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One Verizon Way (VC34W414)  
Basking Ridge, New Jersey 07920-1097

January 13, 2012

Mr. Thomas Festa  
New York State Department of Environmental Conservation  
Division of Environmental Remediation  
625 Broadway, 12th Floor  
Albany, NY 12233-7017

Re: *September 2011 Semi-Annual Groundwater Sampling Event*

Dear Mr. Festa:

Attached are the September 2011 semi-annual groundwater sampling results for the Former Philips Display Components Facility in Seneca Falls, New York (Site). Chlorinated volatile organic compounds, primarily trichloroethene, cis-1,2-dichloroethene, and vinyl chloride were reported in select groundwater samples at concentrations greater than New York State Department of Environmental Conservation (NYSDEC) Class GA Standards.

The next semi-annual groundwater sampling event is tentatively scheduled for the week of March 26, 2012 with passive diffusion bag deployment during the week of March 12, 2012.

Please call me at (908) 559-3691 if you have any questions.

Sincerely,

*Pam M. Cox* /MAP

Pam M. Cox, PG, CHMM  
Manager – Corporate Workplace Safety &  
Environmental Compliance

Mr. Thomas Festa

January 13, 2012

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cc:

Mr. Dale Carpenter  
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290 Broadway  
New York, NY 10007-1866

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New York State Department of Health  
547 River Street  
Troy, NY 12180

Ms. Patricia Jones  
Seneca County Industrial Development Agency  
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ecc:

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Environmental Consultant  
9 Hawthorne Court  
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855 Route 146, Suite 210  
Clifton Park, NY 12065

## September 2011 Semi-Annual Groundwater Sampling

On September 20 through 23, 2011, ARCADIS U.S., Inc. (formerly Malcolm Pirnie, Inc.) measured groundwater levels and deployed passive diffusion bags (PDBs) to collect groundwater samples for volatile organic compound (VOC) analysis. Samples were collected from:

- Nine shallow monitoring wells (MW-1, MW-20, MW-22 through MW-26, MW-28 and MW-29),
- One weathered bedrock monitoring well (MW-BR-06), and
- Four bedrock monitoring wells (MW-BR-01, MW-BR-02, MW-BR-04 and MW-BR-05).

Figure 1 provides monitoring well locations.

Prior to PDB deployment, depth to groundwater and depth to bottom of well were measured. PDBs were installed at depths consistent with the middle of the screened portion of the respective wells, and remained deployed in the wells for approximately two weeks. PDBs were installed within the screened portion of MW-BR-05 at 27 feet below top of casing (TOC) [MW-BR-05(27)], 37 feet below TOC [MW-BR-05 (37)], and 46.5 feet below TOC [MW-BR-05 (46.5)] to select a representative vertical interval for future sampling<sup>1</sup>.

The PDBs were retrieved and groundwater samples were collected and shipped overnight to Test America Laboratories, Inc. of Shelton, Connecticut on October 7, 2011. The groundwater and quality assurance/quality control samples (one trip blank and one duplicate) were analyzed for VOCs using United States Environmental Protection Agency Method 8260B. Data Validation Services, Inc. of North Creek, New York performed third-party data validation. Sample results are usable as reported or with minor qualification (Attachment).

Table 1 provides depth to water measurements. Tables 2 and 3 provide groundwater analytical results. Concentrations of VOCs in the September 2011 samples were compared to the New York State Department of Environmental Conservation (NYSDEC) Class GA Standards.

- Trichloroethene (TCE) and/or *cis*-1,2-dichloroethene (*cis*-1,2-DCE) were reported at concentrations greater than the NYSDEC Class GA Standard of 5 micrograms per liter ( $\mu\text{g/l}$ ) in the samples from monitoring wells MW-22 through MW-26, MW-29, and MW-BR-06.
- Vinyl chloride was reported in samples from monitoring wells MW-20, MW-24, MW-26, and MW-29 at concentrations greater than the NYSDEC Class GA Standard of 2  $\mu\text{g/l}$ .
- 1,1-dichloroethane (1,1-DCA) and/or 1,1-dichloroethene (1,1-DCE) were reported at concentrations greater than the NYSDEC Class GA Standard of 5  $\mu\text{g/l}$  in the samples from monitoring wells MW-1 and MW-25.

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<sup>1</sup> Based on the September 2011 analytical results, future samples from MW-BR-05 will be collected from a PDB installed at 37 feet below TOC.

- 1,1,1-trichloroethane (TCA) was reported in the sample from monitoring well MW-1 at a concentration greater than the NYSDEC Class GA Standard of 5 µg/l.
- VOCs were not reported in the samples from monitoring wells MW-28, MW-BR-01, MW-BR-02, MW-BR-04, or MW-BR-05 at concentrations greater than the respective NYSDEC Class GA Standards.

The vinyl chloride and *cis*-1,2-DCE concentrations in the sample collected on October 7, 2011 from monitoring well MW-29 were inconsistent with historical trends. To confirm the reported concentrations, an additional PDB was deployed at monitoring well MW-29 and a groundwater sample collected on November 18, 2011. The VOC concentrations in the November 18, 2011 sample were slightly less than, but comparable to, concentrations reported in the October 7, 2011 sample.

## **Figures**

Figure 1 – Monitoring Well Locations

## **Tables**

Table 1 – Depth to Water Measurements (September 20, 2011)

Table 2 – Groundwater Analytical Results (September 2011): Overburden Wells

Table 3 – Groundwater Analytical Results (September 2011): Bedrock Wells and Quality Assurance/Quality Control Samples

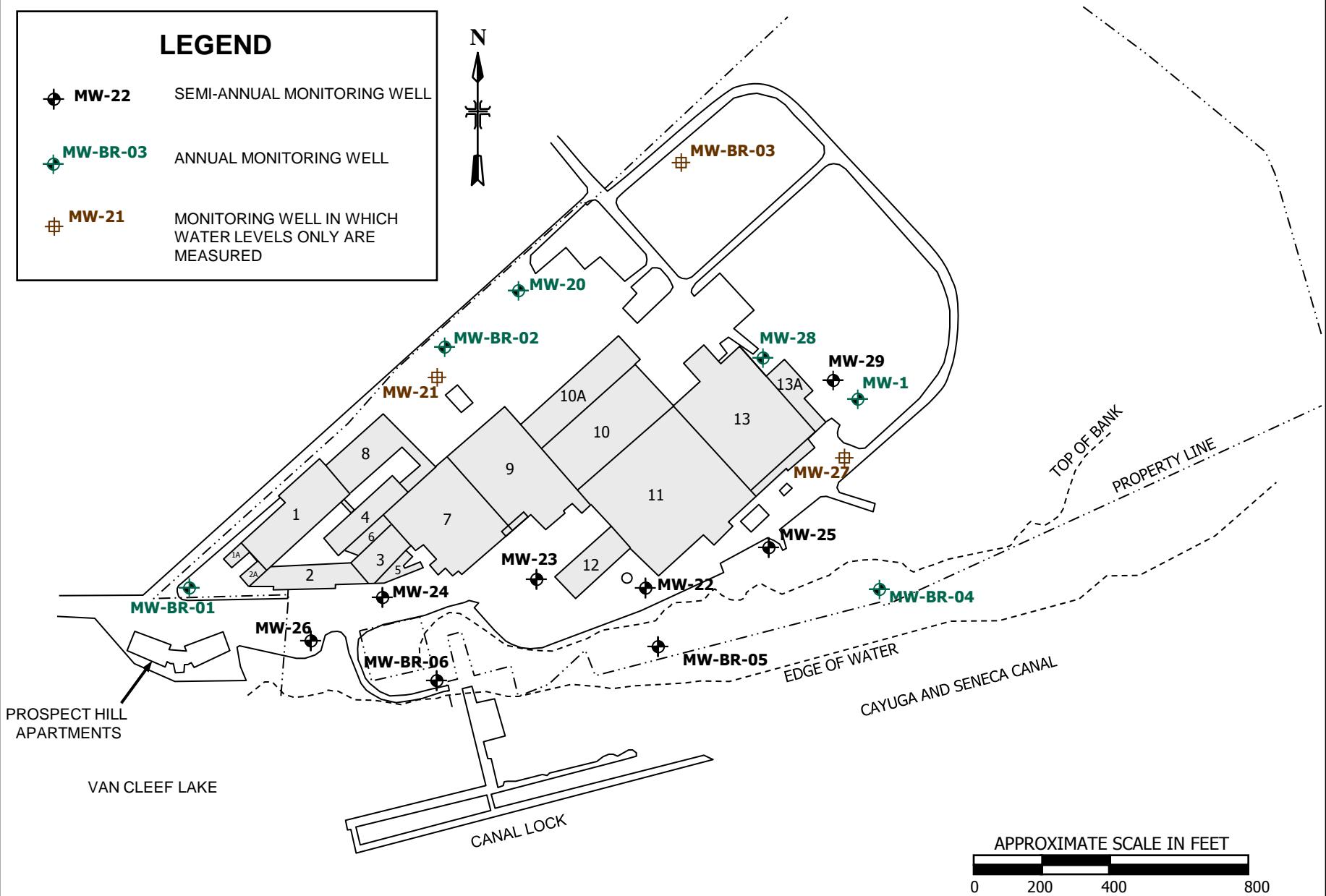
## **Attachment**

Data Validation Report

## **Figures**

## LEGEND

- MW-22 SEMI-ANNUAL MONITORING WELL
- MW-BR-03 ANNUAL MONITORING WELL
- MW-21 MONITORING WELL IN WHICH WATER LEVELS ONLY ARE MEASURED



## **Tables**

**Table 1**  
**Depth to Water Measurements (September 20, 2011)**  
**Former Philips Display Components Facility**  
**Seneca Falls, New York**

Well Number	Datum Elevation	Depth to Water (feet)	Water Level Elevation (feet AMSL)
MW-1	460.83	11.47	449.36
MW-20	463.42	1.70	461.72
MW-21	467.39	2.94	464.45
MW-22	460.77	5.94	454.83
MW-23	460.59	2.70	457.89
MW-24	462.76	3.19	459.57
MW-25	460.74	3.98	456.76
MW-26	458.80	4.18	454.62
MW-27	460.45	6.98	453.47
MW-28	461.26	7.49	453.77
MW-29	459.89	10.78	449.11
MW-BR-01	462.64	34.35	428.29
MW-BR-02	467.87	30.55	437.32
MW-BR-03	457.06	97.93	359.13
MW-BR-04	396.39	--	Artesian
MW-BR-05	401.34	19.15	382.19
MW-BR-06	436.30	36.12	400.18

Notes:

AMSL - Above mean sea level

MW-BR-05 Depth to Water measured on September 21, 2011.

Table 2  
 Groundwater Analytical Results (September 2011)  
 Overburden Wells  
 Former Philips Display Components Facility  
 Seneca Falls, New York

VOCs	NYS Class GA Standard	MW-1	MW-20	MW-22	MW-23	MW-24	MW-25	MW-25 DUPLICATE	MW-26	MW-28	MW-29	MW-29 (resample 11/18/11)
1,1,1-Trichloroethane	5	<b>5.9</b>	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	1	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	5	<b>8.9</b>	5.0 U	5.0 U	50 U	1000 U	<b>27</b>	<b>25</b>	<b>2.3 J</b>	5.0 U	5.0 U	<b>0.7 J</b>
1,1-Dichloroethene	5	<b>1.3 J</b>	5.0 U	5.0 U	50 U	1000 U	<b>6.5 J</b>	<b>5.7 J</b>	<b>2.9 J</b>	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	0.6	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	1	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
2-Hexanone	50	10 U	10 U	10 U	100 U	2000 U	20 U	20 U	20 U	10 U	10 U	10 U
Acetone	50	10 U	<b>5.2 J</b>	<b>5.8 J</b>	100 U	2000 U	20 U	20 U	20 U	<b>5.1 J</b>	10 U	10 U
Benzene	1	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	50	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Bromoform	50	5.0 UJ	5.0 UJ	5.0 U	50 UJ	1000 UJ	10 UJ	10 UJ	10 UJ	5.0 U	5.0 U	5.0 U
Bromomethane	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	60	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Chloroethane	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Chloroform	7	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Chloromethane	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	5	5.0 U	<b>1.1 J</b>	<b>15</b>	<b>560</b>	<b>18000</b>	<b>350</b>	<b>310</b>	<b>270</b>	<b>1.1 J</b>	<b>170</b>	<b>140</b>
cis-1,3-Dichloropropene	0.4	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	50	5.0 UJ	5.0 UJ	5.0 U	50 UJ	1000 UJ	10 UJ	10 UJ	10 UJ	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
2-Butanone (MEK)	50	10 U	10 U	10 U	100 U	2000 U	20 U	20 U	20 U	10 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)	5	10 U	10 U	10 U	100 U	2000 U	20 U	20 U	20 U	10 U	10 U	10 U
Methylene Chloride	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Styrene	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Toluene	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	<b>1.5 J</b>	10 U	<b>2.5 J</b>	5.0 U	<b>0.80 J</b>	5.0 U
trans-1,3-Dichloropropene	0.4	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Trichloroethene	5	5.0 U	5.0 U	<b>9.9</b>	<b>1900</b>	1000 U	<b>16</b>	<b>14</b>	<b>170</b>	<b>2.9 J</b>	<b>1.0 J</b>	<b>0.58 J</b>
Trichlorofluoromethane	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	2	5.0 U	<b>3.6 J</b>	5.0 U	50 U	<b>1000</b>	10 U	10 U	<b>30</b>	5.0 U	<b>22</b>	<b>12</b>
Xylenes, Total	5	5.0 U	5.0 U	5.0 U	50 U	1000 U	10 U	10 U	10 U	5.0 U	5.0 U	5.0 U

NOTES:

Bolded results were detected or estimated.

Shaded results were greater than the NYSDEC Class GA Standards

All values are shown in units of micrograms per liter (ug/L).

U - Not detected. Reporting limit shown.

J - Estimated

NJ - Tentative in identification and estimated in value due to poor mass spectral quality

Table 3  
 Groundwater Analytical Results (September 2011)  
 Bedrock Wells and Quality Assurance/Quality Control Samples  
 Former Philips Display Components Facility  
 Seneca Falls, New York

VOCs	NYS Class GA Standard	MW-BR-01	MW-BR-02	MW-BR-04	MW-BR-05 (27)	MW-BR-05 (37)	MW-BR-05 (46.5)	MW-BR-06	TRIP BLANK 10/7/11	TRIP BLANK 11/18/11
1,1,1-Trichloroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	1	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	0.6	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	1	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	50	<b>4.3 J</b>	10 U	<b>4.3 J</b>	10 U	<b>6.9 J</b>	10 U	<b>4.5 J</b>	10 U	10 U
Benzene	1	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	60	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform	7	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	<b>1.6 J</b>	5.0 U	<b>12</b>	5.0 U
cis-1,3-Dichloropropene	0.4	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (MEK)	50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	<b>2.3 J</b>
Styrene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	0.4	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	<b>18</b>	5.0 U
Trichlorofluoromethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Xylenes, Total	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

NOTES:

\*\*MW-BR-06 is screened in overburden and weathered bedrock

Bolded results were detected or estimated.

Shaded results were greater than the NYSDEC Class GA Standards

All values are shown in units of micrograms per liter (ug/L).

U - Not detected. Reporting limit shown.

J - Estimated

B - Compound was detected in the blank

## **Data Validation Report**

# Data Validation Services

120 Cobble Creek Road P.O. Box 208  
North Creek, NY 12853  
Phone 518-251-4429  
Facsimile 518-251-4428

October 29, 2011

Mark Flusche  
ARCADIS Malcolm Pirnie, Inc.  
855 Route 146 Suite 210  
Clifton Park, NY 12065

RE: Validation of Seneca Falls site Data Package-Groundwaters  
TAL-CT SDG No. 220-16708-1

Dear Mr. Flusche:

Review has been completed for the data package generated by TestAmerica Laboratories (TAL-CT) that pertains to samples collected between 10/07/11 at the Seneca Falls site. Sixteen aqueous samples and a field duplicate were analyzed for volatile analytes by USEPA method 8260B. Field and trip blanks were also processed.

Data validation was performed with guidance from the USEPA Region II validation SOP HW-6, the USEPA National Functional Guidelines for CLP Organic Data Review, and the specific requirements of the analytical methodologies. The data packages were reviewed for the following items:

- \* Data Completeness
- \* Case Narrative
- \* Custody Documentation
- \* Holding Times
- \* Surrogate Standard Recoveries
- \* Matrix Spike Evaluations
- \* Blind field duplicate correlations
- \* Blank Contamination
- \* Laboratory Control Samples (LCSs) and Matrix Spike Blanks (MSBs)
- \* Calibration Standard Responses
- \* Internal Standard Responses
- \* Method Compliance
- \* Sample Results Verification

Those items showing deficiencies are discussed in the following sections of this report. All others were found to be acceptable as outlined in the above-mentioned validation procedures, and as applicable for the methodology. Unless noted specifically in the following text, reported results of validated sample analytes are substantiated by the raw data, and generated in compliance with project requirements.

**In summary**, samples were generally processed in compliance with stated protocols. Sample results are usable either as reported or with minor qualification,

Copies of the sample identifications and laboratory case narrative are attached to this text, and should be reviewed in conjunction with this report. Also included are laboratory results forms with recommended qualifications applied in red ink.

#### **VOA Analyses by EPA 8260B**

Matrix spikes of MW-24 show acceptable accuracy and precision, with no qualification indicated. The blind field duplicate correlations of MW-25 are acceptable.

Calibration standard responses acceptable responses, with the exception of that for bromoform (23%D). Results for that analyte have been qualified as estimated in value, with a possible low bias, in the following samples: MW-1, MW-20, MW-23, MW-24, MW-25, MW-26, and DUPE

Due to low recovery (71%D) in the associated LCS, the results for dibromochloromethane in MW-1, MW-20, MW-23, MW-24, MW-25, MW-26, and DUPE have been qualified as estimated, with a possible low bias.

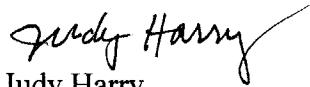
Surrogate and internal standard responses are acceptable, and holding times were met.

Detected results of methylene chloride in the samples are considered external contamination, as indicated by presence of that analyte in associated blanks, and are therefore edited to reflect non-detection.

MW-23, MW-24, MW-25, MW-26, and DUPE were processed at initial dilution due to high concentrations of target analytes. Reporting limits for non-detected analytes are therefore proportionally elevated in those samples.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,

  
Judy Harry

**CLIENT and LABORATORY SAMPLE IDs  
and CASE NARRATIVES**

## SAMPLE SUMMARY

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
220-16708-1TB	TRIP BLANK	Water	10/07/2011 1055	10/08/2011 1100
220-16708-2	MW-1	Water	10/07/2011 1145	10/08/2011 1100
220-16708-3	MW-20	Water	10/07/2011 1120	10/08/2011 1100
220-16708-4	MW-22	Water	10/07/2011 1205	10/08/2011 1100
220-16708-5	MW-23	Water	10/07/2011 1243	10/08/2011 1100
220-16708-6	MW-24	Water	10/07/2011 1235	10/08/2011 1100
220-16708-6MS	MW-24	Water	10/07/2011 1235	10/08/2011 1100
220-16708-6MSD	MW-24	Water	10/07/2011 1235	10/08/2011 1100
220-16708-7	MW-25	Water	10/07/2011 1155	10/08/2011 1100
220-16708-8	MW-26	Water	10/07/2011 1210	10/08/2011 1100
220-16708-9	MW-28	Water	10/07/2011 1135	10/08/2011 1100
220-16708-10	MW-29	Water	10/07/2011 1143	10/08/2011 1100
220-16708-11	BR-01	Water	10/07/2011 1055	10/08/2011 1100
220-16708-12	BR-02	Water	10/07/2011 1105	10/08/2011 1100
220-16708-13	BR-04	Water	10/07/2011 1315	10/08/2011 1100
220-16708-14	BR-05 (27)	Water	10/07/2011 1330	10/08/2011 1100
220-16708-15	BR-05 (37)	Water	10/07/2011 1332	10/08/2011 1100
220-16708-16	BR-05 (46.5)	Water	10/07/2011 1335	10/08/2011 1100
220-16708-17	BR-06	Water	10/07/2011 1218	10/08/2011 1100
220-16708-18	DUPE	Water	10/07/2011 0000	10/08/2011 1100

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**Job Narrative**  
**220-16708-1**

**Comments**

No additional comments.

**Receipt**

The following field QC sample was received at the laboratory without a sample collection time documented on the chain of custody: TRIP BLANK (220-16708-1). As a result, a sample collection time of 12:00am, on the date of collection, has been used. Also, there was no sample collection date on the chain of custody, but there was a date documented on the bottle labels and that has been used.

The following sample was received at the laboratory without a sample collection time documented on the chain of custody: DUPE (220-16708-18). The client was contacted, and the laboratory was instructed to use a sample collection time of 12:00am.

The following volatile sample was received with headspace in 1 of 3 sample vials and was not used for analysis: BR-01 (220-16708-11)

The samples were received at the laboratory outside the required temperature criteria. The client was contacted regarding this issue, and the laboratory was instructed to proceed with analysis.

**GC/MS VOA**

No analytical or quality issues were noted.

## **QUALIFIED SAMPLE RESULTS FORMS**

## Client Sample ID: TRIP BLANK

Lab Sample ID: 220-16708-1TB  
Client Matrix: WaterDate Sampled: 10/07/2011 1055  
Date Received: 10/08/2011 1100

## 8260B TCL VOA

Analysis Method:	8260B	Analysis Batch:	220-55474	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1049.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/10/2011 2002			Final Weight/Volume:	5 mL
Prep Date:	10/10/2011 2002				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Dichlorodifluoromethane	5.0	U	1.0	5.0
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Trichlorofluoromethane	5.0	U	1.1	5.0
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Vinyl acetate	5.0	U	1.6	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	5.0	U	0.62	5.0
Vinyl chloride	5.0	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	5.0	U	0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0
Surrogate	%Rec	Qualifier	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	75		65 - 136	
4-Bromofluorobenzene	84		51 - 142	
Dibromofluoromethane	80		68 - 132	
Toluene-d8 (Surr)	74		63 - 127	

# Analytical Data

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

Client Sample ID: MW-1

Lab Sample ID: 220-16708-2

Client Matrix: Water

Date Sampled: 10/07/2011 1145

Date Received: 10/08/2011 1100

## 8260B TCL VOA

Analysis Method: 8260B	Analysis Batch: 220-55526	Instrument ID: MSL
Prep Method: 5030B	Prep Batch: N/A	Lab File ID: L1087.D
Dilution: 1.0		Initial Weight/Volume: 5 mL
Analysis Date: 10/11/2011 2152		Final Weight/Volume: 5 mL
Prep Date: 10/11/2011 2152		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Dichlorodifluoromethane	5.0	U	1.0	5.0
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U <i>UJ</i>	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Trichlorofluoromethane	5.0	U	1.1	5.0
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U * <i>UJ</i>	0.55	5.0
1,1-Dichloroethane	8.9		1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	1.3	J	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Vinyl acetate	5.0	U	1.6	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.9		0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	5.0	U	0.62	5.0
Vinyl chloride	5.0	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis 1,2 Dichloroethene	5.0	U	0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0
Surrogate	%Rec	Qualifier	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	73		65 - 136	
4-Bromofluorobenzene	84		51 - 142	
Dibromofluoromethane	81		68 - 132	
Toluene-d8 (Surr)	73		63 - 127	

# Analytical Data

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

Client Sample ID: MW-20

Lab Sample ID: 220-16708-3

Client Matrix: Water

Date Sampled: 10/07/2011 1120

Date Received: 10/08/2011 1100

## 8260B TCL VOA

Analysis Method:	8260B	Analysis Batch:	220-55526	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1088.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 2217			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 2217				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	5.2	J	1.0	10
Dichlorodifluoromethane	5.0	U	1.0	5.0
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Trichlorofluoromethane	5.0	U	1.1	5.0
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Vinyl acetate	5.0	U	1.6	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	5.0	U	0.62	5.0
Vinyl chloride	3.6	J	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	1.1	J	0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0
Surrogate	%Rec	Qualifier	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	76		65 - 136	
4-Bromofluorobenzene	84		51 - 142	
Dibromofluoromethane	84		68 - 132	
Toluene-d8 (Surr)	76		63 - 127	

**Analytical Data**

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

Client Sample ID: **MW-22**

Lab Sample ID: 220-16708-4

Client Matrix: Water

Date Sampled: 10/07/2011 1205

Date Received: 10/08/2011 1100

**8260B TCL VOA**

Analysis Method:	8260B	Analysis Batch:	220-55474	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1053.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/10/2011 2140			Final Weight/Volume:	5 mL
Prep Date:	10/10/2011 2140				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	5.8	J	1.0	10
Dichlorodifluoromethane	5.0	U	1.0	5.0
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Trichlorofluoromethane	5.0	U	1.1	5.0
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Vinyl acetate	5.0	U	1.6	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	9.9		0.62	5.0
Vinyl chloride	5.0	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	15		0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	71		65 - 136
4-Bromofluorobenzene	76		51 - 142
Dibromofluoromethane	80		68 - 132
Toluene-d8 (Surr)	69		63 - 127

**Analytical Data**

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

**Client Sample ID: MW-23**Lab Sample ID: 220-16708-5  
Client Matrix: WaterDate Sampled: 10/07/2011 1243  
Date Received: 10/08/2011 1100**8260B TCL VOA**

Analysis Method:	8260B	Analysis Batch:	220-55526	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1095.D
Dilution:	10			Initial Weight/Volume:	5 mL
Analysis Date:	10/12/2011 0108			Final Weight/Volume:	5 mL
Prep Date:	10/12/2011 0108				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	100	U	10	100
Dichlorodifluoromethane	50	U	10	50
Benzene	50	U	7.4	50
Bromodichloromethane	50	U	4.8	50
Bromoform	50	U	4.6	50
Bromomethane	50	U	21	50
Methyl Ethyl Ketone	100	U	11	100
Trichlorofluoromethane	50	U	11	50
Carbon disulfide	50	U	9.0	50
Carbon tetrachloride	50	U	11	50
Chlorobenzene	50	U	7.2	50
Chloroethane	50	U	11	50
Chloroform	50	U	6.7	50
Chloromethane	50	U	11	50
Dibromochloromethane	50	U	5.5	50
1,1-Dichloroethane	50	U	10	50
1,2-Dichloroethane	50	U	7.2	50
1,1-Dichloroethene	50	U	8.3	50
1,2-Dichloropropane	50	U	7.1	50
cis-1,3-Dichloropropene	50	U	2.8	50
trans-1,3-Dichloropropene	50	U	5.7	50
Ethylbenzene	50	- U	8.7	50
2-Hexanone	100	U	11	100
Methylene Chloride	24.50	JB U	7.8	50
methyl isobutyl ketone	100	U	3.8	100
Styrene	50	U	6.4	50
1,1,2,2-Tetrachloroethane	50	U	8.1	50
Vinyl acetate	50	U	16	50
Tetrachloroethene	50	U	8.1	50
Toluene	50	U	7.2	50
1,1,1-Trichloroethane	50	U	6.9	50
1,1,2-Trichloroethane	50	U	6.5	50
Trichloroethene	1900		6.2	50
Vinyl chloride	50	U	9.9	50
Xylenes, Total	50	U	23	50
cis-1,2-Dichloroethene	560		9.9	50
trans-1,2-Dichloroethene	50	U	7.6	50
Surrogate	%Rec	Qualifier	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	70		65 - 136	
4-Bromofluorobenzene	78		51 - 142	
Dibromofluoromethane	82		68 - 132	
Toluene-d8 (Surr)	71		63 - 127	

# Analytical Data

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

Client Sample ID: MW-24

Lab Sample ID: 220-16708-6

Client Matrix: Water

Date Sampled: 10/07/2011 1235

Date Received: 10/08/2011 1100

## 8260B TCL VOA

Analysis Method:	8260B	Analysis Batch:	220-55526	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1082.D
Dilution:	200			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 1950			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 1950				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	2000	U	210	2000
Dichlorodifluoromethane	1000	U	200	1000
Benzene	1000	U	150	1000
Bromodichloromethane	1000	U	96	1000
Bromoform	1000	U	92	1000
Bromomethane	1000	U	420	1000
Methyl Ethyl Ketone	2000	U	220	2000
Trichlorofluoromethane	1000	U	220	1000
Carbon disulfide	1000	U	180	1000
Carbon tetrachloride	1000	U	210	1000
Chlorobenzene	1000	U	140	1000
Chloroethane	1000	U	210	1000
Chloroform	1000	U	130	1000
Chloromethane	1000	U	220	1000
Dibromochloromethane	1000	U	110	1000
1,1-Dichloroethane	1000	U	210	1000
1,2-Dichloroethane	1000	U	140	1000
1,1-Dichloroethene	1000	U	170	1000
1,2-Dichloropropane	1000	U	140	1000
cis-1,3-Dichloropropene	1000	U	56	1000
trans-1,3-Dichloropropene	1000	U	110	1000
Ethylbenzene	1000	U	170	1000
2-Hexanone	2000	U	220	2000
Methylene Chloride	500	1000	160	1000
methyl isobutyl ketone	2000	U	76	2000
Styrene	1000	U	130	1000
1,1,2,2-Tetrachloroethane	1000	U	160	1000
Vinyl acetate	1000	U	330	1000
Tetrachloroethene	1000	U	160	1000
Toluene	1000	U	140	1000
1,1,1-Trichloroethane	1000	U	140	1000
1,1,2-Trichloroethane	1000	U	130	1000
Trichloroethene	1000	U	120	1000
Vinyl chloride	1000		200	1000
Xylenes, Total	1000	U	450	1000
cis-1,2-Dichloroethene	18000		200	1000
trans-1,2-Dichloroethene	1000	U	150	1000
Surrogate	%Rec	Qualifier	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	80		65 - 136	
4-Bromofluorobenzene	86		51 - 142	
Dibromofluoromethane	88		68 - 132	
Toluene-d8 (Surr)	76		63 - 127	

# Analytical Data

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

Client Sample ID: MW-25

Lab Sample ID: 220-16708-7  
Client Matrix: Water

Date Sampled: 10/07/2011 1155  
Date Received: 10/08/2011 1100

## 8260B TCL VOA

Analysis Method:	8260B	Analysis Batch:	220-55526	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1094.D
Dilution:	2.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/12/2011 0043			Final Weight/Volume:	5 mL
Prep Date:	10/12/2011 0043				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	20	U	2.1	20
Dichlorodifluoromethane	10	U	2.0	10
Benzene	10	U	1.5	10
Bromodichloromethane	10	U	0.96	10
Bromoform	10	U <i>UJ</i>	0.92	10
Bromomethane	10	U	4.2	10
Methyl Ethyl Ketone	20	U	2.2	20
Trichlorofluoromethane	10	U	2.2	10
Carbon disulfide	10	U	1.8	10
Carbon tetrachloride	10	U	2.1	10
Chlorobenzene	10	U	1.4	10
Chloroethane	10	U	2.1	10
Chloroform	10	U	1.3	10
Chloromethane	10	U	2.2	10
Dibromochloromethane	10	U * <i>UJ</i>	1.1	10
1,1-Dichloroethane	27		2.1	10
1,2-Dichloroethane	10	U	1.4	10
1,1-Dichloroethene	6.5	J	1.7	10
1,2-Dichloropropane	10	U	1.4	10
cis-1,3-Dichloropropene	10	U	0.56	10
trans-1,3-Dichloropropene	10	U	1.1	10
Ethylbenzene	10	U	1.7	10
2-Hexanone	20	U	2.2	20
Methylene Chloride	20 <i>10</i>	J <i>U</i>	1.6	10
methyl isobutyl ketone	20	U	0.76	20
Styrene	10	U	1.3	10
1,1,2,2-Tetrachloroethane	10	U	1.6	10
Vinyl acetate	10	U	3.3	10
Tetrachloroethene	10	U	1.6	10
Toluene	10	U	1.4	10
1,1,1-Trichloroethane	10	U	1.4	10
1,1,2-Trichloroethane	10	U	1.3	10
Trichloroethene	16		1.2	10
Vinyl chloride	10	U	2.0	10
Xylenes, Total	10	U	4.5	10
cis-1,2-Dichloroethene	350		2.0	10
trans-1,2-Dichloroethene	1.5	J	1.5	10

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	78		65 - 136
4-Bromofluorobenzene	88		51 - 142
Dibromofluoromethane	87		68 - 132
Toluene-d8 (Surr)	76		63 - 127

# Analytical Data

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

Client Sample ID: MW-26

Lab Sample ID: 220-16708-8

Client Matrix: Water

Date Sampled: 10/07/2011 1210

Date Received: 10/08/2011 1100

## 8260B TCL VOA

Analysis Method:	8260B	Analysis Batch:	220-55526	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1092.D
Dilution:	2.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 2354			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 2354				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	20	U	2.1	20
Dichlorodifluoromethane	10	U	2.0	10
Benzene	10	U	1.5	10
Bromodichloromethane	10	U	0.96	10
Bromoform	10	U	0.92	10
Bromomethane	10	U	4.2	10
Methyl Ethyl Ketone	20	U	2.2	20
Trichlorofluoromethane	10	U	2.2	10
Carbon disulfide	10	U	1.8	10
Carbon tetrachloride	10	U	2.1	10
Chlorobenzene	10	U	1.4	10
Chloroethane	10	U	2.1	10
Chloroform	10	U	1.3	10
Chloromethane	10	U	2.2	10
Dibromochloromethane	10	U	1.1	10
1,1-Dichloroethane	2.3	J	2.1	10
1,2-Dichloroethane	10	U	1.4	10
1,1-Dichloroethene	2.9	J	1.7	10
1,2-Dichloropropane	10	U	1.4	10
cis-1,3-Dichloropropene	10	U	0.56	10
trans-1,3-Dichloropropene	10	U	1.1	10
Ethylbenzene	10	U	1.7	10
2-Hexanone	20	U	2.2	20
Methylene Chloride	28.10	J	1.6	10
methyl isobutyl ketone	20	U	0.76	20
Styrene	10	U	1.3	10
1,1,2,2-Tetrachloroethane	10	U	1.6	10
Vinyl acetate	10	U	3.3	10
Tetrachloroethene	10	U	1.6	10
Toluene	10	U	1.4	10
1,1,1-Trichloroethane	10	U	1.4	10
1,1,2-Trichloroethane	10	U	1.3	10
Trichloroethene	170		1.2	10
Vinyl chloride	30		2.0	10
Xylenes, Total	10	U	4.5	10
cis-1,2-Dichloroethene	270		2.0	10
trans-1,2-Dichloroethene	2.5	J	1.5	10
Surrogate	%Rec	Qualifier	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	76		65 - 136	
4-Bromofluorobenzene	83		51 - 142	
Dibromofluoromethane	81		68 - 132	
Toluene-d8 (Surr)	76		63 - 127	

# Analytical Data

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

Client Sample ID: MW-28

Lab Sample ID: 220-16708-9

Date Sampled: 10/07/2011 1135

Client Matrix: Water

Date Received: 10/08/2011 1100

## 8260B TCL VOA

Analysis Method:	8260B	Analysis Batch:	220-55474	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1057.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/10/2011 2317			Final Weight/Volume:	5 mL
Prep Date:	10/10/2011 2317				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	5.1	J	1.0	10
Dichlorodifluoromethane	5.0	U	1.0	5.0
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Trichlorofluoromethane	5.0	U	1.1	5.0
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Vinyl acetate	5.0	U	1.6	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	2.9	J	0.62	5.0
Vinyl chloride	5.0	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	1.1	J	0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	70		65 - 136
4-Bromofluorobenzene	79		51 - 142
Dibromofluoromethane	76		68 - 132
Toluene-d8 (Surr)	69		63 - 127

## Analytical Data

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

Client Sample ID: MW-29

Lab Sample ID: 220-16708-10  
Client Matrix: Water

Date Sampled: 10/07/2011 1143  
Date Received: 10/08/2011 1100

### 8260B TCL VOA

Analysis Method:	8260B	Analysis Batch:	220-55474	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1058.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/10/2011 2341			Final Weight/Volume:	5 mL
Prep Date:	10/10/2011 2341				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Dichlorodifluoromethane	5.0	U	1.0	5.0
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Trichlorofluoromethane	5.0	U	1.1	5.0
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Vinyl acetate	5.0	U	1.6	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	1.0	J	0.62	5.0
Vinyl chloride	22		0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	170		0.99	5.0
trans-1,2-Dichloroethene	0.80	J	0.76	5.0
Surrogate	%Rec	Qualifier	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	73		65 - 136	
4-Bromofluorobenzene	75		51 - 142	
Dibromofluoromethane	76		68 - 132	
Toluene-d8 (Surr)	69		63 - 127	

**Analytical Data**

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

**Client Sample ID: BR-01**Lab Sample ID: 220-16708-11  
Client Matrix: WaterDate Sampled: 10/07/2011 1055  
Date Received: 10/08/2011 1100**8260B TCL VOA**

Analysis Method:	8260B	Analysis Batch:	220-55474	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1059.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 0005			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 0005				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	4.3	J	1.0	10
Dichlorodifluoromethane	5.0	U	1.0	5.0
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Trichlorofluoromethane	5.0	U	1.1	5.0
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Vinyl acetate	5.0	U	1.6	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	5.0	U	0.62	5.0
Vinyl chloride	5.0	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	5.0	U	0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0
Surrogate	%Rec	Qualifier	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	72		65 - 136	
4-Bromofluorobenzene	81		51 - 142	
Dibromofluoromethane	78		68 - 132	
Toluene-d8 (Surr)	72		63 - 127	

## Analytical Data

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

Client Sample ID: BR-02

Lab Sample ID: 220-16708-12  
Client Matrix: Water

Date Sampled: 10/07/2011 1105  
Date Received: 10/08/2011 1100

### 8260B TCL VOA

Analysis Method:	8260B	Analysis Batch:	220-55474	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1060.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 0030			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 0030				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Dichlorodifluoromethane	5.0	U	1.0	5.0
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Trichlorofluoromethane	5.0	U	1.1	5.0
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Vinyl acetate	5.0	U	1.6	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	5.0	U	0.62	5.0
Vinyl chloride	5.0	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	5.0	U	0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0
Surrogate	%Rec	Qualifier	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	74		65 - 136	
4-Bromofluorobenzene	82		51 - 142	
Dibromofluoromethane	81		68 - 132	
Toluene-d8 (Surr)	72		63 - 127	

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

Client Sample ID: BR-04

Lab Sample ID: 220-16708-13  
Client Matrix: WaterDate Sampled: 10/07/2011 1315  
Date Received: 10/08/2011 1100

## 8260B TCL VOA

Analysis Method:	8260B	Analysis Batch:	220-55474	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1061.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 0054			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 0054				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	4.3	J	1.0	10
Dichlorodifluoromethane	5.0	U	1.0	5.0
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Trichlorofluoromethane	5.0	U	1.1	5.0
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Vinyl acetate	5.0	U	1.6	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	5.0	U	0.62	5.0
Vinyl chloride	5.0	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	5.0	U	0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0
Surrogate	%Rec	Qualifier	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	72		65 - 136	
4-Bromofluorobenzene	76		51 - 142	
Dibromofluoromethane	77		68 - 132	
Toluene-d8 (Surr)	70		63 - 127	

# Analytical Data

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

Client Sample ID: BR-05 (27)

Lab Sample ID: 220-16708-14

Client Matrix: Water

Date Sampled: 10/07/2011 1330

Date Received: 10/08/2011 1100

## 8260B TCL VOA

Analysis Method:	8260B	Analysis Batch:	220-55474	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1062.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 0118			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 0118				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Dichlorodifluoromethane	5.0	U	1.0	5.0
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Trichlorofluoromethane	5.0	U	1.1	5.0
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Vinyl acetate	5.0	U	1.6	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	5.0	U	0.62	5.0
Vinyl chloride	5.0	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	5.0	U	0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0
Surrogate	%Rec	Qualifier	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	78		65 - 136	
4-Bromofluorobenzene	86		51 - 142	
Dibromofluoromethane	86		68 - 132	
Toluene-d8 (Surr)	77		63 - 127	

**Analytical Data**

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

**Client Sample ID: BR-05 (37)**Lab Sample ID: 220-16708-15  
Client Matrix: WaterDate Sampled: 10/07/2011 1332  
Date Received: 10/08/2011 1100**8260B TCL VOA**

Analysis Method:	8260B	Analysis Batch:	220-55474	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1063.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 0143			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 0143				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	6.9	J	1.0	10
Dichlorodifluoromethane	5.0	U	1.0	5.0
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Trichlorofluoromethane	5.0	U	1.1	5.0
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Vinyl acetate	5.0	U	1.6	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	5.0	U	0.62	5.0
Vinyl chloride	5.0	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	1.6	J	0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0
Surrogate	%Rec	Qualifier	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	79		65 - 136	
4-Bromofluorobenzene	88		51 - 142	
Dibromofluoromethane	87		68 - 132	
Toluene-d8 (Surr)	79		63 - 127	

# Analytical Data

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

Client Sample ID: BR-05 (46.5)

Lab Sample ID: 220-16708-16

Client Matrix: Water

Date Sampled: 10/07/2011 1335

Date Received: 10/08/2011 1100

## 8260B TCL VOA

Analysis Method:	8260B	Analysis Batch:	220-55474	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1064.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 0207			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 0207				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	10	U	1.0	10
Dichlorodifluoromethane	5.0	U	1.0	5.0
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Trichlorofluoromethane	5.0	U	1.1	5.0
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Vinyl acetate	5.0	U	1.6	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	5.0	U	0.62	5.0
Vinyl chloride	5.0	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	5.0	U	0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0
Surrogate	%Rec	Qualifier	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	80		65 - 136	
4-Bromofluorobenzene	88		51 - 142	
Dibromofluoromethane	91		68 - 132	
Toluene-d8 (Surr)	81		63 - 127	

**Analytical Data**

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

**Client Sample ID: BR-06**Lab Sample ID: 220-16708-17  
Client Matrix: WaterDate Sampled: 10/07/2011 1218  
Date Received: 10/08/2011 1100**8260B TCL VOA**

Analysis Method:	8260B	Analysis Batch:	220-55474	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1065.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 0232			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 0232				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	4.5	J	1.0	10
Dichlorodifluoromethane	5.0	U	1.0	5.0
Benzene	5.0	U	0.74	5.0
Bromodichloromethane	5.0	U	0.48	5.0
Bromoform	5.0	U	0.46	5.0
Bromomethane	5.0	U	2.1	5.0
Methyl Ethyl Ketone	10	U	1.1	10
Trichlorofluoromethane	5.0	U	1.1	5.0
Carbon disulfide	5.0	U	0.90	5.0
Carbon tetrachloride	5.0	U	1.1	5.0
Chlorobenzene	5.0	U	0.72	5.0
Chloroethane	5.0	U	1.1	5.0
Chloroform	5.0	U	0.67	5.0
Chloromethane	5.0	U	1.1	5.0
Dibromochloromethane	5.0	U	0.55	5.0
1,1-Dichloroethane	5.0	U	1.0	5.0
1,2-Dichloroethane	5.0	U	0.72	5.0
1,1-Dichloroethene	5.0	U	0.83	5.0
1,2-Dichloropropane	5.0	U	0.71	5.0
cis-1,3-Dichloropropene	5.0	U	0.28	5.0
trans-1,3-Dichloropropene	5.0	U	0.57	5.0
Ethylbenzene	5.0	U	0.87	5.0
2-Hexanone	10	U	1.1	10
Methylene Chloride	5.0	U	0.78	5.0
methyl isobutyl ketone	10	U	0.38	10
Styrene	5.0	U	0.64	5.0
1,1,2,2-Tetrachloroethane	5.0	U	0.81	5.0
Vinyl acetate	5.0	U	1.6	5.0
Tetrachloroethene	5.0	U	0.81	5.0
Toluene	5.0	U	0.72	5.0
1,1,1-Trichloroethane	5.0	U	0.69	5.0
1,1,2-Trichloroethane	5.0	U	0.65	5.0
Trichloroethene	18		0.62	5.0
Vinyl chloride	5.0	U	0.99	5.0
Xylenes, Total	5.0	U	2.3	5.0
cis-1,2-Dichloroethene	12		0.99	5.0
trans-1,2-Dichloroethene	5.0	U	0.76	5.0
Surrogate	%Rec	Qualifier	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	78		65 - 136	
4-Bromofluorobenzene	86		51 - 142	
Dibromofluoromethane	85		68 - 132	
Toluene-d8 (Surr)	78		63 - 127	

# Analytical Data

Client: Malcolm Pirnie, Inc. Invoice to Arcadis

Job Number: 220-16708-1

**Client Sample ID:** DUPE

Lab Sample ID: 220-16708-18  
Client Matrix: Water

Date Sampled: 10/07/2011 0000  
Date Received: 10/08/2011 1100

## 8260B TCL VOA

Analysis Method:	8260B	Analysis Batch:	220-55526	Instrument ID:	MSL
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	L1093.D
Dilution:	2.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/12/2011 0019			Final Weight/Volume:	5 mL
Prep Date:	10/12/2011 0019				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Acetone	20	U	2.1	20
Dichlorodifluoromethane	10	U	2.0	10
Benzene	10	U	1.5	10
Bromodichloromethane	10	U	0.96	10
Bromoform	10	U <i>WT</i>	0.92	10
Bromomethane	10	U	4.2	10
Methyl Ethyl Ketone	20	U	2.2	20
Trichlorofluoromethane	10	U	2.2	10
Carbon disulfide	10	U	1.8	10
Carbon tetrachloride	10	U	2.1	10
Chlorobenzene	10	U	1.4	10
Chloroethane	10	U	2.1	10
Chloroform	10	U	1.3	10
Chloromethane	10	U	2.2	10
Dibromochloromethane	10	U * <i>WT</i>	1.1	10
1,1-Dichloroethane	25		2.1	10
1,2-Dichloroethane	10	U	1.4	10
1,1-Dichloroethene	5.7	J	1.7	10
1,2-Dichloropropane	10	U	1.4	10
cis-1,3-Dichloropropene	10	U	0.56	10
trans-1,3-Dichloropropene	10	U	1.1	10
Ethylbenzene	10	U	1.7	10
2-Hexanone	20	U	2.2	20
Methylene Chloride	25/0	J <i>WT</i> U	1.6	10
methyl isobutyl ketone	20	U	0.76	20
Styrene	10	U	1.3	10
1,1,2,2-Tetrachloroethane	10	U	1.6	10
Vinyl acetate	10	U	3.3	10
Tetrachloroethene	10	U	1.6	10
Toluene	10	U	1.4	10
1,1,1-Trichloroethane	10	U	1.4	10
1,1,2-Trichloroethane	10	U	1.3	10
Trichloroethene	14		1.2	10
Vinyl chloride	10	U	2.0	10
Xylenes, Total	10	U	4.5	10
cis-1,2-Dichloroethene	310		2.0	10
trans-1,2-Dichloroethene	10	U	1.5	10
Surrogate	%Rec	Qualifier	Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	73		65 - 136	
4-Bromofluorobenzene	80		51 - 142	
Dibromofluoromethane	80		68 - 132	
Toluene-d8 (Surr)	70		63 - 127	