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New York State Department of Environmental Conservation

Site Number 7-04-009A

Vestal Water Supply Site Quarterly Report and Annual Groundwater Monitoring Summary

Third Quarter 2012

February 2013

ARCADIS

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Staff Geologist

Vestal Water Supply Site Quarterly Report and Annual Groundwater Monitoring Summary

Site Number 7-04-009A

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New York State Department of Environmental Conservation

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Our Ref.:
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Date:
February 2013

ARCADIS

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1. Introduction

The New York State Department of Environmental Conservation (NYSDEC) has issued a Work Assignment (# D007618-7) to ARCADIS / Malcolm Pirnie, Inc. (Malcolm Pirnie) for Operation, Maintenance, and Monitoring at the Vestal Water Supply Site in New York State (Site # 7-04-009A). Malcolm Pirnie has prepared this Quarterly Report and Annual Groundwater Monitoring Summary in accordance with the NYSDEC-approved Work Plan to summarize site activities.

2. Site Description

The Vestal Water Supply (Site 1-1) Site is located on Pumphouse Road, Vestal, Broome County, New York (Figure 2-1), along the southern bank of the Susquehanna River. Well 1-1 is located just south of the Susquehanna River and northwest of an industrial park located along Stage Road. Until 1980, Well 1-1 was the main source of water for Water District 1, which provides drinking water for several areas of the Town of Vestal. Currently, there are two other production wells, Wells 1-2A and 1-3 that function as the main source of water for Water District 1. Well 1-1A was installed in 1993 to replace Well 1-1 and is currently being used to pump and treat groundwater, which is then discharged to the Susquehanna River.

3. Operation and Maintenance

Malcolm Pirnie has maintained continuous operation of the groundwater treatment plant at the Vestal Water Supply Site. This includes the operation, maintenance, and influent/effluent sampling in accordance with the operations and maintenance (O&M) manual (Final Operation and Maintenance Manual, Long-Term Response, Operable Unit 1, Vestal Well 1-1 Site, Vestal, New York) (Tetra Tech EC, Inc., 2006) (Final O&M Manual). However, as indicated in the Work Assignment, no work was performed on the Vestal Water Supply (Site 1-1) soil vapor extraction system.

As part of managing the Vestal Water Supply Site, Malcolm Pirnie has a subcontract with Environmental Compliance, Inc. (ECI), who has unique knowledge of operating the groundwater treatment plant. ECI provides materials, labor, equipment, and supervision to maintain continuous operation of the groundwater treatment plant.

3.1 Variable Frequency Drive

A variable frequency drive (VFD) was installed in February 2009 to provide soft-start operation for the Well 1-1A replacement well pump motor and reduced torque on the Certa-Lock® PVC drop pipe. The VFD also provides energy savings by allowing the well pump motor to be operated at a reduced speed. Compared to the full load rating of the pump motor and at the estimated energy cost of $0.083 per kilo-watt (KW), the VFD, at the current setting of 51 hertz, has the potential to provide an estimated annual energy cost savings up to $9,000.

3.2 Flow Meter

As discussed in the Third and Fourth Quarter 2010 Quarterly Report (Malcolm Pirnie, 2010a) the digital flow meter readings for Well 1-1A may be understated and the ECI Monthly Reports and System O&M Logs presented estimated adjusted values. The estimated adjusted flow values for July through December 2010 were calculated by adding an additional 150 gallons per minute (GPM) to the flow displayed on the digital flow meter. The adjustment value was based on the difference between the flow calculated using the manufacturer's pump performance curve, system operating pressure, and pumping level compared to the reading on the digital flow meter. Following discussions with ECI in April 2011, and to be consistent with historical reporting formats, the Monthly Reports and System O&M logs will no longer present the adjusted flow values. Therefore, the flow measurements presented in the Monthly

Report and System O&M Logs (Appendix A) are direct readings from the digital flow meter.

3.3 Discharge Orifice

A temporary circular weir orifice (orifice) was installed in the discharge outlet for the Well 1-1A treatment plant on July 18, 2012 as a means to provide a better estimate of flow through the treatment plant. Flow data measured from the orifice will be used to support the pending NYSDEC Remedial System Optimization (RSO) evaluation.

3.3.1 Orifice Configuration

The orifice was constructed using a 6 inch inside-diameter (ID) orifice inserted into a 10 inch ID PVC outlet pipe. As shown in the photographs Appendix B, the orifice was installed at the discharge outlet structure for the treatment plant. The orifice outlet pipe was sealed to the outlet structure using hydraulic cement. As shown in Appendix B, a clear piezometer tube is used to measure the height of water column (head) in the orifice outlet pipe. Flow through the orifice is calculated using the following equation from Driscoll, 1986:

$$\boldsymbol{Q = CA\sqrt{2gh}}$$

Where:

Q = Flow (gallons per minute),

C = Correction factor based on diameter of the orifice and orifice discharge pipe,

A = Area of orifice in square inches,

g = acceleration due to gravity (feet per second squared), and

h = height of water (inches) in the piezometer tube

3.3.2 Flow Readings

Based on field measurements of flow using the orifice, the average discharge rate from the Well 1-1A treatment on July 18, 2011 was approximately 350 GPM. This measurement coincides to a digital flow meter reading of 150 GPM. Therefore, as

indicated in Section 3.2, the total flow through the Well 1-1A treatment plant is being under-reported.

3.4 System Operation

As indicated in the ECI Monthly Reports and O&M Logs, the groundwater treatment system was out of service for approximately two days in July and six days in August due to electrical problems caused by defective transformer for the air stripper blower motor. The transformer was replaced by Aztech Technologies on August 6, 2012 and treatment plant operation was restored.

Table 3-1 and Figure 3-1 summarize groundwater treatment system flow rates from the Monthly Reports and System O&M Logs. As shown in Table 3-1, the groundwater treatment system flow rate for Well 1-1A decreased slightly from an average of 151 gallons per minute (GPM) in July, 2012 to an average of 147 GPM in September 2012. As shown on Table 3-1, approximately 17,820,000 gallons of water were treated during the third quarter 2012 operating period.

3.5 Influent – Effluent Sampling

Third quarter 2012 influent and effluent groundwater samples were collected from the Well 1-1A treatment system in accordance with the Work Plan. Influent and effluent groundwater samples were sent to TestAmerica Laboratories following chain-of-custody protocols for analysis of volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260B. The laboratory analytical reporting forms are provided in Appendix C. The laboratory analytical data for the treatment plan samples are summarized in Tables 3-2 (influent VOCs) and Table 3-3 (effluent VOCs); Figure 3-2 presents the Well 1-1A treatment plant total influent VOC concentrations over time.

As shown in Table 3-2, influent sample concentrations of 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2 DCE), trichloroethene (TCE), and vinyl chloride (VC) are consistent with previous sampling results and exceed the corresponding NYSDEC Class GA Standards in each of the samples collected in the third quarter, 2012. Figure 3-2 shows that the total VOCs concentrations detected in the Well 1-1A influent samples are generally within the range of previous sampling events.

Table 3-3 shows that VOCs were not detected in any of the third quarter 2012 effluent samples.

Based on influent sample concentrations and total flow volumes from the Well 1-1A treatment system, approximately 43 pounds of VOCs were removed by the treatment system during the third quarter 2012 operating period. This quantity is the consistent with the second quarter 2012 removal mass of 43 pounds and within the range of VOC removal for the system.

4. Groundwater Monitoring

The Vestal Well 1-1A groundwater monitoring program evaluates groundwater quality, monitors contaminant migration in the groundwater at the site, and assesses hydrogeologic site conditions, including groundwater flow. Figure 4-1 shows the location of the groundwater monitoring wells. Third quarter groundwater monitoring program activities were conducted in accordance with the Work Plan between July 16 and 18, 2012.

4.1 Well Inspection

In 2007, several groundwater monitoring wells shown in the Final O&M Manual (Figure 1, Location of Wells) either could not be located or did not spatially correlate to wells found during the well inspection process. Therefore, each well located during the well inspection survey was subsequently located using a hand-held global positioning system (GPS) and given a new identification. Appendix D contains a list of the old and new well identifications and GPS coordinates for each well. This and future reports will refer to the new well identifications.

Existing on-site groundwater monitoring wells and piezometers were evaluated for integrity and suitability for groundwater monitoring and water levels. The condition of each well and piezometer was recorded on a well inspection form, provided in Appendix E. As shown on the well inspection forms, the integrity of each well and/or piezometer is generally acceptable except for Well 4009-6. The protective casing for this well is damaged.

4.2 Groundwater Flow

Prior to collecting groundwater samples, water levels were measured to the nearest hundredth of a foot and recorded on a groundwater level data form (Appendix F). Table 4-1 summarizes the groundwater levels and elevations from the site. As shown in Table 4-1, groundwater elevations in groundwater monitoring wells and piezometers screened in the shallow groundwater monitoring zone ranged from 800.81-feet above mean sea level (amsl) to 824.18-feet amsl; groundwater elevations in monitoring wells and piezometers screened in the deep groundwater monitoring zone ranged from 799.86-feet amsl to 801.24-feet amsl.

As shown in the groundwater elevation data presented in Table 4-1, the groundwater elevations in monitoring well clusters 4009-11/11A, 4009-12/12A, 4009-13/13A, and

4009-16/16A were higher in the shallow monitoring zone than in the deep monitoring zone (indicating a downward hydraulic gradient). The hydraulic gradients is likely due to the influence of the groundwater pumping wells (Well 1-1A, Well 1-2A, and Well 1-3).

Shallow and deep potentiometric surface maps are provided on Figure 4-2 and Figure 4-3, respectfully. As shown on Figure 4-2, the direction of groundwater flow in the shallow groundwater monitoring zone is generally northwest toward the Well 1-1A groundwater treatment plant. As shown on Figure 4-3, the direction of groundwater flow in the western area of the site is generally northwest, toward the Susquehanna River.

4.3 Groundwater Sampling

Groundwater samples were collected from 18 groundwater monitoring wells (4009-1 through 4009-11, 4009-11A, 4009-12, 4009-12A, 4009-13, 4009-13A, 4009-14, and 4009-15) using low-flow groundwater purging and sampling procedures in accordance with the Work Plan. Prior to collecting groundwater samples, pH, conductivity, turbidity, dissolved oxygen (DO), temperature, salinity, total dissolved solids (TDS), and oxidation-reduction potential (REDOX) were measured using a Horiba U-52 water quality meter and recorded on groundwater sampling purge logs. Groundwater sampling purge logs are presented in Appendix G.

Groundwater samples collected during the groundwater monitoring program were sent to TestAmerica – Buffalo by chain-of-custody procedures and analyzed for target compound list (TCL) VOCs by USEPA Method 8260. Samples collected from groundwater monitoring wells 4009-12, 4009-12A, 4009-13, and 4009-15 were also analyzed for target analyte list (TAL) metals by USEPA Method ILM05.3. Analytical data packages are provided in Appendix C.

Groundwater sampling results for the third quarter 2012 sampling event are summarized in Table 4-2 (VOCs) and Table 4-3 (Metals).

4.3.1 VOCs - Shallow Groundwater Monitoring Wells

As shown in Table 4-2, VOCs were detected at concentrations greater than the corresponding NYSDEC Class GA Standards in eight of the 13 groundwater samples collected from the shallow groundwater monitoring network. A summary of results for each of these wells is provided below:

4009-2

The sample from 4009-2 contained cis-1,2-DCE (37 ug/L) and VC (2 ug/L) greater than the corresponding NYSDEC Class GA Standards of 5ug/L and 2 ug/L, respectively. Table 4-2 shows that these results are consistent with historical groundwater sampling results from this well.

4009-3

Table 4-2 shows that 1,1,1-TCA (74 ug/L), 1,1-DCA (14 ug/L), cis-1,2 DCE (35 ug/L), and TCE (11 ug/L), and VC (70) ug/L were detected in the sample from 4009-3 above the NYSDEC Class GA Standard of 5 ug/L and 2 ug/L (VC), respectively. As shown in Table 4-2, the concentration of 1,1,1-TCA increased compared to the 2011 sample result (14 ug/L) but is within the range of 1,1,1-TCA reported in samples from this well.

4009-4

The sample from 4009-4 contained cis-1,2-DCE at a concentration of 31 ug/L which is greater than the corresponding NYSDEC Class GA Standards of 5ug/L. This was the only analyte to exceeded the applicable NYSDEC Standards at this location. Table 4-2 shows that the concentration of TCE (1.3 ug/L) decreased compared to the 2011 sample result (7.9 ug/L), below the NYSDEC Class GA Standard of 5 ug/L.

4009-5

The concentrations of VOCs in the sample from 4009-5 increased by an order of magnitude compared to the 2011 sample concentrations from this well. As shown in Table 4-2, the concentration of cis 1,2-DCE increased from 57 ug/L in 2011 to 250 ug/L in the July 2012 sample. The concentrations of TCE (29 ug/L) and VC (21 ug/L) are within the range of previous results. These results are greater than the applicable NYSDEC Class GA Standard for these compounds of 5 ug/L and 2 ug/L (VC), respectively.

4009-7

Table 4-2 shows that the concentrations of 1,1,1-TCA (7.3 ug/L), 1,1-DCA (17 ug/L), cis-1,2 DCE (120 ug/L), TCE (48 ug/L), and VC (81 ug/L) in the sample from 4009-7 exceeded the applicable NYSDEC Class GA Standards but decreased in magnitude

compared to the 2011 sample results from this well. Table 4-2 shows that these results are within the range of historic results reported from samples at this location.

4009-8

As shown in Table 4-2, the sample from 4009-8 contained total VOCs concentration of 2,510 ug/L. This is the highest concentration reported from this well since the June 2000 concentration of 4,154 ug/L (Tetra Tech, 2006). As shown in Table 4-2, the July 2012 sample contained 1,1,1-TCA (1,300 ug/L), 1,1-DCA (61 ug/L), 1,1 DCE (83 ug/L), benzene (1 ug/L), chloroethane (9.2 ug/L), cis-1,2 DCE (440 ug/L), TCE (580 ug/L), and VC (27 ug/L). These results exceeded the NYSDEC Standards of 5 ug/l, 2 ug/L (VC), and 1 ug/L (benzene), respectively.

4009-9

The sample collected from 4009-9 contained cis-1,2 DCE at a concentration of 13 ug/L which is greater than the corresponding NYSDEC Class GA Standard of 5ug/L. As shown in Table 4-2, this result is consistent with previous concentrations reported in samples from this well.

4009-12A

Table 4-2 shows that the concentrations of 1,1,1-TCA (7.7 ug/L), 1,1-DCA (8.3 ug/L), cis-1,2 DCE (17 ug/L), and TCE (5.2 ug/L) in the sample from 4009-12A exceeded the corresponding NYSDEC Class GA Standard of 5 ug/L. As shown in Table 4-2, these concentrations are consistent with the range of previous results from samples collected from this well.

As shown in Table 4-2, VOCs were either not detected, or detected at concentrations below the applicable NYSDEC Class GA Standard in samples collected from the remainder of wells in the shallow groundwater monitoring network (4009-1, 4009-6, 4009-10, 4009-11A, and 4009-13A.

One duplicate sample (4009-X) was collected from monitoring well 4009-8 and submitted as a laboratory quality assurance/quality control check. As shown in Table 4-2, the concentrations of VOCs in these samples correlate well.

Figure 4-4 shows the horizontal distribution of total VOC concentrations from shallow monitoring well network. As shown on Figure 4-4, the greatest concentrations of total

VOCs were detected in the samples from shallow groundwater monitoring wells 4009-3 (205 µg/L), 4009-7 (279 µg/L), and 4009-8 (2,510 µg/L). Figure 4-5 shows the total VOCs concentrations in samples collected from these wells over time. As shown in Figure 4-5, the concentrations of total VOCs have generally decreased, however, the concentrations of total VOCs in the samples from 4009-8 have increased since the 2008 sampling event.

4.3.2 VOCs – Deep Groundwater Monitoring Wells

Table 4-2 shows that the concentrations of total VOCs in the groundwater sample collected from monitoring well 4009-12 (259 µg/L) decreased compared to results reported in 2011 (501 µg/L). As shown in Table 4-2, the concentrations of 1,1,1-TCA (140 µg/L), TCE (44 µg/L), cis-1,2-DCE (41 µg/L), 1,1-DCA (7.4 µg/L), and 1,1-DCE (15 µg/L) were all greater than their corresponding NYSDEC Class GA Standard of 5 µg/L. As shown in Table 4-2, groundwater samples collected from the remaining wells screened in the deep groundwater monitoring zone (4009-11, 4009-13, 4009-14, and 4009-15) did not contain any VOCs at concentrations greater than the applicable NYSDEC Class GA Standards.

4.3.3 Metals

Groundwater samples were collected from groundwater monitoring wells 4009-12 and 4009-12A, 4009-13, and 4009-15 and analyzed for total and dissolved TAL metals. Table 4-3 shows that the groundwater samples contained at least one metal at a concentration greater than the applicable NYSDEC Class GA Standards. As shown in Table 4-3, iron concentrations in groundwater sampled from well 4009-12A (1,000 µg/L), well 4009-13 (1,600 µg/L), and well 4009-15 (6,800 µg/L) exceeded the corresponding NYSDEC Class GA standard of 300 µg/L. The concentrations of total sodium greater than the applicable NYSDEC Class GA Standard (20,000 µg/L) ranged from 55,900 µg/L in the sample from 4009-15 to 127,000 µg/L in the sample from 4009-12. Based on the proximity of these sample locations to Pumphouse Road, the sodium exceedances in these samples are likely the result of the local application of road de-icing agents. Groundwater samples from 4009-12A contained concentrations of total manganese (424 µg/L) greater than the corresponding NYSDEC Class GA Standard of 300 µg/L.

5. Recommendations

Based on well inspections the protective casing for groundwater monitoring wells 4009-6 is damaged and should be replaced.

Recommendations for revised instrumentation and controls have been presented to the NYSDEC in the PRR (Malcolm Pirnie, 2010).

The effluent discharge line from the clear well to the NYSDEC Flood Management Area has a significant accumulation of precipitate and should be replaced. A scope of work and bid proposal package was prepared and submitted to the NYSDEC in October 2011 for review.

The cathodic corrosion protection system has not had routine maintenance since March 2009. A corrosion assessment should be performed to evaluate if the existing corrosion protection system is operating effectively and to provide any recommendations to further protect sub-surface infrastructure from corrosion-related damages.

Due to continued reductions in well performance from Well 1-1A, AquaGard well maintenance should be performed quarterly, although effectiveness may be diminishing.

6. Summary

The Vestal Well 1-1A groundwater treatment system was out of service for eight days in late July and early August due to a faulty transformer for the air stripper blower motor. The system operated with minimal interruption during the remainder of the third quarter, 2012 operation and maintenance period. Total flow through the treatment system from July to September 2012 was approximately 17.8-million gallons. Based on monthly influent and effluent sampling, the treatment system successfully removes VOCs from groundwater extracted from the capture zone. Approximately 43 pounds of VOCs were removed by the treatment system during the third quarter, 2012 operational period.

Third quarter groundwater monitoring activities were conducted between July 14 and 16, 2011. Based on the well inspection survey, the condition of monitoring wells and piezometers were generally acceptable with the exception of a damaged protective well casing for well 4009-6. Evaluations of groundwater flow indicate that the direction of groundwater flow is generally toward the Well 1-1A treatment plant and the Susquehanna River.

The concentrations of VOCs in samples collected from the shallow groundwater monitoring network were greater than the corresponding NYSDEC Class GA Standards in eight of the 13 wells evaluated during the third quarter 2012 sampling event, but were generally within the range of results from the 2007 through 2011 sampling events. The maximum concentration of total VOCs was 2,510 µg/L in the sample from shallow monitoring well 4009-8. Only one deep groundwater monitoring well (4009-12) contained concentrations of VOCs greater than the applicable NYSDEC Class GA Standard.

In general, groundwater samples collected from monitoring wells located downgradient of the contaminant source area contained the greatest concentrations of VOCs. No VOCs were detected above the applicable NYSDEC Class GA Standards in any of the groundwater samples collected from monitoring wells located between the Well 1-1A groundwater treatment system and the Town of Vestal 1-2A and 1-3 water supply wells.

The concentrations of iron, sodium, and/or manganese were detected at concentrations greater than the corresponding NYSDEC Class GA Standards in each of groundwater samples analyzed for metals during the third quarter 2012 sampling event.

The next groundwater sampling event is scheduled to be completed in the fourth quarter 2013.

7. References

Driscoll, Fletcher. G, 1986, Groundwater and Wells: A Comprehensive Study of Groundwater and the Technologies used to Locate, Extract, Treat, and Protect this Resource. Johnson Screens, St. Paul, Minnesota.

Malcolm Pirnie, 2010, Periodic Review Report, Vestal Water Supply Site, Site Number 7-04-009A.

Tetra Tech EC, Inc., 2006, Final Operation and Maintenance Manual, Long-Term Response, Operable Unit 1, Vestal Well 1-1 Site, Vestal, New York.

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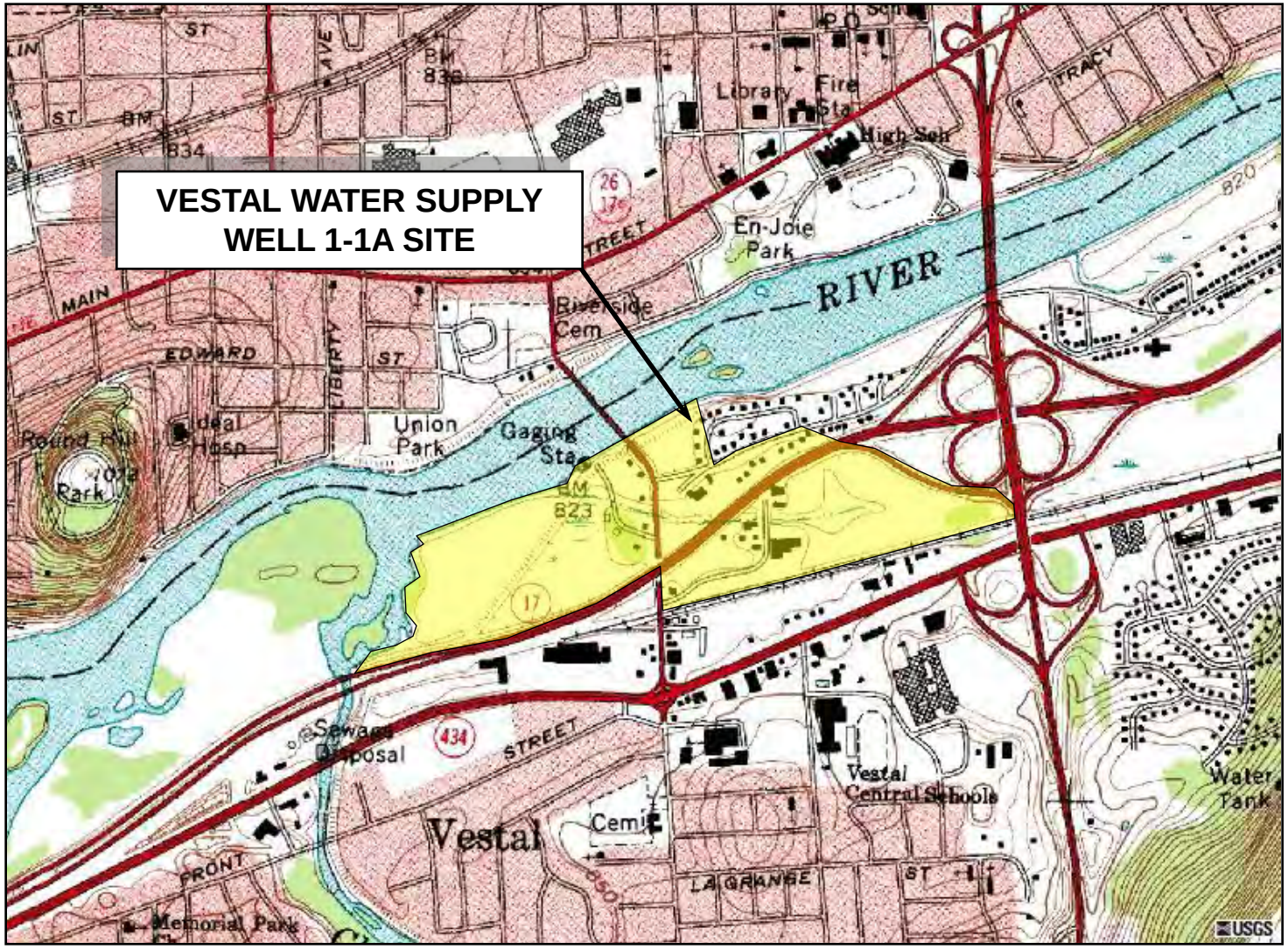
Figure 2-1
SITE LOCATION
Vestal Water Supply Site
Vestal, New York
Site Number 7-04-009A

0 2,000 ft



Source: USGS 7.5-minute Series Topographic Quadrangle, Endicott (1988).

g:\project\0266352\file\reports\Figure 2-1.ppt

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Figure 3-1
Well 1-1A Treatment Plant Flow
Vestal Water Supply Site
NYSDEC Site Number 7-04-009A

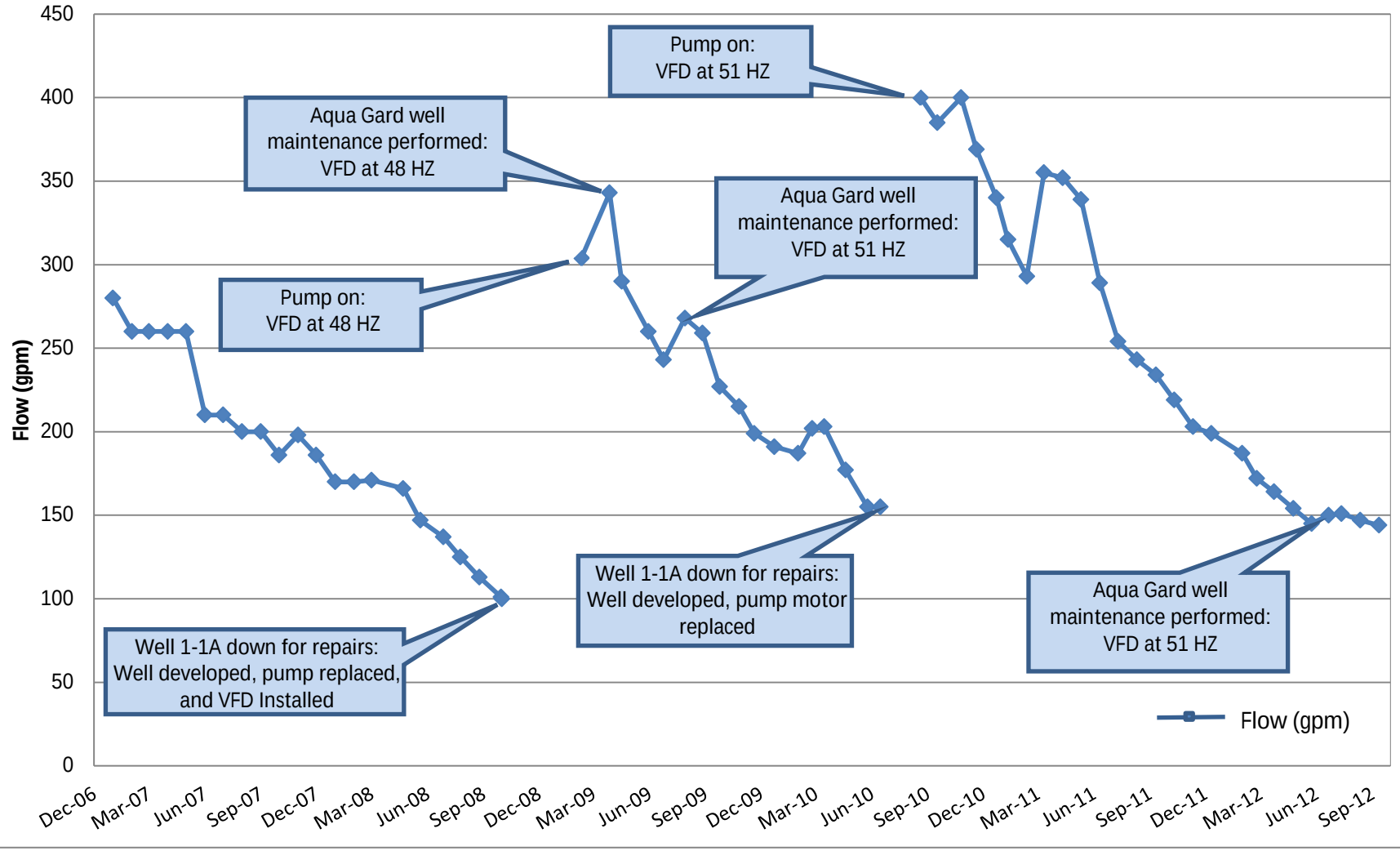

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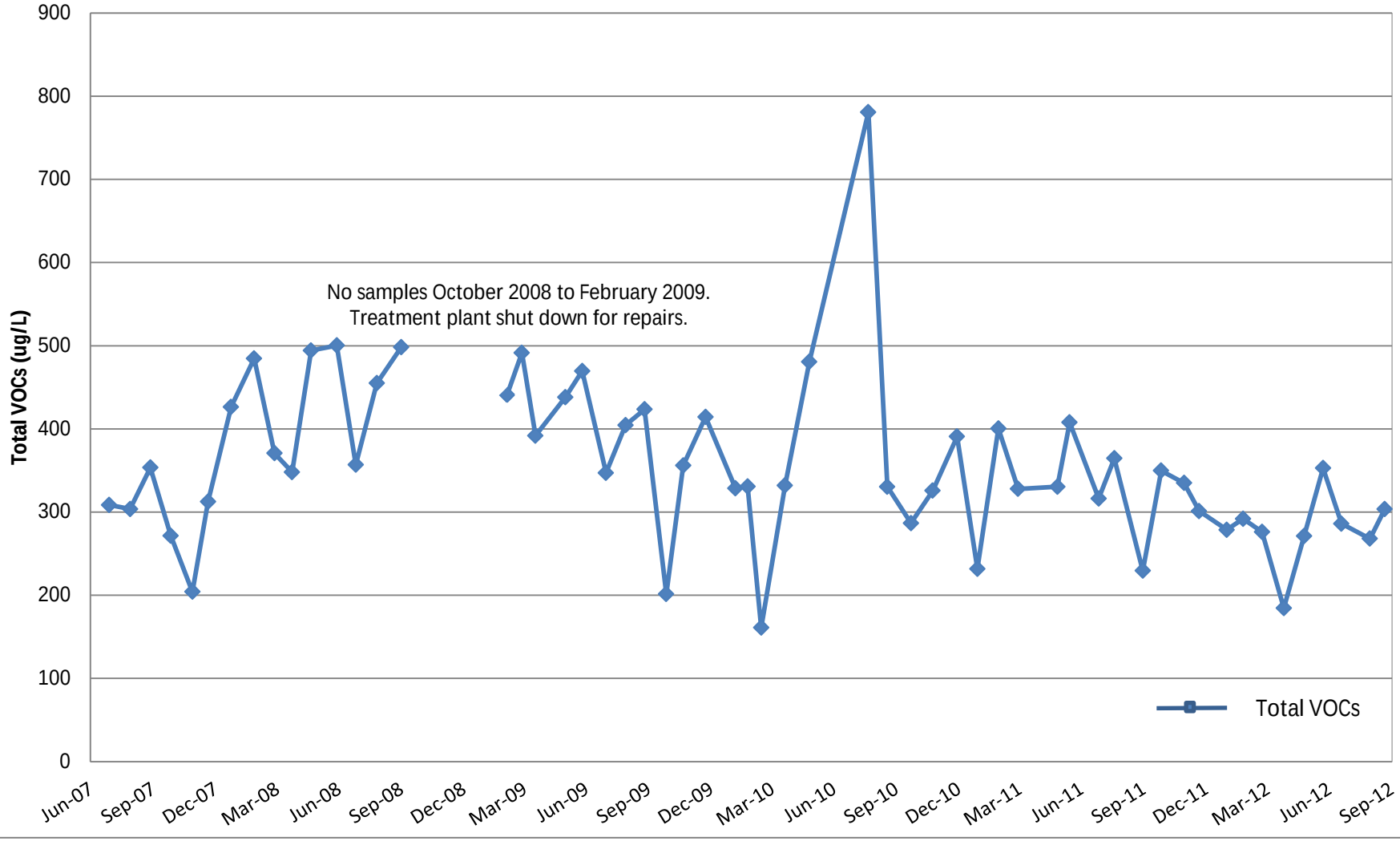
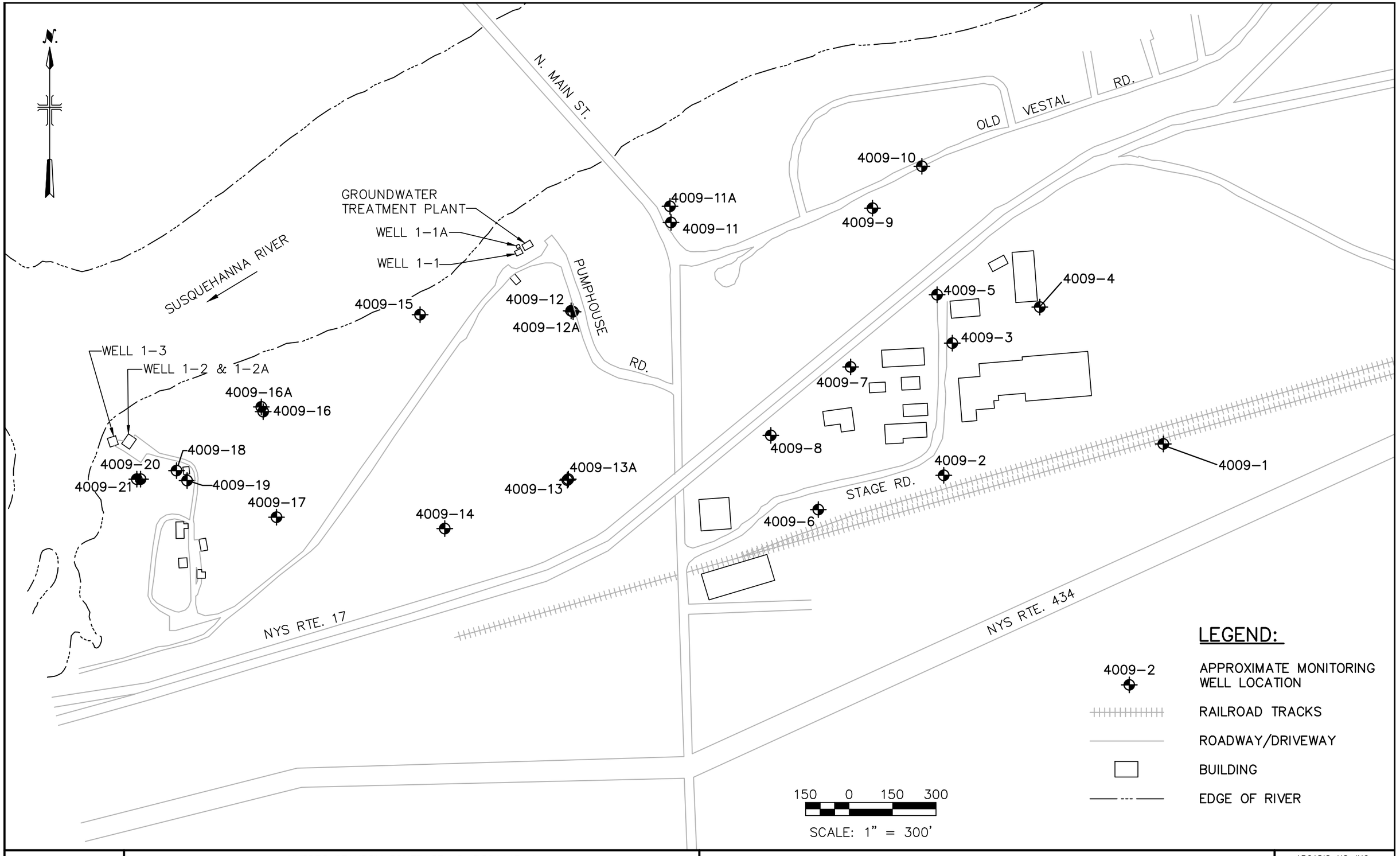
Figure 3-2
Well 1-1A Treatment Plant Total VOCs Concentrations
Vestal Water Supply Site
NYSDEC Site Number 7-04-009A





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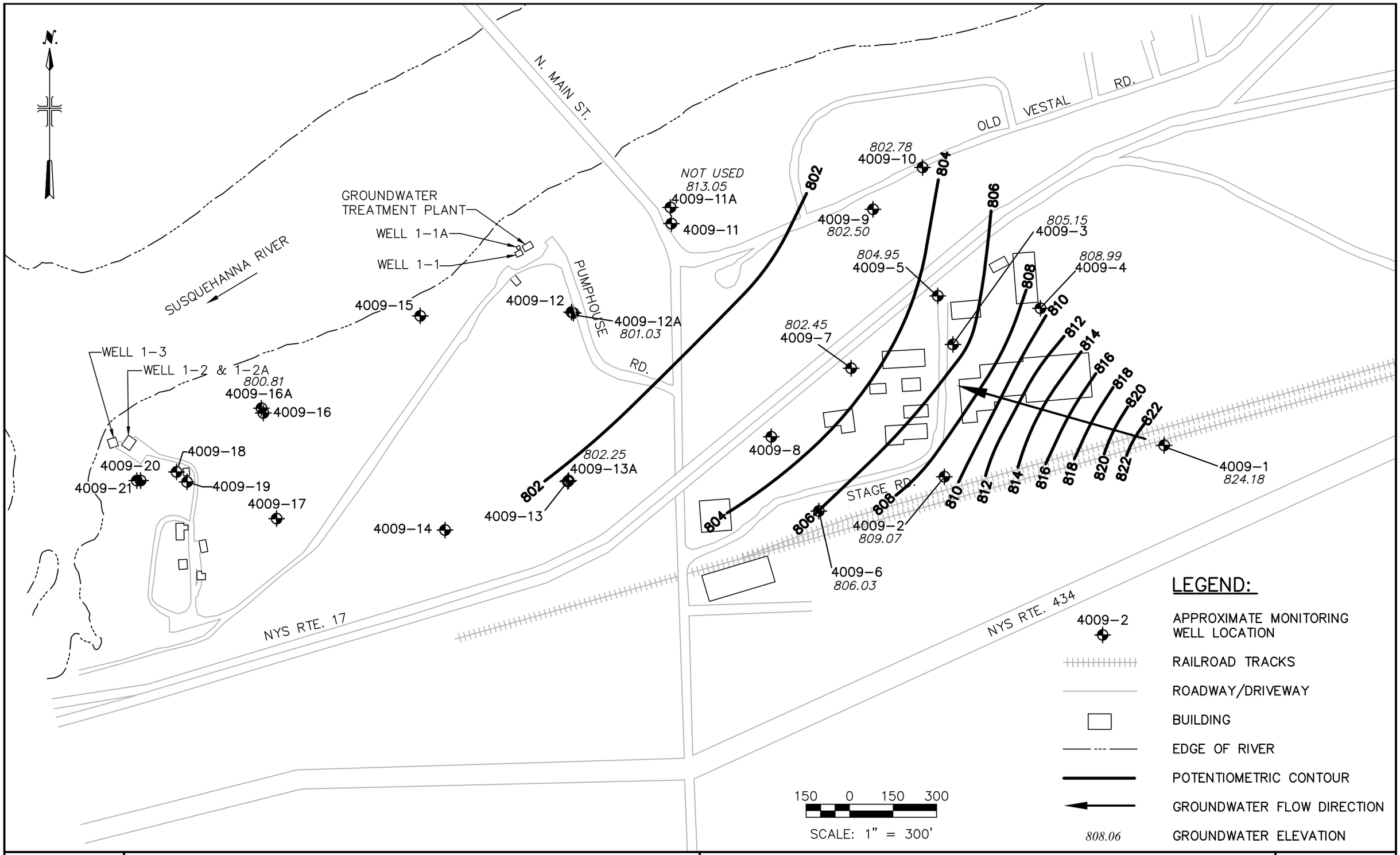
NYSDEC STANDBY CONTRACT NO. D004443-4
NYSDEC SITE NO. 7-04-009
VESTAL WATER SUPPLY
VESTAL, NEW YORK

MONITORING WELL LOCATION MAP

SCALE: 1" = 300'

ARCADIS-US, INC.
NOVEMBER 2012
FIGURE 4-1



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NYSDEC STANDBY CONTRACT NO. D007618-7
NYSDEC SITE NO. 7-04-009
VESTAL WATER SUPPLY
VESTAL, NEW YORK

SHALLOW POTENTIOMETRIC SURFACE
MONITORING WELL LOCATION MAP (7/16/12)
SCALE: AS SHOWN

NOVEMBER 2012
FIGURE 4-2

N.

N. MAIN ST.

OLD VESTAL RD.

SUSQUEHANNA RIVER

GROUNDWATER TREATMENT PLANT

WELL 1-1A
761.62

WELL 1-1
800.67

799.86
4009-15

800.87
4009-12

PUMPHOUSE

4009-11A

4009-11
801.05

4009-12A

RD.

WELL 1-3

WELL 1-2 & 1-2A

4009-16A

4009-16
800.06

4009-18

4009-20

4009-21

4009-19

4009-17

4009-14
800.40

4009-13
801.24

4009-13A

4009-10

4009-9

4009-4

4009-5

4009-3

4009-7

4009-8

4009-2

4009-1

STAGE RD.

4009-6

NYS RTE. 17

NYS RTE. 434

800.00
800.25
800.50
800.75
801.00
801.25

150 0 150 300

SCALE: 1" = 300'

LEGEND:

- 4009-2 — APPROXIMATE MONITORING WELL LOCATION
- RAILROAD TRACKS
- ROADWAY/DRIVEWAY
- BUILDING
- EDGE OF RIVER
- POTENTIOMETRIC CONTOUR
- GROUNDWATER FLOW DIRECTION
- 800.40 — GROUNDWATER ELEVATION

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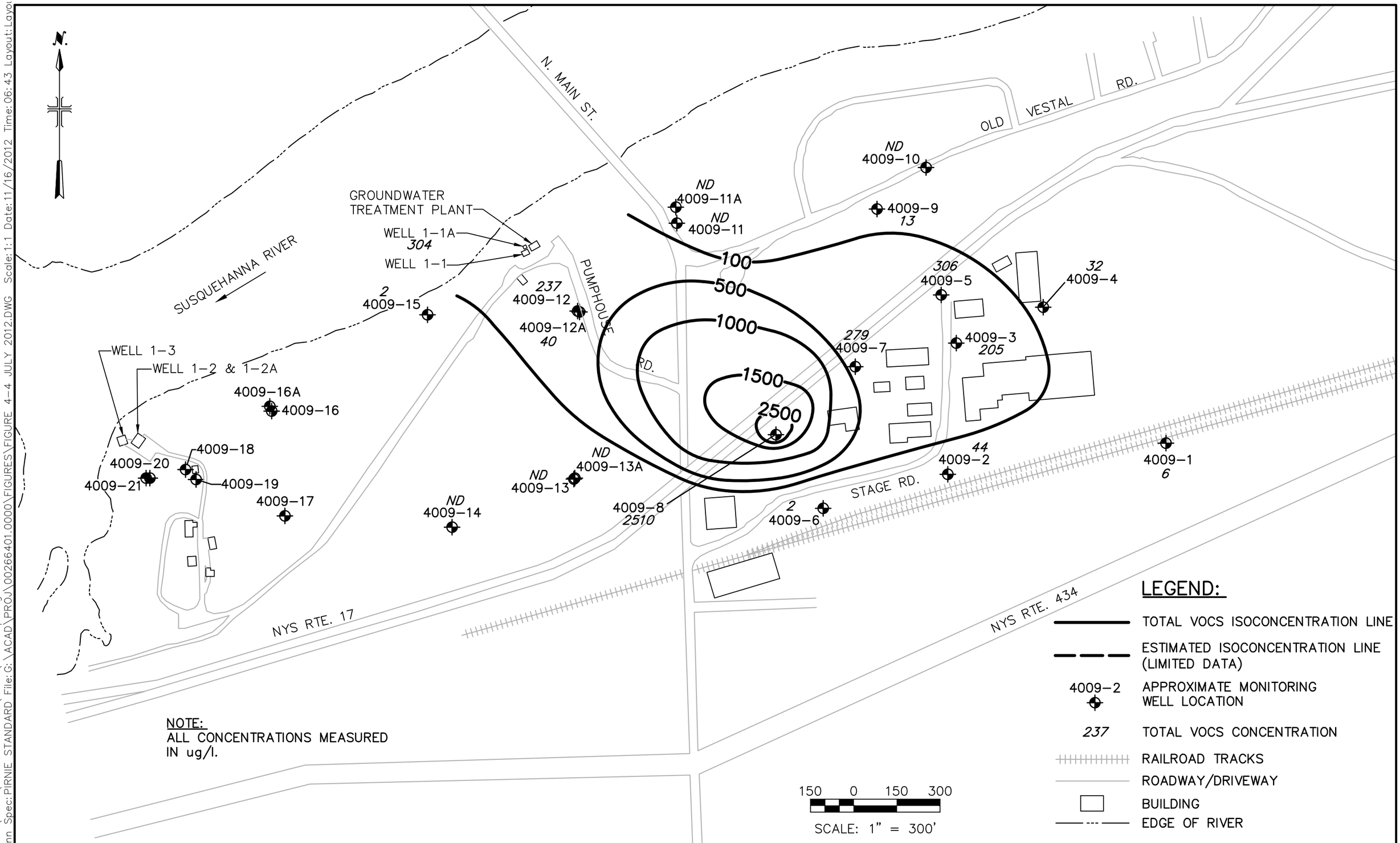
NYSDEC SITE NO. 7-04-009
VESTAL WATER SUPPLY
VESTAL, NEW YORK

DEEP POTENTIOMETRIC SURFACE MONITORING WELL LOCATION MAP (7/16/2012)

SCALE: AS SHOWN

NOVEMBER 2012

FIGURE 4-3



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NYSDEC SITE NO. 7-04-009
VESTAL WATER SUPPLY
VESTAL, NEW YORK

TOTAL VOC CONCENTRATIONS (JULY 2012)

SCALE: AS SHOWN

OCTOBER 2012
FIGURE 4-4

Figure 4--5
Historical Total VOCs Concentrations in Shallow Groundwater Monitoring Wells
Vestal Water Supply Site
NYSDEC Site Number 7-04-009

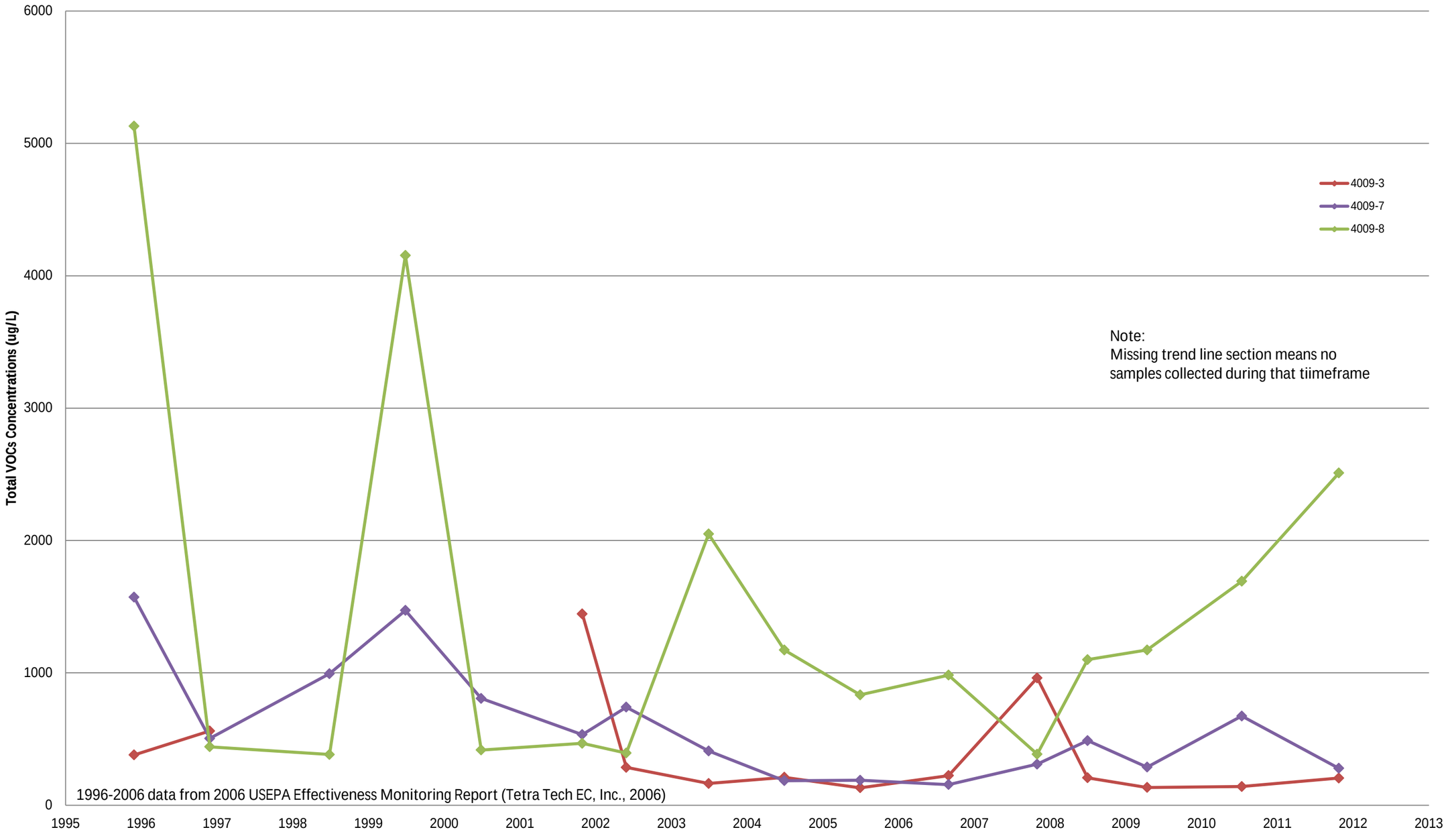

TABLE 3-1
WELL 1-1A FLOW SUMMARY
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE NO. 7-04-009A

Date	System Operation[1] (days/month)	Pumping Rate[1] (gpm)	Total Flow[2] (gallons)	Quarterly Flow (gallons)
January-07	31	280	12,499,200	
February-07	28	260	10,483,200	33,840,000
March-07	29 (3)	260	10,857,600	
April-07	30	260	11,232,000	
May-07	31	260	11,606,400	31,910,400
June-07	30	210	9,072,000	
July-07	31	210	9,374,400	
August-07	31	200	8,928,000	26,942,400
September-07	30	200	8,640,000	
October-07	31	186	8,303,040	
November-07	29	198	8,268,480	24,874,560
December-07	31	186	8,303,040	
January-08	31	170	7,588,800	
February-08	29	170	7,099,200	22,321,440
March-08	31	171	7,633,440	
April-08	30	166	7,171,200	
May-08	31	147	6,562,080	19,651,680
June-08	30	137	5,918,400	
July-08	31	125	5,580,000	
August-08	31	113	5,044,320	14,987,520
September-08	30	101	4,363,200	
October-08	6 (4)	100	864,000	
November-08	0 (4)	0	0	864,000
December-08	0 (4)	0	0	
January-09	0 (4)	0	0	
February-09	19 (4)	304	8,317,440	22,641,120
March-09	29 (3)	343	14,323,680	
April-09	30	290	12,528,000	
May-09	30 (5)	260	11,232,000	34,257,600
June-09	30	243	10,497,600	
July-09	29 (4)	268	11,191,680	
August-09	29 (5)	259	10,815,840	31,160,160
September-09	28 (5)	227	9,152,640	
October-09	31	215	9,597,600	
November-09	30 (5)	199	8,596,800	26,720,640
December-09	31	191	8,526,240	
Total Flow (2007)			**117,567,360**	
Total Flow (2008)			**65,750,400**	
Total Flow (2009)			**93,790,080**	

Notes:
1 - From Environmental Compliance, Inc. O&M Reports and Malcolm Pirnie, Inc. field notes.
2 - Calculated assuming system operating 24-hours per day
3 - System shut down for flooding
4 - System shut down for repairs
5 - System down due to power failure
gpm - Gallons per minute

TABLE 3-1
WELL 1-1A FLOW SUMMARY
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE NO. 7-04-009A

Date	System Operation[1] (days/month)	Pumping Rate[1] (gpm)	Total Flow[2] (gallons)	Quarterly Flow (gallons)
January-10	25 (3)	187	6,732,000	
February-10	28	202	8,144,640	23,938,560
March-10	31	203	9,061,920	
April-10	30	177	7,646,400	
May-10	31	155	6,919,200	16,128,000
June-10	7 (4)	155	1,562,400	
July-10	0 (4)	0	0	
August-10	12 (4)	400	6,912,000	23,544,000
September-10	30	385	16,632,000	
October-10	31	400	17,856,000	
November-10	28 (5)	369	14,878,080	47,911,680
December-10	31	340	15,177,600	
January-11	31	315	14,061,600	
February-11	27 (5)	293	11,391,840	40,278,240
March-11	29 (3)	355	14,824,800	
April-11	26 (3)	352	13,178,880	
May-11	29 (3)	339	14,156,640	39,820,320
June-11	30	289	12,484,800	
July-11	29 (5)	254	10,607,040	
August-11	29 (3)	243	10,147,680	29,178,720
September-11	25 (3)	234	8,424,000	
October-11	31	219	9,776,160	
November-11	30	203	8,769,600	27,429,120
December-11	31	199	8,883,360	
January-12	31	187	8,347,680	
February-12	29	172	7,182,720	22,851,360
March-12	31	164	7,320,960	
April-12	30	154	6,652,800	
May-12	31	145	6,472,800	19,173,600
June-12	28 (4)	150	6,048,000	
July-12	29 (5)	151	6,305,760	
August-12	25 (4)	147	5,292,000	17,818,560
September-12	30	144	6,220,800	
Total Flow (2010)			**111,522,240**	
Total Flow (2011)			**136,706,400**	
Total Flow (2012)			**59,843,520**	

Notes:
1 - From Environmental Compliance, Inc. O&M Reports and Malcolm Pirnie, Inc. field notes.
2 - Calculated assuming system operating 24-hours per day
3 - System shut down for flooding
4 - System shut down for repairs
5 - System down due to power failure
gpm - Gallons per minute

TABLE 3-2
SUMMARY OF GROUNDWATER TREATMENT SYSTEM VOCS (INFLUENT)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Matrix Units	NYSDEC GA Standard ug/L	WELL 1A-INF 6/13/2011 WATER ug/L	WELL 1A-INF 7/26/2011 WATER ug/L	WELL 1A-INF 8/18/2011 WATER ug/L	WELL 1A-INF 9/29/2011 WATER ug/L	WELL 1A-INF 10/26/2011 WATER ug/L	WELL 1A-INF 11/29/2011 WATER ug/L	WELL 1A-INF 12/21/2011 WATER ug/L	WELL 1A-INF 1/31/2012 WATER ug/L	WELL 1A-INF 2/24/2012 WATER ug/L	WELL 1A-INF 3/23/2012 WATER ug/L	WELL 1A-INF 4/24/2012 WATER ug/L	WELL 1A-INF 5/24/2012 WATER ug/L	WELL 1A-INF 6/21/2012 WATER ug/L	WELL 1A-INF 7/18/2012 WATER ug/L	WELL 1A-INF 8/29/2012 WATER ug/L	WELL 1A-INF 9/20/2012 WATER ug/L
VOCs																	
1,1,1-Trichloroethane	5	**240**	**180**	**200**	**120**	**190**	**200 D**	**150**	**160**	**150**	**140**	**98**	**130**	**190**	**160**	**150**	**170**
1,1,2,2-Tetrachloroethane	5	2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
1,1,2-Trichloroethane	1	2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
1,1-Dichloroethane	5	**26**	**20**	**24**	**17**	**23**	**19**	**22**	**19**	**19**	**21**	**14**	**20**	**25**	**19**	**16**	**19**
1,1-Dichloroethene	5	**20**	**13**	**17**	**11**	**16**	**23**	**18**	**22**	**27**	**17**	**8.7**	**20**	**16**	**11**	**14**	**15**
1,2-Dichloroethane	0.6	2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
1,2-Dichloropropane	5	2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
2-Butanone (MEK)	50	8 U	20 U	20 U	10 U	10 U	10 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	10 U	20 U
2-Hexanone		8 U	20 U	20 U	10 U	10 U	5 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 U	10 U
4-Methyl-2-pentanone (MIBK)		8 U	20 U	9.7 J	10 U	10 U	5 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 U	10 U
Acetone		4.8 J B	20 U	11 J	10 U	2.7 J	10 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	10 U	20 U
Benzene	1	2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
Bromodichloromethane	50	2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
Bromoform		2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
Bromomethane	5	4 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
Carbon disulfide		2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
Carbon tetrachloride	5	2 U *	10 U	10 U *	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
Chlorobenzene	5	2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
Chloroethane	5	4 U	10 U	10 U	5 U	5 U	0.49 J	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.48 J	2 U
Chloroform	7	0.71 J B	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
Chloromethane		2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
cis-1,2-Dichloroethene	5	**52**	**46**	**51**	**37**	**57**	**42**	**51**	**35**	**44**	**45**	**29**	**45**	**56**	**44**	**39**	**47**
cis-1,3-Dichloropropene	0.4	2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
Dibromochloromethane	50	2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
Ethylbenzene	5	2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
Methylene Chloride	5	8 U	10 U	4 J B	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
Styrene	5	2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
Tetrachloroethene	5	2 U *	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
Toluene	5	2 U *	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
trans-1,2-Dichloroethene	5	2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
trans-1,3-Dichloropropene	0.4	2 U	10 U	10 U	5 U	5 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U	2 U
Trichloroethene	5	**61**	**51**	**55**	**39**	**53**	**45**	**53**	**37**	**46**	**46**	**30**	**48**	**58**	**46**	**44**	**47**
Vinyl chloride	2	**8.7**	**6.2 J**	**7.8 J**	**5.5**	**8.1**	**5.5**	**7.1**	**5.7**	**5.9**	**7.1**	**4.8**	**8.1**	**7.8**	**6.1**	**4.5**	**5.6**
Xylenes, Total	5	4 U	10 U	10 U	5 U	5 U	2 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	2 U	4 U
Total VOCs		408	316	365	230	350	335	301	279	292	276	185	271	353	286	268	304

Notes

- Concentration exceeds corresponding NYSDEC Class GA Standard.

U - Not detected at the indicated concentration.
J - Estimated concentration.
M - Manual integrated compound.
B - Analyte found in associated blank as well as the sample.
E - Concentration exceeds instrument calibration range.
D - Laboratory Dilution.
* - MS or MSD exceeded control limits.

TABLE 3-3
SUMMARY OF GROUNDWATER TREATMENT SYSTEM VOCS (EFFLUENT)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Matrix Units	NYSDEC GA Standard ug/L	WELL 1A-EFF 9/29/2011 WATER ug/L	WELL 1A-EFF 10/23/2011 WATER ug/L	WELL 1A-EFF 11/29/2011 WATER ug/L	WELL 1A-EFF 12/21/2011 WATER ug/L	WELL 1A-EFF 1/31/2012 WATER ug/L	WELL 1A-EFF 2/24/2012 WATER ug/L	WELL 1A-EFF 3/23/2012 WATER ug/L	WELL 1A-EFF 4/26/2012 WATER ug/L	WELL 1A-EFF 5/24/2012 WATER ug/L	WELL 1A-EFF 6/21/2012 WATER ug/L	WELL 1A-EFF 7/18/2012 WATER ug/L	WELL 1A-EFF 8/29/2012 WATER ug/L	WELL 1A-EFF 9/20/2012 WATER ug/L
1,1,1-Trichloroethane	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.6	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone (MEK)	50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone (MIBK)		10 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone		10 U	1.5 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	1	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	50	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform		5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide		5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	7	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane		5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	0.4	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	50	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene Chloride	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	0.4	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	5	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	2	5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	5	5 U	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U

Notes
U - Not detected at the indicated concentration.
J - Estimated concentration.
M - Manual integrated compound.
B - Analyte found in associated blank as well as the sample.
* - MS or MSD exceeded control limits.

TABLE 4-1
SUMMARY OF GROUNDWATER ELEVATIONS
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE NO. 7-04-009A

New Well ID	Old Well ID	Monitored Interval	Measuring Point Elevation [1] (feet)	8/13/2007		10/8/2008		6/22/2009	
				DTW (feet)	Elevation (feet)	DTW (feet)	Elevation (feet)	DTW (feet)	Elevation (feet)
4009-1	S-8	Shallow	832.20	7.49	824.71	7.79	824.41	7.16	825.04
4009-2	EB-33	Shallow	828.59	19.33	809.26	19.79	808.80	18.11	810.48
4009-3	S-7	Shallow	823.72	17.89	805.83	18.59	805.13	14.64	809.08
4009-4	S-6	Shallow	822.46	12.91	809.55	13.82	808.64	10.29	812.17
4009-5	EB-31	Shallow	825.77	20.49	805.28	20.79	804.98	16.19	809.58
4009-6	S-1	Shallow	827.16	20.75	806.41	21.19	805.97	18.99	808.17
4009-7	S-2	Shallow	823.72	20.10	803.62	21.11	802.61	17.02	806.70
4009-8	S-11	Shallow	**	18.72	-	21.95	-	17.77	-
4009-9	EB-41	Shallow	825.28 [2]	22.60	802.68	23.18	802.10	19.15	806.13
4009-10	EB-42	Shallow	831.54	28.57	802.97	29.15	802.39	25.47	806.07
4009-11	1-32	Deep	831.08	17.55	813.53	29.38	801.70	22.47	808.61
4009-11A	1-32A	Shallow	830.86	28.31	802.55	20.70	810.16	16.02	814.84
4009-12	1-29	Deep	823.55	20.89	802.66	21.93	801.62	15.57	807.98
4009-12A	1-29A	Shallow	824.08	21.30	802.78	22.40	801.68	16.02	808.06
4009-13	1-30	Deep	816.54	13.46	803.08	14.71	801.83	8.48	808.06
4009-13A	1-30A	Shallow	816.42	23.05	793.37	14.23	802.19	9.24	807.18
4009-14	1-23	Deep	820.91	17.75	803.16	19.10	801.81	12.69	808.22
4009-15	1-24	Deep	826.76	23.81	802.95	25.21	801.55	18.35	808.41
4009-16	1-20	Deep	825.93	23.86	802.07	25.41	800.52	18.55	807.38
4009-16A	1-20A	Shallow	826.32	24.01	802.31	25.34	800.98	18.42	807.90
Well 1-1	Former Pumping Well	Deep	832.53 [3]	-	-	30.03	802.50	24.62	807.91
Well 1-1A	Pumping Well	Deep	831.33 [2]	-	-	-	-	61.85	769.48

Notes:

* - Could not identify well location from site map (Figure 1, Final Operation and Maintenance Manual, Long-Term Response, Operable Unit 1, Vestal Well 1-1 Site, Vestal, New York, October 2006, Tetra Tech EC, Inc.). Old Well ID based on 2007 field description of well location.

** - Well casing damaged. Measuring point elevation not known.

(1) - Data from Final Operation and Maintenance Manual, Long-Term Response, Operable Unit 1, Vestal Well 1-1 Site, Vestal, New York, October 2006, Tetra Tech EC, Inc.

(2) - TOC elevation from well level survey conducted 6/13/11.

(3) - TOC Elevation from well level survey conducted 3/13/08.

TABLE 4-1
SUMMARY OF GROUNDWATER ELEVATIONS
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE NO. 7-04-009A

New Well ID	Old Well ID	Monitored Interval	Measuring Point Elevation [1] (feet)	3/16/2010		6/14/2011		7/16/2012	
				DTW (feet)	Elevation (feet)	DTW (feet)	Elevation (feet)	DTW (feet)	Elevation (feet)
4009-1	S-8	Shallow	832.20	7.21	824.99	7.10	825.10	8.02	824.18
4009-2	EB-33	Shallow	828.59	17.35	811.24	17.35	811.24	19.52	809.07
4009-3	S-7	Shallow	823.72	12.75	810.97	14.86	808.86	18.57	805.15
4009-4	S-6	Shallow	822.46	8.86	813.60	9.60	812.86	13.47	808.99
4009-5	EB-31	Shallow	825.77	13.84	811.93	16.82	808.95	20.82	804.95
4009-6	S-1	Shallow	827.16	17.52	809.64	18.42	808.74	21.13	806.03
4009-7	S-2	Shallow	823.72	15.09	808.63	16.70	807.02	21.27	802.45
4009-8	S-11	Shallow	**	15.29	-	17.64	-	22.29	
4009-9	EB-41	Shallow	825.28 [2]	16.08	809.20	18.95	806.33	22.78	802.50
4009-10	EB-42	Shallow	831.54	22.41	809.13	25.05	806.49	28.76	802.78
4009-11	1-32	Deep	831.08	19.81	811.27	25.62	805.46	30.03	801.05
4009-11A	1-32A	Shallow	830.86	13.89	816.97	13.20	817.66	17.81	813.05
4009-12	1-29	Deep	823.55	12.82	810.73	18.31	805.24	22.68	800.87
4009-12A	1-29A	Shallow	824.08	13.30	810.78	19.81	804.27	23.05	801.03
4009-13	1-30	Deep	816.54	6.24	810.30	10.62	805.92	15.30	801.24
4009-13A	1-30A	Shallow	816.42	6.31	810.11	10.15	806.27	14.17	802.25
4009-14	1-23	Deep	820.91	10.49	810.42	15.34	805.57	20.51	800.40
4009-15	1-24	Deep	826.76	16.17	810.59	21.48	805.28	26.90	799.86
4009-16	1-20	Deep	825.93	16.82	809.11	21.62	804.31	25.87	800.06
4009-16A	1-20A	Shallow	826.32	16.41	809.91	21.62	804.70	25.51	800.81
Well 1-1	Former Pumping Well	Deep	832.53 [3]	21.89	810.64	27.26	805.27	31.86	800.67
Well 1-1A	Pumping Well	Deep	831.33 [2]	76.02	755.31	68.72	762.61	70.38	760.95

Notes:

* - Could not identify well location from site map (Figure 1, Final Operation and Maintenance Manua
EC, Inc.). Old Well ID based on 2007 field description of well location.

** - Well casing damaged. Measuring point elevation not known.

(1) - Data from Final Operation and Maintenance Manual, Long-Term Response, Operable Unit 1, '

(2) - TOC elevation from well level survey conducted 6/13/11.

(3) - TOC Elevation from well level survey conducted 3/13/08.

TABLE 4-2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (VOCS)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Monitoring Interval Units	NYSDEC GA Standard ug/L	4009-1 8/14/2007 Shallow ug/L	4009-1 10/9/2008 Shallow ug/L	4009-1 6/22/2009 Shallow ug/L	4009-1 3/16/2010 Shallow ug/L	4009-1 6/14/2011 Shallow ug/L	4009-1 7/16/2012 Shallow ug/L	4009-2 8/14/2007 Shallow ug/L	4009-2 10/9/2008 Shallow ug/L	4009-2 6/22/2009 Shallow ug/L	4009-2 3/16/2010 Shallow ug/L	4009-2 6/14/2011 Shallow ug/L	4009-2 7/16/2012 Shallow ug/L
1,1,1-Trichloroethane	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,1,2,2-Tetrachloroethane	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,1,2-Trichloroethane	1	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,1-Dichloroethane	5	3.2 J	**6.7**	2.5 J	2	1.1	0.8 J	2.4 J	3.3 J	3.2 J	3.1	2.7	1.4
1,1-Dichloroethene	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,2-Dichloroethane	0.6	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,2-Dichloropropane	1	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
2-Butanone (MEK)	50	10 U	10 U	10 U	2 U	2 U	10 U	10 U	10 U	10 U	2 U	2 U	10 U
2-Hexanone		10 U	10 U	10 U	2 U	2 U	5 U	10 U	10 U	10 U	2 U	2 U	5 U
4-Methyl-2-pentanone (MIBK)		10 U	10 U	10 U	2 U	2 U	5 U	10 U	10 U	10 U	2 U	2 U	5 U
Acetone		10 U	1.1 J	1.5 J	1.7 J B	2 U	10 U	10 U	1 J B	10 U	2 U	2 U	10 U
Benzene	1	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Bromodichloromethane	50	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Bromoform		10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Bromomethane	5	10 U	5 U	5 U	1 U	1 U	1 U	10 U	5 U	5 U	1 U	1 U	1 U
Carbon disulfide		10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Carbon tetrachloride	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Chlorobenzene	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Chloroethane	5	10 U	5 U	5 U	1 U	1 U	1 U	10 U	5 U	5 U	1 U	1 U	1 U
Chloroform	7	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Chloromethane		10 U	5 U *	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
cis-1,2-Dichloroethene	5	1.4 J	3 J	1.5 J	1.8	2.4	2.4	**34**	**34**	**37**	**34**	**28**	**37**
cis-1,3-Dichloropropene	0.4	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Dibromochloromethane		10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Ethylbenzene	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	1.2 J	0.2 J	0.5 U	1 U
Methylene Chloride	5	10 U	5 U	5 U *	2 U	0.17 J B	1 U	10 U	5 U	5 U *	2 U	0.16 J B	1 U
Styrene	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Tetrachloroethene	5	0.65 J	1.6 J	0.86 J	0.97	0.77	1.4	10 U	5 U	5 U	0.38 J	0.36 J	1 U
Toluene	5	10 U	5 U	5 U	0.5 U *	0.5 U	1 U	10 U	5 U	0.95 J B	0.5 U *	0.5 U	1 U
trans-1,2-Dichloroethene	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	0.83 J	1 J	1.1 J	1.3	0.84	0.91 J
trans-1,3-Dichloropropene	0.4	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Trichloroethene	5	0.95 J	2.1 J	1.4 J	1.5	1.4	1.6	2.5 J	2.5 J	3.8 J	3.7	2.7	3
Vinyl chloride	2	10 U	5 U	5 U	0.5 U	0.5 U	1 U	**12**	**15**	**3.9 J**	**18**	0.99	**2**
Xylenes, Total		10 U		5 U	1 U	1 U	2 U	10 U	5 U	5 U	1 U	1 U	2 U
Total VOCs		6.20	14.5	7.76	7.97	5.84	6.20	51.73	56.8	50.20	60.68	33.05	44.31

Notes

- Concentration exceeds NYSDEC Class GA Standard

U - Compound was not detected at the indicated concentration
J - Compound detected below the reporting limit or
Concentration is estimated for TICS.
B - Analyte detected in the method blank and sample
E - Estimated value.
M - Manual integrated compound
* - Laboratory control sample/duplicate exceeds control limits.
1 - Sample 4009-DUP1 is a duplicate sample from 4009-2

TABLE 4-2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (VOCS)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Monitoring Interval Units	NYSDEC GA Standard ug/L	4009-3 8/14/2007 Shallow ug/L	4009-3 10/9/2008 Shallow ug/L	4009-3 6/23/2009 Shallow ug/L	4009-3 3/16/2010 Shallow ug/L	4009-3 6/14/2011 Shallow ug/L	4009-3 7/16/2012 Shallow ug/L	4009-4 8/14/2007 Shallow ug/L	4009-4 10/9/2008 Shallow ug/L	4009-4 6/23/2009 Shallow ug/L	4009-4 3/17/2010 Shallow ug/L	4009-4 6/14/2011 Shallow ug/L	4009-4 7/16/2012 Shallow ug/L
1,1,1-Trichloroethane	5	**130**	**810**	**57**	**16**	**14**	**74**	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,1,2,2-Tetrachloroethane	5	10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,1,2-Trichloroethane	1	10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,1-Dichloroethane	5	**19**	**39 J**	**27**	**21**	**16**	**14**	10 U	5 U	5 U	0.28 J	0.5 U	1 U
1,1-Dichloroethene	5	1.4 J	50 U	2.4 J	1.1	0.27 J	0.88 J	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,2-Dichloroethane	0.6	10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,2-Dichloropropane	1	10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
2-Butanone (MEK)	50	10 U	100 U	10 U	2 U	2 U	10 U	10 U	10 U	10 U	0.55 J B	2 U	10 U
2-Hexanone		10 U	100 U	10 U	2 U	2 U	5 U	10 U	10 U	10 U	2 U	2 U	5 U
4-Methyl-2-pentanone (MIBK)		10 U	100 U	10 U	2 U	2 U	5 U	10 U	10 U	10 U	2 U	2 U	5 U
Acetone		10 U	100 U	10 U	2 U	2 U	10 U	10 U	3.7 J B	10 U	1.4 J B	0.86 J B	10 U
Benzene	1	10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Bromodichloromethane	50	10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Bromoform		10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Bromomethane	5	10 U	50 U	5 U	1 U	1 U	1 U	10 U	5 U	5 U	1 U	1 U	1 U
Carbon disulfide		10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Carbon tetrachloride	5	10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Chlorobenzene	5	10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Chloroethane	5	10 U	50 U	5 U *	1 U	1 U	1 U	10 U	5 U	5 U	1 U	1 U	1 U
Chloroform	7	10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Chloromethane		10 U	50 U *	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
cis-1,2-Dichloroethene	5	**26**	**37 J**	**28**	**33**	**37**	**35**	**15**	**13**	**41**	**42**	**37**	**31**
cis-1,3-Dichloropropene	0.4	10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Dibromochloromethane		10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Ethylbenzene	5	10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Methylene Chloride	5	0.24 J	50 U	5 U	2 U	0.18 J B	1 U	10 U	5 U	5 U *	0.13 J B	0.12 J B	1 U
Styrene	5	10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Tetrachloroethene	5	10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Toluene	5	10 U	50 U	0.95 J	0.5 U *	0.5 U	1 U	10 U	5 U	0.91 J B	0.5 U	0.2 J	1 U
trans-1,2-Dichloroethene	5	0.46 J M	50 U	1 J	0.96	0.9	1 U	10 U	5 U	5 U	0.31 J	0.24 J	1 U
trans-1,3-Dichloropropene	0.4	10 U	50 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Trichloroethene	5	**8 J**	**13 J**	**13**	**13**	**12**	**11**	**26**	**8.5**	**6.3**	2.6	**7.9**	1.3
Vinyl chloride	2	**40**	**63**	**79**	**49**	**61**	**70**	0.52 J	5 U	5 U	0.41 J	0.24 J	1 U
Xylenes, Total		10 U	50 U	5 U	1 U	1 U	2 U	10 U	5 U	5 U	1 U	1 U	2 U
Total VOCs		223.70	962	207.35	134.06	141.35	204.88	41.52	25.2	48.21	47.68	46.56	32.30

Notes

- Concentration exceeds NYSDEC Class GA Standarc

U - Compound was not detected at the indicated concentration

J - Compound detected below the reporting limit or
Concentration is estimated for TICS.

B - Analyte detected in the method blank and sample

E - Estimated value.

M - Manual integrated compound

* - Laboratory control sample/duplicate exceeds control limits.

1 - Sample 4009-DUP1 is a duplicate sample from 4009-2

TABLE 4-2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (VOCS)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Monitoring Interval Units	NYSDEC GA Standard ug/L	4009-5 8/14/2007 Shallow ug/L	4009-5 10/9/2008 Shallow ug/L	4009-5 6/23/2009 Shallow ug/L	4009-5 3/17/2010 Shallow ug/L	4009-5 6/15/2011 Shallow ug/L	4009-5 7/16/2012 Shallow ug/L	4009-6 8/14/2007 Shallow ug/L	4009-6 10/9/2008 Shallow ug/L	4009-6 6/23/2009 Shallow ug/L	4009-6 3/16/2010 Shallow ug/L	4009-6 6/16/2011 Shallow ug/L	4009-6 7/16/2012 Shallow ug/L
1,1,1-Trichloroethane	5	10 U	5 U	5 U	0.32 J	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,1,2,2-Tetrachloroethane	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,1,2-Trichloroethane	1	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,1-Dichloroethane	5	2.3 J	3.7 J	3.4 J	4.6	2.5	2.3	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,1-Dichloroethene	5	1.1 J	2.4 J	1.9 J	3.1	0.5 U	2	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,2-Dichloroethane	0.6	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
1,2-Dichloropropane	1	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
2-Butanone (MEK)	50	10 U	10 U	10 U	0.54 J B	2 U	10 U	10 U	10 U	10 U	2 U	2 U	10 U
2-Hexanone		10 U	10 U	10 U	2 U	2 U	5 U	10 U	10 U	10 U	2 U	2 U	5 U
4-Methyl-2-pentanone (MIBK)		10 U	10 U	10 U	2 U	2 U	5 U	10 U	10 U	10 U	2 U	2 U	5 U
Acetone		10 U	10 U	10 U	1.3 J B	1.6 J	10 U	10 U	3.1 J B	10 U	2 U	2 U	10 U
Benzene	1	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Bromodichloromethane	50	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Bromoform		10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Bromomethane	5	10 U	5 U	5 U	1 U	1 U	1 U	10 U	5 U	5 U	1 U	1 U	1 U
Carbon disulfide		10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Carbon tetrachloride	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Chlorobenzene	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Chloroethane	5	10 U	5 U	5 U	1 U	1 U	1 U	10 U	5 U	5 U	1 U	1 U	1 U
Chloroform	7	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Chloromethane		10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
cis-1,2-Dichloroethene	5	**12**	**20**	**12**	**21**	**57**	**250**	10 U	5 U	5 U	0.5 U	0.33 J	1 U
cis-1,3-Dichloropropene	0.4	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Dibromochloromethane		10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Ethylbenzene	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Methylene Chloride	5	10 U	5 U	5 U *	2 U	0.13 J B	1 U	10 U	5 U	5 U *	2 U	2 U	1 U
Styrene	5	10 U	5 U *	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Tetrachloroethene	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Toluene	5	10 U	5 U	5 U	0.19 J	0.39 J	1 U	10 U	5 U	0.89 J B	0.5 U *	0.5 U	1 U
trans-1,2-Dichloroethene	5	10 U	5 U	5 U	0.46 J	3.4	1.4	10 U	5 U	5 U	0.5 U	0.5 U	1 U
trans-1,3-Dichloropropene	0.4	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Trichloroethene	5	**40**	**63**	**55**	**56 B**	**33**	**29**	0.75 J	5 U	5 U	0.59	0.75	1 U
Vinyl chloride	2	0.89 J	**12**	**3.3 J**	**25**	0.32 J	**21**	10 U	5 U	5 U	0.5 U	0.5 U	1 U
Xylenes, Total		10 U	5 U	5 U	1 U	1 U	2 U	10 U	5 U	5 U	1 U	1 U	2 U
Total VOCs		56.29	101.1	75.6	112.51	98.34	305.70	0.75	3.1	0.89	0.59	1.08	0.00

Notes

- Concentration exceeds NYSDEC Class GA Standarc

U - Compound was not detected at the indicated concentration
J - Compound detected below the reporting limit or
Concentration is estimated for TICS.
B - Analyte detected in the method blank and sample
E - Estimated value.
M - Manual integrated compound
* - Laboratory control sample/duplicate exceeds control limits.
1 - Sample 4009-DUP1 is a duplicate sample from 4009-2

TABLE 4-2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (VOCS)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Monitoring Interval Units	NYSDEC GA Standard ug/L	4009-7 8/15/2007 Shallow ug/L	4009-7 10/9/2008 Shallow ug/L	4009-7 6/23/2009 Shallow ug/L	4009-7 3/17/2010 Shallow ug/L	4009-7 6/16/2011 Shallow ug/L	4009-7 7/16/2012 Shallow ug/L	4009-8 8/14/2007 Shallow ug/L	4009-8 10/9/2008 Shallow ug/L	4009-8 6/23/2009 Shallow ug/L	4009-8 3/16/2010 Shallow ug/L	4009-8 6/15/2011 Shallow ug/L	4009-8 7/16/2012 Shallow ug/L	4009-X 7/16/2012 Shallow ug/L
1,1,1-Trichloroethane	5	1.9 J M	**7.2 J**	**13 J**	**9**	**46**	**7.3**	**540**	**130**	**490**	**630**	**1000**	**1300**	**1200**
1,1,2,2-Tetrachloroethane	5	10 U	10 U	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	1 U	1 U
1,1,2-Trichloroethane	1	10 U	10 U	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	0.96 J	0.94 J
1,1-Dichloroethane	5	**6.1 J**	**20**	**35**	**24**	**43**	**17**	**73**	**16**	**49 J**	**52**	**66**	**61**	**60**
1,1-Dichloroethene	5	1.5 J	4.4 J	**9.3 J**	4	**10**	3.6	**17 J**	4.3 J	**23 J**	**22**	**19**	**83**	**90**
1,2-Dichloroethane	0.6	10 U	10 U	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	1 U	1 U
1,2-Dichloropropane	1	10 U	10 U	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	1 U	1 U
2-Butanone (MEK)	50	10 U	20 U	40 U	4 U	10 U	10 U	40 U	20 U	100 U	20 U	40 U	10 U	10 U
2-Hexanone		10 U	20 U	40 U	4 U	10 U	5 U	40 U	20 U	100 U	20 U	40 U	5 U	5 U
4-Methyl-2-pentanone (MIBK)		10 U	20 U	40 U	4 U	10 U	5 U	40 U	20 U	100 U	20 U	40 U	5 U	5 U
Acetone		10 U	2.8 J	5.2 J	4 U	5.2 J	10 U	40 U	3.5 J	16 J	52 B	36 J	10 U	10 U
Benzene	1	0.47 J	10 U	20 U	0.52 J	0.78 J	0.59 J	40 U	10 U	50 U	**1.5 J**	10 U	**1**	**1**
Bromodichloromethane	50	10 U	10 U	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	1 U	1 U
Bromoform		10 U	10 U	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	1 U	1 U
Bromomethane	5	10 U	10 U	20 U	2 U	5 U*	1 U	40 U	10 U	50 U	10 U	20 U	1 U	1 U
Carbon disulfide		10 U	10 U	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	1 U	1 U
Carbon tetrachloride	5	10 U	10 U	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	1 U	1 U
Chlorobenzene	5	10 U	10 U	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	1 U	1 U
Chloroethane	5	10 U	10 U	20 U *	2 U	5 U*	1.4	**5.8 J**	10 U	50 U *	10 U	20 U	**9.2**	**8.7**
Chloroform	7	10 U	10 U	20 U	1 U	0.68 J B	1 U	40 U	10 U	50 U	5 U	4 J B	1.4	1.4
Chloromethane		10 U	10 U *	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	1 U	1 U
cis-1,2-Dichloroethene	5	**74**	**130**	**160**	**110**	**210**	**120**	**180**	**130**	**320**	**240**	**290**	**440**	**400**
cis-1,3-Dichloropropene	0.4	10 U	10 U	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	1 U	1 U
Dibromochloromethane		10 U	10 U	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	1 U	1 U
Ethylbenzene	5	10 U	10 U	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	1 U	1 U
Methylene Chloride	5	10 U	10 U	20 U	4 U	10 U	1 U	1.9 J B	10 U	**7.9 J**	3.5 J	**33 J B**	0.69 J	0.82 J
Styrene	5	10 U	10 U	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	1 U	1 U
Tetrachloroethene	5	10 U	10 U	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	3.2	3.2
Toluene	5	10 U	10 U	3.7 J	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	1 U	1 U
trans-1,2-Dichloroethene	5	0.4 J M	10 U	20 U	0.76 J	1.9 J	1 U	40 U	10 U	50 U	5 U	10 U	2.4	2.9
trans-1,3-Dichloropropene	0.4	10 U	10 U	20 U	1 U	2.5 U	1 U	40 U	10 U	50 U	5 U	10 U	1 U	1 U
Trichloroethene	5	**45**	**46**	**52**	**20**	**46**	**48**	**79**	**85**	**160**	**130**	**210**	**580**	**550**
Vinyl chloride	2	**27**	**100**	**210**	**120**	**310**	**81**	**86**	**17**	**34 J**	**94**	**34**	**27**	**27**
Xylenes, Total		10 U	10 U	20 U	2 U	5 U	2 U	40 U	10 U	50 U	10 U	20 U	2 U	2 U
Total VOCs		156.37	310.4	488.2	288.3	673.6	278.9	982.7	385.8	1099.9	1173.0	1692	2510	2346

Notes

- Concentration exceeds NYSDEC Class GA Standarc

U - Compound was not detected at the indicated concentration

J - Compound detected below the reporting limit or
Concentration is estimated for TICS.

B - Analyte detected in the method blank and sample

E - Estimated value.

M - Manual integrated compound

* - Laboratory control sample/duplicate exceeds control limits.

1 - Sample 4009-DUP1 is a duplicate sample from 4009-2

TABLE 4-2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (VOCS)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Monitoring Interval Units	NYSDEC GA Standard ug/L	4009-9 8/14/2007 Shallow ug/L	4009-9 10/9/2008 Shallow ug/L	4009-9 6/23/2009 Shallow ug/L	4009-9 3/15/2010 Shallow ug/L	4009-9 6/15/2011 Shallow ug/L	4009-9 7/16/2012 Shallow ug/L	4009-10 8/14/2007 Shallow ug/L	4009-10 10/10/2008 Shallow ug/L	4009-10 6/22/2009 Shallow ug/L	4009-10 3/15/2010 Shallow ug/L	4009-10 6/16/2011 Shallow ug/L	4009-10 7/16/2012 Shallow ug/L
1,1,1-Trichloroethane	5	10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	1.2	1 U
1,1,2,2-Tetrachloroethane	5	10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
1,1,2-Trichloroethane	1	10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
1,1-Dichloroethane	5	10 U	5 U	5 U	5 U	0.5 U	0.46 J	10 U	5 U	5 U	5 U	0.5 U	1 U
1,1-Dichloroethene	5	10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
1,2-Dichloroethane	0.6	10 U	5 U	5 U	5 U *	0.5 U	1 U	10 U	5 U	5 U	5 U *	0.5 U	1 U
1,2-Dichloropropane	1	10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
2-Butanone (MEK)	50	10 U	10 U	10 U	10 U	2 U	10 U	10 U	10 U	10 U	10 U	2 U	10 U
2-Hexanone		10 U	10 U	10 U	10 U	2 U	5 U	10 U	10 U	10 U	10 U	2 U	5 U
4-Methyl-2-pentanone (MIBK)		10 U	10 U	10 U	10 U	2 U	5 U	10 U	10 U	10 U	10 U	2 U	5 U
Acetone		10 U	10 U	1.2 J	10 U	2 U	10 U	10 U	10 U	10 U	10 U	0.77 J	10 U
Benzene	1	10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
Bromodichloromethane	50	10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
Bromoform		10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
Bromomethane	5	10 U	5 U	5 U	5 U	1 U	1 U	10 U	5 U	5 U	5 U	1 U	1 U
Carbon disulfide		10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
Carbon tetrachloride	5	10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
Chlorobenzene	5	10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
Chloroethane	5	10 U	5 U	5 U *	5 U *	1 U	1 U	10 U	5 U	5 U *	5 U *	1 U	1 U
Chloroform	7	10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.12 J B	1 U
Chloromethane		10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
cis-1,2-Dichloroethene	5	**9.3 J**	**12**	**6.4**	**5.2**	2.5 B	**13**	10 U	5 U	5 U	5 U	0.5 U	1 U
cis-1,3-Dichloropropene	0.4	10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
Dibromochloromethane		10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
Ethylbenzene	5	10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
Methylene Chloride	5	10 U	5 U	5 U	5 U	0.22 J B	1 U	10 U	5 U	5 U	5 U	2 U	1 U
Styrene	5	10 U	5 U *	5 U	5 U	0.5 U	1 U	10 U	5 U *	5 U	5 U	0.5 U	1 U
Tetrachloroethene	5	10 U	5 U	5 U	5 U	0.28 J	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
Toluene	5	10 U	5 U	0.91 J	5 U	0.2 J	1 U	10 U	5 U	0.94 J	5 U	0.27 J	1 U
trans-1,2-Dichloroethene	5	10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
trans-1,3-Dichloropropene	0.4	10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
Trichloroethene	5	10 U	5 U	5 U	0.86 J	1.5 B	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
Vinyl chloride	2	10 U	5 U	5 U	5 U	0.5 U	1 U	10 U	5 U	5 U	5 U	0.5 U	1 U
Xylenes, Total		10 U	5 U	5 U	5 U	1 U	2 U	10 U	5 U	5 U	5 U	1 U	2 U
Total VOCs		9.3	12	8.51	6.06	4.70	13.46	0	0	0.94	0	2.36	0.00

Notes

- Concentration exceeds NYSDEC Class GA Standarc

U - Compound was not detected at the indicated concentration
J - Compound detected below the reporting limit or
Concentration is estimated for TICS.
B - Analyte detected in the method blank and sample
E - Estimated value.
M - Manual integrated compound
* - Laboratory control sample/duplicate exceeds control limits.
1 - Sample 4009-DUP1 is a duplicate sample from 4009-2

TABLE 4-2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (VOCS)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Monitoring Interval Units	NYSDEC GA Standard ug/L	4009-11 8/14/2007 Deep ug/L	4009-11 10/10/2008 Deep ug/L	4009-11 6/24/2009 Deep ug/L	4009-11 3/15/2010 Deep ug/L	4009-11 6/16/2011 Deep ug/L	4009-11 6/17/2012 Deep ug/L	4009-11A 8/14/2007 Shallow ug/L	4009-11A 10/10/2008 Shallow ug/L	4009-11A 6/24/2009 Shallow ug/L	4009-11A 3/15/2010 Shallow ug/L	4009-11A 6/16/2011 Shallow ug/L	4009-11A 7/16/2012 Shallow ug/L
1,1,1-Trichloroethane	5	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
1,1,2,2-Tetrachloroethane	5	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
1,1,2-Trichloroethane	1	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
1,1-Dichloroethane	5	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
1,1-Dichloroethene	5	10 U	5 U	0.5 U *	5 U	0.5 U	1 U	10 U	5 U	0.5 U *	5 U	0.5 U	1 U
1,2-Dichloroethane	0.6	10 U	5 U	0.5 U	5 U *	0.5 U	1 U	10 U	5 U	0.5 U	5 U *	0.5 U	1 U
1,2-Dichloropropane	1	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
2-Butanone (MEK)	50	10 U	10 U	2 U	10 U	1.4 J	10 U	10 U	10 U	2 U	10 U	2 U	10 U
2-Hexanone		10 U	10 U	2 U *	10 U	2 U	5 U	10 U	10 U	2 U *	10 U	2 U	5 U
4-Methyl-2-pentanone (MIBK)		10 U	10 U	2 U	10 U	2 U	5 U	10 U	10 U	2 U	10 U	2 U	5 U
Acetone		10 U	7.8 J B	2.7	10 U	8.9	10 U	10 U	2.4 J B	2 U	10 U	0.84 J	10 U
Benzene	1	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Bromodichloromethane	50	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Bromoform		10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Bromomethane	5	10 U	5 U	1 U	5 U	1 U	1 U	10 U	5 U	1 U	5 U	1 U	1 U
Carbon disulfide		10 U	5 U	0.67	5 U	0.42 J	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Carbon tetrachloride	5	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Chlorobenzene	5	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Chloroethane	5	10 U	5 U	1 U	5 U *	1 U	1 U	10 U	5 U	1 U	5 U *	1 U	1 U
Chloroform	7	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Chloromethane		10 U	5 U	0.5 U *	5 U	0.23 J	1 U	10 U	5 U	0.5 U *	5 U	0.5 U	1 U
cis-1,2-Dichloroethene	5	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
cis-1,3-Dichloropropene	0.4	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Dibromochloromethane		10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Ethylbenzene	5	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Methylene Chloride	5	10 U	5 U	2 U	5 U	2 U	1 U	10 U	5 U	2 U	5 U	2 U	1 U
Styrene	5	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Tetrachloroethene	5	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Toluene	5	10 U	5 U	0.99	5 U	0.3 J	1 U	10 U	5 U	0.95	5 U	0.27 J	1 U
trans-1,2-Dichloroethene	5	10 U	5 U	0.5 U *	5 U	0.5 U	1 U	10 U	5 U	0.5 U *	5 U	0.5 U	1 U
trans-1,3-Dichloropropene	0.4	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Trichloroethene	5	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Vinyl chloride	2	10 U	5 U	0.5 U	5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Xylenes, Total		10 U	5 U	2.5	5 U	1 U	2 U	10 U	5 U	1 U	5 U	1 U	2 U
Total VOCs		0	7.8	6.86	0	11.25	0.00	0	2.4	0.95	0	1.11	0.00

Notes

- Concentration exceeds NYSDEC Class GA Standarc

U - Compound was not detected at the indicated concentration

J - Compound detected below the reporting limit or
Concentration is estimated for TICS.

B - Analyte detected in the method blank and sample

E - Estimated value.

M - Manual integrated compound

* - Laboratory control sample/duplicate exceeds control limits.

1 - Sample 4009-DUP1 is a duplicate sample from 4009-2

TABLE 4-2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (VOCS)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Monitoring Interval Units	NYSDEC GA Standard ug/L	4009-12 8/15/2007 Deep ug/L	4009-12 12/12/2008 Deep ug/L	4009-12 6/24/2009 Deep ug/L	4009-12 3/15/2010 Deep ug/L	4009-12 6/15/2011 Deep ug/L	4009-12 7/16/2012 Deep ug/L	4009-12A 8/15/2007 Shallow ug/L	4009-12A 10/10/2008 Shallow ug/L	4009-12A 6/24/2009 Shallow ug/L	4009-12A 3/15/2010 Shallow ug/L	4009-12A 6/15/2011 Shallow ug/L	4009-12A 7/16/2012 Shallow ug/L
1,1,1-Trichloroethane	5	0.39 J M	**200**	**230**	**120**	**330**	**130**	**8 J**	4.1 J	**12**	**11**	**7.9**	**7.7**
1,1,2,2-Tetrachloroethane	5	10 U	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
1,1,2-Trichloroethane	1	10 U	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
1,1-Dichloroethane	5	2.4 J	**10 J**	**12**	**6.9 J**	**15**	**7.4**	**7.4 J**	**10**	**11**	**12**	**9**	**8.3**
1,1-Dichloroethene	5	0.17 J M	**11 J**	**19**	**8.9 J**	**14**	**15**	1.6 J	2.1 J	3.4 *	2.8 J	1.5	2.1
1,2-Dichloroethane	0.6	10 U	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U *	0.5 U	1 U
1,2-Dichloropropane	1	10 U	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
2-Butanone (MEK)	50	10 U	40 U	8 U	20 U	10 U	10 U	10 U	10 U	2 U	10 U	2 U	10 U
2-Hexanone		10 U	40 U	8 U	20 U	10 U	5 U	10 U	10 U	2 U *	10 U	2 U	5 U
4-Methyl-2-pentanone (MIBK)		10 U	40 U	8 U	20 U	10 U	5 U	10 U	10 U	2 U	10 U	2 U	5 U
Acetone		10 U	40 U	9.1	5 J B	11	10 U	10 U	1.6 J	2 U	10 U	2 U	10 U
Benzene	1	10 U	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Bromodichloromethane	50	10 U	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Bromoform		10 U	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Bromomethane	5	10 U	20 U	4 U	10 U	5 U	1 U	10 U	5 U	1 U	5 U	1 U	1 U
Carbon disulfide		20 J N	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Carbon tetrachloride	5	10 U	20 U	2 U	10 U	2.5 U	1 U	0.96 J	5 U	0.5 U	5 U	0.5 U	1 U
Chlorobenzene	5	10 U	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Chloroethane	5	10 U	20 U	4 U *	10 U	5 U	1 U	10 U	5 U	1 U	5 U *	1 U	1 U
Chloroform	7	10 U	20 U	2 U	10 U	0.73 J B	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Chloromethane		10 U	20 U *	2 U *	10 U	2.5 U	1 U	10 U	5 U *	0.5 U *	5 U	0.5 U	1 U
cis-1,2-Dichloroethene	5	10 U	**48**	**56**	**36**	**65**	**41**	**17**	**18**	**21**	**19**	**18**	**17**
cis-1,3-Dichloropropene	0.4	**2.7 J**	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Dibromochloromethane		10 U	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Ethylbenzene	5	10 U	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Methylene Chloride	5	10 U	20 U	**14**	10 U	**5.2 J B**	1 U	10 U	5 U	2 U	5 U	0.12 J B	1 U
Styrene	5	10 U	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Tetrachloroethene	5	10 U	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Toluene	5	10 U	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.94	5 U	0.39 J	1 U
trans-1,2-Dichloroethene	5	10 U	20 U	1.5 J	10 U	2.5 U	1 U	10 U	5 U	0.25 J *	5 U	0.5 U	1 U
trans-1,3-Dichloropropene	0.4	10 U	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Trichloroethene	5	1.3 J	**43**	**59**	**37**	**60**	**44**	3.8 J	3.8 J	**5.7**	**5**	**5.1**	**5.2**
Vinyl chloride	2	10 U	20 U	2 U	10 U	2.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	1 U
Xylenes, Total		10 U	20 U	4 U	10 U	5 U	2 U	10 U	5 U	1 U	5 U	1 U	2 U
Total VOCs		26.96	312	400.6	213.8	500.93	237.40	38.76	39.6	54.29	49.8	42.01	40.30

Notes

- Concentration exceeds NYSDEC Class GA Standarc

U - Compound was not detected at the indicated concentration

J - Compound detected below the reporting limit or
Concentration is estimated for TICS.

B - Analyte detected in the method blank and sample

E - Estimated value.

M - Manual integrated compound

* - Laboratory control sample/duplicate exceeds control limits.

1 - Sample 4009-DUP1 is a duplicate sample from 4009-2

TABLE 4-2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (VOCS)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Monitoring Interval Units	NYSDEC GA Standard ug/L	4009-13 8/15/2007 Deep ug/L	4009-13 10/10/2008 Deep ug/L	4009-13 2/3/2009 Deep ug/L	4009-13 6/24/2009 Deep ug/L	4009-13 3/17/2010 Deep ug/L	4009-13 3/17/2010 Deep ug/L	4009-13 7/16/2012 Deep ug/L	4009-13A 8/15/2007 Shallow ug/L	4009-13A 10/10/2008 Shallow ug/L	4009-13A 2/3/2009 Shallow ug/L	4009-13A 6/24/2009 Shallow ug/L	4009-13A 3/17/2010 Shallow ug/L	4009-13A 6/15/2011 Shallow ug/L	4009-13A 7/16/2012 Deep ug/L
1,1,1-Trichloroethane	5	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.35 J	0.5 U	1 U
1,1,2,2-Tetrachloroethane	5	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,1,2-Trichloroethane	1	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,1-Dichloroethane	5	10 U	5 U	0.5 U	0.5 U	0.13 J	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,1-Dichloroethene	5	10 U	5 U	0.5 U	0.5 U *	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U *	0.5 U	0.5 U	1 U
1,2-Dichloroethane	0.6	10 U	5 U	0.5 U *	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,2-Dichloropropane	1	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
2-Butanone (MEK)	50	10 U	10 U	2 U	2 U	0.59 J B	2 U	10 U	10 U	10 U	2 U	2 U	0.62 J B	2 U	10 U
2-Hexanone		10 U	10 U	2 U	2 U *	2 U	2 U	5 U	10 U	10 U	2 U	2 U *	2 U	2 U	5 U
4-Methyl-2-pentanone (MIBK)		10 U	10 U	2 U	2 U	2 U	2 U	5 U	10 U	10 U	2 U	2 U	2 U	2 U	5 U
Acetone		10 U	3.6 J B	2 U	2 U	1.5 J B	2 U	10 U	10 U	1.4 J	1.7 J B	2 U	1.1 J B	2 U	10 U
Benzene	1	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Bromodichloromethane	50	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Bromoform		10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Bromomethane	5	10 U	5 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide		10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Carbon tetrachloride	5	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Chlorobenzene	5	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Chloroethane	5	10 U	5 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	1 U	1 U	1 U	1 U	1 U
Chloroform	7	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Chloromethane		10 U	5 U	0.5 U	0.5 U *	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U *	0.5 U	0.5 U	1 U
cis-1,2-Dichloroethene	5	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
cis-1,3-Dichloropropene	0.4	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Dibromochloromethane		10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Ethylbenzene	5	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Methylene Chloride	5	10 U	5 U	2 U	2 U	2 U	0.14 J B	1 U	10 U	5 U	0.81 J B	2 U	2 U	0.15 J B	1 U
Styrene	5	10 U	5 U	0.5 U *	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U *	0.5 U *	0.5 U	0.5 U	0.5 U	1 U
Tetrachloroethene	5	10 U	5 U	0.23 J	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Toluene	5	10 U	5 U	0.5 U	1	0.5 U	0.3 J	1 U	10 U	5 U	0.5 U	0.9	0.5 U	0.5 U	1 U
trans-1,2-Dichloroethene	5	10 U	5 U	0.5 U	0.5 U *	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U *	0.5 U	0.5 U	1 U
trans-1,3-Dichloropropene	0.4	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Trichloroethene	5	10 U	5 U	0.5 U	0.5 U	0.13 J B	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.18 J B	0.5 U	1 U
Vinyl chloride	2	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Xylenes, Total		10 U	5 U	1.5 U	2.5	1 U	1 U	2 U	10 U	5 U	1.5 U	1 U	1 U	1 U	2 U
Total VOCs		0	3.6	0.23	3.5	2.35	0.44	0.00	0	1.4	2.51	0.9	2.25	0.15	0.00

Notes

- Concentration exceeds NYSDEC Class GA Standarc

U - Compound was not detected at the indicated concentration
J - Compound detected below the reporting limit or
Concentration is estimated for TICS.
B - Analyte detected in the method blank and sample
E - Estimated value.
M - Manual integrated compound
* - Laboratory control sample/duplicate exceeds control limits.
1 - Sample 4009-DUP1 is a duplicate sample from 4009-2

TABLE 4-2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (VOCS)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Monitoring Interval Units	NYSDEC GA Standard ug/L	4009-14 8/15/2007 Deep ug/L	4009-14 10/9/2008 Deep ug/L	4009-14 6/22/2009 Deep ug/L	4009-14 3/17/2010 Deep ug/L	4009-14 6/15/2011 Deep ug/L	4009-14 7/16/2012 Deep ug/L	4009-15 8/15/2007 Deep ug/L	4009-15 10/10/2008 Deep ug/L	4009-15 2/3/2009 Deep ug/L	4009-15 6/22/2009 Deep ug/L	4009-15 3/17/2010 Deep ug/L	4009-15 6/15/2011 Deep ug/L	4009-15 7/16/2012 Deep ug/L
1,1,1-Trichloroethane	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	2.9	0.5 U	2.3
1,1,2,2-Tetrachloroethane	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
1,1,2-Trichloroethane	1	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
1,1-Dichloroethane	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	1.3 J	0.71	1.1	1 U
1,1-Dichloroethene	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
1,2-Dichloroethane	0.6	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U *	5 U	0.5 U	0.5 U	1 U
1,2-Dichloropropane	1	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
2-Butanone (MEK)	50	10 U	10 U	10 U	0.4 J	2 U	10 U	10 U	10 U	2 U	10 U	0.45 J	2 U	10 U
2-Hexanone		10 U	10 U	10 U	2 U	2 U	5 U	10 U	10 U	2 U	10 U	2 U	2 U	5 U
4-Methyl-2-pentanone (MIBK)		10 U	10 U	10 U	2 U	2 U	5 U	10 U	10 U	2 U	10 U	2 U	2 U	5 U
Acetone		10 U	2.1 J B	10 U	1.1 J B	2 U	10 U	10 U	2 J	1.4 J B	10 U	1.3 J B	2 U	10 U
Benzene	1	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
Bromodichloromethane	50	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
Bromoform		10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
Bromomethane	5	10 U	5 U	5 U	1 U	1 U	1 U	10 U	5 U	1 U	5 U	1 U	1 U	1 U
Carbon disulfide		10 U	5 U	5 U	0.12 J	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
Carbon tetrachloride	5	10 U	5 U	5 U	0.5 U	0.5 U*	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
Chlorobenzene	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
Chloroethane	5	10 U	5 U	5 U	1 U	1 U	1 U	10 U	5 U	1 U	5 U *	1 U	1 U	1 U
Chloroform	7	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
Chloromethane		10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
cis-1,2-Dichloroethene	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.65	0.45 J	1 U
cis-1,3-Dichloropropene	0.4	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
Dibromochloromethane		10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
Ethylbenzene	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
Methylene Chloride	5	10 U	5 U	5 U *	2 U *	2 U	1 U	10 U	5 U	2 U	5 U	2 U *	0.15 J B	1 U
Styrene	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U *	5 U	0.5 U	0.5 U	1 U
Tetrachloroethene	5	10 U	5 U	5 U	0.5 U	0.5 U*	1 U	10 U	5 U	0.71	5 U	0.5 U	0.5 U	1 U
Toluene	5	10 U	5 U	1.1 J B	0.36 J	0.3 J*	1 U	10 U	5 U	0.5 U	0.95 J	0.5 U	0.49 J	1 U
trans-1,2-Dichloroethene	5	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
trans-1,3-Dichloropropene	0.4	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
Trichloroethene	5	10 U	5 U	5 U	0.28 J B	0.5 U	1 U	10 U	5 U	0.22 J	5 U	0.22 J B	0.5 U	1 U
Vinyl chloride	2	10 U	5 U	5 U	0.5 U	0.5 U	1 U	10 U	5 U	0.5 U	5 U	0.5 U	0.5 U	1 U
Xylenes, Total		10 U	5 U	2.5 J	1 U	1 U	2 U	10 U	5 U	1.5 U	2.5 J	1 U	1 U	2 U
Total VOCs		0	2.1	3.6	2.26	0.3	0.0	0	2	2.33	4.75	6.23	2.19	2.30

Notes

- Concentration exceeds NYSDEC Class GA Standarc

U - Compound was not detected at the indicated concentration
J - Compound detected below the reporting limit or
Concentration is estimated for TICS.
B - Analyte detected in the method blank and sample
E - Estimated value.
M - Manual integrated compound
* - Laboratory control sample/duplicate exceeds control limits.
1 - Sample 4009-DUP1 is a duplicate sample from 4009-2

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (METALS)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Monitoring Interval Units	NYSDEC GA Standard ug/L	4009-12 8/15/2007 Deep ug/L	4009-12 10/10/2008 Deep ug/L	4009-12(1) 10/10/2008 Deep ug/L	4009-12 6/24/2009 Deep ug/L
Aluminum		200 U	8360	456	85.5 U
Antimony		60.0 U	60.0 U	60.0 U	60 U
Arsenic	25	10.0 U	8.6 B	10.0 U	10 U
Barium	1000	24.9 B	117 B	72.8 B	66.6 B
Beryllium		5.0 U	0.40 B	5.0 U	0.2 U
Cadmium	5	5.0 U	0.5 B	5.0 U	5 U
Calcium		63900	150000	135000	148000
Chromium	50	10.0 U	16.5	10.0 U	10 U
Cobalt		50.0 U	29.6 B	2.3 B	50 J B
Copper	200	3.1 B	28.9	1.6 B	25 J
Iron	300	**8940**	**59500**	**3890**	**1300**
Lead	25	10.0 U	**93.3**	4.2 B	2.4 J
Magnesium		11400	25300	21500	22100
Manganese	300	247	**546**	54.6	18.9
Mercury	0.7	0.20 U	0.200 U	0.200 U	0.2 U
Nickel	100	1.7 B	21.0 B	2.1 B	40 U
Potassium		4380 B	3890 B	2540 B	2360
Selenium	10	35.0 U	35.0 U	35.0 U	35 U
Silver	50	10.0 U	10.0 U	10.0 U	10 U
Sodium	20000	**32400**	**104000**	**102000**	**109000**
Thallium		25.0 U	25.0 U	25.0 U	25 U
Vanadium		0.84 B	10.8 B	50.0 U	50 U
Zinc		60.0 U	156	10.0 B	12.5

Notes
U - The compound was not detected at the indicated concentration.
B - Analyte detected in the associated method blank.
J - Concentration greater than MDL but less than RL, result estimated
(1) - Sample results for dissolved metals.

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (METALS)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Monitoring Interval Units	NYSDEC GA Standard ug/L	4009-12 3/15/2010 Deep ug/L	4009-12[(1)] 3/15/2010 Deep ug/L	4009-12 6/15/2011 Deep ug/L	4009-12 7/17/2012 Deep ug/L
Aluminum		53.6 B, J	200 U	200 U	200 U
Antimony		60.0 U	60.0 U	60 U	20.0 U
Arsenic	25	10.0 U	10.0 U	10 U	10.0 U
Barium	1000	69.9 J	67.9 J	72.7 J	73.0
Beryllium		5.0 U	5.0 U	5 U	2.0 U
Cadmium	5	5.0 U	5.0 U	0.46 J	1.0 U
Calcium		153000	147000	153000	152000
Chromium	50	10.0 U	10.0 U	1.4 J	4.0 U
Cobalt		0.6 J	1.0 J	1.8 J	4.0 U
Copper	200	25.0 U	25.0 J	25 U	10.0 U
Iron	300	**1200**	**809**	**3800**	46.0
Lead	25	10.0 U	10.0 U	10 U	5.0 U
Magnesium		23200 B	22200	24200	22600
Manganese	300	29.2	20.2	26.8	8.0
Mercury	0.7	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100	40.0 U	40.0 U	1.5 J	10.0 U
Potassium		2970 J	2570 J	2610 J	2600
Selenium	10	35.0 U	35.0 U	35 U	1.5 U
Silver	50	10.0 U	10.0 U	10 U	3.0 U
Sodium	20000	**118000**	**114000**	**119000**	**127000**
Thallium		25.0 U	25.0 U	25 U	20.0 U
Vanadium		50.0 U	50.0 U	50 U	5.0 U
Zinc		44.1 J	41.0 J	4.8 J	2.0 J

Notes
U - The compound was not detected at the indicated concentration.
B - Analyte detected in the associated method blank.
J - Concentration greater than MDL but less than RL, result estimate
(1) - Sample results for dissolved metals.

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (METALS)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Monitoring Interval Units	NYSDEC GA Standard ug/L	4009-12A 8/15/2007 Shallow ug/L	4009-12A[(1)] 8/15/2007 Shallow ug/L	4009-12A 10/10/2008 Shallow ug/L	4009-12A[(1)] 10/10/2008 Shallow ug/L
Aluminum		200 U	67.2 B	200 U	200 U
Antimony		60.0 U	60.0 U	60.0 U	60.0 U
Arsenic	25	10.0 U	10.0 U	10.0 U	10.0 U
Barium	1000	51.2 B	49.4 B	2.0 B	0.90 B
Beryllium		0.29 B	5.0 U	5.0 U	5.0 U
Cadmium	5	5.0 U	5.0 U	5.0 U	5.0 U
Calcium		125000	126000	3960 B	2170 B
Chromium	50	10.0 U	10.0 U	2.1 B	10.0 U
Cobalt		50.0 U	50.0 U	50.0 U	50.0 U
Copper	200	3.2 B	2.0 B	25.0 U	25.0 U
Iron	300	**590**	**566**	**5480**	100 U
Lead	25	10.0 U	10.0 U	10.0 U	10.0 U
Magnesium		23200	23500	7770	9270
Manganese	300	**335**	**337**	33.3	1.3 B
Mercury	0.7	0.20 U	0.20 U	0.200 U	0.200 U
Nickel	100	1.7 B	1.4 B	2.2 B	40.0 U
Potassium		2160 B	2220 B	2080 B	2160 B
Selenium	10	35.0 U	35.0 U	35.0 U	35.0 U
Silver	50	10.0 U	10.0 U	10.0 U	10.0 U
Sodium	20000	**93500**	**93300**	**94700**	**102000**
Thallium		25.0 U	25.0 U	25.0 U	25.0 U
Vanadium		0.85 B	50.0 U	50.0 U	50.0 U
Zinc		60.0 U	60.0 U	5.2 B	60.0 U

Notes
U - The compound was not detected at the indicated concentration.
B - Analyte detected in the associated method blank.
J - Concentration greater than MDL but less than RL, result estimate
(1) - Sample results for dissolved metals.

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (METALS)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Monitoring Interval Units	NYSDEC GA Standard ug/L	4009-12A 6/24/2009 Shallow ug/L	4009-12A 3/15/2010 Shallow ug/L	4009-12A[(1)] 3/15/2010 Shallow ug/L	4009-12A 6/15/2011 Shallow ug/L	4009-12A 7/17/2012 Shallow ug/L
Aluminum		200 U	200 U	110 J	200 U	65.0 J
Antimony		20 U	60.0 U	60.0 U	60 U	20.0 U
Arsenic	25	10 U	10.0 U	10.0 U	10 U	10.0 U
Barium	1000	51.0	54.4 J	53.7 J	60.3 J	61.0
Beryllium		2 U	5.0 U	5.0 U	5 U	2.0 U
Cadmium	5	1 U	5.0 U	5.0 U	0.34 J	1.0 U
Calcium		134000	136000	135000	145000	148000
Chromium	50	4 U	10.0 U	10.0 U	10 U	4.0 U
Cobalt		4 U	50.0 U	50.0 U	50 U	4.0 U
Copper	200	10 U	25.0 U	25.0 U	25 U	10.0 U
Iron	300	**1770 B**	**13000**	**2050**	**886**	**1000**
Lead	25	5 U	10.0 U	10.0 U	10 U	5.0 U
Magnesium		25600 B	25500 B	24800	27100	24900
Manganese	300	**414 B**	**502**	**424**	**419**	**410**
Mercury	0.7	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100	10 U	3.1 J	40.0 U	40 U	10.0 U
Potassium		2280	2280 J	2060 J	2220 J	2300
Selenium	10	15 U	35.0 U	35.0 U	35 U	15.0 U
Silver	50	3 U	10.0 U	10.0 U	10 U	3.0 U
Sodium	20000	**107000**	**105000**	**105000**	**109000**	**119000**
Thallium		20 U	25.0 U	25.0 U	25 U	20.0 U
Vanadium		5 U	50.0 U	50.0 U	50 U	5.0 U
Zinc		10.1	6.2 J	60.0 U	60 U	1.7 J

Notes
U - The compound was not detected at the indicated concentration.
B - Analyte detected in the associated method blank.
J - Concentration greater than MDL but less than RL, result estimate
(1) - Sample results for dissolved metals.

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (METALS)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Monitoring Interval Units	NYSDEC GA Standard ug/L	4009-13 6/24/2009 Deep ug/L	4009-13 3/17/2010 Deep ug/L	4009-13[(1)] 3/17/2010 Deep ug/L	4009-13 6/15/2011 Deep ug/L	4009-13 7/17/2012 Deep ug/L
Aluminum		200 U	200 U	200 U	200 U	200 U
Antimony		20 U	60.0 U	60.0 U	60 U	20.0 U
Arsenic	25	6.9 J	12.0	10.9	11.7	8.3 J
Barium	1000	128 B	107 J	110 J	89 J	51.0
Beryllium		2 U	5.0 U	5.0 U	5 U	2.0 U
Cadmium	5	1 U	5.0 U	5.0 U	5 U	0.71 J
Calcium		114000	93400	95100	95000	49600
Chromium	50	4 U	10.0 U	10.0 U	1 J	4.0 U
Cobalt		4 U	1.1 J	50.0 U	50 U	4.0 U
Copper	200	10 U	25.0 U	25.0 U	25 U	10.0 U
Iron	300	**1260**	**1740**	**983**	**955**	**1600**
Lead	25	5 U	10.0 U	10.0 U	10 U	5.0 U
Magnesium		42000	43200 B	41800	40500	42400
Manganese	300	**652**	**553**	**565**	**539**	200
Mercury	0.7	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100	1.9 J	1.4 J	40.0 U	40 U	1.5 J
Potassium		2160	2190 J	2050 J	2050 J	1900
Selenium	10	15 U	35.0 U	35.0 U	35 U	15.0 U
Silver	50	3 U	10.0 U	10.0 U	10 U	3.0 U
Sodium	20000	**97500**	**95300**	**93500**	**86700**	**89300**
Thallium		20 U	25.0 U	25.0 U	25 U	20.0 U
Vanadium		5 U	50.0 U	50.0 U	50 U	5.0 U
Zinc		24.0	5.0 J	60.0 U	3.2 J	12.0 B

Notes
U - The compound was not detected at the indicated concentration.
B - Analyte detected in the associated method blank.
J - Concentration greater than MDL but less than RL, result estimate
(1) - Sample results for dissolved metals.

TABLE 4-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (METALS)
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE #7-04-009A

Sample ID Sampling Date Monitoring Interval Units	NYSDEC GA Standard ug/L	4009-15 8/15/2007 Deep ug/L	4009-15 6/22/2009 Deep ug/L	4009-15 3/17/2010 Deep ug/L	4009-15[(1)] 3/17/2010 Deep ug/L	4009-15 3/17/2010 Deep ug/L	4009-15 7/17/2012 Deep ug/L
Aluminum		200 U	80.5 J	200 U	200 U	200 U	1400
Antimony		60.0 U	20.0 U	60.0 U	60.0 U	60 U	20.0 U
Arsenic	25	10.0 U	10.0 U	10.0 U	10.0 U	10 U	10.0 U
Barium	1000	4.6 B	9.5 B	15.7 J	16.3 J	2.5 J	21.0
Beryllium		5.0 U	2.0 U	5.0 U	5.0 U	5 U	2.0 U
Cadmium	5	5.0 U	1.0 U	5.0 U	5.0 U	5 U	1.0 U
Calcium		5650	32000 B	87800	89400	8550	74400
Chromium	50	10.0 U	4 U	10.0 U	10.0 U	10 U	1.7 J
Cobalt		50.0 U	1.4 J B	0.6 J	50.0 U	50 U	0.84 J
Copper	200	3.1 B	5.2 J	25.0 U	25.0 U	25 U	3.6 J
Iron	300	**638**	**3790**	**398**	**302**	228	**6800**
Lead	25	10.0 U	5 U	10.0 U	10.0 U	10 U	6.0
Magnesium		1520 B	23900	19900 B	19800	18600	14500
Manganese	300	8.6 B	49.4	12.2 J	11.4 J	6.7 J	40.0
Mercury	0.7	0.20 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100	1.6 B	1.4 J	40.0 U	40.0 U	40 U	2.0 J
Potassium		6160	2460	1760 J	1680 J	2070 J	2600
Selenium	10	35.0 U	15 U	35.0 U	35.0 U	35 U	15.0 U
Silver	50	10.0 U	3 U	10.0 U	10.0 U	10 U	3.0 U
Sodium	20000	8750	**69300**	**66400**	**67400**	**66900**	**55900**
Thallium		25.0 U	20 U	25.0 U	25.0 U	25 U	20.0 U
Vanadium		0.78 B	5 U	50.0 U	50.0 U	50 U	2.9 J
Zinc		4.6 B	104	7.2 J	3.0 J	7.2 J	130 B

Notes
U - The compound was not detected at the indicated concentration.
B - Analyte detected in the associated method blank.
J - Concentration greater than MDL but less than RL, result estimate
(1) - Sample results for dissolved metals.

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Appendix **A**

Monthly Reports and System Operation and Maintenance Logs

ENVIRONMENTAL COMPLIANCE, INC.
101 Mount Bethel Rd.
Warren, New Jersey 07059
908-754-1700
908-754-1866 (fax)
http://www.eci-nj.com
j.jimenez@eci-nj.com (email)

Vestal Well 1-1 Monthly Report
July 2012

SECTION I – SUMMARY OF ACTIVITIES

System ran continuously until July 30 when the blower stopped working after a thunder storm. Jeremy Wyckoff inspected the system and scheduled electrician for repairs. Flow meter readings ranged between 150 GPM to 152 GPM.

SECTION II – MONTHLY OPERATIONS & MAINTENANCE

- Checked and adjusted belts
- Lubricated equipment, as needed
- Changed filters
- Routine inspection of site
- Cleaned up grounds
- Mowed Lawn

SECTION III – REPAIR WORK COMPLETED

- None

SECTION IV – REPAIR WORK NEEDED

- Electrician to inspect and repair blower, as needed.

SECTION V – RECOMMENDATIONS

- None

ENVIRONMENTAL COMPLIANCE, INC.					VESTAL WELL 1-1 MONTHLY O & M LOG														July 2012											
DAY	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
TIME																															
WELL HOUSE		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X
PRE LUBE LINE																															
PUMP MOTOR OIL																															
CHEMICAL BUILDING																															
SUMP PUMP		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X
DISCHARGE VALVES		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X
FLOW METER (GPM)*					151						150								150							152					
CHLORINE ROOM																															
GENERAL CONDITION		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X
TOWER PACKING INSP.		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X
MAIN PUMPHOUSE																															
BLOWER AND MOTOR		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X
BLOWER AIR FILTERS		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X
ALARM / CONTROL PANEL																															
CLEARWELL LEVEL		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X
OTHER*																															
GROUNDS		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X
INGROUND TANK LEVEL		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X

***Unadjusted Meter Reading**

ENVIRONMENTAL COMPLIANCE, INC.
101 Mount Bethel Rd.
Warren, New Jersey 07059
908-754-1700
908-754-1866 (fax)
http://www.eci-nj.com
j.jimenez@eci-nj.com (email)

Vestal Well 1-1 Monthly Report
August 2012

SECTION I – SUMMARY OF ACTIVITIES

System was out of service from July 30 to August 6 due to electrical problems created by thunderstorm. Repair was made by electrician retained by Arcadis. Flow meter readings ranged between 146 GPM and 147 GPM.

SECTION II – MONTHLY OPERATIONS & MAINTENANCE

- Checked and adjusted belts
- Lubricated equipment, as needed
- Changed filters
- Routine inspection of site
- Cleaned up grounds
- Mowed Lawn

SECTION III – REPAIR WORK COMPLETED

- None

SECTION IV – REPAIR WORK NEEDED

- None

SECTION V – RECOMMENDATIONS

- None

ENVIRONMENTAL COMPLIANCE, INC.							VESTAL WELL 1-1 MONTHLY O & M LOG																August 2012									
DAY	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
TIME																															
WELL HOUSE	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X
PRE LUBE LINE																															
PUMP MOTOR OIL																															
CHEMICAL BUILDING																															
SUMP PUMP	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X
DISCHARGE VALVES	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X
FLOW METER (GPM)*							146								147								147					147			
CHLORINE ROOM																															
GENERAL CONDITION	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X
TOWER PACKING INSP.	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X
MAIN PUMPHOUSE																															
BLOWER AND MOTOR	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X
BLOWER AIR FILTERS	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X
ALARM / CONTROL PANEL																															
CLEARWELL LEVEL	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X
OTHER*																															
GROUNDS	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X
INGROUND TANK LEVEL	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X

***Unadjusted Meter Reading**

ENVIRONMENTAL COMPLIANCE, INC.
101 Mount Bethel Rd.
Warren, New Jersey 07059
908-754-1700
908-754-1866 (fax)
http://www.eci-nj.com
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Vestal Well 1-1 Monthly Report
September 2012

SECTION I – SUMMARY OF ACTIVITIES

System ran uninterrupted entire month of September. Flow meter readings ranged between 143.6 GPM and 144.3 GPM.

SECTION II – MONTHLY OPERATIONS & MAINTENANCE

- Checked and adjusted belts
- Lubricated equipment, as needed
- Changed filters
- Routine inspection of site
- Cleaned up grounds
- Mowed Lawn

SECTION III – REPAIR WORK COMPLETED

- None

SECTION IV – REPAIR WORK NEEDED

- None

SECTION V – RECOMMENDATIONS

- None

ENVIRONMENTAL COMPLIANCE, INC.										VESTAL WELL 1-1 MONTHLY O & M LOG																September 2012							
DAY	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
TIME																															
WELL HOUSE	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		
PRE LUBE LINE																															
PUMP MOTOR OIL																															
CHEMICAL BUILDING																															
SUMP PUMP	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		
DISCHARGE VALVES	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		
FLOW METER (GPM)*				144								144							144							144					
CHLORINE ROOM																															
GENERAL CONDITION	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		
TOWER PACKING INSP.	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		
MAIN PUMPHOUSE																															
BLOWER AND MOTOR	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		
BLOWER AIR FILTERS	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		
ALARM / CONTROL PANEL																															
CLEARWELL LEVEL	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		
OTHER*																															
GROUNDS	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		
INGROUND TANK LEVEL	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X		

***Unadjusted Meter Reading**

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Appendix **B**

Discharge Orifice Photographs

ARCADIS MALCOLM PIRNIE

Appendix B
Discharge Orifice Photographs

Vestal Water Supply
NYSDEC Site 7-04-009A
Vestal, New York

Discharge Orifice Installed at Well 1-1A Treatment Plant Outfall

Piezometer used for Flow Measurement Calculation

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Appendix **C**

Analytical Reporting Forms

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

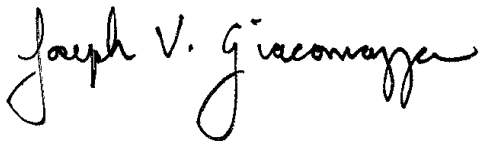
ANALYTICAL REPORT

Job Number: 480-22664-1

Job Description: NYSDEC-Standby VESTAL

For:
Malcolm Pirnie, Inc. Invoice to Arcadis
855 Route 146
Suite 210
Clifton Park, NY 12065

Attention: Mr. Jeremy Wyckoff



Approved for release.
Joe Giacomazza
Project Administrator
7/25/2012 2:46 PM

Designee for
Sally Hoffman
Project Manager II
sally.hoffman@testamericainc.com
07/25/2012

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the TestAmerica Project Manager who has signed this report. TestAmerica Buffalo NELAC Certifications: CADPH 01169CA, FLDOH E87672, ILEPA 200003, KSDOH E-10187, LADEQ 30708, MDH 036-999-337, NHELAP 2973, NJDEP NY455, NHDOH 10026, ORELAP NY200003, PADEP 68-00281, TXCEQ T-104704412-10-1

TestAmerica Laboratories, Inc.
TestAmerica Buffalo 10 Hazelwood Drive, Amherst, NY 14228-2298
Tel (716) 691-2600 Fax (716) 691-7991 www.testamericainc.com

NELAP ACCREDITED TNI LABORATORY

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Job Narrative
480-22664-1

Receipt
The samples were received on 7/17/2012 9:00 AM, 7/18/2012 9:00 AM and 7/19/2012 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.8º C, 3.0º C and 3.4º C.

GC/MS VOA
Method 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: 4009-7 (480-22664-1). Elevated reporting limits (RLs) are provided.

Method 8260B: The continuing calibration verification (CCV) for Bromomethane associated with batch 72843 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: 4009-12 (480-22732-11DL), 4009-5 (480-22732-3DL), 4009-8 (480-22732-2DL), 4009-X (480-22732-5DL). Elevated reporting limits (RLs) are provided.

Method 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for batch 73025 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: WELL-1-1A INF (480-22809-7). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

Metals
Method 6010B: The Method Blank for batch 480-73111 contained total zinc above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples 4009-13 (480-22809-1), 4009-15 (480-22809-5) was not performed.

No other analytical or quality issues were noted.

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Instrument ID: HP5973P Analysis Batch Number: 71679

Lab Sample ID: IC 480-71679/9 Client Sample ID:

Date Analyzed: 07/10/12 05:54 Lab File ID: P2004.D GC Column: ZB-624 (60) ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	4.01	Split Peak	ByrnesJ	07/10/12 08:36

Lab Sample ID: IC 480-71679/10 Client Sample ID:

Date Analyzed: 07/10/12 06:18 Lab File ID: P2005.D GC Column: ZB-624 (60) ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	4.01	Split Peak	ByrnesJ	07/10/12 08:36

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Instrument ID: HP5973P Analysis Batch Number: 73379

Lab Sample ID: CCVIS 480-73379/4 Client Sample ID:

Date Analyzed: 07/22/12 10:39 Lab File ID: P2435.D GC Column: ZB-624 (60) ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	4.00	Split Peak	ByrnesJ	07/22/12 10:53

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Instrument ID: HP5973S Analysis Batch Number: 71992

Lab Sample ID: IC 480-71992/3 Client Sample ID:

Date Analyzed: 07/11/12 19:25 Lab File ID: S15972.D GC Column: ZB-624 (60) ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromomethane	1.74	Other	jonesr	07/12/12 12:11
Methylene Chloride	2.98	Split Peak	BrandtT	07/12/12 11:53

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Instrument ID: HP5973S Analysis Batch Number: 73025

Lab Sample ID: 480-22732-2 Client Sample ID: 4009-8

Date Analyzed: 07/19/12 15:28 Lab File ID: S16191.D GC Column: ZB-624 (60) ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,1-Trichloroethane	4.29	Split Peak	diasn	07/20/12 08:28

Lab Sample ID: 480-22732-5 Client Sample ID: 4009-X

Date Analyzed: 07/19/12 16:34 Lab File ID: S16194.D GC Column: ZB-624 (60) ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,1-Trichloroethane	4.29	Peak Tail	diasn	07/20/12 08:31

Lab Sample ID: 480-22732-11 MS Client Sample ID: 4009-12 MS

Date Analyzed: 07/19/12 19:05 Lab File ID: S16201.D GC Column: ZB-624 (60) ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,1-Trichloroethane	4.30	Peak Tail	diasn	07/20/12 08:35

Lab Sample ID: 480-22732-11 MSD Client Sample ID: 4009-12 MSD

Date Analyzed: 07/19/12 19:27 Lab File ID: S16202.D GC Column: ZB-624 (60) ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,1-Trichloroethane	4.30	Peak Tail	diasn	07/20/12 08:36

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Instrument ID: HP5973S Analysis Batch Number: 73180

Lab Sample ID: CCVIS 480-73180/2 Client Sample ID:

Date Analyzed: 07/20/12 10:06 Lab File ID: S16205.D GC Column: ZB-624 (60) ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.02	Split Peak	diasn	07/20/12 10:42

SAMPLE SUMMARY

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-22664-1	4009-7	Water	07/16/2012 1630	07/17/2012 0900
480-22664-2	4009-3	Water	07/16/2012 1740	07/17/2012 0900
480-22664-3	4009-1	Water	07/16/2012 1740	07/17/2012 0900
480-22664-4	TRIP BLANK	Water	07/16/2012 0000	07/17/2012 0900
480-22732-1	4009-2	Water	07/17/2012 0845	07/18/2012 0900
480-22732-2	4009-8	Water	07/17/2012 0950	07/18/2012 0900
480-22732-3	4009-5	Water	07/17/2012 0935	07/18/2012 0900
480-22732-4	4009-4	Water	07/17/2012 1030	07/18/2012 0900
480-22732-5	4009-X	Water	07/17/2012 0000	07/18/2012 0900
480-22732-6	4009-6	Water	07/17/2012 1050	07/18/2012 0900
480-22732-7	4009-9	Water	07/17/2012 1215	07/18/2012 0900
480-22732-8	4009-10	Water	07/17/2012 1205	07/18/2012 0900
480-22732-9	4009-11A	Water	07/17/2012 1500	07/18/2012 0900
480-22732-10	4009-12A	Water	07/17/2012 1610	07/18/2012 0900
480-22732-11	4009-12	Water	07/17/2012 1610	07/18/2012 0900
480-22732-11MS	4009-12	Water	07/17/2012 1610	07/18/2012 0900
480-22732-11MSD	4009-12	Water	07/17/2012 1610	07/18/2012 0900
480-22732-12	TRIP BLANK	Water	07/17/2012 0000	07/18/2012 0900
480-22809-1	4009-13	Water	07/18/2012 1120	07/19/2012 0900
480-22809-2	4009-11	Water	07/18/2012 1430	07/19/2012 0900
480-22809-3	4009-13A	Water	07/18/2012 1410	07/19/2012 0900
480-22809-4	4009-14	Water	07/18/2012 1530	07/19/2012 0900
480-22809-5	4009-15	Water	07/18/2012 1645	07/19/2012 0900
480-22809-6	TRIP BLANK - 7-18-12	Water	07/18/2012 0000	07/19/2012 0900
480-22809-7	WELL-1-1A INF	Water	07/18/2012 1705	07/19/2012 0900
480-22809-8	WELL-1-1A EFF	Water	07/18/2012 1710	07/19/2012 0900

EXECUTIVE SUMMARY - Detections

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
480-22664-1	**4009-7**					
1,1,1-Trichloroethane		7.3		1.0	ug/L	8260B
1,1-Dichloroethane		17		1.0	ug/L	8260B
1,1-Dichloroethene		3.6		1.0	ug/L	8260B
Benzene		0.59	J	1.0	ug/L	8260B
Chloroethane		1.4		1.0	ug/L	8260B
cis-1,2-Dichloroethene		120		2.0	ug/L	8260B
Trichloroethene		48		1.0	ug/L	8260B
Vinyl chloride		81		1.0	ug/L	8260B
480-22664-2	**4009-3**					
1,1,1-Trichloroethane		74		1.0	ug/L	8260B
1,1-Dichloroethane		14		1.0	ug/L	8260B
1,1-Dichloroethene		0.88	J	1.0	ug/L	8260B
cis-1,2-Dichloroethene		35		1.0	ug/L	8260B
Trichloroethene		11		1.0	ug/L	8260B
Vinyl chloride		70		1.0	ug/L	8260B
480-22664-3	**4009-1**					
1,1-Dichloroethane		0.80	J	1.0	ug/L	8260B
cis-1,2-Dichloroethene		2.4		1.0	ug/L	8260B
Tetrachloroethene		1.4		1.0	ug/L	8260B
Trichloroethene		1.6		1.0	ug/L	8260B
480-22732-1	**4009-2**					
1,1-Dichloroethane		1.4		1.0	ug/L	8260B
cis-1,2-Dichloroethene		37		1.0	ug/L	8260B
trans-1,2-Dichloroethene		0.91	J	1.0	ug/L	8260B
Trichloroethene		3.0		1.0	ug/L	8260B
Vinyl chloride		2.0		1.0	ug/L	8260B

EXECUTIVE SUMMARY - Detections

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
480-22732-2	**4009-8**					
1,1,1-Trichloroethane		1300		40	ug/L	8260B
1,1,2-Trichloroethane		0.96	J	1.0	ug/L	8260B
1,1-Dichloroethane		61		1.0	ug/L	8260B
1,1-Dichloroethene		83		1.0	ug/L	8260B
Benzene		1.0		1.0	ug/L	8260B
Chloroethane		9.2		1.0	ug/L	8260B
Chloroform		1.4		1.0	ug/L	8260B
cis-1,2-Dichloroethene		440		40	ug/L	8260B
Methylene Chloride		0.69	J	1.0	ug/L	8260B
Tetrachloroethene		3.2		1.0	ug/L	8260B
trans-1,2-Dichloroethene		2.4		1.0	ug/L	8260B
Trichloroethene		580		40	ug/L	8260B
Vinyl chloride		27		1.0	ug/L	8260B
480-22732-3	**4009-5**					
1,1-Dichloroethane		2.3		1.0	ug/L	8260B
1,1-Dichloroethene		2.0		1.0	ug/L	8260B
cis-1,2-Dichloroethene		250		8.0	ug/L	8260B
trans-1,2-Dichloroethene		1.4		1.0	ug/L	8260B
Trichloroethene		29		1.0	ug/L	8260B
Vinyl chloride		21		1.0	ug/L	8260B
480-22732-4	**4009-4**					
cis-1,2-Dichloroethene		31		1.0	ug/L	8260B
Trichloroethene		1.3		1.0	ug/L	8260B
480-22732-5	**4009-X**					
1,1,1-Trichloroethane		1200		40	ug/L	8260B
1,1,2-Trichloroethane		0.94	J	1.0	ug/L	8260B
1,1-Dichloroethane		60		1.0	ug/L	8260B
1,1-Dichloroethene		90		1.0	ug/L	8260B
Benzene		1.0		1.0	ug/L	8260B
Chloroethane		8.7		1.0	ug/L	8260B
Chloroform		1.4		1.0	ug/L	8260B
cis-1,2-Dichloroethene		400		40	ug/L	8260B
Methylene Chloride		0.82	J	1.0	ug/L	8260B
Tetrachloroethene		3.2		1.0	ug/L	8260B
trans-1,2-Dichloroethene		2.9		1.0	ug/L	8260B
Trichloroethene		550		40	ug/L	8260B
Vinyl chloride		27		1.0	ug/L	8260B

EXECUTIVE SUMMARY - Detections

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
480-22732-7	**4009-9**					
1,1-Dichloroethane		0.46	J	1.0	ug/L	8260B
cis-1,2-Dichloroethene		13		1.0	ug/L	8260B
480-22732-10	**4009-12A**					
1,1,1-Trichloroethane		7.7		1.0	ug/L	8260B
1,1-Dichloroethane		8.3		1.0	ug/L	8260B
1,1-Dichloroethene		2.1		1.0	ug/L	8260B
cis-1,2-Dichloroethene		17		1.0	ug/L	8260B
Trichloroethene		5.2		1.0	ug/L	8260B
Aluminum		0.065	J	0.20	mg/L	6010B
Barium		0.061		0.0020	mg/L	6010B
Calcium		148		0.50	mg/L	6010B
Iron		1.0		0.050	mg/L	6010B
Magnesium		24.9		0.20	mg/L	6010B
Manganese		0.41		0.0030	mg/L	6010B
Potassium		2.3		0.50	mg/L	6010B
Sodium		119		1.0	mg/L	6010B
Zinc		0.0017	J	0.010	mg/L	6010B
480-22732-11	**4009-12**					
1,1,1-Trichloroethane		130		4.0	ug/L	8260B
1,1-Dichloroethane		7.4		1.0	ug/L	8260B
1,1-Dichloroethene		15		1.0	ug/L	8260B
cis-1,2-Dichloroethene		41		1.0	ug/L	8260B
Trichloroethene		44		1.0	ug/L	8260B
Barium		0.073		0.0020	mg/L	6010B
Calcium		152		0.50	mg/L	6010B
Iron		0.46		0.050	mg/L	6010B
Magnesium		22.6		0.20	mg/L	6010B
Manganese		0.0080		0.0030	mg/L	6010B
Potassium		2.6		0.50	mg/L	6010B
Sodium		127		1.0	mg/L	6010B
Zinc		0.0020	J	0.010	mg/L	6010B

EXECUTIVE SUMMARY - Detections

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
480-22809-1	**4009-13**					
Arsenic		0.0083	J	0.010	mg/L	6010B
Barium		0.051		0.0020	mg/L	6010B
Cadmium		0.00071	J	0.0010	mg/L	6010B
Calcium		49.6		0.50	mg/L	6010B
Iron		1.6		0.050	mg/L	6010B
Magnesium		42.4		0.20	mg/L	6010B
Manganese		0.20		0.0030	mg/L	6010B
Nickel		0.0015	J	0.010	mg/L	6010B
Potassium		1.9		0.50	mg/L	6010B
Sodium		89.3		1.0	mg/L	6010B
Zinc		0.012	B	0.010	mg/L	6010B
480-22809-5	**4009-15**					
1,1,1-Trichloroethane		2.3		1.0	ug/L	8260B
Aluminum		1.4		0.20	mg/L	6010B
Barium		0.021		0.0020	mg/L	6010B
Calcium		74.4		0.50	mg/L	6010B
Chromium		0.0017	J	0.0040	mg/L	6010B
Cobalt		0.00084	J	0.0040	mg/L	6010B
Copper		0.0036	J	0.010	mg/L	6010B
Iron		6.8		0.050	mg/L	6010B
Lead		0.0060		0.0050	mg/L	6010B
Magnesium		14.5		0.20	mg/L	6010B
Manganese		0.040		0.0030	mg/L	6010B
Nickel		0.0020	J	0.010	mg/L	6010B
Potassium		2.6		0.50	mg/L	6010B
Sodium		55.9		1.0	mg/L	6010B
Vanadium		0.0029	J	0.0050	mg/L	6010B
Zinc		0.13	B	0.010	mg/L	6010B
480-22809-7	**WELL-1-1A INF**					
1,1,1-Trichloroethane		160		2.0	ug/L	8260B
1,1-Dichloroethane		19		2.0	ug/L	8260B
1,1-Dichloroethene		11		2.0	ug/L	8260B
cis-1,2-Dichloroethene		44		2.0	ug/L	8260B
Trichloroethene		46		2.0	ug/L	8260B
Vinyl chloride		6.1		2.0	ug/L	8260B

METHOD SUMMARY

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds (GC/MS)	TAL BUF	SW846 8260B	
Purge and Trap	TAL BUF		SW846 5030B
Metals (ICP)	TAL BUF	SW846 6010B	
Preparation, Total Metals	TAL BUF		SW846 3005A
Mercury (CVAA)	TAL BUF	SW846 7470A	
Preparation, Mercury	TAL BUF		SW846 7470A

Lab References:

TAL BUF = TestAmerica Buffalo

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Method	Analyst	Analyst ID
SW846 8260B	Byrnes, Jennifer M	JMB
SW846 8260B	Cwiklinski, Charles D	CDC
SW846 8260B	Dias, Nicole	ND
SW846 6010B	Hawrysiak, Allison	AH
SW846 6010B	Marzolf, Michelle	MM
SW846 7470A	Kacalski, Jason	JRK

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-7**

Lab Sample ID: 480-22664-1
Client Matrix: Water

Date Sampled: 07/16/2012 1630
Date Received: 07/17/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-72793	Instrument ID:	HP5973P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P2292.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/18/2012 0808			Final Weight/Volume:	5 mL
Prep Date:	07/18/2012 0808				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	7.3		0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	17		0.38	1.0
1,1-Dichloroethene	3.6		0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	0.59	J	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.4		0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	130	E	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	48		0.46	1.0
Vinyl chloride	81		0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	84		66 - 137
Toluene-d8 (Surr)	85		71 - 126
4-Bromofluorobenzene (Surr)	96		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-7**

Lab Sample ID: 480-22664-1
Client Matrix: Water

Date Sampled: 07/16/2012 1630
Date Received: 07/17/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-72843	Instrument ID:	HP5973P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P2304.D
Dilution:	2.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/18/2012 1326	Run Type:	DL	Final Weight/Volume:	5 mL
Prep Date:	07/18/2012 1326				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	6.0		1.6	2.0
1,1,2,2-Tetrachloroethane	2.0	U	0.42	2.0
1,1,2-Trichloroethane	2.0	U	0.46	2.0
1,1-Dichloroethane	15		0.76	2.0
1,1-Dichloroethene	3.0		0.58	2.0
1,2-Dibromoethane	2.0	U	1.5	2.0
1,2-Dichloroethane	2.0	U	0.42	2.0
1,2-Dichloropropane	2.0	U	1.4	2.0
2-Hexanone	10	U	2.5	10
2-Butanone (MEK)	20	U	2.6	20
4-Methyl-2-pentanone (MIBK)	10	U	4.2	10
Acetone	20	U	6.0	20
Benzene	2.0	U	0.82	2.0
Bromodichloromethane	2.0	U	0.78	2.0
Bromoform	2.0	U	0.52	2.0
Bromomethane	2.0	U	1.4	2.0
Carbon disulfide	2.0	U	0.38	2.0
Carbon tetrachloride	2.0	U	0.54	2.0
Chlorobenzene	2.0	U	1.5	2.0
Dibromochloromethane	2.0	U	0.64	2.0
Chloroethane	2.0	U	0.64	2.0
Chloroform	2.0	U	0.68	2.0
Chloromethane	2.0	U	0.70	2.0
cis-1,2-Dichloroethene	120		1.6	2.0
cis-1,3-Dichloropropene	2.0	U	0.72	2.0
Ethylbenzene	2.0	U	1.5	2.0
Methylene Chloride	2.0	U	0.88	2.0
Styrene	2.0	U	1.5	2.0
Tetrachloroethene	2.0	U	0.72	2.0
Toluene	2.0	U	1.0	2.0
trans-1,2-Dichloroethene	2.0	U	1.8	2.0
trans-1,3-Dichloropropene	2.0	U	0.74	2.0
Trichloroethene	41		0.92	2.0
Vinyl chloride	69		1.8	2.0
Xylenes, Total	4.0	U	1.3	4.0
m,p-Xylene	4.0	U	1.3	4.0
o-Xylene	2.0	U	1.5	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	82		66 - 137
Toluene-d8 (Surr)	81		71 - 126
4-Bromofluorobenzene (Surr)	92		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-3**

Lab Sample ID: 480-22664-2
Client Matrix: Water

Date Sampled: 07/16/2012 1740
Date Received: 07/17/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-72793	Instrument ID:	HP5973P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P2293.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/18/2012 0832			Final Weight/Volume:	5 mL
Prep Date:	07/18/2012 0832				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	74		0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	14		0.38	1.0
1,1-Dichloroethene	0.88	J	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	35		0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	11		0.46	1.0
Vinyl chloride	70		0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	84		66 - 137
Toluene-d8 (Surr)	83		71 - 126
4-Bromofluorobenzene (Surr)	94		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-1**

Lab Sample ID: 480-22664-3
Client Matrix: Water

Date Sampled: 07/16/2012 1740
Date Received: 07/17/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-72793	Instrument ID:	HP5973P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P2294.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/18/2012 0857			Final Weight/Volume:	5 mL
Prep Date:	07/18/2012 0857				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	0.80	J	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	2.4		0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.4		0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.6		0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	83		66 - 137
Toluene-d8 (Surr)	83		71 - 126
4-Bromofluorobenzene (Surr)	94		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 480-22664-4
Client Matrix: Water

Date Sampled: 07/16/2012 0000
Date Received: 07/17/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-72793	Instrument ID:	HP5973P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P2295.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/18/2012 0921			Final Weight/Volume:	5 mL
Prep Date:	07/18/2012 0921				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	84		66 - 137
Toluene-d8 (Surr)	83		71 - 126
4-Bromofluorobenzene (Surr)	94		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-2**

Lab Sample ID: 480-22732-1
Client Matrix: Water

Date Sampled: 07/17/2012 0845
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16190.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1507			Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1507				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.4		0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	37		0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	0.91	J	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	3.0		0.46	1.0
Vinyl chloride	2.0		0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	113		66 - 137
Toluene-d8 (Surr)	114		71 - 126
4-Bromofluorobenzene (Surr)	107		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-8**

Lab Sample ID: 480-22732-2
Client Matrix: Water

Date Sampled: 07/17/2012 0950
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16191.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1528			Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1528				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	970	E	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	0.96	J	0.23	1.0
1,1-Dichloroethane	61		0.38	1.0
1,1-Dichloroethene	83		0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0		0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	9.2		0.32	1.0
Chloroform	1.4		0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	330	E	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	0.69	J	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	3.2		0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	2.4		0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	440	E	0.46	1.0
Vinyl chloride	27		0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	110		66 - 137
Toluene-d8 (Surr)	114		71 - 126
4-Bromofluorobenzene (Surr)	105		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-8**

Lab Sample ID: 480-22732-2
Client Matrix: Water

Date Sampled: 07/17/2012 0950
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73180	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16209.D
Dilution:	40			Initial Weight/Volume:	5 mL
Analysis Date:	07/20/2012 1156	Run Type:	DL	Final Weight/Volume:	5 mL
Prep Date:	07/20/2012 1156				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1300		33	40
1,1,2,2-Tetrachloroethane	40	U	8.4	40
1,1,2-Trichloroethane	40	U	9.2	40
1,1-Dichloroethane	77		15	40
1,1-Dichloroethene	110		12	40
1,2-Dibromoethane	40	U	29	40
1,2-Dichloroethane	40	U	8.4	40
1,2-Dichloropropane	40	U	29	40
2-Hexanone	200	U	50	200
2-Butanone (MEK)	400	U	53	400
4-Methyl-2-pentanone (MIBK)	200	U	84	200
Acetone	400	U	120	400
Benzene	40	U	16	40
Bromodichloromethane	40	U	16	40
Bromoform	40	U	10	40
Bromomethane	40	U	28	40
Carbon disulfide	40	U	7.6	40
Carbon tetrachloride	40	U	11	40
Chlorobenzene	40	U	30	40
Dibromochloromethane	40	U	13	40
Chloroethane	40	U	13	40
Chloroform	40	U	14	40
Chloromethane	40	U	14	40
cis-1,2-Dichloroethene	440		32	40
cis-1,3-Dichloropropene	40	U	14	40
Ethylbenzene	40	U	30	40
Methylene Chloride	40	U	18	40
Styrene	40	U	29	40
Tetrachloroethene	40	U	14	40
Toluene	40	U	20	40
trans-1,2-Dichloroethene	40	U	36	40
trans-1,3-Dichloropropene	40	U	15	40
Trichloroethene	580		18	40
Vinyl chloride	36	J	36	40
Xylenes, Total	80	U	26	80
m,p-Xylene	80	U	26	80
o-Xylene	40	U	30	40

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	122		66 - 137
Toluene-d8 (Surr)	119		71 - 126
4-Bromofluorobenzene (Surr)	110		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-5**

Lab Sample ID: 480-22732-3
Client Matrix: Water

Date Sampled: 07/17/2012 0935
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16192.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1550			Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1550				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	2.3		0.38	1.0
1,1-Dichloroethene	2.0		0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	240	E	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.4		0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	29		0.46	1.0
Vinyl chloride	21		0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	112		66 - 137
Toluene-d8 (Surr)	114		71 - 126
4-Bromofluorobenzene (Surr)	105		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-5**

Lab Sample ID: 480-22732-3
Client Matrix: Water

Date Sampled: 07/17/2012 0935
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73180	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16210.D
Dilution:	8.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/20/2012 1218	Run Type:	DL	Final Weight/Volume:	5 mL
Prep Date:	07/20/2012 1218				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	8.0	U	6.6	8.0
1,1,2,2-Tetrachloroethane	8.0	U	1.7	8.0
1,1,2-Trichloroethane	8.0	U	1.8	8.0
1,1-Dichloroethane	8.0	U	3.0	8.0
1,1-Dichloroethene	8.0	U	2.3	8.0
1,2-Dibromoethane	8.0	U	5.8	8.0
1,2-Dichloroethane	8.0	U	1.7	8.0
1,2-Dichloropropane	8.0	U	5.8	8.0
2-Hexanone	40	U	9.9	40
2-Butanone (MEK)	80	U	11	80
4-Methyl-2-pentanone (MIBK)	40	U	17	40
Acetone	80	U	24	80
Benzene	8.0	U	3.3	8.0
Bromodichloromethane	8.0	U	3.1	8.0
Bromoform	8.0	U	2.1	8.0
Bromomethane	8.0	U	5.5	8.0
Carbon disulfide	8.0	U	1.5	8.0
Carbon tetrachloride	8.0	U	2.2	8.0
Chlorobenzene	8.0	U	6.0	8.0
Dibromochloromethane	8.0	U	2.6	8.0
Chloroethane	8.0	U	2.6	8.0
Chloroform	8.0	U	2.7	8.0
Chloromethane	8.0	U	2.8	8.0
cis-1,2-Dichloroethene	250		6.5	8.0
cis-1,3-Dichloropropene	8.0	U	2.9	8.0
Ethylbenzene	8.0	U	5.9	8.0
Methylene Chloride	8.0	U	3.5	8.0
Styrene	8.0	U	5.8	8.0
Tetrachloroethene	8.0	U	2.9	8.0
Toluene	8.0	U	4.1	8.0
trans-1,2-Dichloroethene	8.0	U	7.2	8.0
trans-1,3-Dichloropropene	8.0	U	3.0	8.0
Trichloroethene	28		3.7	8.0
Vinyl chloride	22		7.2	8.0
Xylenes, Total	16	U	5.3	16
m,p-Xylene	16	U	5.3	16
o-Xylene	8.0	U	6.1	8.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	119		66 - 137
Toluene-d8 (Surr)	120		71 - 126
4-Bromofluorobenzene (Surr)	111		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-4**

Lab Sample ID: 480-22732-4
Client Matrix: Water

Date Sampled: 07/17/2012 1030
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16193.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1612			Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1612				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	31		0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.3		0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	111		66 - 137
Toluene-d8 (Surr)	111		71 - 126
4-Bromofluorobenzene (Surr)	104		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-X**

Lab Sample ID: 480-22732-5
Client Matrix: Water

Date Sampled: 07/17/2012 0000
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16194.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1634			Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1634				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	950	E	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	0.94	J	0.23	1.0
1,1-Dichloroethane	60		0.38	1.0
1,1-Dichloroethene	90		0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0		0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	8.7		0.32	1.0
Chloroform	1.4		0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	320	E	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	0.82	J	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	3.2		0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	2.9		0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	430	E	0.46	1.0
Vinyl chloride	27		0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	111		66 - 137
Toluene-d8 (Surr)	116		71 - 126
4-Bromofluorobenzene (Surr)	105		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-X**

Lab Sample ID: 480-22732-5
Client Matrix: Water

Date Sampled: 07/17/2012 0000
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73180	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16211.D
Dilution:	40			Initial Weight/Volume:	5 mL
Analysis Date:	07/20/2012 1240	Run Type:	DL	Final Weight/Volume:	5 mL
Prep Date:	07/20/2012 1240				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1200		33	40
1,1,2,2-Tetrachloroethane	40	U	8.4	40
1,1,2-Trichloroethane	40	U	9.2	40
1,1-Dichloroethane	70		15	40
1,1-Dichloroethene	110		12	40
1,2-Dibromoethane	40	U	29	40
1,2-Dichloroethane	40	U	8.4	40
1,2-Dichloropropane	40	U	29	40
2-Hexanone	200	U	50	200
2-Butanone (MEK)	400	U	53	400
4-Methyl-2-pentanone (MIBK)	200	U	84	200
Acetone	400	U	120	400
Benzene	40	U	16	40
Bromodichloromethane	40	U	16	40
Bromoform	40	U	10	40
Bromomethane	40	U	28	40
Carbon disulfide	40	U	7.6	40
Carbon tetrachloride	40	U	11	40
Chlorobenzene	40	U	30	40
Dibromochloromethane	40	U	13	40
Chloroethane	40	U	13	40
Chloroform	40	U	14	40
Chloromethane	40	U	14	40
cis-1,2-Dichloroethene	400		32	40
cis-1,3-Dichloropropene	40	U	14	40
Ethylbenzene	40	U	30	40
Methylene Chloride	40	U	18	40
Styrene	40	U	29	40
Tetrachloroethene	40	U	14	40
Toluene	40	U	20	40
trans-1,2-Dichloroethene	40	U	36	40
trans-1,3-Dichloropropene	40	U	15	40
Trichloroethene	550		18	40
Vinyl chloride	40	U	36	40
Xylenes, Total	80	U	26	80
m,p-Xylene	80	U	26	80
o-Xylene	40	U	30	40

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	110		66 - 137
Toluene-d8 (Surr)	115		71 - 126
4-Bromofluorobenzene (Surr)	105		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-6**

Lab Sample ID: 480-22732-6
Client Matrix: Water

Date Sampled: 07/17/2012 1050
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16195.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1655			Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1655				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	110		66 - 137
Toluene-d8 (Surr)	113		71 - 126
4-Bromofluorobenzene (Surr)	104		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-9**

Lab Sample ID: 480-22732-7
Client Matrix: Water

Date Sampled: 07/17/2012 1215
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16196.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1716			Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1716				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	0.46	J	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	13		0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	110		66 - 137
Toluene-d8 (Surr)	113		71 - 126
4-Bromofluorobenzene (Surr)	106		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-10**

Lab Sample ID: 480-22732-8
Client Matrix: Water

Date Sampled: 07/17/2012 1205
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16197.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1738			Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1738				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	110		66 - 137
Toluene-d8 (Surr)	111		71 - 126
4-Bromofluorobenzene (Surr)	106		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-11A**

Lab Sample ID: 480-22732-9
Client Matrix: Water

Date Sampled: 07/17/2012 1500
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16198.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1800			Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1800				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	109		66 - 137
Toluene-d8 (Surr)	113		71 - 126
4-Bromofluorobenzene (Surr)	106		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-12A**

Lab Sample ID: 480-22732-10
Client Matrix: Water

Date Sampled: 07/17/2012 1610
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16199.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1822			Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1822				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	7.7		0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	8.3		0.38	1.0
1,1-Dichloroethene	2.1		0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	17		0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	5.2		0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	112		66 - 137
Toluene-d8 (Surr)	113		71 - 126
4-Bromofluorobenzene (Surr)	106		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-12**

Lab Sample ID: 480-22732-11
Client Matrix: Water

Date Sampled: 07/17/2012 1610
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16200.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1843			Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1843				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	140	E	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	7.4		0.38	1.0
1,1-Dichloroethene	15		0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	41		0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	44		0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	113		66 - 137
Toluene-d8 (Surr)	115		71 - 126
4-Bromofluorobenzene (Surr)	106		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-12**

Lab Sample ID: 480-22732-11
Client Matrix: Water

Date Sampled: 07/17/2012 1610
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73180	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16212.D
Dilution:	4.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/20/2012 1302	Run Type:	DL	Final Weight/Volume:	5 mL
Prep Date:	07/20/2012 1302				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	130		3.3	4.0
1,1,2,2-Tetrachloroethane	4.0	U	0.84	4.0
1,1,2-Trichloroethane	4.0	U	0.92	4.0
1,1-Dichloroethane	7.3		1.5	4.0
1,1-Dichloroethene	18		1.2	4.0
1,2-Dibromoethane	4.0	U	2.9	4.0
1,2-Dichloroethane	4.0	U	0.84	4.0
1,2-Dichloropropane	4.0	U	2.9	4.0
2-Hexanone	20	U	5.0	20
2-Butanone (MEK)	40	U	5.3	40
4-Methyl-2-pentanone (MIBK)	20	U	8.4	20
Acetone	40	U	12	40
Benzene	4.0	U	1.6	4.0
Bromodichloromethane	4.0	U	1.6	4.0
Bromoform	4.0	U	1.0	4.0
Bromomethane	4.0	U	2.8	4.0
Carbon disulfide	4.0	U	0.76	4.0
Carbon tetrachloride	4.0	U	1.1	4.0
Chlorobenzene	4.0	U	3.0	4.0
Dibromochloromethane	4.0	U	1.3	4.0
Chloroethane	4.0	U	1.3	4.0
Chloroform	4.0	U	1.4	4.0
Chloromethane	4.0	U	1.4	4.0
cis-1,2-Dichloroethene	40		3.2	4.0
cis-1,3-Dichloropropene	4.0	U	1.4	4.0
Ethylbenzene	4.0	U	3.0	4.0
Methylene Chloride	4.0	U	1.8	4.0
Styrene	4.0	U	2.9	4.0
Tetrachloroethene	4.0	U	1.4	4.0
Toluene	4.0	U	2.0	4.0
trans-1,2-Dichloroethene	4.0	U	3.6	4.0
trans-1,3-Dichloropropene	4.0	U	1.5	4.0
Trichloroethene	42		1.8	4.0
Vinyl chloride	4.0	U	3.6	4.0
Xylenes, Total	8.0	U	2.6	8.0
m,p-Xylene	8.0	U	2.6	8.0
o-Xylene	4.0	U	3.0	4.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	114		66 - 137
Toluene-d8 (Surr)	116		71 - 126
4-Bromofluorobenzene (Surr)	105		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 480-22732-12
Client Matrix: Water

Date Sampled: 07/17/2012 0000
Date Received: 07/18/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S16203.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1949			Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1949				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	110		66 - 137
Toluene-d8 (Surr)	114		71 - 126
4-Bromofluorobenzene (Surr)	107		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-13**

Lab Sample ID: 480-22809-1
Client Matrix: Water

Date Sampled: 07/18/2012 1120
Date Received: 07/19/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73379	Instrument ID:	HP5973P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P2443.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/22/2012 1412			Final Weight/Volume:	5 mL
Prep Date:	07/22/2012 1412				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93		66 - 137
Toluene-d8 (Surr)	90		71 - 126
4-Bromofluorobenzene (Surr)	98		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-11**

Lab Sample ID: 480-22809-2
Client Matrix: Water

Date Sampled: 07/18/2012 1430
Date Received: 07/19/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73379	Instrument ID:	HP5973P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P2444.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/22/2012 1437			Final Weight/Volume:	5 mL
Prep Date:	07/22/2012 1437				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		66 - 137
Toluene-d8 (Surr)	90		71 - 126
4-Bromofluorobenzene (Surr)	98		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-13A**

Lab Sample ID: 480-22809-3
Client Matrix: Water

Date Sampled: 07/18/2012 1410
Date Received: 07/19/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73379	Instrument ID:	HP5973P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P2445.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/22/2012 1502			Final Weight/Volume:	5 mL
Prep Date:	07/22/2012 1502				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		66 - 137
Toluene-d8 (Surr)	88		71 - 126
4-Bromofluorobenzene (Surr)	97		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-14**

Lab Sample ID: 480-22809-4
Client Matrix: Water

Date Sampled: 07/18/2012 1530
Date Received: 07/19/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73379	Instrument ID:	HP5973P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P2446.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/22/2012 1527			Final Weight/Volume:	5 mL
Prep Date:	07/22/2012 1527				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		66 - 137
Toluene-d8 (Surr)	88		71 - 126
4-Bromofluorobenzene (Surr)	98		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-15**

Lab Sample ID: 480-22809-5
Client Matrix: Water

Date Sampled: 07/18/2012 1645
Date Received: 07/19/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73379	Instrument ID:	HP5973P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P2447.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/22/2012 1552			Final Weight/Volume:	5 mL
Prep Date:	07/22/2012 1552				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	2.3		0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93		66 - 137
Toluene-d8 (Surr)	91		71 - 126
4-Bromofluorobenzene (Surr)	101		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **TRIP BLANK - 7-18-12**

Lab Sample ID: 480-22809-6
Client Matrix: Water

Date Sampled: 07/18/2012 0000
Date Received: 07/19/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73379	Instrument ID:	HP5973P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P2448.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/22/2012 1617			Final Weight/Volume:	5 mL
Prep Date:	07/22/2012 1617				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	92		66 - 137
Toluene-d8 (Surr)	90		71 - 126
4-Bromofluorobenzene (Surr)	102		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **WELL-1-1A INF**

Lab Sample ID: 480-22809-7
Client Matrix: Water

Date Sampled: 07/18/2012 1705
Date Received: 07/19/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73379	Instrument ID:	HP5973P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P2449.D
Dilution:	2.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/22/2012 1642			Final Weight/Volume:	5 mL
Prep Date:	07/22/2012 1642				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	160		1.6	2.0
1,1,2,2-Tetrachloroethane	2.0	U	0.42	2.0
1,1,2-Trichloroethane	2.0	U	0.46	2.0
1,1-Dichloroethane	19		0.76	2.0
1,1-Dichloroethene	11		0.58	2.0
1,2-Dibromoethane	2.0	U	1.5	2.0
1,2-Dichloroethane	2.0	U	0.42	2.0
1,2-Dichloropropane	2.0	U	1.4	2.0
2-Hexanone	10	U	2.5	10
2-Butanone (MEK)	20	U	2.6	20
4-Methyl-2-pentanone (MIBK)	10	U	4.2	10
Acetone	20	U	6.0	20
Benzene	2.0	U	0.82	2.0
Bromodichloromethane	2.0	U	0.78	2.0
Bromoform	2.0	U	0.52	2.0
Bromomethane	2.0	U	1.4	2.0
Carbon disulfide	2.0	U	0.38	2.0
Carbon tetrachloride	2.0	U	0.54	2.0
Chlorobenzene	2.0	U	1.5	2.0
Dibromochloromethane	2.0	U	0.64	2.0
Chloroethane	2.0	U	0.64	2.0
Chloroform	2.0	U	0.68	2.0
Chloromethane	2.0	U	0.70	2.0
cis-1,2-Dichloroethene	44		1.6	2.0
cis-1,3-Dichloropropene	2.0	U	0.72	2.0
Ethylbenzene	2.0	U	1.5	2.0
Methylene Chloride	2.0	U	0.88	2.0
Styrene	2.0	U	1.5	2.0
Tetrachloroethene	2.0	U	0.72	2.0
Toluene	2.0	U	1.0	2.0
trans-1,2-Dichloroethene	2.0	U	1.8	2.0
trans-1,3-Dichloropropene	2.0	U	0.74	2.0
Trichloroethene	46		0.92	2.0
Vinyl chloride	6.1		1.8	2.0
Xylenes, Total	4.0	U	1.3	4.0
m,p-Xylene	4.0	U	1.3	4.0
o-Xylene	2.0	U	1.5	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	97		66 - 137
Toluene-d8 (Surr)	92		71 - 126
4-Bromofluorobenzene (Surr)	103		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **WELL-1-1A EFF**

Lab Sample ID: 480-22809-8
Client Matrix: Water

Date Sampled: 07/18/2012 1710
Date Received: 07/19/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-73379	Instrument ID:	HP5973P
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	P2450.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/22/2012 1706			Final Weight/Volume:	5 mL
Prep Date:	07/22/2012 1706				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		66 - 137
Toluene-d8 (Surr)	87		71 - 126
4-Bromofluorobenzene (Surr)	97		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-12A**

Lab Sample ID: 480-22732-10
Client Matrix: Water

Date Sampled: 07/17/2012 1610
Date Received: 07/18/2012 0900

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	480-73194	Instrument ID:	ICAP1
Prep Method:	3005A	Prep Batch:	480-73017	Lab File ID:	I1071912B-5.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	07/19/2012 2215			Final Weight/Volume:	50 mL
Prep Date:	07/19/2012 1050				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Aluminum	0.065	J	0.060	0.20
Antimony	0.020	U	0.0068	0.020
Arsenic	0.010	U	0.0056	0.010
Barium	0.061		0.00070	0.0020
Beryllium	0.0020	U	0.00030	0.0020
Cadmium	0.0010	U	0.00050	0.0010
Calcium	148		0.10	0.50
Chromium	0.0040	U	0.0010	0.0040
Cobalt	0.0040	U	0.00063	0.0040
Copper	0.010	U	0.0016	0.010
Iron	1.0		0.019	0.050
Lead	0.0050	U	0.0030	0.0050
Magnesium	24.9		0.043	0.20
Manganese	0.41		0.00040	0.0030
Nickel	0.010	U	0.0013	0.010
Potassium	2.3		0.10	0.50
Selenium	0.015	U	0.0087	0.015
Silver	0.0030	U	0.0017	0.0030
Sodium	119		0.32	1.0
Thallium	0.020	U	0.010	0.020
Vanadium	0.0050	U	0.0015	0.0050
Zinc	0.0017	J	0.0015	0.010

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	480-73125	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	480-73014	Lab File ID:	H07192W4.PRN
Dilution:	1.0			Initial Weight/Volume:	30 mL
Analysis Date:	07/19/2012 1605			Final Weight/Volume:	50 mL
Prep Date:	07/19/2012 0840				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	0.00020	U	0.00012	0.00020

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-12**

Lab Sample ID: 480-22732-11
Client Matrix: Water

Date Sampled: 07/17/2012 1610
Date Received: 07/18/2012 0900

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	480-73194	Instrument ID:	ICAP1
Prep Method:	3005A	Prep Batch:	480-73017	Lab File ID:	I1071912B-5.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	07/19/2012 2217			Final Weight/Volume:	50 mL
Prep Date:	07/19/2012 1050				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Aluminum	0.20	U	0.060	0.20
Antimony	0.020	U	0.0068	0.020
Arsenic	0.010	U	0.0056	0.010
Barium	0.073		0.00070	0.0020
Beryllium	0.0020	U	0.00030	0.0020
Cadmium	0.0010	U	0.00050	0.0010
Calcium	152		0.10	0.50
Chromium	0.0040	U	0.0010	0.0040
Cobalt	0.0040	U	0.00063	0.0040
Copper	0.010	U	0.0016	0.010
Iron	0.46		0.019	0.050
Lead	0.0050	U	0.0030	0.0050
Magnesium	22.6		0.043	0.20
Manganese	0.0080		0.00040	0.0030
Nickel	0.010	U	0.0013	0.010
Potassium	2.6		0.10	0.50
Selenium	0.015	U	0.0087	0.015
Silver	0.0030	U	0.0017	0.0030
Sodium	127		0.32	1.0
Thallium	0.020	U	0.010	0.020
Vanadium	0.0050	U	0.0015	0.0050
Zinc	0.0020	J	0.0015	0.010

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	480-73125	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	480-73014	Lab File ID:	H07192W4.PRN
Dilution:	1.0			Initial Weight/Volume:	30 mL
Analysis Date:	07/19/2012 1611			Final Weight/Volume:	50 mL
Prep Date:	07/19/2012 0840				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	0.00020	U	0.00012	0.00020

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-13**

Lab Sample ID: 480-22809-1
Client Matrix: Water

Date Sampled: 07/18/2012 1120
Date Received: 07/19/2012 0900

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	480-73363	Instrument ID:	ICAP1
Prep Method:	3005A	Prep Batch:	480-73111	Lab File ID:	I1072012A-4.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	07/20/2012 1912			Final Weight/Volume:	50 mL
Prep Date:	07/20/2012 0810				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Aluminum	0.20	U	0.060	0.20
Antimony	0.020	U	0.0068	0.020
Arsenic	0.0083	J	0.0056	0.010
Barium	0.051		0.00070	0.0020
Beryllium	0.0020	U	0.00030	0.0020
Cadmium	0.00071	J	0.00050	0.0010
Calcium	49.6		0.10	0.50
Chromium	0.0040	U	0.0010	0.0040
Cobalt	0.0040	U	0.00063	0.0040
Copper	0.010	U	0.0016	0.010
Iron	1.6		0.019	0.050
Lead	0.0050	U	0.0030	0.0050
Magnesium	42.4		0.043	0.20
Manganese	0.20		0.00040	0.0030
Nickel	0.0015	J	0.0013	0.010
Potassium	1.9		0.10	0.50
Selenium	0.015	U	0.0087	0.015
Silver	0.0030	U	0.0017	0.0030
Sodium	89.3		0.32	1.0
Thallium	0.020	U	0.010	0.020
Vanadium	0.0050	U	0.0015	0.0050
Zinc	0.012	B	0.0015	0.010

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	480-73265	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	480-73185	Lab File ID:	H7202W2.PRN
Dilution:	1.0			Initial Weight/Volume:	30 mL
Analysis Date:	07/20/2012 1259			Final Weight/Volume:	50 mL
Prep Date:	07/20/2012 0900				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	0.00020	U	0.00012	0.00020

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Client Sample ID: **4009-15**

Lab Sample ID: 480-22809-5
Client Matrix: Water

Date Sampled: 07/18/2012 1645
Date Received: 07/19/2012 0900

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	480-73363	Instrument ID:	ICAP1
Prep Method:	3005A	Prep Batch:	480-73111	Lab File ID:	I1072012A-4.asc
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	07/20/2012 1915			Final Weight/Volume:	50 mL
Prep Date:	07/20/2012 0810				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Aluminum	1.4		0.060	0.20
Antimony	0.020	U	0.0068	0.020
Arsenic	0.010	U	0.0056	0.010
Barium	0.021		0.00070	0.0020
Beryllium	0.0020	U	0.00030	0.0020
Cadmium	0.0010	U	0.00050	0.0010
Calcium	74.4		0.10	0.50
Chromium	0.0017	J	0.0010	0.0040
Cobalt	0.00084	J	0.00063	0.0040
Copper	0.0036	J	0.0016	0.010
Iron	6.8		0.019	0.050
Lead	0.0060		0.0030	0.0050
Magnesium	14.5		0.043	0.20
Manganese	0.040		0.00040	0.0030
Nickel	0.0020	J	0.0013	0.010
Potassium	2.6		0.10	0.50
Selenium	0.015	U	0.0087	0.015
Silver	0.0030	U	0.0017	0.0030
Sodium	55.9		0.32	1.0
Thallium	0.020	U	0.010	0.020
Vanadium	0.0029	J	0.0015	0.0050
Zinc	0.13	B	0.0015	0.010

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	480-73265	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	480-73185	Lab File ID:	H7202W2.PRN
Dilution:	1.0			Initial Weight/Volume:	30 mL
Analysis Date:	07/20/2012 1301			Final Weight/Volume:	50 mL
Prep Date:	07/20/2012 0900				

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	0.00020	U	0.00012	0.00020

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	TOL %Rec	BFB %Rec
480-22664-1	4009-7	84	85	96
480-22664-1 DL	4009-7 DL	82	81	92
480-22664-2	4009-3	84	83	94
480-22664-3	4009-1	83	83	94
480-22664-4	TRIP BLANK	84	83	94
480-22732-1	4009-2	113	114	107
480-22732-2	4009-8	110	114	105
480-22732-2 DL	4009-8 DL	122	119	110
480-22732-3	4009-5	112	114	105
480-22732-3 DL	4009-5 DL	119	120	111
480-22732-4	4009-4	111	111	104
480-22732-5	4009-X	111	116	105
480-22732-5 DL	4009-X DL	110	115	105
480-22732-6	4009-6	110	113	104
480-22732-7	4009-9	110	113	106
480-22732-8	4009-10	110	111	106
480-22732-9	4009-11A	109	113	106
480-22732-10	4009-12A	112	113	106
480-22732-11	4009-12	113	115	106
480-22732-11 DL	4009-12 DL	114	116	105
480-22732-12	TRIP BLANK	110	114	107
480-22809-1	4009-13	93	90	98
480-22809-2	4009-11	91	90	98
480-22809-3	4009-13A	91	88	97
480-22809-4	4009-14	91	88	98
480-22809-5	4009-15	93	91	101
480-22809-6	TRIP BLANK - 7-18-12	92	90	102
480-22809-7	WELL-1-1A INF	97	92	103
480-22809-8	WELL-1-1A EFF	91	87	97

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4 (Surr)	66-137
TOL = Toluene-d8 (Surr)	71-126
BFB = 4-Bromofluorobenzene (Surr)	73-120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	TOL %Rec	BFB %Rec
MB 480-72793/6		80	87	96
MB 480-72843/6		84	86	100
MB 480-73025/5		111	114	105
MB 480-73180/5		120	118	108
MB 480-73379/7		89	88	97
LCS 480-72793/5		78	81	93
LCS 480-72843/5		81	84	97
LCS 480-73025/4		109	112	109
LCS 480-73180/4		116	120	112
LCS 480-73379/6		107	102	114
480-22732-11 MS	4009-12 MS	108	113	110
480-22732-11 MSD	4009-12 MSD	108	112	108

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4 (Surr)	66-137
TOL = Toluene-d8 (Surr)	71-126
BFB = 4-Bromofluorobenzene (Surr)	73-120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Method Blank - Batch: 480-72793

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 480-72793/6	Analysis Batch:	480-72793	Instrument ID:	HP5973P
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P2275.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	07/18/2012 0053	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	07/18/2012 0053				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	80	66 - 137
Toluene-d8 (Surr)	87	71 - 126
4-Bromofluorobenzene (Surr)	96	73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Lab Control Sample - Batch: 480-72793

Method: 8260B
Preparation: 5030B

Lab Sample ID:	LCS 480-72793/5	Analysis Batch:	480-72793	Instrument ID:	HP5973P
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P2274.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	07/18/2012 0028	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	07/18/2012 0028				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethane	25.0	27.3	109	71 - 129	
1,1-Dichloroethene	25.0	28.0	112	65 - 138	
1,2-Dichloroethane	25.0	26.8	107	75 - 127	
Benzene	25.0	26.7	107	71 - 124	
Chlorobenzene	25.0	26.3	105	72 - 120	
cis-1,2-Dichloroethene	25.0	27.9	112	74 - 124	
Ethylbenzene	25.0	26.7	107	77 - 123	
Tetrachloroethene	25.0	27.3	109	74 - 122	
Toluene	25.0	26.1	104	70 - 122	
trans-1,2-Dichloroethene	25.0	27.9	112	73 - 127	
Trichloroethene	25.0	27.6	110	74 - 123	
m,p-Xylene	50.0	53.1	106	76 - 122	
o-Xylene	25.0	26.6	106	76 - 122	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	78	66 - 137
Toluene-d8 (Surr)	81	71 - 126
4-Bromofluorobenzene (Surr)	93	73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Method Blank - Batch: 480-72843

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 480-72843/6	Analysis Batch:	480-72843	Instrument ID:	HP5973P
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P2303.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	07/18/2012 1248	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	07/18/2012 1248				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	84	66 - 137
Toluene-d8 (Surr)	86	71 - 126
4-Bromofluorobenzene (Surr)	100	73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Lab Control Sample - Batch: 480-72843

Method: 8260B
Preparation: 5030B

Lab Sample ID:	LCS 480-72843/5	Analysis Batch:	480-72843	Instrument ID:	HP5973P
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P2302.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	07/18/2012 1223	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	07/18/2012 1223				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethane	25.0	25.6	102	71 - 129	
1,1-Dichloroethene	25.0	21.7	87	65 - 138	
1,2-Dichloroethane	25.0	27.8	111	75 - 127	
Benzene	25.0	25.6	102	71 - 124	
Chlorobenzene	25.0	26.3	105	72 - 120	
cis-1,2-Dichloroethene	25.0	26.3	105	74 - 124	
Ethylbenzene	25.0	25.8	103	77 - 123	
Tetrachloroethene	25.0	25.4	102	74 - 122	
Toluene	25.0	25.3	101	70 - 122	
trans-1,2-Dichloroethene	25.0	27.1	108	73 - 127	
Trichloroethene	25.0	25.2	101	74 - 123	
m,p-Xylene	50.0	51.1	102	76 - 122	
o-Xylene	25.0	25.9	104	76 - 122	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	81	66 - 137
Toluene-d8 (Surr)	84	71 - 126
4-Bromofluorobenzene (Surr)	97	73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Method Blank - Batch: 480-73025

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 480-73025/5	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S16183.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1103	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1103				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	111	66 - 137
Toluene-d8 (Surr)	114	71 - 126
4-Bromofluorobenzene (Surr)	105	73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Lab Control Sample - Batch: 480-73025

Method: 8260B
Preparation: 5030B

Lab Sample ID:	LCS 480-73025/4	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S16182.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1042	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1042				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethane	25.0	24.0	96	71 - 129	
1,1-Dichloroethene	25.0	22.8	91	65 - 138	
1,2-Dichloroethane	25.0	25.1	100	75 - 127	
Benzene	25.0	25.7	103	71 - 124	
Chlorobenzene	25.0	25.0	100	72 - 120	
cis-1,2-Dichloroethene	25.0	25.5	102	74 - 124	
Ethylbenzene	25.0	24.6	98	77 - 123	
Tetrachloroethene	25.0	24.6	98	74 - 122	
Toluene	25.0	24.8	99	70 - 122	
trans-1,2-Dichloroethene	25.0	24.7	99	73 - 127	
Trichloroethene	25.0	24.8	99	74 - 123	
m,p-Xylene	50.0	50.6	101	76 - 122	
o-Xylene	25.0	25.0	100	76 - 122	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	109	66 - 137
Toluene-d8 (Surr)	112	71 - 126
4-Bromofluorobenzene (Surr)	109	73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-73025

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	480-22732-11	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S16201.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1905			Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1905				
Leach Date:	N/A				

MSD Lab Sample ID:	480-22732-11	Analysis Batch:	480-73025	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S16202.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	07/19/2012 1927			Final Weight/Volume:	5 mL
Prep Date:	07/19/2012 1927				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,1-Dichloroethane	112	113	71 - 129	1	20		
1,1-Dichloroethene	110	111	65 - 138	1	16		
1,2-Dichloroethane	110	110	75 - 127	1	20		
Benzene	118	120	71 - 124	2	13		
Chlorobenzene	114	114	72 - 120	0	25		
cis-1,2-Dichloroethene	118	115	74 - 124	1	15		
Ethylbenzene	114	114	77 - 123	0	15		
Tetrachloroethene	116	118	74 - 122	1	20		
Toluene	114	115	70 - 122	1	15		
trans-1,2-Dichloroethene	117	119	73 - 127	2	20		
Trichloroethene	108	108	74 - 123	0	16		
m,p-Xylene	116	116	76 - 122	0	16		
o-Xylene	114	115	76 - 122	0	16		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	108	108	66 - 137
Toluene-d8 (Surr)	113	112	71 - 126
4-Bromofluorobenzene (Surr)	110	108	73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 480-73025

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	480-22732-11	Units: ug/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	07/19/2012 1905		
Prep Date:	07/19/2012 1905		
Leach Date:	N/A		

MSD Lab Sample ID:	480-22732-11
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	07/19/2012 1927
Prep Date:	07/19/2012 1927
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
1,1-Dichloroethane	7.4		25.0	25.0	35.5	35.7
1,1-Dichloroethene	15		25.0	25.0	42.7	43.0
1,2-Dichloroethane	1.0	U	25.0	25.0	27.4	27.6
Benzene	1.0	U	25.0	25.0	29.6	30.1
Chlorobenzene	1.0	U	25.0	25.0	28.5	28.6
cis-1,2-Dichloroethene	41		25.0	25.0	70.0	69.2
Ethylbenzene	1.0	U	25.0	25.0	28.5	28.5
Tetrachloroethene	1.0	U	25.0	25.0	29.0	29.4
Toluene	1.0	U	25.0	25.0	28.5	28.8
trans-1,2-Dichloroethene	1.0	U	25.0	25.0	29.2	29.7
Trichloroethene	44		25.0	25.0	70.5	70.5
m,p-Xylene	2.0	U	50.0	50.0	57.9	58.1
o-Xylene	1.0	U	25.0	25.0	28.6	28.7

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Method Blank - Batch: 480-73180

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 480-73180/5	Analysis Batch:	480-73180	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S16208.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	07/20/2012 1111	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	07/20/2012 1111				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	120	66 - 137
Toluene-d8 (Surr)	118	71 - 126
4-Bromofluorobenzene (Surr)	108	73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Lab Control Sample - Batch: 480-73180

Method: 8260B
Preparation: 5030B

Lab Sample ID:	LCS 480-73180/4	Analysis Batch:	480-73180	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S16207.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	07/20/2012 1049	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	07/20/2012 1049				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethane	25.0	27.9	112	71 - 129	
1,1-Dichloroethene	25.0	24.1	96	65 - 138	
1,2-Dichloroethane	25.0	27.8	111	75 - 127	
Benzene	25.0	30.1	120	71 - 124	
Chlorobenzene	25.0	28.6	114	72 - 120	
cis-1,2-Dichloroethene	25.0	28.7	115	74 - 124	
Ethylbenzene	25.0	28.6	114	77 - 123	
Tetrachloroethene	25.0	29.3	117	74 - 122	
Toluene	25.0	28.5	114	70 - 122	
trans-1,2-Dichloroethene	25.0	30.1	120	73 - 127	
Trichloroethene	25.0	28.9	116	74 - 123	
m,p-Xylene	50.0	57.7	115	76 - 122	
o-Xylene	25.0	28.0	112	76 - 122	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	116	66 - 137
Toluene-d8 (Surr)	120	71 - 126
4-Bromofluorobenzene (Surr)	112	73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Method Blank - Batch: 480-73379

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 480-73379/7	Analysis Batch:	480-73379	Instrument ID:	HP5973P
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P2438.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	07/22/2012 1153	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	07/22/2012 1153				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	89	66 - 137
Toluene-d8 (Surr)	88	71 - 126
4-Bromofluorobenzene (Surr)	97	73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Lab Control Sample - Batch: 480-73379

Method: 8260B
Preparation: 5030B

Lab Sample ID:	LCS 480-73379/6	Analysis Batch:	480-73379	Instrument ID:	HP5973P
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P2437.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	07/22/2012 1128	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	07/22/2012 1128				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethane	25.0	22.8	91	71 - 129	
1,1-Dichloroethene	25.0	21.4	86	65 - 138	
1,2-Dichloroethane	25.0	25.5	102	75 - 127	
Benzene	25.0	22.0	88	71 - 124	
Chlorobenzene	25.0	23.0	92	72 - 120	
cis-1,2-Dichloroethene	25.0	23.8	95	74 - 124	
Ethylbenzene	25.0	22.4	90	77 - 123	
Tetrachloroethene	25.0	23.2	93	74 - 122	
Toluene	25.0	21.6	86	70 - 122	
trans-1,2-Dichloroethene	25.0	22.9	92	73 - 127	
Trichloroethene	25.0	23.3	93	74 - 123	
m,p-Xylene	50.0	44.9	90	76 - 122	
o-Xylene	25.0	23.0	92	76 - 122	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	107	66 - 137
Toluene-d8 (Surr)	102	71 - 126
4-Bromofluorobenzene (Surr)	114	73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Method Blank - Batch: 480-73017

Method: 6010B
Preparation: 3005A

Lab Sample ID:	MB 480-73017/1-A	Analysis Batch:	480-73194	Instrument ID:	ICAP1
Client Matrix:	Water	Prep Batch:	480-73017	Lab File ID:	I1071912B-5.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	07/19/2012 2100	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	07/19/2012 1050				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Aluminum	0.20	U	0.060	0.20
Antimony	0.020	U	0.0068	0.020
Arsenic	0.010	U	0.0056	0.010
Barium	0.0020	U	0.00070	0.0020
Beryllium	0.0020	U	0.00030	0.0020
Cadmium	0.0010	U	0.00050	0.0010
Calcium	0.50	U	0.10	0.50
Chromium	0.0040	U	0.0010	0.0040
Cobalt	0.0040	U	0.00063	0.0040
Copper	0.010	U	0.0016	0.010
Iron	0.050	U	0.019	0.050
Lead	0.0050	U	0.0030	0.0050
Magnesium	0.20	U	0.043	0.20
Manganese	0.0030	U	0.00040	0.0030
Nickel	0.010	U	0.0013	0.010
Potassium	0.50	U	0.10	0.50
Selenium	0.015	U	0.0087	0.015
Silver	0.0030	U	0.0017	0.0030
Sodium	1.0	U	0.32	1.0
Thallium	0.020	U	0.010	0.020
Vanadium	0.0050	U	0.0015	0.0050
Zinc	0.010	U	0.0015	0.010

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Lab Control Sample - Batch: 480-73017

Method: 6010B
Preparation: 3005A

Lab Sample ID:	LCS 480-73017/2-A	Analysis Batch:	480-73194	Instrument ID:	ICAP1
Client Matrix:	Water	Prep Batch:	480-73017	Lab File ID:	I1071912B-5.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	07/19/2012 2103	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	07/19/2012 1050				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	10.0	10.06	100	80 - 120	
Antimony	0.200	0.201	100	80 - 120	
Arsenic	0.200	0.192	96	80 - 120	
Barium	0.200	0.207	103	80 - 120	
Beryllium	0.200	0.208	104	80 - 120	
Cadmium	0.200	0.193	97	80 - 120	
Calcium	10.0	10.10	101	80 - 120	
Chromium	0.200	0.195	97	80 - 120	
Cobalt	0.200	0.199	99	80 - 120	
Copper	0.200	0.202	101	80 - 120	
Iron	10.0	10.02	100	80 - 120	
Lead	0.200	0.197	99	80 - 120	
Magnesium	10.0	9.59	96	80 - 120	
Manganese	0.200	0.204	102	80 - 120	
Nickel	0.200	0.199	99	80 - 120	
Potassium	10.0	9.95	99	80 - 120	
Selenium	0.200	0.192	96	80 - 120	
Silver	0.0500	0.0505	101	80 - 120	
Sodium	10.0	9.86	98	80 - 120	
Thallium	0.200	0.186	93	80 - 120	
Vanadium	0.200	0.196	98	80 - 120	
Zinc	0.200	0.208	104	80 - 120	

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Method Blank - Batch: 480-73111

Method: 6010B
Preparation: 3005A

Lab Sample ID:	MB 480-73111/1-A	Analysis Batch:	480-73363	Instrument ID:	ICAP1
Client Matrix:	Water	Prep Batch:	480-73111	Lab File ID:	I1072012A-4.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	07/20/2012 1814	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	07/20/2012 0810				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Aluminum	0.20	U	0.060	0.20
Antimony	0.020	U	0.0068	0.020
Arsenic	0.010	U	0.0056	0.010
Barium	0.0020	U	0.00070	0.0020
Beryllium	0.0020	U	0.00030	0.0020
Cadmium	0.0010	U	0.00050	0.0010
Calcium	0.50	U	0.10	0.50
Chromium	0.0040	U	0.0010	0.0040
Cobalt	0.0040	U	0.00063	0.0040
Copper	0.010	U	0.0016	0.010
Iron	0.050	U	0.019	0.050
Lead	0.0050	U	0.0030	0.0050
Magnesium	0.20	U	0.043	0.20
Manganese	0.0030	U	0.00040	0.0030
Nickel	0.010	U	0.0013	0.010
Potassium	0.50	U	0.10	0.50
Selenium	0.015	U	0.0087	0.015
Silver	0.0030	U	0.0017	0.0030
Sodium	1.0	U	0.32	1.0
Thallium	0.020	U	0.010	0.020
Vanadium	0.0050	U	0.0015	0.0050
Zinc	0.00216	J	0.0015	0.010

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Lab Control Sample - Batch: 480-73111

Method: 6010B
Preparation: 3005A

Lab Sample ID:	LCS 480-73111/2-A	Analysis Batch:	480-73363	Instrument ID:	ICAP1
Client Matrix:	Water	Prep Batch:	480-73111	Lab File ID:	I1072012A-4.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	07/20/2012 1816	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	07/20/2012 0810				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	10.0	9.75	97	80 - 120	
Antimony	0.200	0.204	102	80 - 120	
Arsenic	0.200	0.201	101	80 - 120	
Barium	0.200	0.202	101	80 - 120	
Beryllium	0.200	0.202	101	80 - 120	
Cadmium	0.200	0.197	99	80 - 120	
Calcium	10.0	9.66	97	80 - 120	
Chromium	0.200	0.192	96	80 - 120	
Cobalt	0.200	0.197	99	80 - 120	
Copper	0.200	0.198	99	80 - 120	
Iron	10.0	9.85	98	80 - 120	
Lead	0.200	0.198	99	80 - 120	
Magnesium	10.0	9.67	97	80 - 120	
Manganese	0.200	0.201	101	80 - 120	
Nickel	0.200	0.198	99	80 - 120	
Potassium	10.0	9.74	97	80 - 120	
Selenium	0.200	0.194	97	80 - 120	
Silver	0.0500	0.0490	98	80 - 120	
Sodium	10.0	9.80	98	80 - 120	
Thallium	0.200	0.187	94	80 - 120	
Vanadium	0.200	0.194	97	80 - 120	
Zinc	0.200	0.209	104	80 - 120	

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Method Blank - Batch: 480-73014

Method: 7470A
Preparation: 7470A

Lab Sample ID:	MB 480-73014/1-A	Analysis Batch:	480-73125	Instrument ID:	LEEMAN2
Client Matrix:	Water	Prep Batch:	480-73014	Lab File ID:	H07192W4.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	07/19/2012 1526	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	07/19/2012 0840				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.00020	U	0.00012	0.00020

Lab Control Sample - Batch: 480-73014

Method: 7470A
Preparation: 7470A

Lab Sample ID:	LCS 480-73014/2-A	Analysis Batch:	480-73125	Instrument ID:	LEEMAN2
Client Matrix:	Water	Prep Batch:	480-73014	Lab File ID:	H07192W4.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	07/19/2012 1528	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	07/19/2012 0840				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.00667	0.00663	99	80 - 120	

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Method Blank - Batch: 480-73185

Method: 7470A
Preparation: 7470A

Lab Sample ID:	MB 480-73185/1-A	Analysis Batch:	480-73265	Instrument ID:	LEEMAN2
Client Matrix:	Water	Prep Batch:	480-73185	Lab File ID:	H7202W2.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	07/20/2012 1234	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	07/20/2012 0900				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.00020	U	0.00012	0.00020

Lab Control Sample - Batch: 480-73185

Method: 7470A
Preparation: 7470A

Lab Sample ID:	LCS 480-73185/2-A	Analysis Batch:	480-73265	Instrument ID:	LEEMAN2
Client Matrix:	Water	Prep Batch:	480-73185	Lab File ID:	H7202W2.PRN
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	07/20/2012 1236	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	07/20/2012 0900				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.00667	0.00648	97	80 - 120	

DATA REPORTING QUALIFIERS

Client: Malcolm Pirnie, Inc. Invoice to Arcadis Job Number: 480-22664-1

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Analyzed for but not detected.
	E	Compound concentration exceeds the upper level of the calibration range of the instrument for that specific analysis.
	*	Duplicate RPD exceeds control limits
	J	Indicates an estimated value.
	*	MS or MSD exceeds the control limits
Metals		
	B	Compound was found in the blank and sample.
	U	Indicates analyzed for but not detected.
	J	Sample result is greater than the MDL but below the CRDL

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:480-72793					
LCS 480-72793/5	Lab Control Sample	T	Water	8260B	
MB 480-72793/6	Method Blank	T	Water	8260B	
480-22664-1	4009-7	T	Water	8260B	
480-22664-2	4009-3	T	Water	8260B	
480-22664-3	4009-1	T	Water	8260B	
480-22664-4	TRIP BLANK	T	Water	8260B	
Analysis Batch:480-72843					
LCS 480-72843/5	Lab Control Sample	T	Water	8260B	
MB 480-72843/6	Method Blank	T	Water	8260B	
480-22664-1DL	4009-7	T	Water	8260B	
Analysis Batch:480-73025					
LCS 480-73025/4	Lab Control Sample	T	Water	8260B	
MB 480-73025/5	Method Blank	T	Water	8260B	
480-22732-1	4009-2	T	Water	8260B	
480-22732-2	4009-8	T	Water	8260B	
480-22732-3	4009-5	T	Water	8260B	
480-22732-4	4009-4	T	Water	8260B	
480-22732-5	4009-X	T	Water	8260B	
480-22732-6	4009-6	T	Water	8260B	
480-22732-7	4009-9	T	Water	8260B	
480-22732-8	4009-10	T	Water	8260B	
480-22732-9	4009-11A	T	Water	8260B	
480-22732-10	4009-12A	T	Water	8260B	
480-22732-11	4009-12	T	Water	8260B	
480-22732-11MS	Matrix Spike	T	Water	8260B	
480-22732-11MSD	Matrix Spike Duplicate	T	Water	8260B	
480-22732-12	TRIP BLANK	T	Water	8260B	
Analysis Batch:480-73180					
LCS 480-73180/4	Lab Control Sample	T	Water	8260B	
MB 480-73180/5	Method Blank	T	Water	8260B	
480-22732-2DL	4009-8	T	Water	8260B	
480-22732-3DL	4009-5	T	Water	8260B	
480-22732-5DL	4009-X	T	Water	8260B	
480-22732-11DL	4009-12	T	Water	8260B	

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:480-73379					
LCS 480-73379/6	Lab Control Sample	T	Water	8260B	
MB 480-73379/7	Method Blank	T	Water	8260B	
480-22809-1	4009-13	T	Water	8260B	
480-22809-2	4009-11	T	Water	8260B	
480-22809-3	4009-13A	T	Water	8260B	
480-22809-4	4009-14	T	Water	8260B	
480-22809-5	4009-15	T	Water	8260B	
480-22809-6	TRIP BLANK - 7-18-12	T	Water	8260B	
480-22809-7	WELL-1-1A INF	T	Water	8260B	
480-22809-8	WELL-1-1A EFF	T	Water	8260B	

Report Basis

T = Total

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 480-73014					
LCS 480-73014/2-A	Lab Control Sample	T	Water	7470A	
MB 480-73014/1-A	Method Blank	T	Water	7470A	
480-22732-10	4009-12A	T	Water	7470A	
480-22732-11	4009-12	T	Water	7470A	
Prep Batch: 480-73017					
LCS 480-73017/2-A	Lab Control Sample	T	Water	3005A	
MB 480-73017/1-A	Method Blank	T	Water	3005A	
480-22732-10	4009-12A	T	Water	3005A	
480-22732-11	4009-12	T	Water	3005A	
Prep Batch: 480-73111					
LCS 480-73111/2-A	Lab Control Sample	T	Water	3005A	
MB 480-73111/1-A	Method Blank	T	Water	3005A	
480-22809-1	4009-13	T	Water	3005A	
480-22809-5	4009-15	T	Water	3005A	
Analysis Batch:480-73125					
LCS 480-73014/2-A	Lab Control Sample	T	Water	7470A	480-73014
MB 480-73014/1-A	Method Blank	T	Water	7470A	480-73014
480-22732-10	4009-12A	T	Water	7470A	480-73014
480-22732-11	4009-12	T	Water	7470A	480-73014
Prep Batch: 480-73185					
LCS 480-73185/2-A	Lab Control Sample	T	Water	7470A	
MB 480-73185/1-A	Method Blank	T	Water	7470A	
480-22809-1	4009-13	T	Water	7470A	
480-22809-5	4009-15	T	Water	7470A	
Analysis Batch:480-73194					
LCS 480-73017/2-A	Lab Control Sample	T	Water	6010B	480-73017
MB 480-73017/1-A	Method Blank	T	Water	6010B	480-73017
480-22732-10	4009-12A	T	Water	6010B	480-73017
480-22732-11	4009-12	T	Water	6010B	480-73017
Analysis Batch:480-73265					
LCS 480-73185/2-A	Lab Control Sample	T	Water	7470A	480-73185
MB 480-73185/1-A	Method Blank	T	Water	7470A	480-73185
480-22809-1	4009-13	T	Water	7470A	480-73185
480-22809-5	4009-15	T	Water	7470A	480-73185

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:480-73363					
LCS 480-73111/2-A	Lab Control Sample	T	Water	6010B	480-73111
MB 480-73111/1-A	Method Blank	T	Water	6010B	480-73111
480-22809-1	4009-13	T	Water	6010B	480-73111
480-22809-5	4009-15	T	Water	6010B	480-73111

Report Basis

T = Total

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Laboratory Chronicle

Lab ID: 480-22664-1 **Client ID:** 4009-7

Sample Date/Time: 07/16/2012 16:30 Received Date/Time: 07/17/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22664-A-1		480-72793		07/18/2012 08:08	1	TAL BUF	JMB
A:8260B	480-22664-A-1		480-72793		07/18/2012 08:08	1	TAL BUF	JMB
P:5030B	480-22664-A-1	DL	480-72843		07/18/2012 13:26	2	TAL BUF	CDC
A:8260B	480-22664-A-1	DL	480-72843		07/18/2012 13:26	2	TAL BUF	CDC

Lab ID: 480-22664-2 **Client ID:** 4009-3

Sample Date/Time: 07/16/2012 17:40 Received Date/Time: 07/17/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22664-A-2		480-72793		07/18/2012 08:32	1	TAL BUF	JMB
A:8260B	480-22664-A-2		480-72793		07/18/2012 08:32	1	TAL BUF	JMB

Lab ID: 480-22664-3 **Client ID:** 4009-1

Sample Date/Time: 07/16/2012 17:40 Received Date/Time: 07/17/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22664-A-3		480-72793		07/18/2012 08:57	1	TAL BUF	JMB
A:8260B	480-22664-A-3		480-72793		07/18/2012 08:57	1	TAL BUF	JMB

Lab ID: 480-22664-4 **Client ID:** TRIP BLANK

Sample Date/Time: 07/16/2012 00:00 Received Date/Time: 07/17/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22664-A-4		480-72793		07/18/2012 09:21	1	TAL BUF	JMB
A:8260B	480-22664-A-4		480-72793		07/18/2012 09:21	1	TAL BUF	JMB

Lab ID: 480-22732-1 **Client ID:** 4009-2

Sample Date/Time: 07/17/2012 08:45 Received Date/Time: 07/18/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22732-A-1		480-73025		07/19/2012 15:07	1	TAL BUF	ND
A:8260B	480-22732-A-1		480-73025		07/19/2012 15:07	1	TAL BUF	ND

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Laboratory Chronicle

Lab ID: 480-22732-2 **Client ID:** 4009-8

Sample Date/Time: 07/17/2012 09:50 Received Date/Time: 07/18/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22732-A-2		480-73025		07/19/2012 15:28	1	TAL BUF	ND
A:8260B	480-22732-A-2		480-73025		07/19/2012 15:28	1	TAL BUF	ND
P:5030B	480-22732-B-2	DL	480-73180		07/20/2012 11:56	40	TAL BUF	ND
A:8260B	480-22732-B-2	DL	480-73180		07/20/2012 11:56	40	TAL BUF	ND

Lab ID: 480-22732-3 **Client ID:** 4009-5

Sample Date/Time: 07/17/2012 09:35 Received Date/Time: 07/18/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22732-A-3		480-73025		07/19/2012 15:50	1	TAL BUF	ND
A:8260B	480-22732-A-3		480-73025		07/19/2012 15:50	1	TAL BUF	ND
P:5030B	480-22732-B-3	DL	480-73180		07/20/2012 12:18	8	TAL BUF	ND
A:8260B	480-22732-B-3	DL	480-73180		07/20/2012 12:18	8	TAL BUF	ND

Lab ID: 480-22732-4 **Client ID:** 4009-4

Sample Date/Time: 07/17/2012 10:30 Received Date/Time: 07/18/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22732-A-4		480-73025		07/19/2012 16:12	1	TAL BUF	ND
A:8260B	480-22732-A-4		480-73025		07/19/2012 16:12	1	TAL BUF	ND

Lab ID: 480-22732-5 **Client ID:** 4009-X

Sample Date/Time: 07/17/2012 00:00 Received Date/Time: 07/18/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22732-A-5		480-73025		07/19/2012 16:34	1	TAL BUF	ND
A:8260B	480-22732-A-5		480-73025		07/19/2012 16:34	1	TAL BUF	ND
P:5030B	480-22732-B-5	DL	480-73180		07/20/2012 12:40	40	TAL BUF	ND
A:8260B	480-22732-B-5	DL	480-73180		07/20/2012 12:40	40	TAL BUF	ND

Lab ID: 480-22732-6 **Client ID:** 4009-6

Sample Date/Time: 07/17/2012 10:50 Received Date/Time: 07/18/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22732-A-6		480-73025		07/19/2012 16:55	1	TAL BUF	ND
A:8260B	480-22732-A-6		480-73025		07/19/2012 16:55	1	TAL BUF	ND

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Laboratory Chronicle

Lab ID: 480-22732-7 **Client ID:** 4009-9

Sample Date/Time: 07/17/2012 12:15 Received Date/Time: 07/18/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22732-A-7		480-73025		07/19/2012 17:16	1	TAL BUF	ND
A:8260B	480-22732-A-7		480-73025		07/19/2012 17:16	1	TAL BUF	ND

Lab ID: 480-22732-8 **Client ID:** 4009-10

Sample Date/Time: 07/17/2012 12:05 Received Date/Time: 07/18/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22732-A-8		480-73025		07/19/2012 17:38	1	TAL BUF	ND
A:8260B	480-22732-A-8		480-73025		07/19/2012 17:38	1	TAL BUF	ND

Lab ID: 480-22732-9 **Client ID:** 4009-11A

Sample Date/Time: 07/17/2012 15:00 Received Date/Time: 07/18/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22732-A-9		480-73025		07/19/2012 18:00	1	TAL BUF	ND
A:8260B	480-22732-A-9		480-73025		07/19/2012 18:00	1	TAL BUF	ND

Lab ID: 480-22732-10 **Client ID:** 4009-12A

Sample Date/Time: 07/17/2012 16:10 Received Date/Time: 07/18/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22732-A-10		480-73025		07/19/2012 18:22	1	TAL BUF	ND
A:8260B	480-22732-A-10		480-73025		07/19/2012 18:22	1	TAL BUF	ND
P:3005A	480-22732-D-10-B		480-73194	480-73017	07/19/2012 10:50	1	TAL BUF	SS
A:6010B	480-22732-D-10-B		480-73194	480-73017	07/19/2012 22:15	1	TAL BUF	AH
P:7470A	480-22732-D-10-A		480-73125	480-73014	07/19/2012 08:40	1	TAL BUF	JRK
A:7470A	480-22732-D-10-A		480-73125	480-73014	07/19/2012 16:05	1	TAL BUF	JRK

Lab ID: 480-22732-11 **Client ID:** 4009-12

Sample Date/Time: 07/17/2012 16:10 Received Date/Time: 07/18/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22732-A-11		480-73025		07/19/2012 18:43	1	TAL BUF	ND
A:8260B	480-22732-A-11		480-73025		07/19/2012 18:43	1	TAL BUF	ND
P:5030B	480-22732-B-11	DL	480-73180		07/20/2012 13:02	4	TAL BUF	ND
A:8260B	480-22732-B-11	DL	480-73180		07/20/2012 13:02	4	TAL BUF	ND
P:3005A	480-22732-D-11-B		480-73194	480-73017	07/19/2012 10:50	1	TAL BUF	SS
A:6010B	480-22732-D-11-B		480-73194	480-73017	07/19/2012 22:17	1	TAL BUF	AH
P:7470A	480-22732-D-11-A		480-73125	480-73014	07/19/2012 08:40	1	TAL BUF	JRK
A:7470A	480-22732-D-11-A		480-73125	480-73014	07/19/2012 16:11	1	TAL BUF	JRK

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Laboratory Chronicle

Lab ID: 480-22732-11 **Client ID:** 4009-12

Sample Date/Time: 07/17/2012 16:10 Received Date/Time: 07/18/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22732-A-11 MS		480-73025		07/19/2012 19:05	1	TAL BUF	ND
A:8260B	480-22732-A-11 MS		480-73025		07/19/2012 19:05	1	TAL BUF	ND

Lab ID: 480-22732-11 **Client ID:** 4009-12

Sample Date/Time: 07/17/2012 16:10 Received Date/Time: 07/18/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22732-A-11 MSD		480-73025		07/19/2012 19:27	1	TAL BUF	ND
A:8260B	480-22732-A-11 MSD		480-73025		07/19/2012 19:27	1	TAL BUF	ND

Lab ID: 480-22732-12 **Client ID:** TRIP BLANK

Sample Date/Time: 07/17/2012 00:00 Received Date/Time: 07/18/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22732-A-12		480-73025		07/19/2012 19:49	1	TAL BUF	ND
A:8260B	480-22732-A-12		480-73025		07/19/2012 19:49	1	TAL BUF	ND

Lab ID: 480-22809-1 **Client ID:** 4009-13

Sample Date/Time: 07/18/2012 11:20 Received Date/Time: 07/19/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22809-B-1		480-73379		07/22/2012 14:12	1	TAL BUF	JMB
A:8260B	480-22809-B-1		480-73379		07/22/2012 14:12	1	TAL BUF	JMB
P:3005A	480-22809-A-1-A		480-73363	480-73111	07/20/2012 08:10	1	TAL BUF	SS
A:6010B	480-22809-A-1-A		480-73363	480-73111	07/20/2012 19:12	1	TAL BUF	MM
P:7470A	480-22809-A-1-B		480-73265	480-73185	07/20/2012 09:00	1	TAL BUF	JRK
A:7470A	480-22809-A-1-B		480-73265	480-73185	07/20/2012 12:59	1	TAL BUF	JRK

Lab ID: 480-22809-2 **Client ID:** 4009-11

Sample Date/Time: 07/18/2012 14:30 Received Date/Time: 07/19/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22809-A-2		480-73379		07/22/2012 14:37	1	TAL BUF	JMB
A:8260B	480-22809-A-2		480-73379		07/22/2012 14:37	1	TAL BUF	JMB

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Laboratory Chronicle

Lab ID: 480-22809-3 **Client ID:** 4009-13A

Sample Date/Time: 07/18/2012 14:10 Received Date/Time: 07/19/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22809-A-3		480-73379		07/22/2012 15:02	1	TAL BUF	JMB
A:8260B	480-22809-A-3		480-73379		07/22/2012 15:02	1	TAL BUF	JMB

Lab ID: 480-22809-4 **Client ID:** 4009-14

Sample Date/Time: 07/18/2012 15:30 Received Date/Time: 07/19/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22809-A-4		480-73379		07/22/2012 15:27	1	TAL BUF	JMB
A:8260B	480-22809-A-4		480-73379		07/22/2012 15:27	1	TAL BUF	JMB

Lab ID: 480-22809-5 **Client ID:** 4009-15

Sample Date/Time: 07/18/2012 16:45 Received Date/Time: 07/19/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22809-B-5		480-73379		07/22/2012 15:52	1	TAL BUF	JMB
A:8260B	480-22809-B-5		480-73379		07/22/2012 15:52	1	TAL BUF	JMB
P:3005A	480-22809-A-5-A		480-73363	480-73111	07/20/2012 08:10	1	TAL BUF	SS
A:6010B	480-22809-A-5-A		480-73363	480-73111	07/20/2012 19:15	1	TAL BUF	MM
P:7470A	480-22809-A-5-B		480-73265	480-73185	07/20/2012 09:00	1	TAL BUF	JRK
A:7470A	480-22809-A-5-B		480-73265	480-73185	07/20/2012 13:01	1	TAL BUF	JRK

Lab ID: 480-22809-6 **Client ID:** TRIP BLANK - 7-18-12

Sample Date/Time: 07/18/2012 00:00 Received Date/Time: 07/19/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22809-A-6		480-73379		07/22/2012 16:17	1	TAL BUF	JMB
A:8260B	480-22809-A-6		480-73379		07/22/2012 16:17	1	TAL BUF	JMB

Lab ID: 480-22809-7 **Client ID:** WELL-1-1A INF

Sample Date/Time: 07/18/2012 17:05 Received Date/Time: 07/19/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22809-A-7		480-73379		07/22/2012 16:42	2	TAL BUF	JMB
A:8260B	480-22809-A-7		480-73379		07/22/2012 16:42	2	TAL BUF	JMB

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Laboratory Chronicle

Lab ID: 480-22809-8 **Client ID:** WELL-1-1A EFF

Sample Date/Time: 07/18/2012 17:10 Received Date/Time: 07/19/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-22809-A-8		480-73379		07/22/2012 17:06	1	TAL BUF	JMB
A:8260B	480-22809-A-8		480-73379		07/22/2012 17:06	1	TAL BUF	JMB

Lab ID: MB **Client ID:** N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	MB 480-72793/6		480-72793		07/18/2012 00:53	1	TAL BUF	JMB
A:8260B	MB 480-72793/6		480-72793		07/18/2012 00:53	1	TAL BUF	JMB
P:5030B	MB 480-72843/6		480-72843		07/18/2012 12:48	1	TAL BUF	CDC
A:8260B	MB 480-72843/6		480-72843		07/18/2012 12:48	1	TAL BUF	CDC
P:5030B	MB 480-73025/5		480-73025		07/19/2012 11:03	1	TAL BUF	ND
A:8260B	MB 480-73025/5		480-73025		07/19/2012 11:03	1	TAL BUF	ND
P:5030B	MB 480-73180/5		480-73180		07/20/2012 11:11	1	TAL BUF	ND
A:8260B	MB 480-73180/5		480-73180		07/20/2012 11:11	1	TAL BUF	ND
P:5030B	MB 480-73379/7		480-73379		07/22/2012 11:53	1	TAL BUF	JMB
A:8260B	MB 480-73379/7		480-73379		07/22/2012 11:53	1	TAL BUF	JMB
P:3005A	MB 480-73017/1-A		480-73194	480-73017	07/19/2012 10:50	1	TAL BUF	SS
A:6010B	MB 480-73017/1-A		480-73194	480-73017	07/19/2012 21:00	1	TAL BUF	AH
P:3005A	MB 480-73111/1-A		480-73363	480-73111	07/20/2012 08:10	1	TAL BUF	SS
A:6010B	MB 480-73111/1-A		480-73363	480-73111	07/20/2012 18:14	1	TAL BUF	MM
P:7470A	MB 480-73014/1-A		480-73125	480-73014	07/19/2012 08:40	1	TAL BUF	JRK
A:7470A	MB 480-73014/1-A		480-73125	480-73014	07/19/2012 15:26	1	TAL BUF	JRK
P:7470A	MB 480-73185/1-A		480-73265	480-73185	07/20/2012 09:00	1	TAL BUF	JRK
A:7470A	MB 480-73185/1-A		480-73265	480-73185	07/20/2012 12:34	1	TAL BUF	JRK

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-22664-1

Laboratory Chronicle

Lab ID: LCS **Client ID:** N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	LCS 480-72793/5		480-72793		07/18/2012 00:28	1	TAL BUF	JMB
A:8260B	LCS 480-72793/5		480-72793		07/18/2012 00:28	1	TAL BUF	JMB
P:5030B	LCS 480-72843/5		480-72843		07/18/2012 12:23	1	TAL BUF	CDC
A:8260B	LCS 480-72843/5		480-72843		07/18/2012 12:23	1	TAL BUF	CDC
P:5030B	LCS 480-73025/4		480-73025		07/19/2012 10:42	1	TAL BUF	ND
A:8260B	LCS 480-73025/4		480-73025		07/19/2012 10:42	1	TAL BUF	ND
P:5030B	LCS 480-73180/4		480-73180		07/20/2012 10:49	1	TAL BUF	ND
A:8260B	LCS 480-73180/4		480-73180		07/20/2012 10:49	1	TAL BUF	ND
P:5030B	LCS 480-73379/6		480-73379		07/22/2012 11:28	1	TAL BUF	JMB
A:8260B	LCS 480-73379/6		480-73379		07/22/2012 11:28	1	TAL BUF	JMB
P:3005A	LCS 480-73017/2-A		480-73194	480-73017	07/19/2012 10:50	1	TAL BUF	SS
A:6010B	LCS 480-73017/2-A		480-73194	480-73017	07/19/2012 21:03	1	TAL BUF	AH
P:3005A	LCS 480-73111/2-A		480-73363	480-73111	07/20/2012 08:10	1	TAL BUF	SS
A:6010B	LCS 480-73111/2-A		480-73363	480-73111	07/20/2012 18:16	1	TAL BUF	MM
P:7470A	LCS 480-73014/2-A		480-73125	480-73014	07/19/2012 08:40	1	TAL BUF	JRK
A:7470A	LCS 480-73014/2-A		480-73125	480-73014	07/19/2012 15:28	1	TAL BUF	JRK
P:7470A	LCS 480-73185/2-A		480-73265	480-73185	07/20/2012 09:00	1	TAL BUF	JRK
A:7470A	LCS 480-73185/2-A		480-73265	480-73185	07/20/2012 12:36	1	TAL BUF	JRK

Lab References:

TAL BUF = TestAmerica Buffalo

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
17_COMP_WRK_00018	09/07/12	07/07/12	Methanol, Lot DG256	20 mL	17COMP_STK_00065	500 uL	1,1-Dichloroethane	50 ug/mL
							1,1-Dichloroethene	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							Benzene	50 ug/mL
							Chlorobenzene	50 ug/mL
							cis-1,2-Dichloroethene	50 ug/mL
							Ethylbenzene	50 ug/mL
							m,p-Xylene	100 ug/mL
							o-Xylene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Toluene	50 ug/mL
							trans-1,2-Dichloroethene	50 ug/mL
							Trichloroethene	50 ug/mL
							Xylenes, Total	150 ug/mL
.17COMP_STK_00065	03/31/14	Ultra Scientific, Lot CJ-0518			(Purchased Reagent)		1,1-Dichloroethane	2000 ug/mL
							1,1-Dichloroethene	2000 ug/mL
							1,2-Dichloroethane	2000 ug/mL
							Benzene	2000 ug/mL
							Chlorobenzene	2000 ug/mL
							cis-1,2-Dichloroethene	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							m,p-Xylene	4000 ug/mL
							o-Xylene	2000 ug/mL
							Tetrachloroethene	2000 ug/mL
							Toluene	2000 ug/mL
							trans-1,2-Dichloroethene	2000 ug/mL
							Trichloroethene	2000 ug/mL
							Xylenes, Total	6000 ug/mL
54COMP_WRK_00014	08/11/12	06/11/12	Methanol, Lot DF700	10 mL	54COMP_STK_00018	500 uL	1,1,1-Trichloroethane	100 ug/mL
							1,1,2,2-Tetrachloroethane	100 ug/mL
							1,1,2-Trichloroethane	100 ug/mL
							1,1-Dichloroethane	100 ug/mL
							1,1-Dichloroethene	100 ug/mL
							1,2-Dibromoethane	100 ug/mL
							1,2-Dichloroethane	100 ug/mL
							1,2-Dichloropropane	100 ug/mL
							Benzene	100 ug/mL
							Bromodichloromethane	100 ug/mL
							Bromoform	100 ug/mL
							Carbon tetrachloride	100 ug/mL
							Chlorobenzene	100 ug/mL
							Chloroform	100 ug/mL
							cis-1,2-Dichloroethene	100 ug/mL
							cis-1,3-Dichloropropene	100 ug/mL
							Dibromochloromethane	100 ug/mL
							Ethylbenzene	100 ug/mL
							m,p-Xylene	200 ug/mL
							Methylene Chloride	100 ug/mL
							o-Xylene	100 ug/mL
							Styrene	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tetrachloroethene	100 ug/mL
							Toluene	100 ug/mL
							trans-1,2-Dichloroethene	100 ug/mL
							trans-1,3-Dichloropropene	100 ug/mL
							Trichloroethene	100 ug/mL
							Xylenes, Total	300 ug/mL
.54COMP_STK_00018	08/31/12		Supelco, Lot LB77670		(Purchased Reagent)		1,1,1-Trichloroethane	2000 ug/mL
							1,1,2,2-Tetrachloroethane	2000 ug/mL
							1,1,2-Trichloroethane	2000 ug/mL
							1,1-Dichloroethane	2000 ug/mL
							1,1-Dichloroethene	2000 ug/mL
							1,2-Dibromoethane	2000 ug/mL
							1,2-Dichloroethane	2000 ug/mL
							1,2-Dichloropropane	2000 ug/mL
							Benzene	2000 ug/mL
							Bromodichloromethane	2000 ug/mL
							Bromoform	2000 ug/mL
							Carbon tetrachloride	2000 ug/mL
							Chlorobenzene	2000 ug/mL
							Chloroform	2000 ug/mL
							cis-1,2-Dichloroethene	2000 ug/mL
							cis-1,3-Dichloropropene	2000 ug/mL
							Dibromochloromethane	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							m,p-Xylene	4000 ug/mL
							Methylene Chloride	2000 ug/mL
							o-Xylene	2000 ug/mL
							Styrene	2000 ug/mL
							Tetrachloroethene	2000 ug/mL
							Toluene	2000 ug/mL
							trans-1,2-Dichloroethene	2000 ug/mL
							trans-1,3-Dichloropropene	2000 ug/mL
							Trichloroethene	2000 ug/mL
							Xylenes, Total	6000 ug/mL
60COMP_WRK_00029	08/21/12	06/21/12	Methanol, Lot DG256	20 mL	60 COMP_STK_00010	1 mL	1,1,1,2-Tetrachloroethane	100 ug/mL
							1,1,1-Trichloroethane	100 ug/mL
							1,1,2,2-Tetrachloroethane	100 ug/mL
							1,1,2-Trichloroethane	100 ug/mL
							1,1-Dichloroethane	100 ug/mL
							1,1-Dichloroethene	100 ug/mL
							1,1-Dichloropropene	100 ug/mL
							1,2,3-Trichlorobenzene	100 ug/mL
							1,2,3-Trichloropropane	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2,4-Trimethylbenzene	100 ug/mL
							1,2-Dibromo-3-Chloropropane	100 ug/mL
							1,2-Dibromoethane	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Dichloroethane	100 ug/mL
							1,2-Dichloropropane	100 ug/mL

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3,5-Trimethylbenzene	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dichloropropane	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							2,2-Dichloropropane	100 ug/mL
							2-Chlorotoluene	100 ug/mL
							4-Chlorotoluene	100 ug/mL
							4-Isopropyltoluene	100 ug/mL
							Benzene	100 ug/mL
							Bromobenzene	100 ug/mL
							Bromodichloromethane	100 ug/mL
							Bromoform	100 ug/mL
							Bromomethane	100 ug/mL
							Carbon tetrachloride	100 ug/mL
							Chlorobenzene	100 ug/mL
							Chlorobromomethane	100 ug/mL
							Chloroethane	100 ug/mL
							Chloroform	100 ug/mL
							Chloromethane	100 ug/mL
							cis-1,2-Dichloroethene	100 ug/mL
							cis-1,3-Dichloropropene	100 ug/mL
							Dibromochloromethane	100 ug/mL
							Dibromomethane	100 ug/mL
							Dichlorodifluoromethane	100 ug/mL
							Ethylbenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Isopropylbenzene	100 ug/mL
							m,p-Xylene	200 ug/mL
							Methylene Chloride	100 ug/mL
							n-Butylbenzene	100 ug/mL
							N-Propylbenzene	100 ug/mL
							Naphthalene	100 ug/mL
							o-Xylene	100 ug/mL
							sec-Butylbenzene	100 ug/mL
							Styrene	100 ug/mL
							tert-Butylbenzene	100 ug/mL
							Tetrachloroethene	100 ug/mL
							Toluene	100 ug/mL
							trans-1,2-Dichloroethene	100 ug/mL
							trans-1,3-Dichloropropene	100 ug/mL
							Trichloroethene	100 ug/mL
							Trichlorofluoromethane	100 ug/mL
							Vinyl chloride	100 ug/mL
.60 COMP_STK_00010	07/31/14		Ultra Scientific, Lot CH-1896		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2000 ug/mL
							1,1,1-Trichloroethane	2000 ug/mL
							1,1,2,2-Tetrachloroethane	2000 ug/mL
							1,1,2-Trichloroethane	2000 ug/mL
							1,1-Dichloroethane	2000 ug/mL
							1,1-Dichloroethene	2000 ug/mL
							1,1-Dichloropropene	2000 ug/mL

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3-Trichlorobenzene	2000 ug/mL
							1,2,3-Trichloropropane	2000 ug/mL
							1,2,4-Trichlorobenzene	2000 ug/mL
							1,2,4-Trimethylbenzene	2000 ug/mL
							1,2-Dibromo-3-Chloropropane	2000 ug/mL
							1,2-Dibromoethane	2000 ug/mL
							1,2-Dichlorobenzene	2000 ug/mL
							1,2-Dichloroethane	2000 ug/mL
							1,2-Dichloropropane	2000 ug/mL
							1,3,5-Trimethylbenzene	2000 ug/mL
							1,3-Dichlorobenzene	2000 ug/mL
							1,3-Dichloropropane	2000 ug/mL
							1,4-Dichlorobenzene	2000 ug/mL
							2,2-Dichloropropane	2000 ug/mL
							2-Chlorotoluene	2000 ug/mL
							4-Chlorotoluene	2000 ug/mL
							4-Isopropyltoluene	2000 ug/mL
							Benzene	2000 ug/mL
							Bromobenzene	2000 ug/mL
							Bromodichloromethane	2000 ug/mL
							Bromoform	2000 ug/mL
							Bromomethane	2000 ug/mL
							Carbon tetrachloride	2000 ug/mL
							Chlorobenzene	2000 ug/mL
							Chlorobromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloroform	2000 ug/mL
							Chloromethane	2000 ug/mL
							cis-1,2-Dichloroethene	2000 ug/mL
							cis-1,3-Dichloropropene	2000 ug/mL
							Dibromochloromethane	2000 ug/mL
							Dibromomethane	2000 ug/mL
							Dichlorodifluoromethane	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							Hexachlorobutadiene	2000 ug/mL
							Isopropylbenzene	2000 ug/mL
							m,p-Xylene	4000 ug/mL
							Methylene Chloride	2000 ug/mL
							n-Butylbenzene	2000 ug/mL
							N-Propylbenzene	2000 ug/mL
							Naphthalene	2000 ug/mL
							o-Xylene	2000 ug/mL
							sec-Butylbenzene	2000 ug/mL
							Styrene	2000 ug/mL
							tert-Butylbenzene	2000 ug/mL
							Tetrachloroethene	2000 ug/mL
							Toluene	2000 ug/mL
							trans-1,2-Dichloroethene	2000 ug/mL
							trans-1,3-Dichloropropene	2000 ug/mL
							Trichloroethene	2000 ug/mL

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Trichlorofluoromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
60COMP_WRK_00030	09/11/12	07/11/12	Methanol, Lot DF700	20 mL	60 COMP_STK_00023	1 mL	1,1,1,2-Tetrachloroethane	100 ug/mL
							1,1,1-Trichloroethane	100 ug/mL
							1,1,2,2-Tetrachloroethane	100 ug/mL
							1,1,2-Trichloroethane	100 ug/mL
							1,1-Dichloroethane	100 ug/mL
							1,1-Dichloroethene	100 ug/mL
							1,1-Dichloropropene	100 ug/mL
							1,2,3-Trichlorobenzene	100 ug/mL
							1,2,3-Trichloropropane	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2,4-Trimethylbenzene	100 ug/mL
							1,2-Dibromo-3-Chloropropane	100 ug/mL
							1,2-Dibromoethane	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Dichloroethane	100 ug/mL
							1,2-Dichloropropane	100 ug/mL
							1,3,5-Trimethylbenzene	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dichloropropane	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							2,2-Dichloropropane	100 ug/mL
							2-Chlorotoluene	100 ug/mL
							4-Chlorotoluene	100 ug/mL
							4-Isopropyltoluene	100 ug/mL
							Benzene	100 ug/mL
							Bromobenzene	100 ug/mL
							Bromodichloromethane	100 ug/mL
							Bromoform	100 ug/mL
							Bromomethane	100 ug/mL
							Carbon tetrachloride	100 ug/mL
							Chlorobenzene	100 ug/mL
							Chlorobromomethane	100 ug/mL
							Chloroethane	100 ug/mL
							Chloroform	100 ug/mL
							Chloromethane	100 ug/mL
							cis-1,2-Dichloroethene	100 ug/mL
							cis-1,3-Dichloropropene	100 ug/mL
							Dibromochloromethane	100 ug/mL
							Dibromomethane	100 ug/mL
							Dichlorodifluoromethane	100 ug/mL
							Ethylbenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Isopropylbenzene	100 ug/mL
							m,p-Xylene	200 ug/mL
							Methylene Chloride	100 ug/mL
							n-Butylbenzene	100 ug/mL
							N-Propylbenzene	100 ug/mL
							Naphthalene	100 ug/mL

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							o-Xylene	100 ug/mL
							sec-Butylbenzene	100 ug/mL
							Styrene	100 ug/mL
							tert-Butylbenzene	100 ug/mL
							Tetrachloroethene	100 ug/mL
							Toluene	100 ug/mL
							trans-1,2-Dichloroethene	100 ug/mL
							trans-1,3-Dichloropropene	100 ug/mL
							Trichloroethene	100 ug/mL
							Trichlorofluoromethane	100 ug/mL
							Vinyl chloride	100 ug/mL
							Xylenes, Total	300 ug/mL
.60 COMP_STK_00023	07/31/14		Ultra Scientific, Lot CH-1896		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2000 ug/mL
							1,1,1-Trichloroethane	2000 ug/mL
							1,1,2,2-Tetrachloroethane	2000 ug/mL
							1,1,2-Trichloroethane	2000 ug/mL
							1,1-Dichloroethane	2000 ug/mL
							1,1-Dichloroethene	2000 ug/mL
							1,1-Dichloropropene	2000 ug/mL
							1,2,3-Trichlorobenzene	2000 ug/mL
							1,2,3-Trichloropropane	2000 ug/mL
							1,2,4-Trichlorobenzene	2000 ug/mL
							1,2,4-Trimethylbenzene	2000 ug/mL
							1,2-Dibromo-3-Chloropropane	2000 ug/mL
							1,2-Dibromoethane	2000 ug/mL
							1,2-Dichlorobenzene	2000 ug/mL
							1,2-Dichloroethane	2000 ug/mL
							1,2-Dichloropropane	2000 ug/mL
							1,3,5-Trimethylbenzene	2000 ug/mL
							1,3-Dichlorobenzene	2000 ug/mL
							1,3-Dichloropropane	2000 ug/mL
							1,4-Dichlorobenzene	2000 ug/mL
							2,2-Dichloropropane	2000 ug/mL
							2-Chlorotoluene	2000 ug/mL
							4-Chlorotoluene	2000 ug/mL
							4-Isopropyltoluene	2000 ug/mL
							Benzene	2000 ug/mL
							Bromobenzene	2000 ug/mL
							Bromodichloromethane	2000 ug/mL
							Bromoform	2000 ug/mL
							Bromomethane	2000 ug/mL
							Carbon tetrachloride	2000 ug/mL
							Chlorobenzene	2000 ug/mL
							Chlorobromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloroform	2000 ug/mL
							Chloromethane	2000 ug/mL
							cis-1,2-Dichloroethene	2000 ug/mL
							cis-1,3-Dichloropropene	2000 ug/mL
							Dibromochloromethane	2000 ug/mL

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibromomethane	2000 ug/mL
							Dichlorodifluoromethane	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							Hexachlorobutadiene	2000 ug/mL
							Isopropylbenzene	2000 ug/mL
							m,p-Xylene	4000 ug/mL
							Methylene Chloride	2000 ug/mL
							n-Butylbenzene	2000 ug/mL
							N-Propylbenzene	2000 ug/mL
							Naphthalene	2000 ug/mL
							o-Xylene	2000 ug/mL
							sec-Butylbenzene	2000 ug/mL
							Styrene	2000 ug/mL
							tert-Butylbenzene	2000 ug/mL
							Tetrachloroethene	2000 ug/mL
							Toluene	2000 ug/mL
							trans-1,2-Dichloroethene	2000 ug/mL
							trans-1,3-Dichloropropene	2000 ug/mL
							Trichloroethene	2000 ug/mL
							Trichlorofluoromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
							Xylenes, Total	6000 ug/mL
8260+_SS_WRK_00028	08/19/12	05/24/12	Methanol, Lot DG256	20 mL	2-CLEVE SS_00051	1 mL	2-Chloroethyl vinyl ether	500 mg/L
					2-CLEVE SS_00052	1 mL	2-Chloroethyl vinyl ether	500 mg/L
					8260+#1 SS_ST_00062	1 mL	1,1,2-Trichloro-1,2,2-trifluoroethane	100 mg/L
							Acetonitrile	4000 mg/L
							Carbon disulfide	100 mg/L
							Cyclohexane	100 mg/L
							Ethyl methacrylate	100 mg/L
							Methyl acetate	100 mg/L
							Methyl tert-butyl ether	100 mg/L
							Methylcyclohexane	100 mg/L
							Tetrahydrofuran	500 mg/L
							trans-1,4-Dichloro-2-butene	500 mg/L
					8260+#1 SS_ST_00063	1 mL	1,1,2-Trichloro-1,2,2-trifluoroethane	100 mg/L
							Acetonitrile	4000 mg/L
							Carbon disulfide	100 mg/L
							Cyclohexane	100 mg/L
							Ethyl methacrylate	100 mg/L
							Methyl acetate	100 mg/L
							Methyl tert-butyl ether	100 mg/L
							Methylcyclohexane	100 mg/L
							Tetrahydrofuran	500 mg/L
							trans-1,4-Dichloro-2-butene	500 mg/L
					8260+#2 SS_ST_00066	1 mL	2-Butanone (MEK)	500 mg/L
							2-Hexanone	500 mg/L
							4-Methyl-2-pentanone (MIBK)	500 mg/L
							Acetone	500 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Iodomethane	100 mg/L
							Vinyl acetate	500 mg/L
					8260+#2 SS_ST_00067	1 mL	2-Butanone (MEK)	500 mg/L
							2-Hexanone	500 mg/L
							4-Methyl-2-pentanone (MIBK)	500 mg/L
							Acetone	500 mg/L
							Iodomethane	100 mg/L
							Vinyl acetate	500 mg/L
					8260+#3SS_STK_00059	1 mL	Acrolein	2000 mg/L
							Acrylonitrile	500 mg/L
					8260+#3SS_STK_00060	1 mL	Acrolein	2000 mg/L
							Acrylonitrile	500 mg/L
.2-CLEVE SS_00051	04/30/13		Ultra Scientific, Lot CG-0850		(Purchased Reagent)		2-Chloroethyl vinyl ether	5000 ug/mL
.2-CLEVE SS_00052	04/30/13		Ultra Scientific, Lot CG-0850		(Purchased Reagent)		2-Chloroethyl vinyl ether	5000 ug/mL
.8260+#1 SS_ST_00062	04/30/13		Supelco, Lot LB91821		(Purchased Reagent)		1,1,2-Trichloro-1,2,2-trifluoroethane	1000 ug/mL
							Acetonitrile	40000 ug/mL
							Carbon disulfide	1000 ug/mL
							Cyclohexane	1000 ug/mL
							Ethyl methacrylate	1000 ug/mL
							Methyl acetate	1000 ug/mL
							Methyl tert-butyl ether	1000 ug/mL
							Methylcyclohexane	1000 ug/mL
							Tetrahydrofuran	5000 ug/mL
							trans-1,4-Dichloro-2-butene	5000 ug/mL
.8260+#1 SS_ST_00063	04/30/13		Supelco, Lot LB91821		(Purchased Reagent)		1,1,2-Trichloro-1,2,2-trifluoroethane	1000 ug/mL
							Acetonitrile	40000 ug/mL
							Carbon disulfide	1000 ug/mL
							Cyclohexane	1000 ug/mL
							Ethyl methacrylate	1000 ug/mL
							Methyl acetate	1000 ug/mL
							Methyl tert-butyl ether	1000 ug/mL
							Methylcyclohexane	1000 ug/mL
							Tetrahydrofuran	5000 ug/mL
							trans-1,4-Dichloro-2-butene	5000 ug/mL
.8260+#2 SS_ST_00066	01/31/13		Supelco, Lot LB90517		(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
							Iodomethane	1000 ug/mL
							Vinyl acetate	5000 ug/mL
.8260+#2 SS_ST_00067	01/31/13		Supelco, Lot LB90517		(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
							Iodomethane	1000 ug/mL
							Vinyl acetate	5000 ug/mL
.8260+#3SS_STK_00059	02/01/14		Supelco, Lot LB90736		(Purchased Reagent)		Acrolein	20000 ug/mL
							Acrylonitrile	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.8260+#3SS_STK_00060	02/01/14	Supelco, Lot LB90736			(Purchased Reagent)		Acrolein	20000 ug/mL
							Acrylonitrile	5000 ug/mL
8260+_SS_WRK_00029	09/11/12	07/11/12	Methanol, Lot DG256	20 mL	2-CLEVE SS_00069	1 mL	2-Chloroethyl vinyl ether	500 mg/L
					2-CLEVE SS_00070	1 mL	2-Chloroethyl vinyl ether	500 mg/L
					8260+#1 SS_ST_00070	1 mL	1,1,2-Trichloro-1,2,2-trifluoroethane	100 mg/L
							Acetonitrile	4000 mg/L
							Carbon disulfide	100 mg/L
							Cyclohexane	100 mg/L
							Ethyl methacrylate	100 mg/L
							Methyl acetate	100 mg/L
							Methyl tert-butyl ether	100 mg/L
							Methylcyclohexane	100 mg/L
							Tetrahydrofuran	500 mg/L
							trans-1,4-Dichloro-2-butene	500 mg/L
					8260+#1 SS_ST_00071	1 mL	1,1,2-Trichloro-1,2,2-trifluoroethane	100 mg/L
							Acetonitrile	4000 mg/L
							Carbon disulfide	100 mg/L
							Cyclohexane	100 mg/L
							Ethyl methacrylate	100 mg/L
							Methyl acetate	100 mg/L
							Methyl tert-butyl ether	100 mg/L
							Methylcyclohexane	100 mg/L
							Tetrahydrofuran	500 mg/L
							trans-1,4-Dichloro-2-butene	500 mg/L
					8260+#2 SS_ST_00059	1 mL	2-Butanone (MEK)	500 mg/L
							2-Hexanone	500 mg/L
							4-Methyl-2-pentanone (MIBK)	500 mg/L
							Acetone	500 mg/L
							Iodomethane	100 mg/L
							Vinyl acetate	500 mg/L
					8260+#2 SS_ST_00065	1 mL	2-Butanone (MEK)	500 mg/L
							2-Hexanone	500 mg/L
							4-Methyl-2-pentanone (MIBK)	500 mg/L
							Acetone	500 mg/L
							Iodomethane	100 mg/L
							Vinyl acetate	500 mg/L
					8260+#3SS_STK_00051	1 mL	Acrolein	2000 mg/L
							Acrylonitrile	500 mg/L
					8260+#3SS_STK_00052	1 mL	Acrolein	2000 mg/L
							Acrylonitrile	500 mg/L
.2-CLEVE SS_00069	06/30/14	Ultra Scientific, Lot CG-0850A			(Purchased Reagent)		2-Chloroethyl vinyl ether	5000 ug/mL
.2-CLEVE SS_00070	06/30/14	Ultra Scientific, Lot CG-0850A			(Purchased Reagent)		2-Chloroethyl vinyl ether	5000 ug/mL
.8260+#1 SS_ST_00070	04/30/13	Supelco, Lot LB91821			(Purchased Reagent)		1,1,2-Trichloro-1,2,2-trifluoroethane	1000 ug/mL
							Acetonitrile	40000 ug/mL
							Carbon disulfide	1000 ug/mL
							Cyclohexane	1000 ug/mL
							Ethyl methacrylate	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methyl acetate	1000 ug/mL
							Methyl tert-butyl ether	1000 ug/mL
							Methylcyclohexane	1000 ug/mL
							Tetrahydrofuran	5000 ug/mL
							trans-1,4-Dichloro-2-butene	5000 ug/mL
.8260+#1 SS_ST_00071	04/30/13		Supelco, Lot LB91821		(Purchased Reagent)		1,1,2-Trichloro-1,2,2-trifluoroethane	1000 ug/mL
							Acetonitrile	40000 ug/mL
							Carbon disulfide	1000 ug/mL
							Cyclohexane	1000 ug/mL
							Ethyl methacrylate	1000 ug/mL
							Methyl acetate	1000 ug/mL
							Methyl tert-butyl ether	1000 ug/mL
							Methylcyclohexane	1000 ug/mL
							Tetrahydrofuran	5000 ug/mL
							trans-1,4-Dichloro-2-butene	5000 ug/mL
.8260+#2 SS_ST_00059	01/31/13		Supelco, Lot LB90517		(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
							Iodomethane	1000 ug/mL
							Vinyl acetate	5000 ug/mL
.8260+#2 SS_ST_00065	01/31/13		Supelco, Lot LB90517		(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
							Iodomethane	1000 ug/mL
							Vinyl acetate	5000 ug/mL
.8260+#3SS_STK_00051	02/01/14		Supelco, Lot LB90736		(Purchased Reagent)		Acrolein	20000 ug/mL
							Acrylonitrile	5000 ug/mL
.8260+#3SS_STK_00052	02/01/14		Supelco, Lot LB90736		(Purchased Reagent)		Acrolein	20000 ug/mL
							Acrylonitrile	5000 ug/mL
8260+_WRK_00014	08/25/12	06/25/12	Methanol, Lot DF369	10 mL	8260+#1A_STK_00042	1 mL	Carbon disulfide	100 ng/uL
					8260+#2_STK_00008	1 mL	2-Butanone (MEK)	500 ng/uL
							2-Hexanone	500 ng/uL
							4-Methyl-2-pentanone (MIBK)	500 ng/uL
							Acetone	500 ng/uL
.8260+#1A_STK_00042	08/31/12		Restek, Lot A079683		(Purchased Reagent)		Carbon disulfide	1000 ug/mL
.8260+#2_STK_00008	10/31/12		Restek, Lot A077628		(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
MED_01_Si_00013	11/24/12	05/24/12	1% HNO3, Lot L08023	50 mL	MEA_Si_STK_00006	10 mL	Si	2000 ug/mL
.MEA_Si_STK_00006	04/30/18		Ultra Scientific, Lot M00333		(Purchased Reagent)		Si	10000 ug/mL
MED_01_W1_00008	01/31/13		Ultra Scientific, Lot M01328		(Purchased Reagent)		Antimony	40 ug/mL
							Arsenic	40 ug/mL
							Beryllium	40 ug/mL
							Cadmium	40 ug/mL
							Calcium	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chromium	40 ug/mL
							Cobalt	40 ug/mL
							Copper	40 ug/mL
							Iron	2000 ug/mL
							Lead	40 ug/mL
							Magnesium	2000 ug/mL
							Manganese	40 ug/mL
							Mo	40 ug/mL
							Nickel	40 ug/mL
							Selenium	40 ug/mL
							Thallium	40 ug/mL
							Ti	40 ug/mL
							Vanadium	40 ug/mL
							Zinc	40 ug/mL
MED_02_W2_00008	04/30/13	Ultra Scientific, Lot P00309			(Purchased Reagent)		Aluminum	2003 ug/mL
							B	40 ug/mL
							Barium	40 ug/mL
							Li	40 ug/mL
							Potassium	2003 ug/mL
							Sodium	2003 ug/mL
							Sr	40 ug/mL
MED_03_Ag_00021	12/29/12	06/29/12	1% HNO3, Lot L08023	100 mL	MEA_Ag_STK_00002	1 mL	Silver	10 ug/mL
.MEA_Ag_STK_00002	05/02/13	Ultra Scientific, Lot K00335			(Purchased Reagent)		Silver	1000 ug/mL
MED_04_Sn_00018	11/24/12	05/24/12	1% HNO3, Lot L08023	200 mL	MEA_Sn_STK_00002	8 mL	Sn	40 ug/mL
.MEA_Sn_STK_00002	08/31/17	Ultra Scientific, Lot L00831			(Purchased Reagent)		Sn	1000 ug/mL
MEH_HG2_WKG_00142	07/20/12	07/19/12	1% HNO3, Lot 597537	50 mL	MEH_HG2_INT_00011	0.5 mL	Mercury	100 ng/mL
.MEH_HG2_INT_00011	09/30/12	05/31/12	1% HNO3, Lot 597535	50 mL	MEH_HG3_STK_00001	5 mL	Mercury	10000 ng/mL
..MEH_HG3_STK_00001	09/30/12	Aqua Solutions, Lot 1090645			(Purchased Reagent)		Mercury	100 mg/L
MEH_HG2_WKG_00143	07/21/12	07/20/12	1% HNO3, Lot 597537	50 mL	MEH_HG2_INT_00011	0.5 mL	Mercury	100 ng/mL
.MEH_HG2_INT_00011	09/30/12	05/31/12	1% HNO3, Lot 597535	50 mL	MEH_HG3_STK_00001	5 mL	Mercury	10000 ng/mL
..MEH_HG3_STK_00001	09/30/12	Aqua Solutions, Lot 1090645			(Purchased Reagent)		Mercury	100 mg/L
MEI_04_ICV_00114	12/22/12	07/16/12	1% HNO3, Lot 837273	100 mL	MEI_09_CCV_00070	75 mL	Aluminum	18.75 mg/L
							Arsenic	0.375 mg/L
							Barium	0.375 mg/L
							Beryllium	0.375 mg/L
							Cadmium	0.375 mg/L
							Calcium	18.75 mg/L
							Chromium	0.375 mg/L
							Cobalt	0.375 mg/L
							Copper	0.375 mg/L
							Iron	18.75 mg/L
							Lead	0.375 mg/L
							Magnesium	18.75 mg/L
							Manganese	0.375 mg/L
							Nickel	0.375 mg/L
							Potassium	18.75 mg/L
							Selenium	0.375 mg/L
							Sodium	18.75 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Thallium	0.375 mg/L
							Vanadium	0.375 mg/L
							Zinc	0.375 mg/L
							Silver	0.375 mg/L
							Antimony	0.375 mg/L
.MEI_09_CCV_00070	12/22/12	07/12/12	1% HNO3, Lot 828718	2000 mL	MEI_CCV_A_STK_00003	10 mL	Aluminum	25 ug/mL
							Arsenic	0.5 ug/mL
							Barium	0.5 ug/mL
							Beryllium	0.5 ug/mL
							Cadmium	0.5 ug/mL
							Calcium	25 ug/mL
							Chromium	0.5 ug/mL
							Cobalt	0.5 ug/mL
							Copper	0.5 ug/mL
							Iron	25 ug/mL
							Lead	0.5 ug/mL
							Magnesium	25 ug/mL
							Manganese	0.5 ug/mL
							Nickel	0.5 ug/mL
							Potassium	25 ug/mL
							Selenium	0.5 ug/mL
							Sodium	25 ug/mL
							Thallium	0.5 ug/mL
							Vanadium	0.5 ug/mL
							Zinc	0.5 ug/mL
					MEI_CCV_Ag_00002	1 mL	Silver	0.5 ug/mL
					MEI_CCV_B_STK_00003	10 mL	Antimony	0.5 ug/mL
..MEI_CCV_A_STK_00003	12/22/12		High-Purity, Lot 1134818		(Purchased Reagent)		Aluminum	5000 ug/mL
							Arsenic	100 ug/mL
							Barium	100 ug/mL
							Beryllium	100 ug/mL
							Cadmium	100 ug/mL
							Calcium	5000 ug/mL
							Chromium	100 ug/mL
							Cobalt	100 ug/mL
							Copper	100 ug/mL
							Iron	5000 ug/mL
							Lead	100 ug/mL
							Magnesium	5000 ug/mL
							Manganese	100 ug/mL
							Nickel	100 ug/mL
							Potassium	5000 ug/mL
							Selenium	100 ug/mL
							Sodium	5000 ug/mL
							Thallium	100 ug/mL
							Vanadium	100 ug/mL
							Zinc	100 ug/mL
..MEI_CCV_Ag_00002	05/13/13		High-Purity, Lot 1125219		(Purchased Reagent)		Silver	1000 ug/mL
..MEI_CCV_B_STK_00003	12/22/12		High-Purity, Lot 1134819		(Purchased Reagent)		Antimony	100 ug/mL
MEI_04_ICV_00115	12/22/12	07/19/12	1% HNO3, Lot 837273	100 mL	MEI_09_CCV_00070	75 mL	Aluminum	18.75 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Arsenic	0.375 mg/L
							Barium	0.375 mg/L
							Beryllium	0.375 mg/L
							Cadmium	0.375 mg/L
							Calcium	18.75 mg/L
							Chromium	0.375 mg/L
							Cobalt	0.375 mg/L
							Copper	0.375 mg/L
							Iron	18.75 mg/L
							Lead	0.375 mg/L
							Magnesium	18.75 mg/L
							Manganese	0.375 mg/L
							Nickel	0.375 mg/L
							Potassium	18.75 mg/L
							Selenium	0.375 mg/L
							Sodium	18.75 mg/L
							Thallium	0.375 mg/L
							Vanadium	0.375 mg/L
							Zinc	0.375 mg/L
							Silver	0.375 mg/L
							Antimony	0.375 mg/L
.MEI_09_CCV_00070	12/22/12	07/12/12	1% HNO3, Lot 828718	2000 mL	MEI_CCV_A_STK_00003	10 mL	Aluminum	25 ug/mL
							Arsenic	0.5 ug/mL
							Barium	0.5 ug/mL
							Beryllium	0.5 ug/mL
							Cadmium	0.5 ug/mL
							Calcium	25 ug/mL
							Chromium	0.5 ug/mL
							Cobalt	0.5 ug/mL
							Copper	0.5 ug/mL
							Iron	25 ug/mL
							Lead	0.5 ug/mL
							Magnesium	25 ug/mL
							Manganese	0.5 ug/mL
							Nickel	0.5 ug/mL
							Potassium	25 ug/mL
							Selenium	0.5 ug/mL
							Sodium	25 ug/mL
							Thallium	0.5 ug/mL
							Vanadium	0.5 ug/mL
							Zinc	0.5 ug/mL
					MEI_CCV_Ag_00002	1 mL	Silver	0.5 ug/mL
					MEI_CCV_B_STK_00003	10 mL	Antimony	0.5 ug/mL
..MEI_CCV_A_STK_00003	12/22/12		High-Purity, Lot 1134818		(Purchased Reagent)		Aluminum	5000 ug/mL
							Arsenic	100 ug/mL
							Barium	100 ug/mL
							Beryllium	100 ug/mL
							Cadmium	100 ug/mL
							Calcium	5000 ug/mL
							Chromium	100 ug/mL

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Cobalt	100 ug/mL
							Copper	100 ug/mL
							Iron	5000 ug/mL
							Lead	100 ug/mL
							Magnesium	5000 ug/mL
							Manganese	100 ug/mL
							Nickel	100 ug/mL
							Potassium	5000 ug/mL
							Selenium	100 ug/mL
							Sodium	5000 ug/mL
							Thallium	100 ug/mL
							Vanadium	100 ug/mL
							Zinc	100 ug/mL
..MEI_CCV_Ag_00002	05/13/13		High-Purity, Lot 1125219		(Purchased Reagent)		Silver	1000 ug/mL
..MEI_CCV_B_STK_00003	12/22/12		High-Purity, Lot 1134819		(Purchased Reagent)		Antimony	100 ug/mL
MEI_06_CRI_00036	01/11/13	07/11/12	1% HNO3, Lot 828718	500 mL	MEI_CRI_STK_00007	50 mL	Aluminum	0.2 mg/L
							Antimony	0.02 mg/L
							Arsenic	0.01 mg/L
							Barium	0.002 mg/L
							Beryllium	0.002 mg/L
							Cadmium	0.001 mg/L
							Calcium	0.5 mg/L
							Chromium	0.004 mg/L
							Cobalt	0.004 mg/L
							Copper	0.01 mg/L
							Iron	0.05 mg/L
							Lead	0.005 mg/L
							Magnesium	0.2 mg/L
							Manganese	0.003 mg/L
							Nickel	0.01 mg/L
							Potassium	0.5 mg/L
							Selenium	0.015 mg/L
							Silver	0.003 mg/L
							Sodium	1 mg/L
							Thallium	0.02 mg/L
							Vanadium	0.005 mg/L
							Zinc	0.01 mg/L
.MEI_CRI_STK_00007	02/28/13		Ultra Scientific, Lot P00073		(Purchased Reagent)		Aluminum	2 ug/mL
							Antimony	0.2 ug/mL
							Arsenic	0.1 ug/mL
							Barium	0.02 ug/mL
							Beryllium	0.02 ug/mL
							Cadmium	0.01 ug/mL
							Calcium	5 ug/mL
							Chromium	0.04 ug/mL
							Cobalt	0.04 ug/mL
							Copper	0.1 ug/mL
							Iron	0.5 ug/mL
							Lead	0.05 ug/mL
							Magnesium	2 ug/mL

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Manganese	0.03 ug/mL
							Nickel	0.1 ug/mL
							Potassium	5 ug/mL
							Selenium	0.15 ug/mL
							Silver	0.03 ug/mL
							Sodium	10 ug/mL
							Thallium	0.2 ug/mL
							Vanadium	0.05 ug/mL
							Zinc	0.1 ug/mL
MEI_07_ICSA_00031	01/16/13	07/16/12	1% HNO3, Lot 837273	500 mL	MEI_ICSA_STK_00005	50 mL	Aluminum	500.4 ug/mL
							Calcium	500.1 ug/mL
							Iron	200.2 ug/mL
							Magnesium	500.3 ug/mL
.MEI_ICSA_STK_00005	10/31/14		Ultra Scientific, Lot L01063		(Purchased Reagent)		Aluminum	5004 ug/mL
							Calcium	5001 ug/mL
							Iron	2002 ug/mL
							Magnesium	5003 ug/mL
MEI_08_ICSAB_00044	01/10/12	07/10/12	1% HNO3, Lot 828718	500 mL	MEI_ICSAB_STK_00010	50 mL	Aluminum	500 ug/mL
							Antimony	0.6 ug/mL
							Arsenic	0.1 ug/mL
							Barium	0.5 ug/mL
							Beryllium	0.5 ug/mL
							Cadmium	1 ug/mL
							Calcium	500 ug/mL
							Chromium	0.5 ug/mL
							Cobalt	0.5 ug/mL
							Copper	0.5 ug/mL
							Iron	100 ug/mL
							Lead	0.05 ug/mL
							Li	0.5 ug/mL
							Magnesium	500 ug/mL
							Manganese	0.5 ug/mL
							Nickel	1 ug/mL
							Selenium	0.05 ug/mL
							Si	1 ug/mL
							Silver	0.2 ug/mL
							Sr	0.5 ug/mL
							Thallium	0.1 ug/mL
							Vanadium	0.5 ug/mL
							Zinc	1 ug/mL
.MEI_ICSAB_STK_00010	05/31/13		Ultra Scientific, Lot P00376		(Purchased Reagent)		Aluminum	5000 ug/mL
							Antimony	6 ug/mL
							Arsenic	1 ug/mL
							Barium	5 ug/mL
							Beryllium	5 ug/mL
							Cadmium	10 ug/mL
							Calcium	5000 ug/mL
							Chromium	5 ug/mL
							Cobalt	5 ug/mL
							Copper	5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Iron	1000 ug/mL
							Lead	0.5 ug/mL
							Li	5 ug/mL
							Magnesium	5000 ug/mL
							Manganese	5 ug/mL
							Nickel	10 ug/mL
							Selenium	0.5 ug/mL
							Si	10 ug/mL
							Silver	2 ug/mL
							Sr	5 ug/mL
							Thallium	1 ug/mL
							Vanadium	5 ug/mL
							Zinc	10 ug/mL
MEI_09_CCV_00070	12/22/12	07/12/12	1% HNO3, Lot 828718	2000 mL	MEI_CCV_A_STK_00003	10 mL	Aluminum	25 ug/mL
							Arsenic	0.5 ug/mL
							Barium	0.5 ug/mL
							Beryllium	0.5 ug/mL
							Cadmium	0.5 ug/mL
							Calcium	25 ug/mL
							Chromium	0.5 ug/mL
							Cobalt	0.5 ug/mL
							Copper	0.5 ug/mL
							Iron	25 ug/mL
							Lead	0.5 ug/mL
							Magnesium	25 ug/mL
							Manganese	0.5 ug/mL
							Nickel	0.5 ug/mL
							Potassium	25 ug/mL
							Selenium	0.5 ug/mL
							Sodium	25 ug/mL
							Thallium	0.5 ug/mL
							Vanadium	0.5 ug/mL
							Zinc	0.5 ug/mL
					MEI_CCV_Ag_00002	1 mL	Silver	0.5 ug/mL
					MEI_CCV_B_STK_00003	10 mL	Antimony	0.5 ug/mL
.MEI_CCV_A_STK_00003	12/22/12		High-Purity, Lot 1134818		(Purchased Reagent)		Aluminum	5000 ug/mL
							Arsenic	100 ug/mL
							Barium	100 ug/mL
							Beryllium	100 ug/mL
							Cadmium	100 ug/mL
							Calcium	5000 ug/mL
							Chromium	100 ug/mL
							Cobalt	100 ug/mL
							Copper	100 ug/mL
							Iron	5000 ug/mL
							Lead	100 ug/mL
							Magnesium	5000 ug/mL
							Manganese	100 ug/mL
							Nickel	100 ug/mL
							Potassium	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Selenium	100 ug/mL
							Sodium	5000 ug/mL
							Thallium	100 ug/mL
							Vanadium	100 ug/mL
							Zinc	100 ug/mL
.MEI_CCV_Ag_00002	05/13/13		High-Purity, Lot 1125219		(Purchased Reagent)		Silver	1000 ug/mL
.MEI_CCV_B_STK_00003	12/22/12		High-Purity, Lot 1134819		(Purchased Reagent)		Antimony	100 ug/mL
MEI_09_CCV_00071	12/22/12	07/20/12	1% HNO3, Lot 837273	2000 mL	MEI_CCV_A_STK_00003	10 mL	Aluminum	25 ug/mL
							Arsenic	0.5 ug/mL
							Barium	0.5 ug/mL
							Beryllium	0.5 ug/mL
							Cadmium	0.5 ug/mL
							Calcium	25 ug/mL
							Chromium	0.5 ug/mL
							Cobalt	0.5 ug/mL
							Copper	0.5 ug/mL
							Iron	25 ug/mL
							Lead	0.5 ug/mL
							Magnesium	25 ug/mL
							Manganese	0.5 ug/mL
							Nickel	0.5 ug/mL
							Potassium	25 ug/mL
							Selenium	0.5 ug/mL
							Sodium	25 ug/mL
							Thallium	0.5 ug/mL
							Vanadium	0.5 ug/mL
							Zinc	0.5 ug/mL
					MEI_CCV_Ag_00002	1 mL	Silver	0.5 ug/mL
					MEI_CCV_B_STK_00003	10 mL	Antimony	0.5 ug/mL
.MEI_CCV_A_STK_00003	12/22/12		High-Purity, Lot 1134818		(Purchased Reagent)		Aluminum	5000 ug/mL
							Arsenic	100 ug/mL
							Barium	100 ug/mL
							Beryllium	100 ug/mL
							Cadmium	100 ug/mL
							Calcium	5000 ug/mL
							Chromium	100 ug/mL
							Cobalt	100 ug/mL
							Copper	100 ug/mL
							Iron	5000 ug/mL
							Lead	100 ug/mL
							Magnesium	5000 ug/mL
							Manganese	100 ug/mL
							Nickel	100 ug/mL
							Potassium	5000 ug/mL
							Selenium	100 ug/mL
							Sodium	5000 ug/mL
							Thallium	100 ug/mL
							Vanadium	100 ug/mL
							Zinc	100 ug/mL
.MEI_CCV_Ag_00002	05/13/13		High-Purity, Lot 1125219		(Purchased Reagent)		Silver	1000 ug/mL

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MEI_CCV_B_STK_00003	12/22/12	High-Purity, Lot 1134819			(Purchased Reagent)		Antimony	100 ug/mL
MV_GAS_WRK_00072	07/20/12	07/13/12	Methanol, Lot DF700	10 mL	MV_GAS_STK_00084	500 uL	Bromomethane	100 ug/mL
							Chloroethane	100 ug/mL
							Chloromethane	100 ug/mL
							Vinyl chloride	100 ug/mL
.MV_GAS_STK_00084	07/31/13	Supelco, Lot LB92007			(Purchased Reagent)		Bromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
P 8260 IS_00031	09/10/12	07/10/12	Methanol, Lot DF700	5 mL	MV_IS_STK_00175	200 uL	1,4-Dichlorobenzene-d4	100 ug/mL
							1,4-Difluorobenzene	100 ug/mL
							Chlorobenzene-d5	100 ug/mL
.MV_IS_STK_00175	01/10/13	Restek, Lot A087617			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							1,4-Difluorobenzene	2500 ug/mL
							Chlorobenzene-d5	2500 ug/mL
P 8260 Surr._00055	09/05/12	06/05/12	Methanol, Lot DG256	5 mL	MV_SURR_STK_00225	200 uL	1,2-Dichloroethane-d4 (Surr)	100 ug/mL
							4-Bromofluorobenzene (Surr)	100 ug/mL
							Toluene-d8 (Surr)	100 ug/mL
.MV_SURR_STK_00225	10/31/14	Ultra Scientific, Lot CH-2969			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
P 8260 Surr._00056	09/10/12	07/10/12	Methanol, Lot DF700	5 mL	MV_SURR_STK_00221	200 uL	1,2-Dichloroethane-d4 (Surr)	100 ug/mL
							4-Bromofluorobenzene (Surr)	100 ug/mL
							Toluene-d8 (Surr)	100 ug/mL
.MV_SURR_STK_00221	01/10/13	Ultra Scientific, Lot CH-2969			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
P 8260 Surr._00058	09/17/12	07/18/12	Methanol, Lot DG256	5 mL	MV_SURR_STK_00221	200 uL	1,2-Dichloroethane-d4 (Surr)	100 ug/mL
							4-Bromofluorobenzene (Surr)	100 ug/mL
							Toluene-d8 (Surr)	100 ug/mL
.MV_SURR_STK_00221	01/10/13	Ultra Scientific, Lot CH-2969			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
S_8260_IS_00033	09/11/12	07/11/12	P&T Methanol, Lot DF700	10 mL	MV_IS_STK_00175	500 uL	1,4-Dichlorobenzene-d4	125 ug/mL
							1,4-Difluorobenzene	125 ug/mL
							Chlorobenzene-d5	125 ug/mL
.MV_IS_STK_00175	01/10/13	Restek, Lot A087617			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							1,4-Difluorobenzene	2500 ug/mL
							Chlorobenzene-d5	2500 ug/mL
S_8260_Surr_00027	09/09/12	07/09/12	P&T Methanol, Lot DF700	10 mL	MV_SURR_STK_00222	460 uL	1,2-Dichloroethane-d4 (Surr)	115 ug/mL
							4-Bromofluorobenzene (Surr)	115 ug/mL
							Toluene-d8 (Surr)	115 ug/mL
.MV_SURR_STK_00222	10/31/14	Ultra Scientific, Lot CH-2969			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
S_8260_Surr_00028	09/20/12	07/20/12	P&T Methanol, Lot DF700	10 mL	MV_SURR_STK_00236	460 uL	1,2-Dichloroethane-d4 (Surr)	115 ug/mL
							4-Bromofluorobenzene (Surr)	115 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-22664-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Toluene-d8 (Surr)	115 ug/mL
.MV_SURR_STK_00236	10/31/14	Ultra Scientific, Lot CH-2969			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL

Certification Summary

Client: Malcolm Pirnie, Inc. Invoice to Arcadis
Project/Site: NYSDEC-Standby VESTAL

TestAmerica Job ID: 480-22664-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Buffalo	Arkansas DEQ	State Program	6	88-0686
TestAmerica Buffalo	California	NELAC	9	1169CA
TestAmerica Buffalo	Connecticut	State Program	1	PH-0568
TestAmerica Buffalo	Florida	NELAC	4	E87672
TestAmerica Buffalo	Georgia	State Program	4	956
TestAmerica Buffalo	Georgia	State Program	4	N/A
TestAmerica Buffalo	Illinois	NELAC	5	200003
TestAmerica Buffalo	Iowa	State Program	7	374
TestAmerica Buffalo	Kansas	NELAC	7	E-10187
TestAmerica Buffalo	Kentucky	State Program	4	90029
TestAmerica Buffalo	Kentucky (UST)	State Program	4	30
TestAmerica Buffalo	Louisiana	NELAC	6	02031
TestAmerica Buffalo	Maine	State Program	1	NY00044
TestAmerica Buffalo	Maryland	State Program	3	294
TestAmerica Buffalo	Massachusetts	State Program	1	M-NY044
TestAmerica Buffalo	Michigan	State Program	5	9937
TestAmerica Buffalo	Minnesota	NELAC	5	036-999-337
TestAmerica Buffalo	New Hampshire	NELAC	1	2337
TestAmerica Buffalo	New Hampshire	NELAC	1	2973
TestAmerica Buffalo	New Jersey	NELAC	2	NY455
TestAmerica Buffalo	New York	NELAC	2	10026
TestAmerica Buffalo	North Dakota	State Program	8	R-176
TestAmerica Buffalo	Oklahoma	State Program	6	9421
TestAmerica Buffalo	Oregon	NELAC	10	NY200003
TestAmerica Buffalo	Pennsylvania	NELAC	3	68-00281
TestAmerica Buffalo	Tennessee	State Program	4	TN02970
TestAmerica Buffalo	Texas	NELAC	6	T104704412-11-2
TestAmerica Buffalo	USDA	Federal		P330-11-00386
TestAmerica Buffalo	Virginia	NELAC	3	460185
TestAmerica Buffalo	Washington	State Program	10	C784
TestAmerica Buffalo	West Virginia DEP	State Program	3	252
TestAmerica Buffalo	Wisconsin	State Program	5	998310390

Accreditation may not be offered or required for all methods and analytes reported in this package Please contact your project manager for the laboratory's current list of certified methods and analytes.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

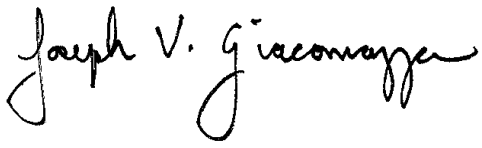
ANALYTICAL REPORT

Job Number: 480-24506-1

Job Description: NYSDEC-Standby VESTAL

For:
Malcolm Pirnie, Inc. Invoice to Arcadis
855 Route 146
Suite 210
Clifton Park, NY 12065

Attention: Mr. Jeremy Wyckoff



Approved for release.
Joe Giacomazza
Project Administrator
9/7/2012 11:54 AM

Designee for
Sally Hoffman
Project Manager II
sally.hoffman@testamericainc.com
09/07/2012

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the TestAmerica Project Manager who has signed this report. TestAmerica Buffalo NELAC Certifications: CADPH 01169CA, FLDOH E87672, ILEPA 200003, KSDOH E-10187, LADEQ 30708, MDH 036-999-337, NHELAP 2973, NJDEP NY455, NHDOH 10026, ORELAP NY200003, PADEP 68-00281, TXCEQ T-104704412-10-1

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Job Narrative
480-24506-1

Receipt
The samples were received on 8/30/2012 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.2º C.

GC/MS VOA
Method 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: WELL 1-1A INF (480-24506-1DL). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-24506-1

SDG No.:

Instrument ID: HP5973S Analysis Batch Number: 79111

Lab Sample ID: 480-24506-1 DL Client Sample ID: WELL 1-1A INF DL

Date Analyzed: 09/04/12 13:49 Lab File ID: S17522.D GC Column: ZB-624 (60) ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,1-Trichloroethane	4.30	Split Peak	larsonr	09/04/12 18:53

SAMPLE SUMMARY

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-24506-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-24506-1	WELL 1-1A INF	Water	08/29/2012 0835	08/30/2012 0900
480-24506-2	WELL 1-1A EFF	Water	08/29/2012 0840	08/30/2012 0900
480-24506-3	TRIP BLANK	Water	08/29/2012 0000	08/30/2012 0900

EXECUTIVE SUMMARY - Detections

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-24506-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
480-24506-1	**WELL 1-1A INF**					
1,1,1-Trichloroethane		150		2.0	ug/L	8260B
1,1-Dichloroethane		16		1.0	ug/L	8260B
1,1-Dichloroethene		14		1.0	ug/L	8260B
Chloroethane		0.48	J	1.0	ug/L	8260B
cis-1,2-Dichloroethene		39		1.0	ug/L	8260B
Trichloroethene		44		1.0	ug/L	8260B
Vinyl chloride		4.5		1.0	ug/L	8260B

METHOD SUMMARY

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-24506-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds (GC/MS)	TAL BUF	SW846 8260B	
Purge and Trap	TAL BUF		SW846 5030B

Lab References:

TAL BUF = TestAmerica Buffalo

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-24506-1

Method	Analyst	Analyst ID
SW846 8260B	Hill, Leah	LH
SW846 8260B	Larson, Renee	RL

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-24506-1

Client Sample ID: **WELL 1-1A INF**

Lab Sample ID: 480-24506-1
Client Matrix: Water

Date Sampled: 08/29/2012 0835
Date Received: 08/30/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-79038	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S17498.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/01/2012 1244			Final Weight/Volume:	5 mL
Prep Date:	09/01/2012 1244				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	150	E	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	16		0.38	1.0
1,1-Dichloroethene	14		0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	0.48	J	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	39		0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	44		0.46	1.0
Vinyl chloride	4.5		0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93		66 - 137
Toluene-d8 (Surr)	97		71 - 126
4-Bromofluorobenzene (Surr)	95		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-24506-1

Client Sample ID: **WELL 1-1A INF**

Lab Sample ID: 480-24506-1
Client Matrix: Water

Date Sampled: 08/29/2012 0835
Date Received: 08/30/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-79111	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S17522.D
Dilution:	2.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/04/2012 1349	Run Type:	DL	Final Weight/Volume:	5 mL
Prep Date:	09/04/2012 1349				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	150		1.6	2.0
1,1,2,2-Tetrachloroethane	2.0	U	0.42	2.0
1,1,2-Trichloroethane	2.0	U	0.46	2.0
1,1-Dichloroethane	16		0.76	2.0
1,1-Dichloroethene	12		0.58	2.0
1,2-Dibromoethane	2.0	U	1.5	2.0
1,2-Dichloroethane	2.0	U	0.42	2.0
1,2-Dichloropropane	2.0	U	1.4	2.0
2-Hexanone	10	U	2.5	10
2-Butanone (MEK)	20	U	2.6	20
4-Methyl-2-pentanone (MIBK)	10	U	4.2	10
Acetone	20	U	6.0	20
Benzene	2.0	U	0.82	2.0
Bromodichloromethane	2.0	U	0.78	2.0
Bromoform	2.0	U	0.52	2.0
Bromomethane	2.0	U	1.4	2.0
Carbon disulfide	2.0	U	0.38	2.0
Carbon tetrachloride	2.0	U	0.54	2.0
Chlorobenzene	2.0	U	1.5	2.0
Dibromochloromethane	2.0	U	0.64	2.0
Chloroethane	2.0	U	0.64	2.0
Chloroform	2.0	U	0.68	2.0
Chloromethane	2.0	U	0.70	2.0
cis-1,2-Dichloroethene	39		1.6	2.0
cis-1,3-Dichloropropene	2.0	U	0.72	2.0
Ethylbenzene	2.0	U	1.5	2.0
Methylene Chloride	2.0	U	0.88	2.0
Styrene	2.0	U	1.5	2.0
Tetrachloroethene	2.0	U	0.72	2.0
Toluene	2.0	U	1.0	2.0
trans-1,2-Dichloroethene	2.0	U	1.8	2.0
trans-1,3-Dichloropropene	2.0	U	0.74	2.0
Trichloroethene	42		0.92	2.0
Vinyl chloride	4.4		1.8	2.0
Xylenes, Total	4.0	U	1.3	4.0
m,p-Xylene	4.0	U	1.3	4.0
o-Xylene	2.0	U	1.5	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	96		66 - 137
Toluene-d8 (Surr)	99		71 - 126
4-Bromofluorobenzene (Surr)	101		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-24506-1

Client Sample ID: **WELL 1-1A EFF**

Lab Sample ID: 480-24506-2
Client Matrix: Water

Date Sampled: 08/29/2012 0840
Date Received: 08/30/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-79038	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S17499.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/01/2012 1305			Final Weight/Volume:	5 mL
Prep Date:	09/01/2012 1305				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95		66 - 137
Toluene-d8 (Surr)	97		71 - 126
4-Bromofluorobenzene (Surr)	97		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-24506-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 480-24506-3
Client Matrix: Water

Date Sampled: 08/29/2012 0000
Date Received: 08/30/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-79038	Instrument ID:	HP5973S
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	S17500.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/01/2012 1331			Final Weight/Volume:	5 mL
Prep Date:	09/01/2012 1331				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	94		66 - 137
Toluene-d8 (Surr)	98		71 - 126
4-Bromofluorobenzene (Surr)	99		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-24506-1

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	TOL %Rec	BFB %Rec
480-24506-1	WELL 1-1A INF	93	97	95
480-24506-1 DL	WELL 1-1A INF DL	96	99	101
480-24506-2	WELL 1-1A EFF	95	97	97
480-24506-3	TRIP BLANK	94	98	99
MB 480-79038/5		93	98	99
MB 480-79111/5		93	99	100
LCS 480-79038/4		95	98	101
LCS 480-79111/4		92	97	101

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4 (Surr)	66-137
TOL = Toluene-d8 (Surr)	71-126
BFB = 4-Bromofluorobenzene (Surr)	73-120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-24506-1

Method Blank - Batch: 480-79038

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 480-79038/5	Analysis Batch:	480-79038	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S17494.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/01/2012 1114	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/01/2012 1114				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93	66 - 137
Toluene-d8 (Surr)	98	71 - 126
4-Bromofluorobenzene (Surr)	99	73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-24506-1

Lab Control Sample - Batch: 480-79038

Method: 8260B
Preparation: 5030B

Lab Sample ID:	LCS 480-79038/4	Analysis Batch:	480-79038	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S17493.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/01/2012 1052	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/01/2012 1052				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethane	25.0	24.0	96	71 - 129	
1,1-Dichloroethene	25.0	24.1	96	65 - 138	
1,2-Dichloroethane	25.0	23.2	93	75 - 127	
Benzene	25.0	24.1	96	71 - 124	
Chlorobenzene	25.0	23.2	93	72 - 120	
cis-1,2-Dichloroethene	25.0	24.1	97	74 - 124	
Ethylbenzene	25.0	24.0	96	77 - 123	
Tetrachloroethene	25.0	24.4	98	74 - 122	
Toluene	25.0	23.6	94	70 - 122	
trans-1,2-Dichloroethene	25.0	24.9	100	73 - 127	
Trichloroethene	25.0	24.4	98	74 - 123	
m,p-Xylene	50.0	47.3	95	76 - 122	
o-Xylene	25.0	24.1	96	76 - 122	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95	66 - 137
Toluene-d8 (Surr)	98	71 - 126
4-Bromofluorobenzene (Surr)	101	73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-24506-1

Method Blank - Batch: 480-79111

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 480-79111/5	Analysis Batch:	480-79111	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S17521.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/04/2012 1308	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/04/2012 1308				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93	66 - 137
Toluene-d8 (Surr)	99	71 - 126
4-Bromofluorobenzene (Surr)	100	73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-24506-1

Lab Control Sample - Batch: 480-79111

Method: 8260B
Preparation: 5030B

Lab Sample ID:	LCS 480-79111/4	Analysis Batch:	480-79111	Instrument ID:	HP5973S
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	S17520.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/04/2012 1247	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/04/2012 1247				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethane	25.0	24.5	98	71 - 129	
1,1-Dichloroethene	25.0	20.3	81	65 - 138	
1,2-Dichloroethane	25.0	23.5	94	75 - 127	
Benzene	25.0	25.4	102	71 - 124	
Chlorobenzene	25.0	24.6	98	72 - 120	
cis-1,2-Dichloroethene	25.0	25.5	102	74 - 124	
Ethylbenzene	25.0	25.2	101	77 - 123	
Tetrachloroethene	25.0	25.5	102	74 - 122	
Toluene	25.0	24.5	98	70 - 122	
trans-1,2-Dichloroethene	25.0	25.2	101	73 - 127	
Trichloroethene	25.0	25.2	101	74 - 123	
m,p-Xylene	50.0	49.8	100	76 - 122	
o-Xylene	25.0	25.2	101	76 - 122	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	92	66 - 137
Toluene-d8 (Surr)	97	71 - 126
4-Bromofluorobenzene (Surr)	101	73 - 120

DATA REPORTING QUALIFIERS

Client: Malcolm Pirnie, Inc. Invoice to Arcadis Job Number: 480-24506-1

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Analyzed for but not detected.
	E	Compound concentration exceeds the upper level of the calibration range of the instrument for that specific analysis.
	J	Indicates an estimated value.

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-24506-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:480-79038					
LCS 480-79038/4	Lab Control Sample	T	Water	8260B	
MB 480-79038/5	Method Blank	T	Water	8260B	
480-24506-1	WELL 1-1A INF	T	Water	8260B	
480-24506-2	WELL 1-1A EFF	T	Water	8260B	
480-24506-3	TRIP BLANK	T	Water	8260B	
Analysis Batch:480-79111					
LCS 480-79111/4	Lab Control Sample	T	Water	8260B	
MB 480-79111/5	Method Blank	T	Water	8260B	
480-24506-1DL	WELL 1-1A INF	T	Water	8260B	

Report Basis

T = Total

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-24506-1

Laboratory Chronicle

Lab ID: 480-24506-1 **Client ID:** WELL 1-1A INF

Sample Date/Time: 08/29/2012 08:35 Received Date/Time: 08/30/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-24506-B-1		480-79038		09/01/2012 12:44	1	TAL BUF	LH
A:8260B	480-24506-B-1		480-79038		09/01/2012 12:44	1	TAL BUF	LH
P:5030B	480-24506-B-1	DL	480-79111		09/04/2012 13:49	2	TAL BUF	RL
A:8260B	480-24506-B-1	DL	480-79111		09/04/2012 13:49	2	TAL BUF	RL

Lab ID: 480-24506-2 **Client ID:** WELL 1-1A EFF

Sample Date/Time: 08/29/2012 08:40 Received Date/Time: 08/30/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-24506-B-2		480-79038		09/01/2012 13:05	1	TAL BUF	LH
A:8260B	480-24506-B-2		480-79038		09/01/2012 13:05	1	TAL BUF	LH

Lab ID: 480-24506-3 **Client ID:** TRIP BLANK

Sample Date/Time: 08/29/2012 00:00 Received Date/Time: 08/30/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-24506-A-3		480-79038		09/01/2012 13:31	1	TAL BUF	LH
A:8260B	480-24506-A-3		480-79038		09/01/2012 13:31	1	TAL BUF	LH

Lab ID: MB **Client ID:** N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	MB 480-79038/5		480-79038		09/01/2012 11:14	1	TAL BUF	LH
A:8260B	MB 480-79038/5		480-79038		09/01/2012 11:14	1	TAL BUF	LH
P:5030B	MB 480-79111/5		480-79111		09/04/2012 13:08	1	TAL BUF	RL
A:8260B	MB 480-79111/5		480-79111		09/04/2012 13:08	1	TAL BUF	RL

Lab ID: LCS **Client ID:** N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	LCS 480-79038/4		480-79038		09/01/2012 10:52	1	TAL BUF	LH
A:8260B	LCS 480-79038/4		480-79038		09/01/2012 10:52	1	TAL BUF	LH
P:5030B	LCS 480-79111/4		480-79111		09/04/2012 12:47	1	TAL BUF	RL
A:8260B	LCS 480-79111/4		480-79111		09/04/2012 12:47	1	TAL BUF	RL

Lab References:
TAL BUF = TestAmerica Buffalo

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-24506-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
17_COMP_WRK_00019	10/31/12	08/31/12	Methanol, Lot DG596	20 mL	17COMP_STK_00064	500 uL	1,1-Dichloroethane	50 ug/mL
							1,1-Dichloroethene	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							Benzene	50 ug/mL
							Chlorobenzene	50 ug/mL
							cis-1,2-Dichloroethene	50 ug/mL
							Ethylbenzene	50 ug/mL
							m,p-Xylene	100 ug/mL
							o-Xylene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Toluene	50 ug/mL
							trans-1,2-Dichloroethene	50 ug/mL
							Trichloroethene	50 ug/mL
							Xylenes, Total	150 ug/mL
.17COMP_STK_00064	03/31/14	Ultra Scientific, Lot CJ-0518			(Purchased Reagent)		1,1-Dichloroethane	2000 ug/mL
							1,1-Dichloroethene	2000 ug/mL
							1,2-Dichloroethane	2000 ug/mL
							Benzene	2000 ug/mL
							Chlorobenzene	2000 ug/mL
							cis-1,2-Dichloroethene	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							m,p-Xylene	4000 ug/mL
							o-Xylene	2000 ug/mL
							Tetrachloroethene	2000 ug/mL
							Toluene	2000 ug/mL
							trans-1,2-Dichloroethene	2000 ug/mL
							Trichloroethene	2000 ug/mL
							Xylenes, Total	6000 ug/mL
60COMP_WRK_00031	10/07/12	08/07/12	Methanol, Lot DB265	20 mL	60 COMP_STK_00024	1 mL	1,1,1,2-Tetrachloroethane	100 ug/mL
							1,1,1-Trichloroethane	100 ug/mL
							1,1,2,2-Tetrachloroethane	100 ug/mL
							1,1,2-Trichloroethane	100 ug/mL
							1,1-Dichloroethane	100 ug/mL
							1,1-Dichloroethene	100 ug/mL
							1,1-Dichloropropene	100 ug/mL
							1,2,3-Trichlorobenzene	100 ug/mL
							1,2,3-Trichloropropane	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2,4-Trimethylbenzene	100 ug/mL
							1,2-Dibromo-3-Chloropropane	100 ug/mL
							1,2-Dibromoethane	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Dichloroethane	100 ug/mL
							1,2-Dichloropropane	100 ug/mL
							1,3,5-Trimethylbenzene	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dichloropropane	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							2,2-Dichloropropane	100 ug/mL
							2-Chlorotoluene	100 ug/mL

Lab Name: TestAmerica Buffalo Job No.: 480-24506-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chlorotoluene	100 ug/mL
							4-Isopropyltoluene	100 ug/mL
							Benzene	100 ug/mL
							Bromobenzene	100 ug/mL
							Bromodichloromethane	100 ug/mL
							Bromoform	100 ug/mL
							Bromomethane	100 ug/mL
							Carbon tetrachloride	100 ug/mL
							Chlorobenzene	100 ug/mL
							Chlorobromomethane	100 ug/mL
							Chloroethane	100 ug/mL
							Chloroform	100 ug/mL
							Chloromethane	100 ug/mL
							cis-1,2-Dichloroethene	100 ug/mL
							cis-1,3-Dichloropropene	100 ug/mL
							Dibromochloromethane	100 ug/mL
							Dibromomethane	100 ug/mL
							Dichlorodifluoromethane	100 ug/mL
							Ethylbenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Isopropylbenzene	100 ug/mL
							m,p-Xylene	200 ug/mL
							Methylene Chloride	100 ug/mL
							n-Butylbenzene	100 ug/mL
							N-Propylbenzene	100 ug/mL
							Naphthalene	100 ug/mL
							o-Xylene	100 ug/mL
							sec-Butylbenzene	100 ug/mL
							Styrene	100 ug/mL
							tert-Butylbenzene	100 ug/mL
							Tetrachloroethene	100 ug/mL
							Toluene	100 ug/mL
							trans-1,2-Dichloroethene	100 ug/mL
							trans-1,3-Dichloropropene	100 ug/mL
							Trichloroethene	100 ug/mL
							Trichlorofluoromethane	100 ug/mL
							Vinyl chloride	100 ug/mL
							Xylenes, Total	300 ug/mL
.60 COMP_STK_00024	07/31/14		Ultra Scientific, Lot CH-1896		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2000 ug/mL
							1,1,1-Trichloroethane	2000 ug/mL
							1,1,2,2-Tetrachloroethane	2000 ug/mL
							1,1,2-Trichloroethane	2000 ug/mL
							1,1-Dichloroethane	2000 ug/mL
							1,1-Dichloroethene	2000 ug/mL
							1,1-Dichloropropene	2000 ug/mL
							1,2,3-Trichlorobenzene	2000 ug/mL
							1,2,3-Trichloropropane	2000 ug/mL
							1,2,4-Trichlorobenzene	2000 ug/mL
							1,2,4-Trimethylbenzene	2000 ug/mL
							1,2-Dibromo-3-Chloropropane	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-24506-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dibromoethane	2000 ug/mL
							1,2-Dichlorobenzene	2000 ug/mL
							1,2-Dichloroethane	2000 ug/mL
							1,2-Dichloropropane	2000 ug/mL
							1,3,5-Trimethylbenzene	2000 ug/mL
							1,3-Dichlorobenzene	2000 ug/mL
							1,3-Dichloropropane	2000 ug/mL
							1,4-Dichlorobenzene	2000 ug/mL
							2,2-Dichloropropane	2000 ug/mL
							2-Chlorotoluene	2000 ug/mL
							4-Chlorotoluene	2000 ug/mL
							4-Isopropyltoluene	2000 ug/mL
							Benzene	2000 ug/mL
							Bromobenzene	2000 ug/mL
							Bromodichloromethane	2000 ug/mL
							Bromoform	2000 ug/mL
							Bromomethane	2000 ug/mL
							Carbon tetrachloride	2000 ug/mL
							Chlorobenzene	2000 ug/mL
							Chlorobromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloroform	2000 ug/mL
							Chloromethane	2000 ug/mL
							cis-1,2-Dichloroethene	2000 ug/mL
							cis-1,3-Dichloropropene	2000 ug/mL
							Dibromochloromethane	2000 ug/mL
							Dibromomethane	2000 ug/mL
							Dichlorodifluoromethane	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							Hexachlorobutadiene	2000 ug/mL
							Isopropylbenzene	2000 ug/mL
							m,p-Xylene	4000 ug/mL
							Methylene Chloride	2000 ug/mL
							n-Butylbenzene	2000 ug/mL
							N-Propylbenzene	2000 ug/mL
							Naphthalene	2000 ug/mL
							o-Xylene	2000 ug/mL
							sec-Butylbenzene	2000 ug/mL
							Styrene	2000 ug/mL
							tert-Butylbenzene	2000 ug/mL
							Tetrachloroethene	2000 ug/mL
							Toluene	2000 ug/mL
							trans-1,2-Dichloroethene	2000 ug/mL
							trans-1,3-Dichloropropene	2000 ug/mL
							Trichloroethene	2000 ug/mL
							Trichlorofluoromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
							Xylenes, Total	6000 ug/mL
60COMP_WRK_00032	10/21/12	08/07/12	Methanol, Lot DB265	20 mL	60 COMP_STK_00027	1 mL	1,1,1-Trichloroethane	100 ug/mL
							1,1,2,2-Tetrachloroethane	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-24506-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,1,2-Trichloroethane	100 ug/mL
							1,1-Dichloroethane	100 ug/mL
							1,1-Dichloroethene	100 ug/mL
							1,2-Dibromoethane	100 ug/mL
							1,2-Dichloroethane	100 ug/mL
							1,2-Dichloropropane	100 ug/mL
							Benzene	100 ug/mL
							Bromodichloromethane	100 ug/mL
							Bromoform	100 ug/mL
							Bromomethane	100 ug/mL
							Carbon tetrachloride	100 ug/mL
							Chlorobenzene	100 ug/mL
							Chloroethane	100 ug/mL
							Chloroform	100 ug/mL
							Chloromethane	100 ug/mL
							cis-1,2-Dichloroethene	100 ug/mL
							cis-1,3-Dichloropropene	100 ug/mL
							Dibromochloromethane	100 ug/mL
							Ethylbenzene	100 ug/mL
							m,p-Xylene	200 ug/mL
							Methylene Chloride	100 ug/mL
							o-Xylene	100 ug/mL
							Styrene	100 ug/mL
							Tetrachloroethene	100 ug/mL
							Toluene	100 ug/mL
							trans-1,2-Dichloroethene	100 ug/mL
							trans-1,3-Dichloropropene	100 ug/mL
							Trichloroethene	100 ug/mL
							Vinyl chloride	100 ug/mL
							Xylenes, Total	300 ug/mL
.60 COMP_STK_00027	07/31/14		Ultra Scientific, Lot CH-1896		(Purchased Reagent)		1,1,1-Trichloroethane	2000 ug/mL
							1,1,2,2-Tetrachloroethane	2000 ug/mL
							1,1,2-Trichloroethane	2000 ug/mL
							1,1-Dichloroethane	2000 ug/mL
							1,1-Dichloroethene	2000 ug/mL
							1,2-Dibromoethane	2000 ug/mL
							1,2-Dichloroethane	2000 ug/mL
							1,2-Dichloropropane	2000 ug/mL
							Benzene	2000 ug/mL
							Bromodichloromethane	2000 ug/mL
							Bromoform	2000 ug/mL
							Bromomethane	2000 ug/mL
							Carbon tetrachloride	2000 ug/mL
							Chlorobenzene	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloroform	2000 ug/mL
							Chloromethane	2000 ug/mL
							cis-1,2-Dichloroethene	2000 ug/mL
							cis-1,3-Dichloropropene	2000 ug/mL
							Dibromochloromethane	2000 ug/mL

Lab Name: TestAmerica Buffalo Job No.: 480-24506-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ethylbenzene	2000 ug/mL
							m,p-Xylene	4000 ug/mL
							Methylene Chloride	2000 ug/mL
							o-Xylene	2000 ug/mL
							Styrene	2000 ug/mL
							Tetrachloroethene	2000 ug/mL
							Toluene	2000 ug/mL
							trans-1,2-Dichloroethene	2000 ug/mL
							trans-1,3-Dichloropropene	2000 ug/mL
							Trichloroethene	2000 ug/mL
							Vinyl chloride	2000 ug/mL
							Xylenes, Total	6000 ug/mL
8260+_SS_WRK_00030	10/07/12	08/07/12	Methanol, Lot DG256	20 mL	2-CLEVE SS_00061	1 mL	2-Chloroethyl vinyl ether	500 mg/L
					2-CLEVE SS_00062	1 mL	2-Chloroethyl vinyl ether	500 mg/L
					8260+#1 SS_ST_00064	1 mL	1,1,2-Trichloro-1,2,2-trifluoroethane	100 mg/L
							Acetonitrile	4000 mg/L
							Carbon disulfide	100 mg/L
							Cyclohexane	100 mg/L
							Ethyl methacrylate	100 mg/L
							Methyl acetate	100 mg/L
							Methyl tert-butyl ether	100 mg/L
							Methylcyclohexane	100 mg/L
							Tetrahydrofuran	500 mg/L
							trans-1,4-Dichloro-2-butene	500 mg/L
					8260+#1 SS_ST_00065	1 mL	1,1,2-Trichloro-1,2,2-trifluoroethane	100 mg/L
							Acetonitrile	4000 mg/L
							Carbon disulfide	100 mg/L
							Cyclohexane	100 mg/L
							Ethyl methacrylate	100 mg/L
							Methyl acetate	100 mg/L
							Methyl tert-butyl ether	100 mg/L
							Methylcyclohexane	100 mg/L
							Tetrahydrofuran	500 mg/L
							trans-1,4-Dichloro-2-butene	500 mg/L
					8260+#2 SS_ST_00061	1 mL	2-Butanone (MEK)	500 mg/L
							2-Hexanone	500 mg/L
							4-Methyl-2-pentanone (MIBK)	500 mg/L
							Acetone	500 mg/L
							Iodomethane	100 mg/L
							Vinyl acetate	500 mg/L
					8260+#2 SS_ST_00062	1 mL	2-Butanone (MEK)	500 mg/L
							2-Hexanone	500 mg/L
							4-Methyl-2-pentanone (MIBK)	500 mg/L
							Acetone	500 mg/L
							Iodomethane	100 mg/L
							Vinyl acetate	500 mg/L
					8260+#3SS_STK_00078	1 mL	Acrolein	2000 mg/L
							Acrylonitrile	2000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-24506-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					8260+#3SS_STK_00079	1 mL	Acrolein	2000 mg/L
							Acrylonitrile	500 mg/L
.2-CLEVE SS_00061	06/30/14	Ultra Scientific, Lot CG-0850A			(Purchased Reagent)		2-Chloroethyl vinyl ether	5000 ug/mL
.2-CLEVE SS_00062	06/30/14	Ultra Scientific, Lot CG-0850A			(Purchased Reagent)		2-Chloroethyl vinyl ether	5000 ug/mL
.8260+#1 SS_ST_00064	04/30/13	Supelco, Lot LB91821			(Purchased Reagent)		1,1,2-Trichloro-1,2,2-trifluoroethane	1000 ug/mL
							Acetonitrile	40000 ug/mL
							Carbon disulfide	1000 ug/mL
							Cyclohexane	1000 ug/mL
							Ethyl methacrylate	1000 ug/mL
							Methyl acetate	1000 ug/mL
							Methyl tert-butyl ether	1000 ug/mL
							Methylcyclohexane	1000 ug/mL
							Tetrahydrofuran	5000 ug/mL
							trans-1,4-Dichloro-2-butene	5000 ug/mL
.8260+#1 SS_ST_00065	04/30/13	Supelco, Lot LB91821			(Purchased Reagent)		1,1,2-Trichloro-1,2,2-trifluoroethane	1000 ug/mL
							Acetonitrile	40000 ug/mL
							Carbon disulfide	1000 ug/mL
							Cyclohexane	1000 ug/mL
							Ethyl methacrylate	1000 ug/mL
							Methyl acetate	1000 ug/mL
							Methyl tert-butyl ether	1000 ug/mL
							Methylcyclohexane	1000 ug/mL
							Tetrahydrofuran	5000 ug/mL
							trans-1,4-Dichloro-2-butene	5000 ug/mL
.8260+#2 SS_ST_00061	01/31/13	Supelco, Lot LB90517			(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
							Iodomethane	1000 ug/mL
							Vinyl acetate	5000 ug/mL
.8260+#2 SS_ST_00062	01/31/13	Supelco, Lot LB90517			(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
							Iodomethane	1000 ug/mL
							Vinyl acetate	5000 ug/mL
.8260+#3SS_STK_00078	07/31/13	Supelco, Lot LB94232			(Purchased Reagent)		Acrolein	20000 ug/mL
							Acrylonitrile	5000 ug/mL
.8260+#3SS_STK_00079	07/31/13	Supelco, Lot LB94232			(Purchased Reagent)		Acrolein	20000 ug/mL
							Acrylonitrile	5000 ug/mL
8260+_SS_WRK_00031	10/27/12	08/07/12	Methanol, Lot DG596	20 mL	8260+#1 SS_ST_00066	1 mL	Carbon disulfide	100 mg/L
					8260+#1 SS_ST_00067	1 mL	Carbon disulfide	100 mg/L
					8260+#2 SS_ST_00058	1 mL	2-Butanone (MEK)	500 mg/L
							2-Hexanone	500 mg/L
							4-Methyl-2-pentanone (MIBK)	500 mg/L
							Acetone	500 mg/L
					8260+#2 SS_ST_00060	1 mL	2-Butanone (MEK)	500 mg/L
							2-Hexanone	500 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-24506-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Methyl-2-pentanone (MIBK)	500 mg/L
							Acetone	500 mg/L
.8260+#1 SS_ST_00066	04/30/13		Supelco, Lot LB91821		(Purchased Reagent)		Carbon disulfide	1000 ug/mL
.8260+#1 SS_ST_00067	04/30/13		Supelco, Lot LB91821		(Purchased Reagent)		Carbon disulfide	1000 ug/mL
.8260+#2 SS_ST_00058	01/31/13		Supelco, Lot LB90517		(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
.8260+#2 SS_ST_00060	01/31/13		Supelco, Lot LB90517		(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
S_8260_IS_00037	10/16/12	08/16/12	P&T Methanol, Lot DG256	10 mL	MV_IS_STK_00199	500 uL	1,4-Dichlorobenzene-d4	125 ug/mL
							1,4-Difluorobenzene	125 ug/mL
							Chlorobenzene-d5	125 ug/mL
.MV_IS_STK_00199	02/16/13		Restek, Lot A087617		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							1,4-Difluorobenzene	2500 ug/mL
							Chlorobenzene-d5	2500 ug/mL
S_8260_Surr_00033	10/20/12	08/20/12	P&T Methanol, Lot DG256	10 mL	MV_SURR_STK_00246	460 uL	1,2-Dichloroethane-d4 (Surr)	115 ug/mL
							4-Bromofluorobenzene (Surr)	115 ug/mL
							Toluene-d8 (Surr)	115 ug/mL
.MV_SURR_STK_00246	10/31/14		Ultra Scientific, Lot CH-2969		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
S_8260_Surr_00034	10/27/12	08/27/12	P&T Methanol, Lot DG596	10 mL	MV_SURR_STK_00234	460 uL	1,2-Dichloroethane-d4 (Surr)	115 ug/mL
							4-Bromofluorobenzene (Surr)	115 ug/mL
							Toluene-d8 (Surr)	115 ug/mL
.MV_SURR_STK_00234	10/31/14		Ultra Scientific, Lot CH-2969		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL

Certification Summary

Client: Malcolm Pirnie, Inc. Invoice to Arcadis
Project/Site: NYSDEC-Standby VESTAL

TestAmerica Job ID: 480-24506-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Buffalo	Arkansas DEQ	State Program	6	88-0686
TestAmerica Buffalo	California	NELAC	9	1169CA
TestAmerica Buffalo	Connecticut	State Program	1	PH-0568
TestAmerica Buffalo	Florida	NELAC	4	E87672
TestAmerica Buffalo	Georgia	State Program	4	956
TestAmerica Buffalo	Georgia	State Program	4	N/A
TestAmerica Buffalo	Illinois	NELAC	5	200003
TestAmerica Buffalo	Iowa	State Program	7	374
TestAmerica Buffalo	Kansas	NELAC	7	E-10187
TestAmerica Buffalo	Kentucky	State Program	4	90029
TestAmerica Buffalo	Kentucky (UST)	State Program	4	30
TestAmerica Buffalo	Louisiana	NELAC	6	02031
TestAmerica Buffalo	Maine	State Program	1	NY00044
TestAmerica Buffalo	Maryland	State Program	3	294
TestAmerica Buffalo	Massachusetts	State Program	1	M-NY044
TestAmerica Buffalo	Michigan	State Program	5	9937
TestAmerica Buffalo	Minnesota	NELAC	5	036-999-337
TestAmerica Buffalo	New Hampshire	NELAC	1	2337
TestAmerica Buffalo	New Hampshire	NELAC	1	2973
TestAmerica Buffalo	New Jersey	NELAC	2	NY455
TestAmerica Buffalo	New York	NELAC	2	10026
TestAmerica Buffalo	North Dakota	State Program	8	R-176
TestAmerica Buffalo	Oklahoma	State Program	6	9421
TestAmerica Buffalo	Oregon	NELAC	10	NY200003
TestAmerica Buffalo	Pennsylvania	NELAC	3	68-00281
TestAmerica Buffalo	Tennessee	State Program	4	TN02970
TestAmerica Buffalo	Texas	NELAC	6	T104704412-11-2
TestAmerica Buffalo	USDA	Federal		P330-11-00386
TestAmerica Buffalo	Virginia	NELAC	3	460185
TestAmerica Buffalo	Washington	State Program	10	C784
TestAmerica Buffalo	West Virginia DEP	State Program	3	252
TestAmerica Buffalo	Wisconsin	State Program	5	998310390

Accreditation may not be offered or required for all methods and analytes reported in this package Please contact your project manager for the laboratory's current list of certified methods and analytes.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

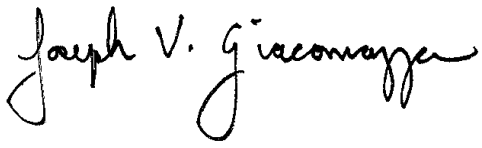
ANALYTICAL REPORT

Job Number: 480-25455-1

Job Description: NYSDEC-Standby VESTAL

For:
Malcolm Pirnie, Inc. Invoice to Arcadis
855 Route 146
Suite 210
Clifton Park, NY 12065

Attention: Mr. Jeremy Wyckoff



Approved for release.
Joe Giacomazza
Project Administrator
9/27/2012 11:56 AM

Designee for
Sally Hoffman
Project Manager II
sally.hoffman@testamericainc.com
09/27/2012

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the TestAmerica Project Manager who has signed this report. TestAmerica Buffalo NELAC Certifications: CADPH 01169CA, FLDOH E87672, ILEPA 200003, KSDOH E-10187, LADEQ 30708, MDH 036-999-337, NHELAP 2973, NJDEP NY455, NHDOH 10026, ORELAP NY200003, PADEP 68-00281, TXCEQ T-104704412-10-1

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Job Narrative
480-25455-1

Receipt
The samples were received on 9/21/2012 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.3º C.

GC/MS VOA
Method 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: WELL 1-1A INF (480-25455-1). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

SAMPLE SUMMARY

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-25455-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-25455-1	WELL 1-1A INF	Water	09/20/2012 1215	09/21/2012 0900
480-25455-2	WELL 1-1A EFF	Water	09/20/2012 1220	09/21/2012 0900
480-25455-3	TRIP BLANK	Water	09/20/2012 0000	09/21/2012 0900

EXECUTIVE SUMMARY - Detections

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-25455-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
480-25455-1	**WELL 1-1A INF**					
1,1,1-Trichloroethane		170		2.0	ug/L	8260B
1,1-Dichloroethane		19		2.0	ug/L	8260B
1,1-Dichloroethene		15		2.0	ug/L	8260B
cis-1,2-Dichloroethene		47		2.0	ug/L	8260B
Trichloroethene		47		2.0	ug/L	8260B
Vinyl chloride		5.6		2.0	ug/L	8260B

METHOD SUMMARY

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-25455-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds (GC/MS)	TAL BUF	SW846 8260B	
Purge and Trap	TAL BUF		SW846 5030B

Lab References:

TAL BUF = TestAmerica Buffalo

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-25455-1

Method	Analyst	Analyst ID
SW846 8260B	Larson, Renee	RL

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-25455-1

Client Sample ID: **WELL 1-1A INF**

Lab Sample ID: 480-25455-1
Client Matrix: Water

Date Sampled: 09/20/2012 1215
Date Received: 09/21/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-81986	Instrument ID:	HP5973N
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	N0018.D
Dilution:	2.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/24/2012 2326			Final Weight/Volume:	5 mL
Prep Date:	09/24/2012 2326				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	170		1.6	2.0
1,1,2,2-Tetrachloroethane	2.0	U	0.42	2.0
1,1,2-Trichloroethane	2.0	U	0.46	2.0
1,1-Dichloroethane	19		0.76	2.0
1,1-Dichloroethene	15		0.58	2.0
1,2-Dibromoethane	2.0	U	1.5	2.0
1,2-Dichloroethane	2.0	U	0.42	2.0
1,2-Dichloropropane	2.0	U	1.4	2.0
2-Hexanone	10	U	2.5	10
2-Butanone (MEK)	20	U	2.6	20
4-Methyl-2-pentanone (MIBK)	10	U	4.2	10
Acetone	20	U	6.0	20
Benzene	2.0	U	0.82	2.0
Bromodichloromethane	2.0	U	0.78	2.0
Bromoform	2.0	U	0.52	2.0
Bromomethane	2.0	U	1.4	2.0
Carbon disulfide	2.0	U	0.38	2.0
Carbon tetrachloride	2.0	U	0.54	2.0
Chlorobenzene	2.0	U	1.5	2.0
Dibromochloromethane	2.0	U	0.64	2.0
Chloroethane	2.0	U	0.64	2.0
Chloroform	2.0	U	0.68	2.0
Chloromethane	2.0	U	0.70	2.0
cis-1,2-Dichloroethene	47		1.6	2.0
cis-1,3-Dichloropropene	2.0	U	0.72	2.0
Ethylbenzene	2.0	U	1.5	2.0
Methylene Chloride	2.0	U	0.88	2.0
Styrene	2.0	U	1.5	2.0
Tetrachloroethene	2.0	U	0.72	2.0
Toluene	2.0	U	1.0	2.0
trans-1,2-Dichloroethene	2.0	U	1.8	2.0
trans-1,3-Dichloropropene	2.0	U	0.74	2.0
Trichloroethene	47		0.92	2.0
Vinyl chloride	5.6		1.8	2.0
Xylenes, Total	4.0	U	1.3	4.0
m,p-Xylene	4.0	U	1.3	4.0
o-Xylene	2.0	U	1.5	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	108		66 - 137
Toluene-d8 (Surr)	104		71 - 126
4-Bromofluorobenzene (Surr)	102		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-25455-1

Client Sample ID: **WELL 1-1A EFF**

Lab Sample ID: 480-25455-2
Client Matrix: Water

Date Sampled: 09/20/2012 1220
Date Received: 09/21/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-81986	Instrument ID:	HP5973N
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	N0019.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/24/2012 2350			Final Weight/Volume:	5 mL
Prep Date:	09/24/2012 2350				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	109		66 - 137
Toluene-d8 (Surr)	104		71 - 126
4-Bromofluorobenzene (Surr)	101		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-25455-1

Client Sample ID: **TRIP BLANK**

Lab Sample ID: 480-25455-3
Client Matrix: Water

Date Sampled: 09/20/2012 0000
Date Received: 09/21/2012 0900

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-81986	Instrument ID:	HP5973N
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	N0020.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/25/2012 0014			Final Weight/Volume:	5 mL
Prep Date:	09/25/2012 0014				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	110		66 - 137
Toluene-d8 (Surr)	102		71 - 126
4-Bromofluorobenzene (Surr)	99		73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-25455-1

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	TOL %Rec	BFB %Rec
480-25455-1	WELL 1-1A INF	108	104	102
480-25455-2	WELL 1-1A EFF	109	104	101
480-25455-3	TRIP BLANK	110	102	99
MB 480-81986/5		108	104	102
LCS 480-81986/4		103	106	100

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4 (Surr)	66-137
TOL = Toluene-d8 (Surr)	71-126
BFB = 4-Bromofluorobenzene (Surr)	73-120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-25455-1

Method Blank - Batch: 480-81986

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 480-81986/5	Analysis Batch:	480-81986	Instrument ID:	HP5973N
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N0013.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/24/2012 2057	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/24/2012 2057				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1-Trichloroethane	1.0	U	0.82	1.0
1,1,2,2-Tetrachloroethane	1.0	U	0.21	1.0
1,1,2-Trichloroethane	1.0	U	0.23	1.0
1,1-Dichloroethane	1.0	U	0.38	1.0
1,1-Dichloroethene	1.0	U	0.29	1.0
1,2-Dibromoethane	1.0	U	0.73	1.0
1,2-Dichloroethane	1.0	U	0.21	1.0
1,2-Dichloropropane	1.0	U	0.72	1.0
2-Hexanone	5.0	U	1.2	5.0
2-Butanone (MEK)	10	U	1.3	10
4-Methyl-2-pentanone (MIBK)	5.0	U	2.1	5.0
Acetone	10	U	3.0	10
Benzene	1.0	U	0.41	1.0
Bromodichloromethane	1.0	U	0.39	1.0
Bromoform	1.0	U	0.26	1.0
Bromomethane	1.0	U	0.69	1.0
Carbon disulfide	1.0	U	0.19	1.0
Carbon tetrachloride	1.0	U	0.27	1.0
Chlorobenzene	1.0	U	0.75	1.0
Dibromochloromethane	1.0	U	0.32	1.0
Chloroethane	1.0	U	0.32	1.0
Chloroform	1.0	U	0.34	1.0
Chloromethane	1.0	U	0.35	1.0
cis-1,2-Dichloroethene	1.0	U	0.81	1.0
cis-1,3-Dichloropropene	1.0	U	0.36	1.0
Ethylbenzene	1.0	U	0.74	1.0
Methylene Chloride	1.0	U	0.44	1.0
Styrene	1.0	U	0.73	1.0
Tetrachloroethene	1.0	U	0.36	1.0
Toluene	1.0	U	0.51	1.0
trans-1,2-Dichloroethene	1.0	U	0.90	1.0
trans-1,3-Dichloropropene	1.0	U	0.37	1.0
Trichloroethene	1.0	U	0.46	1.0
Vinyl chloride	1.0	U	0.90	1.0
Xylenes, Total	2.0	U	0.66	2.0
m,p-Xylene	2.0	U	0.66	2.0
o-Xylene	1.0	U	0.76	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	108	66 - 137
Toluene-d8 (Surr)	104	71 - 126
4-Bromofluorobenzene (Surr)	102	73 - 120

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-25455-1

Lab Control Sample - Batch: 480-81986

Method: 8260B
Preparation: 5030B

Lab Sample ID:	LCS 480-81986/4	Analysis Batch:	480-81986	Instrument ID:	HP5973N
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N0012.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/24/2012 2033	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/24/2012 2033				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethane	25.0	28.4	114	71 - 129	
1,1-Dichloroethene	25.0	25.2	101	58 - 121	
1,2-Dichloroethane	25.0	24.4	98	75 - 127	
Benzene	25.0	26.3	105	71 - 124	
Chlorobenzene	25.0	24.4	98	72 - 120	
cis-1,2-Dichloroethene	25.0	28.6	115	74 - 124	
Ethylbenzene	25.0	26.2	105	77 - 123	
Tetrachloroethene	25.0	23.1	92	74 - 122	
Toluene	25.0	24.8	99	80 - 122	
trans-1,2-Dichloroethene	25.0	29.7	119	73 - 127	
Trichloroethene	25.0	24.4	98	74 - 123	
m,p-Xylene	50.0	52.8	106	76 - 122	
o-Xylene	25.0	25.5	102	76 - 122	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	103	66 - 137
Toluene-d8 (Surr)	106	71 - 126
4-Bromofluorobenzene (Surr)	100	73 - 120

DATA REPORTING QUALIFIERS

Client: Malcolm Pirnie, Inc. Invoice to Arcadis Job Number: 480-25455-1

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Analyzed for but not detected.

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-25455-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:480-81986					
LCS 480-81986/4	Lab Control Sample	T	Water	8260B	
MB 480-81986/5	Method Blank	T	Water	8260B	
480-25455-1	WELL 1-1A INF	T	Water	8260B	
480-25455-2	WELL 1-1A EFF	T	Water	8260B	
480-25455-3	TRIP BLANK	T	Water	8260B	

Report Basis
T = Total

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 480-25455-1

Laboratory Chronicle

Lab ID: 480-25455-1 **Client ID:** WELL 1-1A INF

Sample Date/Time: 09/20/2012 12:15 Received Date/Time: 09/21/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-25455-A-1		480-81986		09/24/2012 23:26	2	TAL BUF	RL
A:8260B	480-25455-A-1		480-81986		09/24/2012 23:26	2	TAL BUF	RL

Lab ID: 480-25455-2 **Client ID:** WELL 1-1A EFF

Sample Date/Time: 09/20/2012 12:20 Received Date/Time: 09/21/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-25455-A-2		480-81986		09/24/2012 23:50	1	TAL BUF	RL
A:8260B	480-25455-A-2		480-81986		09/24/2012 23:50	1	TAL BUF	RL

Lab ID: 480-25455-3 **Client ID:** TRIP BLANK

Sample Date/Time: 09/20/2012 00:00 Received Date/Time: 09/21/2012 09:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	480-25455-A-3		480-81986		09/25/2012 00:14	1	TAL BUF	RL
A:8260B	480-25455-A-3		480-81986		09/25/2012 00:14	1	TAL BUF	RL

Lab ID: MB **Client ID:** N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	MB 480-81986/5		480-81986		09/24/2012 20:57	1	TAL BUF	RL
A:8260B	MB 480-81986/5		480-81986		09/24/2012 20:57	1	TAL BUF	RL

Lab ID: LCS **Client ID:** N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	LCS 480-81986/4		480-81986		09/24/2012 20:33	1	TAL BUF	RL
A:8260B	LCS 480-81986/4		480-81986		09/24/2012 20:33	1	TAL BUF	RL

Lab References:

TAL BUF = TestAmerica Buffalo

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-25455-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
17_COMP_WRK_00019	10/31/12	08/31/12	Methanol, Lot DG596	20 mL	17COMP_STK_00064	500 uL	1,1-Dichloroethane	50 ug/mL
							1,1-Dichloroethene	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							Benzene	50 ug/mL
							Chlorobenzene	50 ug/mL
							cis-1,2-Dichloroethene	50 ug/mL
							Ethylbenzene	50 ug/mL
							m,p-Xylene	100 ug/mL
							o-Xylene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Toluene	50 ug/mL
							trans-1,2-Dichloroethene	50 ug/mL
							Trichloroethene	50 ug/mL
							Xylenes, Total	150 ug/mL
.17COMP_STK_00064	03/31/14	Ultra Scientific, Lot CJ-0518			(Purchased Reagent)		1,1-Dichloroethane	2000 ug/mL
							1,1-Dichloroethene	2000 ug/mL
							1,2-Dichloroethane	2000 ug/mL
							Benzene	2000 ug/mL
							Chlorobenzene	2000 ug/mL
							cis-1,2-Dichloroethene	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							m,p-Xylene	4000 ug/mL
							o-Xylene	2000 ug/mL
							Tetrachloroethene	2000 ug/mL
							Toluene	2000 ug/mL
							trans-1,2-Dichloroethene	2000 ug/mL
							Trichloroethene	2000 ug/mL
							Xylenes, Total	6000 ug/mL
60COMP_WRK_00032	10/21/12	08/07/12	Methanol, Lot DB265	20 mL	60 COMP_STK_00027	1 mL	1,1,1,2-Tetrachloroethane	100 ug/mL
							1,1,1-Trichloroethane	100 ug/mL
							1,1,2,2-Tetrachloroethane	100 ug/mL
							1,1,2-Trichloroethane	100 ug/mL
							1,1-Dichloroethane	100 ug/mL
							1,1-Dichloroethene	100 ug/mL
							1,1-Dichloropropene	100 ug/mL
							1,2,3-Trichlorobenzene	100 ug/mL
							1,2,3-Trichloropropane	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2,4-Trimethylbenzene	100 ug/mL
							1,2-Dibromo-3-Chloropropane	100 ug/mL
							1,2-Dibromoethane	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Dichloroethane	100 ug/mL
							1,2-Dichloropropane	100 ug/mL
							1,3,5-Trimethylbenzene	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dichloropropane	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							2,2-Dichloropropane	100 ug/mL
							2-Chlorotoluene	100 ug/mL

Lab Name: TestAmerica Buffalo Job No.: 480-25455-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chlorotoluene	100 ug/mL
							4-Isopropyltoluene	100 ug/mL
							Benzene	100 ug/mL
							Bromobenzene	100 ug/mL
							Bromodichloromethane	100 ug/mL
							Bromoform	100 ug/mL
							Bromomethane	100 ug/mL
							Carbon tetrachloride	100 ug/mL
							Chlorobenzene	100 ug/mL
							Chlorobromomethane	100 ug/mL
							Chloroethane	100 ug/mL
							Chloroform	100 ug/mL
							Chloromethane	100 ug/mL
							cis-1,2-Dichloroethene	100 ug/mL
							cis-1,3-Dichloropropene	100 ug/mL
							Dibromochloromethane	100 ug/mL
							Dibromomethane	100 ug/mL
							Dichlorodifluoromethane	100 ug/mL
							Ethylbenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Isopropylbenzene	100 ug/mL
							m,p-Xylene	200 ug/mL
							Methylene Chloride	100 ug/mL
							n-Butylbenzene	100 ug/mL
							N-Propylbenzene	100 ug/mL
							Naphthalene	100 ug/mL
							o-Xylene	100 ug/mL
							sec-Butylbenzene	100 ug/mL
							Styrene	100 ug/mL
							tert-Butylbenzene	100 ug/mL
							Tetrachloroethene	100 ug/mL
							Toluene	100 ug/mL
							trans-1,2-Dichloroethene	100 ug/mL
							trans-1,3-Dichloropropene	100 ug/mL
							Trichloroethene	100 ug/mL
							Trichlorofluoromethane	100 ug/mL
							Vinyl chloride	100 ug/mL
.60 COMP_STK_00027	07/31/14		Ultra Scientific, Lot CH-1896		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2000 ug/mL
							1,1,1-Trichloroethane	2000 ug/mL
							1,1,2,2-Tetrachloroethane	2000 ug/mL
							1,1,2-Trichloroethane	2000 ug/mL
							1,1-Dichloroethane	2000 ug/mL
							1,1-Dichloroethene	2000 ug/mL
							1,1-Dichloropropene	2000 ug/mL
							1,2,3-Trichlorobenzene	2000 ug/mL
							1,2,3-Trichloropropane	2000 ug/mL
							1,2,4-Trichlorobenzene	2000 ug/mL
							1,2,4-Trimethylbenzene	2000 ug/mL
							1,2-Dibromo-3-Chloropropane	2000 ug/mL
							1,2-Dibromoethane	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-25455-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichlorobenzene	2000 ug/mL
							1,2-Dichloroethane	2000 ug/mL
							1,2-Dichloropropane	2000 ug/mL
							1,3,5-Trimethylbenzene	2000 ug/mL
							1,3-Dichlorobenzene	2000 ug/mL
							1,3-Dichloropropane	2000 ug/mL
							1,4-Dichlorobenzene	2000 ug/mL
							2,2-Dichloropropane	2000 ug/mL
							2-Chlorotoluene	2000 ug/mL
							4-Chlorotoluene	2000 ug/mL
							4-Isopropyltoluene	2000 ug/mL
							Benzene	2000 ug/mL
							Bromobenzene	2000 ug/mL
							Bromodichloromethane	2000 ug/mL
							Bromoform	2000 ug/mL
							Bromomethane	2000 ug/mL
							Carbon tetrachloride	2000 ug/mL
							Chlorobenzene	2000 ug/mL
							Chlorobromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloroform	2000 ug/mL
							Chloromethane	2000 ug/mL
							cis-1,2-Dichloroethene	2000 ug/mL
							cis-1,3-Dichloropropene	2000 ug/mL
							Dibromochloromethane	2000 ug/mL
							Dibromomethane	2000 ug/mL
							Dichlorodifluoromethane	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							Hexachlorobutadiene	2000 ug/mL
							Isopropylbenzene	2000 ug/mL
							m,p-Xylene	4000 ug/mL
							Methylene Chloride	2000 ug/mL
							n-Butylbenzene	2000 ug/mL
							N-Propylbenzene	2000 ug/mL
							Naphthalene	2000 ug/mL
							o-Xylene	2000 ug/mL
							sec-Butylbenzene	2000 ug/mL
							Styrene	2000 ug/mL
							tert-Butylbenzene	2000 ug/mL
							Tetrachloroethene	2000 ug/mL
							Toluene	2000 ug/mL
							trans-1,2-Dichloroethene	2000 ug/mL
							trans-1,3-Dichloropropene	2000 ug/mL
							Trichloroethene	2000 ug/mL
							Trichlorofluoromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
60COMP_WRK_00034	11/17/12	09/17/12	Methanol, Lot DG596	20 mL	60 COMP_STK_00026	1 mL	1,1,1-Trichloroethane	100 ug/mL
							1,1,2,2-Tetrachloroethane	100 ug/mL
							1,1,2-Trichloroethane	100 ug/mL
							1,1-Dichloroethane	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-25455-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,1-Dichloroethene	100 ug/mL
							1,2-Dibromoethane	100 ug/mL
							1,2-Dichloroethane	100 ug/mL
							1,2-Dichloropropane	100 ug/mL
							Benzene	100 ug/mL
							Bromodichloromethane	100 ug/mL
							Bromoform	100 ug/mL
							Bromomethane	100 ug/mL
							Carbon tetrachloride	100 ug/mL
							Chlorobenzene	100 ug/mL
							Chloroethane	100 ug/mL
							Chloroform	100 ug/mL
							Chloromethane	100 ug/mL
							cis-1,2-Dichloroethene	100 ug/mL
							cis-1,3-Dichloropropene	100 ug/mL
							Dibromochloromethane	100 ug/mL
							Ethylbenzene	100 ug/mL
							m,p-Xylene	200 ug/mL
							Methylene Chloride	100 ug/mL
							o-Xylene	100 ug/mL
							Styrene	100 ug/mL
							Tetrachloroethene	100 ug/mL
							Toluene	100 ug/mL
							trans-1,2-Dichloroethene	100 ug/mL
							trans-1,3-Dichloropropene	100 ug/mL
							Trichloroethene	100 ug/mL
							Vinyl chloride	100 ug/mL
							Xylenes, Total	300 ug/mL
.60 COMP_STK_00026	07/31/14		Ultra Scientific, Lot CH-1896		(Purchased Reagent)		1,1,1-Trichloroethane	2000 ug/mL
							1,1,2,2-Tetrachloroethane	2000 ug/mL
							1,1,2-Trichloroethane	2000 ug/mL
							1,1-Dichloroethane	2000 ug/mL
							1,1-Dichloroethene	2000 ug/mL
							1,2-Dibromoethane	2000 ug/mL
							1,2-Dichloroethane	2000 ug/mL
							1,2-Dichloropropane	2000 ug/mL
							Benzene	2000 ug/mL
							Bromodichloromethane	2000 ug/mL
							Bromoform	2000 ug/mL
							Bromomethane	2000 ug/mL
							Carbon tetrachloride	2000 ug/mL
							Chlorobenzene	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloroform	2000 ug/mL
							Chloromethane	2000 ug/mL
							cis-1,2-Dichloroethene	2000 ug/mL
							cis-1,3-Dichloropropene	2000 ug/mL
							Dibromochloromethane	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							m,p-Xylene	4000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-25455-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methylene Chloride	2000 ug/mL
							o-Xylene	2000 ug/mL
							Styrene	2000 ug/mL
							Tetrachloroethene	2000 ug/mL
							Toluene	2000 ug/mL
							trans-1,2-Dichloroethene	2000 ug/mL
							trans-1,3-Dichloropropene	2000 ug/mL
							Trichloroethene	2000 ug/mL
							Vinyl chloride	2000 ug/mL
							Xylenes, Total	6000 ug/mL
8260+_SS_WRK_00031	10/27/12	08/07/12	Methanol, Lot DG596	20 mL	2-CLEVE SS_00063	1 mL	2-Chloroethyl vinyl ether	500 mg/L
					2-CLEVE SS_00064	1 mL	2-Chloroethyl vinyl ether	500 mg/L
					8260+#1 SS_ST_00066	1 mL	1,1,2-Trichloro-1,2,2-trifluoroethane	100 mg/L
							Acetonitrile	4000 mg/L
							Carbon disulfide	100 mg/L
							Cyclohexane	100 mg/L
							Ethyl methacrylate	100 mg/L
							Methyl acetate	100 mg/L
							Methyl tert-butyl ether	100 mg/L
							Methylcyclohexane	100 mg/L
							Tetrahydrofuran	500 mg/L
							trans-1,4-Dichloro-2-butene	500 mg/L
					8260+#1 SS_ST_00067	1 mL	1,1,2-Trichloro-1,2,2-trifluoroethane	100 mg/L
							Acetonitrile	4000 mg/L
							Carbon disulfide	100 mg/L
							Cyclohexane	100 mg/L
							Ethyl methacrylate	100 mg/L
							Methyl acetate	100 mg/L
							Methyl tert-butyl ether	100 mg/L
							Methylcyclohexane	100 mg/L
							Tetrahydrofuran	500 mg/L
							trans-1,4-Dichloro-2-butene	500 mg/L
					8260+#2 SS_ST_00058	1 mL	2-Butanone (MEK)	500 mg/L
							2-Hexanone	500 mg/L
							4-Methyl-2-pentanone (MIBK)	500 mg/L
							Acetone	500 mg/L
							Iodomethane	100 mg/L
							Vinyl acetate	500 mg/L
					8260+#2 SS_ST_00060	1 mL	2-Butanone (MEK)	500 mg/L
							2-Hexanone	500 mg/L
							4-Methyl-2-pentanone (MIBK)	500 mg/L
							Acetone	500 mg/L
							Iodomethane	100 mg/L
							Vinyl acetate	500 mg/L
					8260+#3SS_STK_00061	1 mL	Acrolein	2000 mg/L
							Acrylonitrile	500 mg/L
					8260+#3SS_STK_00062	1 mL	Acrolein	2000 mg/L
							Acrylonitrile	500 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-25455-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.2-CLEVE SS_00063	06/30/14		Ultra Scientific, Lot CG-0850A		(Purchased Reagent)		2-Chloroethyl vinyl ether	5000 ug/mL
.2-CLEVE SS_00064	06/30/14		Ultra Scientific, Lot CG-0850A		(Purchased Reagent)		2-Chloroethyl vinyl ether	5000 ug/mL
.8260+#1 SS_ST_00066	04/30/13		Supelco, Lot LB91821		(Purchased Reagent)		1,1,2-Trichloro-1,2,2-trifluoroethane	1000 ug/mL
							Acetonitrile	40000 ug/mL
							Carbon disulfide	1000 ug/mL
							Cyclohexane	1000 ug/mL
							Ethyl methacrylate	1000 ug/mL
							Methyl acetate	1000 ug/mL
							Methyl tert-butyl ether	1000 ug/mL
							Methylcyclohexane	1000 ug/mL
							Tetrahydrofuran	5000 ug/mL
							trans-1,4-Dichloro-2-butene	5000 ug/mL
.8260+#1 SS_ST_00067	04/30/13		Supelco, Lot LB91821		(Purchased Reagent)		1,1,2-Trichloro-1,2,2-trifluoroethane	1000 ug/mL
							Acetonitrile	40000 ug/mL
							Carbon disulfide	1000 ug/mL
							Cyclohexane	1000 ug/mL
							Ethyl methacrylate	1000 ug/mL
							Methyl acetate	1000 ug/mL
							Methyl tert-butyl ether	1000 ug/mL
							Methylcyclohexane	1000 ug/mL
							Tetrahydrofuran	5000 ug/mL
							trans-1,4-Dichloro-2-butene	5000 ug/mL
.8260+#2 SS_ST_00058	01/31/13		Supelco, Lot LB90517		(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
							Iodomethane	1000 ug/mL
							Vinyl acetate	5000 ug/mL
.8260+#2 SS_ST_00060	01/31/13		Supelco, Lot LB90517		(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
							Iodomethane	1000 ug/mL
							Vinyl acetate	5000 ug/mL
.8260+#3SS_STK_00061	07/31/13		Supelco, Lot LB94085		(Purchased Reagent)		Acrolein	20000 ug/mL
							Acrylonitrile	5000 ug/mL
.8260+#3SS_STK_00062	07/31/13		Supelco, Lot LB94085		(Purchased Reagent)		Acrolein	20000 ug/mL
							Acrylonitrile	5000 ug/mL
8260+_SS_WRK_00032	11/17/12	09/17/12	Methanol, Lot DG596	20 mL	8260+#1 SS_ST_00068	1 mL	Carbon disulfide	100 mg/L
					8260+#1 SS_ST_00069	1 mL	Carbon disulfide	100 mg/L
					8260+#2 SS_ST_00068	1 mL	2-Butanone (MEK)	500 mg/L
							2-Hexanone	500 mg/L
							4-Methyl-2-pentanone (MIBK)	500 mg/L
							Acetone	500 mg/L
					8260+#2 SS_ST_00069	1 mL	2-Butanone (MEK)	500 mg/L
							2-Hexanone	500 mg/L
							4-Methyl-2-pentanone (MIBK)	500 mg/L
							Acetone	500 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-25455-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.8260+#1 SS_ST_00068	04/30/13		Supelco, Lot LB91821		(Purchased Reagent)		Carbon disulfide	1000 ug/mL
.8260+#1 SS_ST_00069	04/30/13		Supelco, Lot LB91821		(Purchased Reagent)		Carbon disulfide	1000 ug/mL
.8260+#2 SS_ST_00068	08/31/13		Supelco, Lot LB95006		(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
.8260+#2 SS_ST_00069	08/31/13		Supelco, Lot LB95006		(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
N_8260_IS_00037	10/31/12	08/31/12	P&T Methanol, Lot DG596	10 mL	MV_IS_STK_00188	500 uL	1,4-Dichlorobenzene-d4	125 ug/mL
							1,4-Difluorobenzene	125 ug/mL
							Chlorobenzene-d5	125 ug/mL
.MV_IS_STK_00188	02/28/17		Restek, Lot A087617		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							1,4-Difluorobenzene	2500 ug/mL
							Chlorobenzene-d5	2500 ug/mL
N_8260_Surr_00034	10/31/12	08/31/12	P&T Methanol, Lot DG596	10 mL	MV_SURR_STK_00242	500 uL	1,2-Dichloroethane-d4 (Surr)	125 ug/mL
							4-Bromofluorobenzene (Surr)	125 ug/mL
							Toluene-d8 (Surr)	125 ug/mL
.MV_SURR_STK_00242	10/31/14		Ultra Scientific, Lot CH-2969		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
N_8260_Surr_00035	11/17/12	09/17/12	P&T Methanol, Lot DG596	10 mL	MV_SURR_STK_00251	500 uL	1,2-Dichloroethane-d4 (Surr)	125 ug/mL
							4-Bromofluorobenzene (Surr)	125 ug/mL
							Toluene-d8 (Surr)	125 ug/mL
.MV_SURR_STK_00251	10/31/14		Ultra Scientific, Lot CH-2969		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL

Certification Summary

Client: Malcolm Pirnie, Inc. Invoice to Arcadis
Project/Site: NYSDEC-Standby VESTAL

TestAmerica Job ID: 480-25455-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Buffalo	Arkansas DEQ	State Program	6	88-0686
TestAmerica Buffalo	California	NELAC	9	1169CA
TestAmerica Buffalo	Connecticut	State Program	1	PH-0568
TestAmerica Buffalo	Florida	NELAC	4	E87672
TestAmerica Buffalo	Georgia	State Program	4	956
TestAmerica Buffalo	Georgia	State Program	4	N/A
TestAmerica Buffalo	Illinois	NELAC	5	200003
TestAmerica Buffalo	Iowa	State Program	7	374
TestAmerica Buffalo	Kansas	NELAC	7	E-10187
TestAmerica Buffalo	Kentucky	State Program	4	90029
TestAmerica Buffalo	Kentucky (UST)	State Program	4	30
TestAmerica Buffalo	Louisiana	NELAC	6	02031
TestAmerica Buffalo	Maine	State Program	1	NY00044
TestAmerica Buffalo	Maryland	State Program	3	294
TestAmerica Buffalo	Massachusetts	State Program	1	M-NY044
TestAmerica Buffalo	Michigan	State Program	5	9937
TestAmerica Buffalo	Minnesota	NELAC	5	036-999-337
TestAmerica Buffalo	New Hampshire	NELAC	1	2337
TestAmerica Buffalo	New Hampshire	NELAC	1	2973
TestAmerica Buffalo	New Jersey	NELAC	2	NY455
TestAmerica Buffalo	New York	NELAC	2	10026
TestAmerica Buffalo	North Dakota	State Program	8	R-176
TestAmerica Buffalo	Oklahoma	State Program	6	9421
TestAmerica Buffalo	Oregon	NELAC	10	NY200003
TestAmerica Buffalo	Pennsylvania	NELAC	3	68-00281
TestAmerica Buffalo	Tennessee	State Program	4	TN02970
TestAmerica Buffalo	Texas	NELAC	6	T104704412-11-2
TestAmerica Buffalo	USDA	Federal		P330-11-00386
TestAmerica Buffalo	Washington	State Program	10	C784
TestAmerica Buffalo	West Virginia DEP	State Program	3	252
TestAmerica Buffalo	Wisconsin	State Program	5	998310390

Accreditation may not be offered or required for all methods and analytes reported in this package Please contact your project manager for the laboratory's current list of certified methods and analytes.

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Appendix **D**

Well Identification Summary

APPENDIX D
WELL IDENTIFICATION SUMMARY
VESTAL WATER SUPPLY
VESTAL, NEW YORK
NYSDEC SITE NO. 7-04-009A

Old Well ID	New Well ID	Coordinates*	
		Easting	Northing
S-8	4009-1	413364	4660154
EB-33	4009-2	413133	4660121
S-7	4009-3	413142	4660260
S-6	4009-4	413234	4660298
EB-31	4009-5	413126	4660311
S-1	4009-6	413001	4660085
S-2	4009-7	413035	4660235
S-11	4009-8	412951	4660163
EB-41	4009-9	413058	4660402
EB-42	4009-10	413110	4660446
1-32	4009-11	412845	4660404
1-32A	4009-11A	412846	4660387
1-29	4009-12	412743	4660293
1-29A	4009-12A	412741	4660294
1-30	4009-13	412737	4660116
1-30A	4009-13A	412738	4660117
1-23	4009-14	412608	4660065
1-24	4009-15	412582	4660290
1-20	4009-16	412417	4660188
1-20A	4009-16A	412415	4660193
Piezometer - between levee and tree line	4009-17	412431	4660077
Well - west of well house	4009-18	412324	4660137
Well - south of well house	4009-19	412327	4660120
Piezometer -northernmost in fire training area	4009-20	412288	4660117
Piezometer - westernmost in fire training area	4009-21	412284	4660117

Notes:
* -GPS survey conducted on 8/28/2007 in NAD 83 coordinate system.

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Appendix **E**

Groundwater Monitoring Well Inspection Forms

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GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7-16-12 INSPECTOR: GB + JW

WELL DESIGNATION: 4009-1

WELL LOCATION: Walking Path

Outward Appearance

Flushmount Diameter	____ inches	N/A [X]	
Approximate Stickup Height	2.5 feet	N/A [ ]	
Integrity of Protective Casing	Describe: OK		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	4 inches Circle		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [ ]	Bentonite [ ]	Not apparent [X] Other ____
Integrity of Surface Seal/Apron	Describe: Covered by Grass		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [X]	Describe: ____
Well ID. Visible?	Yes [X]	No [ ]	Describe: ____
Lock Present and Functional?	Yes [X]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [ ]	No [ ]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: OK		
Integrity of Cap Seal	Describe: OK		
Surface Water in Casing?	Yes [ ]	No [ ]	Describe: ____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [ ]	Steel [ ]	Stainless Steel [X]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [ ]	None [X]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: ____

Downhole

Odor	Yes [ ]	No [X]	Describe: ____
PID Reading	NM ppm		
Depth to Water (to top of casing)	8.02 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	19.40 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: ____		

Additional Comments:

C:\Users\wyckoff\Desktop\GW Monitoring Well Inspection Form.xls.xls

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GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/12 INSPECTOR: JEW/GS

WELL DESIGNATION: 4009-2

WELL LOCATION: Stage Rd.

Outward Appearance

Flushmount Diameter	_____ inches	N/A [X]	
Approximate Stickup Height	2.5 feet	N/A [ ]	
Integrity of Protective Casing	Describe: ok		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	6.0 inches		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: ok		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [X]	Describe: _____
Well ID. Visible?	Yes [X]	No [ ]	Describe: _____
Lock Present and Functional?	Yes [X]	No [ ]	Describe: _____
Photograph Taken? Photo #	Yes [ ]	No [X]	Describe: _____

Inner Appearance

Integrity of Well Casing	Describe: ok		
Integrity of Cap Seal	Describe: ok		
Surface Water in Casing?	Yes [ ]	No [X]	Describe: _____
Well Casing Diameter	4 inches		
Well Casing Material	PVC [ ]	Steel [ ]	Stainless Steel [X]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: _____

Downhole

Odor	Yes [ ]	No [X]	Describe: _____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	19.24 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	37.47 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: _____		

Additional Comments:

_____

_____

_____

_____

_____

_____

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GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/12 INSPECTOR: JKW

WELL DESIGNATION: 4009-3

WELL LOCATION: Stage Rd

Outward Appearance

Flushmount Diameter _____ inches N/A [X]

Approximate Stickup Height 3.10 feet N/A [ ]

Integrity of Protective Casing Describe: OK

Protective Casing Material Steel [X] Stainless Steel [ ] Other _____

Protective Casing Width or Dia. 6 inches (SQUARE)

Weep Hole in Protective Casing Yes [ ] No [X]

Surface Seal/Apron Material Cement [X] Bentonite [ ] Not apparent [ ] Other _____

Integrity of Surface Seal/Apron Describe: Cracked w/ grass

Surface Drainage Away from Wellhead [X] Toward Wellhead [ ]

Bollards Present? Yes [ ] No [X] Describe: _____

Well ID. Visible? Yes [X] No [ ] Describe: _____

Lock Present and Functional? Yes [X] No [ ] Describe: _____

Photograph Taken? Photo # Yes [ ] No [X] Describe: _____

Inner Appearance

Integrity of Well Casing Describe: OK

Integrity of Cap Seal Describe: OK

Surface Water in Casing? Yes [ ] No [X] Describe: _____

Well Casing Diameter 2 inches

Well Casing Material PVC [ ] Steel [ ] Stainless Steel [X]

Inner Cap Threaded [ ] Slip [ ] Expansion Plug [X] None [ ]

Reference/Measuring Point Groove [ ] Indelible Mark [ ] None [X]

Evidence of Double Casing? Yes [ ] No [X] Describe: _____

Downhole

Odor Yes [ ] No [X] Describe: _____

PID Reading NM ppm

Depth to Water (to top of casing) 18.57 feet (nearest 0.01) Depth to LNAPL _____ feet (nearest 0.01) N/A [ ]

Total Well Depth (to top of casing) 30.42 feet (nearest 0.1)

Sediment (Hard/Soft Bottom) Describe: _____

Additional Comments:

_____

_____

_____

_____

_____

_____

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GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/12 INSPECTOR: JRW / GB

WELL DESIGNATION: 4009-4

WELL LOCATION: Stage Rd

Outward Appearance

Flushmount Diameter	_____ inches	N/A [X]	
Approximate Stickup Height	0.5 feet	N/A [ ]	
Integrity of Protective Casing	Describe:		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: Cracked		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [X]	
Bollards Present?	Yes [ ]	No [X]	Describe:
Well ID. Visible?	Yes [X]	No [ ]	Describe:
Lock Present and Functional?	Yes [ ]	No [X]	Describe: Lock seized - cut lock
Photograph Taken? Photo #	Yes [ ]	No [X]	Describe:

Inner Appearance

Integrity of Well Casing	Describe: OK		
Integrity of Cap Seal	Describe: OK		
Surface Water in Casing?	Yes [ ]	No [X]	Describe:
Well Casing Diameter	2 inches		
Well Casing Material	PVC [ ]	Steel [ ]	Stainless Steel [X]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [ ]	None [X]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe:

Downhole

Odor	Yes [ ]	No [X]	Describe:
PID Reading	NM ppm		
Depth to Water (to top of casing)	13.49 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	43.23 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe:		

Additional Comments:

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ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/12 INSPECTOR: JWJ GB

WELL DESIGNATION: 4009-5

WELL LOCATION: Stage Rd

Outward Appearance

Flushmount Diameter	_____ inches	N/A [X]	
Approximate Stickup Height	2.0 feet	N/A [ ]	
Integrity of Protective Casing	Describe: OK		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	6 inches		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: Cracked		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [X]	Describe: _____
Well ID. Visible?	Yes [X]	No [ ]	Describe: _____
Lock Present and Functional?	Yes [X]	No [ ]	Describe: _____
Photograph Taken? Photo #	Yes [ ]	No [ ]	Describe: _____

Inner Appearance

Integrity of Well Casing	Describe: OK		
Integrity of Cap Seal	Describe: OK		
Surface Water in Casing?	Yes [ ]	No [X]	Describe: _____
Well Casing Diameter	4 inches		
Well Casing Material	PVC [ ]	Steel [ ]	Stainless Steel [X]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [ ]	None [X]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: _____

Downhole

Odor	Yes [ ]	No [X]	Describe: _____
PID Reading	~m ppm		
Depth to Water (to top of casing)	21.12 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	50.30 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: _____		

Additional Comments:

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ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/17 INSPECTOR: JRW / GB

WELL DESIGNATION: 4009-6

WELL LOCATION: Stage Rd

Outward Appearance

Flushmount Diameter _____ inches N/A [X]

Approximate Stickup Height 4 feet N/A [ ]

Integrity of Protective Casing Describe: Damaged - Bent

Protective Casing Material Steel [X] Stainless Steel [ ] Other _____

Protective Casing Width or Dia. 4 inches

Weep Hole in Protective Casing Yes [ ] No [X]

Surface Seal/Apron Material Cement [ ] Bentonite [ ] Not apparent [X] Other _____

Integrity of Surface Seal/Apron Describe: Cracked w/ grass

Surface Drainage Away from Wellhead [X] Toward Wellhead [ ]

Bollards Present? Yes [ ] No [X] Describe: _____

Well ID. Visible? Yes [X] No [ ] Describe: _____

Lock Present and Functional? Yes [X] No [ ] Describe: _____

Photograph Taken? Photo # Yes [ ] No [X] Describe: _____

Inner Appearance

Integrity of Well Casing Describe: Ok - Casing Bent

Integrity of Cap Seal Describe: Ok

Surface Water in Casing? Yes [ ] No [X] Describe: _____

Well Casing Diameter 2 inches

Well Casing Material PVC [ ] Steel [ ] Stainless Steel [X]

Inner Cap Threaded [ ] Slip [ ] Expansion Plug [X] None [ ]

Reference/Measuring Point Groove [ ] Indelible Mark [X] None [ ]

Evidence of Double Casing? Yes [ ] No [X] Describe: _____

Downhole

Odor Yes [ ] No [X] Describe: _____

PID Reading 0.0 ppm

Depth to Water (to top of casing) 21.11 feet (nearest 0.01) Depth to LNAPL _____ feet (nearest 0.01) N/A [ ]

Total Well Depth (to top of casing) 32.21 feet (nearest 0.1)

Sediment (Hard/Soft Bottom) Describe: _____

Additional Comments:

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ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/12 INSPECTOR: JEW/GB

WELL DESIGNATION: 4009-7

WELL LOCATION: Vestal Asphalt

Outward Appearance

Flushmount Diameter	_____ inches	N/A [X]	
Approximate Stickup Height	2.5 feet	N/A [ ]	
Integrity of Protective Casing	Describe: ok		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	4 inches square		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [ ]	Bentonite [ ]	Not apparent [X] Other _____
Integrity of Surface Seal/Apron	Describe: Cover by grass		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [ ]	flat
Bollards Present?	Yes [ ]	No [X] Describe:	
Well ID. Visible?	Yes [ ]	No [ ] Describe:	
Lock Present and Functional?	Yes [ ]	No [X] Describe:	NO LOCK
Photograph Taken? Photo #	Yes [ ]	No [ ] Describe:	

Inner Appearance

Integrity of Well Casing	Describe: ok		
Integrity of Cap Seal	Describe: ok		
Surface Water in Casing?	Yes [ ]	No [ ] Describe:	
Well Casing Diameter	2 inches		
Well Casing Material	PVC [ ]	Steel [ ]	Stainless Steel [X]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [ ]	None [X]
Evidence of Double Casing?	Yes [ ]	No [X] Describe:	

Downhole

Odor	Yes [ ]	No [X] Describe:	
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	21.27 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	32.00 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe:		

Additional Comments:

ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/12 INSPECTOR: JEW/GB

WELL DESIGNATION: 4009-8

WELL LOCATION: _____

Outward Appearance

Flushmount Diameter	_____ inches	N/A [X]		
Approximate Stickup Height	3.0 feet	N/A [ ]		
Integrity of Protective Casing	Describe: ok			
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other _____	
Protective Casing Width or Dia.	4 inches			
Weep Hole in Protective Casing	Yes [ ]	No [X]		
Surface Seal/Apron Material	Cement [ ]	Bentonite [ ]	Not apparent [X]	Other _____
Integrity of Surface Seal/Apron	Describe: Covered by Grass			
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]		
Bollards Present?	Yes [ ]	No [X]	Describe: _____	
Well ID. Visible?	Yes [X]	No [ ]	Describe: _____	
Lock Present and Functional?	Yes [X]	No [ ]	Describe: cut lock off - secured	
Photograph Taken? Photo #	Yes [ ]	No [X]	Describe: _____	

Inner Appearance

Integrity of Well Casing	Describe: ok			
Integrity of Cap Seal	Describe: ok			
Surface Water in Casing?	Yes [ ]	No [X]	Describe: _____	
Well Casing Diameter	2 inches			
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]	
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X]	None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]	
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: _____	

Downhole

Odor	Yes [ ]	No [X]	Describe: _____	
PID Reading	n/m ppm			
Depth to Water (to top of casing)	22.29 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01)	N/A [ ]
Total Well Depth (to top of casing)	42.67 feet (nearest 0.1)			
Sediment (Hard/Soft Bottom)	Describe: _____			

Additional Comments:

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ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/12/12 INSPECTOR: JRW/ GB

WELL DESIGNATION: 4009-9

WELL LOCATION: N. Stage Rd

Outward Appearance

Flushmount Diameter	12 inches	N/A [ ]	
Approximate Stickup Height	_____ feet	N/A [X]	
Integrity of Protective Casing	Describe: OK		
Protective Casing Material	Steel [ ]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	_____ inches		
Weep Hole in Protective Casing	Yes [ ]	No [ ]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: OK		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [X]	Describe: _____
Well ID. Visible?	Yes [ ]	No [X]	Describe: _____
Lock Present and Functional?	Yes [ ]	No [X]	Describe: _____
Photograph Taken? Photo #	Yes [ ]	No [X]	Describe: _____

Inner Appearance

Integrity of Well Casing	Describe: OK		
Integrity of Cap Seal	Describe: OK		
Surface Water in Casing?	Yes [ ]	No [X]	Describe: _____
Well Casing Diameter	4 inches		
Well Casing Material	PVC [ ]	Steel [ ]	Stainless Steel [X]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [ ]	None [X]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: _____

Downhole

Odor	Yes [ ]	No [X]	Describe: _____
PID Reading	NM ppm		
Depth to Water (to top of casing)	22.89 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	27.15 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: _____		

Additional Comments:

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ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/12 INSPECTOR: JRW/GB

WELL DESIGNATION: 4009-70

WELL LOCATION: Old Vestal Rd

Outward Appearance

Flushmount Diameter	12 inches	N/A [ ]	
Approximate Stickup Height	_____ feet	N/A [ ]	
Integrity of Protective Casing	Describe: _____		
Protective Casing Material	Steel [ ]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [ ]	
Surface Seal/Apron Material	Cement [ ]	Bentonite [ ]	Not apparent [X] Other _____
Integrity of Surface Seal/Apron	Describe: Cound w/ Gravel		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [ ]	Flat
Bollards Present?	Yes [ ]	No [X] Describe:	_____
Well ID. Visible?	Yes [ ]	No [X] Describe:	_____
Lock Present and Functional?	Yes [X]	No [ ] Describe:	_____
Photograph Taken? Photo #	Yes [ ]	No [X] Describe:	_____

Inner Appearance

Integrity of Well Casing	Describe: ok		
Integrity of Cap Seal	Describe: ok		
Surface Water in Casing?	Yes [ ]	No [X] Describe:	_____
Well Casing Diameter	4 inches		
Well Casing Material	PVC [ ]	Steel [ ]	Stainless Steel [X]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [ ]	None [X]
Evidence of Double Casing?	Yes [ ]	No [ ] Describe:	_____

Downhole

Odor	Yes [ ]	No [X] Describe:	_____
PID Reading	nm ppm		
Depth to Water (to top of casing)	28.74 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [X]
Total Well Depth (to top of casing)	42.40 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: _____		

Additional Comments:

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ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/12 INSPECTOR: JCW / GB

WELL DESIGNATION: 4009-11

WELL LOCATION: RT 48

Outward Appearance

Flushmount Diameter	8 inches	N/A [ ]	
Approximate Stickup Height	_____ feet	N/A [ ]	
Integrity of Protective Casing	Describe: ok		
Protective Casing Material	Steel [ ]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	_____ inches		
Weep Hole in Protective Casing	Yes [ ]	No [ ]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: ok		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [ ]	Flat
Bollards Present?	Yes [ ]	No [X] Describe:	
Well ID. Visible?	Yes [X]	No [ ] Describe:	
Lock Present and Functional?	Yes [X]	No [ ] Describe:	Lock
Photograph Taken? Photo #	Yes [ ]	No [ ] Describe:	

Inner Appearance

Integrity of Well Casing	Describe: ok		
Integrity of Cap Seal	Describe: ok		
Surface Water in Casing?	Yes [ ]	No [X] Describe:	
Well Casing Diameter	2 inches		
Well Casing Material	PVC [ ]	Steel [ ]	Stainless Steel [X]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [ ]	None [X]
Evidence of Double Casing?	Yes [ ]	No [X] Describe:	

Downhole

Odor	Yes [ ]	No [X] Describe:	
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	29.83 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	_____ feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe:		

Additional Comments:

ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/12 INSPECTOR: JWJ GB

WELL DESIGNATION: 4069-11A

WELL LOCATION: RT 4R

Outward Appearance

Flushmount Diameter: 8 inches N/A [ ]

Approximate Stickup Height: _____ feet N/A [X]

Integrity of Protective Casing: Describe: ok

Protective Casing Material: Steel [ ] Stainless Steel [ ] Other _____

Protective Casing Width or Dia.: _____ inches

Weep Hole in Protective Casing: Yes [ ] No [ ]

Surface Seal/Apron Material: Cement [X] Bentonite [ ] Not apparent [ ] Other _____

Integrity of Surface Seal/Apron: Describe: ok

Surface Drainage: Away from Wellhead [ ] Toward Wellhead [ ] Flat

Bollards Present?: Yes [ ] No [X] Describe: _____

Well ID. Visible?: Yes [X] No [ ] Describe: _____

Lock Present and Functional?: Yes [X] No [ ] Describe: _____

Photograph Taken? Photo #: Yes [ ] No [X] Describe: _____

Inner Appearance

Integrity of Well Casing: Describe: ok

Integrity of Cap Seal: Describe: ok

Surface Water in Casing?: Yes [ ] No [X] Describe: _____

Well Casing Diameter: 2 inches

Well Casing Material: PVC [ ] Steel [ ] Stainless Steel [X]

Inner Cap: Threaded [ ] Slip [ ] Expansion Plug [X] None [ ]

Reference/Measuring Point: Groove [ ] Indelible Mark [ ] None [X]

Evidence of Double Casing?: Yes [ ] No [X] Describe: _____

Downhole

Odor: Yes [ ] No [X] Describe: _____

PID Reading: nm ppm

Depth to Water (to top of casing): 18.08 feet (nearest 0.01) Depth to LNAPL _____ feet (nearest 0.01) N/A [ ]

Total Well Depth (to top of casing): 34.38 feet (nearest 0.1)

Sediment (Hard/Soft Bottom): Describe: _____

Additional Comments:

ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/12 INSPECTOR: JWW

WELL DESIGNATION: 4009-12

WELL LOCATION: Pump house Rd

Outward Appearance

Flushmount Diameter	8 inches	N/A [ ]	
Approximate Stickup Height	_____ feet	N/A [X]	
Integrity of Protective Casing	Describe: OK		
Protective Casing Material	Steel [ ]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	_____ inches		
Weep Hole in Protective Casing	Yes [ ]	No [ ]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: OK		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [X] Describe:	
Well ID. Visible?	Yes [X]	No [ ] Describe:	
Lock Present and Functional?	Yes [ ]	No [X] Describe: no lock	
Photograph Taken? Photo #	Yes [ ]	No [X] Describe:	

Inner Appearance

Integrity of Well Casing	Describe: OK		
Integrity of Cap Seal	Describe: OK		
Surface Water in Casing?	Yes [ ]	No [X] Describe:	
Well Casing Diameter	2 inches		
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [X] Describe:	

Downhole

Odor	Yes [ ]	No [X] Describe:	
PID Reading	NM ppm		
Depth to Water (to top of casing)	22.60 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	_____ feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe:		

Additional Comments:

ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/12 INSPECTOR: JCW / GB

WELL DESIGNATION: 4006-MA

WELL LOCATION: Pumphouse Rd

Outward Appearance

Flushmount Diameter	8 inches	N/A [ ]	
Approximate Stickup Height	_____ feet	N/A [X]	
Integrity of Protective Casing	Describe: ok		
Protective Casing Material	Steel [ ]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	_____ inches		
Weep Hole in Protective Casing	Yes [ ]	No [ ]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: ok		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [X] Describe:	_____
Well ID. Visible?	Yes [X]	No [ ] Describe:	_____
Lock Present and Functional?	Yes [ ]	No [ ] Describe:	_____
Photograph Taken? Photo #	Yes [ ]	No [ ] Describe:	_____

Inner Appearance

Integrity of Well Casing	Describe: _____		
Integrity of Cap Seal	Describe: _____		
Surface Water in Casing?	Yes [ ]	No [ ] Describe:	_____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [X] Describe:	_____

Downhole

Odor	Yes [ ]	No [X] Describe:	_____
PID Reading	~0 ppm		
Depth to Water (to top of casing)	23.04 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	57.85 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: _____		

Additional Comments:

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ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: ~~4009-13~~ 7/16/12 INSPECTOR: JAW / GB

WELL DESIGNATION: 4009/13

WELL LOCATION: FMA

Outward Appearance

Flushmount Diameter	8 inches	N/A [ ]	
Approximate Stickup Height	_____ feet	N/A [ ]	
Integrity of Protective Casing	Describe: ok		
Protective Casing Material	Steel [ ]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	_____ inches		
Weep Hole in Protective Casing	Yes [ ]	No [ ]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: ok		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [ ]	Flat
Bollards Present?	Yes [ ]	No [X]	Describe: _____
Well ID. Visible?	Yes [X]	No [ ]	Describe: _____
Lock Present and Functional?	Yes [ ]	No [X]	Describe: _____
Photograph Taken? Photo #	Yes [ ]	No [X]	Describe: _____

Inner Appearance

Integrity of Well Casing	Describe: ok		
Integrity of Cap Seal	Describe: ok		
Surface Water in Casing?	Yes [ ]	No [ ]	Describe: _____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: _____

Downhole

Odor	Yes [ ]	No [X]	Describe: _____
PID Reading	NM ppm		
Depth to Water (to top of casing)	15.18 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	_____ feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: _____		

Additional Comments:

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ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/12 INSPECTOR: JRW/GB

WELL DESIGNATION: 4009-13A

WELL LOCATION: FMA

Outward Appearance

Flushmount Diameter	8 inches	N/A [ ]	
Approximate Stickup Height	_____ feet	N/A [X]	
Integrity of Protective Casing	Describe: OK		
Protective Casing Material	Steel [ ]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	_____ inches		
Weep Hole in Protective Casing	Yes [ ]	No [ ]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: ok		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [ ]	Flat
Bollards Present?	Yes [ ]	No [X] Describe:	
Well ID. Visible?	Yes [X]	No [ ] Describe:	under well cover.
Lock Present and Functional?	Yes [ ]	No [X] Describe:	NO LOCK
Photograph Taken? Photo #	Yes [ ]	No [X] Describe:	

Inner Appearance

Integrity of Well Casing	Describe: OK		
Integrity of Cap Seal	Describe: OK		
Surface Water in Casing?	Yes [ ]	No [X] Describe:	
Well Casing Diameter	2 inches		
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [ ]	None [X]
Evidence of Double Casing?	Yes [ ]	No [X] Describe:	

Downhole

Odor	Yes [ ]	No [X] Describe:	
PID Reading	NM ppm		
Depth to Water (to top of casing)	14.64 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	28.63 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: soft.		

Additional Comments:

shallow.

ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/12 INSPECTOR: JRW / GB

WELL DESIGNATION: 4009-14

WELL LOCATION: _____

Outward Appearance

Flushmount Diameter	_____ inches	N/A [X]		
Approximate Stickup Height	3.0 feet	N/A [ ]		
Integrity of Protective Casing	Describe: ok			
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other _____	
Protective Casing Width or Dia.	4 inches			
Weep Hole in Protective Casing	Yes [ ]	No [X]		
Surface Seal/Apron Material	Cement [ ]	Bentonite [ ]	Not apparent [X]	Other _____
Integrity of Surface Seal/Apron	Describe: Covered by Vegetation.			
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]		
Bollards Present?	Yes [ ]	No [X]	Describe: _____	
Well ID. Visible?	Yes [X]	No [ ]	Describe: _____	
Lock Present and Functional?	Yes [X]	No [X]	Describe: lock seized - cut lock	
Photograph Taken? Photo #	Yes [ ]	No [X]	Describe: _____	

Inner Appearance

Integrity of Well Casing	Describe: ok			
Integrity of Cap Seal	Describe: ok			
Surface Water in Casing?	Yes [ ]	No [X]	Describe: _____	
Well Casing Diameter	2 inches			
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]	
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X]	None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [ ]	None [X]	
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: _____	

Downhole

Odor	Yes [ ]	No [X]	Describe: _____	
PID Reading	0.0 ppm			
Depth to Water (to top of casing)	19.60 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01)	N/A [ ]
Total Well Depth (to top of casing)	_____ feet (nearest 0.1)			
Sediment (Hard/Soft Bottom)	Describe: _____			

Additional Comments:

_____

_____

_____

_____

_____

_____

ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/14 INSPECTOR: JRW / GB

WELL DESIGNATION: 4009-15

WELL LOCATION: S. River

Outward Appearance

Flushmount Diameter	____ inches	N/A [ ]		
Approximate Stickup Height	3.0 feet	N/A [ ]		
Integrity of Protective Casing	Describe: ____			
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other ____	
Protective Casing Width or Dia.	4 inches			
Weep Hole in Protective Casing	Yes [ ]	No [X]		
Surface Seal/Apron Material	Cement [ ]	Bentonite [ ]	Not apparent [X]	Other ____
Integrity of Surface Seal/Apron	Describe: Covered by Vegetation			
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]		
Bollards Present?	Yes [ ]	No [X]	Describe: ____	
Well ID. Visible?	Yes [ ]	No [X]	Describe: ____	
Lock Present and Functional?	Yes [X]	No [ ]	Describe: ____	
Photograph Taken? Photo #	Yes [ ]	No [X]	Describe: ____	

Inner Appearance

Integrity of Well Casing	Describe: Ok			
Integrity of Cap Seal	Describe: Ok			
Surface Water in Casing?	Yes [ ]	No [X]	Describe: ____	
Well Casing Diameter	2 inches			
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]	
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X]	None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]	
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: ____	

Downhole

Odor	Yes [ ]	No [X]	Describe: ____	
PID Reading	0.0 ppm			
Depth to Water (to top of casing)	25.96 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01)	N/A [ ]
Total Well Depth (to top of casing)	____ feet (nearest 0.1)			
Sediment (Hard/Soft Bottom)	Describe: ____			

Additional Comments:

ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 7/16/12 INSPECTOR: JRW / GB

WELL DESIGNATION: 4009-16

WELL LOCATION:

Outward Appearance

Flushmount Diameter	____ inches	N/A [X]	
Approximate Stickup Height	3 feet	N/A [ ]	
Integrity of Protective Casing	Describe: ok		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [ ]	Bentonite [ ]	Not apparent [X] Other ____
Integrity of Surface Seal/Apron	Describe: Covered by Soil		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [X]	Describe: ____
Well ID. Visible?	Yes [ ]	No [X]	Describe: ____
Lock Present and Functional?	Yes [X]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [ ]	No [X]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: Ok		
Integrity of Cap Seal	Describe: ok		
Surface Water in Casing?	Yes [ ]	No [X]	Describe: ____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: ____

Downhole

Odor	Yes [ ]	No [X]	Describe: ____
PID Reading	nm ppm		
Depth to Water (to top of casing)	25.87 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	____ feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: ____		

Additional Comments:

Deep well

ARCADIS

GROUNDWATER MONITORING WELL INSPECTION

SITE/PROJECT NAME: Vestal Water Supply PROJECT NUMBER: 00266352.0000

DATE OF INSPECTION: 2/16/12 INSPECTOR: JLW/ GB

WELL DESIGNATION: 4009-16A

WELL LOCATION: _____

Outward Appearance

Flushmount Diameter	_____ inches	N/A [X]	
Approximate Stickup Height	3.0 feet	N/A [ ]	
Integrity of Protective Casing	Describe: ok		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [ ]	Bentonite [ ]	Not apparent [X] Other _____
Integrity of Surface Seal/Apron	Describe: Cased w/ soil		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [X]	Describe: _____
Well ID. Visible?	Yes [ ]	No [X]	Describe: _____
Lock Present and Functional?	Yes [X]	No [ ]	Describe: _____
Photograph Taken? Photo #	Yes [ ]	No [X]	Describe: _____

Inner Appearance

Integrity of Well Casing	Describe: ok		
Integrity of Cap Seal	Describe: ok		
Surface Water in Casing?	Yes [ ]	No [X]	Describe: _____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: _____

Downhole

Odor	Yes [ ]	No [X]	Describe: _____
PID Reading	NM ppm		
Depth to Water (to top of casing)	25.51 feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	48.58 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: _____		

Additional Comments:

shallow well

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Appendix **F**

Water Level Data Form

GROUNDWATER LEVEL DATA FORM

PROJECT NAME: Vestal Water Supply
PROJECT NUMBER: 0266352

DATE: 7/16/2012
PERSONNEL: JRW and GB

NEW WELL ID	OLD WELL ID	Date	Headspace VOCs (ppm)	Depth to LNAPL (feet)	Depth to Water (feet)	Reference Point
4009-1	S-8	7/16/2012	6	-	8.02	TOC
4009-2	EB-33	7/16/2012	0	-	19.52	TOC
4009-3	S-7	7/16/2012	0	-	18.57	TOC
4009-4	S-6	7/16/2012	0	-	13.47	TOC
4009-5	EB-31	7/16/2012	0	-	20.82	TOC
4009-6	S-1	7/16/2012	0	-	21.13	TOC
4009-7	S-2	7/16/2012	5.7	-	21.27	TOC
4009-8	S-11	7/16/2012	1.2	-	22.29	TOC
4009-9	EB-41	7/16/2012	0	-	22.78	TOC
4009-10	EB-42	7/16/2012	0	-	28.76	TOC
4009-11	1-32	7/16/2012	0	-	30.03	TOC
4009-11A	1-32A	7/16/2012	0	-	17.81	TOC
4009-12	1-29	7/16/2012	0	-	22.68	TOC
4009-12A	1-29A	7/16/2012	0	-	23.05	TOC
4009-13	1-30	7/16/2012	0	-	15.30	TOC
4009-13A	1-30A	7/16/2012	0	-	14.17	TOC
4009-14	1-23	7/16/2012	0	-	20.51	TOC
4009-15	1-24	7/16/2012	0	-	26.90	TOC
4009-16	1-20	7/16/2012	0	-	25.87	TOC
4009-16A	1-20A	7/16/2012	0	-	25.51	TOC

Notes:
TOC - Top of casing

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Appendix **G**

Groundwater Sampling Purge Logs

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-1 DATE: 7/16/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 8.02

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1620	1625	1635	1645	1650	1655	1700	1705	1710	1715	1725	1730	1735
Gallons	0.5	1	1.75	2.25	2.75	3	3.5	4	4.5	5	6	6.5	7
Depth to Water	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57
Temperature (^{o}C)	26.75	22.77	19.83	19.82	19.73	19.57	19.56	19.73	19.40	19.31	19.34	19.32	19.32
pH	6.95	6.46	6.32	6.28	6.20	6.37	6.21	6.36	6.31	6.43	6.43	6.41	6.41
Redox (mV)	-111	-104	-72	-61	-64	-80	-76	-85	-69	-83	-71	-73	-72
Conductivity (mohm/cm	0.388	0.373	0.359	0.348	0.351	0.351	0.352	0.352	0.352	0.352	0.351	0.351	0.351
Turbidity (ntu)	231	166	410	354	364	382	424	370	490	682	790	796	780
Disolved Oxygen (mg/l)	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TDS	0.255	0.242	0.233	0.227	0.228	0.229	0.229	0.229	0.229	0.229	0.229	0.229	0.229
Salinity	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Notes: Sampled at 1740

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-2 DATE: 7/17/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 4"

C: Water Level Below Top of Casing: 19.52

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )^2 x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	0745	0755	0800	0805	0810	0815	0820	0830	0835	0840	0845		
Gallons	0						4						
Depth to Water	19.51	19.85	19.90	19.92	19.93	19.94	19.95	19.95	19.95	19.95	19.95		
Temperature (°C)	13.81	13.49	13.57	13.57	13.94	14.02	13.97	13.56	13.59	13.52	13.52		
pH	6.96	6.80	6.73	6.67	6.61	6.59	6.57	6.52	6.51	6.49	6.49		
Redox (mV)	194	174	160	139	124	117	114	91	87	84	81		
Conductivity (mohm/cm	1.33	1.33	1.33	1.32	1.32	1.32	1.29	1.26	1.25	1.25	1.24		
Turbidity (ntu)	31.6	17.1	13.1	9.2	5.6	5.7	14.2	12.0	7.3	7.6	7.0		
Disolved Oxygen (mg/l)	5.19	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
TDS	0.853	0.85	0.849	0.847	0.843	0.844	0.821	0.807	0.800	0.798	0.793		
Salinity	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06		

Notes: 0742 Initiate purge
0845 Finish purge, collected samples
purged ~6 gal

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-3 DATE: 7/16/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 18.57

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )^2 x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1700	1710	1715	1720	1725	1730	1735	1740					
Gallons													
Depth to Water	19.71	19.78	19.78	19.78	19.78	19.78	19.78	19.78					
Temperature (°C)	15.23	14.84	14.70	14.75	14.70	14.73	14.66	14.59					
pH	6.01	5.91	6.03	6.06	6.11	6.15	6.17	6.18					
Redox (mV)	149	135	109	103	93	83	77	73					
Conductivity (mohm/cm	1.864	0.837	0.935	0.976	1.020	1.080	1.100	1.120					
Turbidity (ntu)	155	262	88	48	18.5	0.0	0.0	0.0					
Disolved Oxygen (mg/l)	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
TDS	0.549	0.539	0.602	0.625	0.653	0.692	0.707	0.719					
Salinity	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05					

Notes: 1655 Initiate purge
purged with rusty color
1740 collected samples

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-4 DATE: 7/17/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 13.47

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	0950	1000	1010	1015	1020	1025							
Gallons	0.25	1	1.5	1.75	2	2.5							
Depth to Water	13.51	13.52	13.52	13.52	13.52	13.52							
Temperature (^{o}C)	17.00	16.29	15.74	15.87	15.61	15.51							
pH	6.24	6.26	6.37	6.36	6.35	6.36							
Redox (mV)	-70	-88	-92	-93	-94	-96							
Conductivity (mohm/cm	1.76	1.93	1.94	1.95	1.93	1.92							
Turbidity (ntu)	99.6	84.1	34.0	32.0	27.7	27.0							
Disolved Oxygen (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00							
TDS	1.13	1.24	1.24	1.24	1.23	1.23							
Salinity	0.9	1.0	1.0	1.0	1.0	1.0							

Notes: Sampled at 1030

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-5 DATE: 7/17/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 4"

C: Water Level Below Top of Casing: 20.82

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	0800	0810	0820	0830	0840	0850	0900	0910	0920	0925	0930		
Gallons	0.25	0.5	1	1.5	1.75	2	2.5	3	3.5	3.75	4		
Depth to Water	21.13	21.36	21.67	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00		
Temperature (°C)	18.86	18.02	17.39	17.24	17.40	17.26	17.15	17.12	17.33	17.30	17.21		
pH	7.07	6.58	6.42	6.47	6.43	6.40	6.40	6.43	6.60	6.61	6.60		
Redox (mV)	33	39	44	54	53	55	54	49	34	35	34		
Conductivity (mohm/cm	0.623	0.615	0.617	0.610	0.606	0.602	0.596	0.595	0.594	0.594	0.594		
Turbidity (ntu)	598	564	498	214	168	144	107	78	62.6	63.7	63		
Disolved Oxygen (mg/l)	1.32	0.00	0.00	0.00	4.67	3.17	2.66	2.16	1.80	1.78	1.76		
TDS	0.399	0.393	0.394	0.390	0.388	0.386	0.386	0.381	0.380	0.380	0.380		
Salinity	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30		

Notes: Sampled at 0935

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-6 DATE: 7/17/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 21.13

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1015	1025	1030	1035	1045	1050							
Gallons	0												
Depth to Water	22.04	22.22	22.22	22.22	22.22	22.22							
Temperature (°C)	14.83	14.31	14.35	14.32	14.28	14.26							
pH	6.65	6.51	6.50	6.49	6.49	6.48							
Redox (mV)	106	94	97	100	107	110							
Conductivity (mohm/cm	1.15	1.08	1.09	1.10	1.10	1.11							
Turbidity (ntu)	215.0	43.0	12.4	0.0	0.0	0.0							
Disolved Oxygen (mg/l)	2.49	0.00	0.00	0.00	0.00	0.00							
TDS	0.734	0.694	0.699	0.705	0.703	0.708							
Salinity	0.06	0.05	0.05	0.05	0.05	0.05							

Notes: 1015 Initial purge
1050 Finish purge, collected samples
Pumpes ~3.5 gal Initial purge water rusty

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-7 DATE: 7/16/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 21.27

D: Volume of Water in Casing: _____

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1545	1555	1600	1605	1610	1615	1620	1625					
Gallons													
Depth to Water													
Temperature (^{o}C)	18.25	18.68	18.70	18.53	18.52	18.22	18.35	18.39					
pH	5.80	5.38	5.37	5.35	5.35	5.37	5.39	5.39					
Redox (mV)	241	207	204	196	194	189	186	183					
Conductivity (mohm/cm	7.71	8.62	8.06	8.47	8.37	8.24	8.11	8.00					
Turbidity (ntu)	402	19.0	7.8	0.0	0.0	0.0	0.0	0.0					
Disolved Oxygen (mg/l)	2.50	0.42	0.38	0.19	0.13	0.0	0.0	0.0					
TDS	4.93	5.42	5.42	5.33	5.28	5.19	5.11	5.03					
Salinity	0.43	0.48	0.48	0.47	0.47	0.46	0.45	0.44					

Notes: 1440 Initiate purge
1630 finish purge, collected samples
purged ~4 gal

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-8 DATE: 7/17/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 22.29

D: Volume of Water in Casing: _____

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	0910	0920	0925	0930	0935	0940	0945	0950					
Gallons	0												
Depth to Water	21.71	22.00	22.13	22.13	22.13	22.13	22.13	22.13					
Temperature (°C)	13.96	13.90	13.95	13.91	13.82	14.00	13.97	13.89					
pH	6.69	6.57	6.56	6.54	6.53	6.52	6.52	6.51					
Redox (mV)	129	115	114	113	113	112	112	112					
Conductivity (mohm/cm	1.22	1.24	1.23	1.23	1.24	1.23	1.24	1.24					
Turbidity (ntu)	44	22.7	10.7	4.6	5.0	0.0	0.0	0.0					
Disolved Oxygen (mg/l)	1.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
TDS	0.789	0.790	0.789	0.785	0.794	0.786	0.789	0.794					
Salinity	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06					

Notes: 0908 Initial purge
0950 Finish purge, collected samples, COLLECTED DUP 4009-X
purged ~4.5 gal initial purge water black

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-9 DATE: 7/17/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 4"

C: Water Level Below Top of Casing: 22.78

D: Volume of Water in Casing: _____

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1125	1135	1145	1150	1155	1200	1205	1210	1215				
Gallons	0												
Depth to Water	23.31	23.51	23.63	23.68	23.69	23.70	23.71	23.72	23.72				
Temperature (°C)	17.98	16.77	16.70	16.81	16.82	16.98	17.07	17.11	17.10				
pH	6.58	6.47	6.46	6.45	6.44	6.43	6.43	6.43	6.43				
Redox (mV)	143	113	106	105	107	108	109	109	109				
Conductivity (mohm/cm	1.20	1.22	1.22	1.22	1.22	1.22	1.22	1.21	1.21				
Turbidity (ntu)	156	61.0	42.7	31.5	9.1	4.2	0.0	0.0	0.0				
Disolved Oxygen (mg/l)	1.75	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
TDS	0.772	0.781	0.782	0.782	0.782	0.783	0.780	0.776	0.774				
Salinity	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06				

Notes: 1123 Initial purge initial purge water rusty
1215 Finished purge, collected samples
purged ~5 gal

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-10 DATE: 7/17/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 4"

C: Water Level Below Top of Casing: 28.76

D: Volume of Water in Casing: _____

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1145	1150	1155	1200									
Gallons	1.5	1.75	5	2.5									
Depth to Water	28.76	28.76	28.76	28.76									
Temperature (^{o}C)	20.89	19.63	19.37	19.42									
pH	6.68	6.70	6.70	6.70									
Redox (mV)	22	26	27	27									
Conductivity (mohm/cm	2.58	2.56	2.56	2.55									
Turbidity (ntu)	>800	>800	>800	>800									
Disolved Oxygen (mg/l)	0.11	0.07	0.05	0.04									
TDS	1.65	1.63	1.63	1.63									
Salinity	1.30	1.30	1.30	1.30									

Notes: Started pumping at 1100
Sampled at 1205

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-11 DATE: 7/18/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 30.03

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1305	1315	1320	1325	1330	1335	1340	1345	1350	1355	1400	1405	1410
Gallons	0												5
Depth to Water	30.03	30.03	30.03	30.03	30.03	30.03	30.03	30.03	30.03	30.03	30.03	30.03	30.03
Temperature (°C)	17.81	16.44	15.98	16.14	17.60	18.11	18.01	18.25	18.56	18.36	18.85	18.39	18.75
pH	8.58	6.86	6.69	6.64	6.61	6.56	6.54	6.51	6.51	6.50	6.49	6.50	6.49
Redox (mV)	212	74	73	73	74	76	76	76	76	75	75	75	75
Conductivity (mohm/cm	0.952	1.120	1.14	1.15	1.12	1.12	1.11	1.11	1.11	1.11	1.10	1.19	1.19
Turbidity (ntu)	>800	497.0	269.0	202.0	137.0	112.0	90.0	71.0	61.0	53.0	46.0	38.6	37.1
Disolved Oxygen (mg/l)	3.81	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TDS	0.718	0.720	0.732	0.736	0.714	0.712	0.708	0.714	0.708	0.707	0.704	0.764	0.759
Salinity	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.06	0.06

Notes: 1300 Initiate purge using bladder pump, initial water silty-gray
1430 finish purge collect samples
purged ~7 gal

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-11 DATE: 7/17/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: J.Natale

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 30.03

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1415	1420	1425	1430									
Gallons	5			7									
Depth to Water	30.03	30.03	30.03	30.03									
Temperature (°C)	18.72	18.61	18.56	18.50									
pH	6.49	6.49	6.49	6.49									
Redox (mV)	74	74	74	74									
Conductivity (mohm/cm	1.19	1.19	1.18	1.18									
Turbidity (ntu)	31.6	22.0	23.9	22.6									
Disolved Oxygen (mg/l)	0.00	0.00	0.00	0.00									
TDS	0.759	0.750	0.756	0.755									
Salinity	0.06	0.06	0.06	0.06									

Notes: _____

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-11A DATE: 7/17/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 17.81

D: Volume of Water in Casing: _____

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1425	1440	1450	1455	1500								
Gallons	0				3.5								
Depth to Water	19.60	22.45	24.36	24.60	24.71								
Temperature (°C)	17.80	15.88	16.21	16.03	16.10								
pH	6.27	5.82	5.82	5.85	5.85								
Redox (mV)	256	256	253	254	256								
Conductivity (mohm/cm	0.895	0.884	0.756	0.739	0.748								
Turbidity (ntu)	49.4	0.0	0.0	0.0	0.0								
Disolved Oxygen (mg/l)	4.21	0.0	0.0	0.0	0.0								
TDS	0.573	0.565	0.483	0.473	0.473								
Salinity	0.04	0.04	0.04	0.04	0.04								

Notes: 1422 Initiate purge
1500 finish purge collect samples
purge ~3.5 gal

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-12 DATE: 7/17/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 22.68

D: Volume of Water in Casing: _____

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

PARAMETER	ACCUMULATED VOLUME PURGED													
Time	1540	1550	1600	1605	1610									
Gallons	0													
Depth to Water	22.68	22.68	22.68	22.68	22.68									
Temperature (^{o}C)	16.54	16.71	17.66	17.60	17.51									
pH	6.87	6.72	6.63	6.63	6.62									
Redox (mV)	45	52	77	82	87									
Conductivity (mohm/cm	0.998	1.100	1.100	1.100	1.100									
Turbidity (ntu)	324	14.7	0	0	0									
Disolved Oxygen (mg/l)	4.61	0.35	0.64	0.67	0.70									
TDS	0.640	0.703	0.700	0.705	0.706									
Salinity	0.05	0.05	0.05	0.05	0.05									

Notes: 1532 initial purge initial water black some sediment
purged ~0.5 gal reduced flows
bubbles in tubing may cause high DO readings

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-12A DATE: 7/17/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 23.05

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )^2 x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED													
Time	1520	1530	1540	1545	1550	1555	1600	1605						
Gallons	0.25	0.75	1.25	1.75	2.5	3	3.5	4						
Depth to Water	23.41	23.41	23.43	23.45	23.47	23.47	23.47	23.47						
Temperature (^{o}C)	23.87	17.81	17.24	16.42	16.19	16.03	16.05	16.01						
pH	8.49	8.57	7.10	6.90	6.96	6.97	6.96	6.94						
Redox (mV)	-60	-192	-133	-125	-129	-130	-130	-130						
Conductivity (mohm/cm	0.220	0.374	0.814	1.00	1.07	1.08	1.09	1.09						
Turbidity (ntu)	110.0	198.0	61.0	28.5	0.4	0.0	0.0	0.0						
Disolved Oxygen (mg/l)	0.12	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
TDS	0.141	0.249	0.528	0.649	0.688	0.694	0.695	0.697						
Salinity	0.10	0.20	0.40	0.50	0.50	0.50	0.50	`						

Notes: Sampled at 1610

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-13 DATE: 7/18/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 15.3

D: Volume of Water in Casing: _____

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1025	1035	1045	1055	1100	1105	1110	1115					
Gallons	0.5	1	1.5	2	2.25	2.5	2.75	3					
Depth to Water	17.00	17.15	17.15	17.15	17.15	17.15	17.15	17.15					
Temperature (°C)	23.57	21.72	20.35	19.54	19.36	19.70	19.66	19.41					
pH	10.06	9.48	9.32	9.30	9.34	9.29	9.20	9.20					
Redox (mV)	-199	-195	-190	-204	-208	-207	-207	-207					
Conductivity (mohm/cm	0.563	0.550	0.634	0.660	0.664	0.679	0.691	0.699					
Turbidity (ntu)	227	152	15.6	11.8	12.4	12.3	11.6	11.5					
Disolved Oxygen (mg/l)	0.23	4.16	3.35	1.54	1.51	1.35	1.23	0.95					
TDS	0.361	0.354	0.406	0.422	0.425	0.435	0.443	0.444					
Salinity	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30					

Notes: Sampled at 1120
Metals

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-13A DATE: 7/18/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 14.67

D: Volume of Water in Casing: _____

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

PARAMETER	ACCUMULATED VOLUME PURGED													
Time	1315	1325	1335	1345	1350	1355	1400	1405						
Gallons	0.25	0.5	1	1.5	1.75	2	2.3	2.5						
Depth to Water	14.70	14.70	14.70	14.70	14.70	14.70	14.70	14.70						
Temperature (^{o}C)	19.87	19.37	18.88	17.39	17.41	17.35	17.21	17.06						
pH	7.11	6.84	6.80	6.89	6.88	6.86	6.84	6.81						
Redox (mV)	-65	-24	2	-10	4	7	11	12						
Conductivity (mohm/cm	1.56	1.61	1.64	1.65	1.65	1.65	1.65	1.65						
Turbidity (ntu)	156.0	22.0	4.8	29.0	3.9	0.0	0.0	0.0						
Disolved Oxygen (mg/l)	1.40	1.76	1.83	1.92	2.00	2.05	2.06	2.08						
TDS	0.990	1.04	1.05	1.05	1.06	1.06	1.06	1.05						
Salinity	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80						

Notes: sampled at 1410

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-14 DATE: 7/18/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 20.51

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1435	1445	1455	1505	1510	1515	1520	1525					
Gallons	0.5	1	1.5	2	2.5	3	3.5	4					
Depth to Water	22.35	23.21	23.22	23.24	23.24	23.24	23.24	23.24					
Temperature (°C)	17.98	18.07	20.25	20.24	20.10	20.06	20.18	20.16					
pH	8.49	8.99	8.63	8.37	8.37	8.68	8.71	8.71					
Redox (mV)	-207	-287	-243	-254	-256	-276	-276	-276					
Conductivity (mohm/cm	0.355	0.324	0.332	0.374	0.337	0.402	0.405	0.405					
Turbidity (ntu)	32.0	88.9	96.0	37.0	32.6	13.3	12.5	12.0					
Disolved Oxygen (mg/l)	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00					
TDS	0.229	0.210	0.216	0.244	0.246	0.262	0.264	0.264					
Salinity	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200					

Notes: Sampled at 1530

ARCADIS

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 4009-15 DATE: 7/18/2012

PROJECT NAME: Vestal
PROJECT NUMBER: 266352
SAMPLERS: JRW & GB

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 26.9

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

$v = 0.0408 (\quad)^2 \times (\quad - \quad) =$ _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1555	1605	1620	1625	1630	1635	1640	1645					
Gallons	0.5		2.5										
Depth to Water	26.95	26.98	27.00	27.00	27.00	27.00	27.00	27.00					
Temperature (°C)	19.10	17.76	17.13	16.73	16.39	16.39	16.38	16.36					
pH	8.91	8.62	7.49	7.40	7.34	7.26	7.21	7.18					
Redox (mV)	163	170	26	19	19	23	26	28					
Conductivity (mohm/cm	0.223	0.310	0.494	0.508	0.552	0.546	0.565	0.574					
Turbidity (ntu)	278.0	147.0	61.1	49.0	48.1	35.7	33.1	32.4					
Disolved Oxygen (mg/l)	5.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
TDS	0.145	0.204	0.322	0.326	0.335	0.351	0.363	0.367					
Salinity	0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.03					

Notes: 1540 initiate purge initial purge black purge with bladder pump
purged ~0.5 gal before
1645 finish purge collect samples
purgesd ~5 gal