0.96 UJ	0.48 UJ	2.1 U	1 U
BNA	3-Nitroaniline	ug/L	--	20 U	20 U	0.8 U	1 U	1 UJ	0.96 U	0.48 U	1.1 U	2 U
BNA	4,6-Dinitro-2-methylpheno	ug/L	--	20 U	20 UJ	2 U	4 U	2.1 U	0.96 U	0.96 U	1.1 U	4.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	5 U	5 UJ	0.4 U	1 U	1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	4-Chloro-3-methylpheno	ug/L	--	5 U	5 U	0.8 U	1 U	2.1 U	0.96 U	0.48 U	1.1 U	2 U
BNA	4-Chloroaniline	ug/L	--	5 U	5 U	0.4 UJ	2 U	R	0.96 U	0.48 UJ	1.1 UJ	1 UJ
BNA	4-Chlorophenyl-phenylethe	ug/L	--	5 U	5 UJ	0.4 U	1 U	1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	4-Methylpheno	ug/L	--	5 U	5 U	0.4 U	1 U	1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	4-Nitroaniline	ug/L	--	20 U	20 U	0.8 U	1 U	4.2 UJ	0.96 UJ	0.48 U	2.1 U	4.1 U
BNA	4-Nitrophenol	ug/L	--	20 U	20 U	4 U	4 U	21 UJ	0.96 U	0.48 UJ	1.1 U	4.1 U
BNA	9H-Carbazole	ug/L	--	--	--	0.4 U	4 U	2.1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	Acenaphthene	ug/L	3.0	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Acenaphthylene	ug/L	--	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Anthracene	ug/L	9.0	5 U	5 U	**0.1 J**	--	--	--	--	--	--
BNA	Atrazine	ug/L	--	**0.77 J**	5 U	**0.71**	**1**	**0.77 J**	**0.73 J**	**0.6**	**0.62 J**	1 U
BNA	Benzaldehyde	ug/L	--	5 U	5 U	0.4 U	1 U	1 U	0.96 U	0.48 UJ	1.1 U	2 U
BNA	Benzenemethano	ug/L	--	--	--	0.8 U	2 U	R	1.9 UJ	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	5 U	5 U	0.4 U	--	--	--	--	--	--

Table 3
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Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-09 09/16/2004	PZ-09 01/26/2006	PZ-09 09/21/2006	PZ-09 01/8/2008	PZ-09 2/19/2009	PZ-09 9/16/2009	PZ-09 5/5/2010	PZ-09 6/21/2012	PZ-09 5/9/2013
BNA	Benzo(k)fluoranthene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	--	--	4 UJ	5 UJ	8.3 UJ	3 U	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	5 U	5 U	0.4 U	1 U	1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	5 U	5 U	0.4 U	1 U	1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	5 U	5 U	0.4 U	1 U	1 U	0.96 U	0.48 UJ	1.1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	5 UJ	5 UJ	1 UJ	1 U	2.1 U	0.96 U	0.48 U	1.1 U	2 U
BNA	Butylbenzylphthalate	ug/L	--	5 UJ	5 UJ	0.4 U	1 U	1 U	0.96 U	0.48 U	1.1 U	2 U
BNA	Caffeine	ug/L	--	--	--	0.4 U	1 U	--	--	0.48 UJ	1.1 U	1 U
BNA	Caprolactam	ug/L	--	**0.23 J**	5 UJ	0.79 UJ	1 U	21 UJ	0.96 UJ	0.48 UJ	1.1 UJ	2 UJ
BNA	Chrysene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	5 U	5 U	0.8 U	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	5 U	5 UJ	0.4 U	1 U	1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	Diethylphthalate	ug/L	--	5 U	5 UJ	0.4 U	**0.1 J**	2.1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	Dimethylphthalate	ug/L	--	5 U	5 UJ	0.4 U	1 U	1 U	0.96 U	0.48 UJ	1.1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	5 UJ	5 UJ	0.4 U	1 U	2.1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	Di-n-octylphthalate	ug/L	--	5 U	5 UJ	0.79 U	1 U	2.1 U	0.96 U	0.48 U	1.1 U	2 U
BNA	Ethanone, 1-phenyl-	ug/L	--	5 U	5 U	0.4 U	1 U	1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	Fluoranthene	ug/L	3.0	5 U	5 U	**0.4**	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	5 U	5 UJ	**0.16 J**	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	5 U	5 U	0.4 U	1 U	1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	5 U	5 U	0.4 UJ	1 U	1 U	0.96 U	0.48 UJ	1.1 UJ	1 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	5 U	5 U	0.4 UJ	2 U	2.1 U	0.96 U	0.48 UJ	1.1 UJ	2 UJ
BNA	Hexachloroethane	ug/L	--	5 U	5 U	0.4 UJ	1 U	1 U	0.96 U	0.48 UJ	1.1 UJ	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	5 U	5 U	0.4 U	1 U	1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	Naphthalene	ug/L	83	5 U	5 U	0.4 U	--	1 U	--	--	--	--
BNA	Nitrobenzene	ug/L	--	5 U	5 U	0.4 U	1 U	--	0.96 U	0.48 U	1.1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	--	--	0.4 U	--	1 U	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	5 U	5 U	0.4 U	1 U	1 U	0.96 U	0.48 U	1.1 U	2 U
BNA	n-Nitrosodiphenylamine	ug/L	--	5 U	5 U	0.4 U	1 U	--	0.96 UJ	0.48 UJ	1.1 U	1 UJ
BNA	Pentachlorophenol	ug/L	4.9	5 U	5 U	0.79 U	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	5 U	5 U	**0.6**	--	--	--	--	--	--
BNA	Phenol	ug/L	--	5 U	5 U	0.4 U	1 U	1 U	0.96 U	0.48 U	1.1 U	1 U
BNA	Pyrene	ug/L	15	5 U	5 U	**0.28 J**	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	0.4 U	1 U	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	--	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Acenaphthene	ug/L	3.0	--	0.037 U	**0.2**	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Acenaphthylene	ug/L	--	--	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Anthracene	ug/L	9	--	**0.044**	**0.18**	**0.084**	**0.081**	**0.053**	**0.09**	**0.088**	**0.083**
PAH	Benzo(a)anthracene	ug/L	0.030	--	0.037 U	**0.089**	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Benzo(a)pyrene	ug/L	0.030	--	0.037 U	**0.034 J**	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	--	0.037 U	**0.055**	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Benzo(g,h,i)perylene	ug/L	--	--	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	--	0.037 U	**0.035 J**	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Chrysene	ug/L	0.030	--	0.037 U	**0.1**	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	--	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Fluoranthene	ug/L	3.0	--	0.037 U	**0.58**	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Fluorene	ug/L	3.0	--	0.037 U	**0.24**	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	HPAH	ug/L	0.25	--	0.037 U	**1.3 C**	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-09 09/16/2004	PZ-09 01/26/2006	PZ-09 09/21/2006	PZ-09 01/8/2008	PZ-09 2/19/2009	PZ-09 9/16/2009	PZ-09 5/5/2010	PZ-09 6/21/2012	PZ-09 5/9/2013
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	--	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Naphthalene	ug/L	83	--	0.037 U	0.037 U	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Phenanthrene	ug/L	--	--	0.037 U	**1**	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PAH	Pyrene	ug/L	15	--	0.037 U	**0.38**	0.029 U	0.03 U	0.029 U	0.03 U	0.03 U	0.03 U
PCP	Pentachloropheno	ug/L	4.9	--	0.074 U	0.037 U	0.075 U	0.077 U	0.074 U	0.077 U	0.077 U	0.077 U
TPH	Diesel (#2)	mg/L	--	0.46 UJ	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	0.19 UJ	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	0.23 UJ	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	--	190 U	96 U	96 U	200 U	94 U	94 U	96 U	100 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	--	460 U	240 U	190 U	490 U	190 U	190 U	190 U	190 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000

**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.

*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-10 09/14/2004	PZ-10 01/26/2006	PZ-10 09/21/2006	PZ-10 01/8/2008
General	Dissolved Oxygen	mg/L	--	**3.84**	**4.83**	**3**	**3.36**
General	Eh	mV	--	**240**	--	--	--
General	Oxidization Reduction Potential	mV	--	--	**154**	**287**	**162**
General	pH	units	--	**5.84**	**6.38**	**6.13**	**6.49**
General	Salinity	%***	--	--	--	**0.01**	**0**
General	Specific Conductivity	mS	--	**0.163**	**0.137**	**0.165**	**0.195**
General	Temperature	°C	--	**10.84**	**9.9**	**11.99**	**9.7**
General	Turbidity	ntu	--	**131**	**3.4**	**0.2**	**0**
BNA	1,1'-Biphenyl	ug/L	--	5 U	5 UJ	0.4 U	0.9 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	5 U	5 U	--	--
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	0.4 UJ	0.9 U
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	0.9 U
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	0.4 U	0.9 U
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	0.9 U
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	0.9 U
BNA	1-Methylnaphthalene	ug/L	--	--	--	0.4 U	0.9 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--
BNA	2,4,5-Trichlorophenol	ug/L	--	20 U	20 U	0.8 U	0.9 U
BNA	2,4,6-Trichlorophenol	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	2,4-Dichlorophenol	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	2,4-Dimethylphenol	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	2,4-Dinitrophenol	ug/L	--	20 U	20 U	4 U	9.3 U
BNA	2,4-Dinitrotoluene	ug/L	--	5 U	5 U	0.8 U	0.9 U
BNA	2,6-Dinitrotoluene	ug/L	--	5 U	5 U	0.4 U	1.9 U
BNA	2-Chloronaphthalene	ug/L	--	5 U	5 UJ	0.4 U	3.7 U
BNA	2-Chlorophenol	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	2-Methylnaphthalene	ug/L	--	5 U	5 UJ	0.4 U	--
BNA	2-Methylphenol	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	2-Nitroaniline	ug/L	--	20 U	20 U	0.8 U	0.9 U
BNA	2-Nitrophenol	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	5 U	5 UJ	0.8 UJ	0.9 U
BNA	3-Nitroaniline	ug/L	--	20 U	20 U	0.8 U	0.9 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	20 U	20 UJ	2 U	3.7 U
BNA	4-Bromophenyl-phenylether	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	4-Chloro-3-methylphenol	ug/L	--	5 U	5 U	0.8 U	0.9 U
BNA	4-Chloroaniline	ug/L	--	5 U	5 U	0.4 UJ	1.9 U
BNA	4-Chlorophenyl-phenylether	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	4-Methylphenol	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	4-Nitroaniline	ug/L	--	20 U	20 U	0.8 U	0.9 U
BNA	4-Nitrophenol	ug/L	--	20 U	20 U	4 U	3.7 U
BNA	9H-Carbazole	ug/L	--	--	--	0.4 U	3.7 U
BNA	Acenaphthene	ug/L	3.0	5 U	5 UJ	0.4 U	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-10 09/14/2004	PZ-10 01/26/2006	PZ-10 09/21/2006	PZ-10 01/8/2008
BNA	Acenaphthylene	ug/L	--	5 U	5 UJ	0.4 U	--
BNA	Anthracene	ug/L	9.0	5 U	5 U	0.4 U	--
BNA	Atrazine	ug/L	--	5 U	5 U	**0.22 J**	0.9 U
BNA	Benzaldehyde	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	Benzenemethanol	ug/L	--	--	--	0.8 U	1.9 U
BNA	Benzo(a)anthracene	ug/L	0.030	5 U	5 U	0.4 U	--
BNA	Benzo(a)pyrene	ug/L	0.030	5 U	5 U	0.4 U	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	5 U	5 U	0.4 U	--
BNA	Benzo(g,h,i)perylene	ug/L	--	5 U	5 U	0.4 U	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	5 U	5 U	0.4 U	--
BNA	Benzoic acid	ug/L	--	--	--	**4.1 J**	4 UJ
BNA	bis(2-Chloroethoxy)methane	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	5 UJ	5 UJ	1 UJ	1 U
BNA	Butylbenzylphthalate	ug/L	--	**0.92 J**	5 UJ	0.4 U	1 U
BNA	Caffeine	ug/L	--	--	--	0.4 U	0.9 U
BNA	Caprolactam	ug/L	--	5 U	5 UJ	**1.2 J**	0.9 U
BNA	Chrysene	ug/L	0.030	5 U	5 U	0.4 U	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	5 U	5 U	0.8 U	--
BNA	Dibenzofuran	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	Diethylphthalate	ug/L	--	5 U	5 UJ	0.4 U	0.9 U
BNA	Dimethylphthalate	ug/L	--	5 U	5 UJ	0.4 U	0.9 U
BNA	Di-n-butylphthalate	ug/L	--	5 UJ	5 UJ	0.4 U	1 U
BNA	Di-n-octylphthalate	ug/L	--	5 U	5 UJ	0.8 U	0.9 U
BNA	Ethanone, 1-phenyl-	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	Fluoranthene	ug/L	3.0	5 U	5 U	0.4 U	--
BNA	Fluorene	ug/L	3.0	5 U	5 U	0.4 U	--
BNA	Hexachlorobenzene	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	Hexachlorobutadiene	ug/L	--	5 U	5 U	0.4 UJ	0.9 U
BNA	Hexachlorocyclopentadiene	ug/L	--	5 U	5 U	0.4 UJ	1.9 U
BNA	Hexachloroethane	ug/L	--	5 U	5 U	0.4 UJ	0.9 U
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	5 U	5 U	0.4 U	--
BNA	Isophorone	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	Naphthalene	ug/L	83	5 U	5 UJ	**0.11 J**	--
BNA	Nitrobenzene	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	n-Nitrosodimethylamine	ug/L	--	--	--	0.4 UJ	--
BNA	n-Nitrosodinpropylamine	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	n-Nitrosodiphenylamine	ug/L	--	5 U	5 U	0.4 U	0.9 U
BNA	Pentachlorophenol	ug/L	4.9	5 U	5 U	0.8 U	--
BNA	Phenanthrene	ug/L	--	5 U	5 U	0.4 U	--
BNA	Phenol	ug/L	--	5 U	5 U	0.4 U	0.9 U

Table 3
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-10 09/14/2004	PZ-10 01/26/2006	PZ-10 09/21/2006	PZ-10 01/8/2008
BNA	Pyrene	ug/L	15	5 U	5 U	0.4 U	--
BNA	Retene	ug/L	--	--	--	0.4 U	0.9 U
PAH	1-Methylnaphthalene	ug/L	--	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	--	0.037 U	0.038 U	0.029 U
PAH	Acenaphthene	ug/L	3.0	--	0.037 U	0.038 U	0.029 U
PAH	Acenaphthylene	ug/L	--	--	0.037 U	0.038 U	0.029 U
PAH	Anthracene	ug/L	9	--	**0.024 J**	0.038 U	**0.054**
PAH	Benzo(a)anthracene	ug/L	0.030	--	0.037 U	0.038 U	0.029 U
PAH	Benzo(a)pyrene	ug/L	0.030	--	0.037 U	0.038 U	0.029 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	--	0.037 U	0.038 U	0.029 U
PAH	Benzo(g,h,i)perylene	ug/L	--	--	0.037 U	0.038 U	0.029 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	--	0.037 U	0.038 U	0.029 U
PAH	Chrysene	ug/L	0.030	--	0.037 U	0.038 U	0.029 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	--	0.037 U	0.038 U	0.029 U
PAH	Fluoranthene	ug/L	3.0	--	0.037 U	0.038 U	0.029 U
PAH	Fluorene	ug/L	3.0	--	0.037 U	0.038 U	0.029 U
PAH	HPAH	ug/L	0.25	--	0.037 U	0.038 U	0.029 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	--	0.037 U	0.038 U	0.029 U
PAH	Naphthalene	ug/L	83	--	0.037 U	0.038 U	**0.026 J**
PAH	Phenanthrene	ug/L	--	--	0.037 U	0.038 U	0.029 U
PAH	Pyrene	ug/L	15	--	0.037 U	0.038 U	0.029 U
PCP	Pentachlorophenol	ug/L	4.9	--	0.074 U	0.038 U	0.074 U
TPH	Diesel (#2)	mg/L	--	0.46 UJ	--	--	--
TPH	Gasoline	mg/L	--	0.19 UJ	--	--	--
TPH	Lube Oil	mg/L	--	0.23 UJ	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	--	190 U	94 U	93 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	--	460 U	240 U	190 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an est
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weigh
(detections and estimated quantities): fluoranthene, pyrene, benzo
benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, i

* From Wyckoff ROD 2/2000
**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.
*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-11 09/14/2004	PZ-11 01/26/2006	PZ-11 09/21/2006	PZ-11 01/8/2008	PZ-11 9/16/2009	PZ-11 5/5/2010	PZ-11 6/20/2012	PZ-11 5/9/2013	PZ-11 10/22/2014
General	Dissolved Oxygen	mg/L	--	**2.68**	**1.49**	**1.89**	**0.3**	**2.22**	**0**	**0.4**	**0**	**0**
General	Eh	mV	--	**228**	--	--	--	**--**	**--**	--	--	--
General	Oxidization Reduction Potential	mV	--	--	**58**	**135**	**-4**	**57**	**-33**	**23**	**-6**	**131**
General	pH	units	--	**5.95**	**6.54**	**6.12**	**6.65**	**6.57**	**6.68**	**6.55**	**6.64**	**6.48**
General	Salinity	%***	--	--	--	**0.01**	**0**	**0**	**0**	**0**	**0**	**0.1**
General	Specific Conductivity	mS	--	**0.166**	**0.177**	**0.165**	**0.265**	**0.407**	**0.232**	**23.2**	**0.584**	**0.161**
General	Temperature	°C	--	**10.33**	**9.8**	**11.2**	**9.3**	**12.01**	**8.9**	**10.4**	**10.41**	**11.64**
General	Turbidity	ntu	--	**44.9**	**8.4**	**10.9**	**39.4**	**19.5**	**21.7**	**21**	**118**	**12.4**
BNA	1,1'-Biphenyl	ug/L	--	5 U	5 UJ	0.4 U	**12**	**1.2**	**9.2**	**5.8**	**4.9**	**3.2**
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	5 U	5 U	--	--	**--**	0.49 U	1.1 U	1 U	1 UJ
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	0.94 U	0.49 UJ	1.1 UJ	1 U	1 UJ
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	0.94 U	--	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	0.4 U	1 U	0.94 UJ	--	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	0.94 U	--	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	0.94 U	--	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	--	0.4 U	**12**	**1.9**	**9.2**	**15**	**10**	**8**
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	0.49 U	1.1 U	2 U	1 U
BNA	2,4,5-Trichlorophenol	ug/L	--	20 U	20 U	0.8 U	1 U	0.94 U	0.49 U	1.1 U	2 U	1 U
BNA	2,4,6-Trichlorophenol	ug/L	--	5 U	5 U	0.4 U	1 U	0.94 U	0.49 U	1.1 U	2 U	1 U
BNA	2,4-Dichlorophenol	ug/L	--	5 U	5 U	0.4 U	1 U	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	5 U	5 U	0.4 U	1 U	0.94 U	0.49 UJ	1.1 U	1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	20 U	20 U	4 U	10 U	0.94 U	0.49 U	2.1 U	4.1 UJ	2.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	5 U	5 U	0.8 U	1 U	0.94 U	0.49 U	1.1 U	2 U	1 U
BNA	2,6-Dinitrotoluene	ug/L	--	5 U	5 U	0.4 U	2 U	0.94 U	0.49 U	1.1 U	2 U	1 U
BNA	2-Chloronaphthalene	ug/L	--	5 U	5 UJ	0.4 U	4 U	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	2-Chlorophenol	ug/L	--	5 U	5 U	0.4 U	1 U	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	5 U	**1.1 J**	0.4 U	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	5 U	5 U	0.4 U	1 U	1.8 U	0.49 U	1.1 U	1 U	1 U
BNA	2-Nitroaniline	ug/L	--	20 U	20 U	0.8 U	1 U	0.94 U	0.49 U	1.1 U	2 U	2.1 U
BNA	2-Nitrophenol	ug/L	--	5 U	5 U	0.4 U	1 U	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	5 U	5 UJ	0.8 UJ	1 U	0.94 UJ	0.49 UJ	2.1 U	1 U	1 U
BNA	3-Nitroaniline	ug/L	--	20 U	20 U	0.8 U	1 U	0.94 U	0.49 U	1.1 U	2 U	2.1 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	20 U	20 UJ	2 U	4 U	0.94 U	0.98 U	1.1 U	4.1 U	2.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	5 U	5 UJ	0.4 U	1 U	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	5 U	5 U	0.8 U	1 U	0.94 U	0.49 U	1.1 U	2 U	1 U
BNA	4-Chloroaniline	ug/L	--	5 U	5 U	0.4 UJ	2 U	0.94 U	0.49 UJ	1.1 UJ	1 UJ	1 U
BNA	4-Chlorophenyl-phenylether	ug/L	--	5 U	5 UJ	0.4 U	1 U	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	4-Methylphenol	ug/L	--	5 U	5 U	0.4 U	1 U	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	4-Nitroaniline	ug/L	--	20 U	20 U	0.8 U	1 U	0.94 UJ	0.49 U	2.1 U	4.1 U	1 U
BNA	4-Nitrophenol	ug/L	--	20 U	20 U	4 U	4 U	0.94 U	0.49 UJ	1.1 U	4.1 U	2.1 U
BNA	9H-Carbazole	ug/L	--	--	--	0.4 U	**59**	**4.5**	**25**	**15**	**14**	**11**
BNA	Acenaphthene	ug/L	3.0	5 U	**7.1 J**	0.4 U	--	**--**	**--**	**--**	--	--
BNA	Acenaphthylene	ug/L	--	5 U	5 UJ	0.4 U	--	**--**	**--**	**--**	--	--
BNA	Anthracene	ug/L	9.0	5 U	5 U	0.4 U	--	**--**	**--**	**--**	--	--
BNA	Atrazine	ug/L	--	**0.16 J**	5 U	0.4 U	**0.5 J**	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	Benzaldehyde	ug/L	--	5 U	5 U	0.4 U	1 U	0.94 U	0.49 UJ	1.1 U	2 U	1 U
BNA	Benzenemethanol	ug/L	--	--	--	0.8 U	2 U	1.8 UJ	--	--	--	--

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BNA	Benzo(a)anthracene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	--	--	4 UJ	6 UJ	3.5 U	--	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	5 U	5 U	0.4 U	1 U	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	5 U	5 U	0.4 U	1 U	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	5 U	5 U	0.4 U	1 U	0.94 U	0.49 UJ	1.1 U	1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	5 UJ	5 UJ	1 UJ	1 U	0.94 U	0.49 U	1.6 U	2 U	2.1 U
BNA	Butylbenzylphthalate	ug/L	--	**0.6 J**	5 UJ	0.4 U	1 U	0.94 U	0.49 U	1.1 U	2 U	2.1 U
BNA	Caffeine	ug/L	--	--	--	0.4 U	1 U	--	0.49 UJ	1.1 U	1 U	1 UJ
BNA	Caprolactam	ug/L	--	**0.32 J**	5 UJ	0.8 UJ	1 U	0.94 UJ	0.49 UJ	1.1 UJ	2 UJ	4.2 UJ
BNA	Chrysene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	5 U	5 U	0.8 U	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	5 U	**7 J**	0.4 U	**29**	**2.9**	**22**	**15**	**16**	**8.2**
BNA	Diethylphthalate	ug/L	--	**0.19 J**	5 UJ	0.4 U	1 U	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	Dimethylphthalate	ug/L	--	5 U	5 UJ	0.4 U	1 U	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	5 UJ	5 UJ	0.4 U	1 U	0.94 U	0.49 U	1.1 U	1 U	2.1 U
BNA	Di-n-octylphthalate	ug/L	--	5 U	5 UJ	0.8 U	1 U	0.94 U	0.49 U	1.1 U	2 U	2.1 U
BNA	Ethanone, 1-phenyl-	ug/L	--	5 U	5 U	0.4 U	**0.3 J**	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	Fluoranthene	ug/L	3.0	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	5 U	5 UJ	0.4 U	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	5 U	5 U	0.4 U	1 U	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	5 U	5 U	0.4 UJ	1 U	0.94 U	0.49 UJ	1.1 UJ	1 UJ	4.2 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	5 U	5 U	0.4 UJ	2 U	0.94 U	0.49 U	1.1 UJ	2 UJ	1 UJ
BNA	Hexachloroethane	ug/L	--	5 U	5 U	0.4 UJ	1 U	0.94 U	0.49 UJ	1.1 UJ	1 UJ	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	5 U	5 U	0.4 U	1 U	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	Naphthalene	ug/L	83	5 U	**1.1 J**	0.4 U	--	--	--	--	--	--
BNA	Nitrobenzene	ug/L	--	5 U	5 U	0.4 U	1 U	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	--	--	0.4 U	--	--	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	5 U	5 U	0.4 U	1 U	0.94 U	0.49 U	1.1 U	2 U	1 U
BNA	n-Nitrosodiphenylamine	ug/L	--	5 U	5 U	0.4 U	1 U	0.94 UJ	0.49 UJ	1.1 U	1 UJ	1 U
BNA	Pentachlorophenol	ug/L	4.9	5 U	5 U	0.8 U	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Phenol	ug/L	--	**0.21 J**	5 U	0.4 U	1 U	0.94 U	0.49 U	1.1 U	1 U	1 U
BNA	Pyrene	ug/L	15	5 U	5 U	0.4 U	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	0.4 U	1 U	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	--	--	--	--	**--**	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	--	--	--	--	**--**	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	--	0.037 U	0.037 U	0.031 U	0.029 U	**0.21**	**1.4**	**0.32**	**0.049**
PAH	Acenaphthene	ug/L	3.0	--	**18**	0.037 U	**35**	**1.4**	**22**	**15**	**18**	**10**
PAH	Acenaphthylene	ug/L	--	--	**0.64**	0.037 U	**1.4**	**0.055**	**0.71**	**0.64**	**0.83**	**0.46**
PAH	Anthracene	ug/L	9	--	**0.32**	0.037 U	**0.8**	**0.13**	**0.66**	**0.69**	**0.68**	**0.26**
PAH	Benzo(a)anthracene	ug/L	0.030	--	0.037 U	0.037 U	0.031 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U
PAH	Benzo(a)pyrene	ug/L	0.030	--	0.037 U	0.037 U	0.031 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-11 09/14/2004	PZ-11 01/26/2006	PZ-11 09/21/2006	PZ-11 01/8/2008	PZ-11 9/16/2009	PZ-11 5/5/2010	PZ-11 6/20/2012	PZ-11 5/9/2013	PZ-11 10/22/2014
PAH	Benzo(b)fluoranthene	ug/L	0.030	--	0.037 U	0.037 U	0.031 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U
PAH	Benzo(g,h,i)perylene	ug/L	--	--	0.037 U	0.037 U	0.031 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	--	0.037 U	0.037 U	0.031 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U
PAH	Chrysene	ug/L	0.030	--	0.037 U	0.037 U	0.031 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	--	0.037 U	0.037 U	0.031 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U
PAH	Fluoranthene	ug/L	3.0	--	**0.098**	0.037 U	**0.18**	0.029 U	**0.15**	**0.11**	**0.16**	0.029 U
PAH	Fluorene	ug/L	3.0	--	**2.3**	0.037 U	**9**	**0.13**	**4**	**2.9**	**5.2**	**2.4**
PAH	HPAH	ug/L	0.25	--	**0.13 C**	0.037 U	**0.222 C**	0.029 U	**0.185 C**	**0.11 C**	**0.201 C**	0.029 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	--	0.037 U	0.037 U	0.031 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U
PAH	Naphthalene	ug/L	83	--	**2.1**	0.037 U	**14**	**25**	**130**	**490**	**160**	**57**
PAH	Phenanthrene	ug/L	--	--	**0.13**	0.037 U	**2.8**	0.029 U	**2.2**	**2.2**	**2.6**	**0.28**
PAH	Pyrene	ug/L	15	--	**0.03 J**	0.037 U	**0.042**	0.029 U	**0.035**	0.03 U	**0.041**	0.029 U
PCP	Pentachlorophenol	ug/L	4.9	--	0.074 U	0.037 U	0.08 U	0.074 U	0.08 U	0.076 U	0.076 U	0.074 U
TPH	Diesel (#2)	mg/L	--	0.46 UJ	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	0.19 UJ	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	0.23 UJ	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	--	**550**	94 U	**560**	94 U	**500**	**400**	100 U	**340**
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	--	460 U	240 U	190 U	190 U	190 U	190 U	190 U	470 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000

**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.

*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-12 09/14/2004	PZ-12 01/26/2006	PZ-12 09/21/2006	PZ-12 01/8/2008	PZ-12 2/18/2009
General	Dissolved Oxygen	mg/L	--	**1.31**	**3.77**	**2.29**	**2.12**	**3.13**
General	Eh	mV	--	**231**	--	--	--	--
General	Oxidization Reduction Potential	mV	--	--	**144**	**201**	**166**	**130**
General	pH	units	--	**6.27**	**6.57**	**6.14**	**6.67**	**6.29**
General	Salinity	%***	--	--	--	**0.01**	**0**	**0.01**
General	Specific Conductivity	mS	--	**0.23**	**0.116**	**0.188**	**0.175**	**0.14**
General	Temperature	°C	--	**10.68**	**10.1**	**11.49**	**9.5**	**9.21**
General	Turbidity	ntu	--	**5.61**	**10.1**	**28.6**	**0**	**6.6**
BNA	1,1'-Biphenyl	ug/L	--	5 U	5 UJ	0.4 U	1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	5 U	5 U	--	--	--
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	1 U
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	0.4 U	1 U	1 U
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	1 U
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	1 U
BNA	1-Methylnaphthalene	ug/L	--	--	--	0.4 U	1 U	--
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--
BNA	2,4,5-Trichlorophenol	ug/L	--	20 U	20 U	0.8 U	1 U	2 UJ
BNA	2,4,6-Trichlorophenol	ug/L	--	5 U	5 U	0.4 U	1 U	2 U
BNA	2,4-Dichlorophenol	ug/L	--	5 U	5 U	0.4 U	1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	5 U	5 U	0.4 U	1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	20 U	20 U	4 U	10 U	8 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	5 U	5 U	0.8 U	1 U	1 U
BNA	2,6-Dinitrotoluene	ug/L	--	5 U	5 U	0.4 U	2 U	2 U
BNA	2-Chloronaphthalene	ug/L	--	5 U	5 UJ	0.4 U	4 U	1 U
BNA	2-Chlorophenol	ug/L	--	5 U	5 U	0.4 U	1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	**0.18 J**	5 UJ	0.4 U	--	--
BNA	2-Methylphenol	ug/L	--	5 U	5 U	0.4 U	1 U	1 U
BNA	2-Nitroaniline	ug/L	--	20 U	20 U	0.8 U	1 U	1 U
BNA	2-Nitrophenol	ug/L	--	5 U	5 U	0.4 U	1 U	2 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	5 U	5 UJ	0.8 UJ	1 U	16 UJ
BNA	3-Nitroaniline	ug/L	--	20 U	20 U	0.8 U	1 U	1 UJ
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	20 U	20 UJ	2 U	4.2 U	2 U
BNA	4-Bromophenyl-phenylether	ug/L	--	5 U	5 UJ	0.4 U	1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	5 U	5 U	0.8 U	1 U	2 U
BNA	4-Chloroaniline	ug/L	--	5 U	5 U	0.4 UJ	2 U	20 UJ
BNA	4-Chlorophenyl-phenylether	ug/L	--	5 U	5 UJ	0.4 U	1 U	1 U
BNA	4-Methylphenol	ug/L	--	5 U	5 U	0.4 U	1 U	1 U
BNA	4-Nitroaniline	ug/L	--	20 U	20 U	0.8 U	1 U	4 UJ
BNA	4-Nitrophenol	ug/L	--	20 U	20 U	4 U	4 U	20 UJ
BNA	9H-Carbazole	ug/L	--	--	--	0.4 U	4 U	2 U
BNA	Acenaphthene	ug/L	3.0	**0.26 J**	5 UJ	0.4 U	--	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-12 09/14/2004	PZ-12 01/26/2006	PZ-12 09/21/2006	PZ-12 01/8/2008	PZ-12 2/18/2009
BNA	Acenaphthylene	ug/L	--	**0.11 J**	5 UJ	0.4 U	--	--
BNA	Anthracene	ug/L	9.0	5 U	5 U	0.4 U	--	--
BNA	Atrazine	ug/L	--	5 U	5 U	0.4 U	**0.3 J**	**0.37 J**
BNA	Benzaldehyde	ug/L	--	5 U	5 U	0.4 U	1 U	1 U
BNA	Benzenemethanol	ug/L	--	--	--	0.8 U	2 U	R
BNA	Benzo(a)anthracene	ug/L	0.030	5 U	5 U	0.4 U	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	5 U	5 U	0.4 U	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	5 U	5 U	0.4 U	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	5 U	5 U	0.4 U	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	5 U	5 U	0.4 U	--	--
BNA	Benzoic acid	ug/L	--	--	--	4 UJ	5 UJ	8 UJ
BNA	bis(2-Chloroethoxy)methane	ug/L	--	5 U	5 U	0.4 U	1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	5 U	5 U	0.4 U	1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	5 U	5 U	0.4 U	1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	5 UJ	5 UJ	1 UJ	1 U	2 U
BNA	Butylbenzylphthalate	ug/L	--	**1.1 J**	5 UJ	0.4 U	1 U	1 U
BNA	Caffeine	ug/L	--	--	--	0.4 U	1 U	--
BNA	Caprolactam	ug/L	--	**0.17 J**	5 UJ	0.79 UJ	1 U	20 U
BNA	Chrysene	ug/L	0.030	5 U	5 U	0.4 U	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	5 U	5 U	0.8 U	--	--
BNA	Dibenzofuran	ug/L	--	**0.5 J**	5 UJ	0.4 U	1 U	1 U
BNA	Diethylphthalate	ug/L	--	**0.22 J**	5 UJ	0.4 U	**0.1 J**	2 U
BNA	Dimethylphthalate	ug/L	--	5 U	5 UJ	0.4 U	1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	5 UJ	5 UJ	0.4 U	1 U	2 U
BNA	Di-n-octylphthalate	ug/L	--	5 U	5 UJ	0.79 U	1 U	2 U
BNA	Ethanone, 1-phenyl-	ug/L	--	5 U	5 U	0.4 U	1 U	1 U
BNA	Fluoranthene	ug/L	3.0	5 U	5 U	0.4 U	--	--
BNA	Fluorene	ug/L	3.0	5 U	5 UJ	0.4 U	--	--
BNA	Hexachlorobenzene	ug/L	--	5 U	5 U	0.4 U	1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	5 U	5 U	0.4 UJ	1 U	1 U
BNA	Hexachlorocyclopentadiene	ug/L	--	5 U	5 U	0.4 UJ	2 U	2 U
BNA	Hexachloroethane	ug/L	--	5 U	5 U	0.4 UJ	1 U	1 U
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	5 U	5 U	0.4 U	--	--
BNA	Isophorone	ug/L	--	5 U	5 U	0.4 U	1 U	1 U
BNA	Naphthalene	ug/L	83	**0.25 J**	5 UJ	0.4 U	--	1 U
BNA	Nitrobenzene	ug/L	--	5 U	5 U	0.4 U	1 U	--
BNA	n-Nitrosodimethylamine	ug/L	--	--	--	0.4 UJ	--	1 U
BNA	n-Nitrosodinpropylamine	ug/L	--	5 U	5 U	0.4 U	1 U	1 U
BNA	n-Nitrosodiphenylamine	ug/L	--	5 U	5 U	0.4 U	1 U	--
BNA	Pentachlorophenol	ug/L	4.9	5 U	5 U	0.79 U	--	--
BNA	Phenanthrene	ug/L	--	5 U	5 U	0.4 U	--	--
BNA	Phenol	ug/L	--	5 U	5 U	0.4 U	1 U	1 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-12 09/14/2004	PZ-12 01/26/2006	PZ-12 09/21/2006	PZ-12 01/8/2008	PZ-12 2/18/2009
BNA	Pyrene	ug/L	15	5 U	5 U	0.4 U	--	--
BNA	Retene	ug/L	--	--	--	0.4 U	1 U	--
PAH	1-Methylnaphthalene	ug/L	--	--	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	Acenaphthene	ug/L	3.0	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	Acenaphthylene	ug/L	--	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	Anthracene	ug/L	9	--	0.037 U	0.039 U	**0.064**	**0.044**
PAH	Benzo(a)anthracene	ug/L	0.030	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	Benzo(a)pyrene	ug/L	0.030	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	Benzo(g,h,i)perylene	ug/L	--	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	Chrysene	ug/L	0.030	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	Fluoranthene	ug/L	3.0	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	Fluorene	ug/L	3.0	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	HPAH	ug/L	0.25	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	Naphthalene	ug/L	83	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	Phenanthrene	ug/L	--	--	0.037 U	0.039 U	0.031 U	0.029 U
PAH	Pyrene	ug/L	15	--	0.037 U	0.039 U	0.031 U	0.029 U
PCP	Pentachlorophenol	ug/L	4.9	--	0.074 U	0.039 U	0.078 U	0.074 U
TPH	Diesel (#2)	mg/L	--	0.46 UJ	--	--	--	--
TPH	Gasoline	mg/L	--	0.19 UJ	--	--	--	--
TPH	Lube Oil	mg/L	--	0.23 UJ	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	--	190 U	96 U	96 U	190 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	--	460 U	240 U	190 U	480 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)peryle and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000
**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.
*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	P-1L 2/16/2009	P-1L 9/14/2009	P-1L 5/3/2010	P-1L 6/18/2012	P-1L 5/6/2013	P-2L 2/16/2009	P-2L 9/14/2009	P-2L 5/3/2010	P-2L 6/18/2012	P-2L 5/8/2013
General	Dissolved Oxygen	mg/L	--	**0**	**1.73**	**0**	**0.3**	**0**	**0.86**	**4.2**	**0**	**0.5**	**0**
General	Eh	mV	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	--
General	Oxidization Reduction Potential	mV	--	**-46**	**16**	**-19**	**8**	**-148**	**-130**	**-123**	**-92**	**-35**	**-18**
General	pH	units	--	**6.63**	**6.44**	**6.8**	**7.06**	**6.88**	**9.17**	**6.9**	**7.01**	**7.38**	**7.14**
General	Salinity	%***	--	**1**	**0.8**	**1.2**	**1**	**2.9**	**1.09**	**1.11**	**1.5**	**1.3**	**3**
General	Specific Conductivity	mS	--	**16.9**	**13.3**	**19.9**	**1.79**	**44.6**	**18.7**	**18.9**	**24.4**	**2.15**	**47**
General	Temperature	°C	--	**12.47**	**14.4**	**13.04**	**13.2**	**14.12**	**11.07**	**13.47**	**12.13**	**12.8**	**12.87**
General	Turbidity	ntu	--	**40.3**	**3.7**	**17.4**	**120**	**136**	**13**	**0**	**3.1**	**3**	**25.2**
BNA	1,1'-Biphenyl	ug/L	--	1 U	0.85 U	0.48 UJ	1 U	1 U	1 U	0.85 U	0.48 U	1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	--	0.48 UJ	1 U	1 U	--	--	0.48 UJ	1 U	1 U
BNA	1,2,4-Trichlorobenzene	ug/L	--	1 U	0.85 U	0.48 UJ	1 UJ	1 U	1 U	0.85 U	0.48 UJ	1 UJ	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	1 U	0.85 U	--	--	--	1 U	0.85 U	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	1 UJ	0.85 U	--	--	--	1 UJ	0.85 U	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	1 U	0.85 U	--	--	--	1 U	0.85 U	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	1 U	0.85 U	--	--	--	1 U	0.85 U	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	0.85 U	0.48 UJ	1 U	1 U	--	0.85 U	0.48 UJ	1 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	0.48 U	1 U	2 U	--	--	0.48 U	1 U	2 U
BNA	2,4,5-Trichlorophenol	ug/L	--	2 UJ	0.85 U	0.48 UJ	1 U	2 U	2 UJ	0.85 U	0.48 UJ	1 U	2 U
BNA	2,4,6-Trichlorophenol	ug/L	--	2 UJ	0.85 U	0.48 UJ	1 U	2 U	2 UJ	0.85 U	0.48 UJ	1 U	2 U
BNA	2,4-Dichlorophenol	ug/L	--	1 UJ	0.85 U	0.48 UJ	1 U	1 U	1 UJ	0.85 U	0.48 UJ	1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	1 UJ	0.85 U	0.48 UJ	1 U	1 U	1 UJ	0.85 U	0.48 UJ	1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	8 UJ	0.85 UJ	0.48 UJ	2.1 U	4.1 UJ	8 UJ	0.85 UJ	0.48 UJ	2.1 U	4.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	1 UJ	0.85 U	0.48 U	1 U	2 U	1 UJ	0.85 U	0.48 U	1 U	2 U
BNA	2,6-Dinitrotoluene	ug/L	--	2 U	0.85 U	0.96 U	1 U	2 U	2 U	0.85 U	0.96 U	1 U	2 U
BNA	2-Chloronaphthalene	ug/L	--	1 U	0.85 U	0.48 UJ	1 U	1 U	1 U	0.85 U	0.48 UJ	1 U	1 U
BNA	2-Chlorophenol	ug/L	--	1 UJ	0.85 U	0.48 UJ	1 U	1 U	1 UJ	0.85 U	0.48 UJ	1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	1 U	1.7 U	0.48 UJ	1 U	1 U	1 U	1.7 U	0.48 UJ	1 U	1 U
BNA	2-Nitroaniline	ug/L	--	1 UJ	0.85 U	0.48 U	1 U	2 U	1 UJ	0.85 U	0.48 U	1 U	2 U
BNA	2-Nitrophenol	ug/L	--	2 U	0.85 U	0.48 UJ	1 U	1 U	2 U	0.85 U	0.48 UJ	1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	R	0.85 U	0.48 U	2.1 U	1 U	R	0.85 U	0.48 U	2.1 U	1 U
BNA	3-Nitroaniline	ug/L	--	1 UJ	0.85 U	0.48 U	1 U	2 U	1 UJ	0.85 U	0.48 U	1 U	2 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	2 UJ	0.85 U	0.96 U	1 U	4.1 U	2 UJ	0.85 U	0.96 U	1 U	4.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	1 U	0.85 U	0.48 U	1 U	1 U	1 U	0.85 U	0.48 U	1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	2 UJ	0.85 U	0.48 UJ	1 U	2 U	2 UJ	0.85 U	0.48 UJ	1 U	2 U
BNA	4-Chloroaniline	ug/L	--	R	0.85 U	0.48 UJ	1 UJ	1 UJ	R	0.85 U	0.48 UJ	1 UJ	1 UJ
BNA	4-Chlorophenyl-phenylether	ug/L	--	1 U	0.85 U	0.48 UJ	1 U	1 U	1 U	0.85 U	0.48 UJ	1 U	1 U
BNA	4-Methylphenol	ug/L	--	1 U	0.85 U	0.48 UJ	1 U	1 U	1 U	0.85 U	0.48 UJ	1 U	1 U
BNA	4-Nitroaniline	ug/L	--	4 UJ	R	0.48 U	2.1 U	4.1 U	4 UJ	R	0.48 U	2.1 U	4.1 U
BNA	4-Nitrophenol	ug/L	--	20 UJ	0.85 UJ	0.48 UJ	1 U	4.1 U	20 UJ	0.85 UJ	0.48 UJ	1 U	4.1 U
BNA	9H-Carbazole	ug/L	--	2 UJ	0.85 U	0.48 U	1 U	1 U	2 UJ	0.85 U	0.48 U	1 U	1 U
BNA	Acenaphthene	ug/L	3.0	--	--	--	--	--	--	--	--	--	--
BNA	Acenaphthylene	ug/L	--	--	--	--	--	--	--	--	--	--	--
BNA	Anthracene	ug/L	9.0	--	--	--	--	--	--	--	--	--	--
BNA	Atrazine	ug/L	--	1 UJ	0.85 U	0.48 U	1 U	1 U	1 UJ	0.85 U	0.48 U	1 U	1 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	P-1L 2/16/2009	P-1L 9/14/2009	P-1L 5/3/2010	P-1L 6/18/2012	P-1L 5/6/2013	P-2L 2/16/2009	P-2L 9/14/2009	P-2L 5/3/2010	P-2L 6/18/2012	P-2L 5/8/2013
BNA	Benzaldehyde	ug/L	--	**0.26 J**	0.85 U	0.48 UJ	1 U	2 U	1 U	0.85 U	0.48 UJ	1 U	2 U
BNA	Benzenemethanol	ug/L	--	R	1.7 UJ	--	--	--	R	1.7 UJ	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	8 UJ	2.4 UJ	--	--	--	8 UJ	2.4 UJ	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	1 U	0.85 U	0.48 UJ	1 U	1 U	1 U	0.85 U	0.48 UJ	1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	1 U	0.85 U	0.48 UJ	1 U	1 U	1 U	0.85 U	0.48 UJ	1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	1 U	0.85 U	0.48 UJ	1 U	1 U	1 U	0.85 U	0.48 UJ	1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	2 U	0.85 U	0.48 U	1 U	2 U	2 U	0.85 U	0.48 U	1 U	2 U
BNA	Butylbenzylphthalate	ug/L	--	1 U	0.85 U	0.48 U	1 U	2 U	1 U	0.85 U	0.48 U	1 U	2 U
BNA	Caffeine	ug/L	--	--	--	0.48 U	1 U	1 U	--	--	0.48 U	1 U	1 U
BNA	Caprolactam	ug/L	--	20 U	R	0.48 UJ	1 UJ	2 UJ	20 U	R	0.48 UJ	1 UJ	2 UJ
BNA	Chrysene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	--	--	--	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	1 U	0.85 U	0.48 UJ	1 U	1 U	1 U	0.85 U	0.48 UJ	1 U	1 U
BNA	Diethylphthalate	ug/L	--	2 UJ	0.85 U	0.48 U	1 U	1 U	2 UJ	0.85 U	0.48 U	1 U	1 U
BNA	Dimethylphthalate	ug/L	--	1 UJ	0.85 U	0.48 U	1 U	1 U	1 UJ	0.85 U	0.48 U	1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	2 UJ	0.85 U	0.48 U	1 U	1 U	2 UJ	0.85 U	0.48 U	1 U	1 U
BNA	Di-n-octylphthalate	ug/L	--	2 U	0.85 U	0.48 U	1 U	2 U	2 U	0.85 U	0.48 U	1 U	2 U
BNA	Ethanone, 1-phenyl-	ug/L	--	1 U	0.85 U	0.48 UJ	1 U	1 U	1 U	0.85 U	0.48 UJ	1 U	1 U
BNA	Fluoranthene	ug/L	3.0	--	--	--	--	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	--	--	--	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	1 U	0.85 U	0.48 U	1 U	1 U	1 U	0.85 U	0.48 U	1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	1 U	0.85 U	0.48 UJ	1 UJ	1 UJ	1 U	0.85 U	0.48 UJ	1 UJ	1 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	2 U	0.85 U	0.48 UJ	1 UJ	2 U	2 U	0.85 U	0.48 UJ	1 UJ	2 UJ
BNA	Hexachloroethane	ug/L	--	1 U	0.85 U	0.48 UJ	1 UJ	1 U	1 U	0.85 U	0.48 UJ	1 UJ	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	1 U	0.85 U	0.48 UJ	1 U	1 U	1 U	0.85 U	0.48 UJ	1 U	1 U
BNA	Naphthalene	ug/L	83	1 U	--	--	--	--	1 U	--	--	--	--
BNA	Nitrobenzene	ug/L	--	--	0.85 U	0.48 UJ	1 U	1 U	--	0.85 U	0.48 UJ	1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	1 U	--	--	--	--	1 U	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	1 UJ	0.85 U	0.48 UJ	1 U	2 U	1 UJ	0.85 U	0.48 UJ	1 U	2 U
BNA	n-Nitrosodiphenylamine	ug/L	--	--	0.85 UJ	0.48 UJ	1 U	1 UJ	--	0.85 UJ	0.48 UJ	1 U	1 UJ
BNA	Pentachlorophenol	ug/L	4.9	--	--	--	--	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	--	--	--	--	--	--	--	--	--
BNA	Phenol	ug/L	--	1 U	0.85 U	0.48 UJ	1 U	1 U	1 U	0.85 U	0.48 UJ	1 U	1 U
BNA	Pyrene	ug/L	15	--	--	--	--	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	--	--	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Acenaphthene	ug/L	3.0	0.029 U	0.029 U	0.031 U	**0.047**	**0.03 U**	**0.051**	0.029 U	0.029 U	0.03 U	0.03 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	P-1L 2/16/2009	P-1L 9/14/2009	P-1L 5/3/2010	P-1L 6/18/2012	P-1L 5/6/2013	P-2L 2/16/2009	P-2L 9/14/2009	P-2L 5/3/2010	P-2L 6/18/2012	P-2L 5/8/2013
PAH	Acenaphthylene	ug/L	--	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Anthracene	ug/L	9	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Benzo(a)anthracene	ug/L	0.030	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Benzo(a)pyrene	ug/L	0.030	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Benzo(g,h,i)perylene	ug/L	--	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Chrysene	ug/L	0.030	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Fluoranthene	ug/L	3.0	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Fluorene	ug/L	3.0	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	HPAH	ug/L	0.25	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Naphthalene	ug/L	83	**0.074**	0.029 U	**0.15**	**0.048**	**0.075**	**0.033**	0.029 U	**0.063**	**0.054**	0.03 U
PAH	Phenanthrene	ug/L	--	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PAH	Pyrene	ug/L	15	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.031 U	0.029 U	0.029 U	0.03 U	0.03 U
PCP	Pentachlorophenol	ug/L	4.9	0.074 U	0.074 U	0.078 U	0.076 U	0.076 U	0.078 U	0.074 U	0.075 U	0.076 U	0.077 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	190 U	93 U	96 U	97 U	96 U	200 U	93 U	94 U	96 U	96 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	460 U	190 U	190 U	190 U	190 U	490 U	190 U	190 U	190 U	190 U

Notes:

BNA = base/neutral and acid extractables

General = general chemistry

HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon

PAH = polynuclear aromatic hydrocarbons

TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.

U = The analyte was not detected at or above the reported value.

C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000

**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.

*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	P-3L 2/17/2009	P-3L 9/15/2009	P-3L 5/5/2010	P-3L-FD 5/5/2010	P-3L 6/20/2012	P-3L-FD 6/20/2012	P-3L 5/8/2013	P-3L-FD 5/8/2013	P-3L 10/20/2014
General	Dissolved Oxygen	mg/L	--	**0**	**1.85**	**0**	**--**	**0.51**	--	**0**	--	**0**
General	Eh	mV	--	**--**	**--**	**--**	**--**	**--**	--	--	--	--
General	Oxidization Reduction Potential	mV	--	**27**	**-202**	**-73**	**--**	**-255**	--	**-262**	--	**-231**
General	pH	units	--	**6.59**	**6.81**	**6.87**	**--**	**6.94**	--	**6.83**	--	**7.13**
General	Salinity	%***	--	**1.8**	**1.6**	**2.3**	**--**	**2.6**	--	**1.76**	--	**14.2**
General	Specific Conductivity	mS	--	**29.8**	**26.3**	**37.5**	**--**	**40.4**	--	**28.8**	--	**23.8**
General	Temperature	°C	--	**11.83**	**13.59**	**11.38**	**--**	**12.5**	--	**11.92**	--	**13.13**
General	Turbidity	ntu	--	**39.9**	**0**	**43.4**	**--**	**25.5**	--	**10**	--	**0**
BNA	1,1'-Biphenyl	ug/L	--	**0.4 J**	**6.4 J**	**0.56**	**1.3**	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	**--**	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 UJ
BNA	1,2,4-Trichlorobenzene	ug/L	--	1.1 UJ	0.93 U	0.5 UJ	0.46 UJ	1.1 UJ	1.1 UJ	1 U	1 U	1.1 UJ
BNA	1,2-Dichlorobenzene	ug/L	--	1.1 UJ	0.93 U	--	--	--	--	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	1.1 U	0.93 UJ	--	--	--	--	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	1.1 U	0.93 U	--	--	--	--	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	1.1 UJ	0.93 U	--	--	--	--	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	**41**	--	**17**	**4.4**	**4.3**	**11**	**11**	**9.9**
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	0.5 U	0.46 U	1.1 U	1.1 U	2 U	2.1 U	1.1 U
BNA	2,4,5-Trichlorophenol	ug/L	--	2.2 U	0.93 U	0.5 UJ	0.46 UJ	1.1 U	1.1 U	2 U	2.1 U	1.1 U
BNA	2,4,6-Trichlorophenol	ug/L	--	2.2 U	0.93 U	0.5 UJ	0.46 UJ	1.1 U	1.1 U	2 U	2.1 U	1.1 U
BNA	2,4-Dichlorophenol	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	2,4-Dimethylphenol	ug/L	--	1.1 U	0.93 U	0.5 UJ	0.46 UJ	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	2,4-Dinitrophenol	ug/L	--	8.9 U	0.93 U	0.5 U	0.46 UJ	2.1 U	2.2 U	4.1 UJ	4.2 UJ	2.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	2 U	2.1 U	1.1 U
BNA	2,6-Dinitrotoluene	ug/L	--	2.2 U	0.93 U	1 U	0.92 U	1.1 U	1.1 U	2 U	2.1 U	1.1 U
BNA	2-Chloronaphthalene	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	2-Chlorophenol	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	1.1 U	1.9 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	2-Nitroaniline	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	2 U	2.1 U	2.1 U
BNA	2-Nitrophenol	ug/L	--	2.2 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	18 UJ	0.93 UJ	0.5 UJ	0.46 UJ	2.1 U	2.2 U	1 U	1 U	1.1 U
BNA	3-Nitroaniline	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	2 U	2.1 U	2.1 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	2.2 U	0.93 U	1 U	0.92 U	1.1 U	1.1 U	4.1 U	4.2 U	2.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	2.2 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	2 U	2.1 U	1.1 U
BNA	4-Chloroaniline	ug/L	--	22 UJ	0.93 U	0.5 UJ	0.46 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ	1.1 U
BNA	4-Chlorophenyl-phenylether	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	4-Methylphenol	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	4-Nitroaniline	ug/L	--	4.4 U	0.93 UJ	0.5 U	0.46 U	2.1 U	2.2 U	4.1 U	4.2 U	1.1 U
BNA	4-Nitrophenol	ug/L	--	22 U	0.93 U	0.5 UJ	0.46 UJ	1.1 U	1.1 U	4.1 U	4.2 U	2.1 U
BNA	9H-Carbazole	ug/L	--	**1.5 J**	**38**	**10**	**8.9**	**2.4**	**2.3**	**6.2**	**8.3**	**2.1**
BNA	Acenaphthene	ug/L	3.0	--	**--**	**--**	**--**	**--**	**--**	--	--	--
BNA	Acenaphthylene	ug/L	--	--	**--**	**--**	**--**	**--**	**--**	--	--	--
BNA	Anthracene	ug/L	9.0	--	**--**	**--**	**--**	**--**	**--**	--	--	--
BNA	Atrazine	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	P-3L 2/17/2009	P-3L 9/15/2009	P-3L 5/5/2010	P-3L-FD 5/5/2010	P-3L 6/20/2012	P-3L-FD 6/20/2012	P-3L 5/8/2013	P-3L-FD 5/8/2013	P-3L 10/20/2014
BNA	Benzaldehyde	ug/L	--	1.1 U	0.93 U	0.5 UJ	0.46 UJ	1.1 U	1.1 U	2 U	2.1 U	1.1 U
BNA	Benzenemethanol	ug/L	--	R	1.9 UJ	--	--	--	--	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	--	--	--	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	--	--	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	8.9 UJ	4.5 U	--	--	--	--	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	1.1 U	0.93 U	0.5 UJ	0.46 UJ	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	2.2 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	2 U	2 U	2.1 U
BNA	Butylbenzylphthalate	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	2 U	2.1 U	2.1 U
BNA	Caffeine	ug/L	--	--	--	0.5 UJ	0.46 UJ	1.1 U	1.1 U	1 U	1 U	1.1 UJ
BNA	Caprolactam	ug/L	--	22 U	0.93 UJ	0.5 UJ	0.46 UJ	1.1 UJ	1.1 UJ	2 UJ	2.1 UJ	4.3 UJ
BNA	Chrysene	ug/L	0.030	--	--	--	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	--	--	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	**1.1 J**	**16**	**4.8 J**	**5.6**	**1.1**	1.1	**1.9**	**2**	**1.5**
BNA	Diethylphthalate	ug/L	--	2.2 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	Dimethylphthalate	ug/L	--	1.1 U	0.93 U	0.5 UJ	0.46 UJ	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	Di-n-butylphthalate	ug/L	--	2.2 U	0.93 U	0.5 U	0.46 U	1.3 U	1.1 U	1 U	1 U	2.1 U
BNA	Di-n-octylphthalate	ug/L	--	2.2 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	2 U	2.1 U	2.1 U
BNA	Ethanone, 1-phenyl-	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	Fluoranthene	ug/L	3.0	--	--	--	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	--	--	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	Hexachlorobutadiene	ug/L	--	1.1 U	0.93 U	0.5 UJ	0.46 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ	4.3 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	2.2 U	0.93 U	0.5 UJ	0.46 UJ	1.1 UJ	1.1 UJ	2 UJ	2.1 UJ	1.1 UJ
BNA	Hexachloroethane	ug/L	--	1.1 U	0.93 U	0.5 UJ	0.46 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ	1.1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	--	--	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	Naphthalene	ug/L	83	1.1 U	--	--	--	--	--	--	--	--
BNA	Nitrobenzene	ug/L	--	--	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	n-Nitrosodimethylamine	ug/L	--	1.1 U	--	--	--	--	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	2 U	2.1 U	1.1 U
BNA	n-Nitrosodiphenylamine	ug/L	--	--	0.93 UJ	0.5 UJ	0.46 UJ	1.1 U	1.1 U	1 UJ	1 UJ	1.1 U
BNA	Pentachlorophenol	ug/L	4.9	--	--	--	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	--	--	--	--	--	--	--	--
BNA	Phenol	ug/L	--	1.1 U	0.93 U	0.5 U	0.46 U	1.1 U	1.1 U	1 U	1 U	1.1 U
BNA	Pyrene	ug/L	15	--	--	--	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	--	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	--	**--**	--	--	**--**	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	--	**--**	--	--	**--**	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	**1.8**	**2.6**	**7.7**	**8.2**	**0.15**	**0.15**	**0.73**	**1.1**	**0.22**
PAH	Acenaphthene	ug/L	3.0	**4.4**	**25**	**17**	**19**	**14**	**16**	**28**	**24**	**50**

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	P-3L 2/17/2009	P-3L 9/15/2009	P-3L 5/5/2010	P-3L-FD 5/5/2010	P-3L 6/20/2012	P-3L-FD 6/20/2012	P-3L 5/8/2013	P-3L-FD 5/8/2013	P-3L 10/20/2014
PAH	Acenaphthylene	ug/L	--	**0.045**	**0.35**	**0.29**	**0.26**	**0.16**	**0.16**	**0.28**	**0.24**	**0.36**
PAH	Anthracene	ug/L	9	**0.21**	**0.82**	**0.66**	**0.52**	**0.35**	**0.36**	**0.95**	**0.64**	**2.1**
PAH	Benzo(a)anthracene	ug/L	0.030	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	**0.96**	**0.38**	**0.064**
PAH	Benzo(a)pyrene	ug/L	0.030	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	**0.26**	**0.097**	0.029 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	**0.35**	**0.12**	0.029 U
PAH	Benzo(g,h,i)perylene	ug/L	--	0.029 U	0.029 U	0.029 U	0.029 UJ	0.03 U	0.03 U	**0.06**	0.031 U	0.029 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	**0.24**	**0.09**	0.029 U
PAH	Chrysene	ug/L	0.030	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	**0.89**	**0.35**	**0.052**
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.032 U	0.031 U	0.029 U
PAH	Fluoranthene	ug/L	3.0	**0.4**	**0.66**	**0.7**	**0.63**	**0.81**	**0.86**	**2.5**	**1.7**	**3.9**
PAH	Fluorene	ug/L	3.0	**0.96**	**9.3**	**5.7**	**3.4**	**2.4**	**2.6**	**4**	**3.4**	**4.4**
PAH	HPAH	ug/L	0.25	**0.66 C**	**0.96 C**	**1.08 C**	**0.97 C**	**1.29 C**	**1.37 C**	**7.12 C**	**3.937 C**	**6.216 C**
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	0.029 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	**0.06**	0.031 U	0.029 U
PAH	Naphthalene	ug/L	83	**25**	**590 J**	--	**360**	**8.8**	**9.8**	**34**	**31**	**8.4**
PAH	Phenanthrene	ug/L	--	**0.71**	**7.5**	**3.7**	**3**	**1.2**	**1.3**	**4**	**3**	**13**
PAH	Pyrene	ug/L	15	**0.26**	**0.3**	**0.38**	**0.34**	**0.48**	**0.51**	**1.8**	**1.2**	**2.2**
PCP	Pentachlorophenol	ug/L	4.9	0.074 U	0.074 U	0.075 U	0.075 U	0.076 U	0.076 U	0.082 U	0.08 U	0.074 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	190 U	**1,600**	**930**	**89**	**380**	95 U	100 U	100 U	**470**
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	460 U	190 U	190 U	190 U	190 U	190 U	200 U	200 U	480 U

Notes:

BNA = base/neutral and acid extractables

General = general chemistry

HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon

PAH = polynuclear aromatic hydrocarbons

TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.

U = The analyte was not detected at or above the reported value.

C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000

**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.

*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	P-4L 2/17/2009	P-4L 9/15/2009	P-4L 5/4/2010	P-4L 6/19/2012	P-4L 5/7/2013	P-4L 10/20/2014	P-5L 2/18/2009	P-5L 9/15/2009	P-5L 5/4/2010	P-5L 6/19/2012	P-5L 5/7/2013
General	Dissolved Oxygen	mg/L	--	**0**	**1.9**	**0**	**0.69**	**0**	**0**	**9.75**	**8.3**	**6.9**	**8.41**	**7.18**
General	Eh	mV	--	**--**	**--**	**--**	**--**	--	--	**--**	**--**	**--**	**--**	--
General	Oxidization Reduction Potential	mV	--	**-76**	**-131**	**-67**	**-59**	**-47**	**-127**	**102**	**87**	**96**	**-6**	**58**
General	pH	units	--	**7.36**	**7.0**	**7.43**	**7.44**	**7.47**	**7.59**	**7.28**	**7.6**	**7.63**	**7.4**	**7.38**
General	Salinity	%***	--	**1.8**	**1.4**	**1.9**	**2**	**3.7**	**11.9**	**0.01**	**0**	**0**	**0**	**0.01**
General	Specific Conductivity	mS	--	**29.2**	**23**	**31.3**	**32.9**	**56**	**20.1**	**0.247**	**0.31**	**0.302**	**0.301**	**0.328**
General	Temperature	°C	--	**15**	**15**	**12.14**	**12.18**	**14.93**	**13.4**	**11.42**	**15**	**12.18**	**13.37**	**12.79**
General	Turbidity	ntu	--	**28.4**	**1.5**	**0**	**45.7**	**142**	**0**	**5.7**	**0.70**	**68.4**	**41**	**19**
BNA	1,1'-Biphenyl	ug/L	--	1.1 U	0.93 UJ	0.51 U	1 U	1 U	1.1 U	0.98 U	0.96 UJ	0.49 U	1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	--	0.51 U	1 U	1 U	1.1 UJ	--	--	0.49 U	1 U	1 U
BNA	1,2,4-Trichlorobenzene	ug/L	--	1.1 UJ	0.93 U	0.51 UJ	1 UJ	1 U	1.1 UJ	0.98 U	0.96 U	0.49 UJ	1 UJ	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	1.1 UJ	0.93 U	--	--	--	--	0.98 U	0.96 U	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	1.1 U	0.93 UJ	--	--	--	--	0.98 U	0.96 UJ	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	1.1 U	0.93 U	--	--	--	--	0.98 U	0.96 U	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	1.1 UJ	0.93 U	--	--	--	--	0.98 U	0.96 U	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	0.93 U	0.51 U	1 U	1 U	1.1 U	--	0.96 U	0.49 U	1 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	0.51 U	1 U	2 U	1.1 U	--	--	0.49 U	1 U	2 U
BNA	2,4,5-Trichlorophenol	ug/L	--	2.2 U	0.93 U	0.51 UJ	1 U	2 U	1.1 U	2 UJ	0.96 U	0.49 UJ	1 U	2 U
BNA	2,4,6-Trichlorophenol	ug/L	--	2.2 U	0.93 U	0.51 UJ	1 U	2 U	1.1 U	2 U	0.96 U	0.49 UJ	1 U	2 U
BNA	2,4-Dichlorophenol	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	1.1 U	0.93 U	0.51 UJ	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 UJ	1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	8.7 U	0.93 U	0.51 UJ	2.1 U	4 UJ	2.1 UJ	7.8 U	0.96 U	0.49 UJ	2.1 U	4.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	2 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	2 U
BNA	2,6-Dinitrotoluene	ug/L	--	2.2 U	0.93 U	1 U	1 U	2 U	1.1 U	2 U	0.96 U	0.98 U	1 U	2 U
BNA	2-Chloronaphthalene	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	1 U
BNA	2-Chlorophenol	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	1.1 U	1.9 U	0.51 U	1 U	1 U	1.1 U	0.98 U	1.9 U	0.49 U	1 U	1 U
BNA	2-Nitroaniline	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	2 U	2.1 U	0.98 U	0.96 U	0.49 U	1 U	2 U
BNA	2-Nitrophenol	ug/L	--	2.2 U	0.93 U	0.51 U	1 U	1 U	1.1 U	2 U	0.96 U	0.49 U	1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	17 UJ	0.93 UJ	0.51 UJ	2.1 U	1 U	1.1 U	16 UJ	0.96 UJ	0.49 UJ	2.1 U	1 U
BNA	3-Nitroaniline	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	2 U	2.1 U	0.98 UJ	0.96 U	0.49 U	1 U	2 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	2.2 U	0.93 U	1 U	1 U	4 U	2.1 U	2 U	0.96 U	0.98 U	1 U	4.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	2.2 U	0.93 U	0.51 U	1 U	2 U	1.1 U	2 U	0.96 U	0.49 U	1 U	2 U
BNA	4-Chloroaniline	ug/L	--	22 UJ	0.93 U	0.51 UJ	1 UJ	1 UJ	1.1 U	20 UJ	0.96 U	0.49 UJ	1 UJ	1 UJ
BNA	4-Chlorophenyl-phenylether	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	1 U
BNA	4-Methylphenol	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	1 U
BNA	4-Nitroaniline	ug/L	--	4.3 U	0.93 UJ	0.51 U	2.1 U	4 U	1.1 U	3.9 UJ	0.96 UJ	0.49 U	2.1 U	4.1 U
BNA	4-Nitrophenol	ug/L	--	22 U	0.93 U	0.51 UJ	1 U	4 U	2.1 U	20 U	0.96 U	0.49 UJ	1 U	4.1 U
BNA	9H-Carbazole	ug/L	--	**0.19 J**	**0.37 J**	0.51 U	1 U	1 U	1.1 U	2 U	0.96 U	0.49 U	1 U	1 U
BNA	Acenaphthene	ug/L	3.0	--	**--**	--	--	--	--	--	--	--	--	--
BNA	Acenaphthylene	ug/L	--	--	**--**	--	--	--	--	--	--	--	--	--
BNA	Anthracene	ug/L	9.0	--	**--**	--	--	--	--	--	--	--	--	--
BNA	Atrazine	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	1 U
BNA	Benzaldehyde	ug/L	--	1.1 U	0.93 U	0.51 UJ	1 U	2 U	1.1 U	0.98 U	0.96 U	0.49 UJ	1 U	2 U
BNA	Benzenemethanol	ug/L	--	R	1.9 UJ	--	--	--	--	R	1.9 UJ	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	P-4L 2/17/2009	P-4L 9/15/2009	P-4L 5/4/2010	P-4L 6/19/2012	P-4L 5/7/2013	P-4L 10/20/2014	P-5L 2/18/2009	P-5L 9/15/2009	P-5L 5/4/2010	P-5L 6/19/2012	P-5L 5/7/2013
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	8.7 UJ	3.5 U	--	--	--	--	7.8 UJ	2.8 U	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	1.1 U	0.93 U	0.51 UJ	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 UJ	1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	2.2 U	0.93 U	0.51 U	1 U	2 U	2.1 U	2 U	0.96 U	0.49 U	1 U	2 U
BNA	Butylbenzylphthalate	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	2 U	2.1 U	0.98 U	0.96 U	0.49 U	1 U	2 U
BNA	Caffeine	ug/L	--	--	--	0.51 UJ	1 U	1 U	1.1 UJ	--	--	0.49 UJ	1 U	1 U
BNA	Caprolactam	ug/L	--	22 U	0.93 UJ	0.51 UJ	1 UJ	2 UJ	4.3 UJ	20 U	0.96 UJ	0.49 UJ	1 UJ	2 UJ
BNA	Chrysene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	--	--	--	--	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	1 U
BNA	Diethylphthalate	ug/L	--	2.2 U	0.93 U	0.51 U	1 U	1 U	1.1 U	2 U	0.96 U	0.49 U	1 U	1 U
BNA	Dimethylphthalate	ug/L	--	1.1 U	0.93 U	0.51 UJ	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 UJ	1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	2.2 U	0.93 U	0.51 U	1 U	1 U	2.1 U	2 U	0.96 U	0.49 U	1 U	1 U
BNA	Di-n-octylphthalate	ug/L	--	2.2 U	0.93 U	0.51 U	1 U	2 U	2.1 U	2 U	0.96 U	0.49 U	1 U	2 U
BNA	Ethanone, 1-phenyl-	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	1 U
BNA	Fluoranthene	ug/L	3.0	--	--	--	--	--	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	--	--	--	--	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	1.1 U	0.93 U	0.51 UJ	1 UJ	1 UJ	4.3 UJ	0.98 U	0.96 U	0.49 UJ	1 UJ	1 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	2.2 U	0.93 U	0.51 UJ	1 UJ	2 UJ	1.1 UJ	2 U	0.96 U	0.49 UJ	1 UJ	2 UJ
BNA	Hexachloroethane	ug/L	--	1.1 U	0.93 U	0.51 UJ	1 UJ	1 UJ	1.1 UJ	0.98 U	0.96 U	0.49 UJ	1 UJ	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	1 U
BNA	Naphthalene	ug/L	83	1.1 U	--	--	--	--	--	0.98 U	--	--	--	--
BNA	Nitrobenzene	ug/L	--	--	0.93 U	0.51 U	1 U	1 U	1.1 U	--	0.96 U	0.49 U	1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	1.1 U	--	--	--	--	--	0.98 U	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	2 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	2 U
BNA	n-Nitrosodiphenylamine	ug/L	--	--	0.93 UJ	0.51 UJ	1 U	1 UJ	1.1 U	--	0.96 UJ	0.49 UJ	1 U	1 UJ
BNA	Pentachlorophenol	ug/L	4.9	--	--	--	--	--	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Phenol	ug/L	--	1.1 U	0.93 U	0.51 U	1 U	1 U	1.1 U	0.98 U	0.96 U	0.49 U	1 U	1 U
BNA	Pyrene	ug/L	15	--	--	--	--	--	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	**0.098**	**0.043**	0.03 U	0.03 U	0.03 U	0.029 U	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Acenaphthene	ug/L	3.0	**0.083**	**0.073**	**0.032**	0.03 U	**0.098**	0.029 U	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Acenaphthylene	ug/L	--	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U	0.029 U	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Anthracene	ug/L	9	**0.064**	**0.074**	0.03 U	0.03 U	**0.032**	0.029 U	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Benzo(a)anthracene	ug/L	0.030	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U	0.029 U	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Benzo(a)pyrene	ug/L	0.030	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U	0.029 U	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U	0.029 U	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Benzo(g,h,i)perylene	ug/L	--	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U	0.029 U	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U	0.029 U	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Chrysene	ug/L	0.030	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U	0.029 U	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U	0.029 U	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Fluoranthene	ug/L	3.0	**0.41**	**0.33**	**0.25**	**0.092**	**0.072**	**0.06**	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Fluorene	ug/L	3.0	**0.098**	**0.11**	**0.062**	0.03 U	**0.1**	**0.089**	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	HPAH	ug/L	0.25	**0.64**	**0.53 C**	**0.39 C**	**0.145 C**	**0.111 C**	**0.096 C**	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	0.029 U	0.029 U	0.03 U	0.03 U	0.03 U	0.029 U	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Naphthalene	ug/L	83	**0.89**	**1.2**	**0.55**	0.03 U	**0.045**	**0.031**	0.031 U	0.029 U	**0.089**	**0.046**	0.031 U
PAH	Phenanthrene	ug/L	--	**0.58**	**0.39**	**0.085**	**0.13**	0.03 U	**0.088**	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Pyrene	ug/L	15	**0.23**	**0.20**	**0.14**	**0.053**	**0.039**	**0.036**	0.031 U	0.029 U	0.031 U	0.03 U	0.031 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	P-4L 2/17/2009	P-4L 9/15/2009	P-4L 5/4/2010	P-4L 6/19/2012	P-4L 5/7/2013	P-4L 10/20/2014	P-5L 2/18/2009	P-5L 9/15/2009	P-5L 5/4/2010	P-5L 6/19/2012	P-5L 5/7/2013
PCP	Pentachlorophenol	ug/L	4.9	0.074 U	0.074 U	0.077 U	0.076 U	0.077 U	0.074 U	0.078 U	0.074 U	0.078 U	0.076 U	0.079 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	190 U	93 U	94 U	95 U	96 U	190 U	200 U	93 U	94 U	96 U	99 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	460 U	190 U	190 U	190 U	190 U	470 U	500 U	190 U	190 U	190 U	200 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000
**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.
*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	P-6L 2/18/2009	P-6L 9/16/2009	P-6L 5/5/2010	P-6L 6/20/2012	P-6L 5/8/2013
General	Dissolved Oxygen	mg/L	--	**6.08**	**8.0**	**3.77**	**2.63**	**6.3**
General	Eh	mV	--	--	**--**	**--**	**--**	--
General	Oxidization Reduction Potential	mV	--	**235**	**255**	**80**	40	**73**
General	pH	units	--	**8.07**	**8.1**	**8.98**	**8.98**	**8.34**
General	Salinity	%***	--	**0.01**	**0**	**0**	**0**	**0.01**
General	Specific Conductivity	mS	--	**0.282**	**0.28**	**0.247**	**0.3**	**0.32**
General	Temperature	°C	--	**14.4**	**15**	**11.5**	**12.56**	**12.22**
General	Turbidity	ntu	--	**1.3**	**29**	**41.8**	**45.8**	**26.8**
BNA	1,1'-Biphenyl	ug/L	--	1 U	0.96 UJ	0.5 U	1.1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	--	0.5 U	1.1 U	1 U
BNA	1,2,4-Trichlorobenzene	ug/L	--	1 U	0.96 U	0.5 UJ	1.1 UJ	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	1 U	0.96 U	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	1 U	0.96 UJ	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	1 U	0.96 U	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	1 U	0.96 U	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	0.96 U	0.5 U	1.1 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	0.5 U	1.1 U	2.1 U
BNA	2,4,5-Trichlorophenol	ug/L	--	2 UJ	0.96 U	0.5 UJ	1.1 U	2.1 U
BNA	2,4,6-Trichlorophenol	ug/L	--	2 U	0.96 U	0.5 UJ	1.1 U	2.1 U
BNA	2,4-Dichlorophenol	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	1 U	0.96 U	0.5 UJ	1.1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	8.2 U	0.96 U	0.5 UJ	2.1 U	4.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	2.1 U
BNA	2,6-Dinitrotoluene	ug/L	--	2 U	0.96 U	1 U	1.1 U	2.1 U
BNA	2-Chloronaphthalene	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	1 U
BNA	2-Chlorophenol	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	1 U	1.9 U	0.5 U	1.1 U	1 U
BNA	2-Nitroaniline	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	2.1 U
BNA	2-Nitrophenol	ug/L	--	2 U	0.96 U	0.5 U	1.1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	16 UJ	0.96 UJ	0.5 UJ	2.1 U	1 U
BNA	3-Nitroaniline	ug/L	--	1 UJ	0.96 U	0.5 U	1.1 U	2.1 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	2 U	0.96 U	1 U	1.1 U	4.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	2 U	0.96 U	0.5 U	1.1 U	2.1 U
BNA	4-Chloroaniline	ug/L	--	20 UJ	0.96 U	0.5 UJ	1.1 UJ	1 UJ
BNA	4-Chlorophenyl-phenylether	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	1 U
BNA	4-Methylphenol	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	1 U
BNA	4-Nitroaniline	ug/L	--	4.1 UJ	0.96 UJ	0.5 U	2.1 U	4.1 U
BNA	4-Nitrophenol	ug/L	--	20 U	0.96 U	0.5 UJ	1.1 U	4.1 U
BNA	9H-Carbazole	ug/L	--	2 U	0.96 U	0.5 U	1.1 U	1 U
BNA	Acenaphthene	ug/L	3.0	--	--	--	--	--

Table 3
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	P-6L 2/18/2009	P-6L 9/16/2009	P-6L 5/5/2010	P-6L 6/20/2012	P-6L 5/8/2013
BNA	Acenaphthylene	ug/L	--	--	--	--	--	--
BNA	Anthracene	ug/L	9.0	--	--	--	--	--
BNA	Atrazine	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	1 U
BNA	Benzaldehyde	ug/L	--	1 U	0.96 U	0.5 UJ	1.1 U	2.1 U
BNA	Benzenemethanol	ug/L	--	R	1.9 UJ	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	8.2 UJ	**2.6**	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	1 U	0.96 U	0.5 UJ	1.1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	2 U	0.96 U	0.5 U	1.1 U	2.1 U
BNA	Butylbenzylphthalate	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	2.1 U
BNA	Caffeine	ug/L	--	--	--	0.5 UJ	1.1 U	1 U
BNA	Caprolactam	ug/L	--	20 U	0.96 UJ	0.5 UJ	1.1 UJ	2.1 UJ
BNA	Chrysene	ug/L	0.030	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	1 U
BNA	Diethylphthalate	ug/L	--	2 U	0.96 U	0.5 U	1.1 U	1 U
BNA	Dimethylphthalate	ug/L	--	1 U	0.96 U	0.5 UJ	1.1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	2 U	0.96 U	0.5 U	1.1 U	1 U
BNA	Di-n-octylphthalate	ug/L	--	2 U	0.96 U	0.5 U	1.1 U	2.1 U
BNA	Ethanone, 1-phenyl-	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	1 U
BNA	Fluoranthene	ug/L	3.0	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	1 U	0.96 U	0.5 UJ	1.1 UJ	1 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	2 U	0.96 U	0.5 UJ	1.1 UJ	2.1 UJ
BNA	Hexachloroethane	ug/L	--	1 U	0.96 U	0.5 UJ	1.1 UJ	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	--	--	--	--
BNA	Isophorone	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	1 U
BNA	Naphthalene	ug/L	83	1 U	--	--	--	--
BNA	Nitrobenzene	ug/L	--	--	0.96 U	0.5 U	1.1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	1 U	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	2.1 U
BNA	n-Nitrosodiphenylamine	ug/L	--	--	0.96 UJ	0.5 UJ	1.1 U	1 UJ
BNA	Pentachlorophenol	ug/L	4.9	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	--	--	--	--
BNA	Phenol	ug/L	--	1 U	0.96 U	0.5 U	1.1 U	1 U

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BNA	Pyrene	ug/L	15	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	--	**--**	--	**--**	--
PAH	2-Chloronaphthalene	ug/L	--	--	**--**	--	**--**	--
PAH	2-Methylnaphthalene	ug/L	--	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Acenaphthene	ug/L	3.0	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Acenaphthylene	ug/L	--	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Anthracene	ug/L	9	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Benzo(a)anthracene	ug/L	0.030	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Benzo(a)pyrene	ug/L	0.030	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Benzo(g,h,i)perylene	ug/L	--	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Chrysene	ug/L	0.030	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Fluoranthene	ug/L	3.0	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Fluorene	ug/L	3.0	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	HPAH	ug/L	0.25	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Naphthalene	ug/L	83	0.03 U	0.029 U	**0.045**	0.03 U	**0.035**
PAH	Phenanthrene	ug/L	--	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PAH	Pyrene	ug/L	15	0.03 U	0.029 U	0.031 U	0.03 U	0.031 U
PCP	Pentachlorophenol	ug/L	4.9	0.077 U	0.074 U	0.078 U	0.077 U	0.078 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	200 U	96 U	94 U	95 U	100 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	490 U	190 U	190 U	190 U	200 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene

* From Wyckoff ROD 2/2000

**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.

*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	VG-1L 2/16/2009	VG-1L 9/14/2009	VG-1L 5/3/2010	VG-1L 6/18/2012	VG-1L 05/06/2013	VG-1L 10/20/2014	VG-2L 2/16/2009	VG-2L-FD 2/16/2009	VG-2L 9/14/2009	VG-2L-FD 9/14/2009	VG-2L 5/3/2010	VG-2L-FD 5/3/2010	VG-2L 6/21/2012	VG-2L-FD 6/21/2012	VG-2L 05/06/2013	VG-2L-FD 05/06/2013	VG-2L 10/20/2014	VG-2L-FD 10/20/2014
General	Dissolved Oxygen	mg/L	--	**0**	**4.4**	**0**	**0.38**	**0**	**0**	**0.62**	**--**	**2.0**	**--**	**0**	**--**	**0.6**	**--**	**0**	--	**2.21**	--
General	Eh	mV	--	**--**	**--**	**--**	**--**	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	--	--	--	--
General	Oxidization Reduction Potential	mV	--	**-11**	**109**	**72**	**105**	**59**	**6**	**-187**	**--**	**-70**	**--**	**-77**	**--**	**-257**	**--**	**-158**	--	**-198**	--
General	pH	units	--	**6.84**	**6.9**	**7.23**	**7.16**	**7.18**	**7.15**	**8.37**	**--**	**6.7**	**--**	**7.01**	**--**	**7.24**	**--**	**7.02**	--	**7.08**	--
General	Salinity	%***	--	**0.4**	**0.35**	**0.2**	**0.2**	**0.24**	**1.7**	**1.68**	**--**	**1.6**	**--**	**2.1**	**--**	**1.9**	**--**	**1.77**	--	**15.1**	--
General	Specific Conductivity	mS	--	**7.55**	**6.7**	**4.58**	**2.97**	**4.76**	**3.23**	**27.7**	**--**	**26**	**--**	**34.2**	**--**	**3.09**	**--**	**28.8**	--	**25.1**	--
General	Temperature	°C	--	**12.52**	**15**	**12.85**	**11.58**	**13.54**	**13.61**	**11.87**	**--**	**13**	**--**	**12.56**	**--**	**15.4**	**--**	**14.27**	--	**13.82**	--
General	Turbidity	ntu	--	**36.2**	**0**	**52.1**	**31.5**	**82.4**	**4.4**	**13.7**	**--**	**0.10**	**--**	**321**	**--**	**31**	**--**	**33.5**	--	**0**	--
BNA	1,1'-Biphenyl	ug/L	--	0.98 U	0.86 U	0.45 UJ	1.1 U	1 U	1 U	**1.4**	**1.3**	**0.68 J**	**0.62 J**	**2 J**	**2.1 J**	**4**	**4**	1 U	1 U	**2.1**	**1.9**
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	--	0.45 UJ	1.1 U	1 U	1 UJ	--	--	**--**	**--**	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 UJ	1 UJ
BNA	1,2,4-Trichlorobenzene	ug/L	--	0.98 U	0.86 U	0.45 UJ	1.1 UJ	1 U	1 UJ	0.98 U	1 U	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 UJ	1.1 UJ	1 U	1 U	1 UJ	1 UJ
BNA	1,2-Dichlorobenzene	ug/L	--	0.98 U	0.86 U	--	--	--	--	0.98 U	1 U	0.85 U	0.91 U	--	--	--	--	--	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	0.98 UJ	0.86 U	--	--	--	--	0.98 UJ	1 UJ	0.85 UJ	0.91 U	--	--	--	--	--	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	0.98 U	0.86 U	--	--	--	--	0.98 U	1 U	0.85 U	0.91 U	--	--	--	--	--	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	0.98 U	0.86 U	--	--	--	--	0.98 U	1 U	0.85 U	0.91 U	--	--	--	--	--	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	0.86 U	0.45 UJ	1.1 U	1 U	1 U	--	--	**1.6**	**1.5**	6.7 UJ	6.8 UJ	**39**	**40**	**3**	**3.4**	**36**	**33**
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	0.45 U	1.1 U	2 U	1 U	--	--	--	--	0.47 U	0.45 U	1.1 U	1.1 U	2 U	2 U	1 U	1 U
BNA	2,4,5-Trichlorophenol	ug/L	--	2 UJ	0.86 U	0.45 UJ	1.1 U	2 U	1 U	2 UJ	2 UJ	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	2 U	2 U	1 U	1 U
BNA	2,4,6-Trichlorophenol	ug/L	--	2 UJ	0.86 U	0.45 UJ	1.1 U	2 U	1 U	2 UJ	2 UJ	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	2 U	2 U	1 U	1 U
BNA	2,4-Dichlorophenol	ug/L	--	0.98 UJ	0.86 U	0.45 UJ	1.1 U	1 U	1 U	0.98 UJ	1 UJ	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	0.98 UJ	0.86 U	0.45 UJ	1.1 U	1 U	1 U	0.98 UJ	1 UJ	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	7.8 UJ	0.86 UJ	0.45 UJ	2.1 U	4.1 U	2.1 UJ	7.8 UJ	8 UJ	0.85 UJ	0.91 UJ	0.47 UJ	0.45 UJ	2.1 U	2.2 U	4.1 UJ	4.1 UJ	2.1 UJ	2.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	0.98 UJ	0.86 U	0.45 U	1.1 U	2 U	1 U	0.98 UJ	1 UJ	0.85 U	0.91 U	0.47 U	0.45 U	1.1 U	1.1 U	2 U	2 U	1 U	1 U
BNA	2,6-Dinitrotoluene	ug/L	--	2 U	0.86 U	0.9 U	1.1 U	2 U	1 U	2 U	2 U	0.85 U	0.91 U	0.94 U	0.9 U	1.1 U	1.1 U	2 U	2 U	1 U	1 U
BNA	2-Chloronaphthalene	ug/L	--	0.98 U	0.86 U	0.45 UJ	1.1 U	1 U	1 U	0.98 U	1 U	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	2-Chlorophenol	ug/L	--	0.98 UJ	0.86 U	0.45 UJ	1.1 U	1 U	1 U	0.98 UJ	1 UJ	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	0.98 U	1.7 U	0.45 UJ	1.1 U	1 U	1 U	0.98 U	1 U	1.7 U	1.8 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	2-Nitroaniline	ug/L	--	0.98 UJ	0.86 U	0.45 U	1.1 U	2 U	2.1 U	0.98 UJ	1 UJ	0.85 U	0.91 U	0.47 UJ	0.45 U	1.1 U	1.1 U	2 U	2 U	2.1 U	2.1 U
BNA	2-Nitrophenol	ug/L	--	2 U	0.86 U	0.45 UJ	1.1 U	1 U	1 U	2 U	2 U	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	R	0.86 U	--	2.1 U	1 U	1 U	R	R	0.85 UJ	0.91 U	0.47 U	0.45 U	2.1 U	2.2 U	1 U	1 U	1 U	1 U
BNA	3-Nitroaniline	ug/L	--	0.98 UJ	0.86 U	0.45 U	1.1 U	2 U	2.1 U	0.98 UJ	1 UJ	0.85 U	0.91 U	0.47 UJ	0.45 U	1.1 U	1.1 U	2 U	2 U	2.1 U	2.1 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	2 UJ	0.86 U	0.9 U	1.1 U	4.1 U	2.1 U	2 UJ	2 UJ	0.85 U	0.91 U	0.94 U	0.9 U	1.1 U	1.1 U	4.1 U	4.1 U	2.1 U	2.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	0.98 U	0.86 U	0.45 U	1.1 U	1 U	1 U	0.98 U	1 U	0.85 U	0.91 U	0.47 U	0.45 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	2 UJ	0.86 U	0.45 UJ	1.1 U	2 U	1 U	2 UJ	2 UJ	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	2 U	2 U	1 U	1 U
BNA	4-Chloroaniline	ug/L	--	R	0.86 U	0.45 UJ	1.1 UJ	1 U	1 U	R	R	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ	1 U	1 U
BNA	4-Chlorophenyl-phenylether	ug/L	--	0.98 U	0.86 U	0.45 UJ	1.1 U	1 U	1 U	0.98 U	1 U	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	4-Methylphenol	ug/L	--	0.98 U	0.86 U	0.45 UJ	1.1 U	1 U	1 U	0.98 U	1 U	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	4-Nitroaniline	ug/L	--	3.9 UJ	0.86 U	0.45 U	2.1 U	4.1 U	1 U	3.9 UJ	4 UJ	0.85 U	R	0.47 UJ	0.45 U	2.1 U	2.2 U	4.1 U	4.1 U	1 U	1 U
BNA	4-Nitrophenol	ug/L	--	20 UJ	0.86 UJ	0.45 UJ	1.1 U	4.1 U	2.1 U	20 UJ	20 UJ	0.85 UJ	0.91 UJ	0.47 UJ	0.45 UJ	1.1 U	1.1 U	4.1 U	4.1 U	2.1 U	2.1 U
BNA	9H-Carbazole	ug/L	--	2 UJ	0.86 U	--	1.1 U	1 U	1 U	**0.96 J**	**0.87 J**	**6.8**	**5.6**	**12**	**12**	**21**	**21**	**3.5**	**3.7**	**26**	**24**
BNA	Acenaphthene	ug/L	3.0	--	--	--	--	--	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	--	--	--	--
BNA	Acenaphthylene	ug/L	--	--	--	--	--	--	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	--	--	--	--
BNA	Anthracene	ug/L	9.0	--	--	--	--	--	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	--	--	--	--
BNA	Atrazine	ug/L	--	0.98 UJ	0.86 U	0.45 U	1.1 U	1 U	1 U	0.98 UJ	1 UJ	0.85 U	0.91 U	0.47 U	0.45 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	Benzaldehyde	ug/L	--	0.98 U	0.86 U	0.45 UJ	1.1 U	2 U	1 U	0.98 U	1 U	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	2 U	2 U	1 U	1 U
BNA	Benzenemethanol	ug/L	--	R	1.7 UJ	--	--	--	--	R	R	1.7 UJ	1.8 UJ	--	--	--	--	--	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	7.8 UJ	0.86 UJ	--	--	--	--	7.8 UJ	8 UJ	4.9 UJ	5.6 UJ	--	--	--	--	--	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	0.98 U	0.86 U	0.45 UJ	1.1 U	1 U	1 U	0.98 U	1 U	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	0.98 U	0.86 U	0.45 UJ	1.1 U	1 U	1 U	0.98 U	1 U	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	0.98 U	0.86 U	0.45 UJ	1.1 U	1 U	1 U	0.98 U	1 U	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	2 U	0.86 U	--	1.1 U	2 U	2.1 U	2 U	2 U	0.85 U	1.3 U	0.47 U	0.45 U	1.1 U	1.1 U	2 U	2 U	2.1 U	2.1 U
BNA	Butylbenzylphthalate	ug/L	--	0.98 U	0.86 U	--	1.1 U	2 U	2.1 U	0.98 U	1 U	0.85 U	0.91 U	0.47 U	0.45 U	1.1 U	1.1 U	2 U	2 U	2.1 U	2.1 U
BNA	Caffeine	ug/L	--	--	--	--	1.1 U	1 U	1 UJ	--	--	--	--	0.47 U	0.45 U	1.1 U	1.1 U	1 U	1 U	1 UJ	1 UJ
BNA	Caprolactam	ug/L	--	20 U	0.86 UJ	0.45 UJ	1.1 UJ	2 U	4.2 UJ	20 U	20 U	0.85 UJ	R	0.47 UJ	0.45 UJ	1.1 UJ	1.1 UJ	2 UJ	2 UJ	4.2 UJ	4.2 UJ
BNA	Chrysene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	**0.047 J**	0.86 U	0.45 UJ	1.1 U	1 U	1 U	**6.1**	**5.7**	**6.2**	**6.3**	**8.6 J**	**8.7 J**	**29**	**28**	1 U	1 U	**12**	**11**
BNA	Diethylphthalate	ug/L	--	2 UJ	0.86 U	0.45 U	1.1 U	1 U	1 U	2 UJ	2 UJ	0.85 U	0.61 U	0.47 U	0.45 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	Dimethylphthalate	ug/L	--	0.98 UJ	0.86 U	0.45 U	1.1 U	1 U	1 U	0.98 UJ	1 UJ	0.85 U	0.91 U	0.47 U	0.45 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	2 UJ	0.86 U	--	1.1 U	1 U	2.1 U	2 UJ	2 UJ	0.85 U	0.91 U	0.47 U	0.45 U	1.1 U	1.1 U	1 U	1 U	2.1 U	2.1 U
BNA	Di-n-octylphthalate	ug/L	--	2 U	0.86 U	--	1.1 U	2 U	2.1 U	2 U	2 U	0.85 U	0.91 U	0.47 U	0.45 U	1.1 U	1.1 U	2 U	2 U	2.1 U	2.1 U
BNA	Ethanone, 1-phenyl-	ug/L	--	0.98 U	0.86 U	0.45 UJ	1.1 U	1 U	1 U	0.98 U	1 U	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	Fluoranthene	ug/L	3.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	0.98 U	0.86 U	0.45 U	1.1 U	1 U	1 U	0.98 U	1 U	0.85 U	0.91 U	0.47 U	0.45 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	0.98 U	0.86 U	0.45 UJ	1.1 UJ	1 U	4.2 UJ	0.98 U	1 U	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ	4.2 UJ	4.2 UJ

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	VG-1L 2/16/2009	VG-1L 9/14/2009	VG-1L 5/3/2010	VG-1L 6/18/2012	VG-1L 05/06/2013	VG-1L 10/20/2014	VG-2L 2/16/2009	VG-2L-FD 2/16/2009	VG-2L 9/14/2009	VG-2L-FD 9/14/2009	VG-2L 5/3/2010	VG-2L-FD 5/3/2010	VG-2L 6/21/2012	VG-2L-FD 6/21/2012	VG-2L 05/06/2013	VG-2L-FD 05/06/2013	VG-2L 10/20/2014	VG-2L-FD 10/20/2014
BNA	Hexachlorocyclopentadiene	ug/L	--	2 U	0.86 U	0.45 UJ	1.1 UJ	2 U	1 UJ	2 U	2 U	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 UJ	1.1 UJ	2 U	2 U	1 UJ	1 UJ
BNA	Hexachloroethane	ug/L	--	0.98 U	0.86 U	0.45 UJ	1.1 UJ	1 U	1 UJ	0.98 U	1 U	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 UJ	1.1 UJ	1 U	1 U	1 UJ	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	0.98 U	0.86 U	0.45 UJ	1.1 U	1 U	1 U	0.98 U	1 U	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	Naphthalene	ug/L	83	0.98 U	--	--	--	--	--	0.98 U	1 U	--	--	--	--	--	--	--	--	--	--
BNA	Nitrobenzene	ug/L	--	--	0.86 U	0.45 UJ	1.1 U	1 U	1 U	--	--	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	0.98 U	--	--	--	--	--	0.98 U	1 U	--	--	--	--	--	--	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	0.98 UJ	0.86 U	0.45 UJ	1.1 U	2 U	1 U	0.98 UJ	1 UJ	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	2 U	2 U	1 U	1 U
BNA	n-Nitrosodiphenylamine	ug/L	--	--	0.86 UJ	0.45 UJ	1.1 U	1 U	1 U	--	--	0.85 UJ	0.91 UJ	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 UJ	1 UJ	1 U	1 U
BNA	Pentachlorophenol	ug/L	4.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Phenol	ug/L	--	0.98 U	0.86 U	0.45 UJ	1.1 U	1 U	1 U	0.98 U	1 U	0.85 U	0.91 U	0.47 UJ	0.45 UJ	1.1 U	1.1 U	1 U	1 U	1 U	1 U
BNA	Pyrene	ug/L	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U	**0.41**	**0.2**	0.029 U	0.029 U	**9.1**	**5.1**	**11**	**15**	**0.087**	**0.93**	**3.2**	**3.5**
PAH	Acenaphthene	ug/L	3.0	**0.088**	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U	**5**	**4.6**	**7.5**	**7.4**	**26**	**17**	**35**	**60**	**15**	**14**	**40**	**38**
PAH	Acenaphthylene	ug/L	--	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U	**0.067**	**0.059**	**0.15**	**0.13**	**0.6**	**0.5**	**0.76**	**0.9**	**0.3**	**0.28**	**0.56**	**0.54**
PAH	Anthracene	ug/L	9	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U	**1.7**	**1.6**	**1.1**	**0.97**	**1.8**	**1.5**	**3.2**	**3.8**	**0.89**	**0.72**	**1.5**	**1.4**
PAH	Benzo(a)anthracene	ug/L	0.030	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U	**0.25**	**0.25**	**0.16**	**0.15**	**0.44 J**	**0.36 J**	**1.8**	**0.96**	**0.35**	**0.4**	**0.28**	**0.17**
PAH	Benzo(a)pyrene	ug/L	0.030	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	0.031 U	0.031 U	**0.42**	**0.25**	**0.079**	**0.098**	**0.084**	0.065 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	**0.06 J**	**0.053 J**	**0.57**	**0.33**	**0.11**	**0.14**	**0.12**	0.065 U
PAH	Benzo(g,h,i)perylene	ug/L	--	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	0.031 U	0.031 UJ	**0.1**	**0.061**	0.03 U	0.031 U	0.029 U	0.065 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	0.031 U	0.031 U	**0.37**	**0.16**	**0.067**	**0.087**	**0.061**	0.065 U
PAH	Chrysene	ug/L	0.030	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U	**0.18**	**0.17**	**0.095**	**0.092**	**0.13**	**0.1**	**1.5**	**0.82**	**0.28**	**0.35**	**0.23**	**0.14**
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	0.031 U	0.031 U	**0.038**	0.03 U	0.03 U	0.031 U	0.029 U	0.065 U
PAH	Fluoranthene	ug/L	3.0	**0.088**	0.029 U	0.029 U	**0.032**	0.031 U	0.029 U	**4.8**	**5.1**	**2.8**	**2.6**	**6.5**	**4.1**	**11**	**7.6**	**3.1**	**2.6**	**3.6**	**3.4**
PAH	Fluorene	ug/L	3.0	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U	**6.8**	**6.4**	**3.6**	**3.3**	**12**	**7.9**	**19**	**22**	**0.78**	**0.91**	**5.3**	**4.9**
PAH	HPAH	ug/L	0.25	**0.125 C**	0.029 U	0.029 U	**0.032 C**	0.031 U	0.029 U	**8.23 C**	**8.52 C**	**4.6 C**	**4.3 C**	**10 C**	**7.1 C**	**22 C**	**14 C**	**5.986 C**	**5.475 C**	**6.575 C**	**5.61 C**
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	0.029 U	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U	0.029 U	0.031 U	0.029 U	0.029 U	0.031 U	0.031 U	**0.1**	**0.062**	0.03 U	0.031 U	0.029 U	0.065 U
PAH	Naphthalene	ug/L	83	**0.084**	0.029 U	**0.075**	**0.074**	**0.048**	**0.036**	**4.8**	**4.2**	**0.68**	**0.59**	**170**	**150**	**190**	**260**	**3.1**	**27**	**110**	**100**
PAH	Phenanthrene	ug/L	--	0.029 U	0.029 U	0.029 U	0.03 J	0.031 U	0.029 U	**18**	**19**	**11**	**11**	**20**	**12**	**36**	**32**	**1.8**	**1.6**	**14**	**13**
PAH	Pyrene	ug/L	15	**0.037**	0.029 U	0.029 U	0.03 U	0.031 U	0.029 U	**3**	**3**	**1.5**	**1.5**	**3.1**	**2.5**	**6.1**	**4**	**2**	**1.8**	**2.2**	**1.9**
PCP	Pentachlorophenol	ug/L	4.9	0.074 U	0.074 U	0.075 U	0.076 U	0.08 U	0.074 U	0.075 U	0.078 U	0.074 U	0.074 U	0.08 U	0.078 U	0.076 U	0.076 U	0.076 U	0.078 U	0.074 U	0.17 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	190 U	93 U	96 U	96 U	99 U	190 UJ	**380**	**350**	**490**	**410**	98 U	**840**	**1,400**	**1,700**	97 U	99 U	**880**	**880**
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	470 U	190 U	190 U	190 U	200 U	460 UJ	480 U	480 U	190 U	190 U	200 U	190 U	190 U	190 U	190 U	200 U	480 U	480 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons
* From Wyckoff ROD 2/2000
**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.
*** Salinity reported in ppt (parts per trillion) in October 2014

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	VG-3L 2/17/2009	VG-3L 9/15/2009	VG-3L 5/4/2010	VG-3L 6/19/2012	VG-3L 5/7/2013	VG-4L 2/18/2009	VG-4L 9/16/2009	VG-4L 5/4/2010	VG-4L 6/19/2012	VG-4L 5/7/2013	VG-4L 10/21/2014
General	Dissolved Oxygen	mg/L	--	**4.42**	**8.39**	**3.98**	**6.58**	**5.73**	**4.84**	**7.38**	**6.79**	**6.38**	**5.55**	**3.03**
General	Eh	mV	--	--	**--**	**--**	**--**	--	--	**--**	**--**	**--**	--	--
General	Oxidization Reduction Potential	mV	--	**255**	**142**	**91**	**82**	**41**	**212**	**136**	**111**	**67**	**66**	**19**
General	pH	units	--	**7.54**	**6.76**	**7.76**	**8.04**	**7.91**	**7.97**	**7.66**	**7.73**	**9.02**	**9.45**	**7.91**
General	Salinity	%***	--	**0**	**0.03**	**0**	**0**	**0.02**	**0.01**	**0**	**0**	**0**	**0**	**0.1**
General	Specific Conductivity	mS	--	**0.492**	**0.705**	**0.412**	**0.442**	**0.475**	**0.272**	**0.281**	**0.286**	**0.279**	**0.862**	**0.233**
General	Temperature	°C	--	**12.25**	**14.09**	**11.8**	**13.51**	**12.69**	**14.7**	**14.46**	**11.59**	**12.88**	**13.85**	**13.72**
General	Turbidity	ntu	--	**19.8**	**0**	**14.3**	**32.2**	**25.6**	**7.3**	**2.8**	**4.2**	**60**	**70.3**	**0**
BNA	1,1'-Biphenyl	ug/L	--	1 UJ	0.96 UJ	0.49 U	1 U	1 U	1 U	0.94 UJ	0.48 U	1.1 U	1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	--	0.49 U	1 U	1 U	--	--	0.48 U	1.1 U	1 U	1 UJ
BNA	1,2,4-Trichlorobenzene	ug/L	--	1 UJ	0.96 U	0.49 UJ	1 UJ	1 U	1 U	0.94 U	0.48 UJ	1.1 UJ	1 U	1 UJ
BNA	1,2-Dichlorobenzene	ug/L	--	1 UJ	0.96 U	--	--	--	1 U	0.94 U	--	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	1 UJ	0.96 UJ	--	--	--	1 U	0.94 UJ	--	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	1 UJ	0.96 U	--	--	--	1 U	0.94 U	--	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	1 UJ	0.96 U	--	--	--	1 U	0.94 U	--	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	0.96 U	0.49 U	1 U	1 U	--	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	0.49 U	1 U	2 U	--	--	0.48 U	1.1 U	2 U	1 U
BNA	2,4,5-Trichlorophenol	ug/L	--	2 UJ	0.96 U	0.49 UJ	1 U	2 U	2 UJ	0.94 U	0.48 UJ	1.1 U	2 U	1 U
BNA	2,4,6-Trichlorophenol	ug/L	--	2 UJ	0.96 U	0.49 UJ	1 U	2 U	2 U	0.94 U	0.48 UJ	1.1 U	2 U	1 U
BNA	2,4-Dichlorophenol	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	1 UJ	0.96 U	0.49 UJ	1 U	1 U	1 U	0.94 U	0.48 UJ	1.1 U	1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	8.2 UJ	0.96 U	0.49 UJ	2.1 U	4 UJ	8 U	0.94 U	0.48 UJ	2.1 U	4.1 UJ	2.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	2 U	1 U	0.94 U	0.48 U	1.1 U	2 U	1 U
BNA	2,6-Dinitrotoluene	ug/L	--	2 UJ	0.96 U	0.98 U	1 U	2 U	2 U	0.94 U	0.96 U	1.1 U	2 U	1 U
BNA	2-Chloronaphthalene	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	2-Chlorophenol	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	1 UJ	1.9 U	0.49 U	1 U	1 U	1 U	1.8 U	0.48 U	1.1 U	1 U	1 U
BNA	2-Nitroaniline	ug/L	--	1 UJ	0.96 U	0.49 UJ	1 U	2 U	1 U	0.94 U	0.48 U	1.1 U	2 U	2.1 U
BNA	2-Nitrophenol	ug/L	--	2 UJ	0.96 U	0.49 U	1 U	1 U	2 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	16 UJ	0.96 UJ	0.49 UJ	2.1 U	1 U	16 UJ	0.94 UJ	0.48 UJ	2.1 U	1 U	1 U
BNA	3-Nitroaniline	ug/L	--	1 UJ	0.96 U	0.49 UJ	1 U	2 U	1 UJ	0.94 U	0.48 U	1.1 U	2 U	2.1 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	2 UJ	0.96 U	0.98 U	1 U	4 U	2 U	0.94 U	0.96 U	1.1 U	4.1 U	2.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	2 UJ	0.96 U	0.49 U	1 U	2 U	2 U	0.94 U	0.48 U	1.1 U	2 U	1 U
BNA	4-Chloroaniline	ug/L	--	20 UJ	0.96 U	0.49 UJ	1 UJ	1 UJ	20 UJ	0.94 U	0.48 UJ	1.1 UJ	1 UJ	1 U
BNA	4-Chlorophenyl-phenylether	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	4-Methylphenol	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	4-Nitroaniline	ug/L	--	4.1 UJ	0.96 UJ	0.49 UJ	2.1 U	4 U	4 UJ	0.94 UJ	0.48 U	2.1 U	4.1 U	1 U
BNA	4-Nitrophenol	ug/L	--	20 UJ	0.96 U	0.49 UJ	1 U	4 U	20 U	0.94 U	0.48 UJ	1.1 U	4.1 U	2.1 U
BNA	9H-Carbazole	ug/L	--	2 UJ	0.96 U	0.49 U	1 U	1 U	2 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	Acenaphthene	ug/L	3.0	--	--	--	--	--	--	--	--	--	--	--
BNA	Acenaphthylene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Anthracene	ug/L	9.0	--	--	--	--	--	--	--	--	--	--	--
BNA	Atrazine	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	Benzaldehyde	ug/L	--	1 UJ	0.96 U	0.49 UJ	1 U	2 U	1 U	0.94 U	0.48 UJ	1.1 U	2 U	1 U
BNA	Benzenemethanol	ug/L	--	R	1.9 UJ	--	--	--	R	1.8 UJ	--	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	VG-3L 2/17/2009	VG-3L 9/15/2009	VG-3L 5/4/2010	VG-3L 6/19/2012	VG-3L 5/7/2013	VG-4L 2/18/2009	VG-4L 9/16/2009	VG-4L 5/4/2010	VG-4L 6/19/2012	VG-4L 5/7/2013	VG-4L 10/21/2014
BNA	Benzoic acid	ug/L	--	8.2 UJ	2.8 U	--	--	--	8 UJ	3 U	--	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	1 UJ	0.96 U	0.49 UJ	1 U	1 U	1 U	0.94 U	0.48 UJ	1.1 U	1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	2 UJ	0.96 U	0.49 U	1 U	2 U	2 U	0.94 U	0.48 U	1.1 U	2 U	2.1 U
BNA	Butylbenzylphthalate	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	2 U	1 U	0.94 U	0.48 U	1.1 U	2 U	2.1 U
BNA	Caffeine	ug/L	--	--	--	0.49 UJ	1 U	1 U	--	--	0.48 UJ	1.1 U	1 U	1 UJ
BNA	Caprolactam	ug/L	--	20 UJ	0.96 UJ	0.49 UJ	1 UJ	2 UJ	20 U	0.94 UJ	0.48 UJ	1.1 UJ	2 UJ	4.2 UJ
BNA	Chrysene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	--	--	--	--	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	Diethylphthalate	ug/L	--	2 UJ	0.96 U	0.49 U	1 U	1 U	2 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	Dimethylphthalate	ug/L	--	1 UJ	0.96 U	0.49 UJ	1 U	1 U	1 U	0.94 U	0.48 UJ	1.1 U	1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	2 UJ	0.96 U	0.49 U	1 U	1 U	2 U	0.94 U	0.48 U	1.1 U	1 U	2.1 U
BNA	Di-n-octylphthalate	ug/L	--	2 UJ	0.96 U	0.49 U	1 U	2 U	2 U	0.94 U	0.48 U	1.1 U	2 U	2.1 U
BNA	Ethanone, 1-phenyl-	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	Fluoranthene	ug/L	3.0	--	--	--	--	--	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	--	--	--	--	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	1 UJ	0.96 U	0.49 UJ	1 UJ	1 UJ	1 U	0.94 U	0.48 UJ	1.1 UJ	1 UJ	4.2 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	2 UJ	0.96 U	0.49 UJ	1 UJ	2 UJ	2 U	0.94 U	0.48 UJ	1.1 UJ	2 UJ	1 UJ
BNA	Hexachloroethane	ug/L	--	1 UJ	0.96 U	0.49 UJ	1 UJ	1 UJ	1 U	0.94 U	0.48 UJ	1.1 UJ	1 UJ	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	--	--	--	--	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	Naphthalene	ug/L	83	1 UJ	--	--	--	--	1 U	--	--	--	--	--
BNA	Nitrobenzene	ug/L	--	--	0.96 U	0.49 U	1 U	1 U	--	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	1 UJ	--	--	--	--	1 U	--	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	2 U	1 U	0.94 U	0.48 U	1.1 U	2 U	1 U
BNA	n-Nitrosodiphenylamine	ug/L	--	--	0.96 UJ	0.49 UJ	1 U	1 UJ	--	0.94 UJ	0.48 UJ	1.1 U	1 UJ	1 U
BNA	Pentachlorophenol	ug/L	4.9	--	--	--	--	--	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
BNA	Phenol	ug/L	--	1 UJ	0.96 U	0.49 U	1 U	1 U	1 U	0.94 U	0.48 U	1.1 U	1 U	1 U
BNA	Pyrene	ug/L	15	--	--	--	--	--	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PAH	Acenaphthene	ug/L	3.0	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PAH	Acenaphthylene	ug/L	--	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PAH	Anthracene	ug/L	9	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PAH	Benzo(a)anthracene	ug/L	0.030	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U	0.029 UJ	0.031 U	0.031 U	0.03 U	0.031 U
PAH	Benzo(a)pyrene	ug/L	0.030	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PAH	Benzo(g,h,i)perylene	ug/L	--	0.029 U	0.029 U	0.031 UJ	0.03 U	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PAH	Chrysene	ug/L	0.030	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PAH	Fluoranthene	ug/L	3.0	0.029 U	0.029 U	0.031 U	**0.04**	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PAH	Fluorene	ug/L	3.0	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PAH	HPAH	ug/L	0.25	0.029 U	0.029 U	0.031 U	**0.04 C**	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PAH	Naphthalene	ug/L	83	0.029 U	0.029 U	**0.049**	0.03 U	0.03 U	0.029 U	0.029 U	**0.093**	0.031 U	0.03 U	**0.035**
PAH	Phenanthrene	ug/L	--	0.029 U	0.029 U	0.031 U	**0.1**	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PAH	Pyrene	ug/L	15	0.029 U	0.029 U	0.031 U	0.03 U	0.03 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U	0.031 U
PCP	Pentachlorophenol	ug/L	4.9	0.075 U	0.074 U	0.08 U	0.078 U	0.077 U	0.074 U	0.074 U	0.08 U	0.078 U	0.078 U	0.079 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	VG-3L 2/17/2009	VG-3L 9/15/2009	VG-3L 5/4/2010	VG-3L 6/19/2012	VG-3L 5/7/2013	VG-4L 2/18/2009	VG-4L 9/16/2009	VG-4L 5/4/2010	VG-4L 6/19/2012	VG-4L 5/7/2013	VG-4L 10/21/2014
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	190 U	93 U	**640**	95 U	98 U	190 U	94 U	98 U	100 U	95 U	190 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	480 U	190 U	200 U	190 U	200 U	460 U	190 U	200 U	200 U	190 U	470 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000

**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.

*** Salinity reported in ppt (parts per trillion) in October 2014

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	VG-5L 2/18/2009	VG-5L-FD 2/18/2009	VG-5L 9/16/2009	VG-5L-FD 9/16/2009	VG-5L 5/4/2010	VG-5L 6/20/2012	VG-5L 5/8/2013	VG-5L 10/21/2014
General	Dissolved Oxygen	mg/L	--	**3.87**	**--**	**2.33**	**--**	**1.43**	**2**	**1.01**	**0**
General	Eh	mV	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	--
General	Oxidization Reduction Potential	mV	--	**55**	**--**	**91**	**--**	**171**	**95**	**97**	**-115**
General	pH	units	--	**7.76**	**--**	**8.44**	**--**	**7.25**	**8.42**	**8.92**	**7.94**
General	Salinity	%***	--	**0.01**	**--**	**0**	**--**	**0**	**0**	**0**	**0.1**
General	Specific Conductivity	mS	--	**0.265**	**--**	**0.346**	**--**	**0.268**	**35.6**	**0.956**	**0.278**
General	Temperature	°C	--	**12.1**	**--**	**15.3**	**--**	**12.33**	**14.1**	**14.53**	**14**
General	Turbidity	ntu	--	**59.9**	**--**	**6.3**	**--**	**41.6**	**8**	**39.4**	**5.3**
BNA	1,1'-Biphenyl	ug/L	--	1 U	1.1 U	1 UJ	0.96 UJ	0.51 U	1 U	1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	--	--	--	0.51 U	1 U	1 U	1 UJ
BNA	1,2,4-Trichlorobenzene	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 UJ	1 UJ	1 U	1 UJ
BNA	1,2-Dichlorobenzene	ug/L	--	1 U	1.1 U	1 U	0.96 U	--	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	1 U	1.1 U	1 UJ	0.96 UJ	--	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	1 U	1.1 U	1 U	0.96 U	--	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	1 U	1.1 U	1 U	0.96 U	--	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	--	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	0.51 U	1 U	2 U	1 U
BNA	2,4,5-Trichlorophenol	ug/L	--	2 UJ	2.1 UJ	1 U	0.96 U	0.51 UJ	1 U	2 U	1 U
BNA	2,4,6-Trichlorophenol	ug/L	--	2 U	2.1 U	1 U	0.96 U	0.51 UJ	1 U	2 U	1 U
BNA	2,4-Dichlorophenol	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	8.2 U	8.5 U	1 U	0.96 U	0.51 UJ	2.1 U	4.1 UJ	2.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	2 U	1 U
BNA	2,6-Dinitrotoluene	ug/L	--	2 U	2.1 U	1 U	0.96 U	1 U	1 U	2 U	1 U
BNA	2-Chloronaphthalene	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	2-Chlorophenol	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	1 U	1.1 U	2 U	1.9 U	0.51 U	1 U	1 U	1 U
BNA	2-Nitroaniline	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	2 U	2.1 U
BNA	2-Nitrophenol	ug/L	--	2 U	2.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	16 UJ	17 UJ	1 UJ	0.96 UJ	0.51 UJ	2.1 U	1 U	1 U
BNA	3-Nitroaniline	ug/L	--	1 UJ	1.1 UJ	1 U	0.96 U	0.51 U	1 U	2 U	2.1 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	2 U	2.1 U	1 U	0.96 U	1 U	1 U	4.1 U	2.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	2 U	2.1 U	1 U	0.96 U	0.51 U	1 U	2 U	1 U
BNA	4-Chloroaniline	ug/L	--	20 UJ	21 UJ	1 U	0.96 U	0.51 UJ	1 UJ	1 UJ	1 U
BNA	4-Chlorophenyl-phenylether	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	4-Methylphenol	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	4-Nitroaniline	ug/L	--	4.1 UJ	4.3 UJ	1 UJ	0.96 UJ	0.51 U	2.1 U	4.1 U	1 U
BNA	4-Nitrophenol	ug/L	--	20 U	21 U	1 U	0.96 U	0.51 UJ	1 U	4.1 U	2.1 U
BNA	9H-Carbazole	ug/L	--	2 U	2.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	Acenaphthene	ug/L	3.0	--	--	--	--	--	--	--	--
BNA	Acenaphthylene	ug/L	--	--	--	--	--	--	--	--	--
BNA	Anthracene	ug/L	9.0	--	--	--	--	--	--	--	--
BNA	Atrazine	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	VG-5L 2/18/2009	VG-5L-FD 2/18/2009	VG-5L 9/16/2009	VG-5L-FD 9/16/2009	VG-5L 5/4/2010	VG-5L 6/20/2012	VG-5L 5/8/2013	VG-5L 10/21/2014
BNA	Benzaldehyde	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	2 U	1 U
BNA	Benzenemethanol	ug/L	--	R	R	2 UJ	1.9 UJ	--	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	--	--	--	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	--	--	--	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	--	--	--	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	--	--	--	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	8.2 UJ	8.5 UJ	3.1 U	2.7 U	--	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	2 U	2.1 U	1 U	0.96 U	0.51 U	1 U	2 U	2.1 U
BNA	Butylbenzylphthalate	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	2 U	2.1 U
BNA	Caffeine	ug/L	--	--	--	--	--	0.51 UJ	1 U	1 U	1 UJ
BNA	Caprolactam	ug/L	--	20 U	21 U	1 UJ	0.96 UJ	0.51 UJ	1 UJ	2 UJ	4.2 UJ
BNA	Chrysene	ug/L	0.030	--	--	--	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	--	--	--	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	Diethylphthalate	ug/L	--	2 U	2.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	Dimethylphthalate	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	2 U	2.1 U	1 U	0.96 U	0.51 U	1 U	1 U	2.1 U
BNA	Di-n-octylphthalate	ug/L	--	2 U	2.1 U	1 U	0.96 U	0.51 U	1 U	2 U	2.1 U
BNA	Ethanone, 1-phenyl-	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	Fluoranthene	ug/L	3.0	--	--	--	--	--	--	--	--
BNA	Fluorene	ug/L	3.0	--	--	--	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 UJ	1 UJ	1 UJ	4.2 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	2 U	2.1 U	1 U	0.96 U	0.51 UJ	1 UJ	2 UJ	1 UJ
BNA	Hexachloroethane	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 UJ	1 UJ	1 UJ	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	--	--	--	--	--	--	--
BNA	Isophorone	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	Naphthalene	ug/L	83	1 U	1.1 U	--	--	--	--	--	--
BNA	Nitrobenzene	ug/L	--	--	--	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	1 U	1.1 U	--	--	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	2 U	1 U
BNA	n-Nitrosodiphenylamine	ug/L	--	--	--	1 UJ	0.96 UJ	0.51 UJ	1 U	1 UJ	1 U
BNA	Pentachlorophenol	ug/L	4.9	--	--	--	--	--	--	--	--
BNA	Phenanthrene	ug/L	--	--	--	--	--	--	--	--	--
BNA	Phenol	ug/L	--	1 U	1.1 U	1 U	0.96 U	0.51 U	1 U	1 U	1 U
BNA	Pyrene	ug/L	15	--	--	--	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	--	--	--	--	--	--
PAH	1-Methylnaphthalene	ug/L	--	--	--	--	--	--	--	--	--
PAH	2-Chloronaphthalene	ug/L	--	--	--	--	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PAH	Acenaphthene	ug/L	3.0	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U

Table 3
All Lower Aquifer Results - 1994 through October 2014
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	VG-5L 2/18/2009	VG-5L-FD 2/18/2009	VG-5L 9/16/2009	VG-5L-FD 9/16/2009	VG-5L 5/4/2010	VG-5L 6/20/2012	VG-5L 5/8/2013	VG-5L 10/21/2014
PAH	Acenaphthylene	ug/L	--	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PAH	Anthracene	ug/L	9	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PAH	Benzo(a)anthracene	ug/L	0.030	0.029 U	0.031 U	0.029 UJ	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PAH	Benzo(a)pyrene	ug/L	0.030	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PAH	Benzo(g,h,i)perylene	ug/L	--	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PAH	Chrysene	ug/L	0.030	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PAH	Fluoranthene	ug/L	3.0	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PAH	Fluorene	ug/L	3.0	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PAH	HPAH	ug/L	0.25	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.0296	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PAH	Naphthalene	ug/L	83	0.029 U	0.031 U	0.029 U	0.029 U	0.045	0.03 U	**0.03 U**	**0.14**
PAH	Phenanthrene	ug/L	--	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PAH	Pyrene	ug/L	15	0.029 U	0.031 U	0.029 U	0.029 U	0.029 U	0.03 U	0.03 U	0.029 U
PCP	Pentachlorophenol	ug/L	4.9	0.075 U	0.078 U	0.074 U	0.074 U	0.075 U	0.076 U	0.077 U	0.074 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	200 U	190 U	94 U	94 U	94 U	96 U	100 U	190 U
TPH	TPH-GC/Motor Oil Range Organic	ug/L	--	500 U	480 U	190 U	190 U	190 U	190 U	190 U	480 U

Notes:

BNA = base/neutral and acid extractables

General = general chemistry

HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon

PAH = polynuclear aromatic hydrocarbons

TPH = total petroleum hydrocarbons

J = The analyte was positively identified; the quantitation is an estimation.

U = The analyte was not detected at or above the reported value.

C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.

* From Wyckoff ROD 2/2000

**CW-15 and CW15-FD naphthalene was reported by lab with BNA results using Method 8270D.

*** Salinity reported in ppt (parts per trillion) in October 2014

Table 4
All Upper Aquifer Results - 1994 through May 2013
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	MW21 03/17/2004	MW21 01/23/2006	MW21 09/18/2006	MW21 2/19/2009	MW21 9/17/2009	MW21 5/5/2010	MW21 6/21/2012	MW21 5/9/2013
General	Dissolved Oxygen	mg/L	--	--	**1.47**	**0**	**0**	**1.7**	**0**	**6.02**	**0.42**
General	Eh	mV	--	--	--	--	**--**	--	**--**	**--**	--
General	Oxidization Reduction Potential	mV	--	--	**-144**	**106**	**287**	**83**	**-134**	**17**	**-89**
General	pH	units	--	--	**6.76**	**6.32**	**6.13**	**6.39**	**6.74**	**6.82**	**6.69**
General	Salinity	%***	--	--	**0.02**	**0.02**	**0**	**0**	**0**	**0.04**	**0.01**
General	Specific Conductivity	mS	--	--	**0.601**	**0.376**	**0.371**	**0.455**	**0.651**	**0.817**	**0.358**
General	Temperature	°C	--	--	**11.8**	**15.49**	**11.42**	**16.96**	**11.55**	**16.81**	**13.36**
General	Turbidity	ntu	--	--	**13.8**	**19.7**	**223**	**10.7**	**5.5**	**15**	**24.1**
BNA	1,1'-Biphenyl	ug/L	--	**0.032 J**	5 U	0.4 U	1 U	1 UJ	0.46 U	1.1 U	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	5 U	--	--	--	0.46 U	1.1 U	1 U
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	1 U	0.46 UJ	1.1 UJ	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	1 U	--	--	--
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	0.4 U	1 U	1 UJ	--	--	--
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	1 U	--	--	--
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	1 U	1 U	--	--	--
BNA	1-Methylnaphthalene	ug/L	--	--	--	0.4 U	--	1 U	0.46 U	1.1 U	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	0.46 U	1.1 U	2 U
BNA	2,4,5-Trichlorophenol	ug/L	--	0.37 U	20 U	0.8 U	2 U	1 U	0.46 UJ	1.1 U	2 U
BNA	2,4,6-Trichlorophenol	ug/L	--	0.74 U	5 U	0.4 U	2 U	1 U	0.46 UJ	1.1 U	2 U
BNA	2,4-Dichlorophenol	ug/L	--	0.74 U	5 U	0.4 U	1 U	1 U	0.46 U	1.1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	0.37 U	5 U	0.4 U	1 U	1 U	0.46 UJ	1.1 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	--	20 U	4 U	8 UJ	1 U	0.46 UJ	2.1 U	4.1 UJ
BNA	2,4-Dinitrotoluene	ug/L	--	1.9 U	5 U	0.8 U	1 U	1 U	0.46 U	1.1 U	2 U
BNA	2,6-Dinitrotoluene	ug/L	--	0.74 U	5 U	0.4 U	2 U	1 U	0.93 U	1.1 U	2 U
BNA	2-Chloronaphthalene	ug/L	--	0.37 U	5 U	0.4 U	1 U	1 U	0.46 U	1.1 U	1 U
BNA	2-Chlorophenol	ug/L	--	0.37 U	5 U	0.4 U	1 U	1 U	0.46 U	1.1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	0.37 U	5 U	0.4 U	--	--	--	--	--
BNA	2-Methylphenol	ug/L	--	0.37 U	5 U	0.4 U	1 U	2 U	0.46 U	1.1 U	1 U
BNA	2-Nitroaniline	ug/L	--	1.9 U	20 U	0.8 U	1 U	1 U	0.46 U	1.1 U	2 U
BNA	2-Nitrophenol	ug/L	--	1.9 U	5 U	0.4 U	2 UJ	1 U	0.46 U	1.1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	1.9 U	5 U	0.8 UJ	R	1 UJ	0.46 UJ	2.1 U	1 U
BNA	3-Nitroaniline	ug/L	--	1.9 U	20 U	0.8 U	1 UJ	1 U	0.46 U	1.1 U	2 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	3.7 U	20 U	2 U	2 U	1 U	0.93 U	1.1 U	4.1 U
BNA	4-Bromophenyl-phenylether	ug/L	--	0.37 U	5 U	0.4 U	1 U	1 U	0.46 U	1.1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	0.37 U	5 U	0.8 U	2 U	1 U	0.46 U	1.1 U	2 U
BNA	4-Chloroaniline	ug/L	--	0.37 U	5 U	0.4 UJ	R	1 U	0.46 UJ	1.1 UJ	1 UJ
BNA	4-Chlorophenyl-phenylether	ug/L	--	0.37 U	5 U	0.4 U	1 U	1 U	0.46 U	1.1 U	1 U
BNA	4-Methylphenol	ug/L	--	0.37 U	5 U	0.4 U	1 U	1 U	0.46 U	1.1 U	1 U
BNA	4-Nitroaniline	ug/L	--	--	20 U	0.8 U	4 UJ	1 UJ	0.46 U	2.1 U	4.1 U
BNA	4-Nitrophenol	ug/L	--	1.9 U	20 U	4 U	20 UJ	1 U	0.46 UJ	1.1 U	4.1 U
BNA	9H-Carbazole	ug/L	--	0.37 U	--	0.4 U	2 U	1 U	0.46 U	1.1 U	1 U
BNA	Acenaphthene	ug/L	3.0	0.37 U	**1.7 J**	0.4 U	--	--	--	--	--

Table 4
All Upper Aquifer Results - 1994 through May 2013
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	MW21 03/17/2004	MW21 01/23/2006	MW21 09/18/2006	MW21 2/19/2009	MW21 9/17/2009	MW21 5/5/2010	MW21 6/21/2012	MW21 5/9/2013
BNA	Acenaphthylene	ug/L	--	0.37 U	5 U	0.4 U	--	--	--	--	--
BNA	Anthracene	ug/L	9.0	**0.056 J**	5 U	0.4 U	--	--	--	--	--
BNA	Atrazine	ug/L	--	**0.65 J**	5 U	**0.52**	**0.5 J**	**0.47 J**	0.46 U	1.1 U	1 U
BNA	Benzaldehyde	ug/L	--	0.74 U	5 U	0.4 U	1 U	1 U	0.46 UJ	1.1 U	2 U
BNA	Benzenemethanol	ug/L	--	--	--	0.8 U	R	2 UJ	--	--	--
BNA	Benzo(a)anthracene	ug/L	0.030	0.37 U	5 U	0.4 U	--	--	--	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	0.74 U	5 U	0.4 U	--	--	--	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	1.9 U	5 U	0.4 U	--	--	--	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	1.9 U	5 U	0.4 U	--	--	--	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	0.37 U	5 U	0.4 U	--	--	--	--	--
BNA	Benzoic acid	ug/L	--	--	--	4 UJ	8 UJ	3.1 U	--	--	--
BNA	bis(2-Chloroethoxy)methane	ug/L	--	0.37 U	5 U	0.4 U	1 U	1 U	0.46 U	1.1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	0.37 U	5 U	0.4 U	1 U	1 U	0.46 U	1.1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	0.37 U	5 U	0.4 U	1 U	1 U	0.46 UJ	1.1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	1.9 U	5 U	1 UJ	2 U	1 U	0.46 U	1.1 U	2 U
BNA	Butylbenzylphthalate	ug/L	--	1.9 U	5 U	0.4 U	1 U	1 U	0.46 U	1.1 U	2 U
BNA	Caffeine	ug/L	--	--	--	0.4 UJ	--	--	0.46 UJ	1.1 U	1 U
BNA	Caprolactam	ug/L	--	1.9 U	5 UJ	0.8 UJ	20 U	1 UJ	0.46 UJ	1.1 UJ	2 UJ
BNA	Chrysene	ug/L	0.030	0.37 U	5 U	0.4 U	--	--	--	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	1.9 U	5 U	0.8 U	--	--	--	--	--
BNA	Dibenzofuran	ug/L	--	0.37 U	5 U	0.4 U	1 U	1 U	0.46 U	1.1 U	1 U
BNA	Diethylphthalate	ug/L	--	0.37 U	5 U	0.4 U	2 U	1 U	0.46 U	1.1 U	1 U
BNA	Dimethylphthalate	ug/L	--	0.37 U	5 U	0.4 U	1 U	1 U	0.46 U	1.1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	0.74 U	5 U	0.59 U	2 U	1 U	0.46 U	1.1 U	1 U
BNA	Di-n-octylphthalate	ug/L	--	1.9 U	5 U	0.8 U	2 U	1 U	0.46 U	1.1 U	2 U
BNA	Ethanone, 1-phenyl-	ug/L	--	0.74 U	5 U	0.4 U	1 U	1 U	0.46 U	1.1 U	1 U
BNA	Fluoranthene	ug/L	3.0	0.37 U	5 U	0.4 U	--	--	--	--	--
BNA	Fluorene	ug/L	--	0.37 U	5 U	0.4 U	--	--	--	--	--
BNA	Hexachlorobenzene	ug/L	--	0.37 U	5 U	0.4 U	1 U	1 U	0.46 U	1.1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	0.37 U	5 U	0.4 UJ	1 U	1 U	0.46 UJ	1.1 UJ	1 UJ
BNA	Hexachlorocyclopentadiene	ug/L	--	1.9 U	5 U	0.4 UJ	2 U	1 U	0.46 UJ	1.1 UJ	2 UJ
BNA	Hexachloroethane	ug/L	--	0.37 U	5 U	0.4 UJ	1 U	1 U	0.46 UJ	1.1 UJ	1 UJ
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	3.7 U	5 U	0.4 U	--	--	--	--	--
BNA	Isophorone	ug/L	--	0.37 U	5 U	0.4 U	1 U	1 U	0.46 U	1.1 U	1 U
BNA	Naphthalene	ug/L	83	0.37 U	5 U	0.4 UJ	1 U	1 U	--	--	--
BNA	Nitrobenzene	ug/L	--	0.37 U	5 U	0.4 U	--	--	0.46 U	1.1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	1.9 U	--	0.4 UJ	1 U	--	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	0.37 U	5 U	0.4 U	1 U	1 U	0.46 U	1.1 U	2 U
BNA	n-Nitrosodiphenylamine	ug/L	--	0.37 U	5 U	0.4 U	--	1 UJ	0.46 UJ	1.1 U	1 UJ
BNA	Pentachlorophenol	ug/L	--	3.7 U	5 U	0.8 U	--	--	--	--	--
BNA	Phenanthrene	ug/L	4.9	0.37 U	5 U	0.4 U	--	--	--	--	--
BNA	Phenol	ug/L	--	0.37 U	5 U	0.4 UJ	1 U	1 U	0.46 U	1.1 U	1 U

Table 4
All Upper Aquifer Results - 1994 through May 2013
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	MW21 03/17/2004	MW21 01/23/2006	MW21 09/18/2006	MW21 2/19/2009	MW21 9/17/2009	MW21 5/5/2010	MW21 6/21/2012	MW21 5/9/2013
BNA	Pyrene	ug/L	15	0.37 U	5 U	0.4 U	--	--	--	--	--
BNA	Retene	ug/L	--	--	--	0.4 U	--	--	--	--	--
PAH	2-Methylnaphthalene	ug/L	--	0.046 U	0.037 U	0.037 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U
PAH	Acenaphthene	ug/L	3.0	0.046 U	**2.3**	0.037 U	0.029 U	0.029 U	**0.18**	0.031 U	0.03 U
PAH	Acenaphthylene	ug/L	--	0.046 U	**0.037 J**	0.037 U	0.029 U	0.029 U	**0.056**	0.031 U	0.03 U
PAH	Anthracene	ug/L	9.0	**0.048**	**0.35**	**0.068**	**0.13**	**0.1**	**0.76**	**0.21**	**0.19**
PAH	Benzo(a)anthracene	ug/L	0.030	0.046 U	0.037 U	0.037 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U
PAH	Benzo(a)pyrene	ug/L	0.030	0.093 U	0.037 UJ	0.037 U	0.029 U	0.029 U	0.031 U	0.031 U	**0.03 U**
PAH	Benzo(b)fluoranthene	ug/L	0.030	0.093 U	0.037 UJ	0.037 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U
PAH	Benzo(g,h,i)perylene	ug/L	--	0.093 U	0.037 UJ	0.037 U	0.029 U	0.029 U	0.031 UJ	0.031 U	0.03 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	0.046 U	0.037 UJ	0.037 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U
PAH	Chrysene	ug/L	0.030	**0.0097 J**	0.037 U	0.037 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.093 U	0.037 UJ	0.037 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U
PAH	Fluoranthene	ug/L	3.0	**0.012 J**	0.037 U	0.037 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U
PAH	Fluorene	ug/L	3.0	0.046 U	**0.21**	0.037 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U
PAH	HPAH	ug/L	0.25	**0.0315 C**	0.037 U	0.037 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.030	0.093 U	0.037 UJ	0.037 U	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U
PAH	Naphthalene	ug/L	83	0.046 U	0.037 U	**0.052**	0.029 U	0.029 U	**0.065**	0.031 U	**0.048**
PAH	Phenanthrene	ug/L	--	0.046 U	0.037 U	**0.029 J**	0.029 U	0.029 U	0.031 U	0.031 U	0.03 U
PAH	Pyrene	ug/L	15	**0.0098 J**	0.037 U	0.037 U	0.029 U	0.029 U	0.031 U	0.031 U	**0.03 U**
PCP	Pentachlorophenol	ug/L	4.9	0.037 U	0.074 U	0.037 U	0.074 U	0.074 U	0.078 U	0.079 U	0.077 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	190 U	190 U	93 U	190 U	94 U	94 U	95 U	100 U
TPH	TPH-GC/Motor Oil Range Organi	ug/L	--	--	460 U	230 U	460 U	190 U	190 U	190 U	190 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons
J = The analyte was positively identified; the quantitation is an estimation.
R = Result is rejected.
*** Salinity reported in ppt (parts per trillion) in October 2014

U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.
Value exceeds cleanup level

Table 4
All Upper Aquifer Results - 1994 through May 2013
Wyckoff

Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	MW19 03/17/2004	MW19 01/25/2006	MW19 09/20/2006	PZ-06 09/16/2004	PZ-06 01/25/2006	PZ-06 01/7/2008
General	Dissolved Oxygen	mg/L	--	--	**4.1**	**0**	**2.6**	**2.6**	**7.89**
General	Eh	mV	--	--	--	--	**240**	--	**--**
General	Oxidization Reduction Potential	mV	--	--	**148**	**11**	--	**-93**	**126**
General	pH	units	--	--	**6.7**	**6.26**	**6.3**	**7.0**	**7.02**
General	Salinity	%***	--	--	--	**0.03**	--	--	**0**
General	Specific Conductivity	mS	--	--	**0.89**	**0.63**	**0.72**	**0.40**	**0.232**
General	Temperature	°C	--	--	**9.6**	**15.17**	**15**	**7.5**	**5.5**
General	Turbidity	ntu	--	--	**17**	**84**	**3.6**	**14**	**6.8**
BNA	1,1'-Biphenyl	ug/L	--	**0.033 J**	5.0 U	0.4 U	5.0 U	5.0 UJ	1 U
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	--	5.0 U	--	5.0 U	5.0 U	--
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	0.4 UJ	--	--	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	--	--	1 U
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	0.4 U	--	--	1 U
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	--	--	1 U
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	0.4 UJ	--	--	1 U
BNA	1-Methylnaphthalene	ug/L	--	**--**	--	0.4 UJ	--	--	1 U
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	--
BNA	2,4,5-Trichlorophenol	ug/L	--	0.37 U	20 U	0.8 U	20 U	20 U	1 U
BNA	2,4,6-Trichlorophenol	ug/L	--	0.74 U	5.0 U	0.4 U	5.0 U	5.0 U	1 U
BNA	2,4-Dichlorophenol	ug/L	--	0.74 U	5.0 U	0.4 U	5.0 U	5.0 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	0.37 U	5.0 U	0.4 UJ	5.0 U	5.0 U	1 U
BNA	2,4-Dinitrophenol	ug/L	--	--	20 U	4 U	20 U	20 UJ	10 U
BNA	2,4-Dinitrotoluene	ug/L	--	1.9 U	5.0 U	0.8 U	5.0 U	5.0 U	1 U
BNA	2,6-Dinitrotoluene	ug/L	--	0.74 U	5.0 U	0.4 U	5.0 U	5.0 U	2 U
BNA	2-Chloronaphthalene	ug/L	--	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	4 U
BNA	2-Chlorophenol	ug/L	--	0.37 U	5.0 U	0.4 UJ	5.0 U	5.0 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	**0.020 J**	5.0 U	0.4 UJ	5.0 U	5.0 U	--
BNA	2-Methylphenol	ug/L	--	0.37 U	5.0 U	0.4 UJ	5.0 U	5.0 U	1 U
BNA	2-Nitroaniline	ug/L	--	1.9 U	20 U	0.8 U	20 U	20 U	1 U
BNA	2-Nitrophenol	ug/L	--	1.9 U	5.0 U	0.4 U	5.0 U	5.0 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	1.9 U	5.0 UJ	0.8 UJ	5.0 U	5.0 UJ	1 U
BNA	3-Nitroaniline	ug/L	--	1.9 U	20 U	0.8 UJ	20 U	20 U	1 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	3.7 U	20 U	2 U	20 U	20 UJ	4 U
BNA	4-Bromophenyl-phenylether	ug/L	--	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	0.37 U	5.0 U	0.8 U	5.0 U	5.0 U	1 U

Table 4
All Upper Aquifer Results - 1994 through May 2013
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	MW19 03/17/2004	MW19 01/25/2006	MW19 09/20/2006	PZ-06 09/16/2004	PZ-06 01/25/2006	PZ-06 01/7/2008
BNA	4-Chloroaniline	ug/L	--	0.37 U	5.0 U	0.4 UJ	5.0 U	5.0 U	2 U
BNA	4-Chlorophenyl-phenylether	ug/L	--	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	1 U
BNA	4-Methylphenol	ug/L	--	0.37 U	5.0 U	0.4 UJ	5.0 U	5.0 U	1 U
BNA	4-Nitroaniline	ug/L	--	--	20 U	0.8 U	20 U	20 U	1 U
BNA	4-Nitrophenol	ug/L	--	1.9 U	20 U	4 U	20 U	20 U	4 U
BNA	9H-Carbazole	ug/L	--	**0.029 J**	--	0.4 U	--	--	4 U
BNA	Acenaphthene	ug/L	3.0	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	--
BNA	Acenaphthylene	ug/L	--	**0.030 J**	5.0 U	0.4 U	5.0 U	5.0 U	--
BNA	Anthracene	ug/L	9.0	**0.61**	5.0 U	**0.38 J**	5.0 U	5.0 U	--
BNA	Atrazine	ug/L	--	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	1 U
BNA	Benzaldehyde	ug/L	--	0.74 U	5.0 U	0.4 U	5.0 U	5.0 U	1 U
BNA	Benzenemethanol	ug/L	--	--	--	0.8 UJ	--	--	2 U
BNA	Benzo(a)anthracene	ug/L	0.030	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	--
BNA	Benzo(a)pyrene	ug/L	0.030	0.74 U	5.0 U	0.4 U	5.0 U	5.0 UJ	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	1.9 U	5.0 U	0.4 U	5.0 U	5.0 UJ	--
BNA	Benzo(g,h,i)perylene	ug/L	--	1.9 U	5.0 U	0.4 U	5.0 UJ	5.0 UJ	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	0.37 U	5.0 U	0.4 U	5.0 U	5.0 UJ	--
BNA	Benzoic acid	ug/L	--	--	--	4 UJ	--	--	5 UJ
BNA	bis(2-Chloroethoxy)methane	ug/L	--	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	0.37 U	5.0 U	0.4 UJ	5.0 U	5.0 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	0.37 U	5.0 U	0.4 UJ	5.0 U	5.0 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	1.9 U	5.0 U	1 UJ	5.0 UJ	5.0 UJ	1 U
BNA	Butylbenzylphthalate	ug/L	--	1.9 U	5.0 U	0.55 U	5.0 UJ	5.0 UJ	1 U
BNA	Caffeine	ug/L	--	--	--	0.4 U	**--**	--	1 U
BNA	Caprolactam	ug/L	--	1.9 U	5.0 UJ	0.79 UJ	**0.17 J**	5.0 UJ	1 U
BNA	Chrysene	ug/L	0.030	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	1.9 U	5.0 U	0.8 U	5.0 U	5.0 UJ	--
BNA	Dibenzofuran	ug/L	--	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	1 U
BNA	Diethylphthalate	ug/L	--	0.37 U	5.0 U	0.4 U	5.0 U	5.0 UJ	**0.1 J**
BNA	Dimethylphthalate	ug/L	--	0.37 U	5.0 U	0.4 U	5.0 U	5.0 UJ	1 U
BNA	Di-n-butylphthalate	ug/L	--	0.74 U	5.0 U	0.4 U	5.0 UJ	5.0 UJ	1 U
BNA	Di-n-octylphthalate	ug/L	--	1.9 U	5.0 U	0.79 U	5.0 UJ	5.0 UJ	1 U
BNA	Ethanone, 1-phenyl-	ug/L	--	0.74 U	5.0 U	0.4 U	5.0 U	5.0 U	1 U
BNA	Fluoranthene	ug/L	3.0	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	--
BNA	Fluorene	ug/L	--	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	--
BNA	Hexachlorobenzene	ug/L	--	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	0.37 U	5.0 U	0.4 UJ	5.0 U	5.0 U	1 U

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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	MW19 03/17/2004	MW19 01/25/2006	MW19 09/20/2006	PZ-06 09/16/2004	PZ-06 01/25/2006	PZ-06 01/7/2008
BNA	Hexachlorocyclopentadiene	ug/L	--	1.9 U	5.0 U	0.4 UJ	5.0 U	5.0 U	2 U
BNA	Hexachloroethane	ug/L	--	0.37 U	5.0 U	0.4 UJ	5.0 U	5.0 U	1 U
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	3.7 U	5.0 U	0.4 U	5.0 U	5.0 UJ	--
BNA	Isophorone	ug/L	--	0.37 U	5.0 U	0.4 UJ	5.0 U	5.0 U	1 U
BNA	Naphthalene	ug/L	83	**0.030 J**	5.0 U	0.4 UJ	5.0 U	5.0 U	--
BNA	Nitrobenzene	ug/L	--	0.37 U	5.0 U	0.4 UJ	5.0 U	5.0 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	1.9 U	--	0.4 UJ	--	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	1 U
BNA	n-Nitrosodiphenylamine	ug/L	--	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	1 U
BNA	Pentachlorophenol	ug/L	--	3.7 U	5.0 U	0.79 U	5.0 U	5.0 UJ	--
BNA	Phenanthrene	ug/L	4.9	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	--
BNA	Phenol	ug/L	--	0.37 U	5.0 U	0.4 UJ	5.0 U	5.0 U	1 U
BNA	Pyrene	ug/L	15	0.37 U	5.0 U	0.4 U	5.0 U	5.0 U	--
BNA	Retene	ug/L	--	--	--	0.4 U	--	--	1 U
PAH	2-Methylnaphthalene	ug/L	--	**0.012 J**	0.037 U	0.037 U	--	0.037 U	0.03 U
PAH	Acenaphthene	ug/L	3.0	0.046 U	0.037 U	0.037 U	--	0.037 U	0.03 U
PAH	Acenaphthylene	ug/L	--	**0.014 J**	0.037 U	0.037 U	--	0.037 U	0.03 U
PAH	Anthracene	ug/L	9.0	**0.29**	**0.41**	**0.26**	--	**0.064**	**0.12**
PAH	Benzo(a)anthracene	ug/L	0.030	**0.015 J**	0.037 U	0.037 U	--	0.037 U	0.03 U
PAH	Benzo(a)pyrene	ug/L	0.030	**0.066 J**	0.037 U	**0.039 J**	--	0.037 U	0.03 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	**0.065 J**	0.037 U	**0.078 J**	--	0.037 U	0.03 U
PAH	Benzo(g,h,i)perylene	ug/L	--	**0.043 J**	0.037 U	**0.038 J**	--	0.037 U	0.03 U
PAH	Benzo(k)fluoranthene	ug/L	0.030	**0.018 J**	0.037 U	**0.038 J**	--	0.037 U	0.03 U
PAH	Chrysene	ug/L	0.030	**0.018 J**	0.037 U	**0.05**	--	0.037 U	0.03 U
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	0.093 U	0.037 U	0.037 UJ	--	0.037 U	0.03 U
PAH	Fluoranthene	ug/L	3.0	**0.025 J**	0.037 U	**0.056**	--	0.037 U	0.03 U
PAH	Fluorene	ug/L	3.0	0.046 U	0.037 U	0.037 U	--	0.037 U	0.03 U
PAH	HPAH	ug/L	0.25	**0.34 C**	0.037 U	**0.39 J**	--	0.037 U	0.03 U
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.030	**0.068 J**	0.037 U	**0.031 J**	--	0.037 U	0.03 U
PAH	Naphthalene	ug/L	83	0.046 U	0.037 U	0.037 U	--	0.037 U	0.03 U
PAH	Phenanthrene	ug/L	--	0.046 U	0.037 U	**0.032 J**	--	0.037 U	0.03 U
PAH	Pyrene	ug/L	15	**0.023 J**	0.037 U	**0.057**	--	0.037 U	0.03 U
PCP	Pentachlorophenol	ug/L	4.9	0.037 U	0.074 U	**0.073**	--	0.074 U	0.077 U
TPH	Diesel (#2)	mg/L	--	--	--	**--**	0.46 UJ	--	--
TPH	Gasoline	mg/L	--	--	--	**--**	0.19 UJ	--	--

Table 4
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	MW19 03/17/2004	MW19 01/25/2006	MW19 09/20/2006	PZ-06 09/16/2004	PZ-06 01/25/2006	PZ-06 01/7/2008
TPH	Lube Oil	mg/L	--	--	--	--	0.23 UJ	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	190 U	190 U	94 U	--	190 U	96 U
TPH	TPH-GC/Motor Oil Range Organi	ug/L	--	--	460 U	240 U	--	460 U	190 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons
J = The analyte was positively identified; the quantitation is an estimation.
R = Result is rejected.
*** Salinity reported in ppt (parts per trillion) in October 2014

U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.
Value exceeds cleanup level

Table 4
All Upper Aquifer Results - 1994 through May 2013
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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-07 09/16/2004	PZ-07 01/25/2006	PZ-07-FD 01/25/2006	PZ-07 09/20/2006	PZ-07-FD 09/20/2006	PZ-07 01/7/2008	PZ-07-FD 01/7/2008
General	Dissolved Oxygen	mg/L	--	**0.25**	**1.9**	**1.9**	**0**	--	**0.28**	--
General	Eh	mV	--	65 U	--	--	--	--	**--**	--
General	Oxidization Reduction Potential	mV	--	--	**-54**	**-54**	**-120**	--	**-57**	--
General	pH	units	--	**6.0**	**6.4**	**6.4**	**6.38**	--	**6.86**	--
General	Salinity	%***	--	--	--	--	**0.05**	--	**0**	--
General	Specific Conductivity	mS	--	**0.96**	**0.75**	**0.75**	**1.05**	--	**0.999**	--
General	Temperature	°C	--	**15**	**7.9**	**7.9**	**14.08**	--	**6.8**	--
General	Turbidity	ntu	--	**4.9**	**6.5**	**6.5**	**9.5**	--	**30.8**	--
BNA	1,1'-Biphenyl	ug/L	--	**17**	**1.8 J**	**2.4 J**	**12**	**13**	**5.6**	**5.9**
BNA	1,2,4,5-Tetrachlorobenzene	ug/L	--	5.0 U	5.0 U	5.0 U	**--**	**--**	**--**	**--**
BNA	1,2,4-Trichlorobenzene	ug/L	--	--	--	--	0.39 UJ	0.4 UJ	1 U	1 U
BNA	1,2-Dichlorobenzene	ug/L	--	--	--	--	0.39 UJ	0.4 UJ	1 U	1 U
BNA	1,2-Diphenylhydrazine	ug/L	--	--	--	--	0.39 U	0.4 U	1 U	1 U
BNA	1,3-Dichlorobenzene	ug/L	--	--	--	--	0.39 UJ	0.4 UJ	1 U	1 U
BNA	1,4-Dichlorobenzene	ug/L	--	--	--	--	0.39 UJ	0.4 UJ	1 U	1 U
BNA	1-Methylnaphthalene	ug/L	--	**--**	**--**	**--**	**85**	**89**	**31**	**34**
BNA	2,3,4,6-Tetrachlorophenol	ug/L	--	--	--	--	--	--	--	--
BNA	2,4,5-Trichlorophenol	ug/L	--	20 U	20 U	20 U	0.78 U	0.8 U	1 U	1 U
BNA	2,4,6-Trichlorophenol	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	2,4-Dichlorophenol	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	2,4-Dimethylphenol	ug/L	--	**180 D**	**2.1 J**	**2.4 J**	**79**	**78**	**12**	**15**
BNA	2,4-Dinitrophenol	ug/L	--	20 U	20 U	20 U	4 U	4 U	10 U	10 U
BNA	2,4-Dinitrotoluene	ug/L	--	5.0 U	5.0 U	5.0 U	0.78 U	0.8 U	1 U	1 U
BNA	2,6-Dinitrotoluene	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	2 U	2 U
BNA	2-Chloronaphthalene	ug/L	--	5.0 U	5.0 U	5.0 UJ	0.39 U	0.4 U	4 U	4 U
BNA	2-Chlorophenol	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	2-Methylnaphthalene	ug/L	--	**180 D**	**6.4**	**8.3 J**	**75**	**80**	--	--
BNA	2-Methylphenol	ug/L	--	**56**	5.0 U	5.0 U	**7.1**	**7.9**	**0.8 J**	**1.1**
BNA	2-Nitroaniline	ug/L	--	20 U	20 U	20 U	0.78 U	0.8 U	1 U	1 U
BNA	2-Nitrophenol	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	3,3'-Dichlorobenzidine	ug/L	--	5.0 U	5.0 UJ	5.0 UJ	0.78 UJ	0.8 UJ	1 U	1 U
BNA	3-Nitroaniline	ug/L	--	20 U	20 U	20 U	0.78 U	0.8 U	1 U	1 U
BNA	4,6-Dinitro-2-methylphenol	ug/L	--	20 U	20 U	20 UJ	2 U	2 U	4 U	4 U
BNA	4-Bromophenyl-phenylether	ug/L	--	5.0 U	5.0 U	5.0 UJ	0.39 U	0.4 U	1 U	1 U
BNA	4-Chloro-3-methylphenol	ug/L	--	5.0 U	5.0 U	5.0 U	0.78 U	0.8 U	1 U	1 U
BNA	4-Chloroaniline	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 UJ	0.4 UJ	2 U	1.9 U
BNA	4-Chlorophenyl-phenylether	ug/L	--	5.0 U	5.0 U	5.0 UJ	0.39 U	0.4 U	1 U	1 U
BNA	4-Methylphenol	ug/L	--	**670 D**	5.0 U	5.0 U	**8.6**	**11**	**2.2**	**2.9**
BNA	4-Nitroaniline	ug/L	--	20 U	20 U	20 U	0.78 U	0.8 U	1 U	1 U
BNA	4-Nitrophenol	ug/L	--	20 U	20 U	20 U	4 U	4 U	4 U	4 U
BNA	9H-Carbazole	ug/L	--	--	--	--	**27**	**26**	**11**	**12**

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Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-07 09/16/2004	PZ-07 01/25/2006	PZ-07-FD 01/25/2006	PZ-07 09/20/2006	PZ-07-FD 09/20/2006	PZ-07 01/7/2008	PZ-07-FD 01/7/2008
BNA	Acenaphthene	ug/L	3.0	**200 D**	**13**	**17 J**	**109**	**108**	**--**	**--**
BNA	Acenaphthylene	ug/L	--	**5.2**	5.0 U	5.0 UJ	**0.91**	**0.99**	**--**	**--**
BNA	Anthracene	ug/L	9.0	**13**	**1.3 J**	**1.8 J**	**4.6**	**4.3**	**--**	**--**
BNA	Atrazine	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	Benzaldehyde	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	Benzenemethanol	ug/L	--	--	--	--	0.78 U	**2.2**	2 U	2 U
BNA	Benzo(a)anthracene	ug/L	0.030	**0.39 J**	5.0 U	5.0 U	0.39 U	0.4 U	--	--
BNA	Benzo(a)pyrene	ug/L	0.030	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	--	--
BNA	Benzo(b)fluoranthene	ug/L	0.030	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	--	--
BNA	Benzo(g,h,i)perylene	ug/L	--	5.0 UJ	5.0 U	5.0 U	0.39 U	0.4 U	--	--
BNA	Benzo(k)fluoranthene	ug/L	0.030	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	--	--
BNA	Benzoic acid	ug/L	--	--	--	--	4 UJ	4 UJ	5 UJ	5 UJ
BNA	bis(2-Chloroethoxy)methane	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	bis(2-Chloroethyl)ether	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	bis(2-chloroisopropyl)ether	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	bis(2-ethylhexyl)phthalate	ug/L	--	5.0 UJ	5.0 U	5.0 UJ	1 UJ	1 UJ	1 U	1 U
BNA	Butylbenzylphthalate	ug/L	--	5.0 UJ	5.0 U	5.0 UJ	0.39 U	0.4 U	1 U	1 U
BNA	Caffeine	ug/L	--	--	--	--	0.39 U	0.4 U	1 U	1 U
BNA	Caprolactam	ug/L	--	5.0 U	5.0 UJ	5.0 UJ	0.78 UJ	0.8 UJ	1 U	1 U
BNA	Chrysene	ug/L	0.030	**0.20 J**	5.0 U	5.0 U	0.39 U	0.4 U	--	--
BNA	Dibenzo(a,h)anthracene	ug/L	0.0070	5.0 U	5.0 U	5.0 U	0.78 U	0.8 UJ	--	--
BNA	Dibenzofuran	ug/L	--	**96 D**	**8.6**	**11 J**	**51**	**50**	**17**	**19**
BNA	Diethylphthalate	ug/L	--	5.0 U	5.0 U	5.0 UJ	0.39 U	0.4 U	1 U	1 U
BNA	Dimethylphthalate	ug/L	--	5.0 U	5.0 U	5.0 UJ	0.39 U	0.4 U	1 U	1 U
BNA	Di-n-butylphthalate	ug/L	--	5.0 UJ	5.0 U	5.0 UJ	0.39 U	0.4 U	1 U	1 U
BNA	Di-n-octylphthalate	ug/L	--	5.0 UJ	5.0 U	5.0 UJ	0.78 U	0.8 U	1 U	1 U
BNA	Ethanone, 1-phenyl-	ug/L	--	**5.4**	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	Fluoranthene	ug/L	3.0	**12**	**2.9 J**	**3.9 J**	**6.9**	**6.3**	--	--
BNA	Fluorene	ug/L	--	**110 D**	**9.7**	**13 J**	**58**	**54**	--	--
BNA	Hexachlorobenzene	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	Hexachlorobutadiene	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 UJ	0.4 UJ	1 U	1 U
BNA	Hexachlorocyclopentadiene	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 UJ	0.4 UJ	2 U	2 U
BNA	Hexachloroethane	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 UJ	0.4 UJ	1 U	1 U
BNA	Indeno(1,2,3-cd)pyrene	ug/L	0.030	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	--	--
BNA	Isophorone	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	Naphthalene	ug/L	83	**1,400 D**	**38**	**44 J**	**824 J**	**955 J**	--	--
BNA	Nitrobenzene	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	n-Nitrosodimethylamine	ug/L	--	--	--	--	0.39 U	0.4 UJ	--	--
BNA	n-Nitrosodinpropylamine	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	n-Nitrosodiphenylamine	ug/L	--	5.0 U	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	Pentachlorophenol	ug/L	--	5.0 U	5.0 U	5.0 U	0.78 U	0.8 U	--	--

Table 4
All Upper Aquifer Results - 1994 through May 2013
Wyckoff

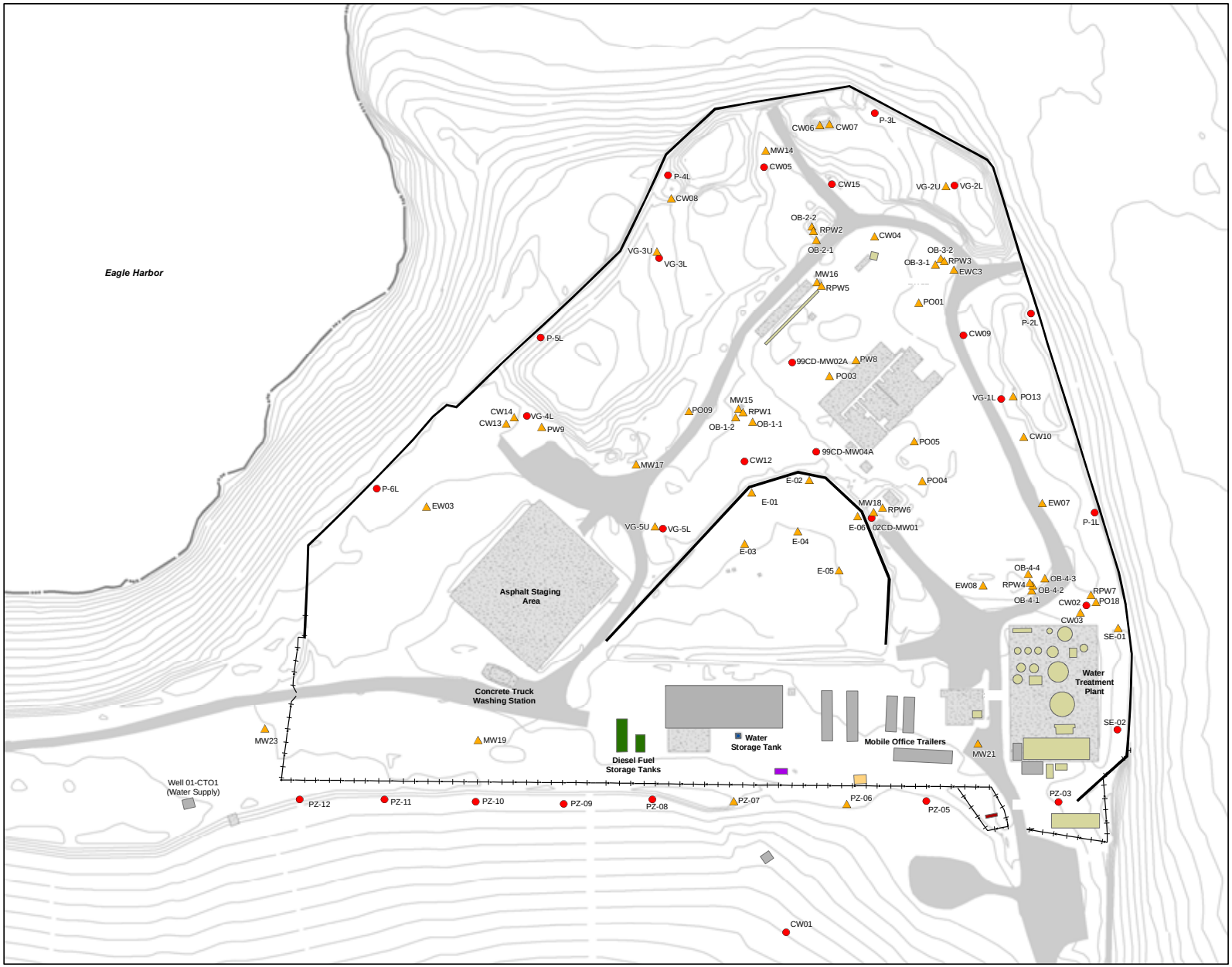
Chemical Group	Analyte	Units	Groundwater Cleanup Level (ug/L)*	PZ-07 09/16/2004	PZ-07 01/25/2006	PZ-07-FD 01/25/2006	PZ-07 09/20/2006	PZ-07-FD 09/20/2006	PZ-07 01/7/2008	PZ-07-FD 01/7/2008
BNA	Phenanthrene	ug/L	4.9	**70**	**17**	**22**	**44**	**38**	--	--
BNA	Phenol	ug/L	--	**11**	5.0 U	5.0 U	0.39 U	0.4 U	1 U	1 U
BNA	Pyrene	ug/L	15	**6.1**	**1.6 J**	**2.3 J**	**3.2**	**3**	--	--
BNA	Retene	ug/L	--	**--**	**--**	**--**	0.39 U	0.4 U	1 U	1 U
PAH	2-Methylnaphthalene	ug/L	--	--	**31**	**25**	**200**	**130**	**2.5**	**1.8**
PAH	Acenaphthene	ug/L	3.0	--	**67**	**55**	**280**	**190**	**45**	**31**
PAH	Acenaphthylene	ug/L	--	--	**0.50**	**0.40**	**1.8**	**1.7**	**0.36**	**0.47**
PAH	Anthracene	ug/L	9.0	--	**5.3**	**4.8**	**7.6**	**5.6**	**1.7**	**2.4**
PAH	Benzo(a)anthracene	ug/L	0.030	--	**0.13**	**0.11**	**0.29**	**0.38**	**0.04**	**0.054**
PAH	Benzo(a)pyrene	ug/L	0.030	--	0.037 U	0.037 U	**0.048**	**0.071**	**0.03**	0.029 U
PAH	Benzo(b)fluoranthene	ug/L	0.030	--	**0.027 J**	**0.024 J**	**0.069**	**0.1**	**0.047**	**0.045**
PAH	Benzo(g,h,i)perylene	ug/L	--	--	0.037 U	0.037 U	0.038 U	0.038 U	**0.04**	**0.036**
PAH	Benzo(k)fluoranthene	ug/L	0.030	--	0.037 U	0.037 U	**0.032 J**	**0.052**	0.029 U	0.03 U
PAH	Chrysene	ug/L	0.030	--	**0.12**	**0.11**	**0.21**	**0.27**	**0.037**	**0.043**
PAH	Dibenzo(a,h)anthracene	ug/L	0.0070	--	0.037 U	0.037 U	0.038 U	0.038 U	0.029 U	0.03 U
PAH	Fluoranthene	ug/L	3.0	--	**8.0**	**7.3**	**11**	**8**	**1**	**1.4**
PAH	Fluorene	ug/L	3.0	--	**41**	**34**	**120**	**88**	**14**	**15**
PAH	HPAH	ug/L	0.25	--	**13**	**12**	**17**	**15**	**1.7**	**2.4**
PAH	Indeno(1,2,3-cd)pyrene	ug/L	0.030	--	0.037 U	0.037 U	0.038 U	0.038 U	**0.038**	**0.033**
PAH	Naphthalene	ug/L	83	--	**190**	**160**	**2200**	**2100**	**66**	**35**
PAH	Phenanthrene	ug/L	--	--	**66**	**59**	**95**	**70**	**8.7**	**10**
PAH	Pyrene	ug/L	15	--	**4.7**	**4.2**	**5.8**	**5.8**	**0.5**	**0.74**
PCP	Pentachlorophenol	ug/L	4.9	--	0.074 U	0.074 U	0.038 U	0.038 U	0.075 U	0.077 U
TPH	Diesel (#2)	mg/L	--	--	--	--	--	--	--	--
TPH	Gasoline	mg/L	--	--	--	--	--	--	--	--
TPH	Lube Oil	mg/L	--	--	--	--	--	--	--	--
TPH	TPH-GC/Diesel Range Organics	ug/L	--	--	**1,000**	**870**	**5,200**	**4,700**	**490**	**310**
TPH	TPH-GC/Motor Oil Range Organi	ug/L	--	--	460 U	460 U	240 U	230 U	190 U	190 U

Notes:

BNA = base/neutral and acid extractables
General = general chemistry
HPAH = High molecular weight Polynuclear Aromatic Hydrocarbon
PAH = polynuclear aromatic hydrocarbons
TPH = total petroleum hydrocarbons
J = The analyte was positively identified; the quantitation is an estimation.
R = Result is rejected.
*** Salinity reported in ppt (parts per trillion) in October 2014

U = The analyte was not detected at or above the reported value.
C = Calculated Result. Sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds (detections and estimated quantities): fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene.
Value exceeds cleanup level

Figures



Lower Aquifer Well
Upper Aquifer Well
Fence
Sheetpile Wall
Roads
Buildings
Concrete Slab
Structures

N

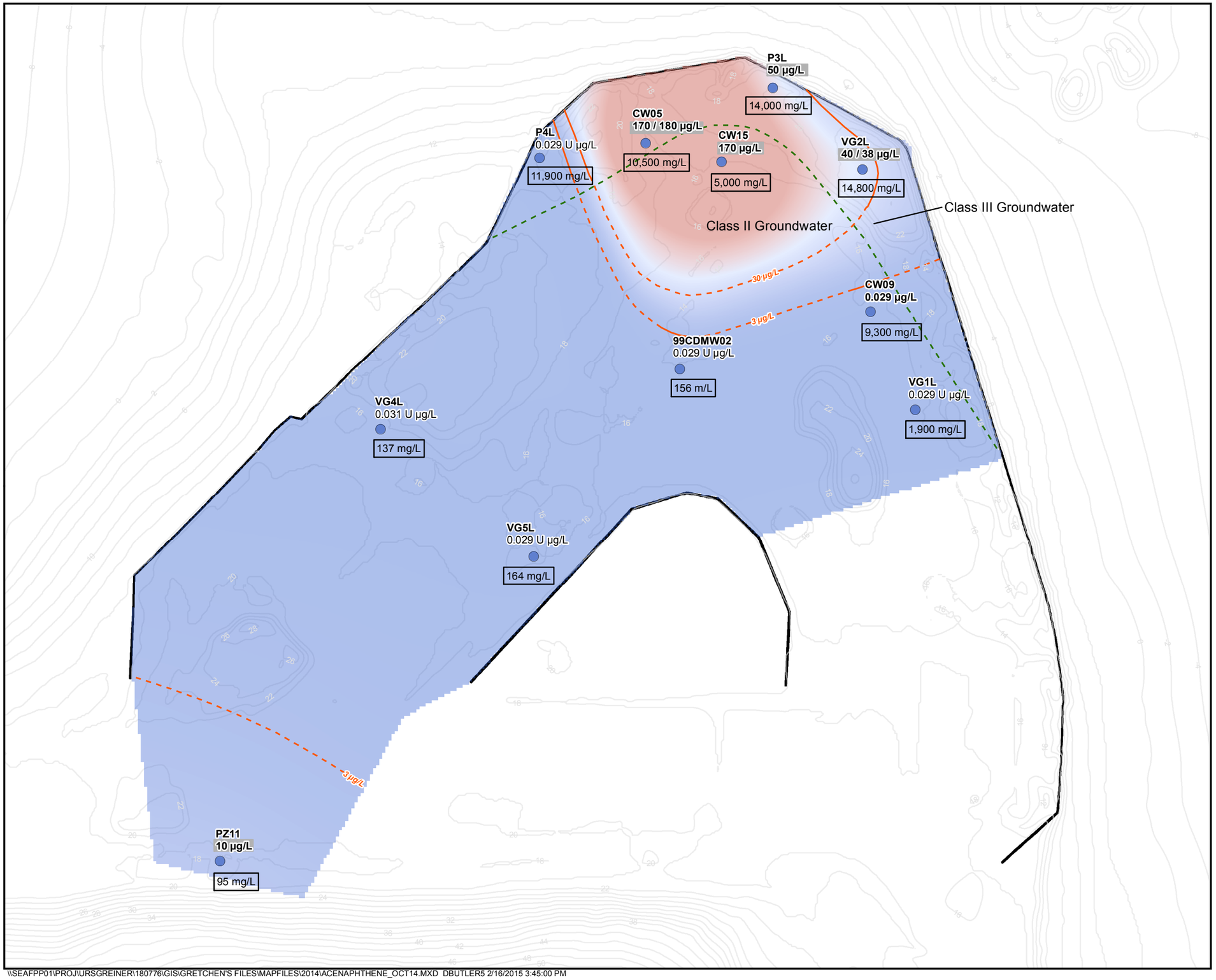
0 50 100 200 Feet

FIGURE 1

Former Process Area Well Locations

WYCKOFF/EAGLE HARBOR SUPERFUND SITE

File Path: \\bianca\proj\URSGreiner\180776\GIS\Layouts\Former_Process_Area_Well_Locations_v2.mxd, Date: February 12, 2009



LEGEND

Acenaphthene Measured October 2014 (µg/L)

- Lower Aquifer Monitor Well
- Acenaphthene Isopleth (3 and 30 µg/L)
- Inferred Acenaphthene Isopleth
- TDS 10,000 mg/L Isopleth
- Ground Surface Contours (2 ft CI, ft MLLW)

Interpolated Acenaphthene Concentration (µg/L)

172

0

156 mg/L Total Dissolved Solids Concentration (mg/L)

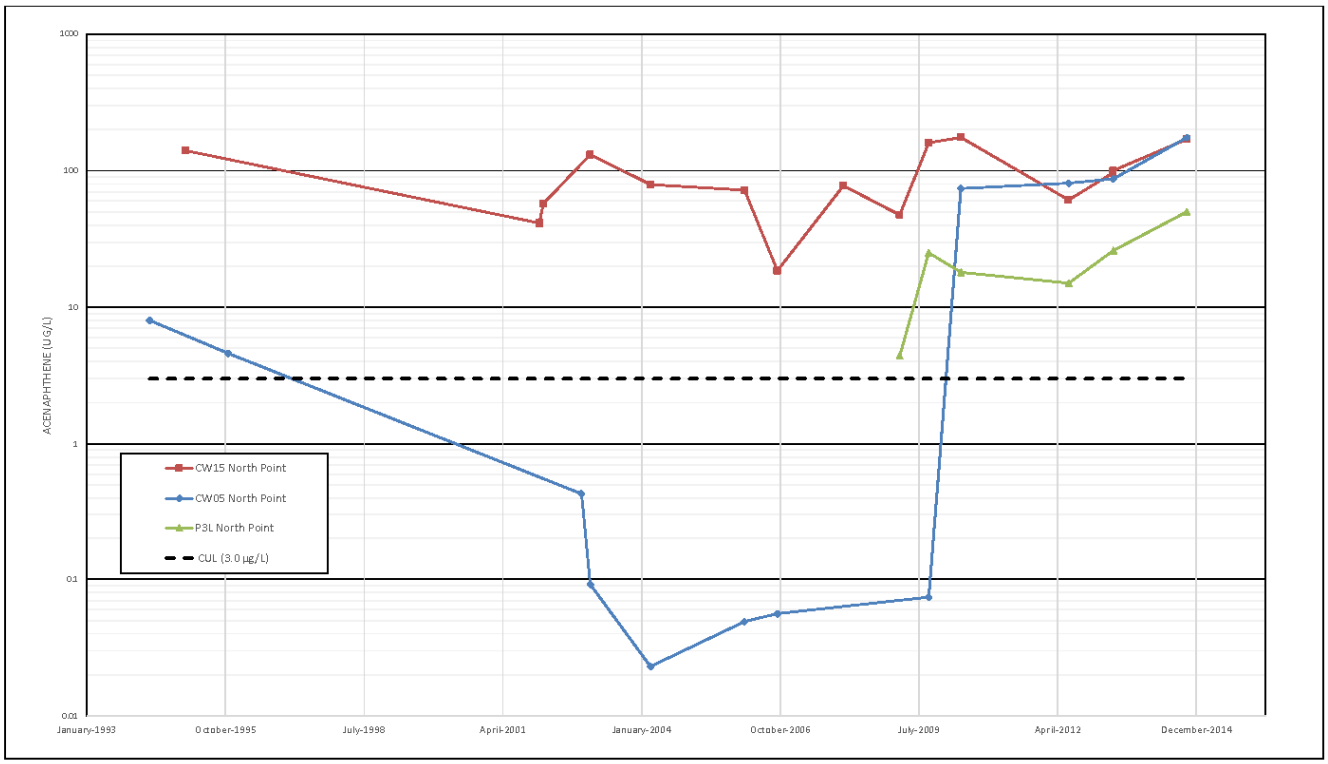
Notes:
/ ## indicates parent and duplicate samples
Bold values = Acenaphthene was detected in well.
Shaded/Bold values = Acenaphthene exceeds groundwater cleanup level of 3.0 µg/L established in the Wyckoff ROD 2/2000.
mg/L = milligrams per Liter
µg/L = micrograms per Liter
CI = contour interval
U = The analyte was not detected at or above the reported value.
TDS = Total Dissolved Solids

N

0 50 100 200 Feet

\\SEAFPP01\PROJ\URSGREINER\180776\GIS\GRETCHEN'S FILES\MAPFILES\2014\ACENAPHTHENE_OCT14.MXD DBUTLER5 2/16/2015 3:45:00 PM

Figure 2
Acenaphthene Concentrations
Measured October 2014
Groundwater Quality Sampling Results—October 2014
Wyckoff/Eagle Harbor Superfund Site



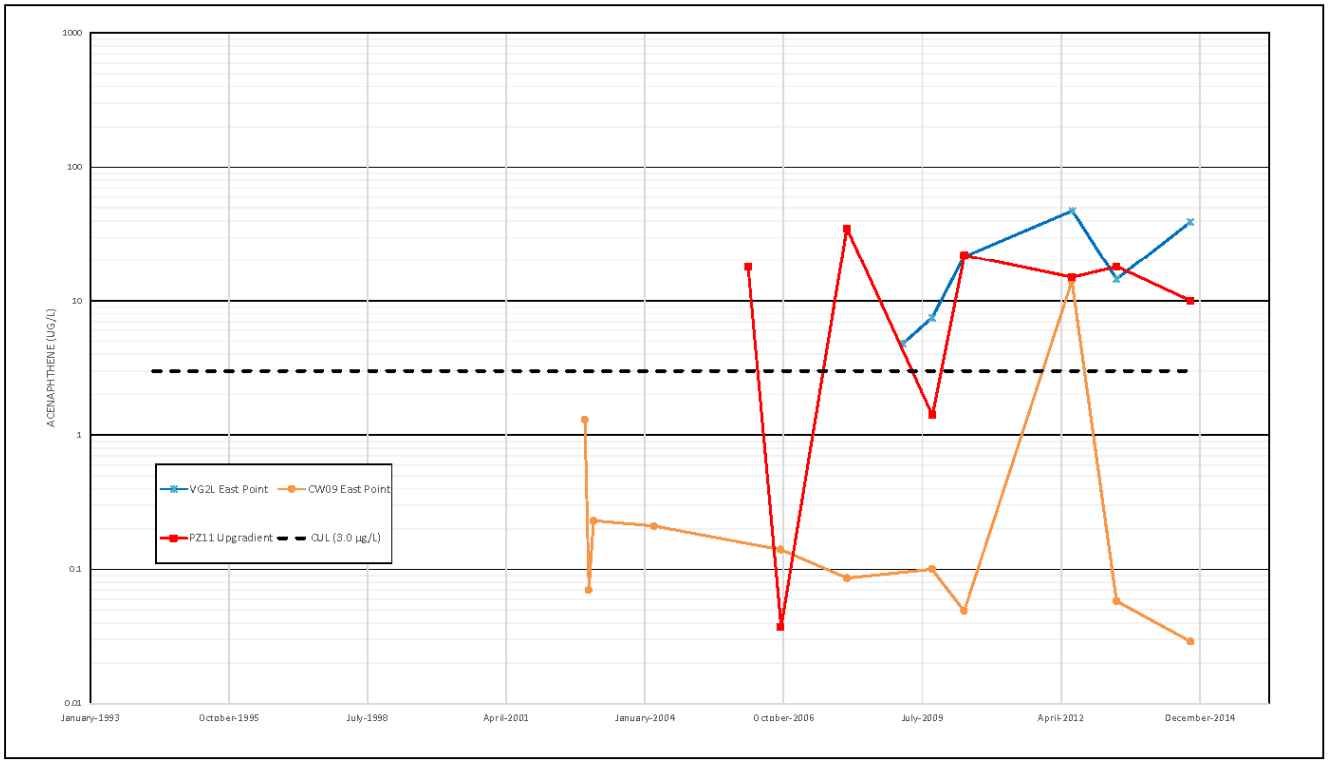


Figure 3
Acenaphthene Concentrations Trends in Lower Aquifer Monitoring Wells
Wyckoff/Eagle Harbor Superfund Site

Appendix A
Groundwater Sampling Event Planning (GSEP) Form, Groundwater Sampling and Analysis Plan (SAP) Addendum, and Analytical Services Request Form (ASRF)

WYCKOFF/EAGLE HARBOR SUPERFUND SITE
GROUNDWATER SAMPLING EVENT PLANNING (GSEP) FORM

APPROVAL

Approved	_____ Ken Scheffler CH2M HILL Project Manager	Date 10/7/2014
Approved	_____ Helen Bottcher USEPA Region 10 Remedial Project Manager	Date _____
Approved	_____ Gina Grepo-Grove USEPA Region 10 Quality Assurance Manager	Date _____
Approved	_____ Marlowe Laubach USACE Project Manager	Date _____

SAMPLING EVENT OBJECTIVES

1. Identify presence of chemicals of concern in the lower aquifer and compare to previous sampling event results.
2. Identify presence of semi-volatile and TPH contaminants in lower aquifer.
3. Assess the effects of the extended extraction well system shutdown over the summer of 2014, prior to resuming extraction operations in Fall 2014.

WYCKOFF/EAGLE HARBOR SUPERFUND SITE
GROUNDWATER SAMPLING EVENT PLANNING (GSEP) FORM

APPROVAL

Approved	_____ Ken Scheffler CH2M HILL Project Manager	Date _____
Approved	_____ Helen Bottcher USEPA Region 10 Remedial Project Manager	Date _____
Approved	_____ Gina Grepo-Grove USEPA Region 10 Quality Assurance Manager	Date 10/15/2014

SAMPLING EVENT OBJECTIVES

1. Identify presence of chemicals of concern in the lower aquifer and compare to previous sampling event results.
2. Identify presence of semi-volatile and TPH contaminants in lower aquifer.
3. Assess the effects of the extended extraction well system shutdown over the summer of 2014, prior to resuming extraction operations in Fall 2014.

WYCKOFF/EAGLE HARBOR SUPERFUND SITE
GROUNDWATER SAMPLING EVENT PLANNING (GSEP) FORM

GROUNDWATER MONITORING WELLS SCHEDULED FOR SAMPLING

Well Locations for This Sampling Event		
Shallow Aquifer Wells	Lower Aquifer Wells	Piezometers
None	P-3L P-4L VG-1L VG-2L VG-4L VG-5L CW05 99-CDMW02 CW09 CW15	PZ11
Well Selection Rationale	The lower aquifer wells selected for this sampling event include eleven of the 25 wells sampled in the previous site groundwater sampling events (September 2009, May 2010, June 2012, and May 2013). Criteria for selection of the eleven lower aquifer wells include well locations relative to the treatment zones, NAPL presence and thickness above the aquitard, aquitard thickness, and PAH concentrations in the lower aquifer. The number of wells to be sampled has been reduced from previous events based on this analysis. PZ11 was selected for this program in order to monitor the lower aquifer upgradient area of the site. Results will be used to monitor for the presence of chemicals of concern in the lower aquifer and for chemicals that may be transported through groundwater from the south hillside and onto the site. This groundwater sampling event will be conducted in accordance with the March 2004 *Groundwater Sampling and Analysis Plan* (SAP) and the December 2005 *Groundwater Sampling and Analysis Plan Addendum.*	

WYCKOFF/EAGLE HARBOR SUPERFUND SITE
GROUNDWATER SAMPLING EVENT PLANNING (GSEP) FORM

FIELD MEASUREMENT METHODS AND MEASUREMENT QUALITY OBJECTIVES

Parameter	Analytical Method or Instrument	Required Sensitivity
Groundwater Purge Rate	Graduated Cylinder	+/- 10 ml/min
Dissolved Oxygen	Horiba U22 Flow Cell or equivalent	+/- 0.2 mg/L
Temperature	Horiba U22 Flow Cell or equivalent	+/- 1 °C
Turbidity	Horiba U22 Flow Cell or equivalent	+/- 10 %
PH	Horiba U22 Flow Cell or equivalent	+/- 0.2 units
Specific Conductance	Horiba U22 Flow Cell or equivalent	+/- 5%
Oxidation-Reduction Potential	Horiba U22 Flow Cell or equivalent	+/- 20 mV
Water level Elevation	Solinst Electric Water Level Probe	+/- 0.01 ft
Interface Level Elevation	Onsite Interface Probe	+/- 0.01 m

LABORATORY ANALYSES AND MEASUREMENT QUALITY OBJECTIVES

Wells	Analyte	Laboratory	Method	Required Sensitivity	Method Reporting Limit	Accuracy Goal	Precision Goal
All	PCP	EPA Region 10	SW-846 8041	0.1 µg/L	0.1 µg/L	65-135	+/- 35
All	Semivolatile Organics	EPA Region 10	SW-846 8270D	5 ug/L*	5 ug/L *	65-135	+/- 35
All	PAHs: Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,i)perylene Benzo(k)fluoranthene Chrysene Dibenzo(a,h)anthracene Fluoranthene Fluorene Indeno(1,2,3-cd)pyrene Naphthalene Phenanthrene Pyrene HPAH	EPA Region 10	SW-846 8270D (with SIM on non-detects)	0.04µg/L**	0.04 µg/L*	65-135	+/- 35

WYCKOFF/EAGLE HARBOR SUPERFUND SITE
GROUNDWATER SAMPLING EVENT PLANNING (GSEP) FORM

Wells	Analyte	Laboratory	Method	Required Sensitivity	Method Reporting Limit	Accuracy Goal	Precision Goal
All	Petroleum Hydrocarbons (NWTPH-Dx with Motor Oil range)	EPA Region 10	NWTPH-Dx	0.25 mg/L diesel, 0.5 mg/L motor oil	0.25 mg/L diesel, 0.5 mg/L motor oil	65-135	+/-35

* Manchester Laboratory reporting limits for most Semivolatile Organic compounds by method 8270C are between 0.8 ug/L and 2.0 ug/L.
** Manchester Laboratory may only be able to report down to 0.1 ug/L for some PAHs.

SAMPLE CONTAINERS, PRESERVATION, AND HOLDING TIMES

Analysis	Type of Container*	Sample Volume	Sample Preservation	Sample Holding Time
PAH/PCP-SIM	Two 1-liter amber glass, narrow mouth, bottles with Teflon-lined phenolic or polypropylene cap	1-liter; fill to shoulder of bottle	Cool, 4°C	7 days to extraction, 40 days after extraction
NWTPH-Dx + Motor Oil	Two 1-liter amber glass, narrow mouth, bottles with Teflon-lined phenolic or polypropylene cap	1-liter; fill to shoulder of bottle	Cool, 4°C	As soon as possible, 7 days maximum to extraction
SVOC	Two 500-ml amber glass, narrow mouth, bottles with Teflon-lined phenolic or polypropylene cap	500-milliliter; fill to shoulder of bottle	Cool, 4°C	7 days to extraction, 40 days after extraction

*For samples designated to have lab QC performed at the frequency specified below, additional bottles are required. TPH-Dx add'l 2x1L (4 total), SVOC add'l 4x500mL (6 total), PAH/PCP add'l 4x1L (6 total).

REQUIRED QUALITY CONTROL SAMPLES

Number of Samples	Sample Type
2	Field Duplicates (Frequency of 10 percent)
0	Equipment Rinse Blanks (Frequency of one per day)
1	Extra volume for MS/MSD for PAH/PCP and SVOC (Frequency of 5 percent) MS/MSD is not performed on NWTPH analyses.
2	Laboratory duplicates for NWTPH (Frequency of 10 percent)

WYCKOFF/EAGLE HARBOR SUPERFUND SITE
GROUNDWATER SAMPLING EVENT PLANNING (GSEP) FORM

LABORATORY REPORTING

Deliverable	• Electronic (sent as text file for database) • Hard Copy with QA memo (sent as pdf file)
Required Turn-Around-Time	Standard TATs Manchester: 8 weeks for final (Electronic and Hard Copy)
Send Laboratory Results to:	Nicole Badon: nicole.badon@ch2m.com Artemis Antipas: Artemis.Antipas@ch2m.com Helen Bottcher

TASK REPORTING REQUIREMENTS

Report Type and Contents	Technical memorandum to present these data and relate it to any previously collected. The memo will contain the following: • Project Objectives and Methods • Summary of Field Activities • Summary of Findings • Tables of Final Data • Laboratory Data Sheets (Form Is) • Data Quality Review Reports and Summary • Field Forms and Notes
Send Technical Memorandum To:	Helen Bottcher US EPA Region 10 1200 Sixth Ave Suite 900, ECL-111 Seattle, WA 98101 Bottcher.Helen@epamail.epa.gov

WYCKOFF/EAGLE HARBOR SUPERFUND SITE
GROUNDWATER SAMPLING EVENT PLANNING (GSEP) FORM

PERSONNEL

Persons/Groups Requesting Sampling	Helen Bottcher US EPA Region 10 1200 Sixth Ave Suite 900, ECL-111 Seattle, WA 98101 Bottcher.Helen@epamail.epa.gov Nicole Badon CH2M HILL 1100 112th Ave NE Suite 500 Bellevue, WA 98004 (425) 453-5000 nicole.badon@ch2m.com
EPA Region 10 Manchester Environmental Laboratory (MEL)	7411 Beach Drive East Port Orchard, WA 98366 Sample Custodians: Karen Norton (360-871-8760, norton.karen@epa.gov) Kim Wood (360-871-8792, wood.kim@epa.gov) Chemistry Supervisor: Gerald Dodo (360-871-8728, dodo.gerald@epa.gov)
EPA Regional Sample Control Coordinator	Jennifer Crawford US EPA Region 10 1200 Sixth Avenue Suite 900, OEA-014 Seattle, WA 98101 206-553-6261 crawford.jennifer@epa.gov
EPA Quality Assurance Officer/Chemist assigned to Wyckoff	Don Matheny USEPA Region 10 1200 Sixth Ave Suite 900 (OEA-095) Seattle, WA 98101 206-553-2599 Matheny.Don@epamail.epa.gov

WYCKOFF/EAGLE HARBOR SUPERFUND SITE
GROUNDWATER SAMPLING EVENT PLANNING (GSEP) FORM

Sampling Team	CH2M HILL Field Team (see below) 1100 112th Ave NE Suite 500 Bellevue, WA 98004 (425) 453-5000
Field Team Leader	Nicole Badon Cell phone: 425-233-4405 nicole.badon@ch2m.com
Other Team Members	Mario Lopez and Mark Endo
Date(s) of Approved Sampling Event	October 20 – 23, 2014

ADDENDUM

Groundwater Sampling and Analysis Plan

Wyckoff/Eagle Harbor Superfund Site
Kitsap County, Washington

Prepared for:

U.S. Environmental Protection Agency
Region 10
1200 6th Avenue
Seattle, Washington 98101

Prepared by:

U.S. Army Corps of Engineers
Seattle District
4735 East Marginal Way South
Seattle, Washington 98134

December 29, 2005

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Approved _____ Date _____
USEPA Region 10 Remedial Project Manager

Approved _____ Date _____
USEPA Region 10 Quality Assurance Officer

Approved _____ Date_____
USACE Project Manager

SECTION B DATA GENERATION AND ACQUISITION

B.1 SAMPLING DESIGN AND PRE-EVENT PLANNING

The specific wells selected for each sampling event will be listed on the GSEP form. The rationale for selecting specific wells for sampling will vary depending on the objectives of each event. In general the well location and construction information, in conjunction with measurements and observations and previous laboratory results will be used to select monitoring wells to meet event objectives. The GSEP form provides for documentation of how selected wells will meet the objectives.

Construction information for groundwater monitoring wells at the Site is listed in Table 1. The locations of all wells are shown on Figure 1.

The following pre-event planning steps will be taken four to six weeks before the intended sampling:

- Pre-event planning begins with the completion of a Groundwater Sampling Event Planning (GSEP) form as presented in Appendix A. Subsequent sections of this document provide guidance for completing the GSEP form. The form must be completed by the person requesting the sampling event in conjunction with the sampling team and the Project Chemist. The GSEP form contains the following Information:
    - Persons Involved
    - Project Description and Sampling Event Objectives
    - Date of Proposed Sampling
    - Wells Selected for Sampling and How Selected Wells Relate to Objectives
    - Analytes, Laboratory Methods, and Selected Laboratory
    - Quality Control Samples Required
    - Measurement Quality Objectives
    - Laboratory Reporting Requirements
    - Event Reporting Requirements
- If the GSEP form specifies any analyses to be performed by a USEPA laboratory, send a memorandum to the USEPA Customer Service Office (CSO) (also known as the Quality Assurance Officer (QAO)) notifying them of the scheduled sampling event (known as a "project"). The CSO will assign the project a laboratory, project code, and sample numbers. Laboratory information is available in Section B.4 of this document.

The following pre-event planning steps will be taken two weeks before the intended sampling:

- Fill in the Monitoring Well Measurements and Observations Data Contained in Appendix B with the most current information available for the wells to be sampled (as identified on the GSEP form).
- Notify on-site operations personnel of the intended date of sampling and intended sampling locations and resolve any conflicts.
- For analyses called out on the GSEP form to be performed by private laboratories, contact the laboratory to verify laboratory capacity at the intended receipt date and request sample containers,

coolers, chain of custody forms, and sample labels. Laboratory information is available in Section B.4 of this document.

- Inventory field supplies. The specific equipment and supplies depends on the analytes selected, as outlined in the GSEP form. Quantities of disposable items will depend on the number of wells outlined on the GSEP form, the depth of the selected wells as shown in Table 1, and the monitoring well measurements and observations data contained in Appendix B. All calibration solutions and field reagents must be checked to ensure that the expiration date has not passed. When the inventory check determines supplies are low, additional supplies should be ordered for shipment or pick up in time for the field event. See checklist in Appendix C.
- Verify operation of field equipment. Equipment should be tested if it is seldom used, has malfunctioned in the past, or has been rented out. If tested equipment is in need of repair or replacement, the task should be taken care of in time for the field event.

The following pre-event planning steps will be taken one week before the intended sampling:

- Check sample containers to ensure that the proper number and type of containers, and preservatives are present. Refer to Table 2 for the proper sample containers.

The following pre-event planning steps will be taken two days before the intended sampling:

- Arrange for and ready transportation/field service vehicle.
- Review sampling procedures and site data in this document and from the last sampling event. Site data, including the monitoring well data, well sampling logs from the last event, and the site plan should also be reviewed
- Review health and safety plan and GSEP form.
- Ready remaining field equipment and supplies as outlined on the checklist in Appendix C.

B.2 GROUNDWATER MONITORING FIELD PROCEDURES

Groundwater monitoring field activities will consist of the following:

B.2.1 Equipment and Field Measurements

The following equipment may be used in the field to collect measurements, depending on the required measurements to meet objectives for a given groundwater sampling event:

- Flow through cell with probes. Used to measure groundwater temperature, pH, specific conductance, dissolved oxygen, turbidity, and oxidation-reduction potential "in-line" during purging without atmospheric contact. These measurements are used as an indicator of the adequacy of purging prior to sample collection as well as for geochemical characterization.
- Water Level Indicator. Used to measure depth to water to the nearest 0.01 ft.
- Interface probe. Used to identify and measure thickness of NAPL in monitoring wells.
- Photometer. Used in conjunction with Chemetrics or Hach self-filling colorimetric ampoules to provide in-field measurements of sensitive constituents such as Fe(II), Fe(III), dissolved oxygen (<1mg/L), and sulfide.

Field measurement methods and measurement quality objectives relevant to sampling event objectives will be listed on the GSEP form.

B.2.2 Equipment Calibration and Operation Verification

All field instruments must be calibrated at the start of each day's deployment per the instrument manufacturer's instructions. Record calibration data on the "Field Instruments Calibration Form" (Appendix D). All calibration solutions must be discarded after each use. Calibration checks against standards should be performed periodically throughout each day to verify equipment operation. Due to high expected contaminant concentrations, it is possible that the membrane on the dissolved oxygen probe will become fouled and inoperative. The membrane should be replaced as often as necessary per the manufacturer's guidelines.

B.2.3 Equipment Decontamination

All non-disposable and/or non-dedicated equipment that is exposed to well water (e.g. water level probe) should be decontaminated prior to collecting the first sample each day and between wells. Decontamination of equipment must be completed before leaving each well head, therefore, eliminating cross contamination.

Decontamination will be performed according to ASTM D5088.

The wash for wells that historically show no presence of NAPL should consist of:

- Non-phosphate detergent (such as Alconox) and water wash
- Tap water rinse
- Deionized water rinse

Decontamination procedures for wells that have historically shown the presence of NAPL should also include an additional step following the tap water rinse:

- Organic desorbing agent (isopropanol, acetone, methanol, etc.) rinse.

All accessible surfaces should be cleaned with a brush to remove particles or surface film. Internal surfaces should be cleaned with a small "bottle" type brush if possible. If the internal mechanism or tubing cannot be adequately cleaned with a brush, the decontamination solutions should be circulated through the equipment. Specific details for disassembly and decontamination of specific equipment (e.g. flow-through cell) may be found in the manufacturer's User's Guides.

All disposable equipment (tubing, nitrile gloves) must be discarded between sampling points. Spent decontamination fluids must be contained. Water and soapy water may be disposed in the on-site decontamination pad sump (which is handled by the on-site treatment plant). Used solvents must be collected, stored, and disposed of according to approved site hazardous waste procedures. Specifically, solvent rinses will be captured in a labeled 5-gallon container, which will be sealed and over-packed in a labeled 55-gallon drum located at the on-site hazardous waste storage area. The waste will be stored here until disposal is contracted by USACE. Per the Site Waste Management Plan, the spent solvent will only be disposed of at an approved hazardous waste facility.

B.2.4 Monitoring Well Purging and Sampling Procedures

All groundwater sampling from monitoring wells at the Site will be performed consistent with EPA/540/5-95/504 (Low Flow Groundwater Sampling Procedures). Purging and sampling will be performed using a peristaltic pump or dedicated submersible pump (with flow controller). Purging will be completed at a low rate to minimize sample disturbance and analytical artifacts, and samples will be collected when indicator parameter measurements have stabilized (indicating purging is complete).

Step-by-Step Groundwater Purging and Sampling Procedure

1. Bring decontaminated equipment to the first well scheduled to be sampled (typically the least contaminated). Make notes on the Groundwater Sampling Data Sheet (Appendix E) describing the well condition, need for maintenance/repair, and activity in the vicinity of the well.
2. If the available monitoring well measurements and observations data from previous sampling events suggests the presence of NAPL (or if no data are available from the well), check for the presence of NAPL using the Interface Probe. The interface probe will not be used to check for NAPL in lower aquifer wells and piezometers to avoid cross-contamination from the probe. After recording the NAPL thickness and water level on the Groundwater Sampling Data Sheet (Appendix E), retract the interface probe while wiping it down with a disposable towel. If the presence of NAPL is not suggested, measure the depth to water from the surveyed reference mark on the wellhead using the standard water level meter. As with the interface probe, retract the water level meter while wiping it down with a disposable towel.
3. If using a peristaltic pump:
   - Deploy a sufficient length of disposable ¼" OD polyethylene tubing into the well. If the static water level is above the top of the well screen, the bottom of the tubing should be placed in the center of the well screen. If the static water level is below the top of the well screen, the bottom of the tubing should be placed in the center of the water column.
   - The upper end of the disposable tubing should be tightly connected to silicon disposable tubing placed inside the grip of the peristaltic pump.
   - Connect a sufficient length of ¼" OD polyethylene disposable tubing to the discharge side of the silicon tube in order to connect the water line from the pump to the In-line flow cell's "IN" fitting.
4. If instead using a dedicated submersible pump:
   - Deploy the pump into the well. If the static water level is above the top of the well screen, the intake of the pump should be placed in the center of the well screen. If the static water level is below the top of the well screen, the intake of the pump should be placed in the center of the water column.
   - Connect a sufficient length of the disposable 1/2" OD polyethylene water tubing to the In-Line flow cell's "IN" fitting.
5. Verify the pump and controller are OFF. Connect the pump cables to the battery. If using the submersible pump, connect the pump to the flow controller plug. Then connect the controller cables to the battery.
6. Connect the Flow Cell's "OUT" line and secure to drain the purge water into the purge water collection container.
7. Deploy the water level meter and lock it in place so that the level can be monitored during purging and sampling. When placing the probe in the well, take precautions to prevent disturbing or agitating the water.
8. Set the pump controller settings to the documented settings used previously for the specific well. Start the pump.Verify the flow rate using a graduated cylinder. If the well has not been sampled with this equipment before, set the flow controller just high enough to allow water to reach the surface. Confirm the flow rate is equal to the well's established optimum flow rate. Modify as necessary (documenting any required modifications).

9. After a single flow cell's volume has been adequately purged, read and record water quality field measurements until all parameters have stabilized within their allowable ranges for at least three consecutive measurements.

   Ranges for stabilized values are as follows:

   - Temperature: $\pm$ 0.5° C
   - pH: $\pm$ 0.2 units
   - Conductance: $\pm$ 5.0 % of reading
   - Turbidity ± 10% NTU

   The frequency of readings will be based on the time required to purge one volume of the flow cell. For example, a 500-ml flow cell purged at a rate of 250 ml/minute will be purged in two minutes, so readings should be at least two minutes apart. If the flow rate is 100 ml/min, the readings should be at least 5 minutes apart, etc. When stabilization has been achieved, sample collection may begin.

10. Monitor the water level and confirm that the Static Water Level (SWL) drawdown has stabilized.
11. To collect the sample, disconnect the flow cell and it's tubing from the pump discharge line before collecting samples. For volatile constituent samples, decrease the pump rate to 100 milliliters per minute or less by lowering the pump controller's speed setting prior to collecting samples for volatiles. Refer to the GSEP for each event's specific sample collection matrix. Samples, as applicable, should be collected in the following sequence for each well: VOCs, PAHs, PCP, SVOCs, and then TPH. This sample collection sequence will ensure that critical samples are collected first in case the wells were to be pumped dry.
12. Place the samples in a cooler with enough ice to keep them at 4 degrees Centigrade.
13. For dissolved gas analysis and field chemical analyses, see procedures below.
14. When all sample containers have been filled, make a final measurement of the well's Static Water Level and record the measurement on the gauging and sampling sheet.
15. Measure and record total purge volume collected. Consolidate generated purge water.
16. Turn off the pump. Disconnect the cables from the battery terminals and the pump from the controller (if applicable).
17. Remove the pump and all applicable tubing from the well. Disconnect the tubing from the pump.
18. Remove and decontaminate the submersible pump (if applicable) and water level probe with phosphate-free detergent, rinsing with potable water and rinsing with de-ionized water.
19. Dispose of the polyethylene and silicone tubing.
20. Secure the wellhead cover. Move equipment to next well to be sampled.
21. At the end of each day, post calibrate all field instruments and record the measurements on the "Groundwater Sampling Instrument Calibration Documentation Form".
22. If an In-Line Flow Cell was used, clean and decontaminate this equipment with phosphate-free detergent, rinsing with potable water and rinsing with de-ionized water.

Dissolved Gas Sampling Procedures (if Required)

Dissolved gas sampling will be conducted in accordance with Microseeps Inc. (Pittsburgh, PA) SOP SM9 for bubble-stripping:

1. Follow well purging steps 1-10 as outlined above.
2. Connect the inlet tube of the decontaminated gas stripping cell to the pump discharge tubing.
3. Insert the drain tube of the cell into a waste container, keeping the end of the tube at the bottom of the container. Any waste container of suitable size may be used. Place a graduated cylinder in the waste container to determine pumping flow rate.
4. Secure the cell assembly so that the housing cover (stopper) is above the glass housing (i.e. upright). A ring stand and clamp are recommended for this purpose.
5. Turn the pump on and check for leaks. If any leaks are found, seal them before proceeding.
6. Measure, in mL per minute, the flow rate of the pump.
7. Determine the equilibrium time needed to bubble strip at this flow rate based on the flow rate as follows:

Flow Rate (ml/min)	Sampling Time (min)
100-120	30
130-150	25
160-200	20
210-300	15
>300	10

8. Unclamp the cell assembly, invert it, and re-secure the assembly in the inverted position. Make sure the drain tube is still in the waste container and the end of the drain tube is near the bottom of the bottle.
9. Connect the stopcock to the syringe and the needle to the stopcock (zoom in on image). Place the stopcock in the open position (so that the stopcock handle is in-line with the syringe). Draw the plunger back on the syringe to the 20.0 mL mark pulling ambient air into the syringe.
10. Keeping the cell in the inverted position, insert the needle into the needle guide. Pierce the septum and inject the air into the cell creating the bubble. Withdraw the needle from the assembly and carefully place the needle into the cover. Do not discard the syringe apparatus.
11. Start timing and let the groundwater pump through the cell for the required equilibrium. Meanwhile, be sure that the sample vial is properly labeled and that the flow rate and any other relevant field data are recorded in the field log.

    Note: Be sure to keep the end of the drain tube submerged at the bottom of the waste container. This will insure that outside air is not drawn into the cell. **Failure to do this will invalidate the sample.**

12. When equilibration time is up, **turn off the pump,** unclamp the cell, and re-clamp it in its upright position. Verify that the plunger of the syringe is pushed all the way in and that the stopcock is in the open position.
13. Insert the needle into the needle guide and pierce the septum. Withdraw 1 mL of gas by pulling back on the syringe plunger while holding the syringe body in place. Remove the syringe from the cell and expel the sample.
14. Immediately re-insert the needle into the needle guide and pierce the septum. Withdraw a 15 mL sample of gas (being careful not to pull any water into the syringe). With the needle still through the septum, close the stopcock and withdraw the needle from the septum.

15. Immediately insert the needle through the septum on the sample vial. Keeping the syringe and vial "in line", open the stopcock and completely depress the syringe plunger injecting the entire sample into the vial.

16. Keeping the plunger depressed, quickly remove the vial from the needle. The sample is now ready to be packaged and shipped to the laboratory for analysis. Do not cool the samples.

17. Return to step #14 of Ground Water Sampling Procedures.

Field Analysis Procedures (if Required)

Certain sensitive constituents, such as Fe (II) and Fe (III), dissolved carbon dioxide, and sulfide are often best determined in the field due to chemical changes that can occur following collection. Furthermore, if dissolved oxygen measurements below 1.0 mg/L are desired, field tests must be performed due to limitations of dissolved oxygen sensors. If required, field analyses will be performed at the wellhead using colorimetric methods. Chemetrics or Hach self-filling analyte-specific ampoules and a portable photometer from either manufacturer will be used.

Because these analyses are being performed for constituents that are sensitive to air exposure, a funnel-device must be used to allow the ampoule to be filled from an upward-flowing water stream while the pump is discharging water. The hard plastic funnel (supplied by the ampoule manufacturers) should be attached to the pump discharge tubing with a small piece of adaptable disposable tubing. Tygon 2356 is preferred for this application due to its chemical resistance. Standard vinyl Tygon tubing should not be used due to the leachable plasticizers.

After allowing the ampoule to fill in the upward discharge stream, all instructions and procedures printed by the manufacturer for each analyte should be followed. Results should be recorded on the groundwater sampling field log forms. Return to step #14 of Ground Water Purging and Sampling Procedure.

B.3 SAMPLE DOCUMENTATION, HANDLING AND CUSTODY

This section describes the documentation required for groundwater sampling events. This documentation will be supplemented with additional EPA documentation as required.

B.3.1 Sample Identification

All groundwater monitoring samples will be identified on chain-of-custody forms, analysis requests, and sample tags with USEPA-assigned sample numbers, RAS case numbers (if applicable), and sampling location IDs (e.g., CW-15). USEPA sample numbers will be used as assigned by the CSO (per Section B.1). Groundwater sample identification and chain-of-custody information will be coordinated with the Forms II Lite software.

B.3.2 Field Documentation and Sample Management

This section describes the procedures for documentation and sample management in the field, including field documentation (i.e., information to be included in field logbooks), sample documentation (i.e., USEPA-assigned project codes and sample numbers, the various chain-of-custody and analytical request forms, sample tags and labels, and chain-of-custody procedures), packaging, and shipping.

B.3.3 Field Documentation

All field sampling activities will be documented using the Groundwater Sampling Data Sheet to record the following information:

- Physical/environmental conditions during field activities;
- Well conditions, need for maintenance;
- Personnel involved with the activities;
- Well/sample location identification;
- Equipment calibration and decontamination notes (cross reference calibration form);
- Depth to groundwater before sampling was initiated;
- Identifiers for specific equipment used for sample collection (i.e. serial numbers);
- Information regarding well purging (e.g., volumes and pumping rates);
- Date and elapsed time from sample start to sample finish;
- Purging data, including time-series measurements of indicator parameters and water level during pumping;
- Final, stable field parameter measurements;
- Results of any in-field analyses;
- Type of sample and necessary treatment (e.g., filtering or preservative used);
- Field observations (e.g., weather conditions);
- Appearance of sample (i.e., color, turbidity, sediment, odor or sheens);
- Sample duplicates, splits, and blanks, if applicable; and
- Unusual activities, such as departures from planned procedures and equipment breakdowns.

All logs will be completed, signed, and dated by the recorder. All logs will be written with waterproof ink. Corrections will be made by crossing out the error with a single horizontal line, initialing the correction, and entering the correct information. Crossed-out information shall be readable.

B.3.4 Sample Documentation Forms

For all analyses, whether performed by USEPA regional labs, CLP labs, or commercial labs, samples must be labeled and documented with the FORMS II Lite software.

B.3.5 Sample Tags

The information recorded on the sample tag includes:

- Project Code—the number assigned by the USEPA to the sampling project
- Station Number—A station number will be assigned to each sampling location
- Month/Day/Year—A six-digit number indicating the date of collection
- Time—A four-digit number indicating the military time of collection
- Designate: Preservative—A box that should be checked appropriately to indicate ice or none
- Designate: Chemical—A box that should be checked appropriately if a chemical preservation is used
- Station Location—This is the location of the sampling event
- Samplers—Signatures of samplers on the project team
- Remarks—Type of chemical preservative, if any, as well as any pertinent comments
- Tag No.—A unique serial number preprinted or stamped on the tag
- Lab Sample No.—The EPA-assigned eight-digit sample number provided by the CSO

Additionally, the sample tag contains appropriate spaces for indicating the analytical parameter(s) for which the sample will be analyzed.

After the sample tag is completed, each tag will be securely attached to the sample container using clear packing tape.

B.3.6 Sample Preservation, Packaging and Shipment

Specific sample containers and sample handling requirements for expected analyses are described in Table 2. Refer to the GSEP form for the event specific sampling matrix.

The following packaging procedure should be followed:

1. Place samples in plastic bag and seal. An additional outer wrap of a bubble-wrap bag with an adhesive strip is preferred for packaging.
2. Put samples upright in a field cooler with blue ice and/or wet ice immediately after collection. Wet ice must be sealed in plastic bags to prevent melting ice from soaking the packing material and/or destroying sample labels. The cooler drain plug should be taped shut inside and out.
3. The samples should be firmly packed with cushioning materials, such as foam blocks or bubble-wrap, to minimize the potential for breakage during shipping.
4. Enclose sample documentation in sealed plastic bags and tape to the underside of the cooler lid. Keep copies with the field notes.
5. Secure shipping cooler(s) for shipment with strap tape and custody seals, and coordinate shipment.

Samples will be shipped by common carrier or hand delivered to the laboratory. Shipment and/or delivery of the samples will be coordinated with the USEPA CSO. Freight bills, postal receipts, and bills of lading will be retained as part of the permanent documentation.

B.3.7 Chain-of-Custody Procedures

In accordance with USEPA enforcement requirements, official custody of samples will be maintained and documented from the time of collection until the time of introduction as evidence during litigation, if required.

A sample will be considered to be in an individual's custody if any of the following criteria are met: (1) the sample is in your possession or it is in your view after being in your possession; (2) it was in your possession and then locked up or sealed to prevent tampering; or (3) it is in a secured area. The sampling team leader will be responsible for the care and custody of the collected samples until they are dispatched properly. In follow-up, the sampling team leader will review all field activities to confirm that proper custody procedures were followed during the fieldwork.

The Chain-of-Custody Record form is physical evidence of sample custody. A Chain-of-Custody Record form will be completed to accompany each cooler shipped from the field to the laboratory.

One member of the sampling team will be designated as the recorder, and that person will complete all of the paper work associated with one Chain-of-Custody Record form. However, each sampling team member must also initial the Chain-of-Custody Record form in the designated area. For each station number, the recorder is to indicate the date, time, whether the sample is a composite or grab, station location, number of containers, analytical parameters, sample label number(s), and preservatives used. When shipping the samples, the recorder signs the bottom of the form and enters the date and time the samples are relinquished. The shipper name and air bill number are to be entered under the remarks section in the bottom right corner of the form. Samples that are hand delivered to the laboratory will also be identified here.

The Chain-of-Custody Record form is to be completed using waterproof ink. Corrections are to be made by drawing a line through the error, initialing and dating the error, then entering the correct information.

The original signature copy of the Chain-of-Custody Record form will be enclosed in plastic and secured to the inside of the cooler lid. A copy of the custody record will be retained for the sampler's files.

Shipping coolers will be secured, and EPA custody seals will be placed across cooler openings. As long as the Chain-of-Custody Record forms are sealed inside the sample cooler and remain intact, commercial carriers will not be required to sign the record when they receive and relinquish the samples.

The laboratory representative who accepts the incoming sample shipment will sign and date the Chain-of-Custody Record form to acknowledge receipt of the samples. Once the sample transfer process is complete, the laboratory will be responsible for maintaining internal logbooks and records that provide a custody record throughout sample preparation and analysis.

B.4 LABORATORIES AND ANALYTICAL METHODS

USEPA Regional Laboratory analytical specifications and USEPA CLP specifications will apply as applicable.

B.4.1 Laboratory Contacts:

USEPA Customer Service Officer / Quality Assurance Officer:

Laura Castrilli
USEPA
1200 6th Avenue
Seattle, WA 98101
Tel: (206) 553-4323

B.4.2 Analytical Methods and Measurement Quality Objectives

Specific analytical methods and measurement quality objectives (MQOs), in terms of accuracy, precision, completeness, comparability, and representativeness, will be specified on each GSEP form.

B.5 QUALITY CONTROL SAMPLES

The type and number of QC samples will be specified on the GSEP form. The following explains the various types of samples and provides guidance for the frequency of collection.

B.5.1 Laboratory QC Samples.

The laboratory will perform method-specific QC activities, including surrogate recoveries, matrix spike, duplicates, and blanks. The data will be considered valid if percent recoveries fall between method-specific lower and upper control limits. Due to the complexity of the chemistry at the Wyckoff site, each sampling event must supply the laboratory enough sample volume so that site-specific matrix spike and matrix spike duplicates samples may be analyzed.

B.5.2 Field QC Samples

Field Equipment Rinse Blanks

No field equipment rinse blanks are required because only dedicated well pumps and tubing will be used.

Field Duplicate Samples

During each individual sampling event, one field duplicate or ten percent of the total samples (whichever is greater) will be collected and analyzed for all parameter groups in each sample matrix.

These samples will be submitted as blind duplicates (i.e. under a separate, unique sample number). Refer to section B.3.1 for labeling information. The location where the duplicate samples were collected will be recorded in the field logs and documented in the monitoring report. The duplicate samples will be submitted to the same laboratory as the primary samples. The duplicate samples should be collected from wells where constituents of concern have been detected in previous sampling events. The duplicate should rotate among eligible locations between sampling events whenever possible.

Field Temperature Blanks

The field temperature blank is designed to verify that the temperature within the transport container is maintained at 4 degrees Celsius. The temperature blank will be water. One temperature blank will be included in each cooler.

Field Trip Blanks

The trip blank is designed to determine if the VOC vials were decontaminated properly, if the source water was contaminant-free, or if cross contamination may have occurred during storage and transport of samples as a result of VOCs possibly diffusing through the septum lids. The trip blanks will be prepared by the contracted laboratory and sent with the empty VOC sample vials. One set of trip blanks will be included in each cooler containing samples for VOC analysis.

B.5.3 Analytical Data Quality Indicators

Accuracy: Amount of agreement between a measured and true value. The accuracy goal for each measurement or measurement groups for a given sampling even will be specified on the GSEP form.

Precision: The degree of agreement between or among independent, similar, or repeated measures. The precision goal for each measurement or measurement groups for a given sampling even will be specified on the GSEP form.

Representativeness: The degree to which sample results represent the system under study. This program will use the results of all analyses to evaluate the data in terms of its intended use.

Comparability: The degree to which data from one study can be compared with data from other similar studies. Achieved by using standard techniques to collect and analyze representative samples and by reporting analytical results in appropriate units.

Completeness: The percentage of useable data out of the total amount of planned data. The project goal is 98 percent of all data.

Table 1. Monitoring Well Construction Information

Monitoring Well Identification	Well Location (feet, NAD83)		Top of Casing Elev. Elev. (ft MLLW)	Total depth from Ground	Stickup	Depth to top of Screen	Screen Length	Screen type and Opening Size	Depth to Top of Sandpack	Size and Type of Sandpack	Hydraulic Conductivity	Well Diameter (inches)	Construction Date	Drilling Method
	Easting	Northing												
CW01[A,B]	1229108.5	228884.3	60.97	65	0	52	10	316 ss, 10 slot	50	10x20 CSSI		4	3/17/1994	Speedstar 72 Cable Tool
CW02[A]	1229448.8	229253.9	19.45	80	0	67	10	316 ss, 10 slot	65	10x20 CSSI		4	3/29/1994	Speedstar 72 Cable Tool
CW03	1229441.2	229245.9	19.28	52	0	39	10	316 ss, 10 slot	37	10x20 CSSI		4	3/31/1994	Speedstar 72 Cable Tool
CW04	1229209.0	229672.4	17.44	70	0	49	19	316 ss, 10 slot	55	10x20 CSSI		4	3/24/1994	Speedstar 72 Cable Tool
CW05[A]	1229083.7	229749.7	18.30	102	0	58	41	316 ss, 10 slot	87	10x20 CSSI		4	4/1/1994	Speedstar 72 Cable Tool
CW06	1229146.7	229797.7	16.81	67.5	2.57	54.5	10	316 ss, 10 slot	51.5	10x20 CSSI		4	9/7/1995[E]	Speedstar 72 Cable Tool
CW07	1229157.4	229798.8	16.69	23	2.72	5	15	316 ss, 10 slot	2	10x20 CSSI		4	9/6/1995[E]	Speedstar 72 Cable Tool
CW08	1228978.4	229714.8	17.85	23	2.76	5	15	316 ss, 10 slot	2	10x20 CSSI		4	9/5/1995[E]	Speedstar 72 Cable Tool
CW09[A]	1229309.5	229580.6	17.79	108	2.93	95	10	316 ss, 10 slot	92	10x20 CSSI		4	9/19/1995[E]	Speedstar 72 Cable Tool
CW10	1229377.3	229444.4	17.38	62	2.71	49	10	316 ss, 10 slot	46	10x20 CSSI		4	9/21/1995[E]	Speedstar 72 Cable Tool
CW12[A]	1229061.5	229416.6	18.64	68	2.86	55	10	316 ss, 10 slot	52	10x20 CSSI		4	9/27/1995[E]	Speedstar 72 Cable Tool
CW13	1228791.5	229460.3	17.37	23	3.17	5	15	316 ss, 10 slot	2	10x20 CSSI		4	8/31/1995[E]	Speedstar 72 Cable Tool
CW14	1228800.7	229466.6	17.23	39	2.94	26	10	316 ss, 10 slot	23	10x20 CSSI		4	9/12/1995[E]	Speedstar 72 Cable Tool
CW15[A]	1229160.2	229731.0	16.33	98	2.6	85	10	316 ss, 10 slot	82	10x20 CSSI		4	9/7/1995[E]	Speedstar 72 Cable Tool
EW03	1228701.4	229365.8	17.23	23.5	0.13	17.5	5	ss, 30 slot	15.5	Monterey Sand #9		2	7/19/1985	10 inch HSA
EW07	1229398.4	229370.1	16.86	21	1.86	15	5	ss, 30 slot	11.8	Monterey Sand #9		2	7/18/1985	10 inch HSA
EW08	1229332.1	229276.7	17.37	10.8	2.27	4.8	5	ss, 30 slot	3.8	Monterey Sand #9		2	8/8/1985	10 inch HSA
EW11	1229458.8	229265.5	15.52	29	-0.38	23	5	ss, 30 slot	19	Monterey Sand #9		2	8/12/1985	10 inch HSA
EW12	1229292.0	229639.1	15.07	20	-0.23	14	5	ss, 30 slot	12	Monterey Sand #9		2	8/7/1985	10 inch HSA
EWC2[C]	1229462.3	229254.2	15.72	59.7	-0.28	53.7	5	ss, 30 slot	50.7	Monterey Sand #9		2	8/14/1985	10 inch HSA
EWC3	1229298.6	229634.4	15.11	64.5	-0.29	58.5	5	ss, 30 slot	54.7	Monterey Sand #9		2	8/8/1985	10 inch HSA
MW14	1229086.2	229768.8	17.90	22	2.73	7	10	304 ss, 20 slot	6	Colorado Sand #8	62.5 gpd/ft^2	2	3/17/1987	8 inch OD HSA
MW15	1229055.0	229477.0	15.57	22	-0.23	5	10	304 ss, 20 slot	3.7	Colorado Sand #8	163 gpd/ft^2	2	3/31/1987	8 inch OD HSA
MW16	1229143.2	229620.3	13.88	22.5	-0.32	5	10	304 ss, 20 slot	4	Colorado Sand #8		2	3/17/1987	8 inch OD HSA
MW17	1228939.2	229413.8	19.06	30	2.88	5	10	304 ss, 20 slot	4	Colorado Sand #8		2	3/16/1987	8 inch OD HSA
MW18	1229207.7	229360.3	15.92	22	0.12	5	10	304 ss, 20 slot	3	Colorado Sand #8	26.7 gpd/ft2	2	3/16/1987	8 inch OD HSA
MW19	1228759.7	229101.7	18.45	20	0.2	5	10	304 ss, 20 slot	4	Colorado Sand #8	8.7 gpd/ft2	2	3/14/1987	8 inch OD HSA
MW21	1229326.1	229097.5	18.26	23.5	-0.34	8.5	10	304 ss, 20 slot	7	Colorado Sand #8	55.2 gpd/ft2	2	3/12/1987	8 inch OD HSA
MW22	1228244.7	229110.7	17.5[D]	20		5	10	304 ss, 20 slot	4	Colorado Sand #8	4.8 gpd/ft2	2	03/23/87[F]	8 inch OD HSA
MW23	1228518.9	229114.7	17.45	20	-0.75	5	10	304 ss, 20 slot	4	Colorado Sand #8	3.5 gpd/ft2	2	03/24/87[F]	12 inch OD HSA
OB-1-1	1229070.7	229462.3	17.72	39	1.72	5	30	ss, 20 slot	4	Monterey Sand #16		2	11/15/1988	Mobile B 61
OB-1-2	1229051.9	229467.1	17.65	39	1.75	5	30	ss, 20 slot	4	Monterey Sand #16		2	11/16/1988	Mobile B 61
OB-2-1	1229142.7	229668.0	16.08	39.5	1.18	5	31.5	ss, 20 slot	4	Monterey Sand #16		2	11/16/1988	Mobile B 61
OB-2-2	1229137.4	229682.8	16.43	39	1.83	5	31	ss, 20 slot	4.29	Monterey Sand #16		2	11/16/1988	Mobile B 61
OB-3-1	1229277.6	229639.7	17.24	39	1.94	5	31	ss, 20 slot	4	Monterey Sand #16		2	11/21/1988	Mobile B 61
OB-3-2	1229284.0	229647.2	17.45	39	2.07	6	30	ss, 20 slot	4	Monterey Sand #16		2	11/21/1988	Mobile B 61
OB-4-1	1229386.6	229271.4	16.31	39.5	0.31	6.5	30	ss, 20 slot	3.5	Monterey Sand #16		2	11/17/1988	Mobile B 61
OB-4-2	1229387.5	229277.3	16.56	39.8	0.56	6.4	30.3	ss, 20 slot	3.5	Monterey Sand #16		2	11/17/1988	Mobile B 61
OB-4-3	1229401.9	229285.1	16.22	39.25	0.42	6.25	30	ss, 20 slot	4	Monterey Sand #16		2	11/18/1988	Mobile B 61
OB-4-4	1229382.7	229290.2	16.34	39.75	0.14	6.8	29.95	ss, 20 slot	4	Monterey Sand #16		2	11/18/1988	Mobile B 61
PO01	1229259.0	229597.2	17.94	19	2.34	4	10	ss, 20 slot	2.5	Monterey Sand #16		2	4/10/1989	Acker Portable Mud Rotary
PO03	1229157.8	229514.3	16.36	17	2.64	4	10	ss, 20 slot	2.5	Monterey Sand #16		2	4/12/1989	Acker Portable Mud Rotary
PO04	1229262.1	229395.7	16.83	17.5	2.48	4.5	10	ss, 20 slot	2.5	Monterey Sand #16		2	4/14/1989	Acker Portable Mud Rotary
PO05	1229254.5	229439.6	16.72	17.5	2.68	4.5	10	ss, 20 slot	2.5	Monterey Sand #16		2	4/17/1989	Acker Portable Mud Rotary
PO09	1228998.9	229473.5	18.54	18	2.52	5	10	ss, 20 slot	2.5	Monterey Sand #16		2	4/18/1989	Mobile B 61
PO13	1229366.1	229490.7	16.78	18	1.88	5	10	ss, 20 slot	2.5	Monterey Sand #16		2	4/18/1989	Mobile B 61
PO18	1229459.8	229258.2	17.62	16	1.82	5	10	ss, 20 slot	5	Aqua 8		2	8/23/1989	Bucyrus Erie 22 W Cable Tool
99CD-MW02[A]	1229118.2	229522.8	16.80	82.5	2.5	72.5	10.0	ss, 20 slot	70.0	10x20 CSSI		2	7/29/1999	Bucyrus Erie 22 W Cable Tool
99CD-MW04[A]	1229145.1	229421.6	18.23	76.0	2.5	66.0	10.0	ss, 20 slot	64.0	10x20 CSSI		2	7/22/1999	Bucyrus Erie 22 W Cable Tool
02CD-MW01[A]	Not surveyed	Not surveyed	Not surveyed	63.0	2.6	53.0	10.0	304 ss, 20 slot	50.1	10x20 CSSI		2	11/25/2002	Bucyrus Erie 22 W Cable Tool

Notes:
A. Monitoring well screen is in lower aquifer.
B. Riser cut shorter after soil removal.
C. Inner casing damaged during sheet pile installation, well is unserviceable.
D. Inner casing fused shut; measurement is outer casing.
E. Completion date not known; date is start of drilling.
F. Completion date not known; date is completion of well development.

Table 1a. Monitoring Well Construction Information

Monitoring Well Identification	Well Location (feet (NAD83)		Top of Inner Casing Elev. (feet MLLW)	Total depth from Ground (feet)	Stickup (feet)	Depth to Top of Screen (feet)	Screen Length (feet)	Screen Type and Opening Size (inches)	Well Diameter (inches)	Construction Date
	Northing	Easting								
SE-02	229107.302	1229486.188	18.975	50.10	1.90	40.0	10	316 ss, 0.010	2	8/26/2008
P-1L	229353.075	1229460.406	19.540	97.00	3.00	88.0	10	316 ss, 0.010	2	9/11/2008
P-2L	229578.355	1229388.108	19.836	114.60	2.40	105.0	10	316 ss, 0.010	2	9/16/2008
P-3L	229805.341	1229211.564	23.166	128.80	3.20	113.6	10	316 ss, 0.010	2	9/19/2008
P-4L	229734.919	1228977.326	20.744	90.83	3.07	81.9	10	316 ss, 0.010	2	9/29/2008
P-5L	229551.501	1228833.354	20.744	80.00	2.00	70.0	10	316 ss, 0.010	2	9/30/2008
P-6L	229380.459	1228647.663	20.748	87.00	3.00	78.0	10	316 ss, 0.010	2	10/2/2008
VG-1L	229481.816	1229354.707	18.955	100.50	3.10	91.6	10	316 ss, 0.010	2	9/12/2008
VG-2L	229723.397	1229301.662	26.167	126.70	3.10	117.8	10	316 ss, 0.010	2	8/27/2008
VG-3L	229641.148	1228967.281	22.817	97.37	2.83	88.2	10	316 ss, 0.010	2	9/25/2008
VG-4L	229462.658	1228817.697	20.731	84.00	3.00	75.0	10	316 ss, 0.010	2	10/1/2008
VG-5L	229334.879	1228971.530	18.981	72.56	2.84	63.4	10	316 ss, 0.010	2	9/24/2008

Table 2. Sample Handling Requirements for Groundwater Monitoring

Analysis	Type of Container	Sample Volume	Sample Preservation	Sample Holding Time
Total Organic Carbon	125 ml HDPE bottle with Teflon-lined cap	125 ml; fill to shoulder of bottle	Cool, 4°C; H_2SO_4 to pH < 2	As soon as possible, 28 days maximum
Nitrate	125 ml HDPE bottle with Teflon-lined cap	125 ml; fill to shoulder of bottle	Cool, 4°C	48 hours
Nitrite	125 ml HDPE bottle with Teflon-lined cap	125 ml; fill to shoulder of bottle	Cool, 4°C	48 hours
Sulfate	125 ml HDPE bottle with Teflon-lined cap	125 ml; fill to shoulder of bottle	Cool, 4°C	As soon as possible, 28 days maximum
Chloride	125 ml HDPE bottle with Teflon-lined cap	125 ml; fill to shoulder of bottle	Cool, 4°C	As soon as possible, 28 days maximum
Petroleum Hydrocarbons (NWTPH-Dx)	One 1-liter amber glass bottle with Teflon-lined phenolic or polypropylene cap	1 liter; fill to shoulder of bottle	Cool, 4°C	As soon as possible, 7 days maximum to extraction
PCP	One 1-liter amber glass bottle with Teflon-lined phenolic or polypropylene cap	1 liter; fill to shoulder of bottle	Cool, 4°C	7 days to extraction, 40 days after extraction
PAHs (w/SIM)	Two 1-liter amber glass bottle with Teflon-lined phenolic or polypropylene cap	1 liter; fill to shoulder of bottle	Cool, 4°C	7 days to extraction, 40 days after extraction
SVOCs	One 1-liter amber glass bottle with Teflon-lined phenolic or polypropylene cap	1 liter; fill to shoulder of bottle	Cool, 4°C	7 days to extraction, 40 days after extraction
VOCs	Three 40 ml VOA vials with Teflon-lined caps	40 ml, fill to top ensuring no bubbles	Cool, 4°C; HCL to pH < 2	As soon as possible, 14 days maximum to extraction
Metals (total) - calcium - magnesium - manganese - potassium - sodium	500 ml HDPE bottle with Teflon-lined cap	500 ml; fill to shoulder of bottle	Cool, 4°C; HNO_3 to pH < 2	6 months

Figure 1. Wyckoff/Eagle Harbor Superfund Site Monitoring Well Network

APPENDIX A

GROUNDWATER SAMPLING EVENT PLANNING (GSEP) FORM

APPENDIX B

MONITORING WELL MEASUREMENTS AND OBSERVATIONS FORM

APPENDIX C

FIELD EQUIPMENT AND SUPPLIES CHECKLIST

APPENDIX D

FIELD INSTRUMENTS CALIBRATION FORM

APPENDIX E

GROUNDWATER SAMPLING DATA SHEET

Groundwater Sampling and Analysis Plan

Wyckoff/Eagle Harbor Superfund Site
Kitsap County, Washington

Prepared for:

U.S. Environmental Protection Agency
Region 10
1200 6th Avenue
Seattle, Washington 98101

Prepared by:

U.S. Army Corps of Engineers
Seattle District
4735 East Marginal Way South
Seattle, Washington 98134

and

SCS Engineers
2405 140th Avenue NE
Suite 107
Bellevue, Washington 98005-1877

March 2004

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SECTION A PROJECT MANAGEMENT

A.1 APPROVAL PAGE

Approved _____ Date _____
USEPA Region 10 Remedial Project Manager

Approved _____ Date _____
USEPA Region 10 Quality Assurance Manager

Approved _____ Date_____
USACE Project Manager

Approved _____ Date_____
USACE Quality Control Manager

Approved _____ Date_____
SCS Contract Manager

Approved _____ Date_____
SCS Quality Control Manager

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A.3 DISTRIBUTION LIST

U.S. Environmental Protection Agency
Region 10
1200 6th Avenue
Seattle, WA 98101

Attention: Mary Jane Nearman, Bruce Woods, and Laura Castrilli

U.S. Army Corps of Engineers
Seattle District
4735 East Marginal Way South
Seattle, WA 98134

Attention: M. Kathy LeProwse, Kathryn Carpenter, and Michael Bailey

SCS Engineers/OMI
2405 140th Avenue NE
Suite 107
Bellevue, WA 98005-1877

Attention: David Roberson, Cliff Leeper, Joe Harrington, and Mark Varljen

A.4 PROJECT ORGANIZATION AND PROJECT TEAM

The project team consists of representatives from USEPA Region 10, the USACE Seattle District Office, and SCS Engineers, a contractor to the USACE responsible for operations and maintenance at the site. Individuals and their roles on this project are summarized in this section.

USEPA Remedial Project Manger (RPM) - Mary Jane Nearman: The RPM is the EPA authority for this project. The RPM will approve all recommendations regarding cost and scope variations prior to implementation. The RPM is also responsible for assuring that all functional criteria are met during conduct of this project. The RPM must be kept informed of progress on a regular basis and will have a decision weigh-in at significant project milestones.

USACE Project Manager (PM) - Kathy LeProwse: The PM will maintain specific project management authority throughout the life of the project, and is responsible for overall management and execution of the project to include project quality, cost and schedule. Specific tasks include:

- Providing the project team with funding for each task
- Tracking and reporting to USEPA financial expenditures, obligations and schedule
- Ensure that USEPA's goals and objectives for the project are achieved.

USACE Project Hydrogeologist - Mike Bailey: The project hydrogeologist will evaluate geologic and hydrogeologic conditions. He will oversee aquifer testing and will also be the lead for data analysis and presentation.

USACE Project Chemist - Kathryn Carpenter: The project chemist will be responsible for developing data quality objectives, selecting analytical methods and coordinating with laboratories, and approval of QA/QC procedures. She is also responsible for overall project data management for the USACE.

USACE Health and Safety Officer – Kim Calhoun: The health and safety officer is responsible for the safe operation of the field team. She will be responsible for implementation of the Health and Safety Plan for the entire site (separate approved document), review its contents with all personnel, confirm that all personnel have received the required health and safety training, determine personal protection levels, provide necessary personal protective equipment and supplies, and correct any unsafe work practices.

SCS Engineers Sampling Team. Representatives from SACS Engineers will be responsible for implementing the field sampling program outlined in this plan, ensuring samples are collected that are representative of site conditions, and that samples are handled properly prior to transfer of custody to the project laboratories.

A.5 PROBLEM DEFINITION AND PROJECT BACKGROUND

The Wyckoff/Eagle Harbor Superfund site is located on Bainbridge Island, Washington, on the southern shoreline near the entrance to Eagle Harbor. The site has been divided into four operable units (OUs):

- Wyckoff Soil OU: surface and subsurface soil extending to the maximum elevation of the water table (or other fluid boundary)
- Wyckoff Groundwater OU: subsurface soil and groundwater beneath the maximum elevation of the water table (or other fluid boundary) extending to the sheet pile containment wall.
- West Harbor OU: intertidal and subtidal surface sediments located within the West Harbor OU boundary
- East Harbor OU: intertidal and subtidal surface sediments located within the East Harbor OU boundary

Site soil, groundwater, and sediments are contaminated with petroleum hydrocarbons and polycyclic aromatic hydrocarbons. A record of decision for cleanup of the site was signed in 2000 (USEPA 2000). This work plan covers additional groundwater investigation work in support of the on-going cleanup work.

A.6 PROJECT DESCRIPTION

The purpose of this document is to provide guidance for performing consistent, quality-assured groundwater monitoring at the Site. Procedures are provided for both field sampling, analysis and data evaluation to ensure that the monitoring results provide an accurate representation of environmental conditions and meet the planned quality assurance/quality control (QA/QC) performance criteria for a particular sampling event.

This document only covers groundwater monitoring from designated monitoring wells. Process sampling, extraction well sampling, or other environmental monitoring are not covered by these procedures.

The procedures in this plan are applicable to all groundwater sampling events at the Site. They are designed to be used in conjunction with an event-specific Groundwater Sampling Event Planning (GSEP) Form (Appendix A), and updated monitoring well measurements and observations data. A completed GSEP form, combined with updated monitoring well measurements and observations data and the procedures outlined in this document, will form a complete sampling and analysis plan for any groundwater sampling event.

The resulting plan will ensure that groundwater monitoring will be consistent with existing guidance for projects conducted or funded by the USEPA.

A.7 QUALITY OBJECTIVES AND CRITERIA FOR MEASUREMENT DATA

Quality objectives are likely to vary depending on the intended use of groundwater sampling data collected for each sampling task. For this reason, task-specific quality objectives are to be listed on the event-specific GSEP form. The information to be provided for each event includes: data type, data use, specific project objectives to be met by the data and required sensitivity.

A.8 SPECIAL TRAINING/CERTIFICATION

All site personnel will meet the Hazardous Waste Site Operations Training (HAZWOPER) and other requirements of 29 CFR 1910.120(e), including:

- Forty hours or initial off-site training or its recognized equivalent;
- Eight hours of annual refresher training for all personnel (as required);
- Eight hours of supervisor training for personnel serving as Site Health and Safety Officers;
- Three days of work activity under the supervision of a trained and experienced supervisor.

All site personnel will participate in medical surveillance programs that meet the requirements of 29 CFR 1910.120(f).

Prior to the start of sampling activities at the site, the Site Health and Safety Officer will conduct a site safety briefing, which will include all personnel involved in site operations. All site personnel, including subcontractor personnel, are to attend the briefings and sign the briefing form. Subsequent site safety briefings will be conducted at least weekly, or whenever there is a change in task or significant change in task location. Briefings will also be conducted whenever new personnel report to the site. For each briefing, the Site Health and Safety Officer will complete a site safety briefing form that will be kept in the project file.

A.9 DOCUMENTS AND RECORDS

Field activities will be documented in draft and final versions in technical memorandum format. The memorandum will include a discussion of field work and results of chemical tests. Field notes, calculations, field forms, analysis results and resultant interpretations will be included. This memorandum will also include an analysis of the results in relation to the purpose and objectives of the field activities. A review conference will be held to discuss the memorandum and recommendations. Formal, written responses to EPA and project team review comments will be prepared and incorporated into the final reports as necessary. Additional details regarding documentation are provided in subsequent sections.

SECTION B DATA GENERATION AND ACQUISITION

B.1 SAMPLING DESIGN AND PRE-EVENT PLANNING

The specific wells selected for each sampling event will be listed on the GSEP form. The rationale for selecting specific wells for sampling will vary depending on the objectives of each event. In general the well location and construction information, in conjunction with measurements and observations and previous laboratory results will be used to select monitoring wells to meet event objectives. The GSEP form provides for documentation of how selected wells will meet the objectives.

Construction information for groundwater monitoring wells at the Site are listed in Table 1. The locations of all wells are shown on Figure 1.

The following pre-event planning steps will be taken four to six weeks before the intended sampling:

- Pre-event planning begins with the completion of a Groundwater Sampling Event Planning (GSEP) form as presented in Appendix A. Subsequent sections of this document provide guidance for completing the GSEP form. The form must be completed by the person requesting the sampling event in conjunction with the sampling team and the Project Chemist. The GSEP form contains the following Information:
    - Persons Involved
    - Project Description and Sampling Event Objectives
    - Date of Proposed Sampling
    - Wells Selected for Sampling and How Selected Wells Relate to Objectives
    - Analytes, Laboratory Methods, and Selected Laboratory
    - Quality Control Samples Required
    - Measurement Quality Objectives
    - Laboratory Reporting Requirements
    - Event Reporting Requirements
- If the GSEP form specifies any analyses to be performed by a USEPA laboratory, send a memorandum to the USEPA Customer Service Office (CSO) notifying them of the scheduled sampling event (known as a "project"). The CSO will assign the project a laboratory, project code, and sample numbers. Laboratory information is available in Section C.5.1 of this document.

The following pre-event planning steps will be taken two weeks before the intended sampling:

- Fill in the Monitoring Well Measurements and Observations Data Contained in Appendix B with the most current information available for the wells to be sampled (as identified on the GSEP form).
- Notify on-site operations personnel of the intended date of sampling and intended sampling locations and resolve any conflicts.
- For analyses called out on the GSEP form to be performed by private laboratories, contact the laboratory to verify laboratory capacity at the intended receipt date and request sample containers, coolers, chain of custody forms, and sample labels. Laboratory information is available in Section C.5.1 of this document.

- Inventory field supplies. The specific equipment and supplies depends on the analytes selected, as outlined in the GSEP form. Quantities of disposable items will depend on the number of wells outlined on the GSEP form, the depth of the selected wells as shown in Table 1, and the Monitoring Well Measurements and Observations Data Contained in Appendix B. All calibration solutions and field reagents must be checked to ensure that the expiration date has not passed. When the inventory check determines supplies are low, additional supplies should be ordered for shipment or pick up in time for the field event. See checklist in Appendix C.
- Verify operation of field equipment. Equipment should be tested if it is seldom used, has malfunctioned in the past, or has been rented out. If tested equipment is in need of repair or replacement, the task should be taken care of in time for the field event.

The following pre-event planning steps will be taken one week before the intended sampling:

- Check sample containers to ensure that the proper number and type of containers, and preservatives are present.

The following pre-event planning steps will be taken two days before the intended sampling:

- Arrange for and ready transportation/field service vehicle.
- Review sampling procedures and site data in this document and from the last sampling event. Site data, including the monitoring well data, well sampling logs from the last event, and the site plan should also be reviewed
- Review health and safety plan and GSEP form.
- Ready remaining field equipment and supplies as outlined on the checklist in Appendix C.

B.2 GROUNDWATER MONITORING FIELD PROCEDURES

Groundwater monitoring field activities will consist of the following:

B.2.1 Equipment and Field Measurements

The following equipment may be used in the field to collect measurements, depending on the required measurements to meet objectives for a given groundwater sampling event:

- Flow through cell with probes. Used to measure groundwater temperature, pH, specific conductance, dissolved oxygen, and oxidation-reduction potential "in-line" during purging without atmospheric contact. These measurements are used as an indicator of the adequacy of purging prior to sample collection as well as for geochemical characterization.
- Water Level Indicator. Used to measure depth to water to the nearest 0.01 ft.
- Interface probe. Used to identify and measure thickness of NAPL in monitoring wells.
- Photometer. Used in conjunction with Chemetrics or Hach self-filling colorimetric ampoules to provide in-field measurements of sensitive constituents such as Fe(II), Fe(III), dissolved oxygen (<1mg/L), and sulfide.
- Turbidimeter. Used to measure turbidity, useful for interpretation of metals and heavy organic data (since these contaminants can be particle-associated) and to verify that any disturbance (in the form of increased suspended solids) caused by pump insertion has been purged out before sample collection.

Field measurement methods and measurement quality objectives relevant to sampling event objectives will be listed on the GSEP form.

B.2.2 Equipment Calibration and Operation Verification

All field instruments must be calibrated at the start of each day's deployment per the instrument manufacturer's instructions. Record calibration data on the "Field Instruments Calibration Documentation Form" (Appendix D). All calibration solutions must be discarded after each use. Calibration checks against standards should be performed periodically throughout each day to verify equipment operation. Due to high expected contaminant concentrations, it is possible that the membrane on the dissolved oxygen probe will become fouled and inoperative. The membrane should be replaced as often as necessary per the manufacturer's guidelines.

B.2.3 Equipment Decontamination

All non-disposable equipment that is exposed to well water (water level probe, sampling pump) should be decontaminated prior to collecting the first sample each day and between wells. Decontamination of equipment must be completed before leaving each well head, therefore, eliminating cross contamination. The wash should consist of:

- Non-phosphate detergent (such as Alconox) and water wash
- Tap water rinse
- Deionized water rinse

Specific details for disassembly and decontamination of specific equipment (e.g. sampling pump and flow-through cell) may be found in the manufacturer's User's Guides.

All disposable equipment (tubing, pump bladders, nitrile gloves) must be discarded between sampling points.

B.2.4 Monitoring Well Purging and Sampling Procedures

All groundwater sampling from monitoring wells at the Site will be performed consistent with EPA/540/5-95/504 (Low Flow Groundwater Sampling Procedures). Purging and sampling will be performed using a portable bladder (squeeze-type) pump manufactured by QED Environmental Systems, Inc. Purging will be completed at a low rate to minimize sample disturbance and analytical artifacts, and samples will be collected when indicator parameter measurements have stabilized (indicating purging is complete).

Step-by-Step Groundwater Purging and Sampling Procedure

1. Bring decontaminated equipment to the first well scheduled to be sampled (typically the least contaminated). Make notes on the Groundwater Sampling Data Sheet (Appendix E) describing the well condition, need for maintenance/repair, and activity in the vicinity of the well.
2. If the available monitoring well measurements and observations data from previous sampling events suggests the presence of NAPL (or if no data are available from the well), check for the presence of NAPL using the Interface Probe. After recording the NAPL thickness and water level on the Groundwater Sampling Data Sheet (Appendix E), retract the interface probe while wiping it down with a disposable towel. If the presence of NAPL is not suggested, measure the depth to water from the surveyed reference mark on the wellhead using the standard water level meter. As with the interface probe, retract the water level meter while wiping it down with a disposable towel.
3. Connect a sufficient length of disposable ¼" polyethylene tubing to the "A" (air) fitting on the bladder pump. Connect a sufficient length of disposable tubing to the "W" (water) fitting on the bladder pump. Connect the safety lanyard to the bladder pump.

4. Deploy the portable bladder pump. If the static water level is above the top of the well screen, the pump intake should be placed in the center of the well screen. If the static water level is below the top of the well screen, the pump should be placed in the center of the water column. If LNAPL is present and the well is of sufficient diameter, prior to deploying the sampling pump a liner tube should be inserted through the LNAPL to just below the layer, and the LNAPL should be removed from inside the liner (with a disposable bailer or peristaltic pump). Alternatively, the end of the liner tube may be sealed off with a membrane which the sampling pump will punch through, however when selecting the membrane material (e.g. plastic wrap or foil) consideration must be given to the chemical compatibility of the material with the expected contaminants and its potential effect on the required chemical analyses. If DNAPL is present, care should be exercised so that the pump does not contact the DNAPL.

5. Connect the air line from the pump to the pump controller's "AIR OUT" air-line. Connect the water line from the pump to the In-Line flow cell's "IN" fitting.

6. Connect the Flow Cell's "OUT" line and secure to drain the purge water into the purge water collection container.

7. Deploy the water level meter and lock it in place so that the level can be monitored during purging and sampling. When placing the probe in the well, take precautions to prevent disturbing or agitating the water.

8. Start the air supply and turn the pneumatic controller on. Set the pump controller settings to the documented settings used previously for the specific well. Verify the flow rate using a graduated cylinder (multiply the volume of each pump "squeeze" by the number of cycles per minute specified). If the well has not been sampled with this equipment before, set discharge pressure just high enough to reach the surface (target pressure in psi = depth to water in ft / 2.31) and begin pumping at 4 cycles per minute. Adjust the cycle times and/or the number of cycles per minute to achieve a flow rate (between 100-500ml/min) that allows a stable water level in the well. Confirm the flow rate is equal to the well's established optimum flow rate. Modify as necessary (documenting any required modifications).

9. After a single pump-system's volume (bladder volume + discharge tubing volume) has been adequately purged, read and record water quality field measurements until all parameters have stabilized within their allowable ranges for at least three consecutive measurements.

   Ranges for stabilized values are as follows:

   - Temperature: $\pm$ 0.5° C
   - pH: $\pm$ 0.2 units
   - Conductance: $\pm$ 5.0 % of reading
   - Dissolved oxygen: $\pm$ 0.2 mg/L
   - Turbidity ± 10% NTU

   The frequency of readings will be based on the time required to purge one volume of the flow cell. For example, a 500-ml flow cell purged at a rate of 250 ml/minute will be purged in two minutes, so readings should be at least two minutes apart. If the flow rate is 100 ml/min, the readings should be at least 5 minutes apart, etc. When stabilization has been achieved, sample collection may begin.

10. Monitor the water level and confirm that the Static Water Level (SWL) drawdown has stabilized.

11. To collect the sample, disconnect the flow cell and it's tubing from the pump discharge line before collecting samples. For volatile constituent samples, decrease the pump rate to 100

milliliters per minute or less by lowering the controller's air pressure setting prior to collecting samples for volatiles. Utilize the QED Model MP10/MP15 Controller's 'MANUAL SAMPLE' button to ensure minimized sample exposure to the ambient air.

12. Place the samples in a cooler with enough ice to keep them at 4 degrees Centigrade.
13. For dissolved gas analysis and field chemical analyses, see procedures below.
14. When all sample containers have been filled, make a final measurement of the well's Static Water Level and record the measurement on the gauging and sampling sheet.
15. Measure and record total purge volume collected. Consolidate generated purge water.
16. Disconnect the bladder pump air line from the controller.
17. Remove and decontaminate the portable bladder pump, lanyard, and water level probe with phosphate-free detergent, rinsing with potable water and rinsing with de-ionized water. Dispose of the bladder and tubing.
18. Secure the wellhead cover. Move equipment to next well to be sampled.
19. At the end of each day, post calibrate all field instruments and record the measurements on the "Groundwater Sampling Instrument Calibration Documentation Form".
20. If an In-Line Flow Cell was used, clean and decontaminate this equipment with phosphate-free detergent, rinsing with potable water and rinsing with de-ionized water.

Dissolved Gas Sampling Procedures (if Required)

Dissolved gas sampling will be conducted in accordance with Microseeps Inc. (Pittsburgh, PA) SOP SM9 for bubble-stripping:

1. Follow well purging steps 1-10 as outlined above.
2. Connect the inlet tube of the decontaminated gas stripping cell to the pump discharge tubing.
3. Insert the drain tube of the cell into a waste container, keeping the end of the tube at the bottom of the container. Any waste container of suitable size may be used. Place a graduated cylinder in the waste container to determine pumping flow rate.
4. Secure the cell assembly so that the housing cover (stopper) is above the glass housing (i.e. upright). A ring stand and clamp are recommended for this purpose.
5. Turn the pump on and check for leaks. If any leaks are found, seal them before proceeding.
6. Measure, in mL per minute, the flow rate of the pump.
7. Determine the equilibrium time needed to bubble strip at this flow rate based on the flow rate as follows:

Flow Rate (ml/min)	Sampling Time (min)
100-120	30
130-150	25
160-200	20
210-300	15
>300	10

8. Unclamp the cell assembly, invert it, and re-secure the assembly in the inverted position. Make sure the drain tube is still in the waste container and the end of the drain tube is near the bottom of the bottle.

9. Connect the stopcock to the syringe and the needle to the stopcock (zoom in on image). Place the stopcock in the open position (so that the stopcock handle is in-line with the syringe). Draw the plunger back on the syringe to the 20.0 mL mark pulling ambient air into the syringe.

10. Keeping the cell in the inverted position, insert the needle into the needle guide. Pierce the septum and inject the air into the cell creating the bubble. Withdraw the needle from the assembly and carefully place the needle into the cover. Do not discard the syringe apparatus.

11. Start timing and let the groundwater pump through the cell for the required equilibrium. Meanwhile, be sure that the sample vial is properly labeled and that the flow rate and any other relevant field data are recorded in the field log.

    Note: Be sure to keep the end of the drain tube submerged at the bottom of the waste container. This will insure that outside air is not drawn into the cell. **Failure to do this will invalidate the sample.**

12. When equilibration time is up, **turn off the pump,** unclamp the cell, and re-clamp it in its upright position. Verify that the plunger of the syringe is pushed all the way in and that the stopcock is in the open position.

13. Insert the needle into the needle guide and pierce the septum. Withdraw 1 mL of gas by pulling back on the syringe plunger while holding the syringe body in place. Remove the syringe from the cell and expel the sample.

14. Immediately re-insert the needle into the needle guide and pierce the septum. Withdraw a 15 mL sample of gas (being careful not to pull any water into the syringe). With the needle still through the septum, close the stopcock and withdraw the needle from the septum.

15. Immediately insert the needle through the septum on the sample vial. Keeping the syringe and vial "in line", open the stopcock and completely depress the syringe plunger injecting the entire sample into the vial.

16. Keeping the plunger depressed, quickly remove the vial from the needle. The sample is now ready to be packaged and shipped to the laboratory for analysis. Do not cool the samples.

17. Return to step #14 of Ground Water Sampling Procedures.

Field Analysis Procedures (if Required)

Certain sensitive constituents, such as Fe (II) and Fe (III), dissolved carbon dioxide, and sulfide are often best determined in the field due to chemical changes that can occur following collection. Furthermore, if dissolved oxygen measurements below 1.0 mg/L are desired, field tests must be performed due to limitations of dissolved oxygen sensors. If required, field analyses will be performed at the wellhead using colorimetric methods. Chemetrics or Hach self-filling analyte-specific ampoules and a portable photometer from either manufacturer will be used.

Because these analyses are being performed for constituents that are sensitive to air exposure, a funnel-device must be used to allow the ampoule to be filled from an upward-flowing water stream during pump discharge cycles. The hard plastic funnel (supplied by the ampoule manufacturers) should be attached to the ¼ inch polyethylene discharge tubing with a small piece of ¼ inch internal diameter disposable tubing. Tygon 2356 is preferred for this application due to its chemical resistance. Standard vinyl Tygon tubing should not be used due to the leachable plasticizers.

After allowing the ampoule to fill in the upward discharge stream, all instructions and procedures printed by the manufacturer for each analyte should be followed. Results should be recorded on the groundwater sampling field log forms. Return to step #14 of Ground Water Purging and Sampling Procedure.

B.3 SAMPLE DOCUMENTATION, HANDLING AND CUSTODY

B.3.1 Sample Identification

All groundwater monitoring samples will be identified on chain-of-custody forms, analysis requests, and sample tags with USEPA-assigned sample numbers, RAS case numbers (if applicable), and sampling location IDs (e.g., CW-15).

B.3.2 Field Documentation and Sample Management

This section describes the procedures for documentation and sample management in the field, including field documentation (i.e., information to be included in field logbooks), sample documentation (i.e., USEPA-assigned project codes and sample numbers, the various chain-of-custody and analytical request forms, sample tags and labels, and chain-of-custody procedures), packaging, and shipping.

B.3.3 Field Documentation

All field sampling activities will be documented using the Groundwater Sampling Data Sheet to record the following information

- Physical/environmental conditions during field activities;
- Well conditions, need for maintenance;
- Personnel involved with the activities;
- Well/sample location identification;
- Equipment calibration and decontamination notes (cross reference calibration form);
- Depth to groundwater before sampling was initiated;
- Identifiers for specific equipment used for sample collection (i.e. serial numbers);
- Information regarding well purging (e.g., volumes and pumping rates);
- Date and elapsed time from sample start to sample finish;
- Purging data, including time-series measurements of indicator parameters and water level during pumping;
- Final, stable field parameter measurements;
- Results of any in-field analyses;
- Type of sample and necessary treatment (e.g., filtering or preservative used);
- Field observations (e.g., weather conditions);
- Appearance of sample (i.e., color, turbidity, sediment, odor or sheens);
- Sample duplicates, splits, and blanks, if applicable; and
- Unusual activities, such as departures from planned procedures and equipment breakdowns.

All logs will be completed, signed, and dated by the recorder. All logs will be written with waterproof ink. Corrections will be made by crossing out the error with a single horizontal line, initialing the correction, and entering the correct information. Crossed-out information shall be readable.

B.3.4 Sample Documentation Forms

For all analyses, whether performed by USEPA regional labs, CLP labs, or commercial labs, samples must be labeled and documented with the FORMS II Lite software.

B.3.5 Sample Tags

The information recorded on the sample tag includes:

- Project Code—the number assigned by the USEPA to the sampling project
- Station Number—A station number will be assigned to each sampling location
- Month/Day/Year—A six-digit number indicating the date of collection
- Time—A four-digit number indicating the military time of collection
- Designate: Preservative—A box that should be checked appropriately to indicate ice or none
- Designate: Chemical—A box that should be checked appropriately if a chemical preservation is used
- Station Location—This is the location of the sampling event
- Samplers—Signatures of samplers on the project team
- Remarks—Type of chemical preservative, if any, as well as any pertinent comments
- Tag No.—A unique serial number preprinted or stamped on the tag
- Lab Sample No.—The EPA-assigned eight-digit sample number provided by the CSO

Additionally, the sample tag contains appropriate spaces for indicating the analytical parameter(s) for which the sample will be analyzed.

After the sample tag is completed, each tag will be securely attached to the sample container using clear packing tape. .

B.3.6 Sample Preservation, Packaging and Shipment

Specific sample containers and sample handling requirements for expected analyses are described in Table 2.

The following packaging procedure should be followed:

1. Place samples in plastic bag and seal. An additional outer wrap of a bubble-wrap bag with an adhesive strip is preferred for packaging.
2. Put samples upright in a field cooler with blue ice and/or wet ice immediately after collection. Wet ice must be sealed in plastic bags to prevent melting ice from soaking the packing material and/or destroying sample labels. The cooler drain plug should be taped shut inside and out.
3. The samples should be firmly packed with cushioning materials, such as foam blocks or bubble-wrap, to minimize the potential for breakage during shipping.
4. Enclose sample documentation in sealed plastic bags and tape to the underside of the cooler lid. Keep copies with the field notes.
5. Secure shipping cooler(s) for shipment with strap tape and custody seals, and coordinate shipment.

B.3.7 Chain-of-Custody Procedures

In accordance with USEPA enforcement requirements, official custody of samples will be maintained and documented from the time of collection until the time of introduction as evidence during litigation, if required.

A sample will be considered to be in an individual's custody if any of the following criteria are met: (1) the sample is in your possession or it is in your view after being in your possession; (2) it was in your possession and then locked up or sealed to prevent tampering; or (3) it is in a secured area. The sampling team leader will be responsible for the care and custody of the collected samples until they are dispatched properly. In follow-up, the sampling team leader will review all field activities to confirm that proper custody procedures were followed during the fieldwork.

The Chain-of-Custody Record form is physical evidence of sample custody. A Chain-of-Custody Record form will be completed to accompany each cooler shipped from the field to the laboratory.

One member of the sampling team will be designated as the recorder, and that person will complete all of the paper work associated with one Chain-of-Custody Record form. However, each sampling team member must also initial the Chain-of-Custody Record form in the designated area. For each station number, the recorder is to indicate the date, time, whether the sample is a composite or grab, station location, number of containers, analytical parameters, sample label number(s), and preservatives used. When shipping the samples, the recorder signs the bottom of the form and enters the date and time the samples are relinquished. The shipper name and air bill number are to be entered under the remarks section in the bottom right corner of the form. Samples that are hand delivered to the laboratory will also be identified here.

The Chain-of-Custody Record form is to be completed using waterproof ink. Corrections are to be made by drawing a line through the error, initialing and dating the error, then entering the correct information.

The original signature copy of the Chain-of-Custody Record form will be enclosed in plastic and secured to the inside of the cooler lid. A copy of the custody record will be retained for the sampler's files.

Shipping coolers will be secured, and EPA custody seals will be placed across cooler openings. As long as the Chain-of-Custody Record forms are sealed inside the sample cooler and remain intact, commercial carriers will not be required to sign the record when they receive and relinquish the samples.

The laboratory representative who accepts the incoming sample shipment will sign and date the Chain-of-Custody Record form to acknowledge receipt of the samples. Once the sample transfer process is complete, the laboratory will be responsible for maintaining internal logbooks and records that provide a custody record throughout sample preparation and analysis.

B.4 LABORATORIES AND ANALYTICAL METHODS

B.4.1 Laboratory Contacts:

USEPA CSO:

Laura Castrilli
USEPA
1200 6th Avenue
Seattle, WA 98101
Tel: (206) 553-4323

Contractor's Laboratory Project Manager:

Darla Powell
Severn Trent Laboratories- Seattle
5755 8th Street East
Tacoma, Washington 98424
Tel: (253) 922-2310
Fax: (253) 922-5047

B.4.2 Analytical Methods and Measurement Quality Objectives

Specific analytical methods and measurement quality objectives (MQOs), in terms of accuracy, precision, completeness, comparability, and representativeness, will be specified on each GSEP form.

B.5 QUALITY CONTROL SAMPLES

The type and number of QC samples will be specified on the GSEP form. The following explains the various types of samples and provides guidance for the frequency of collection.

B.5.1 Laboratory QC Samples.

The laboratory will perform method-specific QC activities, including surrogate recoveries, matrix spike, duplicates, and blanks. The data will be considered valid if percent recoveries fall between method-specific lower and upper control limits. Due to the complexity of the chemistry at the Wyckoff site, each sampling event must supply the laboratory enough sample volume so that site-specific matrix spike and matrix spike duplicates samples may be analyzed.

B.5.2 Field QC Samples

Field Equipment Rinse Blanks

Because a portable pump is being used, it is necessary to collect equipment rinse blanks to verify decontamination procedures. After standard decontamination, deionized water will be pumped through the sampling pump and collected for analyses. One equipment rinse blank will be collected during each day of sampling.

Field Duplicate Samples

During each individual sampling event, one field duplicate or ten percent of the total samples (whichever is greater) will be collected and analyzed for all parameter groups in each sample matrix.

These samples will be submitted as blind duplicates (i.e. under a separate, unique sample number). The location where the duplicate samples were collected will be recorded in the field logs and documented in the monitoring report. The duplicate samples will be submitted to the same laboratory as the primary samples. The duplicate samples should be collected from wells where constituents of concern have been detected in previous sampling events. The duplicate should rotate among eligible locations between sampling events whenever possible.

Field Trip Blanks

The trip blank is designed to determine if the VOC vials were decontaminated properly, if the source water was contaminant-free, or if cross contamination may have occurred during storage and transport of samples as a result of VOCs possibly diffusing through the septum lids. The trip blanks will be prepared by the contracted laboratory and sent with the empty VOC sample vials. One set of trip blanks will be included in each cooler containing samples for VOC analysis.

B.5.3 Analytical Data Quality Indicators

Accuracy: Amount of agreement between a measured and true value. The accuracy goal for each measurement or measurement groups for a given sampling even will be specified on the GSEP form.

Precision: The degree of agreement between or among independent, similar, or repeated measures. The precision goal for each measurement or measurement groups for a given sampling even will be specified on the GSEP form.

Representativeness: The degree to which sample results represent the system under study. This program will use the results of all analyses to evaluate the data in terms of its intended use.

Comparability: The degree to which data from one study can be compared with data from other similar studies. Achieved by using standard techniques to collect and analyze representative samples and by reporting analytical results in appropriate units.

Completeness: The percentage of useable data out of the total amount of planned data. The project goal is 98 percent of all data.

B.6 EQUIPMENT MAINTENANCE

Field and laboratory instrumentation will be examined and tested prior to being put into service and will be maintained according to the manufacturer's instructions. Sampling personnel will maintain a supply of typical maintenance replacement items available in the field to help prevent downtime because of equipment malfunctions. Examples of typical equipment maintenance items may include but not be limited to pump intake screens, check balls, and o-rings.

Field equipment will be serviced before the project is initiated and at regular intervals during the project as required by the manufacturer's instructions. All laboratory instruments will be maintained as specified in the project laboratory's QA plan and according to manufacturers' instructions. Manufacturer's instructions will be followed for any additional equipment that is required for the project.

B.7 CALIBRATION AND LABORATORY STANDARDS

Laboratory instrument calibration will be conducted in accordance with the QC requirements identified in the manufacturers' instructions and the laboratory SOPs. General requirements are discussed below.

B.7.1 Laboratory Instruments

As stated in USEPA SW-846 and applicable laboratory SOPs, calibration of all analytical instrumentation is required to ensure that the analytical system is operating correctly and functioning at the sensitivity required to meet project objectives. Each instrument will be calibrated with standard solutions appropriate to the instrument and analytical method, in accordance with the methodology specified and at the QC frequency specified in the laboratory SOPs.

The calibration and maintenance history of the fixed laboratory instrumentation is an important aspect of the project's overall QA/QC program. As such, all initial and continuing calibration procedures will be implemented by trained personnel following the manufacturer's instructions and in accordance with applicable EPA protocols to ensure the equipment is functioning within the tolerances established by the manufacturer and the method-specific analytical requirements.

B.7.2 Standard Solutions

A critical element in the generation of quality data is the purity/quality and traceability of the standard solutions and reagents used in the analytical operations. To ensure the highest purity possible, all primary reference standards and standard solutions will be obtained from a reliable commercial source. The laboratories will maintain a written record of the supplier, lot number, purity/concentration, receipt/preparation date, preparer's name, method of preparation, expiration date, and all other pertinent information for all standards, standard solutions, and individual standard preparation logs.

Standard solutions will be validated prior to use. Validation procedures can range from a check for chromatographic purity to verification of the concentration of the standard solution using another standard solution prepared at a different time or obtained from a different source. Stock and working standard solutions will be checked regularly for signs of deterioration, such as discoloration, formation of precipitates, or change of concentration. Care will be exercised in the proper storage and handling of standard solutions, and all containers will be labeled as to compound, concentration, solvent, expiration date, and preparation data (initials of preparer/date of preparation). Reagents will be examined for purity by subjecting an aliquot or sub-sample to the corresponding analytical method as well.

B.8 DATA MANAGEMENT

B.8.1 Data Reduction

The laboratory will perform in-house analytical data reduction under the direction of the laboratory QA manager. Data reduction will be conducted as follows:

- Raw data produced by the analyst will be processed and reviewed for attainment of QC criteria as outlined in this QAPP and/or established EPA methods, for overall reasonableness, and for transcription or calculations errors.

- After entry into the Laboratory Information Management System (LIMS), a computerized report will be generated and sent to the laboratory QA data reviewer.

- The laboratory QA data reviewer will decide whether any sample reanalysis is required and the laboratory project manager will discuss reanalysis with the Project Manager within 48 hours of the corrective action.

- Upon acceptance of the preliminary reports by the laboratory QA data reviewer, final reports will be generated. Final data reports will be available within 30 calendar days of sample submittal.

Laboratory data reduction procedures will be those specified in EPA SW-846 (3rd edition) and those described in the laboratory SOPs. The data reduction steps will be documented, signed, and dated by the analyst.

The laboratories will maintain detailed procedures for laboratory record keeping in order to support the validity of all analytical work. Each data report package will contain the laboratories' written certification that the requested analytical method was run and that all QA/QC checks were performed. The laboratory program administrator will provide the Project Manager with QC reports of their external audits if appropriate, which will become part of the project files.

B.8.2 Laboratory Data Deliverables

The laboratory data reports will consist of data packages that will contain complete documentation and all raw data to allow independent data verification and validation of analytical results from laboratory bench sheets, instrument raw data outputs, chromatograms, and mass spectra. Each laboratory data report will include the following:

- Case narrative identifying the laboratory analytical batch number. The laboratory manager or their designee must sign the narrative.

- Matrix and number of samples included.

- Analyses performed and analytical methods used.
- Description of any problems or exceedances of QC criteria and corrective action taken.
- Copy of chain-of-custody forms for all samples included in the analytical batch.
- Tabulated sample analytical results with units, data qualifiers, percent solids, sample weight or volume, dilution factor, laboratory batch and sample number, field sample number, and dates sampled, received, extracted, and analyzed all clearly specified. Surrogate percent recoveries will be included for organic analyses.
- All calibration, quality control, and sample raw data including bench sheets, preparation logs, chromatograms, mass spectra, quantitation reports, and other instrument output data.
- Blank summary results indicating samples associated with each blank.
- Matrix spike/matrix spike duplicates result summaries with calculated percent recovery and relative percent differences.
- Laboratory control sample results, when applicable, with calculated percent recovery.
- Electronically formatted data deliverable (diskette) results.

B.8.3 Electronic Data Management

The USACE and/or its contractors will use a relational database management system to track and report the following:

- Sample station information including location, elevation and field observations such as depth to groundwater as well as monitoring well construction and soil boring details.
- Sample collection information including sample number, station, matrix, type of sample (field, blank, duplicate), date of collection, and sampler.
- Analytical results including concentration, units, qualifier and analytical method.

Laboratory electronic data deliverables will be directly loaded into the database management system, thereby avoiding hand-entry errors. After data quality review is performed, the changes in values or qualifiers will be incorporated into the project database. The project manager will provide additional information such as sampling date, location coordinates, and depth interval from field sampling documentation forms, which are added to the database. A report will be produced and verified against the validated Lab Certificates.

SECTION C ASSESSMENT AND OVERSIGHT

C.1 ASSESSMENTS AND RESPONSE ACTIONS

Activities for assessing the effectiveness of project implementation and associated QA/QC are presented in this section.

C.1.1 Assessments

Assessments will be used to increase the user's understanding of the activity being assessed and to provide a basis for improving that activity. Assessments may be conducted by the USEPA, USACE or independent subcontractors. All assessments will be planned and documented according to the project requirements.

Performance and systems audits may be conducted to determine whether:

- The QA program has been documented in accordance with specified requirements
- The documented program has been implemented
- Any nonconformances were identified and corrective action or identified deficiencies was implemented

The Project Manager will be responsible for initiating audits, selecting the audit team, and overseeing audit implementation. The Project Manager is responsible for supervising and checking that samples are collected and handled in accordance with this plan and that documentation of work is adequate and complete. The Project Manager is also responsible for overseeing that the project performance satisfies the QA objectives as set forth in this plan.

Reports and technical correspondence will be peer reviewed by qualified individuals before being finalized. Copies of all audit reports will be submitted to USEPA for review.

Performance Audits

Performance audits are used to determine the status and effectiveness of both field and laboratory measurement systems and to provide a quantitative measure of the quality of data generated. For laboratories, this involves the use of standard reference samples or performance evaluation samples. These samples have known concentrations of constituents that are analyzed as unknowns in the laboratory. Results of the laboratory analyses are calculated and compared for accuracy against the known concentrations of the samples and evaluated in relation to the project measurement quality objectives. Field performance will be evaluated using field duplicates.

Technical Systems Audits

Technical system audits are used to confirm the adequacy of the data collection (field operation) and data generation (laboratory operation) systems. The on-site audits are conducted to determine whether the project-specific plans and field and laboratory SOPs are being properly implemented. A system audit may cover the field or laboratory portions of the project. The Project Manager may request that a system audit of the field or laboratory operations be performed.

C.1.2 Response Actions

The ultimate responsibility for maintaining quality throughout the project rests with the Project Manager. The day-to-day responsibility for assuring the quality of field and laboratory data rests with the project chemist and hydrogeologist and the laboratory manager, respectively.

Any nonconformance with the established QC procedures will be expeditiously identified and controlled. Where procedures are not in compliance with the established protocol, corrective actions will be taken immediately. Subsequent work that depends on the nonconforming activity will not be performed until the identified nonconformance is corrected.

Field Corrective Action

The field manager will review the procedures being implemented in the field for consistency with the established protocols. Sample collection, preservation, labeling, and field documentation will be checked for completeness. Where procedures are not strictly in compliance with the established protocol, the deviations will be documented and reported to the Project Manager. Corrective actions will be defined by the Project Manager and documented as appropriate. Upon implementation of the corrective action, the Project Manager will provide the USEPA RPM with a written memo documenting field implementation. The memo will become part of the project file.

Laboratory Corrective Action

The laboratory QA data reviewer will review the data generated to ensure that all QC samples have been run as specified in the protocol. Recoveries of LCS and MS samples for consistency with method accuracy, and RPD for laboratory duplicate samples for consistency with method precision, will be evaluated against the control limits established for this project.

Laboratory personnel will be alerted that corrective actions are necessary if any of the following occur:

- The QC data are outside the warning or acceptance windows established for precision and accuracy. The laboratory project manager will contact the laboratory QA manager to discuss out-of-control limit data sets. If the analyses cannot produce data sets that are within control limits, the project manager will be notified within 48 hours of any analysis that fails to meet the measurement quality objectives specified in this plan.
- Blanks contain contaminants at concentrations above the levels specified in the laboratory QA plan for any target compound.
- Undesirable trends are detected in matrix spike or LCS recoveries, or RPD between laboratory duplicates.
- Unusual changes in detection limits are observed.
- Deficiencies are detected by the laboratory QA manager during internal or external audits, or from the results of performance evaluation samples.

If any non-conformances in analytical methodologies or quality control sample results are identified by the analyst, corrective actions will be implemented immediately. Specific corrective actions are outlined in each laboratory SOP. Corrective action procedures will be handled initially at the bench level by the analyst, who will review the preparation or extraction procedure for possible errors, check the instrument calibration, spike and calibration mixes, instrument sensitivity, etc. The analyst will immediately notify his/her supervisor of the identified problem and the investigation that is being conducted. If the problem persists or cannot be identified, the matter will be referred to the laboratory supervisor and laboratory QA manager for further investigation. Once resolved, full documentation of the corrective action procedure will be filed by the laboratory QA manager, and if data are affected, the project manager will be provided a corrective action memo for inclusion into the project file.

Corrective action may include, but will not be limited to the following:

- Reanalyzing suspect samples if holding time criteria permit
- Re-sampling and analyzing new samples

- Retrieving the archived sample for analysis
- Evaluating and amending sampling and/or analytical procedures
- Accepting data with an acknowledged level of uncertainty
- Recalibrating analytical instruments
- Evaluating and attempting to identify limitations of the data

Data deemed unacceptable following the implementation of the required corrective action measures will be rejected during data evaluation and follow-up corrective actions will be explored.

Corrective Actions Following Data Evaluation

Field and laboratory data generated for this project will be reviewed to ensure that all project objectives are met. If any non-conformances are found in the field procedures, sample collection procedures, field documentation procedures, laboratory analytical and documentation procedures, and data evaluation and quality review procedures, the impact of those non-conformances on the overall project objectives will be assessed. Appropriate actions, including re-sampling and reanalysis, may be recommended to the Project Manager so that the project objectives can be accomplished.

C 2.0 REPORTS TO MANAGEMENT

Field activities will be documented in draft and final versions in technical memorandum format. The memorandum will include a discussion of field work and results of all chemical tests. Field notes, calculations, field forms, analysis results and resultant interpretations will be included. This memorandum will also include an analysis of the results in relation to the purpose and objectives of the field activities. A review conference will be held to discuss the memorandum and recommendations. Formal, written responses to USEPA and project team review comments will be prepared and incorporated into the final reports as necessary.

SECTION D DATA VALIDATION AND USABILITY

D.1 DATA REVIEW, VALIDATION AND VERIFICATION REQUIREMENTS

The data collection process will be reviewed to verify that the data have been collected consistently with the program design and this plan. Quality assurance personnel will review the progress of the data collection, starting with the monitoring and sampling and the documentation of field activities. Any deviations from the sampling protocol, the rationale for the deviations, and the expected impact on the program and the collected data will receive particular attention.

The review will follow the sample handling process from collection to delivery at the analytical laboratory. Proper chain-of-custody documentation will be evaluated and confirmed. Sample handling within the laboratory, analytical procedures used, QC activities, and the subsequent data reporting by the laboratory will be reviewed and evaluated.

D.2 VERIFICATION AND VALIDATION METHODS

D.2.1 Field Data Quality Review

The integrity of the field reportable data must be reviewed before it can be reported. This involves reviewing all field logs, reviewing and checking raw data entries and calculations, and verifying the custody integrity of all samples collected. Corrective actions will be performed when the precision and accuracy results fall outside of the control limits.

Water level data will be reduced by staff collecting the data and confirmed with an appropriate checking process performed by another staff member. Resultant reports will bear the initials of the staff member.

D.2.2 Laboratory Data Validation

Laboratory analytical reports will be subjected to a data validation review per USEPA Contract Laboratory Program National Functional Guidelines for Organic (and Inorganic) Data Review (USEPA 1999, 2002), including confirming the laboratory QA/QC procedures, comparing original and duplicate sample results, and ensuring spike recoveries are within acceptable ranges. Validation will include determining if:

- Sample holding times were met.
- Duplicate sample concentrations were within acceptable limits.
- Equipment rinse blanks and trip blanks were analyte-free.
- Reporting limits were acceptable.
- Laboratory blanks were analyte free.
- Laboratory matrix spike recoveries were within acceptable limits.
- Any analytical interferences were identified.
- Laboratory precision and accuracy results were within acceptable limits.
- Obvious anomalous values were identified and addressed.

Based on these reviews, the data will be classified as valid, useable, or unusable. Data classified as valid will have met all the data quality objectives, the sample custody and field logs will be in order, the results of the analyses of the field and laboratory QC blanks will be acceptable and other laboratory performance criteria will be acceptable. Valid data can be used for all purposes.

Data classified as useable will not have met all the QA/QC criteria described above. Sample custody may have been broken, holding times may have been slightly missed, a QC blank may have been

contaminated, or the reporting limit may have been elevated. These are a few examples of situations that cause the analytical data to be questionable but still useable, providing that data is used with caution.

Data classified as unusable is invalid and will not be used for any purpose. Unusable data may be the result of gross laboratory error, strong analytical interferences, or other major problems associated with the data.

D.3 RECONCILIATION WITH PROJECT OBJECTIVES

The results of the data verification and validation process will be used to determine the value, application and usefulness of the data for this sampling event as well as long term project objectives. It is possible that some or all of the data may be qualified. The qualifications, if any, and the impacts on the usefulness of the data, will be discussed in the monitoring report.

The data, and any qualifications, will be evaluated with respect to the project objectives. Depending on the results, corrective action may be necessary. The corrective action could range from minor adjustments to the monitoring program, to discarding the data and repeating the specific portions of the monitoring event.

REFERENCES

U.S. Environmental Protection Agency. 1999. USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. EPA-540/R-99-008 (PB99-963506). October 1999.

———. 2000. Record of Decision, Wyckoff/Eagle Harbor Superfund Site, Soil and Groundwater Operable Units, Bainbridge Island, Washington. Environmental Protection Agency, Region 10, Seattle, Washington. February 2000.

———. 2002. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. EPA 540-R-01-008. July 2002.

Table 1. Monitoring Well Construction Information

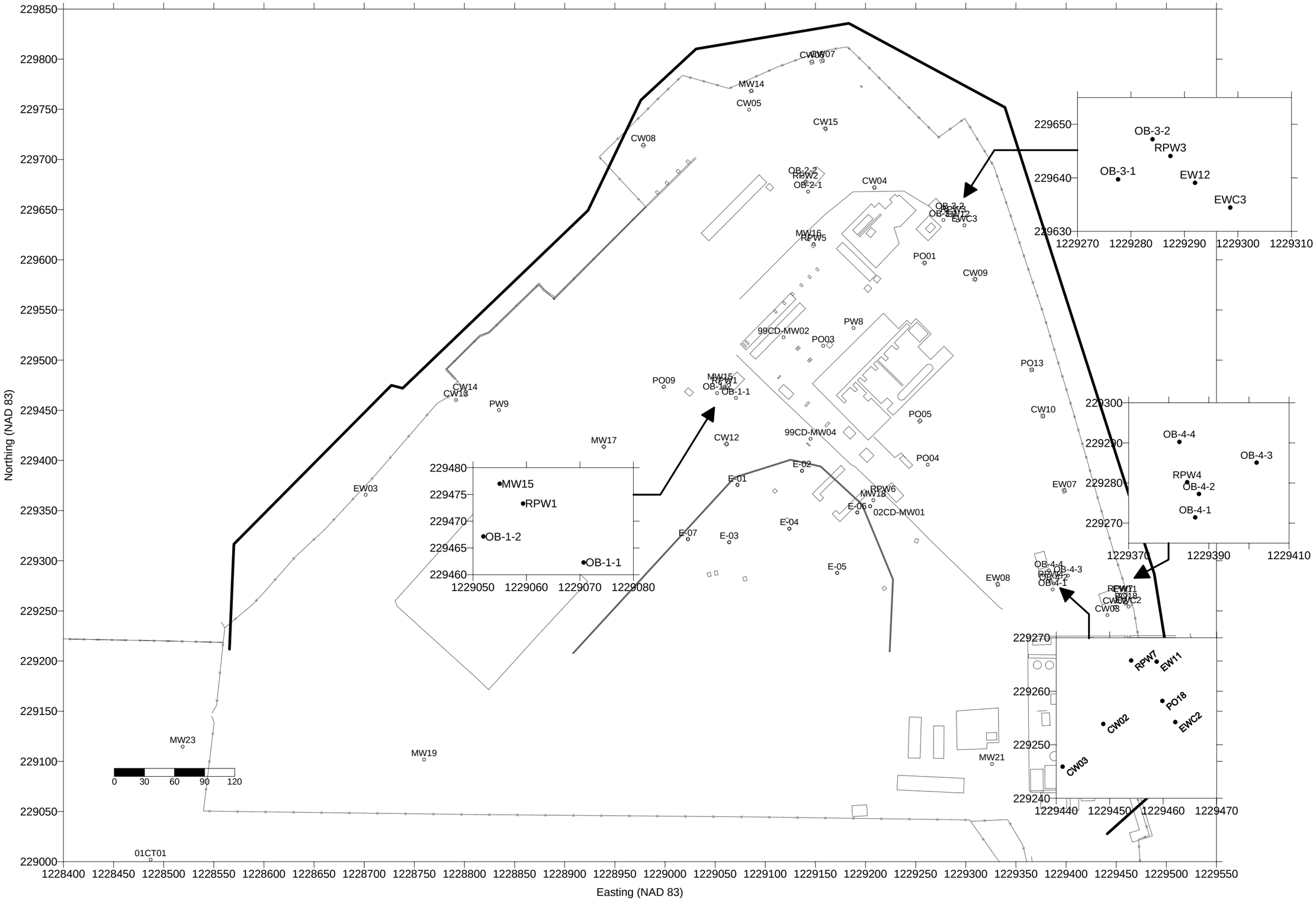
Monitoring Well Identification	Well Location (feet, NAD83)		Top of Casing Elev. Elev. (ft MLLW)	Total depth from Ground	Stickup	Depth to top of Screen	Screen Length	Screen type and Opening Size	Depth to Top of Sandpack	Size and Type of Sandpack	Hydraulic Conductivity	Well Diameter (inches)	Construction Date	Drilling Method
	Easting	Northing												
CW01[A,B]	1229108.5	228884.3	60.97	65	0	52	10	316 ss, 10 slot	50	10x20 CSSI		4	3/17/1994	Speedstar 72 Cable Tool
CW02[A]	1229448.8	229253.9	19.45	80	0	67	10	316 ss, 10 slot	65	10x20 CSSI		4	3/29/1994	Speedstar 72 Cable Tool
CW03	1229441.2	229245.9	19.28	52	0	39	10	316 ss, 10 slot	37	10x20 CSSI		4	3/31/1994	Speedstar 72 Cable Tool
CW04	1229209.0	229672.4	17.44	70	0	49	19	316 ss, 10 slot	55	10x20 CSSI		4	3/24/1994	Speedstar 72 Cable Tool
CW05[A]	1229083.7	229749.7	18.30	102	0	58	41	316 ss, 10 slot	87	10x20 CSSI		4	4/1/1994	Speedstar 72 Cable Tool
CW06	1229146.7	229797.7	16.81	67.5	2.57	54.5	10	316 ss, 10 slot	51.5	10x20 CSSI		4	9/7/1995[E]	Speedstar 72 Cable Tool
CW07	1229157.4	229798.8	16.69	23	2.72	5	15	316 ss, 10 slot	2	10x20 CSSI		4	9/6/1995[E]	Speedstar 72 Cable Tool
CW08	1228978.4	229714.8	17.85	23	2.76	5	15	316 ss, 10 slot	2	10x20 CSSI		4	9/5/1995[E]	Speedstar 72 Cable Tool
CW09[A]	1229309.5	229580.6	17.79	108	2.93	95	10	316 ss, 10 slot	92	10x20 CSSI		4	9/19/1995[E]	Speedstar 72 Cable Tool
CW10	1229377.3	229444.4	17.38	62	2.71	49	10	316 ss, 10 slot	46	10x20 CSSI		4	9/21/1995[E]	Speedstar 72 Cable Tool
CW12[A]	1229061.5	229416.6	18.64	68	2.86	55	10	316 ss, 10 slot	52	10x20 CSSI		4	9/27/1995[E]	Speedstar 72 Cable Tool
CW13	1228791.5	229460.3	17.37	23	3.17	5	15	316 ss, 10 slot	2	10x20 CSSI		4	8/31/1995[E]	Speedstar 72 Cable Tool
CW14	1228800.7	229466.6	17.23	39	2.94	26	10	316 ss, 10 slot	23	10x20 CSSI		4	9/12/1995[E]	Speedstar 72 Cable Tool
CW15[A]	1229160.2	229731.0	16.33	98	2.6	85	10	316 ss, 10 slot	82	10x20 CSSI		4	9/7/1995[E]	Speedstar 72 Cable Tool
EW03	1228701.4	229365.8	17.23	23.5	0.13	17.5	5	ss, 30 slot	15.5	Monterey Sand #9		2	7/19/1985	10 inch HSA
EW07	1229398.4	229370.1	16.86	21	1.86	15	5	ss, 30 slot	11.8	Monterey Sand #9		2	7/18/1985	10 inch HSA
EW08	1229332.1	229276.7	17.37	10.8	2.27	4.8	5	ss, 30 slot	3.8	Monterey Sand #9		2	8/8/1985	10 inch HSA
EW11	1229458.8	229265.5	15.52	29	-0.38	23	5	ss, 30 slot	19	Monterey Sand #9		2	8/12/1985	10 inch HSA
EW12	1229292.0	229639.1	15.07	20	-0.23	14	5	ss, 30 slot	12	Monterey Sand #9		2	8/7/1985	10 inch HSA
EWC2[C]	1229462.3	229254.2	15.72	59.7	-0.28	53.7	5	ss, 30 slot	50.7	Monterey Sand #9		2	8/14/1985	10 inch HSA
EWC3	1229298.6	229634.4	15.11	64.5	-0.29	58.5	5	ss, 30 slot	54.7	Monterey Sand #9		2	8/8/1985	10 inch HSA
MW14	1229086.2	229768.8	17.90	22	2.73	7	10	304 ss, 20 slot	6	Colorado Sand #8	62.5 gpd/ft^2	2	3/17/1987	8 inch OD HSA
MW15	1229055.0	229477.0	15.57	22	-0.23	5	10	304 ss, 20 slot	3.7	Colorado Sand #8	163 gpd/ft^2	2	3/31/1987	8 inch OD HSA
MW16	1229143.2	229620.3	13.88	22.5	-0.32	5	10	304 ss, 20 slot	4	Colorado Sand #8		2	3/17/1987	8 inch OD HSA
MW17	1228939.2	229413.8	19.06	30	2.88	5	10	304 ss, 20 slot	4	Colorado Sand #8		2	3/16/1987	8 inch OD HSA
MW18	1229207.7	229360.3	15.92	22	0.12	5	10	304 ss, 20 slot	3	Colorado Sand #8	26.7 gpd/ft2	2	3/16/1987	8 inch OD HSA
MW19	1228759.7	229101.7	18.45	20	0.2	5	10	304 ss, 20 slot	4	Colorado Sand #8	8.7 gpd/ft2	2	3/14/1987	8 inch OD HSA
MW21	1229326.1	229097.5	18.26	23.5	-0.34	8.5	10	304 ss, 20 slot	7	Colorado Sand #8	55.2 gpd/ft2	2	3/12/1987	8 inch OD HSA
MW22	1228244.7	229110.7	17.5[D]	20		5	10	304 ss, 20 slot	4	Colorado Sand #8	4.8 gpd/ft2	2	03/23/87[F]	8 inch OD HSA
MW23	1228518.9	229114.7	17.45	20	-0.75	5	10	304 ss, 20 slot	4	Colorado Sand #8	3.5 gpd/ft2	2	03/24/87[F]	12 inch OD HSA
OB-1-1	1229070.7	229462.3	17.72	39	1.72	5	30	ss, 20 slot	4	Monterey Sand #16		2	11/15/1988	Mobile B 61
OB-1-2	1229051.9	229467.1	17.65	39	1.75	5	30	ss, 20 slot	4	Monterey Sand #16		2	11/16/1988	Mobile B 61
OB-2-1	1229142.7	229668.0	16.08	39.5	1.18	5	31.5	ss, 20 slot	4	Monterey Sand #16		2	11/16/1988	Mobile B 61
OB-2-2	1229137.4	229682.8	16.43	39	1.83	5	31	ss, 20 slot	4.29	Monterey Sand #16		2	11/16/1988	Mobile B 61
OB-3-1	1229277.6	229639.7	17.24	39	1.94	5	31	ss, 20 slot	4	Monterey Sand #16		2	11/21/1988	Mobile B 61
OB-3-2	1229284.0	229647.2	17.45	39	2.07	6	30	ss, 20 slot	4	Monterey Sand #16		2	11/21/1988	Mobile B 61
OB-4-1	1229386.6	229271.4	16.31	39.5	0.31	6.5	30	ss, 20 slot	3.5	Monterey Sand #16		2	11/17/1988	Mobile B 61
OB-4-2	1229387.5	229277.3	16.56	39.8	0.56	6.4	30.3	ss, 20 slot	3.5	Monterey Sand #16		2	11/17/1988	Mobile B 61
OB-4-3	1229401.9	229285.1	16.22	39.25	0.42	6.25	30	ss, 20 slot	4	Monterey Sand #16		2	11/18/1988	Mobile B 61
OB-4-4	1229382.7	229290.2	16.34	39.75	0.14	6.8	29.95	ss, 20 slot	4	Monterey Sand #16		2	11/18/1988	Mobile B 61
PO01	1229259.0	229597.2	17.94	19	2.34	4	10	ss, 20 slot	2.5	Monterey Sand #16		2	4/10/1989	Acker Portable Mud Rotary
PO03	1229157.8	229514.3	16.36	17	2.64	4	10	ss, 20 slot	2.5	Monterey Sand #16		2	4/12/1989	Acker Portable Mud Rotary
PO04	1229262.1	229395.7	16.83	17.5	2.48	4.5	10	ss, 20 slot	2.5	Monterey Sand #16		2	4/14/1989	Acker Portable Mud Rotary
PO05	1229254.5	229439.6	16.72	17.5	2.68	4.5	10	ss, 20 slot	2.5	Monterey Sand #16		2	4/17/1989	Acker Portable Mud Rotary
PO09	1228998.9	229473.5	18.54	18	2.52	5	10	ss, 20 slot	2.5	Monterey Sand #16		2	4/18/1989	Mobile B 61
PO13	1229366.1	229490.7	16.78	18	1.88	5	10	ss, 20 slot	2.5	Monterey Sand #16		2	4/18/1989	Mobile B 61
PO18	1229459.8	229258.2	17.62	16	1.82	5	10	ss, 20 slot	5	Aqua 8		2	8/23/1989	Bucyrus Erie 22 W Cable Tool
99CD-MW02[A]	1229118.2	229522.8	16.80	82.5	2.5	72.5	10.0	ss, 20 slot	70.0	10x20 CSSI		2	7/29/1999	Bucyrus Erie 22 W Cable Tool
99CD-MW04[A]	1229145.1	229421.6	18.23	76.0	2.5	66.0	10.0	ss, 20 slot	64.0	10x20 CSSI		2	7/22/1999	Bucyrus Erie 22 W Cable Tool
02CD-MW01[A]	Not surveyed	Not surveyed	Not surveyed	63.0	2.6	53.0	10.0	304 ss, 20 slot	50.1	10x20 CSSI		2	11/25/2002	Bucyrus Erie 22 W Cable Tool

Notes:
A. Monitoring well screen is in lower aquifer.
B. Riser cut shorter after soil removal.
C. Inner casing damaged during sheet pile installation, well is unserviceable.
D. Inner casing fused shut; measurement is outer casing.
E. Completion date not known; date is start of drilling.
F. Completion date not known; date is completion of well development.

Table 2. Sample Handling Requirements for Groundwater Monitoring

Analysis	Type of Container	Sample Volume	Sample Preservation	Sample Holding Time
Total Organic Carbon	125 ml HDPE bottle with Teflon-lined cap	125 ml; fill to shoulder of bottle	Cool, 4°C; H_2SO_4 to pH < 2	As soon as possible, 28 days maximum
Nitrate	125 ml HDPE bottle with Teflon-lined cap	125 ml; fill to shoulder of bottle	Cool, 4°C	48 hours
Nitrite	125 ml HDPE bottle with Teflon-lined cap	125 ml; fill to shoulder of bottle	Cool, 4°C	48 hours
Sulfate	125 ml HDPE bottle with Teflon-lined cap	125 ml; fill to shoulder of bottle	Cool, 4°C	As soon as possible, 28 days maximum
Chloride	125 ml HDPE bottle with Teflon-lined cap	125 ml; fill to shoulder of bottle	Cool, 4°C	As soon as possible, 28 days maximum
Petroleum Hydrocarbons (NWTPH-Dx)	One 1-liter amber glass bottle with Teflon-lined black phenolic cap	1 liter; fill to shoulder of bottle	Cool, 4°C	As soon as possible, 7 days maximum to extraction
PCP	One 1-liter amber glass bottle with Teflon-lined black phenolic cap	1 liter; fill to shoulder of bottle	Cool, 4°C	7 days to extraction, 40 days after extraction
PAHs	One 1-liter amber glass bottle with Teflon-lined black phenolic cap	1 liter; fill to shoulder of bottle	Cool, 4°C	7 days to extraction, 40 days after extraction
SVOCs	One 1-liter amber glass bottle with Teflon-lined black phenolic cap	1 liter; fill to shoulder of bottle	Cool, 4°C	7 days to extraction, 40 days after extraction
VOCs	Three 40 ml VOA vials with Teflon-lined caps	40 ml, fill to top ensuring no bubbles	Cool, 4°C; HCL to pH < 2	As soon as possible, 14 days maximum to extraction
Metals (total) - calcium - magnesium - manganese - potassium - sodium	500 ml HDPE bottle with Teflon-lined cap	500 ml; fill to shoulder of bottle	Cool, 4°C; HNO_3 to pH < 2	6 months

Figure 1. Wyckoff/Eagle Harbor Superfund Site Monitoring Well Network



APPENDIX A

GROUNDWATER SAMPLING EVENT PLANNING (GSEP) FORM

WYCKOFF/EAGLE HARBOR SUPERFUND SITE

GROUNDWATER SAMPLING EVENT PLANNING (GSEP) FORM

P E R S O N N E L

Persons / Groups Requesting Sampling	[Click and enter person/group requesting sample] [Click and enter contact information]
	[Click and enter person/group requesting sample] [Click and enter contact information]
	[Click and enter person/group requesting sample] [Click and enter contact information]
Chemist/QA Officer	[Click and enter Chemist/QA Officer] [Click and enter contact information]
Sampling Team	[Click and enter Sampling Team] [Click and enter contact information]
Other Team Members and Roles	[Click and enter applicable details]
Date(s) of Proposed Sampling Event	[Click and enter date(s) of proposed sampling event]

WYCKOFF/EAGLE HARBOR SUPERFUND SITE

GROUNDWATER SAMPLING EVENT PLANNING (GSEP) FORM

SAMPLING EVENT OBJECTIVES

1 [Click and enter objective]

2 [Click and enter objective]

3 [Click and enter objective]

4 [Click and enter objective]

5 [Click and enter objective]

WELLS SCHEDULED FOR SAMPLING

Insert well locations below				
Well Selection Rationale	[Click and enter selection rationale]			

WYCKOFF/EAGLE HARBOR SUPERFUND SITE

GROUNDWATER SAMPLING EVENT PLANNING (GSEP) FORM

TASK REPORTING REQUIREMENTS

Task Reporting Requirements	[Click and enter task reporting requirements]
Send Repots to	[Click and enter person/group requiring report] [Click and enter contact information] [Click and enter person/group requiring report] [Click and enter contact information]

FILED MEASUREMENT METHODS AND MQOS

Parameter	Analytical Method or Instrument	Required Sensitivity

WYCKOFF/EAGLE HARBOR SUPERFUND SITE

GROUNDWATER SAMPLING EVENT PLANNING (GSEP) FORM

L A B A N A L Y S E S A N D M Q O S

Wells	Analyte	Laboratory	Method	Required Sensitivity	Method Reporting Limit	Accuracy Goal	Precision Goal

WYCKOFF/EAGLE HARBOR SUPERFUND SITE

GROUNDWATER SAMPLING EVENT PLANNING (GSEP) FORM

REQUIRED QUALITY CONTROL SAMPLES

[Click and enter number] Field Duplicates (Frequency of 10 percent)

[Click and enter number] Equipment Rinse Blanks (Frequency of one per day)

[Click and enter number] Trip Blanks (Frequency of one per day only if volatile analytes are requested for analysis)

[Click and enter number] Extra Volume for MS/MSD/Laboratory Duplicates (Frequency of 5 percent)

[Click and enter number] [Other]

[Click and enter number] [Other]

[Click and enter number] [Other]

LABORATORY REPORTING

Electronic Deliverable	☐ Yes	☐ No
Hard Copy	☐ Yes	☐ No
Required Turn-Around Time	[Click and enter turn-around time]	
Send Results to	[Click and enter recipient name and association]	
	[Click and enter contact information]	

APPENDIX B

MONITORING WELL MEASUREMENTS AND OBSERVATIONS FORM

SCS ENGINEERS

Monitoring Well Measurements and Observations
Wyckoff/Eagle Harbor Superfund Site

Well ID	Date	Time	DTW	LNAPL Thickness	DNAPL Thickness	Measured by (initials)	Equipment Used	Well Condition/Maintenance Needed/Comments

SCS ENGINEERS

Monitoring Well Measurements and Observations
Wyckoff/Eagle Harbor Superfund Site

Well ID	Date	Time	DTW	LNAPL Thickness	DNAPL Thickness	Measured by (initials)	Equipment Used	Well Condition/Maintenance Needed/Comments

APPENDIX C

FIELD EQUIPMENT AND SUPPLIES CHECKLIST

Field Equipment and Supplies Checklist for Dedicated Groundwater Sampling with Bladder Pumps

General Equipment & Tools

_____ Keys (gate, wells)
_____ Site Location Map, Site Plan, Field Sampling Plan
_____ Well Sampling Logs or Well Data
_____ PhotoIonization Detector (PID)
_____ Bladder Pump Kit (including lanyard, cleat, pole or deployment, and roving air fitting)
_____ Peristaltic Pump Kit (including tubing weight)
_____ Water Level Meter or Interface Probe
_____ Flow Cell/Temp., DO.Cond, pH, Eh meter
_____ Pneumatic Controller w/ C02 Regulator
_____ Graduated Cylinder
_____ Stop Watch
_____ Turbidity Meter
_____ Air Compressor (if not using CO2 or N2)
_____ Nitrogen Regulator if using N2
_____ Wisk Broom
_____ Tool Kit Including Bolt Cutter, Pry Bar, Hammer, Set of Box/Hex Wrenches
_____ Machete and knife
_____ Purge buckets or drums
_____ Box with extra fittings
_____ Laptop
_____ Camera
_____ Cell Phone

Safety Equipment

_____ First Aid Kit
_____ Health and Safety Plan
_____ Traffic Cones
_____ Hat or Hard Hat
_____ Face Shield
_____ Leather Gloves
_____ Safety Glasses
_____ Raingear
_____ Carhartts or coveralls
_____ Respirator
_____ Steel-Toed Leather or Rubber Boots
_____ Orange Safety Vest

Decon Equipment

_____ Buckets with lids

Additional Equipment Needed for Dissloved Gas Sampling

_____ Gas Stripping Cell
_____ Rubber Stopper w/ inlet and outlet tubes
_____ Ring Stand w/ Clamp

Additional Equipment Needed for Field Analyses

_____ Photometer Kit w/ Correct Filters for Intended Analyses
_____ Sampling Tube for Oxygen Testing

Supplies

_____ Nitrogen or C02 (if not using air compressor)
_____ Calibration Supplies (pH buffers, conductivity stds)
_____ Sample Containers, Cooler, Labels, Ice, Chain-of-custody forms
_____ Packing Material (bubble wrap, tape, etc.)
_____ Spare Batteries
_____ Garbage Bags
_____ Ziplock Bags
_____ Padlocks
_____ Field Notebook and Data Collection Forms
_____ Dissolved gas sampling supplies
_____ Bladders
_____ Tubing
_____ Permanent Markers and pens

Safety Supplies

_____ Thick Nitrile Gloves
_____ Thin Nitrile Gloves
_____ Earplugs
_____ Sunscreen
_____ Kleenex

Additional Supplies Needed for Dissloved Gas Sampling

_____ Syringe, stopcock, and needle
_____ Sample Vials

Additional Supplies Needed for Field Analyses

_____ Total Alkalinity Test Kit w/ A-9800 activator
_____ Iron I Test Kit
_____ Iron II Test Kit w/ A-6000 Activator
_____ Oxygen I and/or III Test Kit
_____ Sulfide II Test Kit w/ A-9500 Activator

Decon Supplies

_____ Alconox Detergent
_____ Paper Towels
_____ Visqueen
_____ DI Water
_____ Tap Water

APPENDIX D

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

GROUNDWATER SAMPLING INSTRUMENT CALIBRATION DOCUMENTATION FORM

	Temp.	Conductivity	pH	ORP/Eh	DO	Turbidity	Comments/Exceptions
Date							
Time							
Weather (sky or precip, temp)							
Barometric Pressure (*)							
Type of Calibration							
Standard Value							
Pre-Cal Reading							
Post Cal Reading							
Descrepancy							
Calib. Successful?							
Calibration by							
Instrument Type, ID							
Calibration Location							

* If Direct Reading is Unavailable, Assume pressure = 760 mm - 2.5 (altitude in ft/100)

APPENDIX E

GROUNDWATER SAMPLING DATA SHEET

Groundwater Sampling Data Sheet

SITE: _____ DTW _____ CONTROL SETTINGS:

WELL ID: _____ TOS _____ Refill _____

DATE: _____ Intake _____ Discharge _____

WEATHER: _____ BOS _____ Pressure _____

WELL CONDITIONS: Locked? Y N Water in Protector? Y N Damage? Y N

Comments:

SAMPLE CONTAINERS: _____

_____

Well Location

TIME	DTW	Temp.	Sp.Cond.	DO	pH	Eh	Turbidity	Q	Observations (color, odor, anomalies, etc)

SAMPLER: _____ _____

Printed Name Signature

EPA Region 10 – ANALYTICAL SERVICES REQUEST FORM

TO BE COMPLETED BY EPA RPM or CONTRACTOR:

Project Name: Wyckoff Eagle Harbor Groundwater Monitoring				EPA Project Manager: Helen Bottcher	
Program: Superfund - RD/RA				Date Sampling Begins: 10/20/2014	Date Sampling Ends: 10/23/2014
Shipping Period/Lab Receipt:	10/20/2014	To	10/23/2014	QAPP/SAP Provided to RQAM and RSCC? Yes	Date:September26
Site Account Code: 2015T10P303DD210W2LA00				Site CERCLIS ID: WAD009248295	
Sampling Contact: Nicole Badon	Phone: 4252334405			Email: nicole.badon@ch2m.com	Company: CH2MHILL
Identify (name, email) who receives the data/ results:	Ken Scheffler(ken.scheffler@ch2m.com),Nicole Badon(nicole.badon@ch2m.com), Artemis Antipas (artemis.antipas@ch2m.com), Karl Kunas (karl.j.kunas@usace.army.mil), Helen Bottcher (RPM)				

RSCC/QA USE ONLY:

Project Code: WEH-016P	Date ARF Received: 09/26/2014	Date QAPP Received:
QA Chemist Reviewing QAPP: Jennifer Crawford	MEL Request Sent: 10/10/2014	Completed Req. Rec.:
Notes: OU4 GW	CLP Analyses Submitted: NA	CLP Scheduled:
CLP Sample Numbers: NA	EPA Sample #s: 14424100-4149 for the week of Oct 19-25, 2014	

PART 1: CONTRACT LAB PROGRAM (CLP) - For use by Superfund and Brownfields projects ONLY

Organic Analyses : Identify the number of samples per analysis and matrix, along with TAT

SOM01.2 SOW	Trace Water by SIM	Trace Water	Low Water	Low Soil	Low Soil by SIM	Med Soil	Turnaround Time (TAT) (days)		JUSTIFICATION REQUIRED* for all TAT other than 21 days. Choose one:
							21	7/14/PR*	Choose a Justification.
VOA									*Quick TAT requests require SF Program Approval* Indicate VOA Sample type:
SVOC		X							ENCORES ☐
Pesticides	X	X		X	X				Pre-Weighed Vials (Closed system) ☐
Aroclors	X	X		X	X				

Note: Consult the SOM01.2 Organic Target Compound Lists (TCL) for CRQLs and SIM compounds.

Inorganic Analyses: Identify the number of samples per analysis and matrix, along with TAT

ISM01.2 SOW	Water (Total)	Water (Dissolved)	Soil / Sediment	Other (specify)	Turnaround Time (days)	
					21	7/14/PR*
Metals ICP-AES (TAL)						
Metals ICP-MS (TAL)						
Mercury						
Select a specific metal from the Target Analyte List or several metals.						
Add an analyte not listed on the Target Analyte List.						
Note: Consult the ISM01.2 Inorganic Target Analyte Lists (TAL) for CRQLs. http://www.epa.gov/superfund/programs/clp/target.htm						

Non-Routine Analytical Services (NRAS) Analyses – Paid for by REGION/Project

SOW	Soil	Water	Other (note)	Turnaround Time (TAT) - Days	
				35	Other*
Dioxins/Furans – DLM02.2					

Modified Analyses (MA) Requests

Specify any special CLP analytical requirements for this project:

NO CLP ANALYSES

A modified analysis is required when you request the following options:
A) a target compound or analyte not listed
B) lower detection levels than those specified by the SOW
C) different matrices (fish, wipes, etc.)
The client must provide ***four*** weeks advance notice for new MA requests, and ***two*** weeks for existing MA requests.

The use of Forms II Lite or Scribe is mandatory for all CLP sampling activities. Starting in 1/11, clients can use SCRIBE w/F2Lite Traffic Report Functionality.

PART 2: EPA REGION 10 MANCHESTER ENVIRONMENTAL LABORATORY (MEL) – all other programs and analytical requests

All samples, no matter the program, are offered to MEL before CLP or subcontract lab scheduling according to the EPA FASTAC policy.*

Analysis	Water (Total)	Water (Dissolved)	Soil / Sediment	Tissue	Other matrix (identify)	**Choose Method** NOTE: If only select metals/compounds are needed for the project (vs. entire target list), identify them below this table in the space provided.
INORGANIC CHEMISTRY ANALYSES						
Choose an Analysis						Choose a Corresponding Method
Choose an Analysis						Choose a Corresponding Method
Choose an Analysis						Choose a Corresponding Method
Choose an Analysis						Choose a Corresponding Method
Choose an Analysis						Choose a Corresponding Method
ORGANIC CHEMISTRY ANALYSES						
BNAs (SVOC)	16					EPA 8270D (BNAs, Herbicides, Pest., PAHs, PBDEs)
PAHs	16					EPA 8270D (BNAs, Herbicides, Pest., PAHs, PBDEs)
Pentachlorophenol	16					EPA 8041 (Pentachlorophenol)
TPH-Dx	16					NWTPH-Dx (TPH-Dx)
Choose an Analysis						Choose a Corresponding Method
Choose an Analysis						Choose a Corresponding Method
MICROBIOLOGY ANALYSES						
Choose an Analysis						Choose a Corresponding Method
Choose an Analysis						Choose a Corresponding Method
Choose an Analysis						Choose a Corresponding Method
Add-in additional non-routine analysis requests:						

TURNAROUND TIME (TAT):	✔	**8 WEEKS***		**Other, identify**:**		**Prelims needed****

* Standard MEL TAT IS 8 WEEKS from receipt of last sample. This includes analysis and review/verification of results.
**If non-standard TAT or PRs are required, it is up to MEL if they can meet the TAT and accept the samples.

IDENTIFY SPECIAL ANALYTICAL REQUESTS AS APPLICABLE:

(This includes additional analytes, lower reporting limits, and different analytical methods.)

LABORATORY ANALYSES AND MEASUREMENT QUALITY OBJECTIVES

Wells Analyte Laboratory Method Required Sensitivity Method Reporting Limit Accuracy Goal Precision Goal
All PCP EPA Region 10 SW-846 8041 0.1 µg/L 0.1 µg/L 65-135 +/- 35
All Semivolatile Organics EPA Region 10 SW-846 8270D 5 µg/L * 5 µg/L * 65-135 +/- 35

IDENTIFY SELECT TARGET ANALYTE/COMPOUND LISTS AS APPLICABLE:

(This includes abbreviated metals and anion data needs, i.e. Pb+As only.)

Appendix B
Field Records

Rite in the Rain®
ALL-WEATHER
FIELD
№ 351

Wyckoff / Eagle Harbor
Groundwater Sampling
May 2014 —
Book 3 of

8

Wyckoff Lower GW Sampling 10/20/14

0635 Nicole Badon load vehicle and head to ferry dock

0705 Ferry to Bainbridge Island
Health and Safety Meeting on boat
Field team:
Mario Lopez-Ramos /SEA
Mark Endo/SEA
Nicole Badon/SEA (FTL)
Weather: rain, 50's to 60's
Task: lower aquifer gw Sampling

0757 Arrive at Wyckoff. Calibrate equipment and prep Sampling equipment/bottles

CALIBRATE PID METERS MINIRAE 3000
PINE ENVIRONMENTAL RENTALS

RENTAL ID: 025014	RENTAL ID: 78192
ZERO CAL: 0.0 ppm	ZERO CAL: 0.0 ppm
SPAN CAL: 100.8 ppm	SPAN CAL: 100.1 ppm

MINIRAE 3000 - PINE ENVIRONMENTAL
RENTAL ID: N/A (BACKUP PID METER
ZERO CAL: 0.0 ppm
SPAN CAL: 105 ppm

CALIDATION GAS: ISOBUTYLENE 100 ppm
LOT # 0206 FF14 PART: GP11012

Nicole Badon 10/20/14

1005
1030
1119
1212
1320
1445
1445
1635
1645
1715
1730

off Lower GW Sampling 10/20/14

Nicole Badon load vehicle and head to ferry dock

Ferry to Baintridge Island

Health and Safety Meeting on boat

Field team:

Mario Lopez-Ramos /SEA

Mark Endo/SEA

Nicole Badon/SEA (FTL)

Weather: rain, 50's to 60's

Task: lower aquifer gw Sampling

Arrive at Wyckoff. Calibrate equipment and prep Sampling equipment/bottles

CALIBRATE PID METERS MINIRAE 3000

PE ENVIRONMENTAL RENTALS

RENTAL ID: 025014 | RENTAL ID: 78192

ZERO CAL: 0.0 ppm | ZERO CAL: 0.0 PPM

SPAN CAL: 100.8 ppm | SPAN CAL: 100.1 ppm

MIRAE 2000 - PINE ENVIRONMENTAL

RENTAL ID: N/A (BACKUP PID METER

ZERO CAL: 0.0 PPM

SPAN CAL: 105 PPM

CALIBRATION GAS: ISOBUTYLENE 100 PPM

LOT # 0206 FF14 PART: GP11012

Nicole Badon 10/20/14

10/20/14

1005 Head out to sample wells

1030 Set up at VG1L and CW09 and begin purging. Sample then move on to other well

1119 Collect Sample VG1L-1014

1212 Collect Sample CW09-1014

1320 Purge and collect sample VG2L-1014 + field dup. MW80-1014

1445 Purge and collect Sample P3L-1014

1445 lunch break then head back out to P-4L

1635 Purge and sample P4L-1014

1645 Finish sampling for the day. Clean up work area, packed all samples on ice and secured in locked trailer. Decon and charge pumps and sampling equipment

1715 Lock up site and head to ferry

1730 ferry to Seattle. End of day.

Note: Samples collected for analysis of PAH/PCP, SVOC, and TPH-Dx + Motor oil range

Nicole Badon 10/20/14

Wyckoff Lower Aq. GW Sampling 10/21/14

0630 Nicole Badon/SEA and Mark Endo/SEA meet in Seattle and head to ferry

0705 Ferry to Bainbridge Island

health and safety meeting

Field Teams

Nicole Badon/SEA

Mario Lopez-Ramos/SEA

Mark Endo/SEA

Task

Ground water Sampling in lower aquifer wells

Weather: rain. 50's to 60's with occasional gusty winds

0758 Arrive at Wyckoff. Calibrate equipment and bag ice for packing Samples

MINIRAE 2000 & 3000 CALIBRATION. ISOBUTYLENE CAL GAS (100ppm) - THE AMERICAN GAS GROUP LOT # 0206FF14, EXP. DATE: 02/06/18.

PINE ENVIRON	FRESH AIR (PPM)	ISOBUTYLENE (PPM)
#025014 =	0.0	99.8
#018192 =	0.0	100.0
WYCKOFF PID =	0.0	NA

0928 Sample team heads out to Sample wells. N. Badon packs 10/20/14 samples

Nicole Badon 10/21/14

koff Lower Aq. GW Sampling 10/21/14

Nicole Badon/SEA and Mark Endo/SEA meet in Seattle and head to ferry ferry to Baintridge Island health and safety meeting

Field Teams

Nicole Badon/SEA

Mario Lopez-Ramos/SEA

Mark Endo/SEA

Task

Ground water Sampling in lower aquifer wells

Weather: rain. 50's to 60's with occasional gusty winds

Arrive at Wyckoff, Calibrate equipment and bag ice for packing Samples

MINIRAE 2000 & 3000 CALIBRATION. ISOBUTYLENE CAL GAS (100ppm) - THE AMERICAN GAS GROUP LOT# 0206FF14, EXP. DATE: 02/06/18

PINE ENVIRON	FRESH AIR (PPM)	ISOBUTYLENE (PPM)
#025014 =	0.0	99.8
#018192 =	0.0	100.0
WYCKOFF PID =	0.0	NA

Sample team heads out to Sample ells. N. Badon packs 10/20/14 samples

Nicole Badon 10/21/14

10/21/14

for shipment to lab (MEL)

1125 Purge and collect sample at CWOS-1014

1135 Purge and Sample CWIS-1014 w/MS/MSD

1000 Collect FD @ CWOS MWSO-1014

1445 After lunch break, Purge and Sample 99CDMW02-1014

1455 Purge and sample VG4L-1014 and ~~Field~~ Lab duplicate for TPH-Dx (NS)

1605 Purge and Sample VGSL-1014

1630 finished Sampling for the day Secure all samples in coolers on ice for the evening. Store and charge Sampling equipment.

1710 All off Site; lock up and set security alarm

1730 ferry to Seattle.

* Note: collected samples for analysis of PAH/PCP, SVOC, and TPH-Dx + motor oil range

Nicole Badon 10/21/14

Rite in the Rain

Wyckoff, lower aq. groundwater Sampling 10/22/14

0630 Nicole Badon/SEA and Mark Endo/SEA meet in Seattle and carpool to ferry

0705 ferry to Bainbridge Island
Health and Safety meeting on boat
Field Team:
Nicole Badon/SEA
Mario Lopez-Ramos/SEA
Mark Endo/SEA
Weather: rain, 50's to low 60's, wind 10-15 mph
Task: finish groundwater sampling in lower aquifer wells

0752 Arrive at Wyckoff. Bag ice for sample shipment and calibrate equipment
MINIRAE 3000 - PINE ENVIRON.
CAL GAS - ISOBUTYLENE (100ppm) THE AMERICAN GAS GROUP
Lot # 02B6FF14 EXP DATE = 02/06/16.
• PID # 025014 FRESH AIR = 0.0 ppm ISOBUTYLENE = 100.2 ppm
• PID # 616192 FRESH AIR = 0.0 ppm ISOBUTYLENE = 100.0 ppm

0855 Team heads out to sample PZ-11. N. Badon packages 10/21/14 samples for shipment

~~1130 finish Samp~~ NB 10/22/14

Mark Endo 10/22/14

off lower aq. groundwater Sampling 10/22/14

Nicole Badon/SEA and Mark Endo/SEA meet in Seattle and carpool to ferry ferry to Bainbridge Island

Health and Safety meeting on boat

Field Team:

Nicole Badon/SEA
Mario Lopez-Ramos/SEA
Mark Endo/SEA

Weather: rain, 50's to low 60S, wind 10-15 mph

Task: finish groundwater sampling in lower aquifer wells

Arrive at Wyckoff. Bag ice for sample shipment and calibrate equipment

MINIRAE 3000 - PINE ENVIRON.

CAL GAS - ISOBUTYLENE (100ppm) THE AMERICAN GAS GROUP

LOT # 02B6FF14 EXP DATE = 02/06/18

- PID # 025014 FRESH AIR = 0.0 ppm ISOBUTYLENE = 100.2 ppm
- PID # 016192 FRESH AIR = 0.0 ppm ISOBUTYLENE = 100.0 ppm

Team heads out to sample PZ-11. N. Badon packages 10/21/14 samples for shipment

~~finish Samp~~ (AM) 10/22/14

Nicole Badon 10/22/14

10/22/14

0930 Set up at PZ11 to purge and sample for PAH/PCP, SVOC, and TPH-Dx + Motor oil range

1052 Collect Sample PZH-1014 plus lab duplicate for TPH-Dx+Mo

1130 finish Sampling; Mario and Mark head out to sound depths of wells sampled and to note NAPL presence in wells. Nicole Packs up samples for shipment to lab

1440 M. Lopez off site with samples to FedEx drop ~~off~~ location.

N. Badon and M. Endo clean up sample processing trailer and store supplies in onsite conex box

1530 Lock up site, set security alarm and head to Ferry

1550 Ferry to Seattle; end of Sampling event

Nicole Badon 10/22/14

FIELD SAMPLING LOGBOOK

Wyckoff Eagle Harbor Superfund Site

Bainbridge Island, WA

Sampling Team Members

Nicole Badon, Mario Lopez-Ramos,
Mark Endo

Sampling Dates

October 20 - 22, 2014

Field Instruments Calibration Form

Wyckoff Superfund Site - Bainbridge Island, Washington

Meter Type	Manufacturer	Model Number	Mfg. Serial#	Rental Co. Serial #	Date	Time
Water Quality	HORIBA	U-50	SGSHG1YS / Y531P401	21197 / 19038	10/21/2014	0850

Calibrated to Autocal Solution Manufacturer AMCO Lot Number C471579

Autocal Solution pH = 4.0 Turbidity = 0.0 NTU Conductivity = 4.49 mS/cm

Calibration Readings

pH = 3.97 / 4.00 Turbidity = 0.0 NTU / 0.0 NTU Temperature = 16.33°C / 15.87°C

Conductivity = 4.57 mS/cm / 4.50 Dissolved Oxygen = 14.21 mg/L / 10.48 mg/L Salinity = 2.4 ppt / 2.4 ppt

Comments: Turbidity Calibration was not possible

Meter Type	Manufacturer	Model Number	Mfg. Serial#	Rental Co. Serial #	Date	Time
Water Quality	HORIBA	U-50	HCUON HNF / HA4 4W6MT	024742 / 024288	10/21/2014	0843

Calibrated to Autocal Solution Manufacturer AMCO Lot Number C471579

Autocal Solution pH = 4.0 Turbidity = 0 NTU Conductivity = 4.49 mS/cm

Calibration Readings

pH = PRE 4.00 / PRE 4.00 Turbidity = PRE 0.0 NTU / 0.0 NTU Temperature = PRE 16.79 °C / 16.56 °C

Conductivity = PRE 4.59 ms/cm / 4.59 ms Dissolved Oxygen = PRE 10.74 mg/L / 10.36 mg/L Salinity = PRE 2.4 ppt / 2.4 ppt

Comments: Unable to calibrate turbidity using the Auto cal Solution. All other parameters calibrated normally.

Meter Type	Manufacturer	Model Number	Mfg. Serial#	Rental Co. Serial #	Date	Time
Water Quality	HORIBA	U-50	2GJYAFYN / V8FCTJAW	024711 / 024281	10/21/2014	0847

Calibrated to Autocal Solution Manufacturer AMCO Lot Number C471579

Autocal Solution pH = 4.0 Turbidity = 0.0 NTU Conductivity = 4.49 mS/cm

Calibration Readings

pH = 3.99 / 4.00 Turbidity = 0.0 NTU 0.0° Temperature = 16.55 °C / 16.20°

Conductivity = 4.57 mS/cm / 4.48 Dissolved Oxygen = 10.30 mg/L / 10.09 Salinity = 2.4 ppt / 2.4

Comments: Turbidity calibration not possible,

Groundwater Sampling Data Sheet

Wyckoff Superfund Site - Bainbridge Island, Washington

Well ID	CW-09	Date	10/26/2014
Sample ID	CW09-1014	Field Team Initials	ME
EPA Sample Number	14424101		

Field Conditions: CLOUDY, MID 50'S°F, WINDS ~ 8-10 mph

Purge Information

Well Diameter (in.)	4
Well Depth (ft.)	110.39
Initial Depth to Water (ft.)	~~9.10~~ 9.61
Depth of Water Column	101.38
3 Casing Volumes	288.73
1 Casing Volume	66.91

Purge Method (circle): Submersible Pump / Bladder Pump / Peristaltic Pump / other:

Water Level Indicator # 025675

Pump Indicator # R19155

HORIBA CONTROLLER = 024711

" SENSOR = 024281

Start Time: 11:09

End Time: 11:53

Total Gallons Purged: 3.25

Sample Depth (ft. below TOC): 102.38

Well Screen Interval (ft below TOC): 97.38 to 107.38

Purge Rate: 350 mL/min

Controller Frequency: NA

Time	DTW	Gallons Purged	pH ±0.2	Conductivity ±5% mS/cm	NTU ±10%	DO ±0.5°C mg/L	Temp.	ORP mV	Salinity ppt	Appearance
11:12	9.06	0.16	6.37	16.3	11.0	0.00	16.63	203	NA	MOSTLY CLEAR, NO ODOR
11:19	9.05	0.53	6.86	15.9	9.4	0.00	14.72	112	9.3	"
11:22	9.02	0.79	6.95	16.0	3.2	0.00	14.46	87	9.3	"
11:25	8.98	0.45	6.99	15.9	0.8	0.00	14.30	71	9.2	"
11:30	8.96	1.27	7.03	16.0	3.0	0.00	14.01	55	9.3	"
11:34	8.96	1.52	7.04	15.8	6.3	0.00	13.88	45	9.2	CLEAR, NO ODOR
11:37	8.95	1.79	7.06	15.8	7.7	0.00	13.75	31	9.2	"
11:41	8.90	2.15	7.06	15.8	5.1	0.00	13.70	20	9.1	"
11:44	8.89	2.43	7.07	15.8	6.3	0.00	13.68	15	9.1	"
11:47	8.88	2.71	7.08	15.8	7.4	0.00	13.67	05	9.1	"
11:51	8.86	3.08	7.08	15.7	8.2	0.00	13.74	-02	9.1	"

ALL PARAMETERS STABLE BESIDES TURBIDITY (POSSIBLE SENSOR ERROR) *PURGED TO SAMPLE

Sample Information

Sample Method(s) (circle): Bladder pump / Peristaltic pump / Submersible Pump / other

Analysis	Time	Bottle Type	Preservative/Filtration	Comments
PENTACHLOROPHENOL/PAH-SIM	11:55	1 L AMBER (2)	NONE	
SVOC	↓	500mL AMBER (2)	"	
TPH-DX + MOTOR OIL		1L AMBER (2)	"	

End Time: 12:12

Comments / Exceptions:

PID READINGS	BZ (ppm)	WH (ppm)
11:05	0.0	0.0
11:33	0.0	0.0
11:42	0.0	0.0

PURGE RATE

@ 11:15 = 400 mL/min ÷2 = 200 mL/min

@ 11:28 = 240 mL/min

@ 11:32 = 340 mL/min

@ 11:42 = 350 mL/min

* TURBIDITY JUMPING AROUND ± 3.0 NTU.

Notes: Where multiple visits are required to complete sampling, parameters are to be checked prior to sampling for each visit. Enter data under field comments.

Stablization Parameters are shown in **BOLD**

Check for floaters and sinkers and enter observations under comments section.

Groundwater Sampling Data Sheet

Wyckoff Superfund Site - Bainbridge Island, Washington

Well ID	P-3L	Date	10/20/2014
Sample ID	P3L-1014	Field Team Initials	ME
EPA Sample Number	1442 4105		

Field Conditions: CLOUDY, UPPER 50'S °F, 10-12 mph WINDS

Purge Information

Well Diameter (in.)	2	Purge Method (circle) :	Submersible Pump / other:
Well Depth (ft.)	~~124.5~~ (M) 124.57		Bladder Pump
Initial Depth to Water (ft.)	12.99	Water Level Indicator # 025675	Peristaltic Pump
Depth of Water Column	111.58	Pump Indicator # R19155	
3 Casing Volumes gal	54.56	HORIBA CONTROLLER = 024711	Start Time 1312 (ox)
1 Casing Volume gal	18.19	" SENSOR = 024281	End Time 13:56
			Total Gallons Purged 5.4
Sample Depth (ft. below TOC)	118.6		
Well Screen Interval (ft below TOC)	113.6 to 123.6		Purge Rate 390 mL/min
			Controller Frequency

Time	DTW	Gallons Purged	±0.2 pH	± 5% mS/cm Conductivity	±10% NTU	mg/L DO	±0.5 °C Temp.	mV ORP	ppt Salinity	Appearance
13:20	(M) ~~13~~ 12.91	–	6.91	23.2	24.3	0.90	13.87	-41	13.9	(1)
13:25	12.85		6.47	23.3	20.5	0.00	13.48	-77	14.0	"
13:29	12.80		7.02	23.5	10.7	0.00	13.35	-114	14.0	"
13:32	12.72		7.04	23.5	9.3	0.00	13.35	-142	14.1	"
13:35	12.69		7.07	23.6	5.7	0.00	13.27	-172	14.1	(2)
13:39	12.62		7.09	23.6	3.7	0.00	13.24	-192	14.1	"
13:42	12.62		7.11	23.7	3.3	0.00	13.22	-206	14.2	"
13:45	12.58		7.12	23.7	2.6	0.00	13.19	-216	14.2	"
13:48	12.52		7.13	23.8	0.1	0.00	13.13	-224	14.2	MOSTLY CLEAR
13:51	12.48		7.14	23.8	0.4	0.00	13.13	-227	14.2	"
13:54	12.42		7.13	23.8	0.0	0.00	13.13	-231	14.2	"
ALL	PARAMETERS STABLE, PROCEED TO SAMPLE.									

Sample Information

Sample Method(s) (circle): Bladder pump / Peristaltic pump / Submersible Pump / other

Analysis	Time	Bottle Type	Preservative/Filtration	Comments
PENTACHLOROPHENOL/PAH-SIM	14:00	1L AMBER (2)		
SVOCs	↓	500mL AMBER (2)		
TPH-Dx + MOTOR OIL		1L AMBER (2)		

End Time: 14:15

Comments / Exceptions:

PID READINGS	BZ (ppm)	WH (ppm)	PURGE RATE	mL/min
@ 1310	0.0	0.0	@ 13:20	260
@ 13:30	0.0	0.0	@ 13:30	370
@ 13:47	0.0	0.0	@ 13:47	390

DNAPL @ BOTTOM OF WELL. FOUND WHILE TAGGING BOTTOM OF WELL.

(1) SLIGHTLY CLOUDY, SUSPENDED WHITE PARTICULATES, VERY FAINT TPH ODOR AND MARINE ODOR. NO SHEEN

(ox) VERY FAINT TPH ODOR ON WELL TRANDUCER CABLE UPON REMOVAL.

(2) SLIGHTLY CLOUDY, MARINE ODOR, NO SHEEN.

Notes: Where multiple visits are required to complete sampling, parameters are to be checked prior to sampling for each visit. Enter data under field comments.
Stablization Parameters are shown in **BOLD**
Check for floaters and sinkers and enter observations under comments section.

Groundwater Sampling Data Sheet

Wyckoff Superfund Site - Bainbridge Island, Washington

Well ID	CW-05 / MW50	Date	10/21/14
Sample ID	CW05-1014 / MW50-1014	Field Team Initials	ME
EPA Sample Number	14424106 / 14424107		

Field Conditions: CLOUDY, UPPER 50'S °F, 8-10 mph WINDS

Purge Information

Well Diameter (in.)	4	Purge Method (circle) :	Submersible Pump / other:
Well Depth (ft.)	~~104.9~~ ME 105.00		Bladder Pump
Initial Depth to Water (ft.)	9.30	Water Level Indicator #	A00231 — Peristaltic Pump
Depth of Water Column	95.7	Pump Indicator #	R1955
3 Casing Volumes gal.	187.5	HORIBA CONTROLLER = 024711	Start Time: 1049
1 Casing Volume gal.	64.5	SENSOR = 024281	End Time: 11:23
			Total Gallons Purged: 2.3
Sample Depth (ft. below TOC)	96.52		
Well Screen Interval (ft below TOC)	91.52 to 101.52		Purge Rate: 300 mL/min
			Controller Frequency: NA

Time	DTW	Gallons Purged	±0.2 pH	± 5% mS/cm Conductivity	±10% NTU	mg/L DO	±0.5°C Temp.	mV ORP	ppt Salinity	Appearance
10:57	9.44	–	7.15	16.4	0.0	0.00	16.28	-35	9.6	MOSTLY CLEAR
11:01	9.48	0.97	7.47	17.7	0.0	0.00	14.32	-190	10.4	SLIGHT MARINE ODOR.
11:06	9.51	1.37	7.49	17.8	4.4	0.00	13.93	-280	10.4	"
11:09	9.52	1.77	7.47	17.8	0.0	0.00	14.00	-285	10.4	"
11:12	9.53	2.17	7.44	17.7	7.5	0.00	13.89	-292	10.3	"
11:15	9.53		7.43	17.8	3.4	0.00	13.82	-295	10.4	CLEAR
11:18	9.53		7.41	17.8	7.9	0.00	13.79	-299	10.4	"
	ALL PARAMETERS STABLE (BESIDES TURBIDITY, SEE COMMENTS), PROCEED TO SAMPLE.									

ME

Sample Information

Sample Method(s) (circle): Bladder pump / Peristaltic pump / Submersible Pump / other

Analysis	Time	Bottle Type	Preservative/Filtration	Comments
PENTACHLOROPHENOL/PAH-SIM	11:25	1L AMBER (2)	NONE	
TPH-Dx + MOTOR OIL	↓	1L AMBER (2)	"	
SVOCs		500mL AMBER (2)	"	

ME ME

End Time: 12:00

Comments / Exceptions:

PID READINGS	BZ (ppm)	WH (ppm)
@ 1045	0.0	0.2
@ 1108	0.0	0.0
@ 1116	0.0	0.0

PURGE RATE	(mL/min)
@ 11:03	307
@ 11:10	300

MW50-1014 SAMPLED @ 10:00. EPA # 14424107.

*TURBIDITY READINGS ERRATIC - SENSOR MALFUNCTION. ± 3.0 ME NTU

DURING TOTAL DEPTH MEASUREMENT DNAPL WAS OBSERVED.

Notes: Where multiple visits are required to complete sampling, parameters are to be checked prior to sampling for each visit. Enter data under field comments.
Stablization Parameters are shown in **BOLD**
Check for floaters and sinkers and enter observations under comments section.

Groundwater Sampling Data Sheet

Wyckoff Superfund Site - Bainbridge Island, Washington

Well ID	VG-4L	Date	10/21/14
Sample ID	VG4L-1014	Field Team Initials	ME
EPA Sample Number	14424110		

Field Conditions: CLOUDY, LOW 60'S °F, 4-6 mph WINDS

Purge Information

Well Diameter (in.)	2
Well Depth (ft.)	90.00
Initial Depth to Water (ft.)	8.30
Depth of Water Column	81.7
3 Casing Volumes gal.	40.0
1 Casing Volume gal.	13.3

Purge Method (circle): Submersible Pump / Bladder Pump / (Peristaltic Pump) / other:

Water Level Indicator # A00231

Pump Indicator # R19155

HORIBA CONTROLLER = 024711

SENSOR = 024281

Start Time: 1427

End Time: 14:53

Total Gallons Purged: 3.2

Sample Depth (ft. below TOC): 80.0

Well Screen Interval (ft below TOC): 75.0 to 85.0

Purge Rate: 400 mL/min

Controller Frequency:

Time	DTW	Gallons Purged	±0.2 pH	± 5% mS/cm Conductivity	± 10% NTU	mg/L DO	±0.5°C Temp.	mV ORP	ppt Salinity	Appearance
14:33	8.30	-	8.04	0.256	0.0	12.83	15.17	-6	0.1	CLEAR, NO ODOR
14:36	8.25		7.87	0.239	0.0	6.26	14.28	13	0.1	"
14:39	8.24		7.86	0.234	0.0	6.48	13.98	18	0.1	"
14:42	8.21		7.89	0.233	0.0	0.00	13.92	18	0.1	CLEAR, NO ODOR
14:45	8.20		7.91	0.233	0.0	1.12	13.83	18	0.1	"
14:48	8.16		7.91	0.233	0.0	3.03	13.72	19	0.1	"
	ALL	PARAMETERS	STABLE,	PROCEED TO		SAMPLE.				

ME

Sample Information

Sample Method(s) (circle): Bladder pump (Peristaltic pump) Submersible Pump other

Analysis	Time	Bottle Type	Preservative/Filtration	Comments
PENTACHLOROPHENOL / PAH-SIM	14:55	1L AMBER (2)	NONE	
TPH-Dx + MOTOR OIL	↓	1L AMBER (2)	+(2) NONE	
SVOCs		500mL AMBER (2)	NONE	

ME

End Time: 15:10

Comments / Exceptions:

PID READINGS	BZ (ppm)	WH (ppm)
@ 1425	0.0	0.0
@ 1444	0.0	0.0

LAB DUPLICATE ON TPH-Dx + MOTOR OIL

PURGE RATE	mL/min
@ 14:30	380
@ 1440	480
@ 1448	490

Notes: Where multiple visits are required to complete sampling, parameters are to be checked prior to sampling for each visit. Enter data under field comments.

Stablization Parameters are shown in **BOLD**

Check for floaters and sinkers and enter observations under comments section.

FIELD SAMPLING LOGBOOK

Wyckoff Eagle Harbor Superfund Site

Bainbridge Island, WA

Sampling Team Members

Nicole Badon, Mario Lopez-Ramos,
Mark Endo

Sampling Dates

October 20-22, 2014

Field Instruments Calibration Form

Wyckoff Superfund Site - Bainbridge Island, Washington

Meter Type	Manufacturer	Model Number	Mfg. Serial#	Rental Co. Serial #	Date	Time
Water Quality	HORIBA	U-50	SGSH6140 YS31P4U1	21197 / 19038	10/20/14	08:30

Calibrated to Autocal Solution Manufacturer GFS CHEM Lot Number C471579 FLOATING WHITE PARTICULATES IN SOLN.

Autocal Solution pH = 4.0 Turbidity = 0.0 NTU Conductivity = 4.49 mS/cm

Calibration Readings

pH = 4.0 stu Turbidity = 0.0 NTU Temperature = 16.65 °C

Conductivity = 4.49 mS/cm Dissolved Oxygen = 10.69 mg/L Salinity = 2.4 ppt

Comments: UNABLE TO CALIBRATE TURBIDITY (ZERO CAL ERROR), ALL OTHER PARAMETERS CALIBRATED

Meter Type	Manufacturer	Model Number	Mfg. Serial#	Rental Co. Serial #	Date	Time
Water Quality	HORIBA U-50	?	2EJYAFYN V8FRTJAW	24711 / 24281	10/20/14	

Calibrated to Autocal Solution Manufacturer GFS CHEM Lot Number C471579 FLOATING WHITE PART. IN SOL.

Autocal Solution pH = 4.0 Turbidity = 0.0 NTU Conductivity = 4.49 mS/cm

Calibration Readings

pH = PRE 3.99 / POST 4.00 Turbidity = PRE 0.0 NTU / POST 0.0 Temperature = PRE 16.63 °C POST 16.81

Conductivity = PRE 4.55 mS/cm / POST 4.50 Dissolved Oxygen = PRE 11.16 mg/L / POST 10.90 Salinity = PRE 2.4 ppt POST 2.4 ppt

Comments: UNABLE TO CALIBRATE TURBIDITY ON CAL SOL (GETTING ERRORS) - ZERO CAL ERROR

Meter Type	Manufacturer	Model Number	Mfg. Serial#	Rental Co. Serial #	Date	Time
Water Quality	HORIBA	U-50	HCJ0NHNF HA4YW6MT	024721 024288	10/20/14	

Calibrated to Autocal Solution Manufacturer GFS CHEM Lot Number C471579 FLOATING WHITE PART. IN SOLN

Autocal Solution pH = 4.0 Turbidity = 0.0 NTU Conductivity = 4.49 mS/cm

Calibration Readings

pH = 3.99 stu Turbidity = 0.0 NTU Temperature = 16.52 °C

Conductivity = 4.51 mS/cm Dissolved Oxygen = 10.85 mg/L Salinity = 2.4 ppt

Comments: UNABLE TO COLLECT PRE CAL READINGS, UNIT CALIBRATED W/ CAL SOLUTION

Field Instruments Calibration Form

Wyckoff Superfund Site - Bainbridge Island, Washington

Meter Type	Manufacturer	Model Number	Mfg. Serial#	Rental Co. Serial #	Date	Time
Water Quality	HORIBA	U-50	2EJYAFYN V6FRTJAW	024711 024281	10/22/14	0820

Calibrated to Autocal Solution — Manufacturer AMCO — Lot Number C471579

Autocal Solution pH = 4.0 — Turbidity = 4.49 mS/cm — Conductivity = 0.0 NTU

Calibration Readings

pH = 4.00 — Turbidity = 0.0 NTU * — Temperature = 16.34 °C

Conductivity = 4.50 mS/cm — Dissolved Oxygen = 10.91 mg/L — Salinity = 2.4 ppt

Comments: * TURBIDITY CALIBRATION ERROR - "ZERO CALIBRATION NOT POSSIBLE". MEASUREMENT READING IS CORRECT @ 0.0 NTU.

Meter Type	Manufacturer	Model Number	Mfg. Serial#	Rental Co. Serial #	Date	Time
Water Quality						

Calibrated to Autocal Solution — Manufacturer _____ — Lot Number _____

Autocal Solution pH = — Turbidity = — Conductivity =

Calibration Readings

pH = — Turbidity = — Temperature =

Conductivity = — Dissolved Oxygen = — Salinity =

Comments:

Meter Type	Manufacturer	Model Number	Mfg. Serial#	Rental Co. Serial #	Date	Time
Water Quality						

Calibrated to Autocal Solution — Manufacturer _____ — Lot Number _____

Autocal Solution pH = — Turbidity = — Conductivity =

Calibration Readings

pH = — Turbidity = — Temperature =

Conductivity = — Dissolved Oxygen = — Salinity =

Comments:

Groundwater Sampling Data Sheet

Wyckoff Superfund Site - Bainbridge Island, Washington

Well ID	VG1-1L	Date	10-20-2014
Sample ID	VG1L-1014	Field Team Initials	MLR, ME, NB
EPA Sample Number	14924100		

Field Conditions: PARTLY CLOUDY, LOW 60's, SHOWERS AT TIMES, WINDS SSW 5 TO 10 MPH

Purge Information

Well Diameter (in.)	2.0"	
Well Depth (ft.)	104.04	
Initial Depth to Water (ft.)	10.18	
Depth of Water Column	93.86	
3 Casing Volumes	gal. 45.9	
1 Casing Volume	gal. 15.3	

Purge Method (circle): Submersible Pump / Bladder Pump / (Peristaltic Pump) / other:

Water Level Indicator # A00231

Pump Indicator # R19240

HORIBA #024742/024288

Start Time: 10:48 AM

End Time: 1105 AM

Total Gallons Purged: 1.20 GAL

Sample Depth (ft. below TOC): 96.6

Well Screen Interval (ft below TOC): ~~117.8~~ 91.6 to ~~127.8~~ MLR 101.6

Purge Rate: 350 ml/min

Controller Frequency: /

Time	DTW	Gallons Purged	pH ±0.2	Conductivity (mS/cm) ±5%	NTU ±10%	DO (mg/L)	Temp. ±0.5°C	ORP	Salinity	Appearance
1050	10.12	-	6.65	3.16 mS/cm	23.0 NTU	0.0 mg/L	14.29 °C	153 mV	1.6 ppt	Cloudy, floaters
1053	10.12	0.28	6.97	3.23	13.3	0.0	13.77	62	1.7	Cloudy, floaters
1056	10.10	0.55	7.08	3.24	7.9	0.0	13.68	29	1.7	Clear
1059	10.08	0.83	7.13	3.23	3.8	0.0	13.64	16	1.7	Clear
1102	10.07	1.11	7.15	3.23	4.4	0.0	13.61	6	1.7	Clear

Sample Information

Sample Method(s) (circle): Bladder pump / (Peristaltic pump) / Submersible Pump / other

Analysis	Time	Bottle Type	Preservative/Filtration	Comments
PENTACHLOROPHENOL/PAH	1105	1-L AMBER	NONE / 4°C	2 bottles
TPH-DX - MOTOR OIL	1105	1-L AMBER	4°C	2 bottles
SVOC's	1105	500 mL Amber	4°C	2 bottles

End Time: 1119

Comments / Exceptions:

10:49 Flow rate: 350 ml/min

PID READINGS @ START: 0.0 PPM ON WELLHEAD / 0.0 ppm ON BREATHING ZONE

DTB: 103.77 PLUS ~~MLR~~ MLR TIP ON WLI (0.27) = 104.04 ft from TOC

10/20/MLR

Notes: Where multiple visits are required to complete sampling, parameters are to be checked prior to sampling for each visit. Enter data under field comments.

Stablization Parameters are shown in **BOLD**

Check for floaters and sinkers and enter observations under comments section.

Groundwater Sampling Data Sheet

Wyckoff Superfund Site - Bainbridge Island, Washington

Well ID	VG-2L	Date	10-20-2014
Sample ID	VG2L-1014 / MW80-1014	Field Team Initials	MLR, NB, ME
EPA Sample Number	14424102 / 14424103		

Field Conditions: PARTLY CLOUDY, LOW TO MID 60'S, WINDS SSW @ 5 TO 10 MPH

Purge Information

Well Diameter (in.)	2.0"
Well Depth (ft.)	129.92
Initial Depth to Water (ft.)	16.84
Depth of Water Column	113.08
3 Casing Volumes gal.	55.3
1 Casing Volume gal.	18.4

Purge Method (circle): Submersible Pump | Bladder Pump | (Peristaltic Pump) | other:

Water Level Indicator # #00231

Pump Indicator # R19240

ADRIBA: 024742 / 024288

Start Time	12:18 PM
End Time	12:40 PM
Total Gallons Purged	1.43 GAL

Sample Depth (ft. below TOC)	122.8
Well Screen Interval (ft below TOC)	117.8 to 127.8
Purge Rate	300 ml/min
Controller Frequency	N/A

Time	DTW	Gallons Purged	pH	Conductivity	NTU	DO	Temp.	ORP	Salinity	Appearance
1217	16.85	–	6.98	23.3 mS/cm	00 NTU	10.96 mg/L	14.22°C	-90 mV	14.1 ppt	Clear, creosote odor
1220	16.84	0.24	7.00	23.9	0.0	11.10	14.04	-119	14.3	Clear " "
1223	16.77	0.48	7.02	24.3	0.0	10.75	13.93	-154	14.6	Clear, " "
1226	16.69	0.71	7.06	24.6	0.0	9.05	13.85	-177	14.8	" " "
1229	16.67	0.95	7.08	24.9	0.0	6.14	13.89	-190	15.0	" " "
1232	16.62	1.19	7.08	25.1	0.0	4.87	13.84	-194	15.1	" " "
1235	16.59	1.43	7.08	25.1	0.0	2.21	13.82	-198	15.1	

Sample Information

Sample Method(s) (circle): Bladder pump (Peristaltic pump) Submersible Pump other

Analysis	Time	Bottle Type	Preservative/Filtration	Comments
Pentachlorophenol / PAHs	1240	(2) 1-L Amber	< 4°C	
TPH-Dx + Motor Oil	1240	(2) 1-L Amber	< 4°C	
SVOCs	1240	(2) 500 ml Amber	< 4°C	

End Time: 1320

Comments / Exceptions:

PID READINGS: 0.1 ppm WELL HEAD, 0.0 ppm breathing zone @ 1218

1217 Purge rate 300 ml/min

1230 Purge rate 300 ml/min

PID Reading 0.1 ppm well Head @ 1240

• Duplicate MW80-1014 @ 1500

SHEEN OBSERVED ON WQ METER FLOW CELL WHEN CLEANING

UNABLE TO GET DEPTH OF DNAPL, DNAPL observed on measuring tape after sounding well

Notes: Where multiple visits are required to complete sampling, parameters are to be checked prior to sampling for each visit. Enter data under field comments.

Stablization Parameters are shown in **BOLD**

Check for floaters and sinkers and enter observations under comments section.

Groundwater Sampling Data Sheet

Wyckoff Superfund Site - Bainbridge Island, Washington

Well ID	P-4L	Date	10-20-2014
Sample ID	P4L-1014	Field Team Initials	ME, MLR, NB
EPA Sample Number	14424108		

Field Conditions: MID 60's, OVERCAST, WINDS SSW 10-15 MPH

Purge Information

Well Diameter (in.)	2.0	WLI	To
Well Depth (ft.)	~~92.60~~ (MP)	94.14	93.98
Initial Depth to Water (ft.)	8.75	Water Level Indicator #	A00231
Depth of Water Column	85.23	Pump Indicator #	R19240
3 Casing Volumes gal.	~~254.7~~ 41.7	HORIBA: 024742/024288	
1 Casing Volume gal.	13.9		

Purge Method (circle): Submersible Pump / Bladder Pump / Peristaltic Pump / other:

Start Time	1604
End Time	1628
Total Gallons Purged	1.69 gal
Purge Rate	370 ml/min
Controller Frequency	NA

Sample Depth (ft. below TOC)	86.9	
Well Screen Interval (ft below TOC)	81.9	to 91.9

Time	DTW	Gallons Purged	pH	Conductivity	NTU	DO	Temp.	ORP	Salinity	Appearance
1604	9.62	0.13	7.60	18.5 mS/cm	0.0	0.00	14.82	0 mV	11.1 ppt	Clear, no odor
1607	9.09	0.31	7.64	19.9	0.0	0.00	13.71	-81	11.8	Clear, rotten eggs &
1610	9.17	0.71	7.62	20.1	0.0	0.00	13.47	-106	11.8	Clear, reduced odor
1613	9.12	~~0.89~~ 1.10	7.60	20.1	0.0	0.00	13.48	-119	11.9	Clear
1616	9.14	~~0.80~~ 1.50	7.60	20.1	0.0	0.00	13.45	-126	11.9	"
1619	9.13	~~1.40~~ 1.69	7.59	20.1	0.0	0.00	13.40	-127	11.9	"
(ME)										
	PARAMETERS	STABLE	PROCEED TO	SAMPLE						

(ME)

Sample Information

Sample Method(s) (circle): Bladder pump / Peristaltic pump / Submersible Pump / other

Analysis	Time	Bottle Type	Preservative/Filtration	Comments
Pentachlorophenol / pAHs	1620	(2) 1-L Amber	4°C	
TPH-Dx + Motor Oil	1620	(2) 1-L Amber	4°C	
SVOC's	1620	(2) 500 ml Amber	4°C	
(MG)				

End Time: 1635

Comments / Exceptions:

INITIAL PID READINGS: 0.0 ppm BREATHING ZONE, 0.0 PPM WELL HEAD
Purge rate @ 350 ml/min @ 1608, 380 ml/min @ 1610, 370 ml/min @ 1613
1610 PID: BREATHING ZONE: 0.1 ppm, 0.0 ppm
MEASURED DTB USING WLI: 94.14 FT FROM TOC;
USED HEAVIER SOUNDING TAPE: 93.98 FT FROM TOC

(MG)

Notes: Where multiple visits are required to complete sampling, parameters are to be checked prior to sampling for each visit. Enter data under field comments.
Stablization Parameters are shown in **BOLD**
Check for floaters and sinkers and enter observations under comments section.

Groundwater Sampling Data Sheet

Wyckoff Superfund Site - Bainbridge Island, Washington

Well ID	CW15	Date	10-21-2014
Sample ID	CW15-1014	Field Team Initials	MLR, NB, ME
EPA Sample Number	14424102		

Field Conditions: UPPER 50's, LOW 60's, RAIN AT TIMES, OVERCAST, LIGHT WIND SSW AT 5-10 MPH

Purge Information

Well Diameter (in.)	4.00
Well Depth (ft.)	100.60
Initial Depth to Water (ft.)	7.27
Depth of Water Column	93.3
3 Casing Volumes gal.	182.8
1 Casing Volume gal.	60.9

Purge Method (circle): Submersible Pump / Bladder Pump / (Peristaltic Pump) / other:

Water Level Indicator # 15807

Pump Indicator # R1924B

HORIBA : 824285 / 024742

Start Time	1055
End Time	1133
Total Gallons Purged	3.00
Purge Rate	325
Controller Frequency	N/A

Sample Depth (ft. below TOC)	92.60
Well Screen Interval (ft below TOC)	87.60 to 97.60

Time	DTW	Gallons Purged	±0.2 pH	± 5% mS/cm Conductivity	± 10% NTU	mg/L DO	± 0.5°C Temp.	mV ORP	ppt Salinity	Appearance
1058	7.38	0.13	6.80	7.27 mS/cm	0.0	0.0 mg/L	14.76°C	19	4.0	Clear, creosote odor
1101	7.40	0.40	6.92	7.54	0.0	0.0	14.04	-12	4.1	Clear. " "
1104	7.39	0.66	6.96	7.62	0.0	0.0	13.81	-33	4.2	" " "
1107	7.39	0.92	6.97	7.65	0.0	0.0	13.83	-46	4.2	Clear "
1110	7.39	1.18	6.97	7.70	0.0	0.0	13.81	-65	4.2	Clear "
1113	7.38	1.44	6.97	7.94	0.0	0.0	13.69	-78	4.4	Clear "
1116	7.37	1.70	6.97	8.09	0.0	0.0	13.66	-86	4.5	" " "
1119	7.37	1.96	6.98	8.22	0.0	0.0	13.58	-94	4.5	" " "
1124	7.36	2.22	6.98	8.37	0.0	0.0	13.54	-104	4.6	" " "
1127	7.35	2.48	6.97	8.38	0.0	0.0	13.53	-111	4.7	" " "
1130	7.32	2.74	6.98	8.48	0.0	0.0	13.53	-118	4.7	" " "
1133	7.31	3.00	6.98	8.51	0.0	0.0	13.59	-124	4.8	" " "

Sample Information

Sample Method(s) (circle): Bladder pump / (Peristaltic pump) / Submersible Pump / other

Analysis	Time	Bottle Type	Preservative/Filtration	Comments
Pentachlorophenol / PAHs	1135	(6) 1-L Amber	4°C	Includes MS, MSD
TPH-Dx + Motor Oil	1135	(6) 1-L Amber	4°C	~~Includes MS, MSD~~ (ice) 10/21/14
SVOC's	1135	(6) 500 ml Amber	4°C	Includes MS, MSD

End Time: 1230

Comments / Exceptions:

PID: 1054 BZ: 0.1 PPM, WH: 0.1 PPM

FLOW RATE: 1100: 350 ml/min

1107: 325 ml/min

PID 1125 BZ: 0.1 PPM, WH: 0.1 PPM

Collected MS/MSD ON PENTA/PAHs & SVOC'S ONLY.

NAPL observed on measuring tape when sounding well

3.90 FT OF DNAPL ON MEASURING TAPE

Notes: Where multiple visits are required to complete sampling, parameters are to be checked prior to sampling for each visit. Enter data under field comments.

Stablization Parameters are shown in **BOLD**

Check for floaters and sinkers and enter observations under comments section.

Groundwater Sampling Data Sheet

Wyckoff Superfund Site - Bainbridge Island, Washington

Well ID	99CD-MW02A	Date	10/21/2014
Sample ID	99CDMW02-1014	Field Team Initials	MLR, NB, ME
EPA Sample Number	14424109		

Field Conditions: Overcast, low 60's, light wind from SSW @ 10 MPH

Purge Information

Well Diameter (in.)	2.0
Well Depth (ft.)	84.52
Initial Depth to Water (ft.)	5.61
Depth of Water Column	78.91
3 Casing Volumes gal.	38.6
1 Casing Volume gal.	12.9

Purge Method (circle): Submersible Pump / Bladder Pump / Peristaltic Pump / other:

Water Level Indicator # 15807

Pump Indicator # R19240

Horiba 0244288/0247702

Start Time	1427
End Time	1445
Total Gallons Purged	5.40

Sample Depth (ft. below TOC)	79.48		
Well Screen Interval (ft below TOC)	74.48	to	84.48

Purge Rate	350 ml/min
Controller Frequency	N/A

Time	DTW	Gallons Purged	pH	Conductivity	NTU	DO	Temp.	ORP	Salinity	Appearance
1424	5.64	0.13	8.23	0.445 mS/cm	904 NTU	1.60 mg/L	14.12 °C	-130 mV	0.2 ppt	very dark brown
1427	5.62	1.63	8.29	0.382	900	0.00	14.05	-134	0.2	Light brown, turbid
1430	5.57	1.99	8.43	0.301	1000 NTU	0.00	14.08	-141	0.1 ppt	Light brown, turbid
1433	5.51	2.37	8.60	0.276	86.4	0.00	14.02	-144	0.1	Light brown
1436	5.50	2.65	8.54	0.272	35.1	0.00	13.99	-140	0.1	Clearing
1439	5.45	2.93	8.66	0.268	38.4	0.00	14.00	-139	0.1	Clear
1442	5.41	3.21	8.61	0.266	44.5	0.00	13.97	-135	0.1	Clear
1445	5.39	3.49	8.64	0.264	11.2	0.00	13.96	-132	0.1	Clear

Sample Information

Sample Method(s) (circle): Bladder pump / Peristaltic pump / Submersible Pump / other

Analysis	Time	Bottle Type	Preservative/Filtration	Comments
Pentachlorophenol / PAHs	1445	(2) 1-L Amber	4°C	
TPH-Dx, Motor Oil	1445	(2) 1-L Amber	4°C	
SVOC's	1445	(2) 500 ml Amber	4°C	

End Time: 1459

Comments / Exceptions:

PID @ startup: 0.0 ppm on WH, 0.0 ppm on BZ.

Flow rates: 1425 500 ml/min
1430 450 ml/min
1436 350 ml/min
1441 350 ml/min

PID @ end: 0.0 ppm on WH, 0.0 ppm on BZ

Slight sheen observed @ bottom of well (when tagging total depth)

Notes: Where multiple visits are required to complete sampling, parameters are to be checked prior to sampling for each visit. Enter data under field comments.
Stablization Parameters are shown in **BOLD**
Check for floaters and sinkers and enter observations under comments section.

Groundwater Sampling Data Sheet

Wyckoff Superfund Site - Bainbridge Island, Washington

Well ID	VG-5L	Date	10/21/2014
Sample ID	VG5L-1014	Field Team Initials	MLR, NB, ME
EPA Sample Number	14424111		

Field Conditions: Low 60's, Cloudy, light wind

Purge Information

Well Diameter (in.)	2.00
Well Depth (ft.)	75.53
Initial Depth to Water (ft.)	6.67
Depth of Water Column	68.86
3 Casing Volumes gal.	33.7
1 Casing Volume gal.	11.2

Purge Method (circle): Submersible Pump | Bladder Pump | ~~Peristaltic Pump~~ | other:

Water Level Indicator # 15807

Pump Indicator # R-1924B

HORIBA: 0244288/024742

Start Time	1545
End Time	1605
Total Gallons Purged	2.41

Sample Depth (ft. below TOC)	68.30
Well Screen Interval (ft below TOC)	68.40 to 73.40
Purge Rate	475 ml/min
Controller Frequency	N/A

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Time	DTW	Gallons Purged	pH	Conductivity (mS/cm)	NTU	DO (mg/L)	Temp. (°C)	ORP (mV)	Salinity (ppt)	Appearance
1547	6.91	0.13	8.56	0.282 mS/cm	14.6	0.0	15:30	-58	0.1 ppt	Clear,
1550	6.92	0.51	8.76	0.281	14.0	0.0	14.22	-73	0.1	Clear,
1553	6.92	0.89	8.62	0.280	32.1	0.0	14.10	-80	0.1	Cloudy
1556	6.91	1.27	8.39	0.279	23.4	0.0	14.01	-86	0.1	Clear
1559	6.90	1.65	8.13	0.279	15.5	0.0	13.99	-102	0.1	Clear
1602	6.87	2.03	7.99	0.278	8.3	0.0	14.01	-112	0.1	Clear
1605	6.85	2.41	7.94	0.278	5.3	0.0	14.00	-115	0.1	Clear

Sample Information

Sample Method(s) (circle): Bladder pump | Peristaltic pump | Submersible Pump | other

Analysis	Time	Bottle Type	Preservative/Filtration	Comments
Pentachlorophenol / PAHs	1605	(2) 1-L Amber	4°C	
TPH-Dx + Motor Oil	1605	(2) 1-L Amber	4°C	
SVOC's	1605	(2) 500 ml Amber	4°C	

End Time: 1620

Comments / Exceptions:

PID: BZ: 0.0 ppm ; WH: 0.0 ppm

Flow rate 475 @ 1548

Notes: Where multiple visits are required to complete sampling, parameters are to be checked prior to sampling for each visit. Enter data under field comments.
Stablization Parameters are shown in **BOLD**
Check for floaters and sinkers and enter observations under comments section.

Groundwater Sampling Data Sheet

Wyckoff Superfund Site - Bainbridge Island, Washington

Well ID	PZ-11	Date	10/22/14
Sample ID	PZ11-1014	Field Team Initials	ME
EPA Sample Number	1442411 2		

Field Conditions: CLOUDY, RAIN, MID 50's °F

Purge Information

Well Diameter (in.)	2
Well Depth (ft.)	29.81
Initial Depth to Water (ft.)	7.26
Depth of Water Column	22.55
3 Casing Volumes gal.	11.03
1 Casing Volume gal.	3.67

Purge Method (circle): Submersible Pump / Bladder Pump / (Peristaltic Pump) / other:

Water Level Indicator # 15807

Pump Indicator # R19155

HORIBA CONTROLLER # = 024H

" SENSOR # = 024281

Start Time	0946
End Time	1018
Total Gallons Purged	2.5

Sample Depth (ft. below TOC)	22.7		
Well Screen Interval (ft below TOC)	17.7	to	27.7

Purge Rate	300 mL/min
Controller Frequency	NA

Time	DTW	Gallons Purged	±0.2 pH	± 5% mS/cm Conductivity	±10% NTU	mg/L DO	±0.5°C Temp.	mV ORP	ppt Salinity	Appearance
0952	7.33	0.40	6.26	0.151	29.2	0.00	13.00	189	0.1	MODERATELY CLOUDY NO ODOR
0955	7.33	0.60	6.40	0.153	24.6	0.00	12.29	177	0.1	"
0958	7.34	0.82	6.44	0.155	14.7	0.00	12.03	173	0.1	LIGHTLY CLOUDY NO ODOR
1002	7.34	1.12	6.46	0.159	12.6	0.00	11.84	169	0.1	"
1005	7.35	1.34	6.48	0.161	15.2	0.00	11.75	159	0.1	"
1008	7.36	1.58	6.49	0.161	15.9	0.00	11.69	146	0.1	MOSTLY CLEAR
1012	7.36	1.89	6.48	0.160	8.6	0.00	11.72	136	0.1	"
1015	7.36	2.17	6.48	0.161	12.4	0.00	11.64	131	0.1	
	ALL PARAMETERS STABLE (BESIDES TURBIDITY - SEE COMMENTS), PROCEED TO SAMPLE.									

Sample Information

Sample Method(s) (circle): Bladder pump (Peristaltic pump) Submersible Pump other

Analysis	Time	Bottle Type	Preservative/Filtration	Comments
PENTACHLOROPHENOL / PAH-SIM	1020	1 L AMBER (2)	NONE	
TPH-Dx + MOTOR OIL	↓	1 L AMBER (2)+(2)	"	lab dup (NR)
SVOCs		500mL AMBER (2)	"	

End Time: 1052

Comments / Exceptions:

PID READINGS	B (ppm)	W (ppm)
① 0930	0.0	0.0
② 1000	0.0	0.6
③ 1005	PID NEGATIVE ERROR - READING ERRATIC (WET WEATHER ?)	

PURGE RATE	(mL/min)
① 0953	250
② 0959	280
③ 1010	300

* TURBIDITY SENSOR ERRATIC OUTPUT ~ ± 5 NTU / ± SENSOR MALFUNCTION.

● LAB DUPLICATE ON TPH-Dx + M.O

Notes: Where multiple visits are required to complete sampling, parameters are to be checked prior to sampling for each visit. Enter data under field comments.

Stablization Parameters are shown in **BOLD**

Check for floaters and sinkers and enter observations under comments section.

Appendix C
Groundwater Sample Tracking Records

EPA R10 Lab (MEL) COC (REGION COPY)

DateShipped: 10/21/2014
CarrierName: FedEx
AirbillNo: 8723 2740 0603

CHAIN OF CUSTODY RECORD

Wyckoff Lower GW Oct 2014/WA
Project Code: WEH-016P
Cooler #: 1

No: 10-102114-091547-0001

2015T10P303DD210W2LA00
Contact Name: Nicole Badon
Contact Phone: 425-233-4405

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
14424100	14424100	Ground Water/ Mario Lopez-Ramoz	Grab	PCP/PAH-SIM(8 Weeks), TPH-Dx + MO(8 Weeks), SVOC(8 Weeks)	N1 (4 C), N2 (4 C), N3 (4 C), N4 (4 C), N5 (4 C), N6 (4 C) (6)	VG1L-1014	10/20/2014 11:05	Field Sample
14424101	14424101	Ground Water/ Mark Endo	Grab	PCP/PAH-SIM(8 Weeks), TPH-Dx + MO(8 Weeks), SVOC(8 Weeks)	N1 (4 C), N2 (4 C), N3 (4 C), N4 (4 C), N5 (4 C), N6 (4 C) (6)	CW09-1014	10/20/2014 11:55	Field Sample

Special Instructions:	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #
Analysis Key: PCP/PAH-SIM=Pentachlorophenol/PAH-SIM, TPH-Dx + MO=TPH-Dx + Motor Oil, SVOC=SVOC	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

EPA R10 Lab (MEL) COC (REGION COPY)

DateShipped: 10/21/2014
CarrierName: FedEx
AirbillNo: 8723 2740 0614

CHAIN OF CUSTODY RECORD

Wyckoff Lower GW Oct 2014/WA
Project Code: WEH-016P
Cooler #: 2

No: 10-102114-094542-0002

2015T10P303DD210W2LA00
Contact Name: Nicole Badon
Contact Phone: 425-233-4405

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
14424102	14424102	Ground Water/ Mario Lopez-Ramoz	Grab	PCP/PAH-SIM(8 Weeks), TPH-Dx + MO(8 Weeks), SVOC(8 Weeks)	N1 (4 C), N2 (4 C), N3 (4 C), N4 (4 C), N5 (4 C), N6 (4 C) (6)	VG2L-1014	10/20/2014 12:40	Field Sample
14424103	14424103	Ground Water/ Mario Lopez-Ramoz	Grab	PCP/PAH-SIM(8 Weeks), TPH-Dx + MO(8 Weeks), SVOC(8 Weeks)	N1 (4 C), N2 (4 C), N3 (4 C), N4 (4 C), N5 (4 C), N6 (4 C) (6)	MW80-1014	10/20/2014 15:00	Field Duplicate

Special Instructions:	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #
Analysis Key: PCP/PAH-SIM=Pentachlorophenol/PAH-SIM, TPH-Dx + MO=TPH-Dx + Motor Oil, SVOC=SVOC	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

EPA R10 Lab (MEL) COC (REGION COPY)

DateShipped: 10/21/2014
CarrierName: FedEx
AirbillNo: 8723 2740 0625

CHAIN OF CUSTODY RECORD

Wyckoff Lower GW Oct 2014/WA
Project Code: WEH-016P
Cooler #: 3

No: 10-102114-095025-0003

2015T10P303DD210W2LA00
Contact Name: Nicole Badon
Contact Phone: 425-233-4405

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
14424105	14424105	Ground Water/ Mark Endo	Grab	PCP/PAH-SIM(8 Weeks), TPH-Dx + MO(8 Weeks), SVOC(8 Weeks)	N1 (4 C), N2 (4 C), N3 (4 C), N4 (4 C), N5 (4 C), N6 (4 C) (6)	P3L-1014	10/20/2014 14:00	Field Sample
14424108	14424108	Ground Water/ Mark Endo	Grab	PCP/PAH-SIM(8 Weeks), TPH-Dx + MO(8 Weeks), SVOC(8 Weeks)	N1 (4 C), N2 (4 C), N3 (4 C), N4 (4 C), N5 (4 C), N6 (4 C) (6)	P4L-1014	10/20/2014 16:20	Field Sample

Special Instructions:	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #
Analysis Key: PCP/PAH-SIM=Pentachlorophenol/PAH-SIM, TPH-Dx + MO=TPH-Dx + Motor Oil, SVOC=SVOC	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

EPA R10 Lab (MEL) COC (REGION COPY)

DateShipped: 10/22/2014
CarrierName: FedEx
AirbillNo: 8723 2740 0566

CHAIN OF CUSTODY RECORD

Wyckoff Lower GW Oct 2014/WA
Project Code: WEH-016P
Cooler #: 4

No: 10-102114-163659-0004

2015T10P303DD210W2LA00
Contact Name: Nicole Badon
Contact Phone: 425-233-4405

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
14424106	14424106	Ground Water/ Mark Endo	Grab	PCP/PAH-SIM(8 Weeks), TPH-Dx + MO(8 Weeks), SVOC(8 Weeks)	N1 (4 C), N2 (4 C), N3 (4 C), N4 (4 C), N5 (4 C), N6 (4 C) (6)	CW05-1014	10/21/2014 11:25	Field Sample
14424107	14424107	Ground Water/ Mark Endo	Grab	PCP/PAH-SIM(8 Weeks), TPH-Dx + MO(8 Weeks), SVOC(8 Weeks)	N1 (4 C), N2 (4 C), N3 (4 C), N4 (4 C), N5 (4 C), N6 (4 C) (6)	MW50-1014	10/21/2014 10:00	Field Duplicate

Special Instructions:	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #
Analysis Key: PCP/PAH-SIM=Pentachlorophenol/PAH-SIM, TPH-Dx + MO=TPH-Dx + Motor Oil, SVOC=SVOC	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

EPA R10 Lab (MEL) COC (REGION COPY)

DateShipped: 10/22/2014
CarrierName: FedEx
AirbillNo: 8723 2740 0577

CHAIN OF CUSTODY RECORD

Wyckoff Lower GW Oct 2014/WA
Project Code: WEH-016P
Cooler #: 5

No: 10-102114-163905-0005

2015T10P303DD210W2LA00
Contact Name: Nicole Badon
Contact Phone: 425-233-4405

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
14424104	14424104	Ground Water/ Mario Lopez-Ramos	Grab	PCP/PAH-SIM(8 Weeks), SVOC(8 Weeks), TPH-Dx + MO(8 Weeks)	N1 (4 C), N10 (4 C), N11 (4 C), N12 (4 C), N2 (4 C), N3 (4 C), N4 (4 C), N5 (4 C), N6 (4 C), N7 (4 C), N8 (4 C), N9 (4 C) (12)	CW15-1014	10/21/2014 11:35	Lab QC

Sample(s) to be used for Lab QC: 14424104 Tag N10, 14424104 Tag N11, 14424104 Tag N12, 14424104 Tag N7, 14424104 Tag N8, 14424104 Tag N9	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #
Analysis Key: PCP/PAH-SIM=Pentachlorophenol/PAH-SIM, SVOC=SVOC, TPH-Dx + MO=TPH-Dx + Motor Oil	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

EPA R10 Lab (MEL) COC (REGION COPY)

DateShipped: 10/22/2014
CarrierName: FedEx
AirbillNo: 8723 2740 0588

CHAIN OF CUSTODY RECORD

Wyckoff Lower GW Oct 2014/WA
Project Code: WEH-016P
Cooler #: 6

No: 10-102114-164135-0006

2015T10P303DD210W2LA00
Contact Name: Nicole Badon
Contact Phone: 425-233-4405

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
14424104	14424104	Ground Water/ Mario Lopez-Ramos	Grab	SVOC(8 Weeks)	N13 (4 C), N14 (4 C) (2)	CW15-1014	10/21/2014 11:35	Lab QC
14424110	14424110	Ground Water/ Mark Endo	Grab	PCP/PAH-SIM(8 Weeks), TPH-Dx + MO(8 Weeks), SVOC(8 Weeks)	N1 (4 C), N2 (4 C), N3 (4 C), N4 (4 C), N5 (4 C), N6 (4 C), N7 (4 C), N8 (4 C) (8)	VG4L-1014	10/21/2014 14:55	Lab QC

Sample(s) to be used for Lab QC: 14424104 Tag N13, 14424104 Tag N14, 14424110 Tag N7, 14424110 Tag N8

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: SVOC=SVOC, PCP/PAH-SIM=Pentachlorophenol/PAH-SIM, TPH-Dx + MO=TPH-Dx + Motor Oil

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

EPA R10 Lab (MEL) COC (REGION COPY)

DateShipped: 10/22/2014
CarrierName: FedEx
AirbillNo: 8723 2740 0599

CHAIN OF CUSTODY RECORD

Wyckoff Lower GW Oct 2014/WA
Project Code:
Cooler #: 7

No: 10-102114-165535-0007

2015T10P303DD210W2LA00
Contact Name: Nicole Badon
Contact Phone: 425-233-4405

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
14424109	14424109	Ground Water/ Mario Lopez-Ramos	Grab	PCP/PAH-SIM(8 Weeks), TPH-Dx + MO(8 Weeks), SVOC(8 Weeks)	N1 (4 C), N2 (4 C), N3 (4 C), N4 (4 C), N5 (4 C), N6 (4 C) (6)	99CDMW02-1014	10/21/2014 14:45	Field Sample
14424111	14424111	Ground Water/ Mario Lopez-Ramos	Grab	PCP/PAH-SIM(8 Weeks), TPH-Dx + MO(8 Weeks), SVOC(8 Weeks)	N1 (4 C), N2 (4 C), N3 (4 C), N4 (4 C), N5 (4 C), N6 (4 C) (6)	VG5L-1014	10/21/2014 16:05	Field Sample

Special Instructions:	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #
Analysis Key: PCP/PAH-SIM=Pentachlorophenol/PAH-SIM, TPH-Dx + MO=TPH-Dx + Motor Oil, SVOC=SVOC	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

EPA R10 Lab (MEL) COC (REGION COPY)

DateShipped: 10/22/2014
CarrierName: FedEx
AirbillNo: 8723 2740 0555

CHAIN OF CUSTODY RECORD

Wyckoff Lower GW Oct 2014/WA
Project Code: WEH-016P
Cooler #: 8

No: 10-102214-114117-0008

2015T10P303DD210W2LA00
Contact Name: Nicole Badon
Contact Phone: 425-233-4405

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
14424112	14424112	Ground Water/ Mario Lopez-Ramos	Grab	PCP/PAH-SIM(8 Weeks), TPH-Dx + MO(8 Weeks), SVOC(8 Weeks)	N1 (4 C), N2 (4 C), N3 (4 C), N4 (4 C), N5 (4 C), N6 (4 C), N7 (4 C), N8 (4 C) (8)	PZ11-1014	10/22/2014 10:20	Lab QC

Sample(s) to be used for Lab QC: 14424112 Tag N7, 14424112 Tag N8

Shipment for Case Complete? Y

Samples Transferred From Chain of Custody #

Analysis Key: PCP/PAH-SIM=Pentachlorophenol/PAH-SIM, TPH-Dx + MO=TPH-Dx + Motor Oil, SVOC=SVOC

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

Appendix D
EPA Region 10 Laboratory Data Packages

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366

MEMORANDUM

SUBJECT: Data Release for Semi-Volatile Organic Results from the USEPA Region 10 Laboratory

PROJECT NAME: Wyckoff Eagle Harbor Groundwater

PROJECT CODE: WEH-016P

FROM: Gerald Dodo, Supervisory Chemist
Office of Environmental Assessment, USEPA Region 10 Laboratory

TO: Helen Bottcher
Office of Environmental Cleanup, USEPA Region 10

CC: Nicole Badon, CH2M Hill
Mark Cichy, CH2M Hill

I have authorized release of this data package. Attached you will find the semi-volatile organic results for the Wyckoff Eagle Harbor Groundwater project for the samples collected 10/20/14 to 10/22/14. For further information regarding the attached data, contact Chris Pace at 360-871-8703.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366

QUALITY ASSURANCE MEMORANDUM FOR ORGANIC CHEMICAL ANALYSES

Date: December 4, 2014

To: Helen Bottcher
Office of Environmental Cleanup, USEPA Region 10

From: Chris Pace, Chemist
Office of Environmental Assessment, USEPA Region 10 Laboratory

Subject: Quality Assurance Review for the Semi-Volatile Organic Compound Analysis of Samples from the Wyckoff Eagle Harbor Groundwater Project

Project Code: WEH-016P
Account Code: 2015T10P303DD210W2LA00

CC: Nicole Badon, CH2M Hill
Mark Cichy, CH2M Hill

The following is a quality assurance review of the data for semi-volatile organic compound analysis of water samples from the above referenced site. The analyses were performed by the USEPA Region 10 Laboratory in Port Orchard, WA, following USEPA and Laboratory guidelines.

This review was conducted for the following samples:

14424100	14424101	14424102	14424103	14424104	14424105
14424106	14424107	14424108	14424109	14424110	14424111
14424112					

1. Data Qualifications

Comments below refer to the quality control specifications outlined in the Laboratory's current Quality Assurance Manual, Standard Operating Procedures (SOPs) and the Quality Assurance Project Plan (QAPP). No excursions were required from the method Standard Operating Procedure.

The quality control measures which did not meet Laboratory/QAPP criteria are annotated in the title of each affected subsection with "*Laboratory/QAPP Criteria Not Met*".

For those tests for which the EPA Region 10 Laboratory has been accredited by The NELAC Institute (TNI), all requirements of the current TNI Standard have been met.

2. Sample Transport and Receipt

Upon sample receipt, no conditions were noted that would impact data quality.

3. Sample Holding Times

The concentration of an analyte in a sample or extract of a sample may increase or decrease over time depending on the nature of the analyte. The holding time maximum criteria applied for the extraction of water samples is 7 days from the time of collection. Extracts have a holding time maximum of 40 days from the time of preparation. All samples were extracted and analyzed within these criteria.

4. Sample Preparation

Samples were prepared according to the method.

5. Instrument Tune

The SOP tuning criteria was met for the analyses. Sample analyses were performed within the required 12 hour tune criteria.

6. Initial Calibration/Continuing Calibration Verification (CCV)

Initial calibration was performed 11/6/14. Percent relative standard deviations (RSDs) of the calibration factors met the criteria of ≤20% or correlation coefficients met the criteria of ≥0.99. The relative response factors (RRFs) were ≥0.05 (≥0.01 for poor responders). The second source verification (SSV) of the initial calibration met the percent accuracies criteria of 70-130%.

The CCV for samples met the criteria for frequency of analysis and relative retention time (RRT) windows for all target and surrogate compounds. The percent accuracies were 80-120% of the true value and the RRFs were ≥0.05 (≥0.01 for poor responders).

7. LCS/LCSD - *Laboratory/QAPP Criteria Not Met*

Data for laboratory control sample/laboratory control sample duplicates (LCS/LCSD) are generated to provide information on the accuracy and precision of the analytical method and the laboratory performance. The LCS/LCSD recoveries met the Wyckoff GSEP specified criteria of 65-135% with a relative percent difference (RPD) of ≤35 except for the following.

Samples 74W102414L1 and/or 74W102414L2 resulted with <65% recovery for hexachloroethane, 1,2,4-trichlorobenzene, hexachlorobutadiene, caprolactam, hexachlorocyclopentadiene, 1,2,4,5-tetrachlorobenzene, 2,4-dinitrophenol and caffeine. All associated sample results were non-detects and qualified as estimated, "UJ".

8. Blank Analysis

Method blanks were analyzed with each sample batch to evaluate the potential for laboratory contamination and effects on the sample results. Target analytes detected in samples were reported without qualification if the results were five times that of the blank(s). Detected sample results were qualified 'U' if the results were below these criteria. The sample concentration or the sample quantification limit, whichever is greater, was reported as the qualified result.

9. Surrogate Spikes - *Laboratory/QAPP Criteria Not Met*

Surrogate recoveries are used to help in the evaluation of laboratory performance on individual samples. The surrogate recoveries met the laboratory's SOP specified criteria except for following.

Nitrobenzene-d5 resulted with a slightly high recovery in sample 14424106. All analytes associated with this surrogate in sample 14424106 were non-detects. None of the data required qualification on this basis.

10. Matrix Spike/Matrix Spike Duplicate Analysis (MS/MSD) - *Laboratory/QAPP Criteria Not Met*

MS/MSD analyses are performed to provide information on the effects of sample matrices toward the analytical method. An MS/MSD analysis was performed using sample 14424104. The recoveries met the Wyckoff GSEP specified criteria of 65-135% with a relative percent difference (RPD) of ≤35 except for the following.

Samples 14424104MS and/or 14424104MSD resulted with <65% recovery for hexachloroethane, 1,2,4-trichlorobenzene, 4-chloroaniline, hexachlorobutadiene, caprolactam, hexachlorocyclopentadiene, 1,2,4,5-tetrachlorobenzene and caffeine. The associated analytes in the native sample were non-detects and qualified as estimated, "UJ".

11. Internal Standard Performance

Internal standards performance criteria ensure that GC/MS sensitivity and response are stable during every analytical run. The retention time variations of all internal standards were within 30 seconds of the continuing calibration standard. The percent areas of all the internal standards were within the specified 50% to 200% of the continuing calibration standard for all reported results.

12. Compound Quantitation

The initial calibration functions were used for calculations. Reported quantitation limits were based on the initial calibration standards and sample size used for the analysis.

All manual integrations have been reviewed and found to comply with acceptable integration practices.

13. Identification

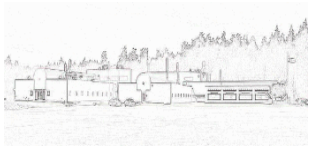
The retention times for all detected target compounds were within acceptable limits of the initial or continuing calibration standards. Criteria were met for mass spectral ion matching and ion abundance matching or were judged acceptable.

14. Data Qualifiers

All requirements for data qualifiers from the preceding sections were accumulated. Each sample data summary sheet and each compound was checked for positive or negative results. From this, the overall need for data qualifiers for each analysis was determined. In cases where more than one of the preceding sections required data qualifiers, the most restrictive qualifier has been added to the data.

The usefulness of qualified data should be treated according to the severity of the qualifier in light of the project's data quality objectives. Should questions arise regarding the data, contact Chris Pace at the Region 10 Laboratory, phone number (360) 871 - 8703.

Qualifier	Definition
U	The analyte was not detected at or above the reported value.
J	The identification of the analyte is acceptable; the reported value is an estimate.
UJ	The analyte was not detected at or above the reported value. The reported value is an estimate.
R	The presence or absence of the analyte can not be determined from the data due to severe quality control problems. The data are rejected and considered unusable. No value is reported with this qualification.
NA	Not Applicable, the parameter was not analyzed for, or there is no analytical result for this parameter. No value is reported with this qualification.



US EPA Region 10 Laboratory

Multi-Analyte Final Report

Project Code : WEH-016P
Site : WYCKOFF EAGLE HARBOR GROUND WATER: OU4
Contact : Helen Bottcher
Account : 2015T10P303DD210W2LA00

Sample : 14424100

Information : VG1L-1014
Matrix : Water
Collected : 10/20/2014 11:05:00AM
Weight Basis : N/A

Parameter : BNA
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
92524	1,1'-Biphenyl	1.0	ug/L	U	11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	1.0	ug/L	UJ	11/12/14	1
120821	1,2,4-Trichlorobenzene	1.0	ug/L	UJ	11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	1.0	ug/L	U	11/12/14	1
95954	2,4,5-Trichlorophenol	1.0	ug/L	U	11/12/14	1
88062	2,4,6-Trichlorophenol	1.0	ug/L	U	11/12/14	1
120832	2,4-Dichlorophenol	1.0	ug/L	U	11/12/14	1
105679	2,4-Dimethylphenol	1.0	ug/L	U	11/12/14	1
51285	2,4-Dinitrophenol	2.1	ug/L	UJ	11/12/14	1
121142	2,4-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
606202	2,6-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
91587	2-Chloronaphthalene	1.0	ug/L	U	11/12/14	1
95578	2-Chlorophenol	1.0	ug/L	U	11/12/14	1
88744	2-Nitroaniline	2.1	ug/L	U	11/12/14	1
88755	2-Nitrophenol	1.0	ug/L	U	11/12/14	1
91941	3,3'-Dichlorobenzidine	1.0	ug/L	U	11/12/14	1
99092	3-Nitroaniline	2.1	ug/L	U	11/12/14	1
534521	4,6-Dinitro-2-methylphenol	2.1	ug/L	U	11/12/14	1
101553	4-Bromophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
59507	4-Chloro-3-methylphenol	1.0	ug/L	U	11/12/14	1
106478	4-Chloroaniline	1.0	ug/L	U	11/12/14	1
7005723	4-Chlorophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
106445	4-Methylphenol	1.0	ug/L	U	11/12/14	1
100016	4-Nitroaniline	1.0	ug/L	U	11/12/14	1
100027	4-Nitrophenol	2.1	ug/L	U	11/12/14	1
86748	9H-Carbazole	1.0	ug/L	U	11/12/14	1
1912249	Atrazine	1.0	ug/L	U	11/12/14	1
100527	Benzaldehyde	1.0	ug/L	U	11/12/14	1
111444	bis(2-Chloroethyl)ether	1.0	ug/L	U	11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	1.0	ug/L	U	11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	2.1	ug/L	U	11/12/14	1

Target Analyte Results (cont.):

85687	Butylbenzylphthalate	2.1	ug/L	U	11/12/14	1
58082	Caffeine	1.0	ug/L	UJ	11/12/14	1
105602	Caprolactam	4.2	ug/L	UJ	11/12/14	1
132649	Dibenzofuran	1.0	ug/L	U	11/12/14	1
84662	Diethyl phthalate	1.0	ug/L	U	11/12/14	1
131113	Dimethylphthalate	1.0	ug/L	U	11/12/14	1
84742	Di-n-Butylphthalate	2.1	ug/L	U	11/12/14	1
117840	Di-n-octylphthalate	2.1	ug/L	U	11/12/14	1
98862	Ethanone, 1-phenyl-	1.0	ug/L	U	11/12/14	1
118741	Hexachlorobenzene	1.0	ug/L	U	11/12/14	1
87683	Hexachlorobutadiene	4.2	ug/L	UJ	11/12/14	1
77474	Hexachlorocyclopentadiene	1.0	ug/L	UJ	11/12/14	1
67721	Hexachloroethane	1.0	ug/L	UJ	11/12/14	1
78591	Isophorone	1.0	ug/L	U	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	1.0	ug/L	U	11/12/14	1
90120	Naphthalene, 1-methyl-	1.0	ug/L	U	11/12/14	1
98953	Nitrobenzene	1.0	ug/L	U	11/12/14	1
621647	N-Nitrosodinpropylamine	1.0	ug/L	U	11/12/14	1
86306	n-Nitrosodiphenylamine	1.0	ug/L	U	11/12/14	1
108952	Phenol	1.0	ug/L	U	11/12/14	1
95487	Phenol, 2-methyl-	1.0	ug/L	U	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	78	%Rec		11/12/14	1
93951781	2-Nitrophenol-D4	71	%Rec		11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	66	%Rec		11/12/14	1
191656334	4-Chloroaniline-D4	66	%Rec		11/12/14	1
190780666	4-Methylphenol-D8	77	%Rec		11/12/14	1
93951792	4-Nitrophenol-D4	67	%Rec		11/12/14	1
93951974	Acenaphthylene-D8	77	%Rec		11/12/14	1
1719068	Anthracene-D10	77	%Rec		11/12/14	1
63466717	Benzo[a]pyrene-D12	93	%Rec		11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	70	%Rec		11/12/14	1
81103799	D10-Fluorene (SS)	73	%Rec		11/12/14	1
1718521	D10-Pyrene	92	%Rec		11/12/14	1
93951747	d3-2,4-Dichlorophenol	72	%Rec		11/12/14	1
93951894	Dimethylphthalate-D6	80	%Rec		11/12/14	1
4165600	Nitrobenzene-d5	72	%Rec		11/12/14	1
4165622	Phenol-d5	76	%Rec		11/12/14	1

Sample : 14424101

Information : CW09-1014
Matrix : Water
Collected : 10/20/2014 11:55:00AM
Weight Basis : N/A

Parameter : BNA
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
92524	1,1'-Biphenyl	1.0	ug/L	U	11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	1.0	ug/L	UJ	11/12/14	1
120821	1,2,4-Trichlorobenzene	1.0	ug/L	UJ	11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	1.0	ug/L	U	11/12/14	1
95954	2,4,5-Trichlorophenol	1.0	ug/L	U	11/12/14	1
88062	2,4,6-Trichlorophenol	1.0	ug/L	U	11/12/14	1
120832	2,4-Dichlorophenol	1.0	ug/L	U	11/12/14	1
105679	2,4-Dimethylphenol	1.0	ug/L	U	11/12/14	1
51285	2,4-Dinitrophenol	2.1	ug/L	UJ	11/12/14	1
121142	2,4-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
606202	2,6-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
91587	2-Chloronaphthalene	1.0	ug/L	U	11/12/14	1
95578	2-Chlorophenol	1.0	ug/L	U	11/12/14	1
88744	2-Nitroaniline	2.1	ug/L	U	11/12/14	1
88755	2-Nitrophenol	1.0	ug/L	U	11/12/14	1
91941	3,3'-Dichlorobenzidine	1.0	ug/L	U	11/12/14	1
99092	3-Nitroaniline	2.1	ug/L	U	11/12/14	1
534521	4,6-Dinitro-2-methylphenol	2.1	ug/L	U	11/12/14	1
101553	4-Bromophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
59507	4-Chloro-3-methylphenol	1.0	ug/L	U	11/12/14	1
106478	4-Chloroaniline	1.0	ug/L	U	11/12/14	1
7005723	4-Chlorophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
106445	4-Methylphenol	1.0	ug/L	U	11/12/14	1
100016	4-Nitroaniline	1.0	ug/L	U	11/12/14	1
100027	4-Nitrophenol	2.1	ug/L	U	11/12/14	1
86748	9H-Carbazole	1.0	ug/L	U	11/12/14	1
1912249	Atrazine	1.0	ug/L	U	11/12/14	1
100527	Benzaldehyde	1.0	ug/L	U	11/12/14	1
111444	bis(2-Chloroethyl)ether	1.0	ug/L	U	11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	1.0	ug/L	U	11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	2.1	ug/L	U	11/12/14	1
85687	Butylbenzylphthalate	2.1	ug/L	U	11/12/14	1
58082	Caffeine	1.0	ug/L	UJ	11/12/14	1
105602	Caprolactam	4.2	ug/L	UJ	11/12/14	1
132649	Dibenzofuran	1.0	ug/L	U	11/12/14	1
84662	Diethyl phthalate	1.0	ug/L	U	11/12/14	1
131113	Dimethylphthalate	1.0	ug/L	U	11/12/14	1
84742	Di-n-Butylphthalate	2.1	ug/L	U	11/12/14	1
117840	Di-n-octylphthalate	2.1	ug/L	U	11/12/14	1
98862	Ethanone, 1-phenyl-	1.0	ug/L	U	11/12/14	1
118741	Hexachlorobenzene	1.0	ug/L	U	11/12/14	1

Target Analyte Results (cont.):

87683	Hexachlorobutadiene	4.2	ug/L	UJ	11/12/14	1
77474	Hexachlorocyclopentadiene	1.0	ug/L	UJ	11/12/14	1
67721	Hexachloroethane	1.0	ug/L	UJ	11/12/14	1
78591	Isophorone	1.0	ug/L	U	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	1.0	ug/L	U	11/12/14	1
90120	Naphthalene, 1-methyl-	1.0	ug/L	U	11/12/14	1
98953	Nitrobenzene	1.0	ug/L	U	11/12/14	1
621647	N-Nitrosodinpropylamine	1.0	ug/L	U	11/12/14	1
86306	n-Nitrosodiphenylamine	1.0	ug/L	U	11/12/14	1
108952	Phenol	1.0	ug/L	U	11/12/14	1
95487	Phenol, 2-methyl-	1.0	ug/L	U	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	96	%Rec		11/12/14	1
93951781	2-Nitrophenol-D4	88	%Rec		11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	76	%Rec		11/12/14	1
191656334	4-Chloroaniline-D4	74	%Rec		11/12/14	1
190780666	4-Methylphenol-D8	94	%Rec		11/12/14	1
93951792	4-Nitrophenol-D4	73	%Rec		11/12/14	1
93951974	Acenaphthylene-D8	84	%Rec		11/12/14	1
1719068	Anthracene-D10	84	%Rec		11/12/14	1
63466717	Benzo[a]pyrene-D12	98	%Rec		11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	86	%Rec		11/12/14	1
81103799	D10-Fluorene (SS)	82	%Rec		11/12/14	1
1718521	D10-Pyrene	96	%Rec		11/12/14	1
93951747	d3-2,4-Dichlorophenol	87	%Rec		11/12/14	1
93951894	Dimethylphthalate-D6	92	%Rec		11/12/14	1
4165600	Nitrobenzene-d5	90	%Rec		11/12/14	1
4165622	Phenol-d5	93	%Rec		11/12/14	1

Sample : 14424102

Information : VG2L-1014
Matrix : Water
Collected : 10/20/2014 12:40:00PM
Weight Basis : N/A

Parameter : BNA
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
92524	**1,1'-Biphenyl**	**2.1**	**ug/L**		11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	1.0	ug/L	UJ	11/12/14	1
120821	1,2,4-Trichlorobenzene	1.0	ug/L	UJ	11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	1.0	ug/L	U	11/12/14	1
95954	2,4,5-Trichlorophenol	1.0	ug/L	U	11/12/14	1
88062	2,4,6-Trichlorophenol	1.0	ug/L	U	11/12/14	1
120832	2,4-Dichlorophenol	1.0	ug/L	U	11/12/14	1
105679	2,4-Dimethylphenol	1.0	ug/L	U	11/12/14	1
51285	2,4-Dinitrophenol	2.1	ug/L	UJ	11/12/14	1
121142	2,4-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
606202	2,6-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
91587	2-Chloronaphthalene	1.0	ug/L	U	11/12/14	1
95578	2-Chlorophenol	1.0	ug/L	U	11/12/14	1
88744	2-Nitroaniline	2.1	ug/L	U	11/12/14	1
88755	2-Nitrophenol	1.0	ug/L	U	11/12/14	1
91941	3,3'-Dichlorobenzidine	1.0	ug/L	U	11/12/14	1
99092	3-Nitroaniline	2.1	ug/L	U	11/12/14	1
534521	4,6-Dinitro-2-methylphenol	2.1	ug/L	U	11/12/14	1
101553	4-Bromophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
59507	4-Chloro-3-methylphenol	1.0	ug/L	U	11/12/14	1
106478	4-Chloroaniline	1.0	ug/L	U	11/12/14	1
7005723	4-Chlorophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
106445	4-Methylphenol	1.0	ug/L	U	11/12/14	1
100016	4-Nitroaniline	1.0	ug/L	U	11/12/14	1
100027	4-Nitrophenol	2.1	ug/L	U	11/12/14	1
86748	**9H-Carbazole**	**26**	**ug/L**		11/12/14	1
1912249	Atrazine	1.0	ug/L	U	11/12/14	1
100527	Benzaldehyde	1.0	ug/L	U	11/12/14	1
111444	bis(2-Chloroethyl)ether	1.0	ug/L	U	11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	1.0	ug/L	U	11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	2.1	ug/L	U	11/12/14	1
85687	Butylbenzylphthalate	2.1	ug/L	U	11/12/14	1
58082	Caffeine	1.0	ug/L	UJ	11/12/14	1
105602	Caprolactam	4.2	ug/L	UJ	11/12/14	1
132649	**Dibenzofuran**	**12**	**ug/L**		11/12/14	1
84662	Diethyl phthalate	1.0	ug/L	U	11/12/14	1
131113	Dimethylphthalate	1.0	ug/L	U	11/12/14	1
84742	Di-n-Butylphthalate	2.1	ug/L	U	11/12/14	1
117840	Di-n-octylphthalate	2.1	ug/L	U	11/12/14	1
98862	Ethanone, 1-phenyl-	1.0	ug/L	U	11/12/14	1
118741	Hexachlorobenzene	1.0	ug/L	U	11/12/14	1

Target Analyte Results (cont.):

87683	Hexachlorobutadiene	4.2	ug/L	UJ	11/12/14	1
77474	Hexachlorocyclopentadiene	1.0	ug/L	UJ	11/12/14	1
67721	Hexachloroethane	1.0	ug/L	UJ	11/12/14	1
78591	Isophorone	1.0	ug/L	U	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	1.0	ug/L	U	11/12/14	1
90120	**Naphthalene, 1-methyl-**	**36**	**ug/L**		11/12/14	1
98953	Nitrobenzene	1.0	ug/L	U	11/12/14	1
621647	N-Nitrosodinpropylamine	1.0	ug/L	U	11/12/14	1
86306	n-Nitrosodiphenylamine	1.0	ug/L	U	11/12/14	1
108952	Phenol	1.0	ug/L	U	11/12/14	1
95487	Phenol, 2-methyl-	1.0	ug/L	U	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	92	%Rec		11/12/14	1
93951781	2-Nitrophenol-D4	89	%Rec		11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	92	%Rec		11/12/14	1
191656334	4-Chloroaniline-D4	65	%Rec		11/12/14	1
190780666	4-Methylphenol-D8	89	%Rec		11/12/14	1
93951792	4-Nitrophenol-D4	79	%Rec		11/12/14	1
93951974	Acenaphthylene-D8	86	%Rec		11/12/14	1
1719068	Anthracene-D10	85	%Rec		11/12/14	1
63466717	Benzo[a]pyrene-D12	97	%Rec		11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	84	%Rec		11/12/14	1
81103799	D10-Fluorene (SS)	82	%Rec		11/12/14	1
1718521	D10-Pyrene	94	%Rec		11/12/14	1
93951747	d3-2,4-Dichlorophenol	81	%Rec		11/12/14	1
93951894	Dimethylphthalate-D6	92	%Rec		11/12/14	1
4165600	Nitrobenzene-d5	86	%Rec		11/12/14	1
4165622	Phenol-d5	89	%Rec		11/12/14	1

Sample : 14424103

Information : MW80-1014
Matrix : Water
Collected : 10/20/2014 3:00:00PM
Weight Basis : N/A

Parameter : BNA
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
92524	**1,1'-Biphenyl**	**1.9**	**ug/L**		11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	1.0	ug/L	UJ	11/12/14	1
120821	1,2,4-Trichlorobenzene	1.0	ug/L	UJ	11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	1.0	ug/L	U	11/12/14	1
95954	2,4,5-Trichlorophenol	1.0	ug/L	U	11/12/14	1
88062	2,4,6-Trichlorophenol	1.0	ug/L	U	11/12/14	1
120832	2,4-Dichlorophenol	1.0	ug/L	U	11/12/14	1
105679	2,4-Dimethylphenol	1.0	ug/L	U	11/12/14	1
51285	2,4-Dinitrophenol	2.1	ug/L	UJ	11/12/14	1
121142	2,4-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
606202	2,6-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
91587	2-Chloronaphthalene	1.0	ug/L	U	11/12/14	1
95578	2-Chlorophenol	1.0	ug/L	U	11/12/14	1
88744	2-Nitroaniline	2.1	ug/L	U	11/12/14	1
88755	2-Nitrophenol	1.0	ug/L	U	11/12/14	1
91941	3,3'-Dichlorobenzidine	1.0	ug/L	U	11/12/14	1
99092	3-Nitroaniline	2.1	ug/L	U	11/12/14	1
534521	4,6-Dinitro-2-methylphenol	2.1	ug/L	U	11/12/14	1
101553	4-Bromophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
59507	4-Chloro-3-methylphenol	1.0	ug/L	U	11/12/14	1
106478	4-Chloroaniline	1.0	ug/L	U	11/12/14	1
7005723	4-Chlorophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
106445	4-Methylphenol	1.0	ug/L	U	11/12/14	1
100016	4-Nitroaniline	1.0	ug/L	U	11/12/14	1
100027	4-Nitrophenol	2.1	ug/L	U	11/12/14	1
86748	**9H-Carbazole**	**24**	**ug/L**		11/12/14	1
1912249	Atrazine	1.0	ug/L	U	11/12/14	1
100527	Benzaldehyde	1.0	ug/L	U	11/12/14	1
111444	bis(2-Chloroethyl)ether	1.0	ug/L	U	11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	1.0	ug/L	U	11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	2.1	ug/L	U	11/12/14	1
85687	Butylbenzylphthalate	2.1	ug/L	U	11/12/14	1
58082	Caffeine	1.0	ug/L	UJ	11/12/14	1
105602	Caprolactam	4.2	ug/L	UJ	11/12/14	1
132649	**Dibenzofuran**	**11**	**ug/L**		11/12/14	1
84662	Diethyl phthalate	1.0	ug/L	U	11/12/14	1
131113	Dimethylphthalate	1.0	ug/L	U	11/12/14	1
84742	Di-n-Butylphthalate	2.1	ug/L	U	11/12/14	1
117840	Di-n-octylphthalate	2.1	ug/L	U	11/12/14	1
98862	Ethanone, 1-phenyl-	1.0	ug/L	U	11/12/14	1
118741	Hexachlorobenzene	1.0	ug/L	U	11/12/14	1

Target Analyte Results (cont.):

87683	Hexachlorobutadiene	4.2	ug/L	UJ	11/12/14	1
77474	Hexachlorocyclopentadiene	1.0	ug/L	UJ	11/12/14	1
67721	Hexachloroethane	1.0	ug/L	UJ	11/12/14	1
78591	Isophorone	1.0	ug/L	U	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	1.0	ug/L	U	11/12/14	1
90120	**Naphthalene, 1-methyl-**	**33**	**ug/L**		11/12/14	1
98953	Nitrobenzene	1.0	ug/L	U	11/12/14	1
621647	N-Nitrosodinpropylamine	1.0	ug/L	U	11/12/14	1
86306	n-Nitrosodiphenylamine	1.0	ug/L	U	11/12/14	1
108952	Phenol	1.0	ug/L	U	11/12/14	1
95487	Phenol, 2-methyl-	1.0	ug/L	U	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	80	%Rec		11/12/14	1
93951781	2-Nitrophenol-D4	84	%Rec		11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	94	%Rec		11/12/14	1
191656334	4-Chloroaniline-D4	71	%Rec		11/12/14	1
190780666	4-Methylphenol-D8	87	%Rec		11/12/14	1
93951792	4-Nitrophenol-D4	81	%Rec		11/12/14	1
93951974	Acenaphthylene-D8	77	%Rec		11/12/14	1
1719068	Anthracene-D10	82	%Rec		11/12/14	1
63466717	Benzo[a]pyrene-D12	94	%Rec		11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	78	%Rec		11/12/14	1
81103799	D10-Fluorene (SS)	77	%Rec		11/12/14	1
1718521	D10-Pyrene	92	%Rec		11/12/14	1
93951747	d3-2,4-Dichlorophenol	71	%Rec		11/12/14	1
93951894	Dimethylphthalate-D6	92	%Rec		11/12/14	1
4165600	Nitrobenzene-d5	78	%Rec		11/12/14	1
4165622	Phenol-d5	86	%Rec		11/12/14	1

Sample : 14424104

Information : CW15-1014
Matrix : Water
Collected : 10/21/2014 11:35:00AM
Weight Basis : N/A

Parameter : BNA
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
92524	1,1'-Biphenyl	1.0	ug/L	U	11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	1.0	ug/L	UJ	11/12/14	1
120821	1,2,4-Trichlorobenzene	1.0	ug/L	UJ	11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	1.0	ug/L	U	11/12/14	1
95954	2,4,5-Trichlorophenol	1.0	ug/L	U	11/12/14	1
88062	2,4,6-Trichlorophenol	1.0	ug/L	U	11/12/14	1
120832	2,4-Dichlorophenol	1.0	ug/L	U	11/12/14	1
105679	2,4-Dimethylphenol	1.0	ug/L	U	11/12/14	1
51285	2,4-Dinitrophenol	2.1	ug/L	UJ	11/12/14	1
121142	2,4-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
606202	2,6-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
91587	2-Chloronaphthalene	1.0	ug/L	U	11/12/14	1
95578	2-Chlorophenol	1.0	ug/L	U	11/12/14	1
88744	2-Nitroaniline	2.1	ug/L	U	11/12/14	1
88755	2-Nitrophenol	1.0	ug/L	U	11/12/14	1
91941	3,3'-Dichlorobenzidine	1.0	ug/L	U	11/12/14	1
99092	3-Nitroaniline	2.1	ug/L	U	11/12/14	1
534521	4,6-Dinitro-2-methylphenol	2.1	ug/L	U	11/12/14	1
101553	4-Bromophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
59507	4-Chloro-3-methylphenol	1.0	ug/L	U	11/12/14	1
106478	4-Chloroaniline	1.0	ug/L	UJ	11/12/14	1
7005723	4-Chlorophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
106445	4-Methylphenol	1.0	ug/L	U	11/12/14	1
100016	4-Nitroaniline	1.0	ug/L	U	11/12/14	1
100027	4-Nitrophenol	2.1	ug/L	U	11/12/14	1
86748	9H-Carbazole	1.0	ug/L	U	11/12/14	1
1912249	Atrazine	1.0	ug/L	U	11/12/14	1
100527	Benzaldehyde	1.0	ug/L	U	11/12/14	1
111444	bis(2-Chloroethyl)ether	1.0	ug/L	U	11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	1.0	ug/L	U	11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	2.1	ug/L	U	11/12/14	1
85687	Butylbenzylphthalate	2.1	ug/L	U	11/12/14	1
58082	Caffeine	1.0	ug/L	UJ	11/12/14	1
105602	Caprolactam	4.2	ug/L	UJ	11/12/14	1
132649	**Dibenzofuran**	**3.0**	**ug/L**		11/12/14	1
84662	Diethyl phthalate	1.0	ug/L	U	11/12/14	1
131113	Dimethylphthalate	1.0	ug/L	U	11/12/14	1
84742	Di-n-Butylphthalate	2.1	ug/L	U	11/12/14	1
117840	Di-n-octylphthalate	2.1	ug/L	U	11/12/14	1
98862	Ethanone, 1-phenyl-	1.0	ug/L	U	11/12/14	1
118741	Hexachlorobenzene	1.0	ug/L	U	11/12/14	1

Target Analyte Results (cont.):

87683	Hexachlorobutadiene	4.2	ug/L	UJ	11/12/14	1
77474	Hexachlorocyclopentadiene	1.0	ug/L	UJ	11/12/14	1
67721	Hexachloroethane	1.0	ug/L	UJ	11/12/14	1
78591	Isophorone	1.0	ug/L	U	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	1.0	ug/L	U	11/12/14	1
90120	**Naphthalene, 1-methyl-**	**1.9**	**ug/L**		11/12/14	1
98953	Nitrobenzene	1.0	ug/L	U	11/12/14	1
621647	N-Nitrosodinpropylamine	1.0	ug/L	U	11/12/14	1
86306	n-Nitrosodiphenylamine	1.0	ug/L	U	11/12/14	1
108952	Phenol	1.0	ug/L	U	11/12/14	1
95487	Phenol, 2-methyl-	1.0	ug/L	U	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	97	%Rec		11/12/14	1
93951781	2-Nitrophenol-D4	92	%Rec		11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	92	%Rec		11/12/14	1
191656334	4-Chloroaniline-D4	104	%Rec		11/12/14	1
190780666	4-Methylphenol-D8	95	%Rec		11/12/14	1
93951792	4-Nitrophenol-D4	80	%Rec		11/12/14	1
93951974	Acenaphthylene-D8	82	%Rec		11/12/14	1
1719068	Anthracene-D10	86	%Rec		11/12/14	1
63466717	Benzo[a]pyrene-D12	100	%Rec		11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	86	%Rec		11/12/14	1
81103799	D10-Fluorene (SS)	83	%Rec		11/12/14	1
1718521	D10-Pyrene	97	%Rec		11/12/14	1
93951747	d3-2,4-Dichlorophenol	91	%Rec		11/12/14	1
93951894	Dimethylphthalate-D6	96	%Rec		11/12/14	1
4165600	Nitrobenzene-d5	100	%Rec		11/12/14	1
4165622	Phenol-d5	93	%Rec		11/12/14	1

Sample : 14424105

Information : P3L-1014
Matrix : Water
Collected : 10/20/2014 2:00:00PM
Weight Basis : N/A

Parameter : BNA
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
92524	1,1'-Biphenyl	1.1	ug/L	U	11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	1.1	ug/L	UJ	11/12/14	1
120821	1,2,4-Trichlorobenzene	1.1	ug/L	UJ	11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	1.1	ug/L	U	11/12/14	1
95954	2,4,5-Trichlorophenol	1.1	ug/L	U	11/12/14	1
88062	2,4,6-Trichlorophenol	1.1	ug/L	U	11/12/14	1
120832	2,4-Dichlorophenol	1.1	ug/L	U	11/12/14	1
105679	2,4-Dimethylphenol	1.1	ug/L	U	11/12/14	1
51285	2,4-Dinitrophenol	2.1	ug/L	UJ	11/12/14	1
121142	2,4-Dinitrotoluene	1.1	ug/L	U	11/12/14	1
606202	2,6-Dinitrotoluene	1.1	ug/L	U	11/12/14	1
91587	2-Chloronaphthalene	1.1	ug/L	U	11/12/14	1
95578	2-Chlorophenol	1.1	ug/L	U	11/12/14	1
88744	2-Nitroaniline	2.1	ug/L	U	11/12/14	1
88755	2-Nitrophenol	1.1	ug/L	U	11/12/14	1
91941	3,3'-Dichlorobenzidine	1.1	ug/L	U	11/12/14	1
99092	3-Nitroaniline	2.1	ug/L	U	11/12/14	1
534521	4,6-Dinitro-2-methylphenol	2.1	ug/L	U	11/12/14	1
101553	4-Bromophenyl-Phenylether	1.1	ug/L	U	11/12/14	1
59507	4-Chloro-3-methylphenol	1.1	ug/L	U	11/12/14	1
106478	4-Chloroaniline	1.1	ug/L	U	11/12/14	1
7005723	4-Chlorophenyl-Phenylether	1.1	ug/L	U	11/12/14	1
106445	4-Methylphenol	1.1	ug/L	U	11/12/14	1
100016	4-Nitroaniline	1.1	ug/L	U	11/12/14	1
100027	4-Nitrophenol	2.1	ug/L	U	11/12/14	1
86748	**9H-Carbazole**	**2.1**	**ug/L**		11/12/14	1
1912249	Atrazine	1.1	ug/L	U	11/12/14	1
100527	Benzaldehyde	1.1	ug/L	U	11/12/14	1
111444	bis(2-Chloroethyl)ether	1.1	ug/L	U	11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	1.1	ug/L	U	11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	2.1	ug/L	U	11/12/14	1
85687	Butylbenzylphthalate	2.1	ug/L	U	11/12/14	1
58082	Caffeine	1.1	ug/L	UJ	11/12/14	1
105602	Caprolactam	4.3	ug/L	UJ	11/12/14	1
132649	**Dibenzofuran**	**1.5**	**ug/L**		11/12/14	1
84662	Diethyl phthalate	1.1	ug/L	U	11/12/14	1
131113	Dimethylphthalate	1.1	ug/L	U	11/12/14	1
84742	Di-n-Butylphthalate	2.1	ug/L	U	11/12/14	1
117840	Di-n-octylphthalate	2.1	ug/L	U	11/12/14	1
98862	Ethanone, 1-phenyl-	1.1	ug/L	U	11/12/14	1
118741	Hexachlorobenzene	1.1	ug/L	U	11/12/14	1

Target Analyte Results (cont.):

87683	Hexachlorobutadiene	4.3	ug/L	UJ	11/12/14	1
77474	Hexachlorocyclopentadiene	1.1	ug/L	UJ	11/12/14	1
67721	Hexachloroethane	1.1	ug/L	UJ	11/12/14	1
78591	Isophorone	1.1	ug/L	U	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	1.1	ug/L	U	11/12/14	1
90120	**Naphthalene, 1-methyl-**	**9.9**	**ug/L**		11/12/14	1
98953	Nitrobenzene	1.1	ug/L	U	11/12/14	1
621647	N-Nitrosodinpropylamine	1.1	ug/L	U	11/12/14	1
86306	n-Nitrosodiphenylamine	1.1	ug/L	U	11/12/14	1
108952	Phenol	1.1	ug/L	U	11/12/14	1
95487	Phenol, 2-methyl-	1.1	ug/L	U	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	95	%Rec		11/12/14	1
93951781	2-Nitrophenol-D4	91	%Rec		11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	85	%Rec		11/12/14	1
191656334	4-Chloroaniline-D4	74	%Rec		11/12/14	1
190780666	4-Methylphenol-D8	92	%Rec		11/12/14	1
93951792	4-Nitrophenol-D4	76	%Rec		11/12/14	1
93951974	Acenaphthylene-D8	87	%Rec		11/12/14	1
1719068	Anthracene-D10	85	%Rec		11/12/14	1
63466717	Benzo[a]pyrene-D12	95	%Rec		11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	85	%Rec		11/12/14	1
81103799	D10-Fluorene (SS)	81	%Rec		11/12/14	1
1718521	D10-Pyrene	92	%Rec		11/12/14	1
93951747	d3-2,4-Dichlorophenol	87	%Rec		11/12/14	1
93951894	Dimethylphthalate-D6	89	%Rec		11/12/14	1
4165600	Nitrobenzene-d5	90	%Rec		11/12/14	1
4165622	Phenol-d5	92	%Rec		11/12/14	1

Sample : 14424106

Information : CW05-1014
Matrix : Water
Collected : 10/21/2014 11:25:00AM
Weight Basis : N/A

Parameter : BNA
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
92524	**1,1'-Biphenyl**	**23**	**ug/L**		11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	1.1	ug/L	UJ	11/12/14	1
120821	1,2,4-Trichlorobenzene	1.1	ug/L	UJ	11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	1.1	ug/L	U	11/12/14	1
95954	**2,4,5-Trichlorophenol**	**2.8**	**ug/L**		11/12/14	1
88062	2,4,6-Trichlorophenol	1.1	ug/L	U	11/12/14	1
120832	**2,4-Dichlorophenol**	**1.4**	**ug/L**		11/12/14	1
105679	2,4-Dimethylphenol	1.1	ug/L	U	11/12/14	1
51285	2,4-Dinitrophenol	2.1	ug/L	UJ	11/12/14	1
121142	2,4-Dinitrotoluene	1.1	ug/L	U	11/12/14	1
606202	2,6-Dinitrotoluene	1.1	ug/L	U	11/12/14	1
91587	2-Chloronaphthalene	1.1	ug/L	U	11/12/14	1
95578	2-Chlorophenol	1.1	ug/L	U	11/12/14	1
88744	2-Nitroaniline	2.1	ug/L	U	11/12/14	1
88755	2-Nitrophenol	1.1	ug/L	U	11/12/14	1
91941	3,3'-Dichlorobenzidine	1.1	ug/L	U	11/12/14	1
99092	3-Nitroaniline	2.1	ug/L	U	11/12/14	1
534521	4,6-Dinitro-2-methylphenol	2.1	ug/L	U	11/12/14	1
101553	4-Bromophenyl-Phenylether	1.1	ug/L	U	11/12/14	1
59507	4-Chloro-3-methylphenol	1.1	ug/L	U	11/12/14	1
106478	4-Chloroaniline	1.1	ug/L	U	11/12/14	1
7005723	4-Chlorophenyl-Phenylether	1.1	ug/L	U	11/12/14	1
106445	4-Methylphenol	1.1	ug/L	U	11/12/14	1
100016	4-Nitroaniline	1.1	ug/L	U	11/12/14	1
100027	4-Nitrophenol	2.1	ug/L	U	11/12/14	1
86748	**9H-Carbazole**	**100**	**ug/L**		11/12/14	10
1912249	Atrazine	1.1	ug/L	U	11/12/14	1
100527	Benzaldehyde	1.1	ug/L	U	11/12/14	1
111444	bis(2-Chloroethyl)ether	1.1	ug/L	U	11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	1.1	ug/L	U	11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	2.1	ug/L	U	11/12/14	1
85687	Butylbenzylphthalate	2.1	ug/L	U	11/12/14	1
58082	Caffeine	1.1	ug/L	UJ	11/12/14	1
105602	Caprolactam	4.3	ug/L	UJ	11/12/14	1
132649	**Dibenzofuran**	**75**	**ug/L**		11/12/14	1
84662	Diethyl phthalate	1.1	ug/L	U	11/12/14	1
131113	Dimethylphthalate	1.1	ug/L	U	11/12/14	1
84742	Di-n-Butylphthalate	2.1	ug/L	U	11/12/14	1
117840	Di-n-octylphthalate	2.1	ug/L	U	11/12/14	1
98862	Ethanone, 1-phenyl-	1.1	ug/L	U	11/12/14	1
118741	Hexachlorobenzene	1.1	ug/L	U	11/12/14	1

Target Analyte Results (cont.):

87683	Hexachlorobutadiene	4.3	ug/L	UJ	11/12/14	1
77474	Hexachlorocyclopentadiene	1.1	ug/L	UJ	11/12/14	1
67721	Hexachloroethane	1.1	ug/L	UJ	11/12/14	1
78591	Isophorone	1.1	ug/L	U	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	1.1	ug/L	U	11/12/14	1
90120	**Naphthalene, 1-methyl-**	**190**	**ug/L**		11/12/14	10
98953	Nitrobenzene	1.1	ug/L	U	11/12/14	1
621647	N-Nitrosodinpropylamine	1.1	ug/L	U	11/12/14	1
86306	n-Nitrosodiphenylamine	1.1	ug/L	U	11/12/14	1
108952	Phenol	1.1	ug/L	U	11/12/14	1
95487	Phenol, 2-methyl-	1.1	ug/L	U	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	90	%Rec		11/12/14	1
93951781	2-Nitrophenol-D4	86	%Rec		11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	92	%Rec		11/12/14	1
191656334	4-Chloroaniline-D4	121	%Rec		11/12/14	1
190780666	4-Methylphenol-D8	90	%Rec		11/12/14	1
93951792	4-Nitrophenol-D4	89	%Rec		11/12/14	1
93951974	Acenaphthylene-D8	87	%Rec		11/12/14	1
1719068	Anthracene-D10	84	%Rec		11/12/14	1
63466717	Benzo[a]pyrene-D12	97	%Rec		11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	80	%Rec		11/12/14	1
81103799	D10-Fluorene (SS)	82	%Rec		11/12/14	1
1718521	D10-Pyrene	95	%Rec		11/12/14	1
93951747	d3-2,4-Dichlorophenol	87	%Rec		11/12/14	1
93951894	Dimethylphthalate-D6	91	%Rec		11/12/14	1
4165600	Nitrobenzene-d5	109	%Rec		11/12/14	1
4165622	Phenol-d5	88	%Rec		11/12/14	1

Sample : 14424107

Information : MW50-1014
Matrix : Water
Collected : 10/21/2014 10:00:00AM
Weight Basis : N/A

Parameter : BNA
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
92524	**1,1'-Biphenyl**	**19**	**ug/L**		11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	1.1	ug/L	UJ	11/12/14	1
120821	1,2,4-Trichlorobenzene	1.1	ug/L	UJ	11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	1.1	ug/L	U	11/12/14	1
95954	**2,4,5-Trichlorophenol**	**2.4**	**ug/L**		11/12/14	1
88062	2,4,6-Trichlorophenol	1.1	ug/L	U	11/12/14	1
120832	**2,4-Dichlorophenol**	**1.3**	**ug/L**		11/12/14	1
105679	2,4-Dimethylphenol	1.1	ug/L	U	11/12/14	1
51285	2,4-Dinitrophenol	2.1	ug/L	UJ	11/12/14	1
121142	2,4-Dinitrotoluene	1.1	ug/L	U	11/12/14	1
606202	2,6-Dinitrotoluene	1.1	ug/L	U	11/12/14	1
91587	2-Chloronaphthalene	1.1	ug/L	U	11/12/14	1
95578	2-Chlorophenol	1.1	ug/L	U	11/12/14	1
88744	2-Nitroaniline	2.1	ug/L	U	11/12/14	1
88755	2-Nitrophenol	1.1	ug/L	U	11/12/14	1
91941	3,3'-Dichlorobenzidine	1.1	ug/L	U	11/12/14	1
99092	3-Nitroaniline	2.1	ug/L	U	11/12/14	1
534521	4,6-Dinitro-2-methylphenol	2.1	ug/L	U	11/12/14	1
101553	4-Bromophenyl-Phenylether	1.1	ug/L	U	11/12/14	1
59507	4-Chloro-3-methylphenol	1.1	ug/L	U	11/12/14	1
106478	4-Chloroaniline	1.1	ug/L	U	11/12/14	1
7005723	4-Chlorophenyl-Phenylether	1.1	ug/L	U	11/12/14	1
106445	4-Methylphenol	1.1	ug/L	U	11/12/14	1
100016	4-Nitroaniline	1.1	ug/L	U	11/12/14	1
100027	4-Nitrophenol	2.1	ug/L	U	11/12/14	1
86748	**9H-Carbazole**	**91**	**ug/L**		11/12/14	10
1912249	Atrazine	1.1	ug/L	U	11/12/14	1
100527	Benzaldehyde	1.1	ug/L	U	11/12/14	1
111444	bis(2-Chloroethyl)ether	1.1	ug/L	U	11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	1.1	ug/L	U	11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	2.1	ug/L	U	11/12/14	1
85687	Butylbenzylphthalate	2.1	ug/L	U	11/12/14	1
58082	Caffeine	1.1	ug/L	UJ	11/12/14	1
105602	Caprolactam	4.3	ug/L	UJ	11/12/14	1
132649	**Dibenzofuran**	**65**	**ug/L**		11/12/14	1
84662	Diethyl phthalate	1.1	ug/L	U	11/12/14	1
131113	Dimethylphthalate	1.1	ug/L	U	11/12/14	1
84742	Di-n-Butylphthalate	2.1	ug/L	U	11/12/14	1
117840	Di-n-octylphthalate	2.1	ug/L	U	11/12/14	1
98862	Ethanone, 1-phenyl-	1.1	ug/L	U	11/12/14	1
118741	Hexachlorobenzene	1.1	ug/L	U	11/12/14	1

Target Analyte Results (cont.):

87683	Hexachlorobutadiene	4.3	ug/L	UJ	11/12/14	1
77474	Hexachlorocyclopentadiene	1.1	ug/L	UJ	11/12/14	1
67721	Hexachloroethane	1.1	ug/L	UJ	11/12/14	1
78591	Isophorone	1.1	ug/L	U	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	1.1	ug/L	U	11/12/14	1
90120	**Naphthalene, 1-methyl-**	**160**	**ug/L**		11/12/14	10
98953	Nitrobenzene	1.1	ug/L	U	11/12/14	1
621647	N-Nitrosodinpropylamine	1.1	ug/L	U	11/12/14	1
86306	n-Nitrosodiphenylamine	1.1	ug/L	U	11/12/14	1
108952	Phenol	1.1	ug/L	U	11/12/14	1
95487	Phenol, 2-methyl-	1.1	ug/L	U	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	76	%Rec		11/12/14	1
93951781	2-Nitrophenol-D4	74	%Rec		11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	83	%Rec		11/12/14	1
191656334	4-Chloroaniline-D4	111	%Rec		11/12/14	1
190780666	4-Methylphenol-D8	78	%Rec		11/12/14	1
93951792	4-Nitrophenol-D4	81	%Rec		11/12/14	1
93951974	Acenaphthylene-D8	77	%Rec		11/12/14	1
1719068	Anthracene-D10	77	%Rec		11/12/14	1
63466717	Benzo[a]pyrene-D12	88	%Rec		11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	67	%Rec		11/12/14	1
81103799	D10-Fluorene (SS)	74	%Rec		11/12/14	1
1718521	D10-Pyrene	87	%Rec		11/12/14	1
93951747	d3-2,4-Dichlorophenol	73	%Rec		11/12/14	1
93951894	Dimethylphthalate-D6	81	%Rec		11/12/14	1
4165600	Nitrobenzene-d5	92	%Rec		11/12/14	1
4165622	Phenol-d5	74	%Rec		11/12/14	1

Sample : 14424108

Information : P4L-1014
Matrix : Water
Collected : 10/20/2014 4:20:00PM
Weight Basis : N/A

Parameter : BNA
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
92524	1,1'-Biphenyl	1.1	ug/L	U	11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	1.1	ug/L	UJ	11/12/14	1
120821	1,2,4-Trichlorobenzene	1.1	ug/L	UJ	11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	1.1	ug/L	U	11/12/14	1
95954	2,4,5-Trichlorophenol	1.1	ug/L	U	11/12/14	1
88062	2,4,6-Trichlorophenol	1.1	ug/L	U	11/12/14	1
120832	2,4-Dichlorophenol	1.1	ug/L	U	11/12/14	1
105679	2,4-Dimethylphenol	1.1	ug/L	U	11/12/14	1
51285	2,4-Dinitrophenol	2.1	ug/L	UJ	11/12/14	1
121142	2,4-Dinitrotoluene	1.1	ug/L	U	11/12/14	1
606202	2,6-Dinitrotoluene	1.1	ug/L	U	11/12/14	1
91587	2-Chloronaphthalene	1.1	ug/L	U	11/12/14	1
95578	2-Chlorophenol	1.1	ug/L	U	11/12/14	1
88744	2-Nitroaniline	2.1	ug/L	U	11/12/14	1
88755	2-Nitrophenol	1.1	ug/L	U	11/12/14	1
91941	3,3'-Dichlorobenzidine	1.1	ug/L	U	11/12/14	1
99092	3-Nitroaniline	2.1	ug/L	U	11/12/14	1
534521	4,6-Dinitro-2-methylphenol	2.1	ug/L	U	11/12/14	1
101553	4-Bromophenyl-Phenylether	1.1	ug/L	U	11/12/14	1
59507	4-Chloro-3-methylphenol	1.1	ug/L	U	11/12/14	1
106478	4-Chloroaniline	1.1	ug/L	U	11/12/14	1
7005723	4-Chlorophenyl-Phenylether	1.1	ug/L	U	11/12/14	1
106445	4-Methylphenol	1.1	ug/L	U	11/12/14	1
100016	4-Nitroaniline	1.1	ug/L	U	11/12/14	1
100027	4-Nitrophenol	2.1	ug/L	U	11/12/14	1
86748	9H-Carbazole	1.1	ug/L	U	11/12/14	1
1912249	Atrazine	1.1	ug/L	U	11/12/14	1
100527	Benzaldehyde	1.1	ug/L	U	11/12/14	1
111444	bis(2-Chloroethyl)ether	1.1	ug/L	U	11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	1.1	ug/L	U	11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	2.1	ug/L	U	11/12/14	1
85687	Butylbenzylphthalate	2.1	ug/L	U	11/12/14	1
58082	Caffeine	1.1	ug/L	UJ	11/12/14	1
105602	Caprolactam	4.3	ug/L	UJ	11/12/14	1
132649	Dibenzofuran	1.1	ug/L	U	11/12/14	1
84662	Diethyl phthalate	1.1	ug/L	U	11/12/14	1
131113	Dimethylphthalate	1.1	ug/L	U	11/12/14	1
84742	Di-n-Butylphthalate	2.1	ug/L	U	11/12/14	1
117840	Di-n-octylphthalate	2.1	ug/L	U	11/12/14	1
98862	Ethanone, 1-phenyl-	1.1	ug/L	U	11/12/14	1
118741	Hexachlorobenzene	1.1	ug/L	U	11/12/14	1

Target Analyte Results (cont.):

87683	Hexachlorobutadiene	4.3	ug/L	UJ	11/12/14	1
77474	Hexachlorocyclopentadiene	1.1	ug/L	UJ	11/12/14	1
67721	Hexachloroethane	1.1	ug/L	UJ	11/12/14	1
78591	Isophorone	1.1	ug/L	U	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	1.1	ug/L	U	11/12/14	1
90120	Naphthalene, 1-methyl-	1.1	ug/L	U	11/12/14	1
98953	Nitrobenzene	1.1	ug/L	U	11/12/14	1
621647	N-Nitrosodinpropylamine	1.1	ug/L	U	11/12/14	1
86306	n-Nitrosodiphenylamine	1.1	ug/L	U	11/12/14	1
108952	Phenol	1.1	ug/L	U	11/12/14	1
95487	Phenol, 2-methyl-	1.1	ug/L	U	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	92	%Rec		11/12/14	1
93951781	2-Nitrophenol-D4	88	%Rec		11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	71	%Rec		11/12/14	1
191656334	4-Chloroaniline-D4	73	%Rec		11/12/14	1
190780666	4-Methylphenol-D8	89	%Rec		11/12/14	1
93951792	4-Nitrophenol-D4	69	%Rec		11/12/14	1
93951974	Acenaphthylene-D8	90	%Rec		11/12/14	1
1719068	Anthracene-D10	83	%Rec		11/12/14	1
63466717	Benzo[a]pyrene-D12	98	%Rec		11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	82	%Rec		11/12/14	1
81103799	D10-Fluorene (SS)	83	%Rec		11/12/14	1
1718521	D10-Pyrene	93	%Rec		11/12/14	1
93951747	d3-2,4-Dichlorophenol	84	%Rec		11/12/14	1
93951894	Dimethylphthalate-D6	87	%Rec		11/12/14	1
4165600	Nitrobenzene-d5	89	%Rec		11/12/14	1
4165622	Phenol-d5	88	%Rec		11/12/14	1

Sample : 14424109

Information : 99CDMW02-1014
Matrix : Water
Collected : 10/21/2014 2:45:00PM
Weight Basis : N/A

Parameter : BNA
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
92524	1,1'-Biphenyl	1.0	ug/L	U	11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	1.0	ug/L	UJ	11/12/14	1
120821	1,2,4-Trichlorobenzene	1.0	ug/L	UJ	11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	1.0	ug/L	U	11/12/14	1
95954	2,4,5-Trichlorophenol	1.0	ug/L	U	11/12/14	1
88062	2,4,6-Trichlorophenol	1.0	ug/L	U	11/12/14	1
120832	2,4-Dichlorophenol	1.0	ug/L	U	11/12/14	1
105679	2,4-Dimethylphenol	1.0	ug/L	U	11/12/14	1
51285	2,4-Dinitrophenol	2.1	ug/L	UJ	11/12/14	1
121142	2,4-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
606202	2,6-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
91587	2-Chloronaphthalene	1.0	ug/L	U	11/12/14	1
95578	2-Chlorophenol	1.0	ug/L	U	11/12/14	1
88744	2-Nitroaniline	2.1	ug/L	U	11/12/14	1
88755	2-Nitrophenol	1.0	ug/L	U	11/12/14	1
91941	3,3'-Dichlorobenzidine	1.0	ug/L	U	11/12/14	1
99092	3-Nitroaniline	2.1	ug/L	U	11/12/14	1
534521	4,6-Dinitro-2-methylphenol	2.1	ug/L	U	11/12/14	1
101553	4-Bromophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
59507	4-Chloro-3-methylphenol	1.0	ug/L	U	11/12/14	1
106478	4-Chloroaniline	1.0	ug/L	U	11/12/14	1
7005723	4-Chlorophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
106445	4-Methylphenol	1.0	ug/L	U	11/12/14	1
100016	4-Nitroaniline	1.0	ug/L	U	11/12/14	1
100027	4-Nitrophenol	2.1	ug/L	U	11/12/14	1
86748	9H-Carbazole	1.0	ug/L	U	11/12/14	1
1912249	Atrazine	1.0	ug/L	U	11/12/14	1
100527	Benzaldehyde	1.0	ug/L	U	11/12/14	1
111444	bis(2-Chloroethyl)ether	1.0	ug/L	U	11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	1.0	ug/L	U	11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	2.1	ug/L	U	11/12/14	1
85687	Butylbenzylphthalate	2.1	ug/L	U	11/12/14	1
58082	Caffeine	1.0	ug/L	UJ	11/12/14	1
105602	Caprolactam	4.2	ug/L	UJ	11/12/14	1
132649	Dibenzofuran	1.0	ug/L	U	11/12/14	1
84662	Diethyl phthalate	1.0	ug/L	U	11/12/14	1
131113	Dimethylphthalate	1.0	ug/L	U	11/12/14	1
84742	Di-n-Butylphthalate	2.1	ug/L	U	11/12/14	1
117840	Di-n-octylphthalate	2.1	ug/L	U	11/12/14	1
98862	Ethanone, 1-phenyl-	1.0	ug/L	U	11/12/14	1
118741	Hexachlorobenzene	1.0	ug/L	U	11/12/14	1

Target Analyte Results (cont.):

87683	Hexachlorobutadiene	4.2	ug/L	UJ	11/12/14	1
77474	Hexachlorocyclopentadiene	1.0	ug/L	UJ	11/12/14	1
67721	Hexachloroethane	1.0	ug/L	UJ	11/12/14	1
78591	Isophorone	1.0	ug/L	U	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	1.0	ug/L	U	11/12/14	1
90120	Naphthalene, 1-methyl-	1.0	ug/L	U	11/12/14	1
98953	Nitrobenzene	1.0	ug/L	U	11/12/14	1
621647	N-Nitrosodinpropylamine	1.0	ug/L	U	11/12/14	1
86306	n-Nitrosodiphenylamine	1.0	ug/L	U	11/12/14	1
108952	Phenol	1.0	ug/L	U	11/12/14	1
95487	Phenol, 2-methyl-	1.0	ug/L	U	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	88	%Rec		11/12/14	1
93951781	2-Nitrophenol-D4	84	%Rec		11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	70	%Rec		11/12/14	1
191656334	4-Chloroaniline-D4	70	%Rec		11/12/14	1
190780666	4-Methylphenol-D8	85	%Rec		11/12/14	1
93951792	4-Nitrophenol-D4	72	%Rec		11/12/14	1
93951974	Acenaphthylene-D8	81	%Rec		11/12/14	1
1719068	Anthracene-D10	77	%Rec		11/12/14	1
63466717	Benzo[a]pyrene-D12	92	%Rec		11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	80	%Rec		11/12/14	1
81103799	D10-Fluorene (SS)	76	%Rec		11/12/14	1
1718521	D10-Pyrene	90	%Rec		11/12/14	1
93951747	d3-2,4-Dichlorophenol	80	%Rec		11/12/14	1
93951894	Dimethylphthalate-D6	86	%Rec		11/12/14	1
4165600	Nitrobenzene-d5	85	%Rec		11/12/14	1
4165622	Phenol-d5	86	%Rec		11/12/14	1

Sample : 14424110

Information : VG4L-1014
Matrix : Water
Collected : 10/21/2014 2:55:00PM
Weight Basis : N/A

Parameter : BNA
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
92524	1,1'-Biphenyl	1.0	ug/L	U	11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	1.0	ug/L	UJ	11/12/14	1
120821	1,2,4-Trichlorobenzene	1.0	ug/L	UJ	11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	1.0	ug/L	U	11/12/14	1
95954	2,4,5-Trichlorophenol	1.0	ug/L	U	11/12/14	1
88062	2,4,6-Trichlorophenol	1.0	ug/L	U	11/12/14	1
120832	2,4-Dichlorophenol	1.0	ug/L	U	11/12/14	1
105679	2,4-Dimethylphenol	1.0	ug/L	U	11/12/14	1
51285	2,4-Dinitrophenol	2.1	ug/L	UJ	11/12/14	1
121142	2,4-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
606202	2,6-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
91587	2-Chloronaphthalene	1.0	ug/L	U	11/12/14	1
95578	2-Chlorophenol	1.0	ug/L	U	11/12/14	1
88744	2-Nitroaniline	2.1	ug/L	U	11/12/14	1
88755	2-Nitrophenol	1.0	ug/L	U	11/12/14	1
91941	3,3'-Dichlorobenzidine	1.0	ug/L	U	11/12/14	1
99092	3-Nitroaniline	2.1	ug/L	U	11/12/14	1
534521	4,6-Dinitro-2-methylphenol	2.1	ug/L	U	11/12/14	1
101553	4-Bromophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
59507	4-Chloro-3-methylphenol	1.0	ug/L	U	11/12/14	1
106478	4-Chloroaniline	1.0	ug/L	U	11/12/14	1
7005723	4-Chlorophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
106445	4-Methylphenol	1.0	ug/L	U	11/12/14	1
100016	4-Nitroaniline	1.0	ug/L	U	11/12/14	1
100027	4-Nitrophenol	2.1	ug/L	U	11/12/14	1
86748	9H-Carbazole	1.0	ug/L	U	11/12/14	1
1912249	Atrazine	1.0	ug/L	U	11/12/14	1
100527	Benzaldehyde	1.0	ug/L	U	11/12/14	1
111444	bis(2-Chloroethyl)ether	1.0	ug/L	U	11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	1.0	ug/L	U	11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	2.1	ug/L	U	11/12/14	1
85687	Butylbenzylphthalate	2.1	ug/L	U	11/12/14	1
58082	Caffeine	1.0	ug/L	UJ	11/12/14	1
105602	Caprolactam	4.2	ug/L	UJ	11/12/14	1
132649	Dibenzofuran	1.0	ug/L	U	11/12/14	1
84662	Diethyl phthalate	1.0	ug/L	U	11/12/14	1
131113	Dimethylphthalate	1.0	ug/L	U	11/12/14	1
84742	Di-n-Butylphthalate	2.1	ug/L	U	11/12/14	1
117840	Di-n-octylphthalate	2.1	ug/L	U	11/12/14	1
98862	Ethanone, 1-phenyl-	1.0	ug/L	U	11/12/14	1
118741	Hexachlorobenzene	1.0	ug/L	U	11/12/14	1

Target Analyte Results (cont.):

87683	Hexachlorobutadiene	4.2	ug/L	UJ	11/12/14	1
77474	Hexachlorocyclopentadiene	1.0	ug/L	UJ	11/12/14	1
67721	Hexachloroethane	1.0	ug/L	UJ	11/12/14	1
78591	Isophorone	1.0	ug/L	U	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	1.0	ug/L	U	11/12/14	1
90120	Naphthalene, 1-methyl-	1.0	ug/L	U	11/12/14	1
98953	Nitrobenzene	1.0	ug/L	U	11/12/14	1
621647	N-Nitrosodinpropylamine	1.0	ug/L	U	11/12/14	1
86306	n-Nitrosodiphenylamine	1.0	ug/L	U	11/12/14	1
108952	Phenol	1.0	ug/L	U	11/12/14	1
95487	Phenol, 2-methyl-	1.0	ug/L	U	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	89	%Rec		11/12/14	1
93951781	2-Nitrophenol-D4	83	%Rec		11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	69	%Rec		11/12/14	1
191656334	4-Chloroaniline-D4	71	%Rec		11/12/14	1
190780666	4-Methylphenol-D8	87	%Rec		11/12/14	1
93951792	4-Nitrophenol-D4	69	%Rec		11/12/14	1
93951974	Acenaphthylene-D8	75	%Rec		11/12/14	1
1719068	Anthracene-D10	79	%Rec		11/12/14	1
63466717	Benzo[a]pyrene-D12	93	%Rec		11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	81	%Rec		11/12/14	1
81103799	D10-Fluorene (SS)	76	%Rec		11/12/14	1
1718521	D10-Pyrene	90	%Rec		11/12/14	1
93951747	d3-2,4-Dichlorophenol	79	%Rec		11/12/14	1
93951894	Dimethylphthalate-D6	87	%Rec		11/12/14	1
4165600	Nitrobenzene-d5	85	%Rec		11/12/14	1
4165622	Phenol-d5	86	%Rec		11/12/14	1

Sample : 14424111

Information : VG5L-1014
Matrix : Water
Collected : 10/21/2014 4:05:00PM
Weight Basis : N/A

Parameter : BNA
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
92524	1,1'-Biphenyl	1.0	ug/L	U	11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	1.0	ug/L	UJ	11/12/14	1
120821	1,2,4-Trichlorobenzene	1.0	ug/L	UJ	11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	1.0	ug/L	U	11/12/14	1
95954	2,4,5-Trichlorophenol	1.0	ug/L	U	11/12/14	1
88062	2,4,6-Trichlorophenol	1.0	ug/L	U	11/12/14	1
120832	2,4-Dichlorophenol	1.0	ug/L	U	11/12/14	1
105679	2,4-Dimethylphenol	1.0	ug/L	U	11/12/14	1
51285	2,4-Dinitrophenol	2.1	ug/L	UJ	11/12/14	1
121142	2,4-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
606202	2,6-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
91587	2-Chloronaphthalene	1.0	ug/L	U	11/12/14	1
95578	2-Chlorophenol	1.0	ug/L	U	11/12/14	1
88744	2-Nitroaniline	2.1	ug/L	U	11/12/14	1
88755	2-Nitrophenol	1.0	ug/L	U	11/12/14	1
91941	3,3'-Dichlorobenzidine	1.0	ug/L	U	11/12/14	1
99092	3-Nitroaniline	2.1	ug/L	U	11/12/14	1
534521	4,6-Dinitro-2-methylphenol	2.1	ug/L	U	11/12/14	1
101553	4-Bromophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
59507	4-Chloro-3-methylphenol	1.0	ug/L	U	11/12/14	1
106478	4-Chloroaniline	1.0	ug/L	U	11/12/14	1
7005723	4-Chlorophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
106445	4-Methylphenol	1.0	ug/L	U	11/12/14	1
100016	4-Nitroaniline	1.0	ug/L	U	11/12/14	1
100027	4-Nitrophenol	2.1	ug/L	U	11/12/14	1
86748	9H-Carbazole	1.0	ug/L	U	11/12/14	1
1912249	Atrazine	1.0	ug/L	U	11/12/14	1
100527	Benzaldehyde	1.0	ug/L	U	11/12/14	1
111444	bis(2-Chloroethyl)ether	1.0	ug/L	U	11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	1.0	ug/L	U	11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	2.1	ug/L	U	11/12/14	1
85687	Butylbenzylphthalate	2.1	ug/L	U	11/12/14	1
58082	Caffeine	1.0	ug/L	UJ	11/12/14	1
105602	Caprolactam	4.2	ug/L	UJ	11/12/14	1
132649	Dibenzofuran	1.0	ug/L	U	11/12/14	1
84662	Diethyl phthalate	1.0	ug/L	U	11/12/14	1
131113	Dimethylphthalate	1.0	ug/L	U	11/12/14	1
84742	Di-n-Butylphthalate	2.1	ug/L	U	11/12/14	1
117840	Di-n-octylphthalate	2.1	ug/L	U	11/12/14	1
98862	Ethanone, 1-phenyl-	1.0	ug/L	U	11/12/14	1
118741	Hexachlorobenzene	1.0	ug/L	U	11/12/14	1

Target Analyte Results (cont.):

87683	Hexachlorobutadiene	4.2	ug/L	UJ	11/12/14	1
77474	Hexachlorocyclopentadiene	1.0	ug/L	UJ	11/12/14	1
67721	Hexachloroethane	1.0	ug/L	UJ	11/12/14	1
78591	Isophorone	1.0	ug/L	U	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	1.0	ug/L	U	11/12/14	1
90120	Naphthalene, 1-methyl-	1.0	ug/L	U	11/12/14	1
98953	Nitrobenzene	1.0	ug/L	U	11/12/14	1
621647	N-Nitrosodinpropylamine	1.0	ug/L	U	11/12/14	1
86306	n-Nitrosodiphenylamine	1.0	ug/L	U	11/12/14	1
108952	Phenol	1.0	ug/L	U	11/12/14	1
95487	Phenol, 2-methyl-	1.0	ug/L	U	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	64	%Rec		11/12/14	1
93951781	2-Nitrophenol-D4	58	%Rec		11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	52	%Rec		11/12/14	1
191656334	4-Chloroaniline-D4	51	%Rec		11/12/14	1
190780666	4-Methylphenol-D8	63	%Rec		11/12/14	1
93951792	4-Nitrophenol-D4	57	%Rec		11/12/14	1
93951974	Acenaphthylene-D8	63	%Rec		11/12/14	1
1719068	Anthracene-D10	62	%Rec		11/12/14	1
63466717	Benzo[a]pyrene-D12	77	%Rec		11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	58	%Rec		11/12/14	1
81103799	D10-Fluorene (SS)	61	%Rec		11/12/14	1
1718521	D10-Pyrene	75	%Rec		11/12/14	1
93951747	d3-2,4-Dichlorophenol	60	%Rec		11/12/14	1
93951894	Dimethylphthalate-D6	67	%Rec		11/12/14	1
4165600	Nitrobenzene-d5	59	%Rec		11/12/14	1
4165622	Phenol-d5	62	%Rec		11/12/14	1

Sample : 14424112

Information : PZ11-1014
Matrix : Water
Collected : 10/22/2014 10:20:00AM
Weight Basis : N/A

Parameter : BNA
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
92524	**1,1'-Biphenyl**	**3.2**	**ug/L**		11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	1.0	ug/L	UJ	11/12/14	1
120821	1,2,4-Trichlorobenzene	1.0	ug/L	UJ	11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	1.0	ug/L	U	11/12/14	1
95954	2,4,5-Trichlorophenol	1.0	ug/L	U	11/12/14	1
88062	2,4,6-Trichlorophenol	1.0	ug/L	U	11/12/14	1
120832	2,4-Dichlorophenol	1.0	ug/L	U	11/12/14	1
105679	2,4-Dimethylphenol	1.0	ug/L	U	11/12/14	1
51285	2,4-Dinitrophenol	2.1	ug/L	UJ	11/12/14	1
121142	2,4-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
606202	2,6-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
91587	2-Chloronaphthalene	1.0	ug/L	U	11/12/14	1
95578	2-Chlorophenol	1.0	ug/L	U	11/12/14	1
88744	2-Nitroaniline	2.1	ug/L	U	11/12/14	1
88755	2-Nitrophenol	1.0	ug/L	U	11/12/14	1
91941	3,3'-Dichlorobenzidine	1.0	ug/L	U	11/12/14	1
99092	3-Nitroaniline	2.1	ug/L	U	11/12/14	1
534521	4,6-Dinitro-2-methylphenol	2.1	ug/L	U	11/12/14	1
101553	4-Bromophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
59507	4-Chloro-3-methylphenol	1.0	ug/L	U	11/12/14	1
106478	4-Chloroaniline	1.0	ug/L	U	11/12/14	1
7005723	4-Chlorophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
106445	4-Methylphenol	1.0	ug/L	U	11/12/14	1
100016	4-Nitroaniline	1.0	ug/L	U	11/12/14	1
100027	4-Nitrophenol	2.1	ug/L	U	11/12/14	1
86748	**9H-Carbazole**	**11**	**ug/L**		11/12/14	1
1912249	Atrazine	1.0	ug/L	U	11/12/14	1
100527	Benzaldehyde	1.0	ug/L	U	11/12/14	1
111444	bis(2-Chloroethyl)ether	1.0	ug/L	U	11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	1.0	ug/L	U	11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	2.1	ug/L	U	11/12/14	1
85687	Butylbenzylphthalate	2.1	ug/L	U	11/12/14	1
58082	Caffeine	1.0	ug/L	UJ	11/12/14	1
105602	Caprolactam	4.2	ug/L	UJ	11/12/14	1
132649	**Dibenzofuran**	**8.2**	**ug/L**		11/12/14	1
84662	Diethyl phthalate	1.0	ug/L	U	11/12/14	1
131113	Dimethylphthalate	1.0	ug/L	U	11/12/14	1
84742	Di-n-Butylphthalate	2.1	ug/L	U	11/12/14	1
117840	Di-n-octylphthalate	2.1	ug/L	U	11/12/14	1
98862	Ethanone, 1-phenyl-	1.0	ug/L	U	11/12/14	1
118741	Hexachlorobenzene	1.0	ug/L	U	11/12/14	1

Target Analyte Results (cont.):

87683	Hexachlorobutadiene	4.2	ug/L	UJ	11/12/14	1
77474	Hexachlorocyclopentadiene	1.0	ug/L	UJ	11/12/14	1
67721	Hexachloroethane	1.0	ug/L	UJ	11/12/14	1
78591	Isophorone	1.0	ug/L	U	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	1.0	ug/L	U	11/12/14	1
90120	**Naphthalene, 1-methyl-**	**8.0**	**ug/L**		11/12/14	1
98953	Nitrobenzene	1.0	ug/L	U	11/12/14	1
621647	N-Nitrosodinpropylamine	1.0	ug/L	U	11/12/14	1
86306	n-Nitrosodiphenylamine	1.0	ug/L	U	11/12/14	1
108952	Phenol	1.0	ug/L	U	11/12/14	1
95487	Phenol, 2-methyl-	1.0	ug/L	U	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	94	%Rec		11/12/14	1
93951781	2-Nitrophenol-D4	88	%Rec		11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	71	%Rec		11/12/14	1
191656334	4-Chloroaniline-D4	51	%Rec		11/12/14	1
190780666	4-Methylphenol-D8	89	%Rec		11/12/14	1
93951792	4-Nitrophenol-D4	73	%Rec		11/12/14	1
93951974	Acenaphthylene-D8	83	%Rec		11/12/14	1
1719068	Anthracene-D10	78	%Rec		11/12/14	1
63466717	Benzo[a]pyrene-D12	89	%Rec		11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	84	%Rec		11/12/14	1
81103799	D10-Fluorene (SS)	75	%Rec		11/12/14	1
1718521	D10-Pyrene	87	%Rec		11/12/14	1
93951747	d3-2,4-Dichlorophenol	83	%Rec		11/12/14	1
93951894	Dimethylphthalate-D6	87	%Rec		11/12/14	1
4165600	Nitrobenzene-d5	88	%Rec		11/12/14	1
4165622	Phenol-d5	90	%Rec		11/12/14	1

Sample : 14424104 Matrix Spike

Information : CW15-1014
Matrix : Water
Collected : 10/21/2014 11:35:00AM
Weight Basis : N/A

Parameter : BNA
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
92524	1,1'-Biphenyl	73	%Rec		11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	61	%Rec		11/12/14	1
120821	1,2,4-Trichlorobenzene	64	%Rec		11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	84	%Rec		11/12/14	1
95954	2,4,5-Trichlorophenol	83	%Rec		11/12/14	1
88062	2,4,6-Trichlorophenol	88	%Rec		11/12/14	1
120832	2,4-Dichlorophenol	82	%Rec		11/12/14	1
105679	2,4-Dimethylphenol	90	%Rec		11/12/14	1
51285	2,4-Dinitrophenol	85	%Rec		11/12/14	1
121142	2,4-Dinitrotoluene	86	%Rec		11/12/14	1
606202	2,6-Dinitrotoluene	84	%Rec		11/12/14	1
91587	2-Chloronaphthalene	72	%Rec		11/12/14	1
95578	2-Chlorophenol	79	%Rec		11/12/14	1
88744	2-Nitroaniline	83	%Rec		11/12/14	1
88755	2-Nitrophenol	84	%Rec		11/12/14	1
91941	3,3'-Dichlorobenzidine	64	%Rec		11/12/14	1
99092	3-Nitroaniline	76	%Rec		11/12/14	1
534521	4,6-Dinitro-2-methylphenol	81	%Rec		11/12/14	1
101553	4-Bromophenyl-Phenylether	78	%Rec		11/12/14	1
59507	4-Chloro-3-methylphenol	82	%Rec		11/12/14	1
106478	4-Chloroaniline	55	%Rec		11/12/14	1
7005723	4-Chlorophenyl-Phenylether	73	%Rec		11/12/14	1
106445	4-Methylphenol	84	%Rec		11/12/14	1
100016	4-Nitroaniline	92	%Rec		11/12/14	1
100027	4-Nitrophenol	83	%Rec		11/12/14	1
86748	9H-Carbazole	84	%Rec		11/12/14	1
1912249	Atrazine	90	%Rec		11/12/14	1
100527	Benzaldehyde	86	%Rec		11/12/14	1
111444	bis(2-Chloroethyl)ether	75	%Rec		11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	73	%Rec		11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	80	%Rec		11/12/14	1
85687	Butylbenzylphthalate	81	%Rec		11/12/14	1
58082	Caffeine	60	%Rec		11/12/14	1
105602	Caprolactam	9.6	%Rec		11/12/14	1
132649	Dibenzofuran	70	%Rec		11/12/14	1
84662	Diethyl phthalate	89	%Rec		11/12/14	1
131113	Dimethylphthalate	84	%Rec		11/12/14	1
84742	Di-n-Butylphthalate	86	%Rec		11/12/14	1
117840	Di-n-octylphthalate	78	%Rec		11/12/14	1
98862	Ethanone, 1-phenyl-	82	%Rec		11/12/14	1
118741	Hexachlorobenzene	73	%Rec		11/12/14	1

Spiked Compounds (cont.):

87683	Hexachlorobutadiene	45	%Rec	11/12/14	1
77474	Hexachlorocyclopentadiene	14	%Rec	11/12/14	1
67721	Hexachloroethane	59	%Rec	11/12/14	1
78591	Isophorone	80	%Rec	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	78	%Rec	11/12/14	1
90120	Naphthalene, 1-methyl-	71	%Rec	11/12/14	1
98953	Nitrobenzene	83	%Rec	11/12/14	1
621647	N-Nitrosodinpropylamine	80	%Rec	11/12/14	1
86306	n-Nitrosodiphenylamine	90	%Rec	11/12/14	1
108952	Phenol	82	%Rec	11/12/14	1
95487	Phenol, 2-methyl-	83	%Rec	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	82	%Rec	11/12/14	1
93951781	2-Nitrophenol-D4	82	%Rec	11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	95	%Rec	11/12/14	1
191656334	4-Chloroaniline-D4	94	%Rec	11/12/14	1
190780666	4-Methylphenol-D8	85	%Rec	11/12/14	1
93951792	4-Nitrophenol-D4	86	%Rec	11/12/14	1
93951974	Acenaphthylene-D8	83	%Rec	11/12/14	1
1719068	Anthracene-D10	77	%Rec	11/12/14	1
63466717	Benzo[a]pyrene-D12	85	%Rec	11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	75	%Rec	11/12/14	1
81103799	D10-Fluorene (SS)	76	%Rec	11/12/14	1
1718521	D10-Pyrene	86	%Rec	11/12/14	1
93951747	d3-2,4-Dichlorophenol	82	%Rec	11/12/14	1
93951894	Dimethylphthalate-D6	86	%Rec	11/12/14	1
4165600	Nitrobenzene-d5	90	%Rec	11/12/14	1
4165622	Phenol-d5	85	%Rec	11/12/14	1

Sample : 14424104 Matrix Spike#2

Information : CW15-1014
Matrix : Water
Collected : 10/21/2014 11:35:00AM
Weight Basis : N/A

Parameter : BNA
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
92524	1,1'-Biphenyl	70	%Rec		11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	59	%Rec		11/12/14	1
120821	1,2,4-Trichlorobenzene	54	%Rec		11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	81	%Rec		11/12/14	1
95954	2,4,5-Trichlorophenol	79	%Rec		11/12/14	1
88062	2,4,6-Trichlorophenol	82	%Rec		11/12/14	1
120832	2,4-Dichlorophenol	79	%Rec		11/12/14	1
105679	2,4-Dimethylphenol	87	%Rec		11/12/14	1
51285	2,4-Dinitrophenol	84	%Rec		11/12/14	1
121142	2,4-Dinitrotoluene	85	%Rec		11/12/14	1
606202	2,6-Dinitrotoluene	85	%Rec		11/12/14	1
91587	2-Chloronaphthalene	68	%Rec		11/12/14	1
95578	2-Chlorophenol	76	%Rec		11/12/14	1
88744	2-Nitroaniline	81	%Rec		11/12/14	1
88755	2-Nitrophenol	79	%Rec		11/12/14	1
91941	3,3'-Dichlorobenzidine	56	%Rec		11/12/14	1
99092	3-Nitroaniline	70	%Rec		11/12/14	1
534521	4,6-Dinitro-2-methylphenol	80	%Rec		11/12/14	1
101553	4-Bromophenyl-Phenylether	76	%Rec		11/12/14	1
59507	4-Chloro-3-methylphenol	80	%Rec		11/12/14	1
106478	4-Chloroaniline	40	%Rec		11/12/14	1
7005723	4-Chlorophenyl-Phenylether	72	%Rec		11/12/14	1
106445	4-Methylphenol	80	%Rec		11/12/14	1
100016	4-Nitroaniline	88	%Rec		11/12/14	1
100027	4-Nitrophenol	80	%Rec		11/12/14	1
86748	9H-Carbazole	80	%Rec		11/12/14	1
1912249	Atrazine	86	%Rec		11/12/14	1
100527	Benzaldehyde	82	%Rec		11/12/14	1
111444	bis(2-Chloroethyl)ether	72	%Rec		11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	71	%Rec		11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	77	%Rec		11/12/14	1
85687	Butylbenzylphthalate	79	%Rec		11/12/14	1
58082	Caffeine	54	%Rec		11/12/14	1
105602	Caprolactam	9.3	%Rec		11/12/14	1
132649	Dibenzofuran	69	%Rec		11/12/14	1
84662	Diethyl phthalate	85	%Rec		11/12/14	1
131113	Dimethylphthalate	81	%Rec		11/12/14	1
84742	Di-n-Butylphthalate	84	%Rec		11/12/14	1
117840	Di-n-octylphthalate	75	%Rec		11/12/14	1
98862	Ethanone, 1-phenyl-	80	%Rec		11/12/14	1
118741	Hexachlorobenzene	70	%Rec		11/12/14	1

Spiked Compounds (cont.):

87683	Hexachlorobutadiene	40	%Rec	11/12/14	1
77474	Hexachlorocyclopentadiene	21	%Rec	11/12/14	1
67721	Hexachloroethane	33	%Rec	11/12/14	1
78591	Isophorone	76	%Rec	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	76	%Rec	11/12/14	1
90120	Naphthalene, 1-methyl-	66	%Rec	11/12/14	1
98953	Nitrobenzene	80	%Rec	11/12/14	1
621647	N-Nitrosodinpropylamine	79	%Rec	11/12/14	1
86306	n-Nitrosodiphenylamine	86	%Rec	11/12/14	1
108952	Phenol	77	%Rec	11/12/14	1
95487	Phenol, 2-methyl-	80	%Rec	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	81	%Rec	11/12/14	1
93951781	2-Nitrophenol-D4	80	%Rec	11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	94	%Rec	11/12/14	1
191656334	4-Chloroaniline-D4	77	%Rec	11/12/14	1
190780666	4-Methylphenol-D8	83	%Rec	11/12/14	1
93951792	4-Nitrophenol-D4	82	%Rec	11/12/14	1
93951974	Acenaphthylene-D8	76	%Rec	11/12/14	1
1719068	Anthracene-D10	73	%Rec	11/12/14	1
63466717	Benzo[a]pyrene-D12	81	%Rec	11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	73	%Rec	11/12/14	1
81103799	D10-Fluorene (SS)	73	%Rec	11/12/14	1
1718521	D10-Pyrene	81	%Rec	11/12/14	1
93951747	d3-2,4-Dichlorophenol	80	%Rec	11/12/14	1
93951894	Dimethylphthalate-D6	84	%Rec	11/12/14	1
4165600	Nitrobenzene-d5	86	%Rec	11/12/14	1
4165622	Phenol-d5	81	%Rec	11/12/14	1

Sample : 74W102414B1 Blank

Information : Blank

Matrix : Liquid **Weight Basis :** N/A

Parameter : BNA

Prep Method: 3535A - Solid Phase Extraction

Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
92524	1,1'-Biphenyl	1.0	ug/L	U	11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	1.0	ug/L	U	11/12/14	1
120821	1,2,4-Trichlorobenzene	1.0	ug/L	U	11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	1.0	ug/L	U	11/12/14	1
95954	2,4,5-Trichlorophenol	1.0	ug/L	U	11/12/14	1
88062	2,4,6-Trichlorophenol	1.0	ug/L	U	11/12/14	1
120832	2,4-Dichlorophenol	1.0	ug/L	U	11/12/14	1
105679	2,4-Dimethylphenol	1.0	ug/L	U	11/12/14	1
51285	2,4-Dinitrophenol	2.0	ug/L	U	11/12/14	1
121142	2,4-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
606202	2,6-Dinitrotoluene	1.0	ug/L	U	11/12/14	1
91587	2-Chloronaphthalene	1.0	ug/L	U	11/12/14	1
95578	2-Chlorophenol	1.0	ug/L	U	11/12/14	1
88744	2-Nitroaniline	2.0	ug/L	U	11/12/14	1
88755	2-Nitrophenol	1.0	ug/L	U	11/12/14	1
91941	3,3'-Dichlorobenzidine	1.0	ug/L	U	11/12/14	1
99092	3-Nitroaniline	2.0	ug/L	U	11/12/14	1
534521	4,6-Dinitro-2-methylphenol	2.0	ug/L	U	11/12/14	1
101553	4-Bromophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
59507	4-Chloro-3-methylphenol	1.0	ug/L	U	11/12/14	1
106478	4-Chloroaniline	1.0	ug/L	U	11/12/14	1
7005723	4-Chlorophenyl-Phenylether	1.0	ug/L	U	11/12/14	1
106445	4-Methylphenol	1.0	ug/L	U	11/12/14	1
100016	4-Nitroaniline	1.0	ug/L	U	11/12/14	1
100027	4-Nitrophenol	2.0	ug/L	U	11/12/14	1
86748	9H-Carbazole	1.0	ug/L	U	11/12/14	1
1912249	Atrazine	1.0	ug/L	U	11/12/14	1
100527	Benzaldehyde	1.0	ug/L	U	11/12/14	1
111444	bis(2-Chloroethyl)ether	1.0	ug/L	U	11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	1.0	ug/L	U	11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	2.0	ug/L	U	11/12/14	1
85687	Butylbenzylphthalate	2.0	ug/L	U	11/12/14	1
58082	Caffeine	1.0	ug/L	U	11/12/14	1
105602	Caprolactam	4.0	ug/L	U	11/12/14	1
132649	Dibenzofuran	1.0	ug/L	U	11/12/14	1
84662	Diethyl phthalate	1.0	ug/L	U	11/12/14	1
131113	Dimethylphthalate	1.0	ug/L	U	11/12/14	1
84742	Di-n-Butylphthalate	2.0	ug/L	U	11/12/14	1
117840	Di-n-octylphthalate	2.0	ug/L	U	11/12/14	1
98862	Ethanone, 1-phenyl-	1.0	ug/L	U	11/12/14	1
118741	Hexachlorobenzene	1.0	ug/L	U	11/12/14	1
87683	Hexachlorobutadiene	4.0	ug/L	U	11/12/14	1

Target Analyte Results (cont.):

77474	Hexachlorocyclopentadiene	1.0	ug/L	U	11/12/14	1
67721	Hexachloroethane	1.0	ug/L	U	11/12/14	1
78591	Isophorone	1.0	ug/L	U	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	1.0	ug/L	U	11/12/14	1
90120	Naphthalene, 1-methyl-	1.0	ug/L	U	11/12/14	1
98953	Nitrobenzene	1.0	ug/L	U	11/12/14	1
621647	N-Nitrosodinpropylamine	1.0	ug/L	U	11/12/14	1
86306	n-Nitrosodiphenylamine	1.0	ug/L	U	11/12/14	1
108952	Phenol	1.0	ug/L	U	11/12/14	1
95487	Phenol, 2-methyl-	1.0	ug/L	U	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	80	%Rec		11/12/14	1
93951781	2-Nitrophenol-D4	72	%Rec		11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	58	%Rec		11/12/14	1
191656334	4-Chloroaniline-D4	67	%Rec		11/12/14	1
190780666	4-Methylphenol-D8	76	%Rec		11/12/14	1
93951792	4-Nitrophenol-D4	58	%Rec		11/12/14	1
93951974	Acenaphthylene-D8	78	%Rec		11/12/14	1
1719068	Anthracene-D10	76	%Rec		11/12/14	1
63466717	Benzo[a]pyrene-D12	96	%Rec		11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	71	%Rec		11/12/14	1
81103799	D10-Fluorene (SS)	76	%Rec		11/12/14	1
1718521	D10-Pyrene	90	%Rec		11/12/14	1
93951747	d3-2,4-Dichlorophenol	73	%Rec		11/12/14	1
93951894	Dimethylphthalate-D6	76	%Rec		11/12/14	1
4165600	Nitrobenzene-d5	75	%Rec		11/12/14	1
4165622	Phenol-d5	76	%Rec		11/12/14	1

Sample : 74W102414L1 Lab Control Std

Information : Lab Control Standard

Matrix : Liquid **Weight Basis :** N/A

Parameter : BNA

Prep Method: 3535A - Solid Phase Extraction

Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
92524	1,1'-Biphenyl	69	%Rec		11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	57	%Rec		11/12/14	1
120821	1,2,4-Trichlorobenzene	54	%Rec		11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	77	%Rec		11/12/14	1
95954	2,4,5-Trichlorophenol	73	%Rec		11/12/14	1
88062	2,4,6-Trichlorophenol	77	%Rec		11/12/14	1
120832	2,4-Dichlorophenol	72	%Rec		11/12/14	1
105679	2,4-Dimethylphenol	78	%Rec		11/12/14	1
51285	2,4-Dinitrophenol	54	%Rec		11/12/14	1
121142	2,4-Dinitrotoluene	81	%Rec		11/12/14	1
606202	2,6-Dinitrotoluene	77	%Rec		11/12/14	1
91587	2-Chloronaphthalene	67	%Rec		11/12/14	1
95578	2-Chlorophenol	70	%Rec		11/12/14	1
88744	2-Nitroaniline	73	%Rec		11/12/14	1
88755	2-Nitrophenol	70	%Rec		11/12/14	1
91941	3,3'-Dichlorobenzidine	75	%Rec		11/12/14	1
99092	3-Nitroaniline	77	%Rec		11/12/14	1
534521	4,6-Dinitro-2-methylphenol	71	%Rec		11/12/14	1
101553	4-Bromophenyl-Phenylether	75	%Rec		11/12/14	1
59507	4-Chloro-3-methylphenol	74	%Rec		11/12/14	1
106478	4-Chloroaniline	70	%Rec		11/12/14	1
7005723	4-Chlorophenyl-Phenylether	73	%Rec		11/12/14	1
106445	4-Methylphenol	73	%Rec		11/12/14	1
100016	4-Nitroaniline	88	%Rec		11/12/14	1
100027	4-Nitrophenol	77	%Rec		11/12/14	1
86748	9H-Carbazole	87	%Rec		11/12/14	1
1912249	Atrazine	85	%Rec		11/12/14	1
100527	Benzaldehyde	76	%Rec		11/12/14	1
111444	bis(2-Chloroethyl)ether	67	%Rec		11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	66	%Rec		11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	80	%Rec		11/12/14	1
85687	Butylbenzylphthalate	79	%Rec		11/12/14	1
58082	Caffeine	51	%Rec		11/12/14	1
105602	Caprolactam	6.7	%Rec		11/12/14	1
132649	Dibenzofuran	72	%Rec		11/12/14	1
84662	Diethyl phthalate	84	%Rec		11/12/14	1
131113	Dimethylphthalate	77	%Rec		11/12/14	1
84742	Di-n-Butylphthalate	86	%Rec		11/12/14	1
117840	Di-n-octylphthalate	77	%Rec		11/12/14	1
98862	Ethanone, 1-phenyl-	70	%Rec		11/12/14	1
118741	Hexachlorobenzene	73	%Rec		11/12/14	1
87683	Hexachlorobutadiene	34	%Rec		11/12/14	1

Spiked Compounds (cont.):

77474	Hexachlorocyclopentadiene	42	%Rec	11/12/14	1
67721	Hexachloroethane	31	%Rec	11/12/14	1
78591	Isophorone	70	%Rec	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	70	%Rec	11/12/14	1
90120	Naphthalene, 1-methyl-	66	%Rec	11/12/14	1
98953	Nitrobenzene	69	%Rec	11/12/14	1
621647	N-Nitrosodinpropylamine	70	%Rec	11/12/14	1
86306	n-Nitrosodiphenylamine	82	%Rec	11/12/14	1
108952	Phenol	71	%Rec	11/12/14	1
95487	Phenol, 2-methyl-	74	%Rec	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	78	%Rec	11/12/14	1
93951781	2-Nitrophenol-D4	74	%Rec	11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	84	%Rec	11/12/14	1
191656334	4-Chloroaniline-D4	65	%Rec	11/12/14	1
190780666	4-Methylphenol-D8	78	%Rec	11/12/14	1
93951792	4-Nitrophenol-D4	80	%Rec	11/12/14	1
93951974	Acenaphthylene-D8	79	%Rec	11/12/14	1
1719068	Anthracene-D10	78	%Rec	11/12/14	1
63466717	Benzo[a]pyrene-D12	94	%Rec	11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	68	%Rec	11/12/14	1
81103799	D10-Fluorene (SS)	73	%Rec	11/12/14	1
1718521	D10-Pyrene	90	%Rec	11/12/14	1
93951747	d3-2,4-Dichlorophenol	77	%Rec	11/12/14	1
93951894	Dimethylphthalate-D6	80	%Rec	11/12/14	1
4165600	Nitrobenzene-d5	73	%Rec	11/12/14	1
4165622	Phenol-d5	75	%Rec	11/12/14	1

Sample : 74W102414L2 Lab Control Std#2

Information : Lab Control Standard Dup.

Matrix : Liquid **Weight Basis :** N/A

Parameter : BNA

Prep Method: 3535A - Solid Phase Extraction

Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
92524	1,1'-Biphenyl	80	%Rec		11/12/14	1
95943	1,2,4,5-Tetrachlorobenzene	70	%Rec		11/12/14	1
120821	1,2,4-Trichlorobenzene	68	%Rec		11/12/14	1
58902	2,3,4,6-Tetrachlorophenol	85	%Rec		11/12/14	1
95954	2,4,5-Trichlorophenol	85	%Rec		11/12/14	1
88062	2,4,6-Trichlorophenol	91	%Rec		11/12/14	1
120832	2,4-Dichlorophenol	88	%Rec		11/12/14	1
105679	2,4-Dimethylphenol	95	%Rec		11/12/14	1
51285	2,4-Dinitrophenol	72	%Rec		11/12/14	1
121142	2,4-Dinitrotoluene	87	%Rec		11/12/14	1
606202	2,6-Dinitrotoluene	87	%Rec		11/12/14	1
91587	2-Chloronaphthalene	78	%Rec		11/12/14	1
95578	2-Chlorophenol	86	%Rec		11/12/14	1
88744	2-Nitroaniline	82	%Rec		11/12/14	1
88755	2-Nitrophenol	86	%Rec		11/12/14	1
91941	3,3'-Dichlorobenzidine	79	%Rec		11/12/14	1
99092	3-Nitroaniline	84	%Rec		11/12/14	1
534521	4,6-Dinitro-2-methylphenol	76	%Rec		11/12/14	1
101553	4-Bromophenyl-Phenylether	86	%Rec		11/12/14	1
59507	4-Chloro-3-methylphenol	85	%Rec		11/12/14	1
106478	4-Chloroaniline	77	%Rec		11/12/14	1
7005723	4-Chlorophenyl-Phenylether	83	%Rec		11/12/14	1
106445	4-Methylphenol	87	%Rec		11/12/14	1
100016	4-Nitroaniline	93	%Rec		11/12/14	1
100027	4-Nitrophenol	80	%Rec		11/12/14	1
86748	9H-Carbazole	89	%Rec		11/12/14	1
1912249	Atrazine	89	%Rec		11/12/14	1
100527	Benzaldehyde	92	%Rec		11/12/14	1
111444	bis(2-Chloroethyl)ether	80	%Rec		11/12/14	1
108601	Bis(2-Chloroisopropyl)ether	82	%Rec		11/12/14	1
117817	Bis(2-ethylhexyl) phthalate	85	%Rec		11/12/14	1
85687	Butylbenzylphthalate	82	%Rec		11/12/14	1
58082	Caffeine	49	%Rec		11/12/14	1
105602	Caprolactam	7.3	%Rec		11/12/14	1
132649	Dibenzofuran	82	%Rec		11/12/14	1
84662	Diethyl phthalate	91	%Rec		11/12/14	1
131113	Dimethylphthalate	88	%Rec		11/12/14	1
84742	Di-n-Butylphthalate	88	%Rec		11/12/14	1
117840	Di-n-octylphthalate	83	%Rec		11/12/14	1
98862	Ethanone, 1-phenyl-	83	%Rec		11/12/14	1
118741	Hexachlorobenzene	79	%Rec		11/12/14	1
87683	Hexachlorobutadiene	47	%Rec		11/12/14	1

Spiked Compounds (cont.):

77474	Hexachlorocyclopentadiene	54	%Rec	11/12/14	1
67721	Hexachloroethane	43	%Rec	11/12/14	1
78591	Isophorone	83	%Rec	11/12/14	1
111911	Methane, bis(2-chloroethoxy)-	83	%Rec	11/12/14	1
90120	Naphthalene, 1-methyl-	79	%Rec	11/12/14	1
98953	Nitrobenzene	84	%Rec	11/12/14	1
621647	N-Nitrosodinpropylamine	84	%Rec	11/12/14	1
86306	n-Nitrosodiphenylamine	87	%Rec	11/12/14	1
108952	Phenol	80	%Rec	11/12/14	1
95487	Phenol, 2-methyl-	87	%Rec	11/12/14	1

Surrogate Compounds:

93951736	2-chlorophenol-d4	95	%Rec	11/12/14	1
93951781	2-Nitrophenol-D4	90	%Rec	11/12/14	1
93951769	4,6-Dinitro-2-methylphenol-d2	94	%Rec	11/12/14	1
191656334	4-Chloroaniline-D4	70	%Rec	11/12/14	1
190780666	4-Methylphenol-D8	90	%Rec	11/12/14	1
93951792	4-Nitrophenol-D4	84	%Rec	11/12/14	1
93951974	Acenaphthylene-D8	91	%Rec	11/12/14	1
1719068	Anthracene-D10	81	%Rec	11/12/14	1
63466717	Benzo[a]pyrene-D12	95	%Rec	11/12/14	1
93952024	Bis(2chloroethyl)ether-D8	81	%Rec	11/12/14	1
81103799	D10-Fluorene (SS)	83	%Rec	11/12/14	1
1718521	D10-Pyrene	90	%Rec	11/12/14	1
93951747	d3-2,4-Dichlorophenol	92	%Rec	11/12/14	1
93951894	Dimethylphthalate-D6	90	%Rec	11/12/14	1
4165600	Nitrobenzene-d5	89	%Rec	11/12/14	1
4165622	Phenol-d5	84	%Rec	11/12/14	1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366

MEMORANDUM

SUBJECT: Data Release for Diesel range Organics (TPH-Dx) from the USEPA Region 10 Laboratory

PROJECT NAME: Wyckoff Eagle Harbor Groundwater (OU4)

PROJECT CODE: WEH-016P

FROM: Gerald Dodo, Chemistry Supervisor
Office of Environmental Assessment
USEPA Region 10 Laboratory

TO: Helen Botcher, RPM
Office of Environmental Cleanup
USEPA Region 10

CC: Nicole Badon-CH2MHill
Mark Cichy- CH2MHill

I have authorized release of this data package. Attached you will find the Diesel range Organics (TPH-Dx) results for the Waters from Wyckoff Eagle Harbor Groundwater (OU4) project for the samples received on 10/22/2014 and 10/23/2014. For further information regarding the attached data, contact Dana Walker at (360) 871-8704.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366

QUALITY ASSURANCE MEMORANDUM FOR ORGANIC CHEMICAL ANALYSES

DATE: December 11, 2014

TO: Helen Bottcher, Project Manager
Office of Environmental Cleanup, US EPA Region 10

FROM: Dana Walker
Office of Environmental Assessment, US EPA Region 10 Laboratory

SUBJECT: Quality Assurance Review of the Wyckoff Eagle Harbor Groundwater (OU4) Project for Diesel range organics (TPH-Dx)

Project Code: WEH-016P
Account Code: 2015T10P303DD210W2LA00

CC: Nicole Badon -CH2MHill
Mark Cichy- CH2MHill

The following is a quality assurance review of the data for total petroleum Diesel range organics extended (TPH-Dx) of samples from the above referenced site. The analyses were performed by the EPA Region 10 Laboratory ESAT contractor using Washington State Department of Ecology Method NWTPH-Dx.

This review was conducted for the following water samples:

14424100	14424101	14424102	14424103	14424104	14424105
14424106	14424107	14424108	14424109	14424110	14424111
14424112					

Data Qualifications

Comments below refer to the quality control specifications outlined in the Laboratory's current Quality Assurance Manual, Standard Operating Procedures (SOPs) and the Quality Assurance Project Plan (QAPP). No excursions were required from the method Standard Operating Procedure.

The quality control measures which did not meet Laboratory/QAPP criteria are annotated in the title of each affected subsection with "*Laboratory/QAPP Criteria Not Met*".

For those tests for which the EPA Region 10 Laboratory has been accredited by The NELAC Institute (TNI), all requirements of the current TNI Standard have been met.

1. Sample Transport and Receipt

Upon sample receipt, no conditions were noted that would impact data quality.

2. Sample Holding Times

The concentration of an analyte in a sample or extract of a sample may increase or decrease over time depending on the nature of the analyte. The holding time maximum criteria applied for the extraction of water samples is 7 days from the time of collection. Extracts have a holding time maximum of 40 days from the time of preparation. All samples were extracted and analyzed within these criteria.

3. Sample Preparation

Samples were prepared according to the method/SOP.

4. Initial Calibration

Initial calibrations were performed on 10/22/14 and again on 11/04/2014 for #2 diesel, motor oil and surrogate. Percent relative standard deviations (%RSDs) of the RRFs met the criteria of ≤20% or the correlation coefficients met the criteria of ≥0.99.

5. Continuing Calibration Verification (CCV)

The CCV met the criteria for frequency of analysis and relative retention time (RRT) windows for all target and surrogate compounds. The percent accuracies were 80-120% of the true values.

6. Blank Analysis

Method blanks were prepared and analyzed with each sample extraction batch to evaluate the potential for laboratory contamination and effects on the sample results. TPH-Dx was not detected in the blanks.

7. Surrogates—*Laboratory/QAPP Criteria Not Met*

Surrogate recoveries are used to help in the evaluation of laboratory performance on individual samples. All surrogate recoveries for the samples were within the criteria of 65-135% except for the following: Sample 14424100 had a Pentacosane recovery of 63%, which was confirmed on reanalysis. The sample had no detected levels of TPH-Dx or Motor Oil, therefore, the results were flagged "UJ."

8. LCS/LCSD

Data for laboratory control sample/laboratory control sample duplicates (LCS/LCSD) are generated to provide information on the accuracy and precision of the analytical method and the laboratory performance. The LCS/LCSD recoveries were within the criteria of 65-135% with a relative percent difference (RPD) of ≤35.

9. Duplicate Sample Analysis

Duplicate sample analyses are performed to provide information on the precision, in the matrix of interest, of the analytical method. Duplicate analyses were performed using samples 14424103 and 14424104. All results which were above 5 times the reporting limit met the relative percent difference (RPD) criteria of ≤35.

10. Compound Identification/Quantitation

The initial calibration functions were used for calculations. Reported quantitation limits were based on the initial calibration standards and sample size used for the analysis.

Diesel range organics is a collective term for petroleum products that generally elute before motor oil but after gasoline from the gas chromatograph.

Diesel range organics was reported for a number of samples, however, the pattern most closely matched that of creosote rather than diesel.

Motor oil range organics is a collective term for any petroleum product that chromatographically consists primarily of an unresolved envelope of compounds generally eluting after #2 diesel. Included in the definition are hydraulic fluids, motor oils, lubricating oils, cutting oils, mineral oils, transmission fluids, etc.

No motor range organics were detected at or above the method reporting limit in any of the project samples.

Chemical Abstract Service (CAS) numbers with a "*" indicates that the number was created at the Region 10 Laboratory due to lack of an existing one.

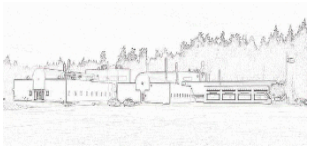
All manual integrations have been reviewed and found to comply with acceptable integration practices.

11. Data Qualifiers

All requirements for data qualifiers from the preceding sections were accumulated. Each sample data summary sheet and each compound was checked for positive or negative results. From this, the overall need for data qualifiers for each analysis was determined. In cases where more than one of the preceding sections required data qualifiers, the most restrictive qualifier has been added to the data.

The usefulness of qualified data should be treated according to the severity of the qualifier in light of the project's data quality objectives. Should questions arise regarding the data, contact Dana Walker at the Region 10 Laboratory, phone number (360) 871 - 8704.

Qualifier	Definition
U	The analyte was not detected at or above the reported value.
J	The identification of the analyte is acceptable; the reported value is an estimate.
UJ	The analyte was not detected at or above the reported value. The reported value is an estimate.
R	The presence or absence of the analyte can not be determined from the data due to severe quality control problems. The data are rejected and considered unusable. No value is reported with this qualification.
NA	Not Applicable, the parameter was not analyzed for, or there is no analytical result for this parameter. No value is reported with this qualification.



US EPA Region 10 Laboratory

Multi-Analyte Final Report

Project Code : WEH-016P
Site : WYCKOFF EAGLE HARBOR GROUND WATER: OU4
Contact : Helen Bottcher
Account : 2015T10P303DD210W2LA00

Sample : 14424100

Information : VG1L-1014
Matrix : Water
Collected : 10/20/2014 11:05:00AM
Weight Basis : N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
*400009	TPH-GC/Diesel Range Organics	0.19	mg/L	UJ	11/ 5/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.46	mg/L	UJ	11/ 5/14	1
Surrogate Compounds:						
629992	Pentacosane	63	%Rec		11/ 5/14	1

Sample : 14424101

Information : CW09-1014
Matrix : Water
Collected : 10/20/2014 11:55:00AM
Weight Basis : N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
*400009	TPH-GC/Diesel Range Organics	0.19	mg/L	U	11/ 5/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.47	mg/L	U	11/ 5/14	1
Surrogate Compounds:						
629992	Pentacosane	81	%Rec		11/ 5/14	1

Sample : 14424102

Information : VG2L-1014
Matrix : Water
Collected : 10/20/2014 12:40:00PM
Weight Basis : N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
***400009**	**TPH-GC/Diesel Range Organics**	**0.88**	**mg/L**		11/ 5/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.48	mg/L	U	11/ 5/14	1
Surrogate Compounds:						
629992	Pentacosane	80	%Rec		11/ 5/14	1

Sample : 14424103

Information : MW80-1014
Matrix : Water
Collected : 10/20/2014 3:00:00PM
Weight Basis : N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
***400009**	**TPH-GC/Diesel Range Organics**	**0.88**	**mg/L**		11/ 5/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.48	mg/L	U	11/ 5/14	1
Surrogate Compounds:						
629992	Pentacosane	66	%Rec		11/ 5/14	1

Sample : 14424104

Information : CW15-1014
Matrix : Water
Collected : 10/21/2014 11:35:00AM
Weight Basis : N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
***400009**	**TPH-GC/Diesel Range Organics**	**0.68**	**mg/L**		11/ 5/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.48	mg/L	U	11/ 5/14	1
Surrogate Compounds:						
629992	Pentacosane	99	%Rec		11/ 5/14	1

Sample : 14424105

Information : P3L-1014
Matrix : Water
Collected : 10/20/2014 2:00:00PM
Weight Basis : N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
***400009**	**TPH-GC/Diesel Range Organics**	**0.47**	**mg/L**		11/ 6/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.48	mg/L	U	11/ 6/14	1
Surrogate Compounds:						
629992	Pentacosane	74	%Rec		11/ 6/14	1

Sample : 14424106

Information : CW05-1014
Matrix : Water
Collected : 10/21/2014 11:25:00AM
Weight Basis : N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
***400009**	**TPH-GC/Diesel Range Organics**	**3.7**	**mg/L**		11/ 6/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.48	mg/L	U	11/ 6/14	1
Surrogate Compounds:						
629992	Pentacosane	100	%Rec		11/ 6/14	1

Sample : 14424107

Information : MW50-1014
Matrix : Water
Collected : 10/21/2014 10:00:00AM
Weight Basis : N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
***400009**	**TPH-GC/Diesel Range Organics**	**3.9**	**mg/L**		11/ 6/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.48	mg/L	U	11/ 6/14	1
Surrogate Compounds:						
629992	Pentacosane	102	%Rec		11/ 6/14	1

Sample : 14424108

Information : P4L-1014
Matrix : Water
Collected : 10/20/2014 4:20:00PM
Weight Basis : N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
*400009	TPH-GC/Diesel Range Organics	0.19	mg/L	U	11/ 6/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.47	mg/L	U	11/ 6/14	1
Surrogate Compounds:						
629992	Pentacosane	94	%Rec		11/ 6/14	1

Sample : 14424109

Information : 99CDMW02-1014
Matrix : Water
Collected : 10/21/2014 2:45:00PM
Weight Basis : N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
*400009	TPH-GC/Diesel Range Organics	0.19	mg/L	U	11/ 6/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.48	mg/L	U	11/ 6/14	1
Surrogate Compounds:						
629992	Pentacosane	97	%Rec		11/ 6/14	1

Sample : 14424110

Information : VG4L-1014
Matrix : Water
Collected : 10/21/2014 2:55:00PM
Weight Basis : N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
*400009	TPH-GC/Diesel Range Organics	0.19	mg/L	U	11/ 6/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.47	mg/L	U	11/ 6/14	1
Surrogate Compounds:						
629992	Pentacosane	92	%Rec		11/ 6/14	1

Sample : 14424111

Information : VG5L-1014
Matrix : Water
Collected : 10/21/2014 4:05:00PM
Weight Basis : N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
*400009	TPH-GC/Diesel Range Organics	0.19	mg/L	U	11/ 6/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.48	mg/L	U	11/ 6/14	1
Surrogate Compounds:						
629992	Pentacosane	95	%Rec		11/ 6/14	1

Sample : 14424112

Information : PZ11-1014
Matrix : Water
Collected : 10/22/2014 10:20:00AM
Weight Basis : N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
***400009**	**TPH-GC/Diesel Range Organics**	**0.34**	**mg/L**		11/ 6/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.47	mg/L	U	11/ 6/14	1
Surrogate Compounds:						
629992	Pentacosane	97	%Rec		11/ 6/14	1

Sample : 14424103 Sample Duplicate

Information : MW80-1014
Matrix : Water
Collected : 10/20/2014 3:00:00PM
Weight Basis : N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
***400009**	**TPH-GC/Diesel Range Organics**	**0.82**	**mg/L**		11/ 5/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.48	mg/L	U	11/ 5/14	1
Surrogate Compounds:						
629992	Pentacosane	94	%Rec		11/ 5/14	1

Sample : 14424104 Sample Duplicate

Information : CW15-1014
Matrix : Water **Weight Basis :** N/A
Collected : 10/21/2014 11:35:00AM

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
***400009**	**TPH-GC/Diesel Range Organics**	**0.73**	**mg/L**		11/ 5/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.48	mg/L	U	11/ 5/14	1
Surrogate Compounds:						
629992	Pentacosane	95	%Rec		11/ 5/14	1

Sample : 85W102314B1 Blank

Information : Blank
Matrix : Liquid **Weight Basis :** N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
*400009	TPH-GC/Diesel Range Organics	0.20	mg/L	U	11/ 5/14	1
*400010	TPH-GC/Motor Oil Range Organics	0.50	mg/L	U	11/ 5/14	1
Surrogate Compounds:						
629992	Pentacosane	87	%Rec		11/ 5/14	1

Sample : 85W102314L1 Lab Control Std

Information : Lab Control Standard
Matrix : Liquid **Weight Basis :** N/A

Parameter : TPH-Dx
Fraction : N/A
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
*400009	TPH-GC/Diesel Range Organics	86	%Rec		11/ 5/14	1
Surrogate Compounds:						
629992	Pentacosane	95	%Rec		11/ 5/14	1

Sample : 85W102314L2 Lab Control Std#2

Information : Lab Control Standard Dup.

Matrix : Liquid **Weight Basis :** N/A

Parameter : TPH-Dx

Fraction : N/A

Prep Method: 3535A - Solid Phase Extraction

Analysis Method: NWTPH-Dx - Diesel range organics

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
*400009	TPH-GC/Diesel Range Organics	86	%Rec		11/ 5/14	1
Surrogate Compounds:						
629992	Pentacosane	96	%Rec		11/ 5/14	1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366

MEMORANDUM

SUBJECT:	Data Release for Polyaromatic Hydrocarbon Results from the USEPA Region 10 Laboratory
PROJECT NAME:	Wyckoff Eagle Harbor Groundwater (OUI)
PROJECT CODE:	WEH-016P
FROM:	Gerald Dodo, Supervisory Chemist Office of Environmental Assessment, USEPA Region 10 Laboratory
TO:	Helen Bottcher, RPM Office of Environmental Cleanup, USEPA Region 10
CC:	Nicole Badon -CH2MHill Mark Cichy- CH2MHill

I have authorized release of this data package. Attached you will find the polyaromatic hydrocarbon results for the Wyckoff Eagle Harbor Groundwater (OUI) project for the samples collected from 10/20/2014 through 10/22/2014. For further information regarding the attached data, contact Dana Walker at 360-871-8704.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366

QUALITY ASSURANCE MEMORANDUM FOR ORGANIC CHEMICAL ANALYSES

Date: December 15, 2014

To: Helen Bottcher, Project Manager
Office of Environmental Cleanup, USEPA Region 10

From: Dana Walker, ESAT Project Officer
Office of Environmental Assessment, USEPA Region 10 Laboratory

Subject: Quality Assurance Review for the Polyaromatic Hydrocarbon Analysis of Wyckoff Eagle Harbor Groundwater (OU4) Project

Project Code: WEH-016P
Account Code: 2015T10P303DD210W2LA00

CC: Nicole Badon -CH2MHill
Mark Cichy- CH2MHill

The following is a quality assurance review of the data for Polyaromatic Hydrocarbon analysis of water samples from the above referenced site. The analyses were performed by the EPA Region 10 Laboratory ESAT contractor using modified EPA SW846 methods 3535 and 8270. Note that compliance samples have differing QC requirements that are noted throughout the QA memo as appropriate.

This review was conducted for the following samples:

14424100	14424101	14424102	14424103	14424104	14424105
14424106	14424107	14424108	14424109	14424110	14424111
14424112					

1. Data Qualifications

Comments below refer to the quality control specifications outlined in the Laboratory's current Quality Assurance Manual, Standard Operating Procedures (SOPs) and the Quality Assurance Project Plan (QAPP). No excursions were required from the method Standard Operating Procedure.

The quality control measures which did not meet Laboratory/QAPP criteria are annotated in the title of each affected subsection with "*Laboratory/QAPP Criteria Not Met*".

For those tests for which the EPA Region 10 Laboratory has been accredited by The NELAC Institute (TNI), all requirements of the current TNI Standard have been met.

2. Sample Transport and Receipt

Upon sample receipt, no conditions were noted that would impact data quality.

3. Sample Holding Times

The concentration of an analyte in a sample or extract of a sample may increase or decrease over time depending on the nature of the analyte. The holding time maximum criteria applied for the extraction of water samples is 7 days from the time of collection. Extracts have a holding time maximum of 40 days from the time of preparation. All samples were extracted and analyzed within these criteria.

4. Sample Preparation

Samples were prepared according to the method.

5. Initial Calibration/Continuing Calibration Verification (CCV)

Initial calibration was performed on 10/28/2014. Percent relative standard deviations (RSDs) of the calibration factors met the criteria of ≤20% or correlation coefficients met the criteria of ≥0.99.

The CCVs for met the criteria for frequency of analysis and relative retention time (RRT) windows. The RRFs were ≥0.05 and the percent accuracies were 65-135% of the true value.

6. Laboratory Control Samples/Laboratory Control Sample Duplicates (LCS/LCSD)

LCS/LCSD are generated to provide information on the accuracy and precision of the analytical method and the laboratory performance. The LCS/LCSD recoveries were within the criteria of 65-135% with a relative percent difference (RPD) of ≤35.

7. Blank Analysis

Method blanks were prepared and analyzed with each sample extraction batch to evaluate the potential for laboratory contamination and effects on the sample results. Target analytes were not detected in the blanks.

8. Surrogate Spikes

Surrogate recoveries are used to help in the evaluation of laboratory performance on individual samples. The surrogates used are terphenyl-d14 and 9,10-diphenylanthracene. All surrogate recoveries were within the criteria of 65-135%.

9. Internal Standard Performance

Internal standards performance criteria ensure that GC/MS sensitivity and response are stable during every analytical run. The retention time variations of all internal standards were within 30 seconds of the continuing calibration standard. The percent areas of all the internal standards were within the specified 50% to 200% of the continuing calibration standard for all reported sample results.

10. Compound Quantitation

The initial calibration functions were used for calculations. Reported quantitation limits were based on the initial calibration standards and sample size used for the analysis. Detected analyte concentrations below the sample quantitation limits were qualified as estimated, "J".
All manual integrations have been reviewed and found to comply with acceptable integration practices.

11. Matrix Spike/Matrix Spike Duplicate Analysis (MS/MSD—*Laboratory/QAPP Criteria Not Met*

MS/MSD analyses are performed to provide information on the effects of sample matrices toward the analytical method. . An MS/MSD analysis was run on sample 14424103. Recoveries and RPDs for all analytes were acceptable, except the following: Naphthalene, 2-Methylnapthalene, Acenaphthene, 9H-Fluorene, Phenanthrene, and Fluoranthene were unable to be recovered due to high levels present in the sample spiked. No results were reported for these analytes in the MS/MSD summaries and they were flagged as "NA." Because of the high level of analyte already present in the spiked sample, no associated data were flagged as a result of this exceedance.

12. Identification

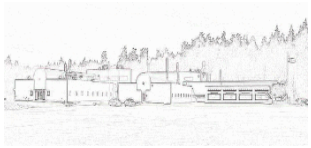
The RRTs for all detected target compounds were within acceptable limits of the initial or continuing calibration standards. Criteria were met for mass spectral ion matching and ion abundance matching for those ions monitored in SIM scanning mode.

13. Data Qualifiers

All requirements for data qualifiers from the preceding sections were accumulated. Each sample data summary sheet and each compound was checked for positive or negative results. From this, the overall need for data qualifiers for each analysis was determined. In cases where more than one of the preceding sections required data qualifiers, the most restrictive qualifier has been added to the data.

The usefulness of qualified data should be treated according to the severity of the qualifier in light of the project's data quality objectives. Should questions arise regarding the data, contact Dana Walker at the Region 10 Laboratory, phone number (360) 871-8704.

Qualifier	Definition
U	The analyte was not detected at or above the reported value.
J	The identification of the analyte is acceptable; the reported value is an estimate.
UJ	The analyte was not detected at or above the reported value. The reported value is an estimate.
R	The presence or absence of the analyte can not be determined from the data due to severe quality control problems. The data are rejected and considered unusable. No value is reported with this qualification.
NA	Not Applicable, the parameter was not analyzed for, or there is no analytical result for this parameter. No value is reported with this qualification.



US EPA Region 10 Laboratory

Multi-Analyte Final Report

Project Code : WEH-016P
Site : WYCKOFF EAGLE HARBOR GROUND WATER: OU4
Contact : Helen Bottcher
Account : 2015T10P303DD210W2LA00

Sample : 14424100

Information : VG1L-1014
Matrix : Water
Collected : 10/20/2014 11:05:00AM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
86737	9H-Fluorene	0.029	ug/L	U	10/29/14	1
83329	Acenaphthene	0.029	ug/L	U	10/29/14	1
208968	Acenaphthylene	0.029	ug/L	U	10/29/14	1
120127	Anthracene	0.029	ug/L	U	10/29/14	1
56553	Benzo(a)anthracene	0.029	ug/L	U	10/29/14	1
50328	Benzo(a)pyrene	0.029	ug/L	U	10/29/14	1
191242	Benzo(g,h,i)perylene	0.029	ug/L	U	10/29/14	1
205992	Benzo[b]Fluoranthene	0.029	ug/L	U	10/29/14	1
207089	Benzo[k]fluoranthene	0.029	ug/L	U	10/29/14	1
218019	Chrysene	0.029	ug/L	U	10/29/14	1
53703	Dibenzo[a,h]anthracene	0.029	ug/L	U	10/29/14	1
206440	Fluoranthene	0.029	ug/L	U	10/29/14	1
193395	Indeno(1,2,3-cd)pyrene	0.029	ug/L	U	10/29/14	1
91203	**Naphthalene**	**0.036**	**ug/L**		10/29/14	1
91576	Naphthalene, 2-methyl-	0.029	ug/L	U	10/29/14	1
85018	Phenanthrene	0.029	ug/L	U	10/29/14	1
129000	Pyrene	0.029	ug/L	U	10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	94	%Rec		10/29/14	1
1718510	Terphenyl-d14	89	%Rec		10/29/14	1

Sample : 14424101

Information : CW09-1014
Matrix : Water
Collected : 10/20/2014 11:55:00AM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
86737	9H-Fluorene	0.029	ug/L	U	10/29/14	1
83329	**Acenaphthene**	**0.029**	**ug/L**		10/29/14	1
208968	Acenaphthylene	0.029	ug/L	U	10/29/14	1
120127	Anthracene	0.029	ug/L	U	10/29/14	1
56553	Benzo(a)anthracene	0.029	ug/L	U	10/29/14	1
50328	Benzo(a)pyrene	0.029	ug/L	U	10/29/14	1
191242	Benzo(g,h,i)perylene	0.029	ug/L	U	10/29/14	1
205992	Benzo[b]Fluoranthene	0.029	ug/L	U	10/29/14	1
207089	Benzo[k]fluoranthene	0.029	ug/L	U	10/29/14	1
218019	Chrysene	0.029	ug/L	U	10/29/14	1
53703	Dibenzo[a,h]anthracene	0.029	ug/L	U	10/29/14	1
206440	**Fluoranthene**	**0.041**	**ug/L**		10/29/14	1
193395	Indeno(1,2,3-cd)pyrene	0.029	ug/L	U	10/29/14	1
91203	Naphthalene	0.029	ug/L	U	10/29/14	1
91576	Naphthalene, 2-methyl-	0.029	ug/L	U	10/29/14	1
85018	Phenanthrene	0.029	ug/L	U	10/29/14	1
129000	Pyrene	0.029	ug/L	U	10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	93	%Rec		10/29/14	1
1718510	Terphenyl-d14	88	%Rec		10/29/14	1

Sample : 14424102

Information : VG2L-1014
Matrix : Water
Collected : 10/20/2014 12:40:00PM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
86737	**9H-Fluorene**	**5.3**	**ug/L**		10/31/14	10
83329	**Acenaphthene**	**40**	**ug/L**		10/31/14	50
208968	**Acenaphthylene**	**0.56**	**ug/L**		10/29/14	1
120127	**Anthracene**	**1.5**	**ug/L**		10/29/14	1
56553	**Benzo(a)anthracene**	**0.28**	**ug/L**		10/29/14	1
50328	**Benzo(a)pyrene**	**0.084**	**ug/L**		10/29/14	1
191242	Benzo(g,h,i)perylene	0.029	ug/L	U	10/29/14	1
205992	**Benzo[b]Fluoranthene**	**0.12**	**ug/L**		10/29/14	1
207089	**Benzo[k]fluoranthene**	**0.061**	**ug/L**		10/29/14	1
218019	**Chrysene**	**0.23**	**ug/L**		10/29/14	1
53703	Dibenzo[a,h]anthracene	0.029	ug/L	U	10/29/14	1
206440	**Fluoranthene**	**3.6**	**ug/L**		10/29/14	1
193395	Indeno(1,2,3-cd)pyrene	0.029	ug/L	U	10/29/14	1
91203	**Naphthalene**	**110**	**ug/L**		10/31/14	50
91576	**Naphthalene, 2-methyl-**	**3.2**	**ug/L**		10/31/14	10
85018	**Phenanthrene**	**14**	**ug/L**		10/31/14	10
129000	**Pyrene**	**2.2**	**ug/L**		10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	81	%Rec		10/29/14	1
1718510	Terphenyl-d14	85	%Rec		10/29/14	1

Sample : 14424103

Information : MW80-1014
Matrix : Water
Collected : 10/20/2014 3:00:00PM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
86737	**9H-Fluorene**	**4.9**	**ug/L**		10/29/14	1
83329	**Acenaphthene**	**38**	**ug/L**		10/31/14	20
208968	**Acenaphthylene**	**0.54**	**ug/L**		10/29/14	1
120127	**Anthracene**	**1.4**	**ug/L**		10/29/14	1
56553	**Benzo(a)anthracene**	**0.17**	**ug/L**		10/29/14	1
50328	Benzo(a)pyrene	0.065	ug/L	U	10/29/14	1
191242	Benzo(g,h,i)perylene	0.065	ug/L	U	10/29/14	1
205992	Benzo[b]Fluoranthene	0.065	ug/L	U	10/29/14	1
207089	Benzo[k]fluoranthene	0.065	ug/L	U	10/29/14	1
218019	**Chrysene**	**0.14**	**ug/L**		10/29/14	1
53703	Dibenzo[a,h]anthracene	0.065	ug/L	U	10/29/14	1
206440	**Fluoranthene**	**3.4**	**ug/L**		10/29/14	1
193395	Indeno(1,2,3-cd)pyrene	0.065	ug/L	U	10/29/14	1
91203	**Naphthalene**	**100**	**ug/L**		10/31/14	20
91576	**Naphthalene, 2-methyl-**	**3.5**	**ug/L**		10/29/14	1
85018	**Phenanthrene**	**13**	**ug/L**		10/31/14	20
129000	**Pyrene**	**1.9**	**ug/L**		10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	71	%Rec		10/29/14	1
1718510	Terphenyl-d14	82	%Rec		10/29/14	1

Sample : 14424104

Information : CW15-1014
Matrix : Water
Collected : 10/21/2014 11:35:00AM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
86737	**9H-Fluorene**	**2.5**	**ug/L**		10/29/14	1
83329	**Acenaphthene**	**170**	**ug/L**		10/31/14	100
208968	**Acenaphthylene**	**1.4**	**ug/L**		10/29/14	1
120127	**Anthracene**	**4.3**	**ug/L**		10/31/14	10
56553	**Benzo(a)anthracene**	**0.85**	**ug/L**		10/29/14	1
50328	**Benzo(a)pyrene**	**0.24**	**ug/L**		10/29/14	1
191242	**Benzo(g,h,i)perylene**	**0.058**	**ug/L**		10/29/14	1
205992	**Benzo[b]Fluoranthene**	**0.35**	**ug/L**		10/29/14	1
207089	**Benzo[k]fluoranthene**	**0.23**	**ug/L**		10/29/14	1
218019	**Chrysene**	**0.78**	**ug/L**		10/29/14	1
53703	Dibenzo[a,h]anthracene	0.029	ug/L	U	10/29/14	1
206440	**Fluoranthene**	**8.0**	**ug/L**		10/31/14	10
193395	**Indeno(1,2,3-cd)pyrene**	**0.056**	**ug/L**		10/29/14	1
91203	**Naphthalene**	**0.69**	**ug/L**		10/29/14	1
91576	Naphthalene, 2-methyl-	0.029	ug/L	U	10/29/14	1
85018	**Phenanthrene**	**1.1**	**ug/L**		10/29/14	1
129000	**Pyrene**	**3.9**	**ug/L**		10/31/14	10
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	80	%Rec		10/29/14	1
1718510	Terphenyl-d14	82	%Rec		10/29/14	1

Sample : 14424105

Information : P3L-1014
Matrix : Water
Collected : 10/20/2014 2:00:00PM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
86737	**9H-Fluorene**	**4.4**	**ug/L**		10/31/14	50
83329	**Acenaphthene**	**50**	**ug/L**		10/31/14	50
208968	**Acenaphthylene**	**0.36**	**ug/L**		10/29/14	1
120127	**Anthracene**	**2.1**	**ug/L**		10/29/14	1
56553	**Benzo(a)anthracene**	**0.064**	**ug/L**		10/29/14	1
50328	Benzo(a)pyrene	0.029	ug/L	U	10/29/14	1
191242	Benzo(g,h,i)perylene	0.029	ug/L	U	10/29/14	1
205992	Benzo[b]Fluoranthene	0.029	ug/L	U	10/29/14	1
207089	Benzo[k]fluoranthene	0.029	ug/L	U	10/29/14	1
218019	**Chrysene**	**0.052**	**ug/L**		10/29/14	1
53703	Dibenzo[a,h]anthracene	0.029	ug/L	U	10/29/14	1
206440	**Fluoranthene**	**3.9**	**ug/L**		10/31/14	50
193395	Indeno(1,2,3-cd)pyrene	0.029	ug/L	U	10/29/14	1
91203	**Naphthalene**	**8.4**	**ug/L**		10/31/14	50
91576	**Naphthalene, 2-methyl-**	**0.22**	**ug/L**		10/29/14	1
85018	**Phenanthrene**	**13**	**ug/L**		10/31/14	50
129000	**Pyrene**	**2.2**	**ug/L**		10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	79	%Rec		10/29/14	1
1718510	Terphenyl-d14	80	%Rec		10/29/14	1

Sample : 14424106

Information : CW05-1014
Matrix : Water
Collected : 10/21/2014 11:25:00AM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
86737	**9H-Fluorene**	**55**	**ug/L**		10/31/14	50
83329	**Acenaphthene**	**170**	**ug/L**		10/31/14	50
208968	**Acenaphthylene**	**2.6**	**ug/L**		10/29/14	1
120127	**Anthracene**	**3.7**	**ug/L**		10/31/14	50
56553	**Benzo(a)anthracene**	**0.18**	**ug/L**		10/29/14	1
50328	Benzo(a)pyrene	0.029	ug/L	U	10/29/14	1
191242	Benzo(g,h,i)perylene	0.029	ug/L	U	10/29/14	1
205992	**Benzo[b]Fluoranthene**	**0.048**	**ug/L**		10/29/14	1
207089	Benzo[k]fluoranthene	0.029	ug/L	U	10/29/14	1
218019	**Chrysene**	**0.10**	**ug/L**		10/29/14	1
53703	Dibenzo[a,h]anthracene	0.029	ug/L	U	10/29/14	1
206440	**Fluoranthene**	**4.5**	**ug/L**		10/31/14	50
193395	Indeno(1,2,3-cd)pyrene	0.029	ug/L	U	10/29/14	1
91203	**Naphthalene**	**450**	**ug/L**		10/31/14	200
91576	**Naphthalene, 2-methyl-**	**0.16**	**ug/L**		10/29/14	1
85018	**Phenanthrene**	**44**	**ug/L**		10/31/14	50
129000	**Pyrene**	**2.9**	**ug/L**		10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	88	%Rec		10/29/14	1
1718510	Terphenyl-d14	85	%Rec		10/29/14	1

Sample : 14424107

Information : MW50-1014
Matrix : Water
Collected : 10/21/2014 10:00:00AM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
86737	**9H-Fluorene**	**61**	**ug/L**		10/31/14	50
83329	**Acenaphthene**	**180**	**ug/L**		10/31/14	50
208968	**Acenaphthylene**	**2.3**	**ug/L**		10/29/14	1
120127	**Anthracene**	**4.4**	**ug/L**		10/31/14	50
56553	**Benzo(a)anthracene**	**0.19**	**ug/L**		10/29/14	1
50328	Benzo(a)pyrene	0.029	ug/L	U	10/29/14	1
191242	Benzo(g,h,i)perylene	0.029	ug/L	U	10/29/14	1
205992	**Benzo[b]Fluoranthene**	**0.042**	**ug/L**		10/29/14	1
207089	Benzo[k]fluoranthene	0.029	ug/L	U	10/29/14	1
218019	**Chrysene**	**0.061**	**ug/L**		10/29/14	1
53703	Dibenzo[a,h]anthracene	0.029	ug/L	U	10/29/14	1
206440	**Fluoranthene**	**4.6**	**ug/L**		10/31/14	50
193395	Indeno(1,2,3-cd)pyrene	0.029	ug/L	U	10/29/14	1
91203	**Naphthalene**	**820**	**ug/L**		11/ 3/14	500
91576	**Naphthalene, 2-methyl-**	**2.3**	**ug/L**		10/29/14	1
85018	**Phenanthrene**	**47**	**ug/L**		10/31/14	50
129000	**Pyrene**	**3.0**	**ug/L**		10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	85	%Rec		10/29/14	1
1718510	Terphenyl-d14	84	%Rec		10/29/14	1

Sample : 14424108

Information : P4L-1014
Matrix : Water
Collected : 10/20/2014 4:20:00PM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
86737	**9H-Fluorene**	**0.089**	**ug/L**		10/31/14	1
83329	Acenaphthene	0.029	ug/L	U	10/31/14	1
208968	Acenaphthylene	0.029	ug/L	U	10/31/14	1
120127	Anthracene	0.029	ug/L	U	10/31/14	1
56553	Benzo(a)anthracene	0.029	ug/L	U	10/31/14	1
50328	Benzo(a)pyrene	0.029	ug/L	U	10/31/14	1
191242	Benzo(g,h,i)perylene	0.029	ug/L	U	10/31/14	1
205992	Benzo[b]Fluoranthene	0.029	ug/L	U	10/31/14	1
207089	Benzo[k]fluoranthene	0.029	ug/L	U	10/31/14	1
218019	Chrysene	0.029	ug/L	U	10/31/14	1
53703	Dibenzo[a,h]anthracene	0.029	ug/L	U	10/31/14	1
206440	**Fluoranthene**	**0.060**	**ug/L**		10/31/14	1
193395	Indeno(1,2,3-cd)pyrene	0.029	ug/L	U	10/31/14	1
91203	**Naphthalene**	**0.031**	**ug/L**		10/31/14	1
91576	Naphthalene, 2-methyl-	0.029	ug/L	U	10/31/14	1
85018	**Phenanthrene**	**0.088**	**ug/L**		10/31/14	1
129000	**Pyrene**	**0.036**	**ug/L**		10/31/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	95	%Rec		10/31/14	1
1718510	Terphenyl-d14	88	%Rec		10/31/14	1

Sample : 14424109

Information : 99CDMW02-1014
Matrix : Water
Collected : 10/21/2014 2:45:00PM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
86737	9H-Fluorene	0.029	ug/L	U	10/29/14	1
83329	Acenaphthene	0.029	ug/L	U	10/29/14	1
208968	Acenaphthylene	0.029	ug/L	U	10/29/14	1
120127	Anthracene	0.029	ug/L	U	10/29/14	1
56553	Benzo(a)anthracene	0.029	ug/L	U	10/29/14	1
50328	Benzo(a)pyrene	0.029	ug/L	U	10/29/14	1
191242	Benzo(g,h,i)perylene	0.029	ug/L	U	10/29/14	1
205992	Benzo[b]Fluoranthene	0.029	ug/L	U	10/29/14	1
207089	Benzo[k]fluoranthene	0.029	ug/L	U	10/29/14	1
218019	Chrysene	0.029	ug/L	U	10/29/14	1
53703	Dibenzo[a,h]anthracene	0.029	ug/L	U	10/29/14	1
206440	Fluoranthene	0.029	ug/L	U	10/29/14	1
193395	Indeno(1,2,3-cd)pyrene	0.029	ug/L	U	10/29/14	1
91203	**Naphthalene**	**0.16**	**ug/L**		10/29/14	1
91576	Naphthalene, 2-methyl-	0.029	ug/L	U	10/29/14	1
85018	**Phenanthrene**	**0.049**	**ug/L**		10/29/14	1
129000	Pyrene	0.029	ug/L	U	10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	78	%Rec		10/29/14	1
1718510	Terphenyl-d14	79	%Rec		10/29/14	1

Sample : 14424110

Information : VG4L-1014
Matrix : Water
Collected : 10/21/2014 2:55:00PM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
86737	9H-Fluorene	0.031	ug/L	U	10/29/14	1
83329	Acenaphthene	0.031	ug/L	U	10/29/14	1
208968	Acenaphthylene	0.031	ug/L	U	10/29/14	1
120127	Anthracene	0.031	ug/L	U	10/29/14	1
56553	Benzo(a)anthracene	0.031	ug/L	U	10/29/14	1
50328	Benzo(a)pyrene	0.031	ug/L	U	10/29/14	1
191242	Benzo(g,h,i)perylene	0.031	ug/L	U	10/29/14	1
205992	Benzo[b]Fluoranthene	0.031	ug/L	U	10/29/14	1
207089	Benzo[k]fluoranthene	0.031	ug/L	U	10/29/14	1
218019	Chrysene	0.031	ug/L	U	10/29/14	1
53703	Dibenzo[a,h]anthracene	0.031	ug/L	U	10/29/14	1
206440	Fluoranthene	0.031	ug/L	U	10/29/14	1
193395	Indeno(1,2,3-cd)pyrene	0.031	ug/L	U	10/29/14	1
91203	**Naphthalene**	**0.035**	**ug/L**		10/29/14	1
91576	Naphthalene, 2-methyl-	0.031	ug/L	U	10/29/14	1
85018	Phenanthrene	0.031	ug/L	U	10/29/14	1
129000	Pyrene	0.031	ug/L	U	10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	79	%Rec		10/29/14	1
1718510	Terphenyl-d14	74	%Rec		10/29/14	1

Sample : 14424111

Information : VG5L-1014
Matrix : Water
Collected : 10/21/2014 4:05:00PM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
86737	9H-Fluorene	0.029	ug/L	U	10/29/14	1
83329	Acenaphthene	0.029	ug/L	U	10/29/14	1
208968	Acenaphthylene	0.029	ug/L	U	10/29/14	1
120127	Anthracene	0.029	ug/L	U	10/29/14	1
56553	Benzo(a)anthracene	0.029	ug/L	U	10/29/14	1
50328	Benzo(a)pyrene	0.029	ug/L	U	10/29/14	1
191242	Benzo(g,h,i)perylene	0.029	ug/L	U	10/29/14	1
205992	Benzo[b]Fluoranthene	0.029	ug/L	U	10/29/14	1
207089	Benzo[k]fluoranthene	0.029	ug/L	U	10/29/14	1
218019	Chrysene	0.029	ug/L	U	10/29/14	1
53703	Dibenzo[a,h]anthracene	0.029	ug/L	U	10/29/14	1
206440	Fluoranthene	0.029	ug/L	U	10/29/14	1
193395	Indeno(1,2,3-cd)pyrene	0.029	ug/L	U	10/29/14	1
91203	**Naphthalene**	**0.14**	**ug/L**		10/29/14	1
91576	Naphthalene, 2-methyl-	0.029	ug/L	U	10/29/14	1
85018	Phenanthrene	0.029	ug/L	U	10/29/14	1
129000	Pyrene	0.029	ug/L	U	10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	86	%Rec		10/29/14	1
1718510	Terphenyl-d14	82	%Rec		10/29/14	1

Sample : 14424112

Information : PZ11-1014
Matrix : Water
Collected : 10/22/2014 10:20:00AM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
86737	**9H-Fluorene**	**2.4**	**ug/L**		10/29/14	1
83329	**Acenaphthene**	**10**	**ug/L**		10/31/14	50
208968	**Acenaphthylene**	**0.46**	**ug/L**		10/29/14	1
120127	**Anthracene**	**0.26**	**ug/L**		10/29/14	1
56553	Benzo(a)anthracene	0.029	ug/L	U	10/29/14	1
50328	Benzo(a)pyrene	0.029	ug/L	U	10/29/14	1
191242	Benzo(g,h,i)perylene	0.029	ug/L	U	10/29/14	1
205992	Benzo[b]Fluoranthene	0.029	ug/L	U	10/29/14	1
207089	Benzo[k]fluoranthene	0.029	ug/L	U	10/29/14	1
218019	Chrysene	0.029	ug/L	U	10/29/14	1
53703	Dibenzo[a,h]anthracene	0.029	ug/L	U	10/29/14	1
206440	Fluoranthene	0.029	ug/L	U	10/29/14	1
193395	Indeno(1,2,3-cd)pyrene	0.029	ug/L	U	10/29/14	1
91203	**Naphthalene**	**57**	**ug/L**		10/31/14	50
91576	**Naphthalene, 2-methyl-**	**0.049**	**ug/L**		10/29/14	1
85018	**Phenanthrene**	**0.28**	**ug/L**		10/29/14	1
129000	Pyrene	0.029	ug/L	U	10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	81	%Rec		10/29/14	1
1718510	Terphenyl-d14	81	%Rec		10/29/14	1

Sample : 14424103 Matrix Spike

Information : MW80-1014
Matrix : Water
Collected : 10/20/2014 3:00:00PM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
86737	9H-Fluorene			NA	10/29/14	1
83329	Acenaphthene			NA	10/29/14	1
208968	Acenaphthylene	85	%Rec		10/29/14	1
120127	Anthracene	97	%Rec		10/29/14	1
56553	Benzo(a)anthracene	112	%Rec		10/29/14	1
50328	Benzo(a)pyrene	98	%Rec		10/29/14	1
191242	Benzo(g,h,i)perylene	82	%Rec		10/29/14	1
205992	Benzo[b]Fluoranthene	90	%Rec		10/29/14	1
207089	Benzo[k]fluoranthene	83	%Rec		10/29/14	1
218019	Chrysene	95	%Rec		10/29/14	1
53703	Dibenzo[a,h]anthracene	82	%Rec		10/29/14	1
206440	Fluoranthene			NA	10/29/14	1
193395	Indeno(1,2,3-cd)pyrene	89	%Rec		10/29/14	1
91203	Naphthalene			NA	10/29/14	1
91576	Naphthalene, 2-methyl-			NA	10/29/14	1
85018	Phenanthrene			NA	10/29/14	1
129000	Pyrene	108	%Rec		10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	64	%Rec		10/29/14	1
1718510	Terphenyl-d14	77	%Rec		10/29/14	1

Sample : 14424104 Matrix Spike

Information : CW15-1014
Matrix : Water
Collected : 10/21/2014 11:35:00AM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
86737	9H-Fluorene			NA	10/29/14	1
83329	Acenaphthene			NA	10/29/14	1
208968	Acenaphthylene	91	%Rec		10/29/14	1
120127	Anthracene			NA	10/29/14	1
56553	Benzo(a)anthracene	100	%Rec		10/29/14	1
50328	Benzo(a)pyrene	90	%Rec		10/29/14	1
191242	Benzo(g,h,i)perylene	85	%Rec		10/29/14	1
205992	Benzo[b]Fluoranthene	82	%Rec		10/29/14	1
207089	Benzo[k]fluoranthene	71	%Rec		10/29/14	1
218019	Chrysene	77	%Rec		10/29/14	1
53703	Dibenzo[a,h]anthracene	88	%Rec		10/29/14	1
206440	Fluoranthene			NA	10/29/14	1
193395	Indeno(1,2,3-cd)pyrene	91	%Rec		10/29/14	1
91203	Naphthalene	83	%Rec		10/29/14	1
91576	Naphthalene, 2-methyl-	77	%Rec		10/29/14	1
85018	Phenanthrene	110	%Rec		10/29/14	1
129000	Pyrene			NA	10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	82	%Rec		10/29/14	1
1718510	Terphenyl-d14	83	%Rec		10/29/14	1

Sample : 14424103 Matrix Spike#2

Information : MW80-1014
Matrix : Water
Collected : 10/20/2014 3:00:00PM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
86737	9H-Fluorene			NA	10/29/14	1
83329	Acenaphthene			NA	10/29/14	1
208968	Acenaphthylene	97	%Rec		10/29/14	1
120127	Anthracene	105	%Rec		10/29/14	1
56553	Benzo(a)anthracene	122	%Rec		10/29/14	1
50328	Benzo(a)pyrene	105	%Rec		10/29/14	1
191242	Benzo(g,h,i)perylene	88	%Rec		10/29/14	1
205992	Benzo[b]Fluoranthene	97	%Rec		10/29/14	1
207089	Benzo[k]fluoranthene	88	%Rec		10/29/14	1
218019	Chrysene	105	%Rec		10/29/14	1
53703	Dibenzo[a,h]anthracene	87	%Rec		10/29/14	1
206440	Fluoranthene			NA	10/29/14	1
193395	Indeno(1,2,3-cd)pyrene	93	%Rec		10/29/14	1
91203	Naphthalene			NA	10/29/14	1
91576	Naphthalene, 2-methyl-			NA	10/29/14	1
85018	Phenanthrene			NA	10/29/14	1
129000	Pyrene	117	%Rec		10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	80	%Rec		10/29/14	1
1718510	Terphenyl-d14	82	%Rec		10/29/14	1

Sample : 14424104 Matrix Spike#2

Information : CW15-1014
Matrix : Water
Collected : 10/21/2014 11:35:00AM

Parameter : PAH
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
86737	9H-Fluorene	94	%Rec		10/29/14	1
83329	Acenaphthene			NA	10/29/14	1
208968	Acenaphthylene	79	%Rec		10/29/14	1
120127	Anthracene			NA	10/29/14	1
56553	Benzo(a)anthracene	71	%Rec		10/29/14	1
50328	Benzo(a)pyrene	78	%Rec		10/29/14	1
191242	Benzo(g,h,i)perylene	77	%Rec		10/29/14	1
205992	Benzo[b]Fluoranthene	65	%Rec		10/29/14	1
207089	Benzo[k]fluoranthene	64	%Rec		10/29/14	1
218019	Chrysene	53	%Rec		10/29/14	1
53703	Dibenzo[a,h]anthracene	80	%Rec		10/29/14	1
206440	Fluoranthene			NA	10/29/14	1
193395	Indeno(1,2,3-cd)pyrene	82	%Rec		10/29/14	1
91203	Naphthalene	75	%Rec		10/29/14	1
91576	Naphthalene, 2-methyl-	81	%Rec		10/29/14	1
85018	Phenanthrene	84	%Rec		10/29/14	1
129000	Pyrene			NA	10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	72	%Rec		10/29/14	1
1718510	Terphenyl-d14	75	%Rec		10/29/14	1

Sample : 85W102414B1 Blank

Information : Blank

Matrix : Liquid

Parameter : PAH

Prep Method: 3535A - Solid Phase Extraction

Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
86737	9H-Fluorene	0.031	ug/L	U	10/29/14	1
83329	Acenaphthene	0.031	ug/L	U	10/29/14	1
208968	Acenaphthylene	0.031	ug/L	U	10/29/14	1
120127	Anthracene	0.031	ug/L	U	10/29/14	1
56553	Benzo(a)anthracene	0.031	ug/L	U	10/29/14	1
50328	Benzo(a)pyrene	0.031	ug/L	U	10/29/14	1
191242	Benzo(g,h,i)perylene	0.031	ug/L	U	10/29/14	1
205992	Benzo[b]Fluoranthene	0.031	ug/L	U	10/29/14	1
207089	Benzo[k]fluoranthene	0.031	ug/L	U	10/29/14	1
218019	Chrysene	0.031	ug/L	U	10/29/14	1
53703	Dibenzo[a,h]anthracene	0.031	ug/L	U	10/29/14	1
206440	Fluoranthene	0.031	ug/L	U	10/29/14	1
193395	Indeno(1,2,3-cd)pyrene	0.031	ug/L	U	10/29/14	1
91203	Naphthalene	0.031	ug/L	U	10/29/14	1
91576	Naphthalene, 2-methyl-	0.031	ug/L	U	10/29/14	1
85018	Phenanthrene	0.031	ug/L	U	10/29/14	1
129000	Pyrene	0.031	ug/L	U	10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	83	%Rec		10/29/14	1
1718510	Terphenyl-d14	88	%Rec		10/29/14	1

Sample : 85W102414L1 Lab Control Std

Information : Lab Control Standard

Matrix : Liquid

Parameter : PAH

Prep Method: 3535A - Solid Phase Extraction

Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
86737	9H-Fluorene	87	%Rec		10/29/14	1
83329	Acenaphthene	85	%Rec		10/29/14	1
208968	Acenaphthylene	92	%Rec		10/29/14	1
120127	Anthracene	94	%Rec		10/29/14	1
56553	Benzo(a)anthracene	97	%Rec		10/29/14	1
50328	Benzo(a)pyrene	88	%Rec		10/29/14	1
191242	Benzo(g,h,i)perylene	88	%Rec		10/29/14	1
205992	Benzo[b]Fluoranthene	89	%Rec		10/29/14	1
207089	Benzo[k]fluoranthene	89	%Rec		10/29/14	1
218019	Chrysene	88	%Rec		10/29/14	1
53703	Dibenzo[a,h]anthracene	85	%Rec		10/29/14	1
206440	Fluoranthene	101	%Rec		10/29/14	1
193395	Indeno(1,2,3-cd)pyrene	86	%Rec		10/29/14	1
91203	Naphthalene	84	%Rec		10/29/14	1
91576	Naphthalene, 2-methyl-	90	%Rec		10/29/14	1
85018	Phenanthrene	89	%Rec		10/29/14	1
129000	Pyrene	97	%Rec		10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	80	%Rec		10/29/14	1
1718510	Terphenyl-d14	87	%Rec		10/29/14	1

Sample : 85W102414L2 Lab Control Std#2

Information : Lab Control Standard Dup.

Matrix : Liquid

Parameter : PAH

Prep Method: 3535A - Solid Phase Extraction

Analysis Method: 8270D - Semivolatiles by GC/MS

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
86737	9H-Fluorene	90	%Rec		10/29/14	1
83329	Acenaphthene	88	%Rec		10/29/14	1
208968	Acenaphthylene	95	%Rec		10/29/14	1
120127	Anthracene	96	%Rec		10/29/14	1
56553	Benzo(a)anthracene	97	%Rec		10/29/14	1
50328	Benzo(a)pyrene	87	%Rec		10/29/14	1
191242	Benzo(g,h,i)perylene	87	%Rec		10/29/14	1
205992	Benzo[b]Fluoranthene	89	%Rec		10/29/14	1
207089	Benzo[k]fluoranthene	85	%Rec		10/29/14	1
218019	Chrysene	88	%Rec		10/29/14	1
53703	Dibenzo[a,h]anthracene	83	%Rec		10/29/14	1
206440	Fluoranthene	101	%Rec		10/29/14	1
193395	Indeno(1,2,3-cd)pyrene	82	%Rec		10/29/14	1
91203	Naphthalene	86	%Rec		10/29/14	1
91576	Naphthalene, 2-methyl-	87	%Rec		10/29/14	1
85018	Phenanthrene	91	%Rec		10/29/14	1
129000	Pyrene	98	%Rec		10/29/14	1
Surrogate Compounds:						
1499101	9,10 Diphenylanthracene	72	%Rec		10/29/14	1
1718510	Terphenyl-d14	76	%Rec		10/29/14	1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366

MEMORANDUM

SUBJECT:	Data Release for Pentachlorophenol Analysis Results from the USEPA Region 10 Laboratory
PROJECT NAME:	Wyckoff Eagle Harbor Groundwater (OU4) Project
PROJECT CODE:	WEH-016P
FROM:	Gerald Dodo, Supervisory Chemist Office of Environmental Assessment, USEPA Region 10 Laboratory
TO:	Howard Orlean, RPM Office of Environmental Cleanup, USEPA Region 10
CC:	Nicole Badon -CH2MHill Mark Cichy- CH2MHill

I have authorized release of this data package. Attached you will find the pentachlorophenol results for the Wyckoff Eagle Harbor Groundwater (OU4) Project for the samples collected from 10/20/2014 through 10/22/2014. For further information regarding the attached data, contact Dana Walker at 360-871-8704.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366

QUALITY ASSURANCE MEMORANDUM FOR ORGANIC CHEMICAL ANALYSES

Date: December 17, 2014

To: Helen Bottcher, Project Manager
Office of Environmental Cleanup, USEPA Region 10

From: Dana Walker, ESAT Project Officer
Office of Environmental Assessment, USEPA Region 10 Laboratory

Subject: Quality Assurance Review for the Pentachlorophenol Analysis of the Wyckoff Eagle Harbor Groundwater (OU4) Project

Project Code: WEH-016P
Account Code: 2015T10P303DD210W2LA00

CC: Nicole Badon -CH2MHill
Mark Cichy- CH2MHill

The following is a quality assurance review of the data for pentachlorophenol analysis of water samples from the above referenced site. The analyses were performed by the EPA Region 10 Laboratory ESAT contractor using modified EPA SW846 methods 3535 and 8041. Note that compliance samples have differing QC requirements that are noted throughout the QA memo as appropriate.

This review was conducted for the following samples:

14424100	14424101	14424102	14424103	14424104	14424105
14424106	14424107	14424108	14424109	14424110	14424111
14424112					

1. Data Qualifications

Comments below refer to the quality control specifications outlined in the Laboratory's current Quality Assurance Manual, Standard Operating Procedures (SOPs) and the Quality Assurance Project Plan (QAPP). No excursions were required from the method Standard Operating Procedure.

The quality control measures which did not meet Laboratory/QAPP criteria are annotated in the title of each affected subsection with "*Laboratory/QAPP Criteria Not Met*".

All measures of quality control met Laboratory/QAPP criteria with the exceptions noted below.

For those tests for which the EPA Region 10 Laboratory has been accredited by The NELAC Institute (TNI), all requirements of the current TNI Standard have been met.

2. Sample Transport and Receipt

Upon sample receipt, no conditions were noted that would impact data quality.

3. Sample Holding Times

The concentration of an analyte in a sample or extract of a sample may increase or decrease over time depending on the nature of the analyte. The holding time maximum criteria applied for the extraction of water samples is 7 days from the time of collection. Extracts have a holding time maximum of 40 days from the time of preparation. All samples were extracted and analyzed within these criteria.

4. Sample Preparation

Samples were prepared according to the method.

5. Initial Calibration/Continuing Calibration Verification (CCV)

Initial calibration was performed on 10/08/2014. Percent relative standard deviations (RSDs) of the calibration factors met the criteria of ≤20% or correlation coefficients met the criteria of ≥0.99.

The CCV met the criteria for frequency of analysis and relative retention time (RRT) windows. The percent accuracies met the criteria of 65-135% of the true value.

6. Laboratory Control Samples/Laboratory Control Sample Duplicates (LCS/LCSD)

LCS/LCSD are generated to provide information on the accuracy and precision of the analytical method and the laboratory performance. The LCS/LCSD recoveries were within the criteria of 65-135% with a relative percent difference (RPD) of ≤35.

7. Blank Analysis

Method blanks were analyzed with each sample batch to evaluate the potential for laboratory contamination and effects on the sample results. Target analytes were not detected in method blanks.

8. Surrogate Spikes

Surrogate recoveries are used to help in the evaluation of laboratory performance on individual samples. The surrogate compound used for these analyses was 2,4,6-tribromophenol. All surrogate results were within the 65-135% recovery limit.

9. Matrix Spike/Matrix Spike Duplicate Analysis (MS/MSD)

MS/MSD analyses are performed to provide information on the effects of sample matrices toward the analytical method. An MS/MSD analysis was run on samples 14424103 and 14424104. Recoveries were within the 65-135% window with RPDs <35%.

10. Compound Quantitation

The initial calibration functions were used for calculations. Reported quantitation limits were based on the initial calibration standards and sample size used for the analysis.

All manual integrations have been reviewed and found to comply with acceptable integration practices.

11. Identification

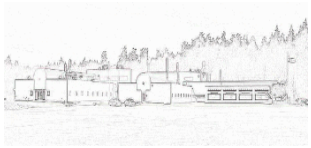
Pentachlorophenol and the surrogate were identified based on chromatographic retention times of two dissimilar gas chromatography columns as determined from the initial calibration.

12. Data Qualifiers

All requirements for data qualifiers from the preceding sections were accumulated. Each sample data summary sheet and each compound was checked for positive or negative results. From this, the overall need for data qualifiers for each analysis was determined. In cases where more than one of the preceding sections required data qualifiers, the most restrictive qualifier has been added to the data.

The usefulness of qualified data should be treated according to the severity of the qualifier in light of the project's data quality objectives. Should questions arise regarding the data, contact Dana Walker at the Region 10 Laboratory, phone number (360)871-8704.

Qualifier	Definition
U	The analyte was not detected at or above the reported value.
J	The identification of the analyte is acceptable; the reported value is an estimate.
UJ	The analyte was not detected at or above the reported value. The reported value is an estimate.
R	The presence or absence of the analyte can not be determined from the data due to severe quality control problems. The data are rejected and considered unusable. No value is reported with this qualification.
NA	Not Applicable, the parameter was not analyzed for, or there is no analytical result for this parameter. No value is reported with this qualification.



US EPA Region 10 Laboratory

Multi-Analyte Final Report

Project Code : WEH-016P
Site : WYCKOFF EAGLE HARBOR GROUND WATER: OU4
Contact : Helen Bottcher
Account : 2015T10P303DD210W2LA00

Sample : 14424100

Information : VG1L-1014
Matrix : Water
Collected : 10/20/2014 11:05:00AM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
87865	Pentachlorophenol	0.074	ug/L	U	10/28/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	95	%Rec		10/28/14	1

Sample : 14424101

Information : CW09-1014
Matrix : Water
Collected : 10/20/2014 11:55:00AM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
87865	Pentachlorophenol	0.074	ug/L	U	10/28/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	98	%Rec		10/28/14	1

Sample : 14424102

Information : VG2L-1014
Matrix : Water
Collected : 10/20/2014 12:40:00PM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
87865	Pentachlorophenol	0.074	ug/L	U	10/28/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	99	%Rec		10/28/14	1

Sample : 14424103

Information : MW80-1014
Matrix : Water
Collected : 10/20/2014 3:00:00PM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
87865	Pentachlorophenol	0.17	ug/L	U	10/28/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	91	%Rec		10/28/14	1

Sample : 14424104

Information : CW15-1014
Matrix : Water
Collected : 10/21/2014 11:35:00AM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
87865	Pentachlorophenol	0.074	ug/L	U	11/ 3/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	92	%Rec		11/ 3/14	1

Sample : 14424105

Information : P3L-1014
Matrix : Water
Collected : 10/20/2014 2:00:00PM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
87865	Pentachlorophenol	0.074	ug/L	U	11/ 3/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	83	%Rec		11/ 3/14	1

Sample : 14424106

Information : CW05-1014
Matrix : Water
Collected : 10/21/2014 11:25:00AM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
87865	Pentachlorophenol	0.074	ug/L	U	11/ 3/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	77	%Rec		11/ 3/14	1

Sample : 14424107

Information : MW50-1014
Matrix : Water
Collected : 10/21/2014 10:00:00AM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
87865	**Pentachlorophenol**	**0.54**	**ug/L**		11/ 3/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	83	%Rec		11/ 3/14	1

Sample : 14424108

Information : P4L-1014
Matrix : Water
Collected : 10/20/2014 4:20:00PM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
87865	Pentachlorophenol	0.074	ug/L	U	11/ 3/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	101	%Rec		11/ 3/14	1

Sample : 14424109

Information : 99CDMW02-1014
Matrix : Water
Collected : 10/21/2014 2:45:00PM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
87865	Pentachlorophenol	0.074	ug/L	U	11/ 3/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	102	%Rec		11/ 3/14	1

Sample : 14424110

Information : VG4L-1014
Matrix : Water
Collected : 10/21/2014 2:55:00PM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
87865	Pentachlorophenol	0.079	ug/L	U	11/ 3/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	101	%Rec		11/ 3/14	1

Sample : 14424111

Information : VG5L-1014
Matrix : Water
Collected : 10/21/2014 4:05:00PM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
87865	Pentachlorophenol	0.074	ug/L	U	11/ 3/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	107	%Rec		11/ 3/14	1

Sample : 14424112

Information : PZ11-1014
Matrix : Water
Collected : 10/22/2014 10:20:00AM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
87865	Pentachlorophenol	0.074	ug/L	U	11/ 3/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	104	%Rec		11/ 3/14	1

Sample : 14424103 Matrix Spike

Information : MW80-1014
Matrix : Water
Collected : 10/20/2014 3:00:00PM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
87865	Pentachlorophenol	72	%Rec		10/28/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	100	%Rec		10/28/14	1

Sample : 14424104 Matrix Spike

Information : CW15-1014
Matrix : Water
Collected : 10/21/2014 11:35:00AM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
87865	Pentachlorophenol	77	%Rec		11/ 3/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	91	%Rec		11/ 3/14	1

Sample : 14424103 Matrix Spike#2

Information : MW80-1014
Matrix : Water
Collected : 10/20/2014 3:00:00PM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
87865	Pentachlorophenol	77	%Rec		10/28/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	107	%Rec		10/28/14	1

Sample : 14424104 Matrix Spike#2

Information : CW15-1014
Matrix : Water
Collected : 10/21/2014 11:35:00AM

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
87865	Pentachlorophenol	78	%Rec		11/ 3/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	89	%Rec		11/ 3/14	1

Sample : 85W102414B1 Blank

Information : Blank
Matrix : Liquid

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Target Analyte Results:						
87865	Pentachlorophenol	0.080	ug/L	U	10/28/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	92	%Rec		10/28/14	1

Sample : 85W102414L1 Lab Control Std

Information : Lab Control Standard
Matrix : Liquid

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
87865	Pentachlorophenol	88	%Rec		10/28/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	92	%Rec		10/28/14	1

Sample : 85W102414L2 Lab Control Std#2

Information : Lab Control Standard Dup.
Matrix : Liquid

Parameter : PCP
Prep Method: 3535A - Solid Phase Extraction
Analysis Method: 8041A - Phenols by GC/ECD

Analyte Code	Analyte Name	Result	Unit	Qual.	Analysis Date	Dilution
Spiked Compounds:						
87865	Pentachlorophenol	88	%Rec		10/28/14	1
Surrogate Compounds:						
118796	Phenol, 2,4,6-tribromo	90	%Rec		10/28/14	1