

New York State Department of Environmental Conservation

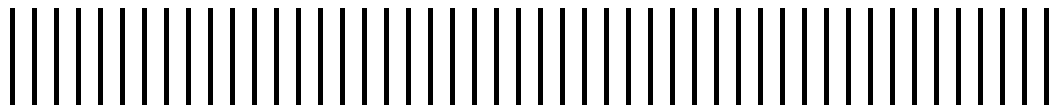
Department of Environmental Remediation • 625 Broadway • Albany, New York 12233

Periodic Review Report Tioga Castings Site

Site Number 7-54-012

New York State Department of
Environmental Conservation
Work Assignment D004443-7

February 2011



Report Prepared By:

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Executive Summary

The Tioga Castings Site is located in Owego, New York and is the former location of a foundry that generated and disposed of assorted industrial wastes in an on-site landfill. The foundry ceased operations in 1988 and was destroyed by a fire in 1989. Remedial efforts were performed and the associated waste materials were consolidated in the on-site landfill and capped with a low-permeability cover. Post-closure landfill monitoring activities are currently performed in accordance with a New York State Department of Environmental Conservation (NYSDEC)-approved Site Management Plan (SMP). Existing SMP documents, monitoring data, and field data were reviewed to evaluate if the current operational and monitoring programs provided the appropriate levels of performance, effectiveness, and protectiveness for the remedy. Minimal additional landfill maintenance efforts will ensure long-term integrity of the remedy. Institutional and Engineering Controls (IC/ECs) can be improved by conforming to DER-10 and 6NYCRR Part 375 requirements and placing an Environmental Notice in the deed. Corrective Measures (CMs) will be required to address these deficiencies. A budget analysis indicates the recommendations can be implemented with remaining resources. A five year field-oversight Periodic Review (PR) evaluation is being recommended to assess on-going SMP activities.

1. Site Overview

1.1. Site Description

The Tioga Casting Site is located on Foundry Street, Owego, Tioga County, New York (Figure 2-1). The site is approximately seven acres with an approximately one acre landfill on the western portion of the property. Figure 2-2 shows the location of the landfill.

1.2. Site History

Foundry operations were performed at the site from the 1940s through 1988. The facility operated a copula-type foundry and produced gray-iron castings. Solid wastes produced at the foundry (sand molds, fly ash, cast iron grindings, and copula dust) were reportedly disposed at an off-site landfill until 1979. The foundry then operated an on-site landfill for disposal of foundry wastes through its closing in 1988. In 1989 a fire destroyed most of the foundry structure. Based on the presence of materials that were found abandoned at the site, the facility was listed in the NYSDEC Inactive Hazardous Waste Disposal Registry (site number 7-54-012) as a Class 2 Site. The remains of the former foundry structure have since been razed, leaving the concrete slabs in-place.

A Record of Decision (ROD) was signed for the site in 1995 (Appendix A). The remedy included the following items:

- Consolidation of on-site and off-site soil and waste piles that contained concentrations greater than the cleanup goals for the site in the on-site landfill;
- Maintain deed restrictions to prevent site development in areas of the site where contaminated material was present;
- Placement of a low permeability cover over the on-site landfill;
- Maintain a fence around the on-site landfill to limit site access;
- Cleaning and filling an on-site septic tank with cement;
- Operation and maintenance of the remedy;
- Groundwater monitoring; and
- Site-specific cleanup goals for cadmium, chromium and lead as listed below:

	SOIL	GROUNDWATER
Cadmium	10 ppm	10 ppb
Chromium	50 ppm	50 ppb
Lead	250 ppm to 12" 500 ppm below 12"	25 ppb

The landfill closure was completed in 1997.

Asbestos-containing materials in piles of debris and in a building structure were identified at the site and removed in 2001.

In June 2007, a NYSDEC-approved Work Plan (Malcolm Pirnie, 2007) was implemented with site-specific operation and maintenance (O&M) and groundwater monitoring procedures.

In July 2008, an investigation was initiated at the request of the NYSDEC to evaluate if subsurface soil contained concentration of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), or metals at concentrations greater than the respective NYSDEC Standards or site-specific cleanup criteria. Groundwater samples were collected during the investigation and submitted for analysis of VOC and metals. Sub-slab soil vapor samples were also collected from beneath the former foundry building slab to evaluate potential soil vapor intrusion (SVI) pathways.

At the request of the NYSDEC, three new groundwater monitoring wells were installed in October 2008 to provide additional information on groundwater quality; however, groundwater samples were not collected at the time of the installations due to constraints in the Work Assignment budget.

In April 2009, the NYSDEC collected groundwater samples from the monitoring well network for analysis of VOCs, SVOCs, and metals to provide additional information on groundwater quality to support reclassification of the site.

In July 2009, surface soil samples were collected from the site to evaluate the potential for surface soil to be an exposure route to site related contaminants.

A SMP (Malcolm Pirnie, 2009) was prepared and accepted by the NYSDEC in October 2009. Since then, O&M and monitoring have been conducted in accordance with the SMP.

2. Remedy Evaluation

As indicated in Section 2, all site work has been completed and/or implemented in accordance with ROD and post-closure landfill monitoring activities are currently performed in accordance with the NYSDEC-approved SMP.

2.1. O&M Plan Compliance

The existing O&M program provides for verification of security and maintenance of the landfill. The O&M program includes semi-annual (late spring and fall) site inspections to verify the structural integrity of the landfill, perimeter fencing, gates, and locks. In addition, the landfill cover is mowed by NYSDEC to reduce the potential for large, woody vegetation from compromising the integrity of the landfill cap system. No additional O&M activities are included in the current O&M Plan. The most recent O&M inspection was completed in May 2010.

2.1.1. O&M Plan Requirements and Compliance Status

The current O&M Plan was reviewed evaluate the performance, effectiveness, and protectiveness of the current remedy.

2.1.1.1. O&M Compliance Evaluation

The required O&M activities were conducted as specified in the NYSDEC-approved Work Plan during the 2007, 2008, and 2009 O&M periods and in accordance with the SMP in 2010. In 2007, at the request of NYSDEC, new locks were installed on the landfill access gate and on all piezometers. In 2007 and 2008 no significant problems were encountered with the landfill system. Burrowing rodent holes were observed in the landfill cap during the 2009 and 2010 inspections. During the 2010 inspection, small trees were also observed on the perimeter of landfill cap. In addition, significant brush and woody vegetation was present on the landfill perimeter fence.

2.1.2. O&M Conclusions and Recommendations

Based on the current status of the site, continued O&M is recommended to maintain the performance, effectiveness, and protectiveness of the landfill. The existing SMP is effective at meeting these requirements; however, based on field observations, the following recommendations should be implemented to ensure these criteria are met over the long-term:

- Remove burrowing rodents and fill exiting rodent holes to reduce the potential for the landfill cap and cover system to be compromised and for surface water infiltration into the landfill cell.
- Remove brush and woody vegetation from the perimeter of the landfill cell and perimeter fence to reduce the potential for these plants to compromise the integrity of the landfill system.

2.2. Monitoring Plan Compliance

Between August 2007 and October 2009 groundwater quality in the vicinity of the site was monitored in accordance with the NYSDEC-approved Work Plan. Since then all groundwater monitoring activities have been conducted in accordance with the SMP.

2.2.1. Groundwater Monitoring Program

Groundwater in all monitoring wells associated with the site is sampled in accordance with the SMP on a five-quarter sampling schedule. Groundwater samples are collected using low flow groundwater purging and sampling procedures in accordance with United States Environmental Protection Agency (USEPA) low flow purging and sampling techniques. Groundwater samples are analyzed for Target Analyte List (TAL) metals by USEPA Method ILM05.3

Groundwater monitoring wells associated with the site are inspected and evaluated for integrity and the condition of each well is recorded on a well inspection form. Groundwater levels are measured in monitoring wells prior to collecting samples. Water levels are measured to the nearest hundredth of a foot and recorded on a groundwater level data form. Water levels are used to calculate groundwater elevations across and facilitate an evaluation of groundwater flow conditions at the site.

2.2.2. Groundwater Monitoring Results

Groundwater monitoring wells were sampled in August 2007, July 2008, and March 2010 as described in Section 3.2.1; however, as indicated in Section 2, groundwater samples were collected by the NYSDEC in April 2009. According to the NYSDEC, prior to collecting groundwater samples, three well volumes were purged from each well using a Whale® submersible pump. The results from each sampling event were summarized and submitted to the NYSDEC.

2.2.2.1. Well Inspections

Existing on-site groundwater monitoring wells were evaluated for integrity and suitability for groundwater monitoring and water levels. The condition of each well was recorded on a well inspection form.

Between 2007 and 2010 the integrity of each well was generally acceptable; however, in October 2008, groundwater monitoring well MW-1 was abandoned and replaced by a deeper well (MW-1R). A deeper well (MW-3D) was also installed adjacent to MW-3. These wells were installed due to MW-1 and MW-3 frequently being dry and/or having an insufficient water level for collecting groundwater samples.

2.2.2.2. Water Level Survey

Prior to collecting samples, water levels were measured to the nearest hundredth of a foot and recorded on a groundwater level data form. Table 3-1 summarizes the groundwater levels and elevations from the site. As shown in Table 3-1, the average groundwater elevations in groundwater monitoring wells MW-2, MW-3, MW-4, and MW-5 were generally consistent between August 2007 and July 2008 but increased approximately four feet between July 2008 and May 2010 (no groundwater level data were provided for the April 2009 NYSDEC sampling event). No groundwater elevation data are available for the groundwater monitoring wells MW-1R, MW-3D, MW-7, or MW-8 installed in October 2008 as these wells have not been surveyed; however, based on historic groundwater elevations, the direction of groundwater flow across the site is generally south, toward the Susquehanna River.

2.2.3. Groundwater Sampling

Groundwater sampling results for the August 2007, July 2008, April 2009, and May 2010 sampling events are summarized in Table 3-2 (VOCs), Table 3-3 (SVOCs), and Table 3-4 (Metals).

2.2.3.1. Groundwater Sampling Results - VOCs

As shown in Table 3-2, toluene was the only VOC detected in any of the samples collected during the July 2008 or April 2009 sampling event. The toluene concentration in the April 2009 sample from MW-7 was estimated (based on the “J” qualifier) at 4 ug/L, which is less than the corresponding NYSDEC Class GA Standard of 5 ug/L.

2.2.3.2. Groundwater Sampling Results – SVOCs

As shown in Table 3-3, none of the samples collected during the April 2009 contained concentrations of SVOCs greater than the indicated quantitation limits.

2.2.3.3. Groundwater Sampling Results - Metals

As shown in Table 3-4, the sodium concentrations in samples from MW-1R, MW-2, MW-7, and MW-8 exceeded the NYSDEC Class GA Standard of 20,000 ug/L. The maximum sodium concentration (58,900 ug/L) was reported in the sample collected from MW- 7 during the March 2010 groundwater monitoring event. Since sodium and calcium chloride (salts) are used for de-icing agents, these results, coupled with the

elevated calcium concentrations in all of the samples, suggest that de-icing agents may be the source for the sodium.

Table 3-4 shows that with the exception of MW-3 and MW-5, iron and/or manganese were reported in all of the April 2009 groundwater samples at concentrations greater than the applicable NYSDEC Class GA Standard of 300 ug/L. In addition, lead was detected in the groundwater sample from MW-7 at a concentration of 30.2 ug/L, which is greater than the corresponding NYSDEC Class GA Standard of 25 ug/L. Since none of these elements were detected in the 2007, 2008, or 2010 groundwater samples at concentrations greater than their respective NYSDEC Class GA Standards, the iron and/or manganese and lead exceedances reported in the April 2009 samples from MW-1R, MW-2, MW-3D, MW-4, MW-7, and MW-8 were likely anomalous.

2.2.4. Groundwater Monitoring Conclusions

Groundwater sampling results indicate that VOCs and SVOCs are not impacting groundwater quality at the site. Iron and/or manganese and lead exceedances reported in the April 2009 samples appear to be anomalous. Sodium exceeded the NYSDEC Class GA Standard in four of the eight wells sampled during the March 2010 sampling event. Road de-icing agents may be the cause of the exceedances.

2.2.5. Groundwater Monitoring Recommendations

Due to the presence of the on-site landfill with the known past disposal of metals-containing materials in the landfill, continued groundwater monitoring is required to properly evaluate changes in groundwater quality over time and monitor the horizontal and vertical distribution of metals.

The horizontal and vertical locations of the groundwater monitoring wells installed in 2008 (MW-1R, MW-3D, MW-7, and MW-8) should be surveyed to ensure groundwater level data are accurate. Based on discussions with the NYSDEC, the horizontal elevations should be surveyed using an automatic level with a precision of 0.01 foot. The elevations of the wells will be referenced from existing groundwater monitoring well elevations for MW-2, MW-3, MW-4, and/or MW-5. The vertical positions will be established using a Trimble® Global Positioning System (GPS) with a precision of less than one foot.

2.3. Additional Investigations

The following investigations were performed at the request of NYSDEC:

July 2008

As stated in Section 2, groundwater and sub-surface soil investigations were performed in July 2008 to evaluate if groundwater and/or subsurface soil concentrations of VOCs, SVOCs, PCBs, or metals were present at concentrations greater than the respective NYSDEC Standards or site-specific cleanup criteria. A soil vapor intrusion investigation was also conducted to evaluate potential exposure routes to VOCs beneath the former foundry building concrete slab. The report is provided in Appendix B. A summary of the sampling event is provided below:

Groundwater Investigation - Four new groundwater monitoring wells (MW-1R, MW-3D, MW-7, and MW-8) (Figure 2-1) were installed to provide additional information on groundwater quality across the site. At the request of NYSDEC, one additional well (MW-6) is proposed to be installed up-gradient of the landfill cell pending approval from the adjacent property owner. The results of the groundwater sampling are incorporated in Tables 3-2, 3-3, and 3-4 and were discussed in Section 3.2.2.

Sub-surface Soil Sampling - Soil samples from two soil borings advanced into the landfill cell contained concentration of chromium greater than the site-specific cleanup criteria. Three soil borings contained concentrations of lead greater than the designated site-specific cleanup value and or 6NYCRR Part 375 Commercial Soil Cleanup Objective (SCO) for lead. Arsenic, manganese, or copper exceeded the 6NYCRR Part 375 Commercial SCOs in at least one subsurface soil sample collected from the site.

Soil Vapor Intrusion Sampling - Sub-slab soil vapor samples were collected from beneath the former foundry building slab to evaluate potential soil vapor intrusion pathways. Only one sub-slab soil vapor sample contained concentrations of VOCs slightly greater than the NYSDOH Guidance value for mitigation.

July 2009

As indicated in Section 2, surface soil samples were collected from the site in July 2009 to evaluate the potential for surface soil to be an exposure route to site related contaminants. The results were submitted to the NYSDEC with the quarterly groundwater sampling summary (Malcolm Pirnie, 2009). The report is provided in Appendix C. Six surface soil samples were collected from the site in areas known to have contained piles of debris, coal, or concentrations of metals in subsurface soil or groundwater greater than the respective 6NYCRR Part 375, NYSDEC Class GA, or site-



specific cleanup goals. None of the surface soil samples contained concentrations of metals greater than the corresponding 6NYCRR Part 375 Commercial SCOs; however, one surface soil sample located near the former parking area on the eastern side of the site contained lead at a concentration greater than the applicable site-specific clean up goal of 250 mg/kg.

2.4. Institutional Controls and Engineering Controls

2.4.1. Institutional Controls

Institutional Controls (ICs) for the site were established in accordance with the ROD and in consultation with NYSDEC. The ICs are listed in the SMP and provided below:

The ROD specified that deed restrictions should be implemented; however, no deed restrictions are currently established for the site. In lieu of deed restrictions, the NYSDEC has determined that the following ICs should be maintained:

- Notification - The NYSDEC must be notified and approve intrusive activities to be performed at the site which will extend below the cover system and possibly disturb contaminated soil. In addition, Local officials, school districts, and adjacent property owners will be notified of any potential hazards associated with on-site activities. A Site Notification List is provided in the SMP.
- Ground Intrusive Activities Restriction - Excavation and/or removal of soil from the site will be restricted. Excavated soil/material will require the appropriate characterization for the intended use or off-site disposal. No excavations will be conducted that could interfere with the performance of the remedy.
- Groundwater Monitoring – Monitor groundwater quality at each of the existing site monitoring wells to document contaminant concentrations and distribution. This program will allow the effectiveness of the natural attenuation to be monitored and will continue until data indicate that applicable groundwater standards have been achieved.
- Periodic Review Report - The site owner will periodically (at the direction of the NYSDEC) certify that the required institutional and engineering controls are in place and remain effective for the protection of public health and the environment.

As recommended by the ROD, deed restrictions for the site should also consider the following ICs:

- Site Use Restrictions - Prohibit the site from being used for purposes other than commercial use, including passive recreational use, and industrial use consistent with local zoning. Environmental easements should be binding on all future owners of the site.
- Groundwater Use Restriction - The use of groundwater underlying the site as a source of potable or process water should be prohibited without necessary water quality

treatment as determined by the NYSDOH. This should be performed until groundwater quality is deemed acceptable by the NYSDEC based on long-term monitoring.

2.4.2. Engineering Controls

Engineering controls (ECs) are inspected and maintained in accordance with the SMP. The ECs at the site consist of a cap and cover system for the landfill and a landfill perimeter fence with locking gate to control access to the landfill. A warning sign is present on the landfill perimeter fence access gate indicating the area within the fence contains hazardous waste and that unauthorized entry is forbidden. According the Tioga Castings Site Remediation Summary Report, the landfill was completed in 1997 in accordance with the ROD (NYSDEC, 1998).

2.4.2.1. Landfill Construction

As indicated in Section 2, the landfill was constructed by consolidating on and off-site wastes and placing them in the existing on-site landfill. According the Tioga Castings Remediation Summary Report (NYSDEC, 1998), a “foundation layer” was placed over the consolidated landfill wastes. The remainder of the landfill cover system (from bottom to top) consists of a 60-mil HDPE liner, geo-composite drainage material, approximately two feet of compacted barrier protection soil, and six inches of topsoil.

2.4.3. Institutional Controls and Engineering Controls Conclusions

IC/ECs are established and maintained in accordance with the SMP and meet the intentions of the ROD. The ICs include notification to NYSDEC and other parties for all and ground intrusive activities, groundwater monitoring, and periodic review of the selected remedy in accordance with NYSDEC Periodic Review (PR) requirements. In addition, the ICs consider site and groundwater use restrictions. The ECs include a landfill cap and cover system, perimeter fencing, and secure access. The landfill was completed in 1997 and constructed in accordance with the ROD.

2.4.4. Institutional Controls/Engineering Controls Recommendations

IC/ECs have been implemented in accordance with the ROD, but not in accordance with DER-10 and 6NYCRR Part 375. Therefore, it is recommended that the IC/EC implementation, evaluation, certification, and reporting criteria be revised to be consistent with the guidance and requirements in these documents.

The following items are specified in DER-10 (DER-10, Section 6.5, pg 94):

- Annual Report with IC/EC certification.
- Identification of required IC/ECs and evaluation of whether controls should remain in place and if they are effective for the protection of public health and the environment.

- Where ECs are part of the selected remedy, the corresponding ICs must be maintained.

In accordance with 6NYCRR Part 375 (6NYCRR Part 375, Section 6-1, pg. 1-19) a remedy that includes IC/ECs must include:

- Description of IC/ECs, role in achieving the remedial objective of the remedy and/or the “mechanism that will be used to implement, maintain, monitor, and enforce such controls and requirements”.
- Evaluation and cost analysis of IC/EC “reliability and viability of long-term implementation, maintenance, monitoring and enforcement”.
- Analysis to “support a conclusion that effective implementation, maintenance, monitoring and enforcement of IC/ECs can be reasonably expected”.
- Where required by NYSDEC, financial assurance to ensure long-term implementation, maintenance, monitoring and enforcement of IC/ECs.
- Any ECs must be used in conjunction with ICs to ensure the continued integrity of the environmental control.

The ROD indicates that certain deed restrictions would be implemented. However, none of these restrictions have been legally adopted. Therefore, it is recommended that an Environmental Notice be placed in the deed that includes the ICs listed in Section 2.4.1, including:

- NYSDEC notification and approval of ground intrusive activities.
- Ground intrusive activities restriction.
- Groundwater Monitoring.
- Periodic Review Report.
- Site use restrictions.
- Groundwater use restriction.

2.5. Institutional Controls/Engineering Controls Certification

As indicated in Sections 2.1 and 2.2, all site operations and monitoring are currently evaluated in accordance with the SMP. In accordance with NYSDEC PR requirements, an IC/EC Certification Form is provided in Appendix D. As indicated in the IC/EC Certification Form, the selected remedy is performing as intended. However, IC/ECs should meet the criteria listed in DER-10 and 6NYCRR Part 375 and an Environmental Notice should be placed in the deed, listing IC requirements.

3. Cost Evaluation

3.1. Work Assignment Budget

The estimated project budget for implementing the O&M and Groundwater Monitoring Plan (Malcolm Pirnie, 2007) was prepared in accordance with Malcolm Pirnie's Contract for Design/Construction services with the NYSDEC. The total approved cost for the original four year Work Assignment was \$50,701. A budget addendum was approved in 2009 to defer the costs for work completed at the site that was not originally in the Work Assignment including the supplemental subsurface soil surface soil sampling and analysis, groundwater sampling and analysis, SVI sampling and analysis, groundwater monitoring well installations completed in 2008, and the surface soil sampling and analysis conducted in 2009. The revised Work Assignment budget is \$156,374.

Table 4-1 provides a summary of costs estimated to complete the tasks listed in the existing SMP. As shown in Table 4-1, approximately \$72,000 of the budgeted amount has been expended, providing approximately \$85,000 to complete the remaining one year of the Work Assignment.

3.2. Periodic Review Costs

Table 4-2 provides an opinion of probable cost for performing the recommendations provided in the Periodic Review, including:

- Removal of burrowing rodents.
- Removal of brush and woody vegetation from the perimeter of the landfill and fencing.
- Groundwater monitoring well survey.
- Update site maps.

As shown in Table 4-2, the estimated cost to implement the recommendations presented in the PR is \$9,100. Table 4-2 shows that the anticipated cost to perform annual O&M, sampling, and reporting for the remainder of the Work Assignment (including installation of the proposed groundwater monitoring well (MW-6) requested by NYSDEC) in accordance with the SMP is \$24,213. Therefore, the total anticipated cost to complete the remaining year (through 2010) in the work assignment is approximately \$33,500. Consequently, the estimated remaining resources (approximately \$51,500) should be sufficient to fund the project through the conclusion of the Work Assignment term.

4. Recommendations and Conclusions

4.1. Recommendations

The PR was performed to evaluate the performance, effectiveness, and protectiveness of the current remedy. The PR was based on a review of the existing SMP, available site documents, monitoring data, and field observations. Monitoring results indicate that the landfill is performing as intended; however, the following items are recommended to ensure that the remedy meets the intended goals over the long-term:

- Removal of burrowing rodents and backfill exiting holes.
- Removal of brush and woody vegetation from landfill perimeter.
- Groundwater monitoring well survey.
- Update site maps.
- Bring IC/ECs to DER-10 and 6NYCRR Part 375 guidance and requirements.
- Place an Environmental Notice in the deed, listing IC requirements.

Based on the results of the PR, Corrective Measures (CMs) will be required to bring IC/ECs into compliance with current standards and to ensure that an Environmental Notice is placed in the deed, listing the ICs.

4.2. Corrective Action Plan

A Corrective Action Plan (CAP) will be prepared to provide details for each of the CMs recommended during this PR cycle. The CAP will include a timeline to indicate when each of the following CMs would be implemented:

- IC/EC compliance with DER-10 and 6NYCRR Part 375 guidance and requirements.
- Environmental Notice placed in deed, listing IC requirements.

4.3. Periodic Review Frequency

Since CMs have been recommended for the site, a one year field-oversight PR evaluation is recommended to evaluate the continued performance, effectiveness, and protectiveness of the current remedy.

4.4. Conclusions

Based on a review of the SMP, available site documents, monitoring data, and field observations, the overall performance, effectiveness and protectiveness of the remedy for the Tioga Castings Site is acceptable. However, burrowing rodent removal and removal of excessive vegetation is recommended. In addition, the horizontal and vertical positions of groundwater monitoring wells installed in 2008 should be surveyed to ensure accurate groundwater elevations are reported. Although the existing ICs meet the intentions of the ROD, they do not meet the conditions in DER-10 and 6NYCRR Part 375. An Environmental Notice should be placed in the deed, listing the IC requirements. A CAP will be prepared that details the recommended IC/EC improvements and how they will be implemented. A one year field-oversight PR evaluation is recommended to assess the future status of the remedy.

5. References

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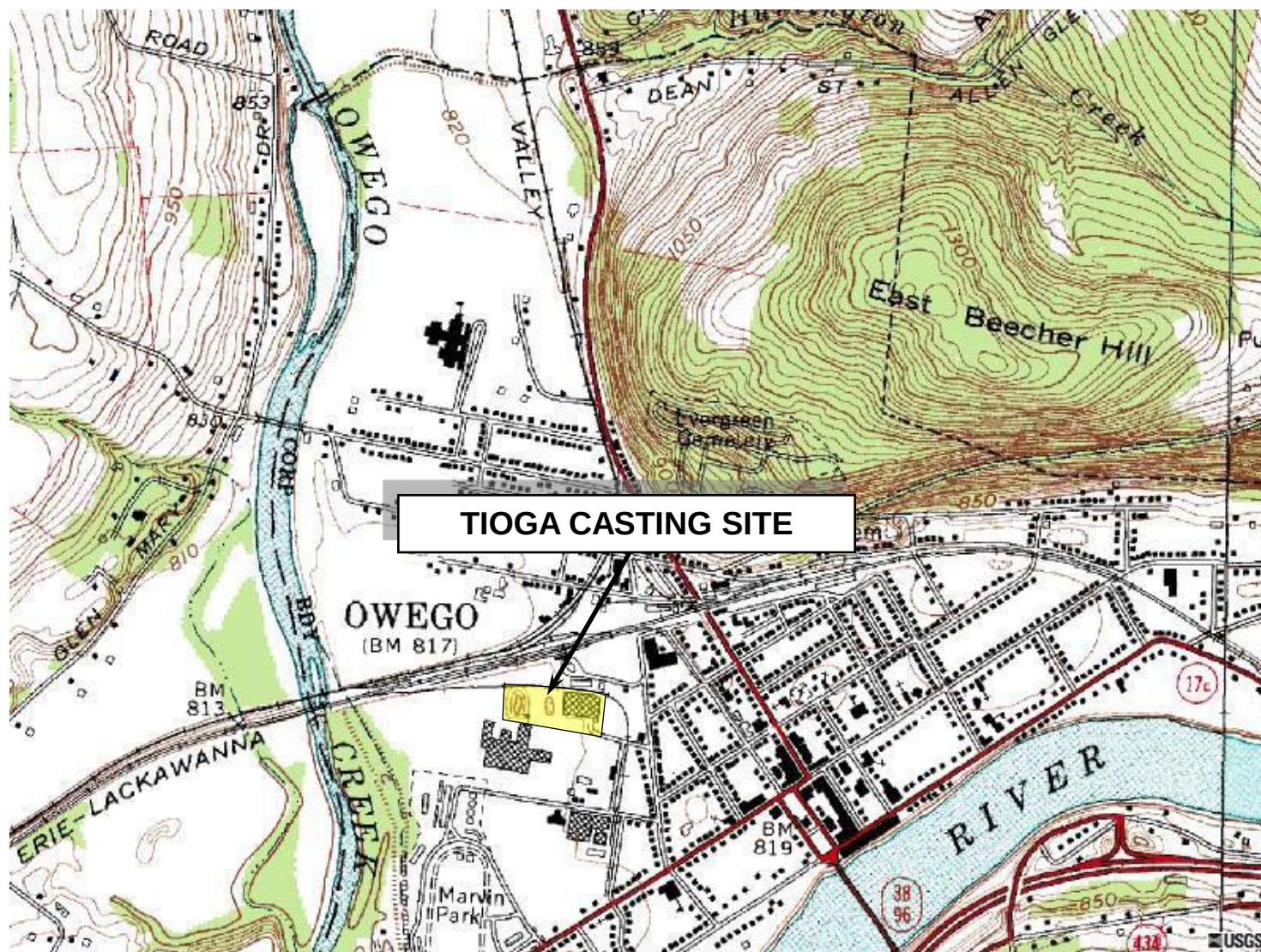
NYSDEC, 1995, Record of Decision, Tioga Castings Site, Village of Owego, Tioga County, New York, Site No. 7-54-012, New York State Department of Environmental Conservation, Division of Hazardous Waste Remediation.

NYSDEC, 1998, Remediation Summary Report, Tioga Castings Site, Village of Owego, Tioga County, New York, Site No. 7-54-012, New York State Department of Environmental Conservation.

NYSDEC, 2010, DER-10, Technical Guidance for Site Investigation and Remediation, New York State Department of Environmental Conservation, Division of Hazardous Waste Remediation.

NYSDEC, 2006, 6NYCRR Part 375, Environmental Remediation Programs, Subparts 375-1 to 375- 4 & 375-6 New York State Department of Environmental Conservation.





SOURCE: U.S.G.S 7.5 MIN. OWEGO QUAD, 1990

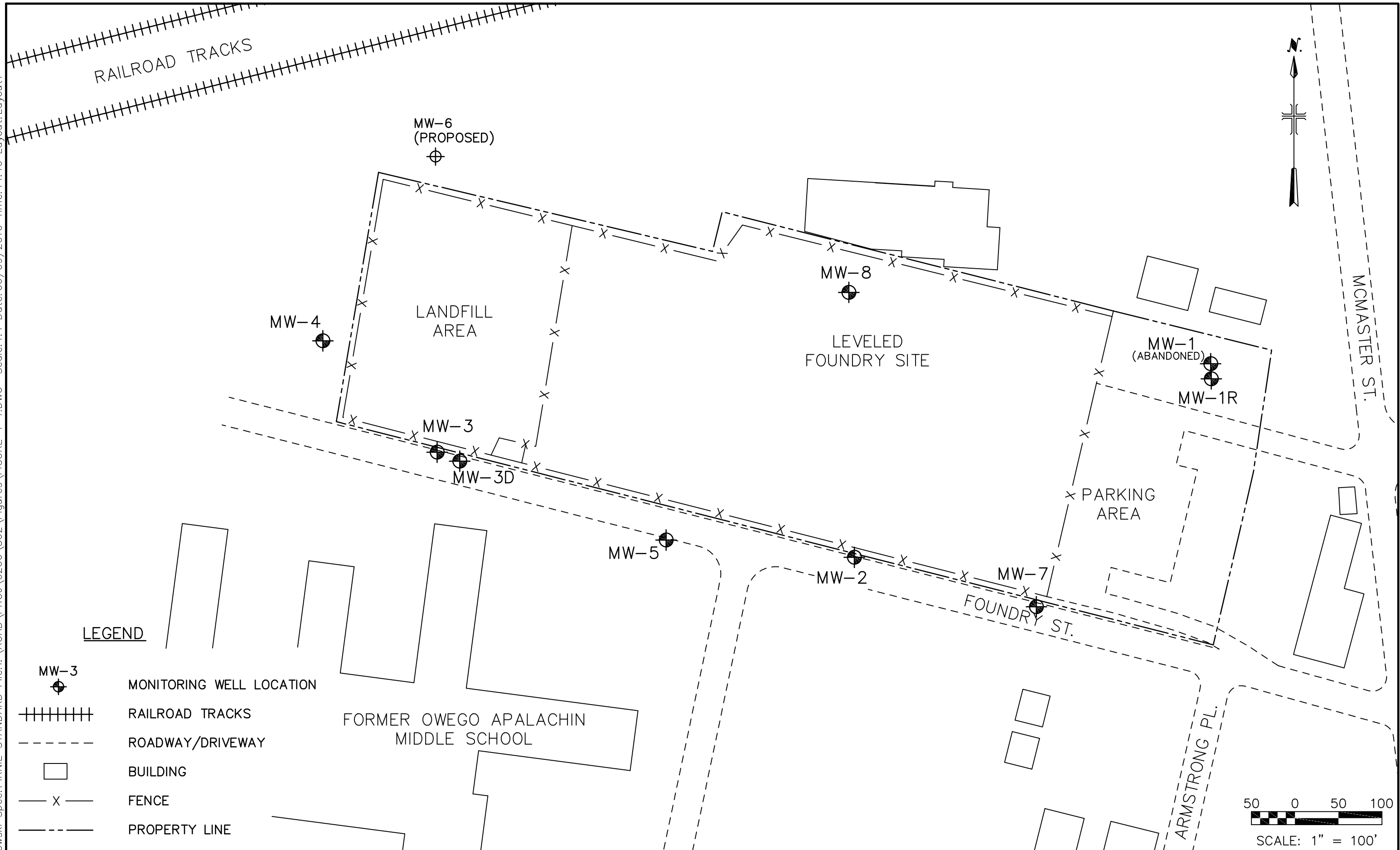
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NYSDEC STANDBY CONTRACT NO. D004443
TIOGA CASTING FACILITIES
OWEGO, NEW YORK
TIOGA CASTING SITE LOCATION

FIGURE 2-1

XREFS: I: \ACAD\PROJ\0266\362\X-REFS\BASEMAP.dwg IMAGES: None
User: Lewandowski Spec: PIRNIE STANDARD File: I: \ACAD\PROJ\0266\362\Figures\FIGURE 4-1.DWG Scale: 1:1 Date: 06/09/2010 Time: 14:16 Layout: Layout1



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NYSDEC STANDBY CONTRACT NO. D004443-8
NYSDEC SITE NO. 7-54-012
TIOGA CASTING FACILITY
OWEGO, NEW YORK

MONITORING WELL LOCATIONS

SCALE: 1" = 200'

MALCOLM PIRNIE, INC.

MAY 2010
FIGURE 2-2

Table 3-1
Summary of Groundwater Elevations
Tioga Casting
Owego, New York
NYSDEC Site No. 7-54-012

Well	Measuring Point Elevation ⁽¹⁾ (feet)	8/2/2007		7/17/2008		11/24/2008*		5/18/2010	
		DTW (feet)	Elevation (feet)	DTW (feet)	Elevation (feet)	DTW (feet)	Elevation (feet)	DTW (feet)	Elevation (feet)
MW-1**	810.49	15.39	795.10	15.39	795.10	-	-	-	-
MW-1R	-	-	-	-	-	20.90	-	17.03	-
MW-2	807.68	15.29	792.39	15.47	792.21	14.56	793.12	10.69	796.99
MW-3	812.61	18.03	794.58	18.13	794.48	17.51	795.10	14.35	798.26
MW-3D	-	-	-	-	-	17.52	-	14.17	-
MW-4	806.33	11.29	795.04	11.59	794.74	10.87	795.46	7.81	798.52
MW-5	803.89	11.44	792.45	11.80	792.09	10.74	793.15	6.60	797.29
MW-7	-	-	-	-	-	14.17	-	10.30	-
MW-8	-	-	-	-	-	20.98	-	17.05	-

1 - Source: Monitoring Plan: Tioga Casting (NYSDEC, April 25, 2005)

* - Water level measurements do not correspond to groundwater sampling event.

** - Well abandoned 10/28/08

Table 3-2
Groundwater Sample Results - VOCs
Tioga Casting Site
NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-1R 4/2/2009 ug/L	MW-2 7/17/2008 ug/L	MW-2 4/2/2009 ug/L	MW-3 4/2/2009 ug/L
1,1,1-Trichloroethane	5	10 U	10 U	10 U	10 U
1,1,2,2,-Tetrachloroethane	5	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	NA	10 U	NA	NA
1,1,2-Trichloroethane	1	10 U	10 U	10 U	10 U
1,1-Dichloroethane	5	10 U	10 U	10 U	10 U
1,1-Dichloroethene	5	10 U	10 U	10 U	10 U
1,2,3-Trichlorobenzene	5*	10 U	NA	10 U	10 U
1,2,4-Trichlorobenzene	5	10 U	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane	0.04	NA	10 U	NA	NA
1,2-Dibromoethane		NA	10 U	NA	NA
1,2-Dichlorobenzene	3	10 U	10 U	10 U	10 U
1,2-Dichloroethane	0.6	10 U	10 U	10 U	10 U
1,2-Dichloropropane	1	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	3	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	3	10 U	10 U	10 U	10 U
2-Chlorotoluene	5*	10 U	NA	10 U	10 U
2-Hexanone	50*	10 U	10 U	10 U	10 U
4-Chlorotoluene	5*	10 U	NA	10 U	10 U
Acetone		15 U	10 U	15 U	15 U
Benzene	1	10 U	10 U	10 U	10 U
Bromodichloromethane	50	10 U	10 U	10 U	10 U
Bromoform	50*	10 U	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U	10 U
Carbon Disulfide	60	10 U	10 U	10 U	10 U
Carbon Tetrachloride	5	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U
Chloromethane		10 U	10 U	10 U	10 U
cis 1,2-Dichloroethene	5	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	0.4	10 U	10 U	10 U	10 U
Cyclohexane		NA	10 U	NA	NA
Dibromochloromethane	5	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	5	10 U	10 U	10 U	10 U
Ethylbenzene	5	10 U	10 U	10 U	10 U
Isopropylbenzene	5	NA	10 U	NA	NA
m,p-Xylenes	5	10 U	NA	10 U	10 U
Methyl acetate		NA	10 U	NA	NA
Methyl Ethyl Ketone	50	10 U	10 U	10 U	10 U
Methyl isobutyl ketone		10 U	10 U	10 U	10 U
Methylcyclohexane		NA	10 U	NA	NA
Methylene Chloride	5	10 U	10 U	10 U	10 U
Methyl-tert butyl ether	10	10 U	10 U	10 U	10 U
o-Xylene	5	10 U	NA	10 U	10 U
Styrene	5	10 U	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U	10 U
Toluene	5	10 U	10 U	10 U	10 U
trans 1,2-Dichloroethene	5	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	0.4	10 U	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U	10 U
Trichlorofluoromethane	5	10 U	10 U	10 U	10 U
Vinyl Acetate		10 U	NA	10 U	10 U
Vinyl Chloride	2	10 U	10 U	10 U	10 U
Xylenes, Total		NA	10 U	NA	NA

U - Analyte not detected at indicated quantitation limit.
J - Estimated.
NA - Not Analyzed

Table 3-2
Groundwater Sample Results - VOCs
Tioga Casting Site
NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-3D 4/2/2009 ug/L	MW-4 7/17/2008 ug/L	MW-4 4/2/2009 ug/L	MW-5 7/17/2008 ug/L
1,1,1-Trichloroethane	5	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	5	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	NA	10 U	NA	10 U
1,1,2-Trichloroethane	1	10 U	10 U	10 U	10 U
1,1-Dichloroethane	5	10 U	10 U	10 U	10 U
1,1-Dichloroethene	5	10 U	10 U	10 U	10 U
1,2,3-Trichlorobenzene	5*	10 U	NA	10 U	NA
1,2,4-Trichlorobenzene	5	10 U	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane	0.04	NA	10 U	NA	10 U
1,2-Dibromoethane		NA	10 U	NA	10 U
1,2-Dichlorobenzene	3	10 U	10 U	10 U	10 U
1,2-Dichloroethane	0.6	10 U	10 U	10 U	10 U
1,2-Dichloropropane	1	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	3	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	3	10 U	10 U	10 U	10 U
2-Chlorotoluene	5*	10 U	NA	10 U	NA
2-Hexanone	50*	10 U	10 U	10 U	10 U
4-Chlorotoluene	5*	10 U	NA	10 U	NA
Acetone		15 U	10 U	15 U	10 U
Benzene	1	10 U	10 U	10 U	10 U
Bromodichloromethane	50	10 U	10 U	10 U	10 U
Bromoform	50*	10 U	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U	10 U
Carbon Disulfide	60	10 U	10 U	10 U	10 U
Carbon Tetrachloride	5	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U
Chloromethane		10 U	10 U	10 U	10 U
cis 1,2-Dichloroethene	5	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	0.4	10 U	10 U	10 U	10 U
Cyclohexane		NA	10 U	NA	10 U
Dibromochloromethane	5	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	5	10 U	10 U	10 U	10 U
Ethylbenzene	5	10 U	10 U	10 U	10 U
Isopropylbenzene	5	NA	10 U	NA	10 U
m,p-Xylenes	5	10 U	NA	10 U	NA
Methyl acetate		NA	10 U	NA	10 U
Methyl Ethyl Ketone	50	10 U	10 U	10 U	10 U
Methyl isobutyl ketone		10 U	10 U	10 U	10 U
Methylcyclohexane		NA	10 U	NA	10 U
Methylene Chloride	5	10 U	10 U	10 U	10 U
Methyl-tert butyl ether	10	10 U	10 U	10 U	10 U
o-Xylene	5	10 U	NA	10 U	NA
Styrene	5	10 U	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U	10 U
Toluene	5	10 U	10 U	10 U	10 U
trans 1,2-Dichloroethene	5	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	0.4	10 U	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U	10 U
Trichlorofluoromethane	5	10 U	10 U	10 U	10 U
Vinyl Acetate		10 U	NA	10 U	NA
Vinyl Chloride	2	10 U	10 U	10 U	10 U
Xylenes, Total		NA	10 U	NA	10 U

U - Analyte not detected at indicated quantitation limit.
J - Estimated.
NA - Not Analyzed

Table 3-2
Groundwater Sample Results - VOCs
Tioga Casting Site
NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-5 4/2/2009 ug/L	MW-7 4/2/2009 ug/L	MW-8 4/2/2009 ug/L
1,1,1-Trichloroethane	5	10 U	10 U	10 U
1,1,2,2,-Tetrachloroethane	5	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	NA	NA	NA
1,1,2-Trichloroethane	1	10 U	10 U	10 U
1,1-Dichloroethane	5	10 U	10 U	10 U
1,1-Dichloroethene	5	10 U	10 U	10 U
1,2,3-Trichlorobenzene	5*	10 U	10 U	10 U
1,2,4-Trichlorobenzene	5	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane	0.04	NA	NA	NA
1,2-Dibromoethane		NA	NA	NA
1,2-Dichlorobenzene	3	10 U	10 U	10 U
1,2-Dichloroethane	0.6	10 U	10 U	10 U
1,2-Dichloropropane	1	10 U	10 U	10 U
1,3-Dichlorobenzene	3	10 U	10 U	10 U
1,4-Dichlorobenzene	3	10 U	10 U	10 U
2-Chlorotoluene	5*	10 U	10 U	10 U
2-Hexanone	50*	10 U	10 U	10 U
4-Chlorotoluene	5*	10 U	10 U	10 U
Acetone		15 U	15 U	15 U
Benzene	1	10 U	10 U	10 U
Bromodichloromethane	50	10 U	10 U	10 U
Bromoform	50*	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U
Carbon Disulfide	60	10 U	10 U	10 U
Carbon Tetrachloride	5	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U
Chloromethane		10 U	10 U	10 U
cis 1,2-Dichloroethene	5	10 U	10 U	10 U
cis-1,3-Dichloropropene	0.4	10 U	10 U	10 U
Cyclohexane		NA	NA	NA
Dibromochloromethane	5	10 U	10 U	10 U
Dichlorodifluoromethane	5	10 U	10 U	10 U
Ethylbenzene	5	10 U	10 U	10 U
Isopropylbenzene	5	NA	NA	NA
m,p-Xylenes	5	10 U	10 U	10 U
Methyl acetate		NA	NA	NA
Methyl Ethyl Ketone	50	10 U	10 U	10 U
Methyl isobutyl ketone		10 U	10 U	10 U
Methylcyclohexane		NA	NA	NA
Methylene Chloride	5	10 U	10 U	10 U
Methyl-tert butyl ether	10	10 U	10 U	10 U
o-Xylene	5	10 U	10 U	10 U
Styrene	5	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U
Toluene	5	10 U	4 J	10 U
trans 1,2-Dichloroethene	5	10 U	10 U	10 U
trans-1,3-Dichloropropene	0.4	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U
Trichlorofluoromethane	5	10 U	10 U	10 U
Vinyl Acetate		10 U	10 U	10 U
Vinyl Chloride	2	10 U	10 U	10 U
Xylenes, Total		NA	NA	NA

U - Analyte not detected at indicated quantitation limit.
J - Estimated.
NA - Not Analyzed

Table 3-3
Groundwater Sample Results - SVOCs
Tioga Casting Site
NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-1R 4/2/2009 ug/L	MW-2 4/2/2009 ug/L	MW-3 4/2/2009 ug/L	MW-3D 4/2/2009 ug/L	MW-4 4/2/2009 ug/L	MW-5 4/2/2009 ug/L	MW-7 4/2/2009 ug/L	MW-8 4/2/2009 ug/L
1,2,4-Trichlorobenzene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
1,2-dichlorobenzene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
1,3-dichlorobenzene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
1,4-dichlorobenzene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2,4,5-trichlorophenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2,4,6-trichlorophenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2,4-dichlorophenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2,4-dimethylphenol	1	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2,4-Dinitrotoluene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2,6-Dinitrotoluene	5	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2-chloronaphthalene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2-chlorophenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2-methyl-4,6-dinitrophenol		23 U	24 U	22 U	24 U	24 U	23 U	23 U	22 U
2-Methylnaphthalene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2-methylphenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2-nitroaniline		23 U	24 U	22 U	24 U	24 U	23 U	23 U	22 U
2-nitrophenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
3,3'-dichlorobenzidine		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
3-nitroaniline		23 U	24 U	22 U	24 U	24 U	23 U	23 U	22 U
4-bromophenyl phenyl ether		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
4-chloro-3-methylphenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
4-chloroaniline		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
4-chlorophenyl phenyl ether		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
4-methylphenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
4-nitroaniline		23 U	24 U	22 U	24 U	24 U	23 U	23 U	22 U
4-nitrophenol		23 U	24 U	22 U	24 U	24 U	23 U	23 U	22 U
acenaphthene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
acenaphthylene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
anthracene	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
benzo(a)anthracene	0.002	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
benzo(a)pyrene	ND	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
benzo(b)fluoranthene	0.002	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
benzo(g,h,i)perylene	0.002	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
benzo(k)fluoranthene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U

U - Analyte not detected at indicated quantitation limit.

ND - Non-detect.

Table 3-3
Groundwater Sample Results - SVOCs
Tioga Casting Site
NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-1R 4/2/2009 ug/L	MW-2 4/2/2009 ug/L	MW-3 4/2/2009 ug/L	MW-3D 4/2/2009 ug/L	MW-4 4/2/2009 ug/L	MW-5 4/2/2009 ug/L	MW-7 4/2/2009 ug/L	MW-8 4/2/2009 ug/L
benzyl alcohol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
bis(2-chloroethoxy)methane		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
bis(2-chloroethyl)ether		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
bis(2-chloroisopropyl)ether		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
bis(2-ethylhexyl)phthalate	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
butyl benzyl phthalate	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Carbazole		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
chrysene	0.002	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
dibenzo(a,h)anthracene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Dibenzofuran		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Diethyl phthalate	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
dimethylphthalate	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
di-n-butyl phthalate	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
di-n-octyl phthalate	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
fluoranthene	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
fluorene	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Hexachlorobenzene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Hexachlorobutadiene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Hexachlorocyclopentadiene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Hexachloroethane		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
indeno(1,2,3-cd)pyrene	0.002	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Isophorone		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Naphthalene	10	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Nitrobenzene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
N-nitros-di-n-propylamine		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
N-nitrosodiphenylamine	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
pentachlorophenol	1	23 U	24 U	22 U	24 U	24 U	23 U	23 U	22 U
phenanthrene	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
phenol	1	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
pyrene	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U

U - Analyte not detected at indicated quantitation limit.

ND - Non-detect.

Table 3-4
Summary of Groundwater Sample Results - Metals
Tioga Castings Site
Owego, New York
NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-1R 4/13/2009 ug/L	MW-1R 3/18/2010 ug/L	MW-2 8/2/2007 ug/L	MW-2 7/17/2008 ug/L	MW-2 4/13/2009 ug/L	MW-2 3/19/2010 ug/L	MW-3 4/13/2009 ug/L	MW-3 3/19/201 ug/L
Aluminum		1050	41.0 BE	60.2 B	23.6 U	632	57.8 BE	195.0	39.8
Antimony	3	6.7 U	6.8 U	5.6 U	5.5 U	6.7 U	6.8 U	6.7 U	6.8
Arsenic	25	3.0 U	5.6 U	4.2 U	3.7 U	3.0 U	5.6 U	3.0 U	5.6
Barium	1000	59.8 B	51.9 BE	61.6 B	54.3 B	102	48.8 BE	38.3 B	46.5
Beryllium	3*	0.5 U	0.2 BE	0.40 B	0.3 U	0.5 U	0.2 U	0.5 U	0.2
Cadmium	5 [10]	0.3 U	0.6 BE	0.36 U	0.3 U	0.3 U	0.3 BE	0.3 U	0.3
Calcium		61200	63700	54500 E	48800	50900	51400	42900	51300
Chromium	50 [50]	10.4 B	0.9 U	0.84 U	0.9 U	5.8 B	0.9 U	3.5 B	0.9
Cobalt		3.8 U	0.6 U	1.1 B	1.1 U	3.8 U	0.6 U	3.8 U	0.6
Copper	200	181	1.3 U	1.3 U	1.3 U	105	1.3 U	71.3	1.3
Iron	300	1410	48.9 BE	19.3 U	19 U	532	28.6 BE	144 B	19.3
Lead	25 [25]	1.4 U	3.0 U	2.9 U	2.9 U	1.4 U	3.0 U	1.5 B	3.0
Magnesium		11500	12100	8650 E	7670	8320	8290	7450	9270
Manganese	300	106	16.5	2.8 B	8.2 B	211	54.2	14.0 B	0.3
Mercury	0.7	NA	0.1 U	0.12 U	0.1 U	NA	0.1 U	NA	0.1
Molybdenum		5.5 B	NA	NA	NA	5.0 U	NA	5.0 U	NA
Nickel	100	6.9 B	1.4 BE	1.2 U	1.0 U	7.3 B	1.3 U	4.2 B	1.3
Potassium		2070 B	1640 BE	4710 BE	3900 B	4550	4550 BE	1430 B	1890
Selenium	10	11.4 U	8.7 U	6.1 U	6.1 U	11.4 U	8.7 U	11.4 U	8.7
Silver	50	2.2 U	1.2 U	1.7 B	1.3 U	2.2 U	1.2 U	2.2 U	1.2
Sodium	20000	25600	25100	36100 E	18700	25200	24000	17000	16900
Thallium	0.5*	3.0 U	10.2 U	7.0 U	5.9 U	3.0 U	10.2 U	3.0 U	10.2
Tin		5.0 U	NA	NA	NA	5.0 U	NA	5.0 U	NA
Titanium		8.8 B	NA	NA	NA	5.0 U	NA	5.0 U	NA
Vanadium		4.7 U	1.1 U	0.80 B	1.0 U	4.7 U	1.1 U	4.7 U	1.1
Zinc	2000*	13.5 U	4.1 BE	3.6 U	3.6 U	13.5 U	2.3 BE	13.5 U	1.5

* - NYSDEC Guidance Value.

NA - Not analyzed.

U - Analyte not detected.

B - Greater than MDL but less than RL.

MDL - Method detection limit.

RL - Reporting limit.

E - Estimated value.

[25] - Site-specific cleanup goal.

Table 3-4

Summary of Groundwater Sample Results - Metals

Tioga Castings Site

Owego, New York

NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	0	MW-3D 4/13/2009 ug/L	MW-3D 3/18/2010 ug/L	MW-4 8/2/2007 ug/L	MW-4 7/17/2008 ug/L	MW-4 4/13/2009 ug/L	MW-4 3/18/2010 ug/L	MW-5 8/2/2007 ug/L
Aluminum		U	668	39.8 U	40.0 U	32.6 B	754	39.8 U	79.0 B
Antimony	3	U	6.7 U	6.8 U	5.6 U	5.5 U	6.7 U	6.8 U	5.6 U
Arsenic	25	U	3.0 U	5.6 U	4.2 U	3.7 U	3.0 U	5.6 U	4.2 U
Barium	1000	BE	39.2 B	45.3 BE	40.0 B	38.3 B	60.9 B	42.6 BE	56.4 B
Beryllium	3*	U	0.5 U	0.2 U	0.27 U	0.3 U	0.5 U	0.2 U	0.51 B
Cadmium	5 [10]	U	0.3 U	0.3 U	0.36 U	0.7 B	0.3 U	0.5 BE	0.36 U
Calcium			42300	50000	42700 E	42400	40500	48000	44400 E
Chromium	50 [50]	U	3.8 B	0.9 U	0.84 U	0.9 U	3.4 B	0.9 U	0.84 U
Cobalt		U	3.8 U	0.6 U	0.89 U	1.1 U	3.8 U	0.6 U	0.89 U
Copper	200	U	56.6	1.3 U	1.4 B	1.3 U	49.7	1.3 U	1.3 U
Iron	300	U	558	19.3 U	47.6 B	34 B	667	22.2 BE	19.3 U
Lead	25 [25]	U	1.4 U	3.0 U	2.9 U	2.9 U	1.4 U	3.0 U	2.9 U
Magnesium			7490	9120	8190 E	7830	7080	8820	7600 E
Manganese	300	BE	40.3 B	0.9 BE	0.79 B	1.2 B	79.4	1.5 BE	0.90 B
Mercury	0.7	U	NA	0.1 U	0.12 U	0.1 U	NA	0.1 U	0.12 U
Molybdenum			5.0 U	NA	NA	NA	5.0 U	NA	NA
Nickel	100	U	3.9 B	1.3 U	1.2 U	1.0 U	4.5 B	1.3 U	1.2 U
Potassium		BE	1550 B	1610 BE	1020 BE	1860 B	1190 B	1130 BE	3330 BE
Selenium	10	U	11.4 U	8.7 U	6.1 U	6.1 U	11.4 U	8.7 U	6.1 U
Silver	50	U	2.2 U	1.2 U	1.0 U	1.3 U	2.2 U	1.2 U	1.6 B
Sodium	20000		17300	16900	12000 E	12800	15200	16100	14200 E
Thallium	0.5*	U	3.0 U	10.2 U	7.0 U	5.9 U	3.0 U	10.2 U	7.0 U
Tin			5.0 U	NA	NA	NA	5.0 U	NA	NA
Titanium			5.0 U	NA	NA	NA	5.0 U	NA	NA
Vanadium		U	4.7 U	1.1 U	0.78 U	1.0 U	4.7 U	1.1 U	0.80 B
Zinc	2000*	U	13.5 U	1.5 U	3.6 U	3.6 U	13.5 U	1.5 U	3.6 U

* - NYSDEC Guidance Value.

NA - Not analyzed.

U - Analyte not detected.

B - Greater than MDL but less than RL.

MDL - Method detection limit.

RL - Reporting limit.

E - Estimated value.

[25] - Site-specific cleanup goal.

Table 3-4
Summary of Groundwater Sample Results - Metals
Tioga Castings Site
Owego, New York
NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-5 7/17/2008 ug/L	MW-5 4/13/2009 ug/L	MW-5 3/18/2010 ug/L	MW-7 4/13/2009 ug/L	MW-7 3/18/2010 ug/L	MW-8 4/13/2009 ug/L	MW-8 3/18/2010 ug/L
Aluminum		28.9 B	102 B	39.8 U	1810	140 BE	6190	39.8 U
Antimony	3	5.5 U	6.7 U	6.8 U	6.7 U	6.8 U	6.7 U	6.8 U
Arsenic	25	3.7 U	3.0 U	5.6 U	3.0 U	5.6 U	3.0 U	5.6 U
Barium	1000	55.7 B	47.1 B	47.4 BE	165	133 BE	219	64.6 BE
Beryllium	3*	0.3 U	0.5 U	0.2 U	0.5 U	0.2 U	0.5 U	0.2 U
Cadmium	5 [10]	0.3 U	0.3 U	0.3 U	0.3 U	0.4 BE	0.3 U	0.3 BE
Calcium		45200	44000	45100	64300	85600	52400	52600
Chromium	50 [50]	0.9 U	3.9 B	0.9 U	10.4 B	0.9 U	8.9 B	0.9 U
Cobalt		1.1 U	3.8 U	0.6 U	5.8 B	0.6 U	3.8 U	0.6 U
Copper	200	1.3 U	89.3	1.3 U	178	3.1 BE	66.3	1.3 U
Iron	300	19 U	246	19.3 U	2880	192	4530	40.2 BE
Lead	25 [25]	2.9 U	6.0 B	3.0 U	30.2 B	3.0 U	17.3 B	3.0 U
Magnesium		7570	7440	7330	10000	13600	8740	8870
Manganese	300	0.7 B	10.1 B	0.8 BE	989	115	524	2.7 BE
Mercury	0.7	0.1 U	NA	0.1 U	NA	0.1 U	NA	0.1 U
Molybdenum		NA	5.0 U	NA	5.0 B	NA	5.0 U	NA
Nickel	100	1.4 B	5.0 B	1.3 U	10.6 B	2.8 BE	9.5 B	1.3 U
Potassium		3340 B	2880 B	3530 BE	4510	5190	3770	2440 BE
Selenium	10	6.1 U	11.4 U	8.7 U	11.4 U	8.7 U	11.4 U	8.7 U
Silver	50	1.3 U	2.2 U	1.2 U	2.2 U	1.2 U	2.2 U	1.2 U
Sodium	20000	15400	13300	8320	57500	58900	26700	23300
Thallium	0.5*	5.9 U	3.0 U	10.2 U	3.0 U	10.2 U	3.0 U	10.2 U
Tin		NA	5.0 U	NA	5.0 U	NA	5.0 U	NA
Titanium		NA	5.0 U	NA	5.0 U	NA	34.4 B	NA
Vanadium		1.0 U	4.7 U	1.1 U	7.2 B	1.1 U	9.8 B	1.1 U
Zinc	2000*	3.6 U	13.5 U	3.6 BE	40.4 B	10.4 BE	40.2 B	3.0 BE

* - NYSDEC Guidance Value.

NA - Not analyzed.

U - Analyte not detected.

B - Greater than MDL but less than RL.

MDL - Method detection limit.

RL - Reporting limit.

E - Estimated value.

[25] - Site-specific cleanup goal.

Table 4-1
 Work Assignment Budget
 Tioga Castings Site
 NYSDEC Site Number 7-54-012

Work Assignment Budget	
Item	Cost
Labor	\$32,491
Indirect Costs	\$56,957
<i>Direct Non-salary Costs</i>	\$7,606
Subcontractor Fees	
<i>Laboratory (soil and groundwater)</i>	\$20,465
<i>Field Assistance-Groundwater Sampling</i>	\$6,906
<i>Laboratory (air)</i>	\$1,301
<i>Field Assistance-Air Sampling</i>	\$2,099
<i>Drilling (hollow-stem auger)</i>	\$9,726
<i>Drilling (direct-push)</i>	\$4,034
<i>Landfill Liner Repair</i>	\$2,178
<i>IDW Disposal</i>	\$1,303
Subcontract Management Fee	\$2,335
Fixed Fees	\$8,945
Total	\$156,346

Actual Project Expenses	
<i>2007</i>	\$8,697
<i>2008</i>	\$46,777
<i>2009</i>	\$16,220
Total Project Expenses	\$71,694

Remaining Budget	\$84,652

Note:
 Work Assignment Budget information from 2.11 forms

Table 4-2
Opinion of Probable Cost
Tioga Castings Site
NYSDEC Site Number 7-54-012

Periodic Review Recommendations	
Item	Cost
Rodent removal (Five site visits by rodent removal service @ \$80/visit)	\$400
Removal and disposal of brush and woody vegetation on landfill and interior of perimeter fence	\$3,000
Site survey by NYS Licensed Surveyor	\$3,000
Update site maps	\$1,500
Field oversight and travel for site survey and vegetation removal (3 days)	\$1,200
(A) Sub-total	\$9,100

Anticipated Costs	
	Cost
2010 Calendar Year (O&M, sampling, reporting, and oversight based on CY 2009 + 3%)	\$16,707
Monitoring well installation (Proposed monitoring well MW-6)	\$4,000
IDW Disposal	\$1,000
Contingency (+15%)*	\$2,506
(B) Sub-total	\$24,213

Opinion of Probable Cost (A+B)	\$33,313

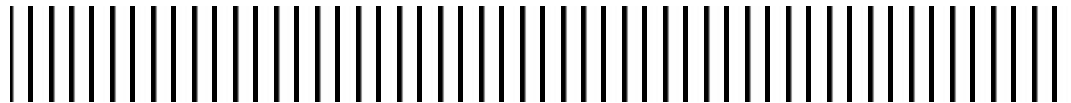
(C) Remaining Work Assignment Funds	\$84,652

Remaining Funds (C-(A+B))	\$51,339

* - Based on USEPA Guide to Developing and Documenting Cost Estimates During the Feasibility Study, where Scope Contingency range is 10% to 25%.

Appendix A

Record of Decision (NYSDEC, 1995)





TECHNOLOGY SECTION R&D File

Department of Environmental Conservation

Division of Hazardous Waste Remediation

Record of Decision

**Tioga Castings Site
Village of Owego, Tioga County
Site Number 7-54-012**

March 1995

TECHNOLOGY
SECTION
COPY

New York State Department of Environmental Conservation
GEORGE PATAKI, *Governor* MICHAEL ZAGATA, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Tioga Castings Inactive Hazardous Waste Site

Village of Owego, Tioga County, New York

Site No. 9-07-010

Funding Source: 1986 Environmental Quality Bond Act

Statement of Purpose and Basis

This Record of Decision presents the selected remedial action for the Tioga Castings Inactive Hazardous Waste Disposal Site which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40 CFR Part 300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Tioga Castings Inactive Hazardous Waste Site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this Record of Decision, may present a current or potential threat to public health and the environment.

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the site and the criteria identified for the evaluation of alternatives, the NYSDEC has selected a remedy to consolidate contaminated material and place it on the existing on-site landfill followed by the placement of a low permeability cover over the landfill area.

The major elements of the selected remedy include:

1. A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program. Uncertainties identified during the RI/FS will be resolved.
2. Maintaining a fence around the landfill to limit site access as well as seeking deed restrictions to prevent site development activities in areas where contaminated material is present.

3. Consolidation of the on-site and off-site soils and waste piles that contain material above the cleanup goals for the site. These materials will be placed on the existing on-site landfill.
4. Placement of a low permeability cover over the on-site landfill.
5. Operation and maintenance of the remedy after the remedial construction is complete.
6. Monitoring of groundwater. This will be done to determine if the chosen alternative was successful in reducing the amount of infiltration, through contaminated material, to an amount which will not have an adverse impact upon groundwater quality.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedial action selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that employ treatment that reduces toxicity, mobility, or volume as principal element.

3/20/95
Date

Michael J. O'Toole Jr.
Michael J. O'Toole
Director, Division of Hazardous Waste Remediation
New York State Department of Environmental
Conservation

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Glossary of Acronyms

CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
ECL	Environmental Conservation Law
FWIA	Fish and Wildlife Impact Analysis
NA	Not Available
NCP	National Contingency Plan
ND	Not Detected
NYCRR	N.Y. Codes, Rules and Regulations
NYSDEC	N.Y. State Department of Environmental Conservation
NYSDOH	N.Y. State Department of Health
O&M	Operation and Maintenance
ppb	parts per billion
ppm	parts per million
PRAP	Proposed Remedial Action Plan
RI/FS	Remedial Investigation and Feasibility Study
ROD	Record of Decision
SCG	Standards, Criteria, and Guidance
SPDES	State Pollution Discharge Elimination System
TCLP	Toxic Characteristic Leaching Procedure
TWA	Time-Weighted Average

Notice

The mention of any trade names or commercial products in this document does not constitute any endorsement or recommendation for use by the New York State Department of Environmental Conservation.

RECORD OF DECISION

TIOGA CASTINGS SITE Owego(V), Tioga County, New York Site No. 7-54-012 January, 1995

SECTION 1: INTRODUCTION

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has selected a remedial program for the Tioga Castings inactive hazardous waste site. The main elements of the remedy include the consolidation of contaminated soils into the on-site landfill and the placement of an impermeable cap over the landfill.

This remedy will address the threat to human health and the environment created by the presence of elevated levels of metals (mainly lead and cadmium) in the soils at, as well as adjacent to, the site. This Record of Decision (ROD) identifies the selected remedy, summarizes the other alternatives considered, and discusses the rationale for this selection.

SECTION 2: SITE LOCATION AND DESCRIPTION

The Tioga Castings (Site No. 7-54-012) site is approximately 7 acres in size and is located on Foundry Street, off of McMaster Street, in the Village of Owego, Tioga County (see Figure 1 on next page).

The former foundry building occupied the front (eastern) portion of the facility while the former landfill can be found at the western edge of the former facility. The former landfill is approximately one acre in size. The site is located in a residential/ commercial area, adjacent to the Owego-Apalachin Middle School (see Figure 2 for the site plan). The Owego Creek is located approximately one-half mile to the west and the Susquehanna River is located approximately one-half mile to the south. During the installation of groundwater monitoring wells during site investigations, geological sampling was conducted at 5 foot intervals down to a depth of approximately 17 feet. Materials encountered below the site include silt, sand, and gravel.

Groundwater below the site is generally encountered at approximately 10 to 15 feet below the ground surface. The first round of groundwater levels were 2 to 5 feet below ground surface. However, these levels were taken in April 1993 when groundwater was elevated as a result of snow melt and heavy rain. Groundwater flow direction is generally to the south-southeast.

The Weitsman Property site is a class 2a site located approximately 1500 feet south of the Tioga Castings site (On New York's registry of inactive hazardous waste disposal sites, "2a" is a temporary classification assigned to sites that have insufficient data for inclusion in any of the other classifications).

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

The Tioga Castings facility began operations on site between 1945 and 1947, and continued through 1988. The facility operated a cupola type foundry for the production of gray iron castings. Operations at the facility included smelting of pig iron, scrap iron (including engine blocks), coke, limestone and the use of phenol-formaldehyde treated sand to cast the iron. The process produced solid wastes which included sand molds, bentonite, fly ash, cast iron grindings, and fine baghouse ash/cupola dust. These wastes were reportedly disposed of at an off-site landfill until March 1979. The facility then operated an on site landfill for the disposal of its foundry wastes. The facility ceased operations in 1988. The following materials were left on site; sand casts, various drums, a number of one-ton plastic lined bags of cupola dust as well as the material contained in the on-site landfill. On July 11, 1989, the facility had a fire which destroyed most of the foundry structure and left the remaining building structurally unsafe.

EP Toxicity analyses of the cupola dust have shown it to be a hazardous waste as a result of the presence of lead and cadmium. An EP Toxicity analysis is a procedure which determines the ability of the soil to "leach" contaminants; that is, it determines how readily the contamination in the soil will contaminate water that passes through it. This is important in determining potential impacts to groundwater and in determining the waste's regulatory status as a hazardous waste. Total lead (or cadmium) analyses, on the other hand, simply determines how much lead (or cadmium) is present in the soil.

Due to the conditions at the site, two Interim Remedial Measures (IRMs) were carried out to address potential physical/chemical hazards (see Section 4.2 for the definition of an IRM). In the fall of 1989, a perimeter fence was erected to limit access to the property. By early 1990, the drums, which had been left on site, were removed from the site and disposed of properly.

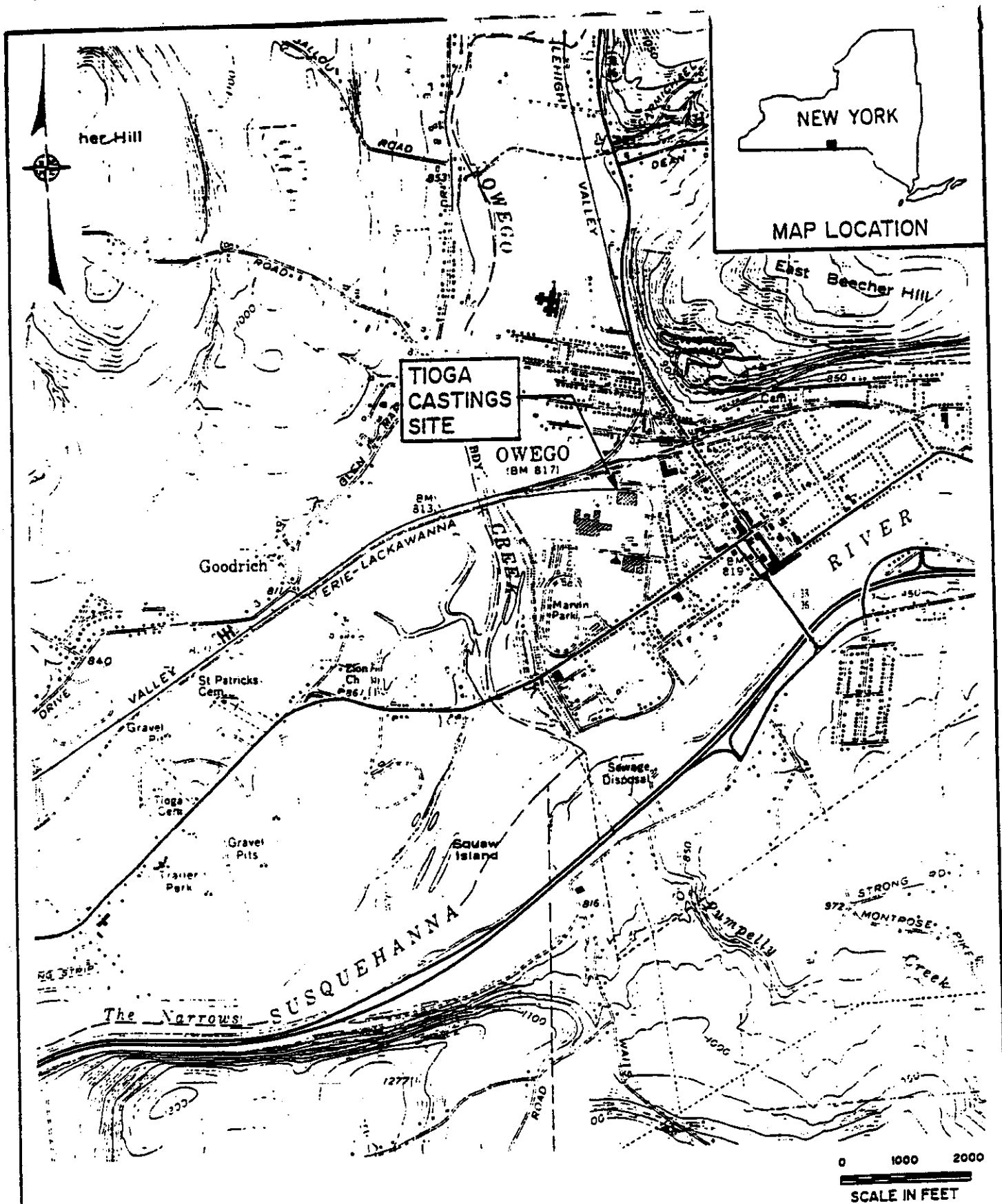
In addition, analytical results from a landfill surface soil sample showed a total lead concentration of 15,000 ppm (as discussed in Section 6, the cleanup goal for lead has been identified as 250 ppm). A temporary cover was placed over the landfill in August 1991 in order to minimize the potential for the erosion (wind, surface water) of this material.

3.2: Previous Investigations/Actions:

(see Figure 3 for a map of previous soil sample locations/results)

August 1989 - Thirteen surface soil samples were collected, from the grassy area north of the Owego-Apalachin middle school, and analyzed for total lead and cadmium as well as for EP Toxicity. Cadmium was detected at two locations at 3.7 ppm; lead was present at concentrations ranging from 43 - 960 ppm; the results of the EP Toxicity analyses did not indicate the presence of hazardous waste.

Sept. 1989 - Thirty one additional surface soil samples were collected from the grassy area north of the school, six from the former landfill area, and five from northeast of the former facility. All of the samples were analyzed for lead. Total lead concentrations in the schoolyard were between 51 -350 ppm; west of the former landfill, levels were between 40 -50 ppm; northeast of the former foundry lead was present from 120 -270 ppm; and one surface soil sample from the former landfill indicated a lead concentration of 15,000 ppm.



SOURCE: USGS OWEGO, N.Y. QUADRANGLE

TIOGA CASTINGS SITE
OWEGO, NEW YORK

SITE LOCATION MAP

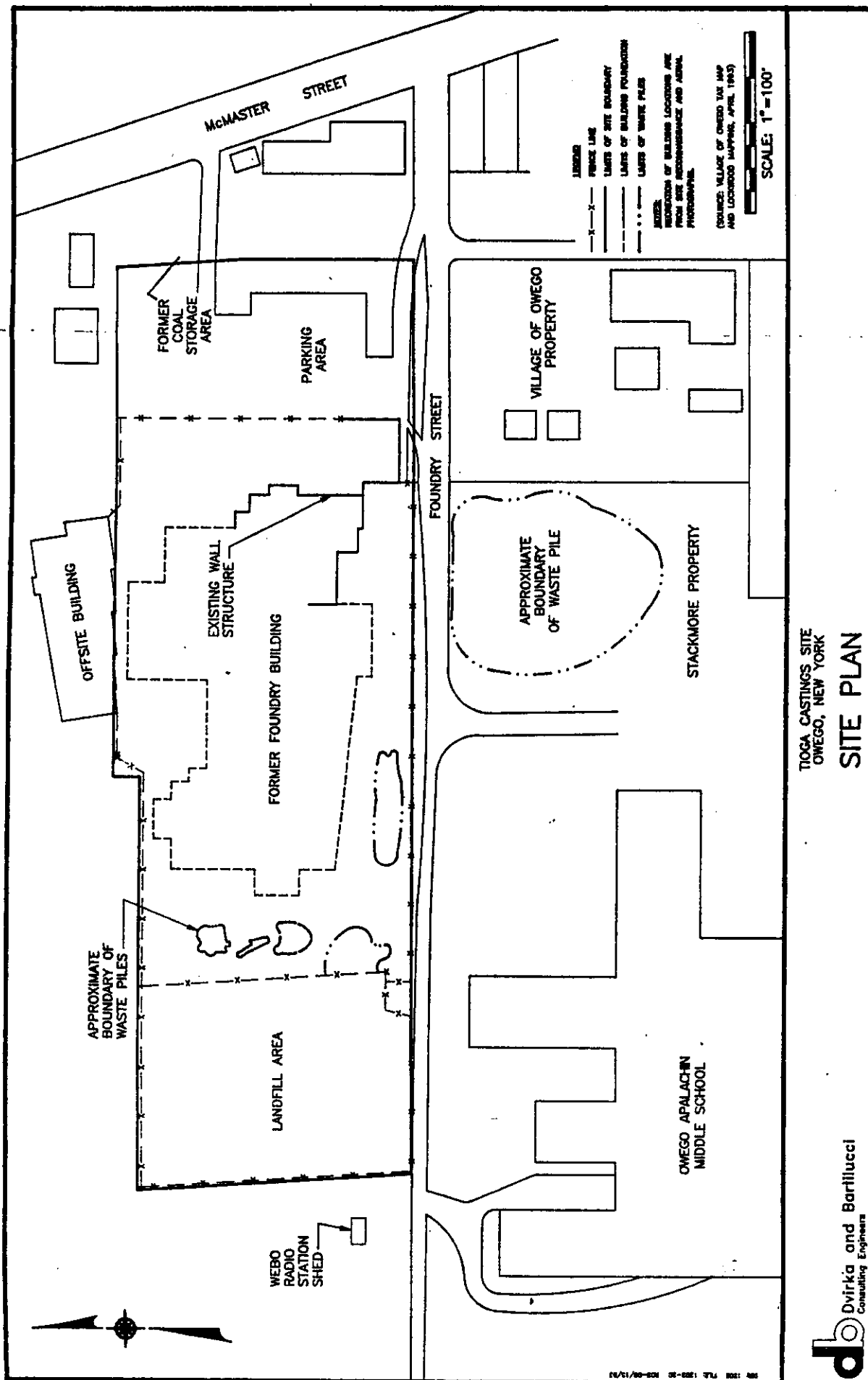


FIGURE 2

- Fall 1989 - A perimeter fence is placed around the former foundry to limit access.
- Feb. 1990 - An IRM, to remove waste material abandoned at the site, was completed. The IRM was initiated by the responsible party, however it became necessary for the State to complete the work.
- July 1991 - Prior to the demolition of the building, grid sampling was conducted to characterize the dust that blanketed the floor of the former foundry building. Thirty-one samples were collected and analyzed for lead. Twenty-eight of the samples had concentrations at or below 210 ppm; three of the samples had elevated concentrations of lead (1,400, 9,300, and 28,000 ppm). Dust from these areas was containerized and disposed of prior to the demolition of the building.
- August 1991 - An IRM was conducted to place a temporary cap over the landfill area (see Section 4.2). Since this work involved heavy truck traffic along Foundry Street (a dirt road), ten surface soil samples were collected from the roadway. The highest lead concentration detected was 400 ppm (eight of the samples indicated concentrations below 140 ppm).

3.3: Enforcement Status

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The Potential Responsible Party (PRP) for this site is the Tioga Castings Facility. On August 14, 1989, an order on consent between the PRP and the Department was signed (Index No. A702068909) which obligated the PRP to construct a perimeter fence around the site to restrict access and to remove hazardous waste abandoned on the property.

The PRP failed to carry out the RI/FS at the site when requested by the NYSDEC (the PRP was not financially able to perform the necessary work). After the remedy is selected, the PRP will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRP, the NYSDEC will evaluate the site for further action under the State Superfund. The PRP is subject to legal actions by the State for recovery of all response costs the State has incurred.

SECTION 4: SUMMARY OF SITE CHARACTERISTICS

In response to a determination that the presence of hazardous waste at the Site presents a significant threat to human health and the environment, the NYSDEC has recently completed a Remedial Investigation/Feasibility Study (RI/FS).

4.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site.

The RI was completed in two phases. The first phase field work was completed between April 5, 1993 and May 4, 1993. The second phase field work was carried out in December, 1993. A report entitled Phase I/Phase II Remedial Investigation has been prepared describing the field activities and findings of the RI in detail. The RI activities consisted of the following:

- On-site sampling of surface soils, subsurface soils, and sediments from floor drains.
- Off-site surface and subsurface soil sampling as well as the collection of background soil samples.
- Soil borings in the on-site landfill in order to characterize the fill material.
- The installation of groundwater monitoring wells to determine the impact this site is having on the groundwater.

To determine which media (soil, groundwater, etc.) are contaminated at levels of concern, the analytical data obtained from the RI were compared to environmental Standards, Criteria, and Guidance (SCGs, defined in Section 8.2 below). Groundwater, drinking water, and surface water SCGs identified for this site were based on NYSDEC Ambient Water Quality Standards and Guidance Values. For the evaluation and interpretation of soil and sediment analytical results, NYSDEC soil cleanup guidelines for the protection of groundwater, background conditions, and risk-based remediation criteria were used to develop remediation goals.

Based upon the results of the remedial investigation in comparison to the SCGs and potential public health and environmental exposure rates, certain areas and media of the site require remediation. These are summarized below. Complete information can be found in the RI Report.

Chemical concentrations are reported in parts per billion (ppb) or parts per million (ppm). For comparison purposes, SCGs are given for each medium.

Soil

Elevated levels of certain metals have been found in soils on site as well as adjacent to the site. The metals found at elevated concentrations include cadmium, lead, and chromium. Generally, lead and cadmium are the most predominant contaminants which will drive the remediation at this site. Figure 4 identifies areas where cleanup goals have been exceeded.

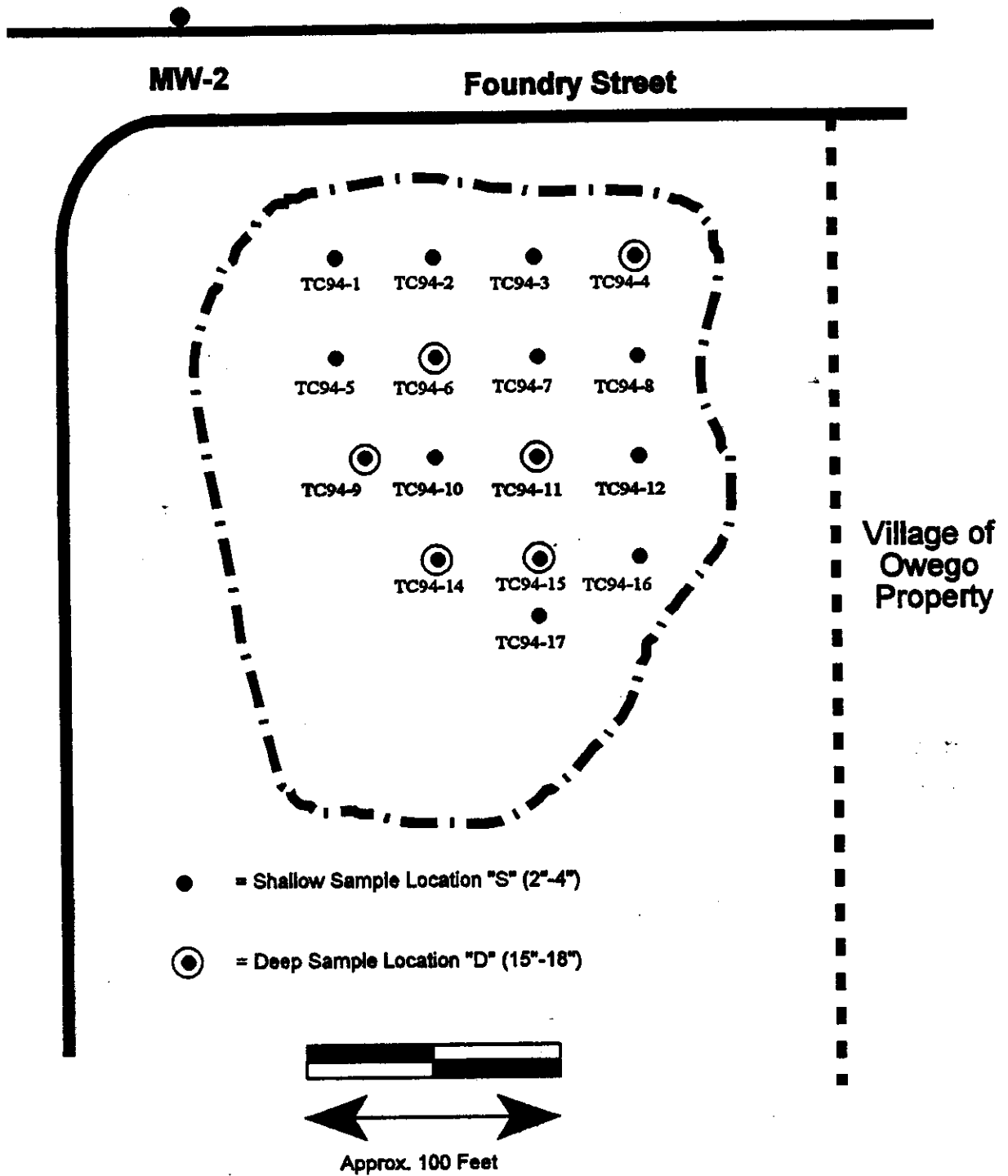
The analysis of on-site surface soil samples indicated lead concentrations from approximately 10 - 917 ppm with one exception (22,200 ppm). Subsurface soil sample results indicated lead concentrations from 15 - 2600 ppm; lead concentrations in off-site surface soil samples ranged from approximately 25 - 800 ppm. This site's cleanup level for lead has been set at 250 ppm (for surface soils).

The on-site surface soil results indicated cadmium concentrations from 0.4 - 3.7 ppm with one exception (48.6 ppm). Subsurface soil concentrations ranged from 0.35 - 3 ppm with one exception (5.6 ppm). Cadmium levels in off-site surface soils (except 8/94 samples, as summarized in the next paragraph) ranged from 0.2 - 3.4 ppm with one exception (9.5 ppm).

In August 1994, twenty two soil samples were taken from the waste piles located on the Stakmore property and were analyzed for total metals. The total cadmium concentrations ranged from 2 - 8 ppm, the total lead concentrations ranged from 90-240 ppm. Figure 5 identifies the locations of the samples taken from the Stakmore property.

During the RI, three subsurface soil samples collected from inside the landfill were analyzed for TCLP metals (the TCLP analysis is similar to, and has replaced, the EP Toxicity analysis previously discussed). Although the RI samples did not exceed TCLP regulatory levels, historical analyses for total lead indicate there is still material on site which would likely be classified as hazardous waste (i.e. samples from the surface of the

Figure 5
Stakmore Property
Sample Locations
August 10, 1994



landfill and from the south-central perimeter of the site indicated lead concentrations of 15,000 ppm and 22,200, respectively).

Sediment

There are floor drains and a septic tank present on site. Sediment samples were collected from these areas. Lead concentrations ranged from 7.6 - 410 ppm; cadmium was present at concentrations of 4.1 - 6.8 ppm.

Groundwater

As a part of the RI, five monitoring wells were installed around the perimeter of the site. Two rounds of groundwater samples were collected (April '93 and December '93). The results of these groundwater sampling events are summarized on Figure 6 and Table 1.

The analysis of groundwater samples indicated concentrations of site related contaminants above groundwater standards. In the first round of groundwater samples, one sample exceeded the 25 ug/l [ppb] standard for lead (26.7 ug/l). The results of the second round indicated that three of the five groundwater samples exceeded the standard for lead with concentrations of 26.8, 39.6, and 41.8 ug/l. Two of the samples exceeded the 10 ug/l standard for cadmium with concentrations of 12.8 and 14 ug/l.

Surface Water

There is no surface water near the site; the topography is very flat and surface drainage from the site is in the form of sheet flow/ infiltration.

4.2 Interim Remedial Measures:

Interim Remedial Measures (IRMs) are conducted at sites when a source of contamination or an exposure pathway can be effectively addressed before completion of the RI/FS.

Three IRMs were performed prior to the initiation of the RI/FS. A description of these IRMs can be found in the Site History (Section 3).

SECTION 5: SUMMARY OF SITE RISKS

5.1 Summary of Human Exposure Pathways:

An exposure pathway is the process by which an individual is exposed to a contaminant. The five elements of an exposure pathway are 1) the source of contamination; 2) the environmental media (e.g., soil, groundwater) and transport mechanisms; 3) the point of exposure; 4) the route of exposure (e.g., ingestion, inhalation); and 5) the receptor population. These elements of an exposure pathway may be based on past, present, or future events.

Completed pathways known to or that may exist at the site include:

- Dust could become airborne and migrate from the site. This would provide the potential for inhalation or ingestion of these materials.

- Although the perimeter fence limits access to the site there is potential for unauthorized access to the site. In addition, there are elevated levels of contaminants located outside the fenced area. As a result there is potential for skin contact and ingestion of contaminated soils.

The available information indicates that the residential population in the area of the site is using municipal water. Therefore, the ingestion of contaminated groundwater is currently not considered to be a complete pathway by which exposure could occur. During the remedial design, additional information will be gathered regarding water usage in the area of the site to confirm this indication.

5.2 Summary of Environmental Exposure Pathways:

The presence of contaminants in an ecosystem can result in a variety of effects on wildlife population, ranging from a reduction in population size to changes in the community structure. The area on and adjacent to this site is, for the most part, disturbed land which does not support an abundance of ecological organisms. In addition, there is a lack of surface water near the site minimizing the potential for uptake of contaminants by this route.

In the case of the Tioga Castings site, the pathways for potential contaminant exposure to wildlife would be limited to:

- Terrestrial animals burrowing through contaminated soils and waste piles.
- Animals feeding on the sparse vegetation which have accumulated contaminants.
- Animals drinking from any water which may pond, as a result of precipitation events, in areas associated with contaminated surface soils.

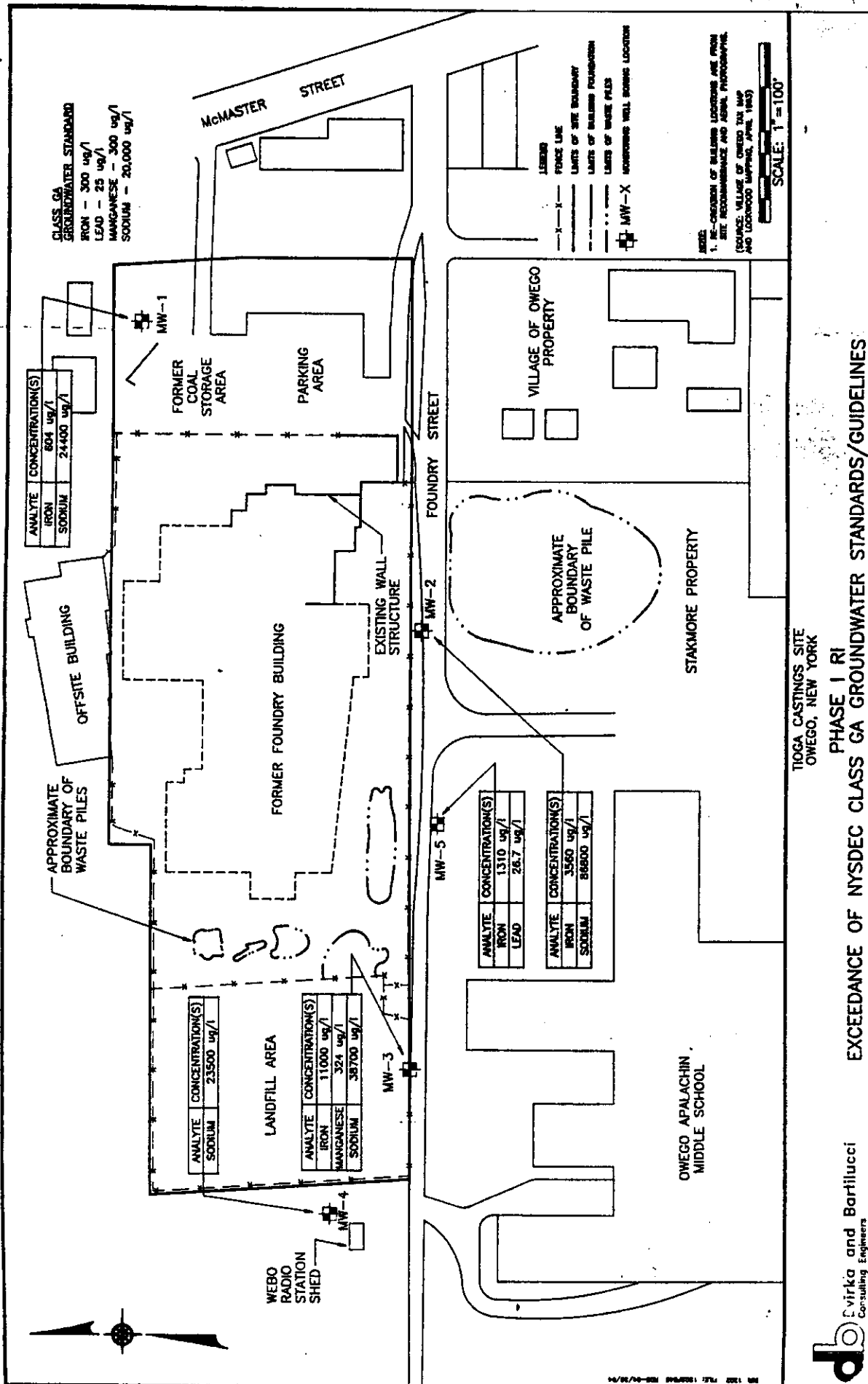
SECTION 6: REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR 375-1.10. These goals are established under the overall goal of protecting human health and the environment and meeting all Standards, Criteria, and Guidance (SCGs).

At a minimum, the remedy selected should eliminate or mitigate all significant threats to public health and the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- Prevent direct contact exposure (dermal absorption, inhalation and incidental ingestion) with waste piles/soils that have concentrations above the cleanup goals.
- Prevent or reduce the transport of contamination off site via surface runoff from areas where the surface material is contaminated.
- Prevent or greatly reduce the amount of precipitation infiltrating through contaminated soils and adversely impacting the groundwater.



TIOGA CASTINGS SITE
 OWEGO, NEW YORK
 PHASE I RI
 EXCEEDANCE OF NYSDEC CLASS GA GROUNDWATER STANDARDS/GUIDELINES

db Cvirka and Bartilucci
 Consulting Engineers

FIGURE 6

10
TIOGA CASTINGS SITE
REMEDIAL INVESTIGATION REPORT
PHASE II GROUNDWATER ANALYTICAL RESULTS

SAMPLE ID	TC93-MW1	TC93-MW2	TC93-MW3	TC93-MW4	TC93-MW5	NYSDEC CLASS GA
DATE OF COLLECTION	12/9/93	12/9/93	12/9/93	12/9/93	12/9/93	GROUNDWATER
DILUTION FACTOR	1	1	1	1	1	STANDARDS/GUIDELINES
PARAMETER	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
Cadmium	12.8	14	7	6	5	10
Lead	26.8	20.8	41.8	13.2	39.6	25

: Value exceeds standard/guideline

The December 1994 Remedial Investigation/ Feasibility Study (RI/FS) presented a cleanup goal of 4 ppm for cadmium in soils based on a qualitative risk assessment. Based on a more detailed evaluation (e.g., Marathon Battery Site) a cadmium cleanup level of 10 ppm was established. This level was found to be protective based on a very conservative scenario (e.g. for use as a vegetable garden).

The Department's cleanup goal for lead is generally established at a concentration of 400 ppm. However, due to the proximity of this site to the school and the small increase in volumes and costs, the cleanup goal for lead has been set at 250 ppm for surface soils.

The following are contaminant specific cleanup goals:

	SOIL	GROUNDWATER
cadmium	10 ppm	10 ppb
chromium	50 ppm	50 ppb
lead	250 ppm to 12" 500 ppm below 12"	25 ppb

SECTION 7: DESCRIPTION OF REMEDIAL ALTERNATIVES

Potential remedial alternatives for the Tioga Castings site were identified, screened and evaluated in the Feasibility Study. This evaluation is presented in the December 1994 Tioga Castings Feasibility Study Report. A summary of the detailed analysis follows.

The potential remedies are intended to address the contaminated soils and groundwater at the site.

Alternative 1: No Further Action

Present Worth:	\$ 120,000
Capital Cost:	\$ 0
Annual O&M:	\$ 7,700
Time to Construct:	NA

The no further action alternative recognizes the work that has been completed under the previously completed IRMs. It requires continued monitoring only, to evaluate the effectiveness of the remediation completed under the IRMs.

This is an unacceptable alternative as the site would remain in its present condition and the threat presented by contaminated soils/ groundwater would remain.

Alternative 2: Institutional Actions, Consolidation of Contaminated Soil in Existing On-site Landfill, Placement of Permeable Cover over Landfill, Operation and Maintenance (O&M)

Present Worth:	\$ 891,000
Capital Cost:	\$ 502,000
Annual O&M:	\$ 25,700
Time to Construct:	2 - 3 months

Institutional actions would include the maintenance of the security fencing as well as pursuing the placement of deed restrictions on the property. Under this alternative contaminated soils from on-site and off-site areas would be excavated and consolidated into the existing on-site landfill located along the western edge of the property. This material would be placed/graded in preparation for the placement of a permeable cover. The purpose of the cover would be to prevent direct contact as well as the erosion and off site transport of contaminated material.

Alternative 3: Institutional Actions, Consolidation of Contaminated Soils in Existing On-site Landfill, Placement of a Low Permeability Cover, O&M

Present Worth:	\$ 1,090,000
Capital Cost:	\$ 701,000
Annual O&M:	\$ 25,700
Time to Construct:	2 - 3 months

This alternative would be the same as Alternative 2 with the exception of the type of cover placed over the existing landfill. The low permeability cover would consist of a geomembrane placed on a preparatory/subgrade layer and covered by a protective barrier drainage layer and topsoil.

Alternative 4: Excavation of Contaminated Soil and Off-site Disposal

Present Worth:	\$ 3,746,000
Capital Cost:	\$ 3,457,000
Annual O&M:	\$ 18,700
Time to Construct:	approximately 6 months

This alternative would involve the excavation and off-site disposal of all contaminated materials (including the volume contained within the on site landfill). This material represents a volume of approximately 28,000 cubic yards.

Alternative 5: Institutional Actions, On-site Stabilization of Contaminated Material, Placement of this Material in the On-site Landfill, Permeable Cover on Landfill

Present Worth:	\$ 2,641,000
Capital Cost:	\$ 2,252,000
Annual O&M:	\$ 25,700
Time to Construct:	3 - 12 months

Included in this alternative are the institutional actions discussed in Alternative 2. Stabilization can be performed in-situ or ex-situ. For this site, ex-situ stabilization would be recommended due to the advantage of ensuring proper blending. Treatability studies would be conducted to determine the reagent most effective for the contaminated material present at the Tioga Castings site.

Ex-situ stabilization would involve the excavation and stockpiling of material. The approximate throughput utilizing a pugmill would be 4 - 100 cubic yards/hour (depending on the size of the equipment used). If continuous processing equipment is used, as much as 225 cubic yards/hour could be processed. After the stabilization process is complete, the material would be backfilled at the on-site landfill. A significant increase in volume (approximately 30%) would be expected.

Alternative 6: Institutional Actions, Groundwater Extraction and Treatment

Present Worth:	\$ 1,808,000
Capital Cost:	\$ 862,000
Annual O&M:	\$ 107,000
Time to Construct:	3 - 6 months
Duration of Operation:	10 years (estimate)

Included in this alternative are the institutional actions described in Alternative 2. This alternative would be designed to address groundwater contamination through extraction and treatment. This alternative could be implemented on its own or in combination with one of the other alternatives.

Pre-design pump tests would be required to design the groundwater recovery system. The extraction system would be designed to capture the inorganic plume migrating from the site. The extraction system would consist of five wells located along the southern and eastern perimeter of the site. Four extraction wells would be spaced 300 feet apart along the southern perimeter and one well would be placed at the approximate midpoint of the eastern property boundary. This spacing is based on an estimated 400 foot cone of influence that would be created by each pumping well at a withdrawal rate of 50 gallons/minute with 4 feet of drawdown. This withdrawal rate corresponds to a total of 360,000 gallons/day. An estimate of the length of time to remediate the plume cannot be determined without additional downgradient data. However, for the purpose of developing a cost estimate, an operating period of 10 years has been assumed.

The treatment system would consist of an on-site conventional removal process for metals. It is likely that reverse osmosis would be the most practical removal process for this site, however pre-design treatability studies would be performed prior to the selection of the treatment process. Since there are no sewers or surface water bodies adjacent to the site, discharge from the on site treatment of groundwater would be to a groundwater infiltration system.

SECTION 8: SUMMARY OF COMPARATIVE ANALYSIS OF THE ALTERNATIVES

The criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6 NYCRR Part 375). For each criterion, a brief description is provided followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is contained in the Feasibility Study.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

Alternative 4 would be the most protective of human health and the environment since all significantly contaminated soil would be removed off site with the assumption that there are no potential receptors of contaminated groundwater. Of the remaining alternatives, Alternative 5 would be most protective of human health and the environment since contaminated materials would be stabilized to prevent leaching of contaminants and covered to prevent direct contact. Alternatives 2 and 3 would eliminate surface soil exposure routes. Alternative 3 would provide an impermeable cover over the landfill area and would be more protective of groundwater. Alternative 2 would provide a permeable cover in the area of the landfill. Groundwater treatment would be performed only under Alternative 6. Alternative 1 would not provide any protection of human health or the environment for groundwater or contaminated soils at the site.

Alternatives 4 and 5 would be considered permanent remedies. Post-remediation measures would be taken for the other alternatives to monitor their effectiveness and maintain their integrity.

Alternative 1 would not achieve the remedial action objectives (RAOs) for soil or groundwater. Alternative 2 would achieve the RAOs for soil, but RAOs for groundwater would not be met for an extended period of time. Alternatives 3, 4, and 5 would achieve RAOs for soil. RAOs for groundwater would be achieved in a relatively short period of time (i.e. less than ten years) through source isolation/removal and natural attenuation. Alternative 6 would actively remediate the groundwater, but would not address the RAOs for soil.

Alternatives 2, 3, 4, and 5 would have potential short term risks, however those risks could be easily managed using proper control measures (i.e. dust suppression and erosion controls).

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet applicable environmental laws, regulations, standards, and guidance. The major SCGs for this site include:

- 6 NYCRR Part 360 Solid Waste Management Facilities
- TAGM HWR-92-4046 Determination of Soil Cleanup Objectives
- TAGM HWR-89-4031 Fugitive Dust Suppression and Particulate Monitoring
- 6 NYCRR Part 375 Inactive Hazardous Waste Disposal Site Remedial Program
- TOGS 2.1.2 Underground Injection/ Recirculation at Groundwater Remediation Sites
- 6/93 USEPA Guidance on Solidification/ Stabilization and its Application to Waste Materials
- Air Guide 1

Alternatives 4 and 5 would achieve soil SCGs at the site. All other alternatives that address soils, except no action, involve consolidation of site soils and placement of a cover. Although Alternatives 2 and 3 would take longer to attain SCGs for groundwater protection, they are protective of health and the environment. Alternative 3 has a greater potential for reducing leaching of contaminants to groundwater. As a result, Alternative 3 would attain SCGs for groundwater much sooner than Alternative 2. Alternative 6 would achieve SCGs for groundwater in the shortest period of time. As discussed above, Alternative 6 could be implemented on its own or in combination with one of the other alternatives.

3. Short-term Impacts and Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared with the other alternatives.

During construction activities associated with Alternatives 2, 3, 4 and 5, access to the site would be restricted to minimize the potential for exposure to contaminants. Site remediation workers would be protected through use of appropriate respiratory and dermal contact protection as required by the Occupational Safety and Health Administration (OSHA) and the site specific health and safety plan to be developed prior to remediation. The surrounding community would be protected through measures to prevent fugitive emissions, such as dust suppression and temporary cover, and runoff of contaminated excavated material, such as erosion controls. As long as these control measures are used properly, they are effective in minimizing any potential short-term impacts.

Alternative 6 would cause very limited disturbance of site soils and therefore would generate the least short-term impacts. Exclusive of Alternative 6, which is related to remediation of groundwater, Alternatives 2 and 3 would cause the least disturbance of site soils, and therefore, the least short-term impacts. Alternatives 4

and 5 would cause a great deal of disturbance of soils. Since Alternative 1 would require no activity, there would be no short-term impacts due to construction.

With the exception of attaining groundwater RAOs, all alternatives can be implemented in a short time (less than two years). Alternative 6 would directly treat groundwater and has the highest potential for achieving groundwater standards in the shortest time. From fastest to slowest, the other Alternatives would be ranked as follows: 4, 5/3, 2, and 1.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of alternatives after implementation of the response actions. If wastes or treated residuals remain on site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls.

By removing contaminants, Alternative 4 is judged to be the most effective in the long-term for the soil/waste contamination at the Tioga Castings Site, requiring limited long-term monitoring/maintenance. On-site containment with a permeable or low permeability cover (Alternatives 2 and 3, respectively), is not considered permanent. Contaminated soil would remain at the site without treatment, requiring groundwater monitoring and maintenance. Alternative 5 would treat the soil and would be considered permanent. Alternatives 3 and 5 are likely to be more effective than other alternatives with regard to leaching contaminants to groundwater.

The no further action alternative (Alternative 1) would not be effective in the long-term. Alternative 6, with no contaminated soil/waste remediation, is considered permanent for only groundwater contamination.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Alternative 4 would decrease the mobility, toxicity and volume of the contaminated soil with respect to the site. Alternative 5 would also decrease the mobility of contaminated site soils, however, it is likely to increase the volume. Alternative 3 would also decrease the mobility of the contaminants from the soil to groundwater. Alternatives 1 and 2 would not reduce the toxicity, mobility or volume of the contaminated soil or groundwater. Alternative 6 would reduce the toxicity, mobility and volume of contaminated groundwater at the site.

6. Implementability. The technical and administrative feasibility of implementing each alternative is evaluated. Technically, this includes the difficulties associated with the construction, the reliability of the technology, and the ability to monitor the effectiveness of the remedy. Administratively, the availability of the necessary personnel and equipment is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc.

All of the alternatives could be implemented and the required materials/services are readily available. There would be no difficulties associated with coordinating with other divisions/agencies.

Alternative 2 represents the most readily implementable alternative, other than no action, due to the relatively simple constructability of a permeable cover. Alternative 3 would likely be the next easiest alternative to be implemented since a low permeability cap would be placed over the consolidated contaminated material which would likely require additional regrading and site preparation activities. Based on volumes of material to be excavated, Alternatives 4 and 5, respectively, would be more difficult to implement, with Alternative 5 being the most difficult because of the need to stabilize the material and backfill it in the on-site landfill. Alternative 6 is a readily implementable alternative with minimal disturbance of contaminated materials.

7. **Cost.** Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision. The costs for each alternative are:

Alt.	Capital Cost	Annual O&M	Total
1	\$ 0	\$ 7,700	\$ 120,000
2	\$ 502,000	\$ 25,700	\$ 891,000
3	\$ 701,000	\$ 25,700	\$ 1,090,000
4	\$ 3,457,000	\$ 18,700	\$ 3,746,000
5	\$ 2,252,000	\$ 25,700	\$ 2,641,000
6	\$ 862,000	\$ 107,000	\$ 1,808,000

8. **Community Acceptance** - Concerns of the community regarding the RI/FS reports and the Proposed Remedial Action Plan have been evaluated. A "Responsiveness Summary" has been prepared that describes public comments received and how the Department addresses the concerns raised. The Responsiveness Summary is included as Exhibit A.

SECTION 9: SELECTED REMEDY

Based upon the results of the RI/FS, and the evaluation presented in Section 7, the NYSDEC has selected Alternative 3 (institutional actions, consolidation of contaminated soils, placement of a low permeability cover, O&M, and monitoring) as the remedy for this site.

Alternative 1 is not acceptable because it does not address the remedial goals. Alternative 2 would address direct contact and erosion of contaminated material, however it would do nothing to reduce infiltration through contaminated soils. Alternative 4 would address the goals of the program, however there would be substantially greater costs than other alternatives. Alternatives 3 and 5 would not actively remediate groundwater, however by isolating the source of contamination, and by natural attenuation, attainment of groundwater standards would be expected in a relatively short period of time (i.e. less than 10 years). Alternatives 3 and 5 would both be effective, however the cost of Alternative 5 is much greater than Alternative 3.

Alternative 6 (on its own) would actively address groundwater, but would do little to address direct contact and erosion of contaminated material. Alternative 6 has not been proposed with Alternative 3 because 1) the level of contamination in the groundwater is low; 2) available information indicates that residents around the site use municipal water and not groundwater; and 3) groundwater standards are expected to be attained in a relatively short period of time (< 10 years). Also, the characteristics of the aquifer would require the collection of large quantities of groundwater to effectively contain and collect contaminated water. Based on these factors, active groundwater remediation is not proposed.

The estimated present worth cost to carry out the remedy is \$ 1,090,000. The cost to construct the remedy is estimated to be \$ 701,000 and the estimated average annual operation and maintenance cost for 30 years is \$ 25,700.

The elements of the selected remedy are as follows:

1. A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program. Uncertainties identified during the RI/FS will be resolved.
2. Maintaining the fence around the landfill to limit site access as well as pursuing deed restrictions to prevent site development activities in areas where contaminated material is present.
3. Consolidation of the on-site and off-site soils/ waste piles that contain material above the cleanup goals for the site. These materials will be placed on the existing on-site landfill.
4. Placement of a low permeability cover over the on-site landfill; the cap will consist of a geomembrane placed on a preparatory/ subgrade layer and covered by a protective barrier drainage layer and topsoil.
5. Operation and maintenance of the remedy after the remedial construction is complete.
6. Monitoring of groundwater. This will be done to determine if the chosen alternative was successful in reducing the amount of infiltration through contaminated material to an amount which will not have an adverse impact upon groundwater quality.

SECTION 10.0: HIGHLIGHTS OF COMMUNITY PARTICIPATION

Citizen Participation (CP) Activities were implemented to provide concerned citizens and organizations with opportunities to learn about and comment upon the investigations and studies pertaining to the Tioga Castings Site. All major reports were placed in a document repository in the vicinity of the site and made available for public review. A public contact list was developed and used to distribute fact sheets and meeting announcements.

On February 2, 1995 a public meeting was held at the Owego-Apalachin Middle School, Owego, New York to describe the Proposed Remedial Action Plan. Prior to the meeting a public meeting announcement/ fact sheet was mailed to those persons on the contact list. The public comment period extended from January 23, - February 22, 1995. Comments received regarding the Proposed Remedial Action Plan have been addressed and are documented in the Responsiveness Summary (Exhibit A).

EXHIBIT A
RESPONSIVENESS SUMMARY
Tioga Castings Site
Village of Owego, Tioga County
Site ID No. 7-54-012

This document summarizes the comments and questions received by the New York State Department of Environmental Conservation (NYSDEC) regarding the Proposed Remedial Action Plan (PRAP) for the subject site. A public comment period was held between January 23, 1995 and February 22, 1995 to receive comments on the proposal. A public meeting was held on February 2, 1995 at the Owego-Apalachin Middle School to present the results of the investigations performed at the site and to describe the PRAP. The information below summarizes the comments and questions received and the Department's responses to those comments.

DESCRIPTION OF THE SELECTED REMEDY

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the site and the criteria identified for the evaluation of alternatives, the NYSDEC has selected a remedy to consolidate contaminated material to the existing on site landfill and place a low permeability cover over the landfill area.

The major elements of the selected remedy include:

1. A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program. Uncertainties identified during the RI/FS will be resolved.
2. Maintaining the fence around the landfill to limit site access as well as pursuing deed restrictions to prevent site development activities in areas where contaminated material is present.
3. Consolidation of the on-site and off-site soils/ waste piles that contain material above the cleanup goals for the site. These materials will be placed on the existing on-site landfill.
4. Placement of a low permeability cover over the on-site landfill; the cap will consist of a geomembrane placed on a preparatory/ subgrade layer and covered by a protective barrier drainage layer and topsoil.
5. Operation and maintenance of the remedy after the remedial construction is complete.
6. Monitoring of groundwater. This will be done to determine if the chosen alternative was successful in reducing the amount of infiltration through contaminated material to an amount which will not have an adverse impact upon groundwater quality.

I. QUESTIONS/COMMENTS RAISED DURING THE PUBLIC MEETING

1. Issue: What will the cost to property owners be to remove the off-site material and place it on site?

Response: The material present off site above cleanup goals will be brought back on site and consolidated in the landfill area. This material contains elevated levels of metals as a result of historical operation of the Tioga Castings Facility. The consolidation of this material will

be done as a part of the remedial program for this site. Unless Tioga Castings steps forward to implement the remedial program, the work will be performed (and financed) under the State Superfund program. There will be no cost to the off-site property owners. All that will be required of off-site property owners is access to remove the contaminated soil.

2. Issue: Owego-Apalachin Middle School is used year round. Several hundred children are there during the summer. Even if the removal/consolidation of the material is scheduled during the summer, there will be a lot of kids around.

Response: The construction schedule will take into account our goal of minimizing disruptions /distractions to the children. Steps will be taken during remedial activities to safeguard both on-site workers as well as the local community (limiting access to work areas, use of dust suppression, etc.).

3. Issue: In reference to the previous issue, who will be on site to regulate the amount of airborne contamination? Will it be a part of the contract for removing the material? Will an independent third party be responsible for monitoring airborne contamination caused by the contractor during excavation/removal activities?

Response: The Department has guidance documents which clearly state what levels of airborne particulates would require some type of action (i.e., dust suppression, temporarily delaying excavation activities). These levels will be incorporated into the project specifications. In order to insure that the contractor is performing work according to the project specifications, there will be construction oversight provided by the Department. The oversight will be provided by one of the Department's on-site inspectors, or, depending on the availability of staff, by a consultant hired by the Department to oversee the construction.

4. Issue: What is meant by groundwater? I understand that groundwater is very extensive. How can you clean up all of that water?

Response: Groundwater is found below the ground in areas where it fully saturates the soils/overburden present. The soils below this site contain sands and gravel. Relatively speaking, this allows much more free space (pore space) for groundwater to occupy. In other words, the groundwater aquifer immediately below the site would readily produce large amounts of water if a withdrawal well were installed. If it were necessary, withdrawal wells could be installed to remove groundwater and limit its migration away from the site. During the decision making process, the following factors were considered: the exceedances of groundwater standards were marginal; there are no known users of the groundwater in the immediate vicinity of the site; it is anticipated that the remediation of the source of the groundwater contamination will restore groundwater quality to below standards in a relatively short period of time (less than 10 years). Although active remediation of the groundwater is possible, the conditions summarized above do not warrant such action at this site.

5. Issue: How far away from the site has the contamination in the groundwater migrated?

Response: Five monitoring wells were installed around the perimeter of the site during the Remedial Investigation. Samples taken from downgradient locations indicated marginal exceedances of groundwater standards. In such a permeable/productive aquifer, it is anticipated that concentrations in the groundwater drop to levels below groundwater standards within a short

distance downgradient of the site. Since no one is using groundwater immediately downgradient of the site, additional downgradient monitoring wells were not installed.

6. Issue: Other from the landfill area, will the other site fencing be taken down? Will the majority of the site then be available for development?

Response: All material above cleanup goals will be consolidated into the existing on-site landfill and a low permeability cover will be placed over the landfill. Certain slopes must be maintained (for drainage) and no subsurface work could be performed at the landfill. However, after remediation, there will be no restrictions placed on the remainder of the property. The final fencing (required as a part of the remedial program) will be just around the landfill.

7. Issue: Off-site samples show slightly elevated lead levels. Would it be better to simply leave the off-site soil where it is rather than removing it and stirring it up and spreading contamination through the air? Is this causing more risk than leaving it alone?

Response: Potential short term impacts are taken into consideration as a part of the evaluation of alternatives in the Feasibility Study (FS). Although there is a potential for dust to become airborne during the excavation of soils, dust suppression techniques will be used, if necessary, to mitigate any impacts. These dust suppression techniques are easily implemented and very reliable (i.e., water mist to control dust).

8. Issue: What happens if the plan does not work? Most people in the neighborhood would prefer that all the material be removed and disposed of off site.

Response: Long term groundwater monitoring will be carried out to evaluate the effectiveness of the remedial action relative to the restoration of groundwater quality. Although the need for it is not anticipated, active groundwater removal and treatment could be implemented in the future to aid in the restoration of groundwater quality. We are confident that the final cover system will be effective in preventing contact with contaminated materials in the landfill.

Although excavation and off-site disposal was evaluated during the FS, the costs associated with this alternative are much greater (almost 4 times greater) than the costs associated with the chosen alternative. Since the proposal is protective of human health and the environment and much more cost effective, it has been selected.

9. Issue: This is a relatively small site. It seems like the proposed solution is just a band-aid. Why not do the job right and remove it all? If everything were removed the entire site could be developed.

Response: As discussed above, the selected remedy is protective of human health and the environment (the major evaluation criterion which must be met in order for an alternative to be selected). Although future land use is a legitimate concern, the Department must take into account the need to remediate several hundred sites across the state to protect other communities. Given the limited resources available to investigate and remediate sites, spending the additional monies to excavate and dispose of the contaminants off site would not be cost effective.

10. Issue: Over the past two years, approximately \$300,000 has been spent studying the site. Now the proposal is to spend another \$1 million to clean up this site. Will you come back in a few more years to do more clean up?

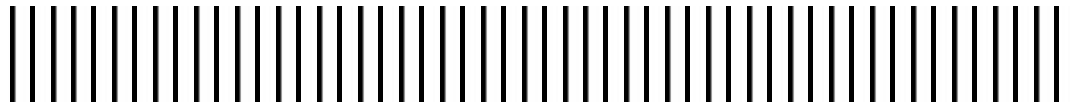
- Response:** The remedial process at a site involves many steps, including: identifying that contamination exists; determining the nature and extent of the contamination (RI); evaluating alternatives that could be used to clean-up the site (FS); implementation of the chosen alternative. Currently, the RI/FS has been completed and an alternative has been chosen (in the Record of Decision or ROD). The estimated cost of \$1 million is for the implementation of the chosen alternative and the completion of the remedial program at this site. Other than monitoring and maintenance, no further activities are planned.
- 11. Issue:** The main concern seems to be metals. What about the materials associated with the sand molds and binders? Will this material be consolidated as well? The non-hazardous wastes which are on site could be a hindrance to the sale of the property.
- Response:** The only "hazardous waste" (as defined in 6NYCRR Part 371) present as a result of past operations at this site are those wastes contaminated with high concentrations of metals. State Superfund monies can only be spent for the remediation of "hazardous waste." As a result, the areas where only non-hazardous waste remains cannot be included as a part of the remedial program.
- 12. Issue:** How much time will elapse between the beginning of the excavation of the off-site material and the on-site consolidation and capping of the landfill?
- Response:** It is estimated that it will take approximately 2-3 months to complete the excavation, consolidation and capping of the landfill.
- 13. Issue:** Has the approach been used elsewhere?
- Response:** Yes, on-site containment (capping) of existing landfills has been used at many other sites across New York State.
- 14. Issue:** Will this approach become more common as money "dries up"?
- Response:** Although cost is one of the criteria considered when selecting remedies, it is secondary to protection of human health and the environment. For sites such as this site (where there already is a landfill on-site), on-site containment is often selected.

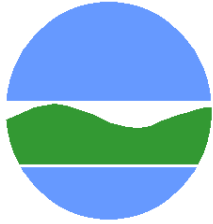
EXHIBIT B
ADMINISTRATIVE RECORD
Tioga Castings Site
Tioga County
7-54-012

1. Record of Decision; dated March 1995.
2. Proposed Remedial Action Plan; dated January 1995.
3. RI/FS Referral from the Division of Environmental Enforcement, dated August 31, 1992.
4. Remedial Investigation/Feasibility Study (RI/FS) Work Plan, dated March 1993.
5. Citizen Participation Plan, dated March 1993.
6. Fact Sheet, announcing March 31, 1993 Public Meeting.
7. Phase I/Phase II RI Report, dated November 1994.
8. Appendices to Phase I/ Phase II RI Report, dated May 1994.
9. FS Report, dated December 1994.
10. Fact Sheet, announcing February 2, 1995 Public Meeting.
11. Responsiveness Summary, prepared in March 1995 and attached to Record of Decision as Exhibit A.

Appendix B

Investigation Report (Malcolm Pirnie, 2008)





New York State Department of Environmental Conservation

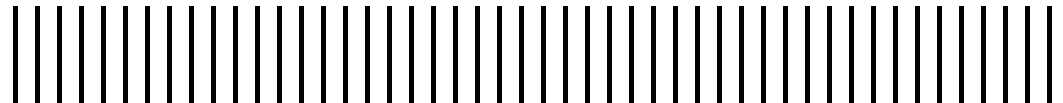
Department of Environmental Remediation • 625 Broadway • Albany, New York 12233

Site Number 7-54-012

Investigation Report Tioga Castings Site

New York State Department of Environmental
Conservation Work Assignment D004443-8

August 2008



Report Prepared By:

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**MALCOLM
PIRNIE**

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1. Introduction

1.1. Introduction

The New York State Department of Environmental Conservation (NYSDEC) has issued a Work Assignment (# D004443-8) to Malcolm Pirnie, Inc. (Malcolm Pirnie) for Operation, Maintenance, and Monitoring at the Tioga Casting Site in Owego, New York (Figure 1-1). Malcolm Pirnie has prepared this Preliminary Assessment Report to summarize additional site investigation activities conducted between July 15 and 17, 2008, at the request of the NYSDEC.

1.2. Site Description

The Tioga Casting site is located on Foundry Street, Owego, Broome County, New York (Figure 2-1). The former foundry buildings have been razed, leaving the concrete slabs in-place. A capped, closed landfill is present at the western end of the site.

2. Site Investigation Activities

2.1. Drilling

Subsurface soil samples were collected to evaluate the horizontal and vertical distribution of site-related contaminants within the vicinity of the former foundry building and the on-site closed, capped landfill cell. Figure 2-1 shows the drilling locations. Soil boring logs are provided in Appendix A.

2.1.1. Foundry Area Drilling and Sampling

Eighteen borings were advanced using a track-mounted direct-push (Geoprobe®) drilling rig (A). Continuous soil cores (MacroCore®) were collected from ground surface to the total depth of each boring. Upon collection, the core was screened for VOCs using a photoionization detector (PID) and visually inspected for signs of contaminants (e.g., staining and/or sheens) and buried debris, and classified by the on-site geologist. Each boring was advanced to the water table (approximately 15 feet below ground surface (bgs)). In general, two samples were collected from each boring. One sample was collected from the zone with the greatest evidence of contaminants, and one sample was collected from the zone immediately above the water table. However, due to limited soil recovery in some soil cores, several sampling locations could not be sampled at both intervals. Following sample collection, drill cuttings were returned to their respective bore holes. The remainder of each bore hole was backfilled with bentonite.

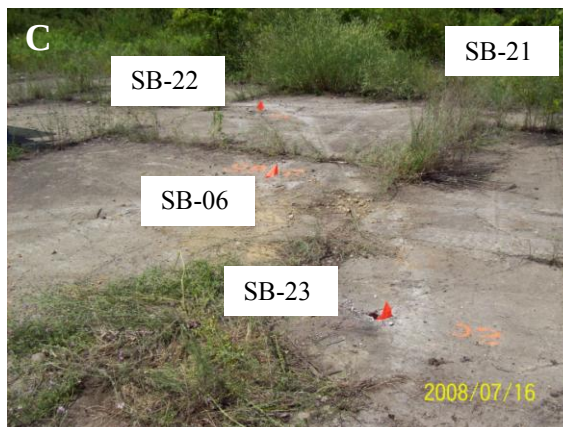


Subsurface soil beneath the site generally consisted of fill materials containing a multitude of colored sands including, black fine sand with a “greasy” texture, reddish-brown fine sand, and tan, brown, pink, and yellow sands (B). Metal fragments, slag, glass, ash, concrete, and wood were also commonly present in the fill materials. If present, the thickness of the fill materials ranged from 0.5 feet (SB-20) in the south east area of the former foundry building to



14.5 feet (SB-08) in the southwest area of the former foundry building. The thickness of the fill materials generally decreased from west to east across the site. Some borings (SB-10, SB-17, and SB-18) did not contain any of the above-mentioned fill materials.

Two soil borings (SB-06 and SB-14) contained evidence of VOCs in the fill materials. The soil samples from SB-06 produced a PID reading of 225 parts per million (ppm) at 7.5 feet bgs. The PID reading in SB-14 was 108 ppm at 7.5 feet bgs. The water table in both of these borings was approximately 15 feet bgs. Additional soil borings (SB-21, SB-22, and SB-23) were advanced in the vicinity of SB-06 to evaluate the vertical and horizontal extent of the VOC-containing soil (C). However, no field evidence of VOCs was found in these borings.



Soil beneath the fill materials generally consisted of light brown silty sand and gravel. No evidence of VOCs (staining and/or sheens) was observed in any of the samples collected beneath the fill material.

Soil samples were submitted to Test America in Shelton, Connecticut following chain-of-custody procedures for analysis of Target Compound List (TCL) VOCs by USEPA Method ILM0.4.3, Target Analyte List (TAL) metals by USEPA Method ILM05.3, and polychlorinated biphenyls (PCBs) by USEPA Method 8082.

2.1.2. Landfill Area Drilling and Sampling

Five borings were advanced at the landfill to evaluate the concentrations of VOCs, metals, and PCBs in the landfill cell. Figure 2-1 shows the drilling locations. Soil borings were advanced through the engineered cap and liner, landfill cell, and to the water table. No liner was observed at the base of the landfill cell in any of the soil borings.

One composite sample was collected from each boring for analysis of metals and PCBs. A sample for VOCs analysis was also collected from the zone with the greatest evidence of contamination. Following sample collection, each borehole was backfilled with bentonite.

Drill cuttings were placed in a United Nations (UN)-approved 55-gallon steel drum. One composite soil sample was collected from the drum and is being held by the laboratory pending the waste characterization analysis required by the disposal facility.

Based on soil core samples, the average thickness of the engineered liner system was approximately three feet. The landfill cell material generally consisted of black fine sand with a “greasy” texture and the multitude of other colored sand and debris similar to those observed in the fill material from soil borings advanced in the vicinity of the former foundry. The total landfill thickness (liner membrane to the bottom of landfill cell material) was approximately 12 feet in soil borings SB-04 and SB-05; approximately 13 feet in SB-01 and SB-02; and approximately 16 feet in SB-03.

Soil beneath the landfill cell generally consisted of brown and light brown silty sand and gravel. No evidence of VOCs (staining and/or sheens) was observed in any of the soil cores from beneath the landfill cell.

2.2. Landfill Cap Repair

Holes in the landfill cap resulting from the soil boring activities were repaired by excavating to the top of the HDPE cap liner material to expose each borehole. The landfill cap material (topsoil and liner cover) was segregated during excavation for later restoration (D). The liner was repaired by cleaning the area of the borehole and placing an approximately 18 inch x 18 inch patch of 60 mil HDPE material over the perforation in the liner (E). A two-inch strip of double-sided butyl rubber tape was used to secure the patch to the landfill liner and a roller was used to improve the contact between the patch and liner (F).



Adhesive caulk was used to seal the perimeter seam of the patch (G).



The excavation was then backfilled with the previously excavated soil. The soil was compacted with bucket of the excavator and the cap surface was restored with grass seed (H).



2.3. Soil Vapor Intrusion Sampling

Five sub-slab soil vapor intrusion sampling points were installed in the foundry slab to evaluate the potential soil vapor intrusion pathways in the event the site is redeveloped. The locations of the vapor points were based PID readings in soil cores, field observations from soil borings, and to provide even spatial distribution across the site. Figure 2-1 shows the locations of the locations of the sub-slab vapor points.

Sub-slab soil vapor sampling points were installed using a hammer drill equipped with a one-inch diameter drill bit. The drill bit was advanced approximately six-inches below the bottom of the concrete slab. A six-inch long 3/8-inch diameter stainless-steel screen with 1/4-inch Teflon tubing was then lowered to the bottom of the hole (I). The screened interval was then backfilled with sand. The remainder of the drill hole was backfilled with bentonite and



hydrated with potable water.

Prior to collecting the samples, three volumes of air were purged from each sub-slab vapor point using a syringe. The purged air was vented into a Tedlar bag and screened with a PID for the presence of VOCs. However, the PID malfunctioned before all of the sample points could be evaluated. The sample location that was tested with the PID (SV-2) contained no measureable concentrations of VOCs.

Vapor points were sampled using 6-liter Summa canisters equipped with two-hour flow controllers (J). One ambient air sample was collected concurrently with the sub-slab samples to provide information on ambient air quality at the time of sampling. Sub-slab and ambient air samples were sent to Con-Test Analytical Laboratories, East Longmeadow, Massachusetts following chain-of-custody procedures for analysis of VOCs by Method TO-15.



2.4. Groundwater Sampling

Groundwater samples were collected from the monitoring well network in accordance with the Tioga Castings Site Work Plan (K). Water levels were measured in each well prior to sampling. No light non-aqueous phase liquid (LNAPL) or sheens were present in any of the purged groundwater. As in previous sampling events, groundwater monitoring wells MW-1 and MW-3 purged dry and could not be sampled. Groundwater samples were sent to Test America in Shelton, Connecticut following chain-of-custody procedures for analysis of TCL VOCs (USEPA Method ILM04.3) and total TAL Metals (USEPA Method ILM05.3).



3. Analytical Results

Analytical results for the investigation are summarized in Table 1 (Groundwater VOCs), Table 2 (Groundwater Metals), Table 3 (Soil VOCs), Table 4 (Soil Metals and PCBs), and Table 5 (Soil Vapor Intrusion). Analytical reporting forms (Form I) are provided in Appendix B.

3.1. Groundwater

3.1.1. VOCs

Table 1 shows that VOCs were not detected in any of the groundwater samples collected during the investigation at concentrations greater than the indicated reporting limit (10 micrograms per liter (ug/L)). Although the NYSDEC Class GA Standards for most of the VOCs listed in Table 1 are less than the laboratory reporting limit, the laboratory method detection limit for each of these compounds is 0.1 ug/L, which is less than the corresponding NYSDEC Class GA Standards. This means that, if present, VOCs would have been detected at concentrations less than the applicable NYSDEC Class GA Standards.

3.1.2. Metals

Table 2 shows that none of the groundwater samples contained concentrations of metals greater than the applicable NYSDEC Class GA Standards. As shown in Table 2, the sodium concentration in the sample from MW-2 decreased from 36,100 ug/L in the sample from the previous sampling event (August 2007) to 18,700 ug/L, which is less than the NYSDEC Class GA Standard of 20,000 ug/L.

3.2. Soil

3.2.1. VOCs

Table 3 shows that VOCs were not detected in any of the soil samples at concentrations greater than the corresponding 6NYCRR Part 375 Commercial Soil Cleanup Objectives (SCOs).

3.2.2. Metals

As shown in Table 4, only three of the soil borings contained concentrations of metals greater than the applicable 6NYCRR Part 375 Commercial SCOs. The sample from SB-09(4-5) contained manganese at an estimated concentration (based on “E” qualifier) of 12,700 milligrams per kilogram (mg/kg) or parts per million (ppm) which is greater than 6NYCRR Part 375 Commercial SCO of 10,000 ppm. The concentration of copper in the sample from SB-14(7-8) was 528 ppm which exceeds the 6NYCRR Part 375 Commercial

SCO of 270 ppm. The lead concentration in the sample from SB-19 (3.5-4.5) was 2,330 ppm. The 6NYCRR Part 375 Commercial SCO for lead is 1,000 ppm.

3.2.3. PCBs

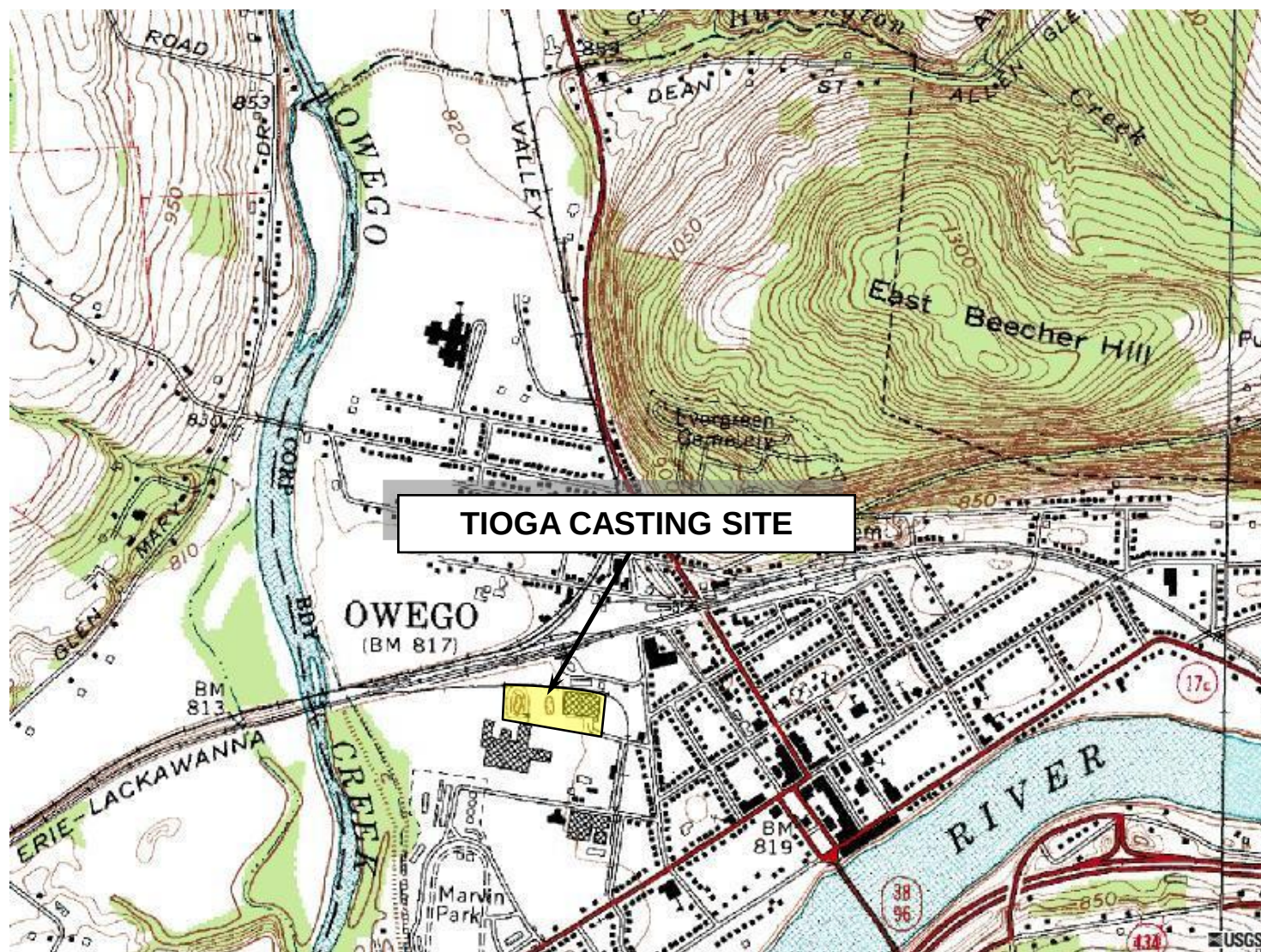
Table 4 shows that none of the soil samples contained concentrations of PCBs greater than the corresponding 6NYCRR Part 375 Commercial SCO of 1 ppm.

3.3. Soil Vapor Intrusion

Soil vapor intrusion sample results are summarized in Table 5. As shown in Table 5, sub-slab soil vapor sample SV-02 contained 1,1,1-trichloroethane at a concentration of 1,100 micrograms per cubic meter (ug/m^3). This result is greater than the New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH Guidance) Soil Vapor / Indoor Air Matrix 2 mitigation value of 1,000 ug/m^3 . None of the other samples contained VOCs at concentrations greater than the applicable NYSDOH Guidance values.

4. Summary

Three groundwater monitoring wells, 20 soil borings, and five sub-slab soil vapor sampling points were sampled to evaluate for the presence of VOCs, metals and PCBs at the former metal foundry. No VOCs were detected in soil or groundwater at concentrations greater than the applicable 6NYCRR Part 375 Commercial SCOs or NYSDEC Class GA Standards, respectively. Only one sub-slab soil vapor sample contained VOCs at a concentration greater than the NYSDOH Guidance value for mitigation. None of the groundwater samples contained metals greater than the corresponding NYSDEC Class GA Standards. Soil samples from three soil borings contained concentrations of metals that exceeded the 6NYCRR Part 375 Commercial SCOs for manganese, copper, or lead. None of the soil borings contained PCBs at concentrations greater than the applicable 6NYCRR Part 375 Commercial SCOs.



SOURCE: U.S.G.S 7.5 MIN. OWEGO QUAD, 1990

SCALE IN FEET
0 500 1000 2000

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NYSDEC STANDBY CONTRACT NO. D004443
TIOGA CASTING FACILITIES
OWEGO, NEW YORK
TIOGA CASTING SITE LOCATION

FIGURE 1-1



Table 1
Summary of Groundwater Sampling Results - VOCs
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Well Date Units	NYSDEC Class GA Standard or Guidance Value (ug/L)	MW-2 7/17/2008 ug/L	MW-4 7/17/2008 ug/L	MW-X ⁽¹⁾ 7/17/2008 ug/L	MW-5 7/17/2008 ug/L
Volatiles					
1,1,1-Trichloroethane	5	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	5	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane		10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	1	10 U	10 U	10 U	10 U
1,1-Dichloroethane	5	10 U	10 U	10 U	10 U
1,1-Dichloroethene	5	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	5	10 U	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane	0.04	10 U	10 U	10 U	10 U
1,2-Dibromoethane	5	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	3	10 U	10 U	10 U	10 U
1,2-Dichloroethane	0.6	10 U	10 U	10 U	10 U
1,2-Dichloropropane	1	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	3	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	3	10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 U	10 U	10 U
Acetone	50*	10 U	10 U	10 U	10 U
Benzene	1	10 U	10 U	10 U	10 U
Bromodichloromethane	50*	10 U	10 U	10 U	10 U
Bromoform	50*	10 U	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U	10 U
Carbon disulfide		10 U	10 U	10 U	10 U
Carbon tetrachloride	5	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U
Chloromethane		10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	5	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	0.4**	10 U	10 U	10 U	10 U
Cyclohexane		10 U	10 U	10 U	10 U
Dibromochloromethane	50	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	5	10 U	10 U	10 U	10 U
Ethylbenzene	5	10 U	10 U	10 U	10 U
Isopropylbenzene	5	10 U	10 U	10 U	10 U
Methyl acetate		10 U	10 U	10 U	10 U
Methyl Ethyl Ketone		10 U	10 U	10 U	10 U
methyl isobutyl ketone		10 U	10 U	10 U	10 U
Methyl tert-butyl ether		10 U	10 U	10 U	10 U
Methylcyclohexane		10 U	10 U	10 U	10 U
Methylene Chloride	5	10 U	10 U	10 U	10 U
Styrene	5	10 U	10 U	10 U	10 U
Tetrachloroethene		10 U	10 U	10 U	10 U
Toluene	5	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	5	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	0.4**	10 U	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U	10 U
Trichlorofluoromethane	5	10 U	10 U	10 U	10 U
Vinyl chloride	2	10 U	10 U	10 U	10 U
Xylenes, Total	5	10 U	10 U	10 U	10 U

Notes:

U - Analyte not detected at the indicated quantitation limit

(1) - MW-X is a duplicate sample collected at MW-4

* Guidance Value

**Sum of these compounds can not exceed 0.4 ug/L.

***Sum of these compounds can not exceed 300 ug/L.

Table 2
Summary of Groundwater Sampling Results - Metals
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-2 8/2/2007 ug/L	MW-2 7/17/2008 ug/L	MW-4 8/2/2007 ug/L	MW-4 7/17/2008 ug/L	MW-X ⁽¹⁾ 7/17/2008 ug/L	MW-5 8/2/2007 ug/L	MW-5 7/17/2008 ug/L
Metals (total)								
Aluminum		60.2 B	23.6 U	40.0 U	32.6 B	32.8 B	79.0 B	28.9 B
Antimony		5.6 U	5.5 U	5.6 U	5.5 U	5.5 U	5.6 U	5.5 U
Arsenic	25	4.2 U	3.7 U	4.2 U	3.7 U	3.7 U	4.2 U	3.7 U
Barium	1000	61.6 B	54.3 B	40.0 B	38.3 B	38.1 B	56.4 B	55.7 B
Beryllium		0.40 B	0.3 U	0.27 U	0.3 U	0.3 U	0.51 B	0.3 U
Cadmium	5	0.36 U	0.3 U	0.36 U	0.7 B	0.6 B	0.36 U	0.3 U
Calcium		54500 E	48800	42700 E	42400	42400	44400 E	45200
Chromium	50	0.84 U	0.9 U	0.84 U	0.9 U	0.9 U	0.84 U	0.9 U
Cobalt		1.1 B	1.1 U	0.89 U	1.1 U	1.1 U	0.89 U	1.1 U
Copper		1.3 U	1.3 U	1.4 B	1.3 U	1.3 U	1.3 U	1.3 U
Iron		19.3 U	19.3 U	47.6 B	34.0 B	34.0 B	19.3 U	19.3 U
Lead	25	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U
Magnesium		8650 E	7670	8190 E	7830	7820	7600 E	7570
Manganese		2.8 B	8.2 B	0.79 B	1.2 B	1.1 B	0.90 B	0.7 B
Mercury	0.7	0.12 U	0.1 U	0.12 U	0.1 U	0.1 U	0.12 U	0.1 U
Nickel		1.2 U	1.0 U	1.2 U	1.0 U	1.3 B	1.2 U	1.4 B
Potassium		4710 BE	3900 B	1020 BE	1860 B	2420 B	3330 BE	3340 B
Selenium	10	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U
Silver	50	1.7 B	1.3 U	1.0 U	1.3 U	1.3 U	1.6 B	1.3 U
Sodium	20000	36100 E	18700	12000 E	12800	12800	14200 E	15400
Thallium		7.0 U	5.9 U	7.0 U	5.9 U	5.9 U	7.0 U	5.9 U
Vanadium		0.80 B	1.0 U	0.78 U	1.0 U	1.0 U	0.80 B	1.0 U
Zinc		3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U

Notes:

 - Concentration exceeds corresponding NYSDEC Class GA Standard

U - Analyte not detected at the indicated quantitation limit

B - Value greater than or equal to the instrument detection limit but less than the quantitation limit

E - Estimated concentration

(1) - MW-X is a duplicate sample collected at MW-4

Table 3
Summary of Soil Sampling Results - VOCs
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Soil Boring Sample Interval (feet bgs) Date Units	Commercial Soil Cleanup Objective ppm	SB-01 12-13 7/15/2008 mg/kg	SB-02 17-17.5 7/15/2008 mg/kg	SB-03 19-19.5 7/15/2008 mg/kg	SB-04 14.5-15 7/15/2008 mg/kg	SB-05 14.5-15 7/15/2008 mg/kg
VOCs						
1,1,1-Trichloroethane	500	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
1,1,2,2-Tetrachloroethane	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
1,1,2-Trichloroethane	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
1,1-Dichloroethane	240	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
1,1-Dichloroethene	500	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
1,2,4-Trichlorobenzene	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
1,2-Dibromo-3-Chloropropane	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
1,2-Dibromoethane	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
1,2-Dichlorobenzene	500	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
1,2-Dichloroethane	30	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
1,2-Dichloropropane	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
1,3-Dichlorobenzene	280	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
1,4-Dichlorobenzene	130	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
2-Hexanone	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Acetone	500	0.008 J B	0.021 B	0.014 B	0.016 B	0.075 B
Benzene	44	0.001 J	0.002 J	0.001 J	0.005 J	0.000 J
Bromodichloromethane	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Bromoform	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Bromomethane	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Carbon disulfide	NS	0.011 U	0.001 J	0.012 U	0.011 U	0.012 U
Carbon tetrachloride	22	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Chlorobenzene	500	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Chloroethane	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Chloroform	350	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Chloromethane	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
cis-1,2-Dichloroethene	500	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
cis-1,3-Dichloropropene	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Cyclohexane	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Dibromochloromethane	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Dichlorodifluoromethane	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Ethylbenzene	390	0.001 J	0.002 J	0.001 J	0.004 J	0.012 U
Isopropylbenzene	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Methyl acetate	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Methyl Ethyl Ketone	500	0.011 U	0.012 U	0.012 U	0.011 U	0.018
Methyl isobutyl ketone	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Methyl tert-butyl ether	500	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Methylcyclohexane	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Methylene Chloride	500	0.009 J B	0.010 J B	0.002 J B	0.016 B	0.007 J B
Styrene	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Tetrachloroethene	150	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Toluene	500	0.002 J B	0.003 J B	0.003 J B	0.005 J B	0.001 J B
trans-1,2-Dichloroethene	500	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
trans-1,3-Dichloropropene	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Trichloroethene	200	0.022	0.023	0.070	0.080	0.003 J
Trichlorofluoromethane	NS	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Vinyl chloride	13	0.011 U	0.012 U	0.012 U	0.011 U	0.012 U
Xylenes, Total	500	0.004 J	0.005 J	0.003 J	0.009 J	0.012 U

Notes

U - Analyte not detected at indicated quantitation limit

J - Estimated value

B - Analyte detected in blank and sample

NS - Not specified.

ppm - Parts per million / mg/kg - milligrams per kilogram

Table 3
Summary of Soil Sampling Results - VOCs
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Soil Boring Sample Interval (feet bgs) Date Units	Commercial Soil Cleanup Objective ppm	SB-06 7.5-8.5 7/15/2008 mg/kg	SB-06 14-15 7/15/2008 mg/kg	SB-07 14.5-15.5 7/15/2008 mg/kg	SB-08 9.5-10 7/15/2008 mg/kg	SB-09 7.5-8.5 7/16/2008 mg/kg
VOCs						
1,1,1-Trichloroethane	500	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
1,1,2,2-Tetrachloroethane	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
1,1,2-Trichloroethane	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
1,1-Dichloroethane	240	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
1,1-Dichloroethene	500	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
1,2,4-Trichlorobenzene	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
1,2-Dibromo-3-Chloropropane	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
1,2-Dibromoethane	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
1,2-Dichlorobenzene	500	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
1,2-Dichloroethane	30	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
1,2-Dichloropropane	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
1,3-Dichlorobenzene	280	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
1,4-Dichlorobenzene	130	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
2-Hexanone	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Acetone	500	0.250 B	0.006 J B	0.011 U	0.043 B	0.015 B
Benzene	44	0.001 J	0.0003 J	0.011 U	0.002 J	0.012 U
Bromodichloromethane	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Bromoform	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Bromomethane	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Carbon disulfide	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Carbon tetrachloride	22	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Chlorobenzene	500	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Chloroethane	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Chloroform	350	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Chloromethane	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
cis-1,2-Dichloroethene	500	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
cis-1,3-Dichloropropene	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Cyclohexane	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Dibromochloromethane	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Dichlorodifluoromethane	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Ethylbenzene	390	0.002 J	0.0003 J	0.011 U	0.003 J	0.012 U
Isopropylbenzene	NS	0.004 J	0.011 U	0.011 U	0.012 U	0.012 U
Methyl acetate	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Methyl Ethyl Ketone	500	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Methyl isobutyl ketone	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Methyl tert-butyl ether	500	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Methylcyclohexane	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Methylene Chloride	500	0.005 J B	0.007 J B	0.003 J B	0.007 J B	0.005 J B
Styrene	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Tetrachloroethene	150	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Toluene	500	0.006 J B	0.001 J B	0.011 U	0.005 J B	0.012 U
trans-1,2-Dichloroethene	500	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
trans-1,3-Dichloropropene	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Trichloroethene	200	0.012 J	0.009 J	0.011 U	0.008 J	0.001 J
Trichlorofluoromethane	NS	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Vinyl chloride	13	0.023 U	0.011 U	0.011 U	0.012 U	0.012 U
Xylenes, Total	500	0.011 J	0.001 J	0.011 U	0.009 J	0.012 U

Notes

U - Analyte not detected at indicated quantitation limit

J - Estimated value

B - Analyte detected in blank and sample

NS - Not specified.

ppm - Parts per million / mg/kg - milligrams per kilogram

Table 3
Summary of Soil Sampling Results - VOCs
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Soil Boring Sample Interval (feet bgs) Date Units	Commercial Soil Cleanup Objective ppm	SGB-11 14-15 7/16/2008 mg/kg	SB-13 4-5 7/16/2008 mg/kg	SB-14 7-8 7/16/2008 mg/kg
VOCs				
1,1,1-Trichloroethane	500	0.012 U	0.012 U	0.012 U
1,1,2,2-Tetrachloroethane	NS	0.012 U	0.012 U	0.012 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NS	0.012 U	0.012 U	0.012 U
1,1,2-Trichloroethane	NS	0.012 U	0.012 U	0.012 U
1,1-Dichloroethane	240	0.012 U	0.012 U	0.012 U
1,1-Dichloroethene	500	0.012 U	0.012 U	0.012 U
1,2,4-Trichlorobenzene	NS	0.012 U	0.012 U	0.012 U
1,2-Dibromo-3-Chloropropane	NS	0.012 U	0.012 U	0.012 U
1,2-Dibromoethane	NS	0.012 U	0.012 U	0.012 U
1,2-Dichlorobenzene	500	0.012 U	0.012 U	0.012 U
1,2-Dichloroethane	30	0.012 U	0.012 U	0.012 U
1,2-Dichloropropane	NS	0.012 U	0.012 U	0.012 U
1,3-Dichlorobenzene	280	0.012 U	0.012 U	0.012 U
1,4-Dichlorobenzene	130	0.012 U	0.012 U	0.012 U
2-Hexanone	NS	0.012 U	0.012 U	0.012 U
Acetone	500	0.012 U	0.012 U	0.012 U
Benzene	44	0.012 U	0.012 U	0.001 J
Bromodichloromethane	NS	0.012 U	0.012 U	0.012 U
Bromoform	NS	0.012 U	0.012 U	0.012 U
Bromomethane	NS	0.012 U	0.012 U	0.012 U
Carbon disulfide	NS	0.012 U	0.012 U	0.012 U
Carbon tetrachloride	22	0.012 U	0.012 U	0.012 U
Chlorobenzene	500	0.012 U	0.012 U	0.012 U
Chloroethane	NS	0.012 U	0.012 U	0.012 U
Chloroform	350	0.012 U	0.012 U	0.012 U
Chloromethane	NS	0.012 U	0.012 U	0.012 U
cis-1,2-Dichloroethene	500	0.012 U	0.012 U	0.012 U
cis-1,3-Dichloropropene	NS	0.012 U	0.012 U	0.012 U
Cyclohexane	NS	0.012 U	0.012 U	0.012 U
Dibromochloromethane	NS	0.012 U	0.012 U	0.012 U
Dichlorodifluoromethane	NS	0.012 U	0.012 U	0.012 U
Ethylbenzene	390	0.012 U	0.012 U	0.001 J
Isopropylbenzene	NS	0.012 U	0.012 U	0.001 J
Methyl acetate	NS	0.012 U	0.012 U	0.012 U
Methyl Ethyl Ketone	500	0.012 U	0.012 U	0.012 U
Methyl isobutyl ketone	NS	0.012 U	0.012 U	0.012 U
Methyl tert-butyl ether	500	0.012 U	0.012 U	0.012 U
Methylcyclohexane	NS	0.012 U	0.012 U	0.003 J
Methylene Chloride	500	0.005 J B	0.002 J B	0.003 J B
Styrene	NS	0.012 U	0.012 U	0.012 U
Tetrachloroethene	150	0.012 U	0.012 U	0.012 U
Toluene	500	0.001 J B	0.012 U	0.002 J B
trans-1,2-Dichloroethene	500	0.012 U	0.012 U	0.012 U
trans-1,3-Dichloropropene	NS	0.012 U	0.012 U	0.012 U
Trichloroethene	200	0.010 J	0.012 U	0.012 U
Trichlorofluoromethane	NS	0.012 U	0.012 U	0.012 U
Vinyl chloride	13	0.012 U	0.012 U	0.012 U
Xylenes, Total	500	0.001 J	0.012 U	0.001 J

Notes

U - Analyte not detected at indicated quantitation limit

J - Estimated value

B - Analyte detected in blank and sample

NS - Not specified.

ppm - Parts per million / mg/kg - milligrams per kilogram

Table 4
Summary of Soil Sampling Results - Metals/PCBs
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Soil Boring Sample Interval (feet bgs) Date Units	Commercial Soil Cleanup Objective ppm	SB-01 3.8-18 7/15/2008 mg/kg	SB-02 3.5-17.5 7/15/2008 mg/kg	SB-03 4.5-20 7/15/2008 mg/kg	SB-04 3.5-15 7/15/2008 mg/kg
Metals -Total					
Aluminum		5830	4550	4840	5560
Antimony		0.69 B	0.80 B	1.10 B	0.54 U
Arsenic	16	4.9	3.5	4.8	2.9
Barium	400	47.8	62.6	53.1	42.4
Beryllium	590	0.44 B	0.36 B	0.29 B	0.52 B
Cadmium	9.3	0.50 B	0.80	0.80	0.50 B
Calcium		19500	15000	11900	18200
Chromium (hexavalent/trivalent)	400**/1500**	60.1	47.6	50.3	49.3
Cobalt		4.0 B	3.0 B	4.5 B	2.8 B
Copper	270	83.5	43.9	50.0	32.6
Iron		27200	28100	37700	23100
Lead	1,000	142	168	273	196
Magnesium		1840	1570	1620	1680
Manganese	10,000	985	1180	890	1660
Mercury	2.8	0.018 B	0.014 B	0.068 B	0.013 B
Nickel	310	51.6	30.4	49.7	23.2
Potassium		543 B	394 B	534 B	555 B
Selenium	1,500	0.59 U	0.59 U	0.59 U	0.59 U
Silver	1,500	0.14 B	0.18 B	0.23 B	0.18 B
Sodium		283 B	189 B	176 B	202 B
Thallium		0.30 U	0.30 U	0.30 U	0.51 B
Vanadium		7.3	5.3	7.1	7.0
Zinc	10,000	84.6	86.1	126.0	92.5
PCBs					
PCB-1016	NS	0.019 U	0.019 U	0.019 U	0.019 U
PCB-1221	NS	0.037 U	0.036 U	0.037 U	0.036 U
PCB-1232	NS	0.019 U	0.019 U	0.019 U	0.019 U
PCB-1242	NS	0.019 U	0.019 U	0.019 U	0.019 U
PCB-1248	NS	0.019 U	0.019 U	0.019 U	0.019 U
PCB-1254	NS	0.019 U	0.021	0.016 J	0.019 U
PCB-1260	NS	0.019 U	0.018 J	0.009 J	0.019 U
Total PCBs	1		0.021	0.025	

Notes

J/B - value greater than or equal to the instrument detection limit, but less than the quantitation limit

E - value estimated or not reported due to the presence of interferences

ppm - parts per million / mg/kg - milligrams per kilogram

** - Total species concentration must be below each SCO

Table 4
Summary of Soil Sampling Results - Metals/PCBs
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Soil Boring Sample Interval (feet bgs) Date Units	Commercial Soil Cleanup Objective ppm	SB-05 4-15 7/15/2008 mg/kg	SB-06 7.5-8.5 7/15/2008 mg/kg	SB-07 4-5 7/15/2008 mg/kg	SB-07 14.5-15.5 7/15/2008 mg/kg
Metals -Total					
Aluminum		5020	21600	7250	8150
Antimony		1.30 B	0.54 U	0.54 U	0.54 U
Arsenic	16	4.4	2.4	2.9	4.0
Barium	400	47.6	266.0	74.2	74.3
Beryllium	590	0.34 B	1.40	0.50 B	0.25 B
Cadmium	9.3	1.20	0.04 U	0.04 U	0.04 U
Calcium		17600	80800	30300	1640
Chromium (hexavalent/trivalent)	400**/1500**	43.7	32.3	19.5	8.8
Cobalt		3.8 B	6.9	2.9 B	6.4
Copper	270	56.8	13.2	56.2	11.0
Iron		28800	11900	25100	18200
Lead	1,000	264	6	12	5
Magnesium		1880	4100	1760	2140
Manganese	10,000	1160	5250	1500	385
Mercury	2.8	0.046 B	0.014 B	0.025 B	0.008 U
Nickel	310	22.7	5.7	15.8	15.3
Potassium		500 B	2970	620	562 B
Selenium	1,500	0.59 U	0.59 U	0.59 U	0.59 U
Silver	1,500	0.25 B	0.10 B	0.07 U	0.07 U
Sodium		124 B	640	427 B	70 B
Thallium		0.30 U	1.30 B	0.30 U	0.30 U
Vanadium		8.1	35.8	9.5	9.5
Zinc	10,000	128.0	14.5	37.2	46.0
PCBs					
PCB-1016	NS	0.019 U	0.019 U	0.019 U	0.019 U
PCB-1221	NS	0.036 U	0.037 U	0.036 U	0.037 U
PCB-1232	NS	0.019 U	0.019 U	0.019 U	0.019 U
PCB-1242	NS	0.019 U	0.019 U	0.019 U	0.019 U
PCB-1248	NS	0.019 U	0.019 U	0.019 U	0.019 U
PCB-1254	NS	0.016 J	0.012 J	0.004 J	0.019 U
PCB-1260	NS	0.011 J	0.034	0.013 J	0.019 U
Total PCBs	1	0.027	0.046	0.017	

Notes

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E - value estimated or not reported due to the presence of interferences

ppm - parts per million / mg/kg - milligrams per kilogram

** - Total species concentration must be below each SCO

Table 4
Summary of Soil Sampling Results - Metals/PCBs
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Soil Boring Sample Interval (feet bgs) Date Units	Commercial Soil Cleanup Objective ppm	SB-08 9.5-10 7/15/2008 mg/kg	SB-08 14.5-15 7/16/2008 mg/kg	SB-09 4-5 7/16/2008 mg/kg	SB-09 7.5-8.5 7/16/2008 mg/kg
Metals -Total					
Aluminum		9390	3930	40700	14600
Antimony		0.54 U	1.30 B	0.54 N,U	0.54 N,U
Arsenic	16	2.7	6.4	1.9	7.7
Barium	400	62.1	189.0	214.0	202.0
Beryllium	590	0.42 B	0.14 B	3.20	0.73
Cadmium	9.3	0.05 B	0.20 B	0.04 U	0.30 B
Calcium		1640	2190	94800	2820
Chromium (hexavalent/trivalent)	400**/1500**	18.9	46.9	32.0	19.3
Cobalt		8.4	4.3 B	5.4	10.9
Copper	270	24.6	92.3	28.3	19.6
Iron		21500	59600	15900	27600
Lead	1,000	14	64	6	28
Magnesium		2810	912	2070	3320
Manganese	10,000	246	727	12700 E,*	1630 E,*
Mercury	2.8	0.017 B	0.033 B	0.008 U	0.052 B
Nickel	310	27.1	173.0	3.6 B	25.1
Potassium		704	667	2570	961
Selenium	1,500	0.59 U	0.59 U	0.59 U	0.59 U
Silver	1,500	0.07 U	0.08 B	0.33 B	0.07 U
Sodium		155 B	624	528	67 B
Thallium		0.30 U	0.30 U	0.30 U	0.30 U
Vanadium		12.7	9.5	29.9	17.5
Zinc	10,000	59.3	80.1	6.1 B	80.0
PCBs					
PCB-1016	NS	0.020 U	0.020 U	0.018 U	0.021 U
PCB-1221	NS	0.039 U	0.039 U	0.036 U	0.041 U
PCB-1232	NS	0.020 U	0.020 U	0.018 U	0.021 U
PCB-1242	NS	0.020 U	0.020 U	0.018 U	0.021 U
PCB-1248	NS	0.020 U	0.020 U	0.018 U	0.021 U
PCB-1254	NS	0.033	0.020 U	0.018 U	0.021 U
PCB-1260	NS	0.023	0.020 U	0.018 U	0.021 U
Total PCBs	1	0.056			

Notes

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ppm - parts per million / mg/kg - milligrams per kilogram

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Table 4
Summary of Soil Sampling Results - Metals/PCBs
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Soil Boring Sample Interval (feet bgs) Date Units	Commercial Soil Cleanup Objective ppm	SB-10 17-18 7/16/2008 mg/kg	SB-11 4-5 7/16/2008 mg/kg	SB-12 14-15 7/16/2008 mg/kg	SB-13 4-5 7/16/2008 mg/kg
Metals -Total					
Aluminum		8330	5350	8790	10300
Antimony		0.54 N,U	0.54 N,U	0.54 N,U	0.54 N,U
Arsenic	16	3.7	2.3	5.3	4.3
Barium	400	54.9	17.6 B	72.4	71.5
Beryllium	590	0.33 B	0.22 B	0.34 B	0.54 B
Cadmium	9.3	0.10 B	0.10 B	0.10 B	0.40 B
Calcium		7570	1560	1320	16700
Chromium (hexavalent/trivalent)	400**/1500**	16.7	7.6	13.0	18.0
Cobalt		6.7	1.1 B	6.5	4.9 B
Copper	270	26.2	14.1	12.4	83.1
Iron		19900	18100	19400	27600
Lead	1,000	10	42	5	18
Magnesium		2960	795	2420	1450
Manganese	10,000	343 E,*	105 E,*	500 E,*	1010 E,*
Mercury	2.8	0.008 U	0.008 U	0.020 B	0.030 B
Nickel	310	17.5	3.1 B	16.9	14.5
Potassium		676	688	620	1050
Selenium	1,500	0.59 U	0.59 U	0.59 U	0.59 U
Silver	1,500	0.07 U	0.07 U	0.07 U	0.07 U
Sodium		59 B	351 B	60 B	197 B
Thallium		0.30 U	0.30 U	0.30 U	0.30 U
Vanadium		11.4	5.9	11.3	17.5
Zinc	10,000	51.4	18.5	46.5	34.1
PCBs					
PCB-1016	NS	0.019 U	0.021 U	0.019 U	0.020 U
PCB-1221	NS	0.037 U	0.040 U	0.036 U	0.039 U
PCB-1232	NS	0.019 U	0.021 U	0.019 U	0.020 U
PCB-1242	NS	0.019 U	0.021 U	0.019 U	0.020 U
PCB-1248	NS	0.019 U	0.021 U	0.019 U	0.020 U
PCB-1254	NS	0.019 U	0.021 U	0.019 U	0.020 U
PCB-1260	NS	0.019 U	0.021 U	0.019 U	0.020 U
Total PCBs	1				

Notes

J/B - value greater than or equal to the instrument detection limit, but less than the quantitation limit

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Table 4
Summary of Soil Sampling Results - Metals/PCBs
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Soil Boring Sample Interval (feet bgs) Date Units	Commercial Soil Cleanup Objective ppm	SB-14 7-8 7/16/2008 mg/kg	SB-15 3-4 7/16/2008 mg/kg	SB-16 4-5 7/16/2008 mg/kg	SB-17 14-15 7/16/2008 mg/kg
Metals -Total					
Aluminum		11800	5130	4730	8160
Antimony		0.54 N,U	0.85 B,N	1.10 B,N	0.54 N,U
Arsenic	16	4.1	9.1	7.8	4.2
Barium	400	101.0	179.0	48.9	57.9
Beryllium	590	0.62	0.47 B	0.30 B	0.25 B
Cadmium	9.3	0.30 B	0.60	3.00	0.08 B
Calcium		11600	4560	2540	3610
Chromium (hexavalent/trivalent)	400**/1500**	21.7	12.0	22.5	11.6
Cobalt		7.0	7.3	5.2 B	6.2
Copper	270	528	37.8	96.3	17.7
Iron		39600	42900	60900	18600
Lead	1,000	140	592	96	11
Magnesium		4490	1040	828	2530
Manganese	10,000	745 E,*	543 E,*	3100 E,*	409 E,*
Mercury	2.8	0.248	0.271	0.198	0.008 U
Nickel	310	21.2	14.2	21.5	16.0
Potassium		926	808	732	611
Selenium	1,500	0.59 U	0.59 U	0.59 U	0.59 U
Silver	1,500	0.07 U	0.22 B	0.24 B	0.07 U
Sodium		148 B	133 B	125 B	98 B
Thallium		0.30 U	0.30 U	0.30 U	0.30 U
Vanadium		18.3	23.0	22.1	10.3
Zinc	10,000	93.9	197.0	256.0	48.8
PCBs					
PCB-1016	NS	0.019 U	0.021 U	0.019 U	0.018 U
PCB-1221	NS	0.037 U	0.041 U	0.037 U	0.034 U
PCB-1232	NS	0.019 U	0.021 U	0.019 U	0.018 U
PCB-1242	NS	0.019 U	0.021 U	0.019 U	0.018 U
PCB-1248	NS	0.019 U	0.021 U	0.019 U	0.018 U
PCB-1254	NS	0.019 U	0.021 U	0.019 U	0.018 U
PCB-1260	NS	0.019 U	0.021 U	0.019 U	0.018 U
Total PCBs	1				

Notes

J/B - value greater than or equal to the instrument detection limit, but less than the quantitation limit

E - value estimated or not reported due to the presence of interferences

ppm - parts per million / mg/kg - milligrams per kilogram

** - Total species concentration must be below each SCO

Table 4
Summary of Soil Sampling Results - Metals/PCBs
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Soil Boring Sample Interval (feet bgs) Date Units	Commercial Soil Cleanup Objective ppm	SB-18 14-15 7/16/2008 mg/kg	SB-19 3.5-4.5 7/16/2008 mg/kg	SB-20 14-15 7/16/2008 mg/kg
Metals -Total				
Aluminum		9660	6040	10800
Antimony		0.54 N,U	1.80 B,N	0.54 N,U
Arsenic	16	3.9	6.8	5.6
Barium	400	22.3	89.0	99.9
Beryllium	590	0.44 B	0.41 B	0.43 B
Cadmium	9.3	0.10 B	1.30	0.20 B
Calcium		2780	12300	1210
Chromium (hexavalent/trivalent)	400**/1500**	11.6	17.5	14.0
Cobalt		8.6	5.1 B	8.8
Copper	270	14.4	166.0	23.4
Iron		19700	38900	24500
Lead	1,000	11	2330	11
Magnesium		3100	1380	3170
Manganese	10,000	269 E,*	975 E,*	948 E,*
Mercury	2.8	0.018 B	0.163	0.014 B
Nickel	310	18.4	16.1	22.4
Potassium		619	547 B	670
Selenium	1,500	0.59 U	0.59 U	0.59 U
Silver	1,500	0.07 U	0.33 B	0.07 U
Sodium		42 B	206 B	55 B
Thallium		0.30 U	0.30 U	0.30 U
Vanadium		11.9	16.2	14.2
Zinc	10,000	46.6	401.0	80.8
PCBs				
PCB-1016	NS	0.018 U	0.019 U	0.017 U
PCB-1221	NS	0.035 U	0.037 U	0.033 U
PCB-1232	NS	0.018 U	0.019 U	0.017 U
PCB-1242	NS	0.018 U	0.019 U	0.017 U
PCB-1248	NS	0.018 U	0.019 U	0.017 U
PCB-1254	NS	0.018 U	0.019 U	0.017 U
PCB-1260	NS	0.008 J	0.016 J	0.017 U
Total PCBs	1	0.008	0.016	

Notes

J/B - value greater than or equal to the instrument detection limit, but less than the quantitation limit

E - value estimated or not reported due to the presence of interferences

ppm - parts per million / mg/kg - milligrams per kilogram

** - Total species concentration must be below each SCO

Table 5
Summary of Soil Vapor Intursion Sampling Results - VOCs
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Sample ID Sample Type Sample Date Units	NYSDOH Soil Vapor Intrusion Guidance	AA-1 Ambient Air 7/17/2008 ug/m ³	SV-1 Soil Vapor 7/18/2008 ug/m ³	SV-2 Soil Vapor 7/18/2008 ug/m ³	SV-3 Soil Vapor 7/18/2008 ug/m ³	SV-4 Soil Vapor 7/18/2008 ug/m ³	SV-5 Soil Vapor 7/18/2008 ug/m ³
TO-15 Volatiles							
Acetone		22	20	240	29	20	160
Benzene		2.9	6.5	19	8.8	8.1	12
Benzyl Chloride		0.19 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane		0.24 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Bromoform		0.36 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Bromomethane		0.14 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,3-Butadiene		0.08 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
2-Butanone (MEK)		4.1	6.3	31	14	4.2	17
Carbon Disulfide		0.12 U	14	71	19	2.7	28
Carbon Tetrachloride	5	0.56	0.31 U	0.31 U	0.82	0.31 U	0.31 U
Chlorobenzene		0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chlorodibromomethane		0.31 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Chloroethane		0.1 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroform		0.17 U	0.24 U	0.24 U	0.24 U	0.24 U	0.79
Chloromethane		1	0.19	0.5	0.11	0.1 U	0.1 U
Cyclohexane		0.99	2.6	8	0.17 U	8.6	0.17 U
1,2-Dibromoethane		0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-Dichlorobenzene		0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,3-Dichlorobenzene		0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,4-Dichlorobenzene		0.21 U	0.42	0.3 U	1	1.2	1.2
Dichlorodifluoromethane		3	7.1	5	4.1	3.8	21
1,1-Dichloroethane		0.14 U	0.2 U	20	0.2 U	0.2 U	0.2 U
1,2-Dichloroethane		0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethylene	100	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethylene	100	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
t-1,2-Dichloroethylene		0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane		0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
cis-1,3-Dichloropropene		0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
trans-1,3-Dichloropropene		0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,2-Dichlorotetrafluoroethane (114)		0.25 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Ethanol		80	14	30	30	14	14
Ethyl Acetate		0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Ethylbenzene		3.7	5.4	16	8.6	2.9	6
4-Ethyl Toluene		2.4	3.1	5.2	3.3	0.88	1.6
n-Heptane		2.1	48	140	300	13	47
Hexachlorobutadiene		0.75 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Hexane		8.3	90	290	380	14	60
2-Hexanone		0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Isopropanol		1.8	1.8	5.3	1.8	0.75	2.7
Methyl tert-Butyl Ether (MTBE)		0.13 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Methylene Chloride	60	3.6	2.6	2.4	2.1	2.3	4.9
4-Methyl-2-Pentanone (MIBK)		0.44	0.2 U	0.2 U	0.2 U	0.2 U	1.1
Propene		0.13 U	0.18 U	0.18 U	0.18 U	16	0.18 U
Styrene		0.15 U	0.41	0.79	0.54	0.28	0.45
1,1,2,2-Tetrachloroethane		0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Tetrachloroethylene	100	0.24 U	2.7	5.7	0.84	1.3	4.6
Tetrahydrofuran		0.23	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Toluene		13	23	350	41	80	130
1,2,4-Trichlorobenzene		0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
1,1,1-Trichloroethane		0.19 U	1.1	1100	54	13	5
1,1,2-Trichloroethane		0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Trichloroethylene	5	0.19 U	0.88	0.4	0.27 U	0.27 U	0.27 U
Trichlorofluoromethane		2.2	2.3	1.9	15	11	21
1,1,2-Trichloro-1,2,2-Trifluoroethane		0.71	1.2	0.87	2	1.7	1.4
1,2,4-Trimethylbenzene		9	12	17	10	5.1	6.1
1,3,5-Trimethylbenzene		2.6	3.2	5.4	3.6	1.9	2.5
Vinyl Acetate		0.5 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U
Vinyl Chloride	5	0.1 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
m/p-Xylene		13	17	48	18	13	22
o-Xylene		5.5	8.5	21	8.6	7.9	9.7

Notes

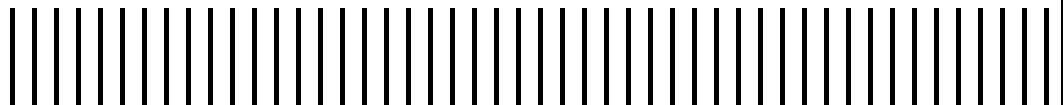
U - Analyte not detected at indicated quantitation limit

Yellow "Mitigate" based on NYSDOH Guidance for Evaluating Soil Vapor Intrusion (Soil Vapor / Indoor Air Matrix 2)

ug/m³ - micrograms per cubic meter

Appendix A

Soil Boring Logs



PROJECT	Tioga Castings	LOCATION	Owego, NY	SHEET	1 OF 1
CLIENT	NYSDEC	PROJECT No.	0266362	MEAS. PT. ELEV.	
DRILLING CONTRACTOR	Aztech	GROUND ELEV.		DATUM	
PURPOSE	Site Investigation	DATE STARTED	7/15/08	DATE FINISHED	7/15/08
WELL MATERIAL		DRILLER	Ron	PIRNIE STAFF	J.R.W
DRILLING METHOD(S)	Geoprobe	SAMPLE		CORE	
DRILL RIG TYPE	6610	TYPE	MacroCore		
GROUND WATER DEPTH	'	DIA.	2"		
MEASURING POINT		WEIGHT	#		
DATE OF MEASUREMENT		FALL	"		

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
2	4.5		0		Reddish-brown fine sandy Silt. Loose, dry.	1.0		
					Fine-med Sand and Gravel with some silt. Gravel up to .75 in. Loose, dry.	2.0		
4					Fine-med Sand with some v. coarse sand and pea gravel. Loose, dry. Landfill liner at 3 ft bgs.	3.0		
					SAA.	3.8		
6					Black v. fine sand, slag, metal fragments, concrete.	5.0		
					Lt brown-gray sand and gravel with some silt.	6.5		
8	4.5		0		Black sand, slag, metal fragments, concrete, zones of copper-red fine sand. Loose, slightly moist.			
10					SAA, without copper-reddish sand.	10.0		
12	4.5		0					
14								
16					SAA, wood fagments at 16.5 ft bgs.	15.0		
18	2.5		0		Lt brown Sand and Gravel with some silt. Moist, slightly cohesive.	16.5		
						18.0		Refusal at 18 ft bgs.

Collect composite sample 3.8-18 ft bgs (Metals and PCBs).

Collect sample 12-13 ft bgs (VOCs).

PROJECT **Tioga Castings**

LOCATION **Owego, NY**

SHEET **1 OF 1**

CLIENT **NYSDEC**

PROJECT No. **0266362**

DRILLING CONTRACTOR **Aztech**

MEAS. PT. ELEV.

PURPOSE **Site Investigation**

GROUND ELEV.

WELL MATERIAL

DATUM

DRILLING METHOD(S) **Geoprobe**

SAMPLE

CORE

CASING

DRILL RIG TYPE **6610**

TYPE

MacroCore

DATE STARTED **7/15/08**

GROUND WATER DEPTH **17.0'**

DIA.

2"

DATE FINISHED **7/15/08**

MEASURING POINT

WEIGHT

#

DRILLER **Ron**

DATE OF MEASUREMENT

FALL

"

PIRNIE STAFF **J.R.W**

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
2	4.5		0		Reddish-brown fine sandy silt. Loose, dry.			
					Fine-med Sand and Gravel with some silt. Gravel up to .75 in. Loose, dry.	1.0		
4					Fine-med Sand with some v. coarse sand and pea gravel. Loose, dry. Landfill liner at 3 ft bgs.	2.0		
					SAA.	3.0		
					Black sand, concrete, metal	3.5		
6					Black, tan, dk brown, and red sands, slag. Loose, slightly moist.	5.0		
8	3		0		Sand and gravel, slag. Black, brown, and tan sands, plastic and metal fragments.			
10					Sand and gravel, slag. Black, brown, and tan sands, plastic and metal fragments.	10.0		
12	4.5		0		SAA, wet at 17-17.5 ft bgs.			
14					SAA, wet at 17-17.5 ft bgs.	15.0		
16					SAA, wet at 17-17.5 ft bgs.			
18	4.5		0		Brown Sand and Gravel with trace silt, some gravel larger than sample core. Moist, slightly cohesive.	17.0		
20					Brown Sand and Gravel with trace silt, some gravel larger than sample core. Moist, slightly cohesive.			
					Brown Sand and Gravel with trace silt, some gravel larger than sample core. Moist, slightly cohesive.	20.0		

Collect composite sample 3.5-17.5 (Metals and PCBs).

Wet at 17 ft bgs.
Collect sample 17-17.5 (VOCs).

BORING No.SB-03

SHEET 1 OF 1

PROJECT No. 0266362

MEAS. PT. ELEV.

GROUND ELEV.

DATUM

DATE STARTED 7/15/08

DATE FINISHED 7/15/08

DRILLER Ron

PIRNIE STAFF J.R.W

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DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
0	4.5		0		Reddish-brown fine sandy Silt. Loose, dry.			Collect sample 4.5-20 ft bgs (Metals and PCBs).
1				Fine-med Sand and Gravel with some silt. Gravel up to .75 in. Loose, dry.	1.0			
2				Fine-med Sand with some v. coarse sand and pea gravel. Loose, dry. Landfill liner at 3 ft bgs.	2.0			
3		SAA. Plastic sheeting at base of sand.	3.0					
4	4.5		0		Black silt and sand with gravel, slag, and concrete. Dry.	4.5		
5					SAA with some wood, no concrete.	5.0		
6					Brown sand with trace silt. Firm, slightly cohesive. Plastic sheeting at base.	9.0		
7	4		0		Black sand. Loose, dry.	9.5		
8					White fine sand. Loose, dry.	10.0		
9					Black and red fine sand. Loose, dry.	11.5		
10	4		0		Black, brown, and dk brown sand and gravel. Slag and wood. Firm, moist.	12.5		
11					SAA.	15.0		
12					Red, black, and tan sand, some slag. Black sand has greasy texture. Loose, moist.	18.0		
13	4		0		Brown and gray Sandy Silt with some Clay and Gravel. Firm, moist, cohesive.	19.5		
14						20.0		
15								

BORING No.SB-05

SHEET 1 OF 1

PROJECT No. 0266362

MEAS. PT. ELEV.

GROUND ELEV.

DATUM

DATE STARTED 7/15/08

DATE FINISHED 7/15/08

DRILLER **Ron**

PIRNIE STAFF J.R.W

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PROJECT Tioga Castings		LOCATION Owego, NY			SHEET 1 OF 1	
CLIENT NYSDEC					PROJECT No. 0266362	
DRILLING CONTRACTOR Aztech					MEAS. PT. ELEV.	
PURPOSE Site Investigation					GROUND ELEV.	
WELL MATERIAL					DATUM	
DRILLING METHOD(S) Geoprobe		SAMPLE	CORE	CASING	DATE STARTED 7/15/08	
DRILL RIG TYPE 6610		TYPE MacroCore			DATE FINISHED 7/15/08	
GROUND WATER DEPTH 14.5'		DIA. 2"			DRILLER Ron	
MEASURING POINT		WEIGHT #				PIRNIE STAFF J.R.W
DATE OF MEASUREMENT		FALL "				

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
2	3		0		Concrete slab, drill with star bit.			
4					Black sand, slag, ash and gravel. Loose, moist.	0.5		
6					SAA.	5.0		
8	2.5		225		Gray sand. Loose, very moist. Slight petro odors. PID=225 ppm.	7.5		Collect samples 7.5-8 ft bgs (VOCs, Metals, and PCBs).
10					Brown Sand and Gravel with Silt. Moist.	8.0		
12	2		0		SAA. Wet at 14.5 ft bgs.	10.0		
14						15.0		Collect samples 14-15 ft bgs (VOCs only) very little matrix.

PROJECT	Tioga Castings	LOCATION	Owego, NY	SHEET	1 OF 1
CLIENT	NYSDEC	PROJECT No.	0266362	MEAS. PT. ELEV.	
DRILLING CONTRACTOR	Aztech	GROUND ELEV.		DATUM	
PURPOSE	Site Investigation	DATE STARTED	7/15/08	DATE FINISHED	7/15/08
WELL MATERIAL		DRILLER	Ron	PIRNIC STAFF	J.R.W
DRILLING METHOD(S)	Geoprobe	SAMPLE	CORE	CASING	
DRILL RIG TYPE	6610	TYPE	MacroCore		
GROUND WATER DEPTH	14.8'	DIA.	2"		
MEASURING POINT		WEIGHT	#		
DATE OF MEASUREMENT		FALL	"		

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
2	3		0		Concrete slab-drilled with star bit.			
4					Black, brown, and red sand. Glass, gravel, slag, ash, and concrete. Moist, loose. Pink clayey substance at 4.5 ft bgs. Cohesive and plastic.	2.0		
6					SAA, with out pink clayey substance. Moist, loose.	5.0		Collect samples 4.5-5 (Metals and PCBs).
8	2.5		0					
10					SAA, moist.	10.0		
12	3		0					
14					Brown Sand and Gravel with some Silt. Firm, very moist. Wet at 14.8 ft bgs.	13.0		
16					SAA, wet.	15.0		Collect samples 14.5-15.5 (VOCs, Metals, and PCBs).
18	3		0					
20						20.0		

BORING No.SB-08

SHEET 1 OF 1

PROJECT No. 0266362

MEAS. PT. ELEV.

GROUND ELEV.

DATUM

DATE STARTED 7/15/08

DATE FINISHED 7/15/08

DRILLER **Ron**

PIRNIE STAFF J.R.W

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PROJECT Tioga Castings	LOCATION Owego, NY			SHEET 1 OF 1
CLIENT NYSDEC				PROJECT No. 0266362
DRILLING CONTRACTOR Aztech				MEAS. PT. ELEV.
PURPOSE Site Investigation				GROUND ELEV.
WELL MATERIAL				DATUM
DRILLING METHOD(S) Geoprobe	SAMPLE	CORE	CASING	DATE STARTED 7/16/08
DRILL RIG TYPE 6610	TYPE MacroCore			DATE FINISHED 7/16/08
GROUND WATER DEPTH 18.0'	DIA. 2"			DRILLER Ron
MEASURING POINT	WEIGHT #			PIRNIE STAFF J.R.W
DATE OF MEASUREMENT	FALL	"		

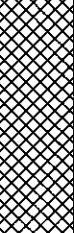
DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
0					Concrete slab, drill with star bit.			
2	1		0		Lt brown Sand and Gravel with Silt.	0.5		
4								
6					SAA, moist.	5.0		
8	2		0					
10					SAA, wet at 15 ft bgs.	10.0		
12	2.5		0					
14								
16					SAA, saturated at 18 ft bgs.	15.0		
18	2.5		0					Collect samples 17-18 ft bgs (Metals and PCBs) not enough matrix for VOCs.
20						20.0		

MALCOLM PIRNIE				TEST BORING LOG			BORING No.SB-11	
PROJECT Tioga Castings				LOCATION Owego, NY			SHEET 1 OF 1	
CLIENT NYSDEC				PROJECT No. 0266362			MEAS. PT. ELEV.	
DRILLING CONTRACTOR Aztech				PURPOSE Site Investigation			GROUND ELEV.	
WELL MATERIAL				DATE STARTED 7/16/08			DATE FINISHED 7/16/08	
DRILLING METHOD(S) Geoprobe				SAMPLE MacroCore			DRILLER Ron	
DRILL RIG TYPE 6610				CORE			PIRNIE STAFF J.R.W	
GROUND WATER DEPTH 15.0'				CASING				
MEASURING POINT				WEIGHT #				
DATE OF MEASUREMENT				FALL				
DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
0			0		Concrete slab. Drill with star bit.	0.5		
2	2.5		0		Black and brown sand, slag, ash, glass, some gravel. Black sand has greasy texture. Moist.			
4			0		SAA, with some wood.	5.0		Collect samples 4-5 ft bgs (Metals and PCBs).
6	2.5		0		Lt gray and brown Clayey silt. Firm, moist, cohesive.	8.0		
8			0		Brown Sand and Gravel with some silt.	9.0		
10			0		SAA, wet at 15 ft bgs.	10.0		
12	2		0					
14			0					Collect samples 14-15 ft bgs (VOC only) very little matrix.
						15.0		

PROJECT	Tioga Castings	LOCATION	Owego, NY	SHEET	1 OF 1
CLIENT	NYSDEC	PROJECT No.	0266362	MEAS. PT. ELEV.	
DRILLING CONTRACTOR	Aztech	GROUND ELEV.		DATUM	
PURPOSE	Site Investigation	DATE STARTED	7/16/08	DATE FINISHED	7/16/08
WELL MATERIAL		DRILLER	Ron	PIRNIE STAFF	J.R.W
DRILLING METHOD(S)	Geoprobe	SAMPLE	CORE	CASING	
DRILL RIG TYPE	6610	TYPE	MacroCore		
GROUND WATER DEPTH	'	DIA.	2"		
MEASURING POINT		WEIGHT	#		
DATE OF MEASUREMENT		FALL	"		

DEPTH FT.	SAMPLE TYPE RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
2	4		0		Brown med-fn Sand and Silt with some Gravel. Lt. brown Sand and Gravel with some Silt. Firm, moist.	0.5		
4								
6					SAA.	5.0		
8	2.5		0					
10					SAA.	10.0		
12	3.5		0					
14								
						15.0		Collect samples 10-15 ft bgs (Metals and PCBs) not enough matrix for VOCs.

PROJECT Tioga Castings	LOCATION Owego, NY			SHEET 1 OF 1
CLIENT NYSDEC				PROJECT No. 0266362
DRILLING CONTRACTOR Aztech				MEAS. PT. ELEV.
PURPOSE Site Investigation				GROUND ELEV.
WELL MATERIAL				DATUM
DRILLING METHOD(S) Geoprobe	SAMPLE	CORE	CASING	DATE STARTED 7/16/08
DRILL RIG TYPE 6610	TYPE MacroCore			DATE FINISHED 7/16/08
GROUND WATER DEPTH 15.0'	DIA. 2"			DRILLER Ron
MEASURING POINT	WEIGHT #			PIRNIE STAFF J.R.W
DATE OF MEASUREMENT	FALL	"		

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
2	2.5		0		Concrete slab. Drill with star bit.			
4					Black and dk reddish-brown sand, slag, gravel, glass. Bottom 3 inches is brown sandy Silt with trace Gravel. Moist, cohesive.	0.5		
6	2		0		Lt brown Sand and Gravel with Silt. Moist.	5.0		
10					SAA, wet at 15 ft bgs.	10.0		
12	3		0					
14								
						15.0		▼

Collect samples 4-5 ft bgs (VOCs, Metals, and PCBs).

PROJECT	Tioga Castings	LOCATION	Owego, NY	SHEET	1 OF 1
CLIENT	NYSDEC	PROJECT No.	0266362	MEAS. PT. ELEV.	
DRILLING CONTRACTOR	Aztech	GROUND ELEV.		DATUM	
PURPOSE	Site Investigation	DATE STARTED	7/16/08	DATE FINISHED	7/16/08
WELL MATERIAL		DRILLER	Ron	PIRNIE STAFF	J.R.W
DRILLING METHOD(S)	Geoprobe	SAMPLE	CORE	CASING	
DRILL RIG TYPE	6610	TYPE	MacroCore		
GROUND WATER DEPTH	15.0'	DIA.	2"		
MEASURING POINT		WEIGHT	#		
DATE OF MEASUREMENT		FALL	"		

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
0			0		Concrete slab. Drill with star bit.			
2	2		0		Black and dk reddish-brown sand, slag, gravel, and glass. Firm, moist.	0.5		
4								
6					SAA, slight petro odors. PID=108 PPM.	5.0		
8	2.5		108		Gray and tan Silt with occasional Gravel. Firm, moist. Becomes plastic at 8-8.5 ft bgs.	7.5		
10					Lt brown Sand and Gravel with some Silt.	8.5		
12	2.5		0		SAA, wet at 15 ft bgs.	10.0		
14								
						15.0		Collect samples 7-8 ft bgs (VOC, Metals, and PCBs).

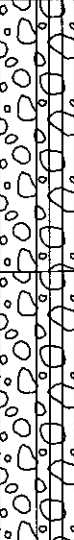
PROJECT	Tioga Castings	LOCATION	Owego, NY	SHEET	1 OF 1
CLIENT	NYSDEC	PROJECT No.	0266362	MEAS. PT. ELEV.	
DRILLING CONTRACTOR	Aztech	GROUND ELEV.		DATUM	
PURPOSE	Site Investigation	DATE STARTED	7/16/08	DATE FINISHED	7/16/08
WELL MATERIAL		DRILLER	Ron	PIRNIE STAFF	J.R.W
DRILLING METHOD(S)	Geoprobe	SAMPLE	CORE	CASING	
DRILL RIG TYPE	6610	TYPE	MacroCore		
GROUND WATER DEPTH	15.0'	DIA.	2"		
MEASURING POINT		WEIGHT	#		
DATE OF MEASUREMENT		FALL	"		

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
2	4		0		Lt brown Sand and Gravel with silt. Moist			
4					Ash, slag, glass.	3.0		
					Brown Silt with fn Sand. Firm, moist.	4.0		
6	3.5		0		SAA, with trace Clay.	5.0		
8								
10					Lt brown Sand and Gravel with Silt.	9.0		
12	2.5		0		SAA, wet at 15 ft bgs.	10.0		
14								
						15.0		

Collect samples 3-4 ft bgs (Metals and PCBs).



PROJECT	Tioga Castings	LOCATION	Owego, NY	SHEET	1 OF 1
CLIENT	NYSDEC	PROJECT No.	0266362	MEAS. PT. ELEV.	
DRILLING CONTRACTOR	Aztech	GROUND ELEV.		DATUM	
PURPOSE	Site Investigation	DATE STARTED	7/16/08	DATE FINISHED	7/16/08
WELL MATERIAL		DRILLER	Ron	PIRNIE STAFF	J.R.W
DRILLING METHOD(S)	Geoprobe	SAMPLE	CORE	CASING	
DRILL RIG TYPE	6610	TYPE	MacroCore		
GROUND WATER DEPTH	15.0'	DIA.	2"		
MEASURING POINT		WEIGHT	#		
DATE OF MEASUREMENT		FALL	"		

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
2	2		0		Concrete slab. Drill with star bit.	0.5		
4					Dk brown-reddish sand, slag, ash, and glass. Bottom 3 inches is green-brown fn Sand and Silt with Gravel. Moist, cohesive.			
6	1		0		Lt brown Sand and Gravel with Silt. Very moist.	5.0		
8								
10					SAA, wet at 15 ft bgs.	10.0		
12	3.5		0					
14								
						15.0		

Collect samples 4-5 ft bgs (Metals and PCBs). Not enough matrix for VOCs sample.



PROJECT **Tioga Castings**

LOCATION **Owego, NY**

SHEET **1** OF **1**

CLIENT **NYSDEC**

PROJECT No. **0266362**

DRILLING CONTRACTOR **Aztech**

MEAS. PT. ELEV.

PURPOSE **Site Investigation**

GROUND ELEV.

WELL MATERIAL

DATUM

DRILLING METHOD(S) **Geoprobe**

SAMPLE

CORE

CASING

DRILL RIG TYPE **6610**

TYPE

MacroCore

DATE STARTED **7/16/08**

GROUND WATER DEPTH **15.0'**

DIA.

2"

DATE FINISHED **7/16/08**

MEASURING POINT

WEIGHT

#

DRILLER **Ron**

DATE OF MEASUREMENT

FALL

"

PIRNIE STAFF **J.R.W**

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
0					Asphalt	0.2		
2	2.5		0		Lt brown Sand and Gravel with Silt. Moist.			
4								
6					SAA.	5.0		
8	3.5		0					
10					SAA, wet at 15 ft bgs.	10.0		
12	2		0					
14								
						15.0		Collect samples 14-15 ft bgs (Metals and PCBs). Not enough matrix for VOCs.

PROJECT	Tioga Castings	LOCATION	Owego, NY	SHEET	1 OF 1
CLIENT	NYSDEC	PROJECT No.	0266362	MEAS. PT. ELEV.	
DRILLING CONTRACTOR	Aztech	GROUND ELEV.		DATUM	
PURPOSE	Site Investigation	DATE STARTED	7/16/08	DATE FINISHED	7/16/08
WELL MATERIAL		DRILLER	Ron	PIRNIE STAFF	J.R.W
DRILLING METHOD(S)	Geoprobe	SAMPLE	CORE	CASING	
DRILL RIG TYPE	6610	TYPE	MacroCore		
GROUND WATER DEPTH	14.0'	DIA.	2"		
MEASURING POINT		WEIGHT	#		
DATE OF MEASUREMENT		FALL	"		

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
2	3		0		Lt brown Sand and Gravel with Silt.			
4								
6					SAA with wet Silty Sand zone at 8.5-9.5 ft bgs.	5.0		
8	2.5		0					
10					SAA, wet at 14 ft bgs.	10.0		
12	2		0					
14								
						15.0		▼ Collect samples 14-15 ft bgs (Metals and PCBs). Not enough matrix for VOCs.

PROJECT	Tioga Castings	LOCATION	Owego, NY	SHEET	1 OF 1
CLIENT	NYSDEC	PROJECT No.	0266362	MEAS. PT. ELEV.	
DRILLING CONTRACTOR	Aztech	GROUND ELEV.		DATUM	
PURPOSE	Site Investigation	DATE STARTED	7/16/08	DATE FINISHED	7/16/08
WELL MATERIAL		DRILLER	Ron	PIRNIE STAFF	J.R.W
DRILLING METHOD(S)	Geoprobe	SAMPLE	CORE	CASING	
DRILL RIG TYPE	6610	TYPE	MacroCore		
GROUND WATER DEPTH	17.0'	DIA.	2"		
MEASURING POINT		WEIGHT	#		
DATE OF MEASUREMENT		FALL	"		

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
2	2.5		0		Lt brown Sand and Gravel with Silt. Loose, dry.	1.0		
4					Dk brown-reddish sand, gravel, ash, slag, and glass. Loose, moist.			
6					SAA.	5.0		
8	3.5		0		Brown sandy Silt. Firm	6.0		
10					Lt brown Sand and Gravel with Silt.	8.0		
12					SAA.	10.0		
14	3		0					
16					SAA, saturated at 17 ft bgs.	15.0		
18	2		0					
20						20.0		

Collect samples 3.5-4.5 (Metals
and PCBs).



PROJECT Tioga Castings		LOCATION Owego, NY			SHEET 1 OF 1	
CLIENT NYSDEC					PROJECT No. 0266362	
DRILLING CONTRACTOR Aztech					MEAS. PT. ELEV.	
PURPOSE Site Investigation					GROUND ELEV.	
WELL MATERIAL					DATUM	
DRILLING METHOD(S) Geoprobe		SAMPLE	CORE	CASING	DATE STARTED 7/16/08	
DRILL RIG TYPE 6610	TYPE	MacroCore			DATE FINISHED 7/16/08	
GROUND WATER DEPTH '	DIA.	2"			DRILLER Ron	
MEASURING POINT	WEIGHT	#				
DATE OF MEASUREMENT	FALL	"				
					PIRNIE STAFF J.R.W	

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
0					Concrete slab. Drill with star bit.			
0.5					Dk brown-red silty sand, glass, and slag.	0.5		
1.0					Lt brown fn Sand and Silt with some gravel. Firm, cohesive.	1.0		
2	2		0					
4								
5.0					Lt brown Sand and Gravel with silt.	5.0		
6								
8	2.5		0					
10					SAA.	10.0		
12								
14	3.5		0					
15.0						15.0		Collect samples 14-15 ft bgs. Not enough matrix for VOCs.

PROJECT **Tioga Castings**

LOCATION **Owego, NY**

SHEET **1 OF 1**

CLIENT **NYSDEC**

PROJECT No. **0266362**

DRILLING CONTRACTOR **Aztech**

MEAS. PT. ELEV.

PURPOSE **Site Investigation**

GROUND ELEV.

WELL MATERIAL

DATUM

DRILLING METHOD(S) **Geoprobe**

SAMPLE

CORE

CASING

DRILL RIG TYPE **6610**

TYPE

MacroCore

GROUND WATER DEPTH **15.0'**

DIA.

2"

MEASURING POINT

WEIGHT

#

DATE OF MEASUREMENT

FALL

"

DRILLER **Ron**

PIRNIE STAFF **J.R.W**

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
					Dk brown fn-med sand. Loose.			
	4.5		0		Lt brown sand and gravel with trace coal.	0.5		
2								
					Lt brown fine Silty Sand with some Gravel. Firm, moist.	3.5		
4								
					Lt brown Sand and Gravel with Silt. Moist.	5.0		
6								
	2.5		0					
8								
					SAA, wet at 15 ft bgs.	10.0		
10								
	3		0					
12								
14								
						15.0		

MALCOLM PIRNIE				TEST BORING LOG			BORING No.SB-22		
PROJECT Tioga Castings				LOCATION Owego, NY			SHEET 1 OF 1		
CLIENT NYSDEC							PROJECT No. 0266362		
DRILLING CONTRACTOR Aztech							MEAS. PT. ELEV.		
PURPOSE Site Investigation							GROUND ELEV.		
WELL MATERIAL							DATUM		
DRILLING METHOD(S) Geoprobe		SAMPLE		CORE		CASING		DATE STARTED 7/16/08	
DRILL RIG TYPE 6610		TYPE MacroCore						DATE FINISHED 7/16/08	
GROUND WATER DEPTH '		DIA. 2"						DRILLER Ron	
MEASURING POINT		WEIGHT #						PIRNIE STAFF J.R.W	
DATE OF MEASUREMENT		FALL		"					
DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS	
0			0		Concrete slab. Drill with Star bit.				
2	2.5		0		Black and red sand, slag, concrete, gravel. Moist.	0.5			
4			0						
6			0		SAA.	5.0			
8	3		0		Brown fn-med Sand and Silt with some Gravel. Wet, slightly cohesive.	7.0			
10			0		Lt brown Sand and Gravel with Silt.	8.0			
						10.0			

PROJECT **Tioga Castings**

LOCATION **Owego, NY**

SHEET **1** OF **1**

CLIENT **NYSDEC**

PROJECT No. **0266362**

DRILLING CONTRACTOR **Aztech**

MEAS. PT. ELEV.

PURPOSE **Site Investigation**

GROUND ELEV.

WELL MATERIAL

DATUM

DRILLING METHOD(S) **Geoprobe**

SAMPLE

CORE

CASING

DATE STARTED **7/16/08**

DRILL RIG TYPE **6610**

TYPE

MacroCore

DATE FINISHED **7/16/08**

GROUND WATER DEPTH

DIA.

2"

DRILLER **Ron**

MEASURING POINT

WEIGHT

#

PIRNIE STAFF **J.R.W**

DATE OF MEASUREMENT

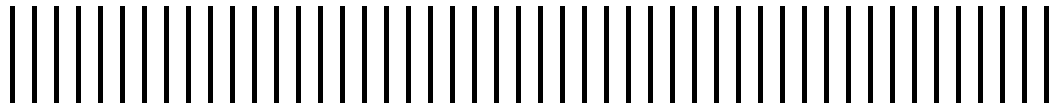
FALL

"

DEPTH FT.	SAMPLE TYPE, RECOVERY, NUMBER	BLOWS ON SAMPLE SPOON PER 6"	PID	GRAPHIC LOG	GEOLOGIC DESCRIPTION KEY - Color, Major, Minor Moisture, Etc.	ELEV. DEPTH	WELL Constr.	REMARKS
2	2.5		0		Concrete slab. Drill with star bit.			
4					Black and lt red sands, ash, slag, glass. Loose, moist.	0.5		
6	2.5		0		Lt brown Sand and Gravel with Silt.	5.0		
8								
10						10.0		

Appendix B

Analytical Reporting Forms



ANALYTICAL REPORT

Job Number: 220-5884-1

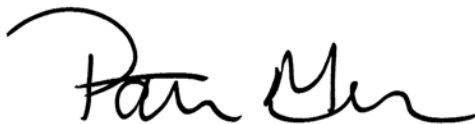
SDG Number: 220-5884

Job Description: NYSDEC Standby - Tioga Castings

For:

Malcolm Pirnie, Inc.
43 British American Boulevard
1st Floor
Latham, NY 12110

Attention: Mr. Bruce Nelson



Designee for
Johanna Dubauskas
Project Manager I
johanna.dubauskas@testamericainc.com
08/05/2008

The test results in this report meet all NELAP requirements unless specified within the case narrative. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Project Manager.

TestAmerica Connecticut Certifications and Approvals: CTDOH PH-047, MADEP CT023, RIDOH A43, NYDOH 10602, NY NELAP 10602, NHDES 2528, NJDEP CT410, ME DOH CT023, UT DOH 2032614458

Case Narrative for Job: 220-5884-1

Client: **Malcolm Pirnie, Inc.**
Date: August 5, 2008

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.



Lawrence Decker
Laboratory Director

August 5, 2008
Date

Job Narrative
220-J5884-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC/MS VOA

Method(s) OLM04.2/Vol: Surrogate recovery for the following sample was outside control limits: SB-13 (4-5) (220-5884-7). A second run confirmed matrix interference. One set of data was submitted.

No other analytical or quality issues were noted.

GC Semi VOA

No analytical or quality issues were noted.

Metals

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

FORMULAS FOR NYSDEC SAMPLE CALCULATIONS

Volatiles

$$\frac{(AX)(IS)(DF)}{(AIS)(RRF)(V)(\% \text{ solids})} = C$$

$$\frac{(AX)(IS)(VT)(1000)(DF)}{(AIS)(RRF)(VA)(V)(\% \text{ solids})} = C \quad (\text{for medium level soils})$$

SemiVolatiles

$$\frac{(AX)(IS)(VE)(DF)(\text{GPC factor is 2 if needed})}{(AIS)(RRF)(\text{volume injected})(V)(\% \text{ solids})} = C$$

Pesticides

$$\frac{(AX)(VE)(DF)}{(RRF)(V)(\% \text{ solids})(\text{volume injected})} = C$$

PCBs for compound/retention time

$$\frac{(AX)(VE)(DF)}{(\text{RRF of compound at the stated retention time})(V)(\% \text{ solids})(\text{volume injected})} = C$$

DRO/CTETPH

$$\frac{(AX)(VE)(DF)}{(RRF)(V)(\% \text{ solids})(\text{volume injected})} = C$$

AX = area of the target Ion

AIS = Area of Internal standard

C = concentration as ug/L or ug/Kg

DF = dilution

IS = Internal standard concentration (ng)

RRF = average RF (from initial cal except CLP methods from continuing cal)

V = sample volume for liquids in mls or sample weight for solids in grams

VA = volume of aliquot for medium level soils

VE = volume of concentrated extract

VT = volume of methanol for volatile medium level soils

SAMPLE SUMMARY

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
220-5884-1	SB-09 (7.5-8.5)	Solid	07/16/2008 0758	07/17/2008 0951
220-5884-2	SB-09 (4-5)	Solid	07/16/2008 0805	07/17/2008 0951
220-5884-3	SB-10 (17-18)	Solid	07/16/2008 1418	07/17/2008 0951
220-5884-4	SB-11 (4-5)	Solid	07/16/2008 0730	07/17/2008 0951
220-5884-5	SB-11 (14-15)	Solid	07/16/2008 0730	07/17/2008 0951
220-5884-6	SB-12 (14-15)	Solid	07/16/2008 1435	07/17/2008 0951
220-5884-7	SB-13 (4-5)	Solid	07/16/2008 0855	07/17/2008 0951
220-5884-8	SB-14 (7-8)	Solid	07/16/2008 0830	07/17/2008 0951
220-5884-9	SB-15 (3-4)	Solid	07/16/2008 0920	07/17/2008 0951
220-5884-10	SB-16 4-5)	Solid	07/16/2008 1013	07/17/2008 0951
220-5884-11	SB-17 (14-15)	Solid	07/16/2008 1348	07/17/2008 0951
220-5884-12	SB-18 (14-15)	Solid	07/16/2008 1450	07/17/2008 0951
220-5884-13	SB-19 (3.5-4.5)	Solid	07/16/2008 1036	07/17/2008 0951
220-5884-14	SB-20 (14-15)	Solid	07/16/2008 1445	07/17/2008 0951
220-5884-15TB	TRIP BLANK	Water	07/16/2008 0000	07/17/2008 0951

METHOD SUMMARY

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Description	Lab Location	Method	Preparation Method
Matrix Solid			
CLP Volatile Organic Compounds	TAL CT	OLM04.2 OLM04.2/Vol	
Purge-and-Trap	TAL CT		SW846 5030B
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL CT	SW846 8082	
Ultrasonic Extraction	TAL CT		SW846 3550B
ILM05.3 Metals	TAL BUF	ILM05.3 ILM05.3	
Matrix Water			
CLP Volatile Organic Compounds	TAL CT	OLM04.2 OLM04.2/Vol	
Purge-and-Trap	TAL CT		SW846 5030B

Lab References:

TAL BUF = TestAmerica Buffalo

TAL CT = TestAmerica Connecticut

Method References:

ILM05.3 = U.S. Environmental Protection Agency

OLM04.2 = "Statement of Work for Organic Analysis", Multi-Media, Multi-Concentration September 1998

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

METHOD / ANALYST SUMMARY

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Method	Analyst	Analyst ID
OLM04.2 OLM04.2/Vol	Humbert, Dave	DH
SW846 8082	Smith, Karli	KS
EPA PercentMoisture	Culik, Marie E	MEC

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-09 (7.5-8.5)

Lab Sample ID: 220-5884-1

Date Sampled: 07/16/2008 0758

Client Matrix: Solid

% Moisture: 19.8

Date Received: 07/17/2008 0951

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18283

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5187.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/23/2008 1609

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1609

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chloromethane		12	U	0.12	12
Vinyl chloride		12	U	0.12	12
Bromomethane		12	U	0.12	12
Chloroethane		12	U	0.12	12
1,1-Dichloroethene		12	U	0.12	12
Carbon disulfide		12	U	0.12	12
Acetone		15	B	0.12	12
Methylene Chloride		4.6	J B	0.12	12
1,1-Dichloroethane		12	U	0.12	12
Methyl Ethyl Ketone		12	U	0.12	12
Chloroform		12	U	0.12	12
1,1,1-Trichloroethane		12	U	0.12	12
Carbon tetrachloride		12	U	0.12	12
Benzene		12	U	0.12	12
1,2-Dichloroethane		12	U	0.12	12
Trichloroethene		1.1	J	0.12	12
1,2-Dichloropropane		12	U	0.12	12
Bromodichloromethane		12	U	0.12	12
cis-1,3-Dichloropropene		12	U	0.12	12
methyl isobutyl ketone		12	U	0.12	12
Toluene		12	U	0.12	12
trans-1,3-Dichloropropene		12	U	0.12	12
1,1,2-Trichloroethane		12	U	0.12	12
Tetrachloroethene		12	U	0.12	12
2-Hexanone		12	U	0.12	12
Dibromochloromethane		12	U	0.12	12
Chlorobenzene		12	U	0.12	12
Ethylbenzene		12	U	0.12	12
Styrene		12	U	0.12	12
Bromoform		12	U	0.12	12
1,1,2,2-Tetrachloroethane		12	U	0.12	12
Xylenes, Total		12	U	0.12	12
cis-1,2-Dichloroethene		12	U	0.12	12
trans-1,2-Dichloroethene		12	U	0.12	12
Dichlorodifluoromethane		12	U	0.12	12
Trichlorofluoromethane		12	U	0.12	12
1,1,2-Trichloro-1,2,2-trifluoroethane		12	U	0.12	12
Methyl tert-butyl ether		12	U	0.12	12
1,2-Dibromoethane		12	U	0.12	12
Isopropylbenzene		12	U	0.12	12
1,3-Dichlorobenzene		12	U	0.12	12
1,4-Dichlorobenzene		12	U	0.12	12
1,2-Dichlorobenzene		12	U	0.12	12
1,2-Dibromo-3-Chloropropane		12	U	0.12	12

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-09 (7.5-8.5)

Lab Sample ID: 220-5884-1

Date Sampled: 07/16/2008 0758

Client Matrix: Solid

% Moisture: 19.8

Date Received: 07/17/2008 0951

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18283

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5187.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/23/2008 1609

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1609

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene		12	U	0.12	12
Methyl acetate		12	U	0.12	12
Cyclohexane		12	U	0.12	12
Methylcyclohexane		12	U	0.12	12
Surrogate		%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		100		70 - 121	
4-Bromofluorobenzene		102		59 - 113	
Toluene-d8 (Surr)		103		84 - 138	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-11 (14-15)

Lab Sample ID: 220-5884-5

Date Sampled: 07/16/2008 0730

Client Matrix: Solid

% Moisture: 13.4

Date Received: 07/17/2008 0951

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5164.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 1904

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1904

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chloromethane		12	U	0.12	12
Vinyl chloride		12	U	0.12	12
Bromomethane		12	U	0.12	12
Chloroethane		12	U	0.12	12
1,1-Dichloroethene		12	U	0.12	12
Carbon disulfide		12	U	0.12	12
Acetone		12	U	0.12	12
Methylene Chloride		5.2	J B	0.12	12
1,1-Dichloroethane		12	U	0.12	12
Methyl Ethyl Ketone		12	U	0.12	12
Chloroform		12	U	0.12	12
1,1,1-Trichloroethane		12	U	0.12	12
Carbon tetrachloride		12	U	0.12	12
Benzene		12	U	0.12	12
1,2-Dichloroethane		12	U	0.12	12
Trichloroethene		9.7	J	0.12	12
1,2-Dichloropropane		12	U	0.12	12
Bromodichloromethane		12	U	0.12	12
cis-1,3-Dichloropropene		12	U	0.12	12
methyl isobutyl ketone		12	U	0.12	12
Toluene		0.72	J B	0.12	12
trans-1,3-Dichloropropene		12	U	0.12	12
1,1,2-Trichloroethane		12	U	0.12	12
Tetrachloroethene		12	U	0.12	12
2-Hexanone		12	U	0.12	12
Dibromochloromethane		12	U	0.12	12
Chlorobenzene		12	U	0.12	12
Ethylbenzene		12	U	0.12	12
Styrene		12	U	0.12	12
Bromoform		12	U	0.12	12
1,1,2,2-Tetrachloroethane		12	U	0.12	12
Xylenes, Total		0.63	J	0.12	12
cis-1,2-Dichloroethene		12	U	0.12	12
trans-1,2-Dichloroethene		12	U	0.12	12
Dichlorodifluoromethane		12	U	0.12	12
Trichlorofluoromethane		12	U	0.12	12
1,1,2-Trichloro-1,2,2-trifluoroethane		12	U	0.12	12
Methyl tert-butyl ether		12	U	0.12	12
1,2-Dibromoethane		12	U	0.12	12
Isopropylbenzene		12	U	0.12	12
1,3-Dichlorobenzene		12	U	0.12	12
1,4-Dichlorobenzene		12	U	0.12	12
1,2-Dichlorobenzene		12	U	0.12	12
1,2-Dibromo-3-Chloropropane		12	U	0.12	12

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-11 (14-15)

Lab Sample ID: 220-5884-5

Date Sampled: 07/16/2008 0730

Client Matrix: Solid

% Moisture: 13.4

Date Received: 07/17/2008 0951

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5164.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 1904

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1904

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene		12	U	0.12	12
Methyl acetate		12	U	0.12	12
Cyclohexane		12	U	0.12	12
Methylcyclohexane		12	U	0.12	12
Surrogate		%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		118		70 - 121	
4-Bromofluorobenzene		107		59 - 113	
Toluene-d8 (Surr)		110		84 - 138	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-13 (4-5)

Lab Sample ID: 220-5884-7

Date Sampled: 07/16/2008 0855

Client Matrix: Solid

% Moisture: 17.1

Date Received: 07/17/2008 0951

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5165.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 1929

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1929

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chloromethane		12	U	0.12	12
Vinyl chloride		12	U	0.12	12
Bromomethane		12	U	0.12	12
Chloroethane		12	U	0.12	12
1,1-Dichloroethene		12	U	0.12	12
Carbon disulfide		12	U	0.12	12
Acetone		12	U	0.12	12
Methylene Chloride		2.4	J B	0.12	12
1,1-Dichloroethane		12	U	0.12	12
Methyl Ethyl Ketone		12	U	0.12	12
Chloroform		12	U	0.12	12
1,1,1-Trichloroethane		12	U	0.12	12
Carbon tetrachloride		12	U	0.12	12
Benzene		12	U	0.12	12
1,2-Dichloroethane		12	U	0.12	12
Trichloroethene		12	U	0.12	12
1,2-Dichloropropane		12	U	0.12	12
Bromodichloromethane		12	U	0.12	12
cis-1,3-Dichloropropene		12	U	0.12	12
methyl isobutyl ketone		12	U	0.12	12
Toluene		12	U	0.12	12
trans-1,3-Dichloropropene		12	U	0.12	12
1,1,2-Trichloroethane		12	U	0.12	12
Tetrachloroethene		12	U	0.12	12
2-Hexanone		12	U	0.12	12
Dibromochloromethane		12	U	0.12	12
Chlorobenzene		12	U	0.12	12
Ethylbenzene		12	U	0.12	12
Styrene		12	U	0.12	12
Bromoform		12	U	0.12	12
1,1,2,2-Tetrachloroethane		12	U	0.12	12
Xylenes, Total		12	U	0.12	12
cis-1,2-Dichloroethene		12	U	0.12	12
trans-1,2-Dichloroethene		12	U	0.12	12
Dichlorodifluoromethane		12	U	0.12	12
Trichlorofluoromethane		12	U	0.12	12
1,1,2-Trichloro-1,2,2-trifluoroethane		12	U	0.12	12
Methyl tert-butyl ether		12	U	0.12	12
1,2-Dibromoethane		12	U	0.12	12
Isopropylbenzene		12	U	0.12	12
1,3-Dichlorobenzene		12	U	0.12	12
1,4-Dichlorobenzene		12	U	0.12	12
1,2-Dichlorobenzene		12	U	0.12	12
1,2-Dibromo-3-Chloropropane		12	U	0.12	12

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-13 (4-5)

Lab Sample ID: 220-5884-7

Date Sampled: 07/16/2008 0855

Client Matrix: Solid

% Moisture: 17.1

Date Received: 07/17/2008 0951

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5165.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 1929

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1929

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene		12	U	0.12	12
Methyl acetate		12	U	0.12	12
Cyclohexane		12	U	0.12	12
Methylcyclohexane		12	U	0.12	12
Surrogate		%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		84		70 - 121	
4-Bromofluorobenzene		46	*	59 - 113	
Toluene-d8 (Surr)		71	*	84 - 138	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-14 (7-8)

Lab Sample ID: 220-5884-8

Date Sampled: 07/16/2008 0830

Client Matrix: Solid

% Moisture: 13.1

Date Received: 07/17/2008 0951

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5166.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 1954

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1954

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chloromethane		12	U	0.12	12
Vinyl chloride		12	U	0.12	12
Bromomethane		12	U	0.12	12
Chloroethane		12	U	0.12	12
1,1-Dichloroethene		12	U	0.12	12
Carbon disulfide		12	U	0.12	12
Acetone		12	U	0.12	12
Methylene Chloride		2.7	J B	0.12	12
1,1-Dichloroethane		12	U	0.12	12
Methyl Ethyl Ketone		12	U	0.12	12
Chloroform		12	U	0.12	12
1,1,1-Trichloroethane		12	U	0.12	12
Carbon tetrachloride		12	U	0.12	12
Benzene		0.80	J	0.12	12
1,2-Dichloroethane		12	U	0.12	12
Trichloroethene		12	U	0.12	12
1,2-Dichloropropane		12	U	0.12	12
Bromodichloromethane		12	U	0.12	12
cis-1,3-Dichloropropene		12	U	0.12	12
methyl isobutyl ketone		12	U	0.12	12
Toluene		2.0	J B	0.12	12
trans-1,3-Dichloropropene		12	U	0.12	12
1,1,2-Trichloroethane		12	U	0.12	12
Tetrachloroethene		12	U	0.12	12
2-Hexanone		12	U	0.12	12
Dibromochloromethane		12	U	0.12	12
Chlorobenzene		12	U	0.12	12
Ethylbenzene		0.83	J	0.12	12
Styrene		12	U	0.12	12
Bromoform		12	U	0.12	12
1,1,2,2-Tetrachloroethane		12	U	0.12	12
Xylenes, Total		1.3	J	0.12	12
cis-1,2-Dichloroethene		12	U	0.12	12
trans-1,2-Dichloroethene		12	U	0.12	12
Dichlorodifluoromethane		12	U	0.12	12
Trichlorofluoromethane		12	U	0.12	12
1,1,2-Trichloro-1,2,2-trifluoroethane		12	U	0.12	12
Methyl tert-butyl ether		12	U	0.12	12
1,2-Dibromoethane		12	U	0.12	12
Isopropylbenzene		0.92	J	0.12	12
1,3-Dichlorobenzene		12	U	0.12	12
1,4-Dichlorobenzene		12	U	0.12	12
1,2-Dichlorobenzene		12	U	0.12	12
1,2-Dibromo-3-Chloropropane		12	U	0.12	12

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-14 (7-8)

Lab Sample ID: 220-5884-8

Date Sampled: 07/16/2008 0830

Client Matrix: Solid

% Moisture: 13.1

Date Received: 07/17/2008 0951

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5166.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 1954

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1954

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene		12	U	0.12	12
Methyl acetate		12	U	0.12	12
Cyclohexane		12	U	0.12	12
Methylcyclohexane		3.3	J	0.12	12
Surrogate		%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		100		70 - 121	
4-Bromofluorobenzene		76		59 - 113	
Toluene-d8 (Surr)		100		84 - 138	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: TRIP BLANK

Lab Sample ID: 220-5884-15TB

Client Matrix: Water

Date Sampled: 07/16/2008 0000

Date Received: 07/17/2008 0951

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18355

Instrument ID: HP 6890/5973 GC/MS

Preparation: 5030B

Lab File ID: Y4804.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 07/22/2008 1546

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1546

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloromethane	10	U	0.10	10
Vinyl chloride	10	U	0.10	10
Bromomethane	10	U	0.10	10
Chloroethane	10	U	0.10	10
1,1-Dichloroethene	10	U	0.10	10
Carbon disulfide	10	U	0.10	10
Acetone	10	U	0.10	10
Methylene Chloride	10	U	0.10	10
1,1-Dichloroethane	10	U	0.10	10
Methyl Ethyl Ketone	10	U	0.10	10
Chloroform	10	U	0.10	10
1,1,1-Trichloroethane	10	U	0.10	10
Carbon tetrachloride	10	U	0.10	10
Benzene	10	U	0.10	10
1,2-Dichloroethane	10	U	0.10	10
Trichloroethene	10	U	0.10	10
1,2-Dichloropropane	10	U	0.10	10
Bromodichloromethane	10	U	0.10	10
cis-1,3-Dichloropropene	10	U	0.10	10
methyl isobutyl ketone	10	U	0.10	10
Toluene	10	U	0.10	10
trans-1,3-Dichloropropene	10	U	0.10	10
1,1,2-Trichloroethane	10	U	0.10	10
Tetrachloroethene	10	U	0.10	10
2-Hexanone	10	U	0.10	10
Dibromochloromethane	10	U	0.10	10
Chlorobenzene	10	U	0.10	10
Ethylbenzene	10	U	0.10	10
Styrene	10	U	0.10	10
Bromoform	10	U	0.10	10
1,1,2,2-Tetrachloroethane	10	U	0.10	10
Xylenes, Total	10	U	0.10	10
cis-1,2-Dichloroethene	10	U	0.10	10
trans-1,2-Dichloroethene	10	U	0.10	10
Dichlorodifluoromethane	10	U	0.10	10
Trichlorofluoromethane	10	U	0.10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	0.10	10
Methyl tert-butyl ether	10	U	0.10	10
1,2-Dibromoethane	10	U	0.10	10
Isopropylbenzene	10	U	0.10	10
1,3-Dichlorobenzene	10	U	0.10	10
1,4-Dichlorobenzene	10	U	0.10	10
1,2-Dichlorobenzene	10	U	0.10	10
1,2-Dibromo-3-Chloropropane	10	U	0.10	10

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: TRIP BLANK

Lab Sample ID: 220-5884-15TB

Client Matrix: Water

Date Sampled: 07/16/2008 0000

Date Received: 07/17/2008 0951

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18355

Instrument ID: HP 6890/5973 GC/MS

Preparation: 5030B

Lab File ID: Y4804.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 07/22/2008 1546

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1546

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene	10	U	0.10	10
Methyl acetate	10	U	0.10	10
Cyclohexane	10	U	0.10	10
Methylcyclohexane	10	U	0.10	10
Surrogate	%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	99		76 - 114	
4-Bromofluorobenzene	93		86 - 115	
Toluene-d8 (Surr)	100		88 - 110	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-09 (7.5-8.5)

Lab Sample ID: 220-5884-1

Date Sampled: 07/16/2008 0758

Client Matrix: Solid

% Moisture: 19.8

Date Received: 07/17/2008 0951

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082

Analysis Batch: 220-18252

Instrument ID: HP 5890 with dual ECD

Preparation: 3550B

Prep Batch: 220-18172

Lab File ID: D4716124.d

Dilution: 1.0

Initial Weight/Volume: 30.36 g

Date Analyzed: 07/22/2008 2108

Final Weight/Volume: 10 mL

Date Prepared: 07/21/2008 1909

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		21	U	5.7	21
PCB-1221		41	U	1.4	41
PCB-1232		21	U	5.7	21
PCB-1242		21	U	5.7	21
PCB-1248		21	U	5.7	21
PCB-1254		21	U	1.9	21
PCB-1260		21	U	4.3	21

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	120	24 - 154
DCB Decachlorobiphenyl	99	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-09 (4-5)

Lab Sample ID: 220-5884-2

Date Sampled: 07/16/2008 0805

Client Matrix: Solid

% Moisture: 9.3

Date Received: 07/17/2008 0951

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082

Analysis Batch: 220-18252

Instrument ID: HP 5890 with dual ECD

Preparation: 3550B

Prep Batch: 220-18172

Lab File ID: D4716125.d

Dilution: 1.0

Initial Weight/Volume: 30.48 g

Date Analyzed: 07/22/2008 2125

Final Weight/Volume: 10 mL

Date Prepared: 07/21/2008 1909

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		18	U	5.0	18
PCB-1221		36	U	1.2	36
PCB-1232		18	U	5.0	18
PCB-1242		18	U	5.0	18
PCB-1248		18	U	5.0	18
PCB-1254		18	U	1.7	18
PCB-1260		18	U	3.7	18

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	83	24 - 154
DCB Decachlorobiphenyl	83	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-10 (17-18)

Lab Sample ID: 220-5884-3

Date Sampled: 07/16/2008 1418

Client Matrix: Solid

% Moisture: 10.0

Date Received: 07/17/2008 0951

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082

Analysis Batch: 220-18252

Instrument ID: HP 5890 with dual ECD

Preparation: 3550B

Prep Batch: 220-18172

Lab File ID: D4716126.d

Dilution: 1.0

Initial Weight/Volume: 30.13 g

Date Analyzed: 07/22/2008 2141

Final Weight/Volume: 10 mL

Date Prepared: 07/21/2008 1909

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		19	U	5.1	19
PCB-1221		37	U	1.2	37
PCB-1232		19	U	5.1	19
PCB-1242		19	U	5.1	19
PCB-1248		19	U	5.1	19
PCB-1254		19	U	1.7	19
PCB-1260		19	U	3.8	19

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	90	24 - 154
DCB Decachlorobiphenyl	104	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-11 (4-5)

Lab Sample ID: 220-5884-4

Date Sampled: 07/16/2008 0730

Client Matrix: Solid

% Moisture: 17.7

Date Received: 07/17/2008 0951

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082

Analysis Batch: 220-18252

Instrument ID: HP 5890 with dual ECD

Preparation: 3550B

Prep Batch: 220-18172

Lab File ID: D4716127.d

Dilution: 1.0

Initial Weight/Volume: 30.19 g

Date Analyzed: 07/22/2008 2158

Final Weight/Volume: 10 mL

Date Prepared: 07/21/2008 1909

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		21	U	5.6	21
PCB-1221		40	U	1.3	40
PCB-1232		21	U	5.6	21
PCB-1242		21	U	5.6	21
PCB-1248		21	U	5.6	21
PCB-1254		21	U	1.8	21
PCB-1260		21	U	4.2	21

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	99	24 - 154
DCB Decachlorobiphenyl	93	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-12 (14-15)

Lab Sample ID: 220-5884-6

Date Sampled: 07/16/2008 1435

Client Matrix: Solid

% Moisture: 10.8

Date Received: 07/17/2008 0951

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082

Analysis Batch: 220-18252

Instrument ID: HP 5890 with dual ECD

Preparation: 3550B

Prep Batch: 220-18172

Lab File ID: D4716128.d

Dilution: 1.0

Initial Weight/Volume: 30.58 g

Date Analyzed: 07/22/2008 2215

Final Weight/Volume: 10 mL

Date Prepared: 07/21/2008 1909

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		19	U	5.1	19
PCB-1221		36	U	1.2	36
PCB-1232		19	U	5.1	19
PCB-1242		19	U	5.1	19
PCB-1248		19	U	5.1	19
PCB-1254		19	U	1.7	19
PCB-1260		19	U	3.8	19

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	82	24 - 154
DCB Decachlorobiphenyl	96	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-13 (4-5)

Lab Sample ID: 220-5884-7

Date Sampled: 07/16/2008 0855

Client Matrix: Solid

% Moisture: 17.1

Date Received: 07/17/2008 0951

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082

Analysis Batch: 220-18252

Instrument ID: HP 5890 with dual ECD

Preparation: 3550B

Prep Batch: 220-18172

Lab File ID: D4716129.d

Dilution: 1.0

Initial Weight/Volume: 30.37 g

Date Analyzed: 07/22/2008 2232

Final Weight/Volume: 10 mL

Date Prepared: 07/21/2008 1909

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		20	U	5.5	20
PCB-1221		39	U	1.3	39
PCB-1232		20	U	5.5	20
PCB-1242		20	U	5.5	20
PCB-1248		20	U	5.5	20
PCB-1254		20	U	1.8	20
PCB-1260		20	U	4.1	20

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	70	24 - 154
DCB Decachlorobiphenyl	93	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-14 (7-8)

Lab Sample ID: 220-5884-8

Date Sampled: 07/16/2008 0830

Client Matrix: Solid

% Moisture: 13.1

Date Received: 07/17/2008 0951

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082

Analysis Batch: 220-18252

Instrument ID: HP 5890 with dual ECD

Preparation: 3550B

Prep Batch: 220-18172

Lab File ID: D4716130.d

Dilution: 1.0

Initial Weight/Volume: 30.41 g

Date Analyzed: 07/22/2008 2249

Final Weight/Volume: 10 mL

Date Prepared: 07/21/2008 1909

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		19	U	5.2	19
PCB-1221		37	U	1.3	37
PCB-1232		19	U	5.2	19
PCB-1242		19	U	5.2	19
PCB-1248		19	U	5.2	19
PCB-1254		19	U	1.7	19
PCB-1260		19	U	3.9	19

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	74	24 - 154
DCB Decachlorobiphenyl	65	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-15 (3-4)

Lab Sample ID: 220-5884-9

Date Sampled: 07/16/2008 0920

Client Matrix: Solid

% Moisture: 19.0

Date Received: 07/17/2008 0951

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082

Analysis Batch: 220-18252

Instrument ID: HP 5890 with dual ECD

Preparation: 3550B

Prep Batch: 220-18172

Lab File ID: D4716131.d

Dilution: 1.0

Initial Weight/Volume: 30.04 g

Date Analyzed: 07/22/2008 2305

Final Weight/Volume: 10 mL

Date Prepared: 07/21/2008 1909

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		21	U	5.7	21
PCB-1221		41	U	1.4	41
PCB-1232		21	U	5.7	21
PCB-1242		21	U	5.7	21
PCB-1248		21	U	5.7	21
PCB-1254		21	U	1.9	21
PCB-1260		21	U	4.3	21

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	57	24 - 154
DCB Decachlorobiphenyl	62	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-16 4-5)

Lab Sample ID: 220-5884-10

Date Sampled: 07/16/2008 1013

Client Matrix: Solid

% Moisture: 13.3

Date Received: 07/17/2008 0951

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082

Analysis Batch: 220-18252

Instrument ID: HP 5890 with dual ECD

Preparation: 3550B

Prep Batch: 220-18172

Lab File ID: D4716132.d

Dilution: 1.0

Initial Weight/Volume: 30.72 g

Date Analyzed: 07/22/2008 2322

Final Weight/Volume: 10 mL

Date Prepared: 07/21/2008 1909

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		19	U	5.2	19
PCB-1221		37	U	1.2	37
PCB-1232		19	U	5.2	19
PCB-1242		19	U	5.2	19
PCB-1248		19	U	5.2	19
PCB-1254		19	U	1.7	19
PCB-1260		19	U	3.9	19

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	71	24 - 154
DCB Decachlorobiphenyl	65	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-17 (14-15)

Lab Sample ID: 220-5884-11

Date Sampled: 07/16/2008 1348

Client Matrix: Solid

% Moisture: 5.9

Date Received: 07/17/2008 0951

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082

Analysis Batch: 220-18252

Instrument ID: HP 5890 with dual ECD

Preparation: 3550B

Prep Batch: 220-18172

Lab File ID: D4716133.d

Dilution: 1.0

Initial Weight/Volume: 30.68 g

Date Analyzed: 07/22/2008 2339

Final Weight/Volume: 10 mL

Date Prepared: 07/21/2008 1909

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		18	U	4.8	18
PCB-1221		34	U	1.1	34
PCB-1232		18	U	4.8	18
PCB-1242		18	U	4.8	18
PCB-1248		18	U	4.8	18
PCB-1254		18	U	1.6	18
PCB-1260		18	U	3.6	18

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	73	24 - 154
DCB Decachlorobiphenyl	85	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-18 (14-15)

Lab Sample ID: 220-5884-12

Date Sampled: 07/16/2008 1450

Client Matrix: Solid

% Moisture: 7.0

Date Received: 07/17/2008 0951

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 220-18252	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch: 220-18172	Lab File ID:	C4716134.d
Dilution:	1.0		Initial Weight/Volume:	30.79 g
Date Analyzed:	07/22/2008 2356		Final Weight/Volume:	10 mL
Date Prepared:	07/21/2008 1909		Injection Volume:	1.0 uL
			Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		18	U	4.8	18
PCB-1221		35	U	1.2	35
PCB-1232		18	U	4.8	18
PCB-1242		18	U	4.8	18
PCB-1248		18	U	4.8	18
PCB-1254		18	U	1.6	18
PCB-1260		7.7	J	3.6	18

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	81	24 - 154
DCB Decachlorobiphenyl	95	25 - 159

Method:	8082	Analysis Batch: 220-18252	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch: 220-18172	Lab File ID:	C4716134.d
Dilution:	1.0		Initial Weight/Volume:	30.79 g
Date Analyzed:	07/22/2008 2356		Final Weight/Volume:	10 mL
Date Prepared:	07/21/2008 1909		Injection Volume:	1.0 uL
			Column ID:	SECONDARY

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	76	24 - 154
DCB Decachlorobiphenyl	88	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-19 (3.5-4.5)

Lab Sample ID: 220-5884-13

Date Sampled: 07/16/2008 1036

Client Matrix: Solid

% Moisture: 11.3

Date Received: 07/17/2008 0951

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 220-18252	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch: 220-18172	Lab File ID:	C4716135.d
Dilution:	1.0		Initial Weight/Volume:	30.43 g
Date Analyzed:	07/23/2008 0012		Final Weight/Volume:	10 mL
Date Prepared:	07/21/2008 1909		Injection Volume:	1.0 uL
			Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		19	U	5.1	19
PCB-1221		37	U	1.2	37
PCB-1232		19	U	5.1	19
PCB-1242		19	U	5.1	19
PCB-1248		19	U	5.1	19
PCB-1254		19	U	1.7	19
PCB-1260		16	J	3.8	19

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	65	24 - 154
DCB Decachlorobiphenyl	62	25 - 159

Method:	8082	Analysis Batch: 220-18252	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch: 220-18172	Lab File ID:	D4716135.d
Dilution:	1.0		Initial Weight/Volume:	30.43 g
Date Analyzed:	07/23/2008 0012		Final Weight/Volume:	10 mL
Date Prepared:	07/21/2008 1909		Injection Volume:	1.0 uL
			Column ID:	SECONDARY

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	52	24 - 154
DCB Decachlorobiphenyl	56	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Client Sample ID: SB-20 (14-15)

Lab Sample ID: 220-5884-14

Date Sampled: 07/16/2008 1445

Client Matrix: Solid

% Moisture: 2.5

Date Received: 07/17/2008 0951

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082

Analysis Batch: 220-18252

Instrument ID: HP 5890 with dual ECD

Preparation: 3550B

Prep Batch: 220-18172

Lab File ID: D4716136.d

Dilution: 1.0

Initial Weight/Volume: 30.72 g

Date Analyzed: 07/23/2008 0029

Final Weight/Volume: 10 mL

Date Prepared: 07/21/2008 1909

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		17	U	4.6	17
PCB-1221		33	U	1.1	33
PCB-1232		17	U	4.6	17
PCB-1242		17	U	4.6	17
PCB-1248		17	U	4.6	17
PCB-1254		17	U	1.5	17
PCB-1260		17	U	3.5	17

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	95	24 - 154
DCB Decachlorobiphenyl	113	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

General Chemistry

Client Sample ID: SB-09 (7.5-8.5)

Lab Sample ID: 220-5884-1

Client Matrix: Solid

Date Sampled: 07/16/2008 0758

Date Received: 07/17/2008 0951

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	19.8		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			
Percent Solids	80.2		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			

Client Sample ID: SB-09 (4-5)

Lab Sample ID: 220-5884-2

Client Matrix: Solid

Date Sampled: 07/16/2008 0805

Date Received: 07/17/2008 0951

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	9.34		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			
Percent Solids	90.7		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			

Client Sample ID: SB-10 (17-18)

Lab Sample ID: 220-5884-3

Client Matrix: Solid

Date Sampled: 07/16/2008 1418

Date Received: 07/17/2008 0951

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	10.0		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			
Percent Solids	90.0		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

General Chemistry

Client Sample ID: SB-11 (4-5)

Lab Sample ID: 220-5884-4

Client Matrix: Solid

Date Sampled: 07/16/2008 0730

Date Received: 07/17/2008 0951

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	17.7		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			
Percent Solids	82.3		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			

Client Sample ID: SB-11 (14-15)

Lab Sample ID: 220-5884-5

Client Matrix: Solid

Date Sampled: 07/16/2008 0730

Date Received: 07/17/2008 0951

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	13.4		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			
Percent Solids	86.6		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			

Client Sample ID: SB-12 (14-15)

Lab Sample ID: 220-5884-6

Client Matrix: Solid

Date Sampled: 07/16/2008 1435

Date Received: 07/17/2008 0951

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	10.8		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			
Percent Solids	89.2		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			

Client Sample ID: SB-13 (4-5)

Lab Sample ID: 220-5884-7

Client Matrix: Solid

Date Sampled: 07/16/2008 0855

Date Received: 07/17/2008 0951

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	17.1		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			
Percent Solids	82.9		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

General Chemistry

Client Sample ID: SB-14 (7-8)

Lab Sample ID: 220-5884-8

Client Matrix: Solid

Date Sampled: 07/16/2008 0830

Date Received: 07/17/2008 0951

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	13.1		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			
Percent Solids	86.9		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			

Client Sample ID: SB-15 (3-4)

Lab Sample ID: 220-5884-9

Client Matrix: Solid

Date Sampled: 07/16/2008 0920

Date Received: 07/17/2008 0951

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	19.0		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			
Percent Solids	81.0		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			

Client Sample ID: SB-16 4-5)

Lab Sample ID: 220-5884-10

Client Matrix: Solid

Date Sampled: 07/16/2008 1013

Date Received: 07/17/2008 0951

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	13.3		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			
Percent Solids	86.7		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			

Client Sample ID: SB-17 (14-15)

Lab Sample ID: 220-5884-11

Client Matrix: Solid

Date Sampled: 07/16/2008 1348

Date Received: 07/17/2008 0951

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	5.89		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			
Percent Solids	94.1		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

General Chemistry

Client Sample ID: SB-18 (14-15)

Lab Sample ID: 220-5884-12

Client Matrix: Solid

Date Sampled: 07/16/2008 1450

Date Received: 07/17/2008 0951

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	7.00		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			
Percent Solids	93.0		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			

Client Sample ID: SB-19 (3.5-4.5)

Lab Sample ID: 220-5884-13

Client Matrix: Solid

Date Sampled: 07/16/2008 1036

Date Received: 07/17/2008 0951

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	11.3		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			
Percent Solids	88.7		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			

Client Sample ID: SB-20 (14-15)

Lab Sample ID: 220-5884-14

Client Matrix: Solid

Date Sampled: 07/16/2008 1445

Date Received: 07/17/2008 0951

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	2.48		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			
Percent Solids	97.5		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18119	Date Analyzed		07/18/2008 1325			

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Surrogate Recovery Report

OLM04.2/Vol CLP Volatile Organic Compounds

Client Matrix: Solid

Lab Sample ID	Client Sample ID	12DCE %Rec	TOL %Rec	BFB %Rec
220-5884-1	SB-09 (7.5-8.5)	100	103	102
220-5884-5	SB-11 (14-15)	118	110	107
220-5884-7	SB-13 (4-5)	84	71*	46*
220-5884-8	SB-14 (7-8)	100	100	76
MB 220-18283/2		98	97	106
MB 220-18353/2		95	99	103
LCS 220-18283/3		100	98	97
LCS 220-18353/3		96	97	99
MSB 220-18283/11		102	100	98
220-5884-1 MS	SB-09 (7.5-8.5) MS	93	107	81
220-5884-1 MSD	SB-09 (7.5-8.5) MSD	80	92	70

Surrogate	Acceptance Limits
12DCE = 1,2-Dichloroethane-d4 (Surr)	70-121
TOL = Toluene-d8 (Surr)	84-138
BFB = 4-Bromofluorobenzene	59-113

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Surrogate Recovery Report

OLM04.2/Vol CLP Volatile Organic Compounds

Client Matrix: Water

Lab Sample ID	Client Sample ID	12DCE %Rec	TOL %Rec	BFB %Rec
220-5884-15	TRIP BLANK	99	100	93
MB 220-18355/2		94	103	94
LCS 220-18355/3		98	101	99

Surrogate	Acceptance Limits
12DCE = 1,2-Dichloroethane-d4 (Surr)	76-114
TOL = Toluene-d8 (Surr)	88-110
BFB = 4-Bromofluorobenzene	86-115

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Surrogate Recovery Report

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Matrix: Solid

Lab Sample ID	Client Sample ID	TCX1 %Rec	TCX2 %Rec	DCB1 %Rec	DCB2 %Rec
220-5884-1	SB-09 (7.5-8.5)		120		99
220-5884-2	SB-09 (4-5)		83		83
220-5884-3	SB-10 (17-18)		90		104
220-5884-4	SB-11 (4-5)		99		93
220-5884-6	SB-12 (14-15)		82		96
220-5884-7	SB-13 (4-5)		70		93
220-5884-8	SB-14 (7-8)		74		65
220-5884-9	SB-15 (3-4)		57		62
220-5884-10	SB-16 (4-5)		71		65
220-5884-11	SB-17 (14-15)		73		85
220-5884-12	SB-18 (14-15)	76	81	95	88
220-5884-13	SB-19 (3.5-4.5)	65	52	62	56
220-5884-14	SB-20 (14-15)		95		113
MB 220-18172/1-A		99	92	107	101
LCS 220-18172/2-A		98	89	109	103

Surrogate	Acceptance Limits
TCX = Tetrachloro-m-xylene	24-154
DCB = DCB Decachlorobiphenyl	25-159

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Method Blank - Batch: 220-18283

Method: OLM04.2/Vol Preparation: 5030B

Lab Sample ID: MB 220-18283/2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/23/2008 1038
Date Prepared: 07/23/2008 1038

Analysis Batch: 220-18283
Prep Batch: N/A
Units: ug/Kg

Instrument ID: HP 5890/5971A GC/MS
Lab File ID: O5178.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
Chloromethane	10	U	0.10	10
Vinyl chloride	10	U	0.10	10
Bromomethane	10	U	0.10	10
Chloroethane	10	U	0.10	10
1,1-Dichloroethene	10	U	0.10	10
Carbon disulfide	10	U	0.10	10
Acetone	2.2	J	0.10	10
Methylene Chloride	1.7	J	0.10	10
1,1-Dichloroethane	10	U	0.10	10
Methyl Ethyl Ketone	10	U	0.10	10
Chloroform	10	U	0.10	10
1,1,1-Trichloroethane	10	U	0.10	10
Carbon tetrachloride	10	U	0.10	10
Benzene	10	U	0.10	10
1,2-Dichloroethane	10	U	0.10	10
Trichloroethene	10	U	0.10	10
1,2-Dichloropropane	10	U	0.10	10
Bromodichloromethane	10	U	0.10	10
cis-1,3-Dichloropropene	10	U	0.10	10
methyl isobutyl ketone	10	U	0.10	10
Toluene	0.41	J	0.10	10
trans-1,3-Dichloropropene	10	U	0.10	10
1,1,2-Trichloroethane	10	U	0.10	10
Tetrachloroethene	10	U	0.10	10
2-Hexanone	10	U	0.10	10
Dibromochloromethane	10	U	0.10	10
Chlorobenzene	10	U	0.10	10
Ethylbenzene	10	U	0.10	10
Styrene	10	U	0.10	10
Bromoform	10	U	0.10	10
1,1,2,2-Tetrachloroethane	10	U	0.10	10
Xylenes, Total	10	U	0.10	10
cis-1,2-Dichloroethene	10	U	0.10	10
trans-1,2-Dichloroethene	10	U	0.10	10
Dichlorodifluoromethane	10	U	0.10	10
Trichlorofluoromethane	10	U	0.10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	0.10	10
Methyl tert-butyl ether	10	U	0.10	10
1,2-Dibromoethane	10	U	0.10	10
Isopropylbenzene	10	U	0.10	10
1,3-Dichlorobenzene	10	U	0.10	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Method Blank - Batch: 220-18283

Method: OLM04.2/Vol Preparation: 5030B

Lab Sample ID: MB 220-18283/2

Analysis Batch: 220-18283

Instrument ID: HP 5890/5971A GC/MS

Client Matrix: Solid

Prep Batch: N/A

Lab File ID: O5178.D

Dilution: 1.0

Units: ug/Kg

Initial Weight/Volume: 5 g

Date Analyzed: 07/23/2008 1038

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1038

Analyte	Result	Qual	MDL	RL
1,4-Dichlorobenzene	10	U	0.10	10
1,2-Dichlorobenzene	10	U	0.10	10
1,2-Dibromo-3-Chloropropane	10	U	0.10	10
1,2,4-Trichlorobenzene	10	U	0.10	10
Methyl acetate	10	U	0.10	10
Cyclohexane	10	U	0.10	10
Methylcyclohexane	10	U	0.10	10
Surrogate	% Rec	Acceptance Limits		
1,2-Dichloroethane-d4 (Surr)	98	70 - 121		
4-Bromofluorobenzene	106	59 - 113		
Toluene-d8 (Surr)	97	84 - 138		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Lab Control Spike - Batch: 220-18283

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: LCS 220-18283/3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/23/2008 1126
Date Prepared: 07/23/2008 1126

Analysis Batch: 220-18283
Prep Batch: N/A
Units: ug/Kg

Instrument ID: HP 5890/5971A GC/MS
Lab File ID: O5179.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethene	20.0	20.1	101	59 - 172	
Benzene	20.0	19.7	98	66 - 142	
Trichloroethene	20.0	19.7	98	62 - 137	
Toluene	20.0	20.4	102	59 - 139	
Chlorobenzene	20.0	19.6	98	60 - 133	
Surrogate	% Rec		Acceptance Limits		
1,2-Dichloroethane-d4 (Surr)	100		70 - 121		
4-Bromofluorobenzene	97		59 - 113		
Toluene-d8 (Surr)	98		84 - 138		

Matrix Spike Blank - Batch: 220-18283

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: MSB 220-18283/11
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/23/2008 1855
Date Prepared: 07/23/2008 1855

Analysis Batch: 220-18283
Prep Batch: N/A
Units: ug/Kg

Instrument ID: HP 5890/5971A GC/MS
Lab File ID: O5193.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethene	50.0	57.4	115	59 - 172	
Benzene	50.0	49.9	100	66 - 142	
Trichloroethene	50.0	49.9	100	62 - 137	
Toluene	50.0	50.7	101	59 - 139	
Chlorobenzene	50.0	49.1	98	60 - 133	
Surrogate	% Rec		Acceptance Limits		
1,2-Dichloroethane-d4 (Surr)	102		70 - 121		
4-Bromofluorobenzene	98		59 - 113		
Toluene-d8 (Surr)	100		84 - 138		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 220-18283

Method: OLM04.2/Vol
Preparation: 5030B

MS Lab Sample ID: 220-5884-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/23/2008 1920
Date Prepared: 07/23/2008 1920

Analysis Batch: 220-18283
Prep Batch: N/A

Instrument ID: HP 5890/5971A GC/MS
Lab File ID: O5194.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL

MSD Lab Sample ID: 220-5884-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/23/2008 1945
Date Prepared: 07/23/2008 1945

Analysis Batch: 220-18283
Prep Batch: N/A

Instrument ID: HP 5890/5971A GC/MS
Lab File ID: O5195.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
1,1-Dichloroethene	120	104	59 - 172	14	22		
Benzene	108	97	66 - 142	10	21		
Trichloroethene	117	92	62 - 137	24	24		
Toluene	114	99	59 - 139	14	21		
Chlorobenzene	100	87	60 - 133	13	21		
Surrogate	MS % Rec		MSD % Rec	Acceptance Limits			
1,2-Dichloroethane-d4 (Surr)	93		80	70 - 121			
4-Bromofluorobenzene	81		70	59 - 113			
Toluene-d8 (Surr)	107		92	84 - 138			

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Method Blank - Batch: 220-18353

Method: OLM04.2/Vol Preparation: 5030B

Lab Sample ID: MB 220-18353/2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/22/2008 1047
Date Prepared: 07/22/2008 1047

Analysis Batch: 220-18353
Prep Batch: N/A
Units: ug/Kg

Instrument ID: HP 5890/5971A GC/MS
Lab File ID: O5149.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
Chloromethane	10	U	0.10	10
Vinyl chloride	10	U	0.10	10
Bromomethane	10	U	0.10	10
Chloroethane	10	U	0.10	10
1,1-Dichloroethene	10	U	0.10	10
Carbon disulfide	10	U	0.10	10
Acetone	2.1	J	0.10	10
Methylene Chloride	1.5	J	0.10	10
1,1-Dichloroethane	10	U	0.10	10
Methyl Ethyl Ketone	10	U	0.10	10
Chloroform	10	U	0.10	10
1,1,1-Trichloroethane	10	U	0.10	10
Carbon tetrachloride	10	U	0.10	10
Benzene	10	U	0.10	10
1,2-Dichloroethane	10	U	0.10	10
Trichloroethene	10	U	0.10	10
1,2-Dichloropropane	10	U	0.10	10
Bromodichloromethane	10	U	0.10	10
cis-1,3-Dichloropropene	10	U	0.10	10
methyl isobutyl ketone	10	U	0.10	10
Toluene	0.24	J	0.10	10
trans-1,3-Dichloropropene	10	U	0.10	10
1,1,2-Trichloroethane	10	U	0.10	10
Tetrachloroethene	10	U	0.10	10
2-Hexanone	10	U	0.10	10
Dibromochloromethane	10	U	0.10	10
Chlorobenzene	10	U	0.10	10
Ethylbenzene	10	U	0.10	10
Styrene	10	U	0.10	10
Bromoform	10	U	0.10	10
1,1,2,2-Tetrachloroethane	10	U	0.10	10
Xylenes, Total	10	U	0.10	10
cis-1,2-Dichloroethene	10	U	0.10	10
trans-1,2-Dichloroethene	10	U	0.10	10
Dichlorodifluoromethane	10	U	0.10	10
Trichlorofluoromethane	10	U	0.10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	0.10	10
Methyl tert-butyl ether	10	U	0.10	10
1,2-Dibromoethane	10	U	0.10	10
Isopropylbenzene	10	U	0.10	10
1,3-Dichlorobenzene	10	U	0.10	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Method Blank - Batch: 220-18353

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: MB 220-18353/2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/22/2008 1047
Date Prepared: 07/22/2008 1047

Analysis Batch: 220-18353
Prep Batch: N/A
Units: ug/Kg

Instrument ID: HP 5890/5971A GC/MS
Lab File ID: O5149.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
1,4-Dichlorobenzene	10	U	0.10	10
1,2-Dichlorobenzene	10	U	0.10	10
1,2-Dibromo-3-Chloropropane	10	U	0.10	10
1,2,4-Trichlorobenzene	10	U	0.10	10
Methyl acetate	10	U	0.10	10
Cyclohexane	10	U	0.10	10
Methylcyclohexane	10	U	0.10	10

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95	70 - 121
4-Bromofluorobenzene	103	59 - 113
Toluene-d8 (Surr)	99	84 - 138

Lab Control Spike - Batch: 220-18353

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: LCS 220-18353/3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/22/2008 1247
Date Prepared: 07/22/2008 1247

Analysis Batch: 220-18353
Prep Batch: N/A
Units: ug/Kg

Instrument ID: HP 5890/5971A GC/MS
Lab File ID: O5151.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethene	20.0	21.5	108	59 - 172	
Benzene	20.0	21.0	105	66 - 142	
Trichloroethene	20.0	20.4	102	62 - 137	
Toluene	20.0	21.4	107	59 - 139	
Chlorobenzene	20.0	21.2	106	60 - 133	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	96	70 - 121
4-Bromofluorobenzene	99	59 - 113
Toluene-d8 (Surr)	97	84 - 138

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Method Blank - Batch: 220-18355

Method: OLM04.2/Vol Preparation: 5030B

Lab Sample ID: MB 220-18355/2

Analysis Batch: 220-18355

Instrument ID: HP 6890/5973 GC/MS

Client Matrix: Water

Prep Batch: N/A

Lab File ID: Y4797.D

Dilution: 1.0

Units: ug/L

Initial Weight/Volume: 5 mL

Date Analyzed: 07/22/2008 1112

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1112

Analyte	Result	Qual	MDL	RL
Chloromethane	10	U	0.10	10
Vinyl chloride	10	U	0.10	10
Bromomethane	10	U	0.10	10
Chloroethane	10	U	0.10	10
1,1-Dichloroethene	10	U	0.10	10
Carbon disulfide	10	U	0.10	10
Acetone	10	U	0.10	10
Methylene Chloride	0.82	J	0.10	10
1,1-Dichloroethane	10	U	0.10	10
Methyl Ethyl Ketone	10	U	0.10	10
Chloroform	10	U	0.10	10
1,1,1-Trichloroethane	10	U	0.10	10
Carbon tetrachloride	10	U	0.10	10
Benzene	10	U	0.10	10
1,2-Dichloroethane	10	U	0.10	10
Trichloroethene	10	U	0.10	10
1,2-Dichloropropane	10	U	0.10	10
Bromodichloromethane	10	U	0.10	10
cis-1,3-Dichloropropene	10	U	0.10	10
methyl isobutyl ketone	10	U	0.10	10
Toluene	10	U	0.10	10
trans-1,3-Dichloropropene	10	U	0.10	10
1,1,2-Trichloroethane	10	U	0.10	10
Tetrachloroethene	10	U	0.10	10
2-Hexanone	10	U	0.10	10
Dibromochloromethane	10	U	0.10	10
Chlorobenzene	10	U	0.10	10
Ethylbenzene	10	U	0.10	10
Styrene	10	U	0.10	10
Bromoform	10	U	0.10	10
1,1,2,2-Tetrachloroethane	10	U	0.10	10
Xylenes, Total	10	U	0.10	10
cis-1,2-Dichloroethene	10	U	0.10	10
trans-1,2-Dichloroethene	10	U	0.10	10
Dichlorodifluoromethane	10	U	0.10	10
Trichlorofluoromethane	10	U	0.10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	0.10	10
Methyl tert-butyl ether	10	U	0.10	10
1,2-Dibromoethane	10	U	0.10	10
Isopropylbenzene	10	U	0.10	10
1,3-Dichlorobenzene	10	U	0.10	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Method Blank - Batch: 220-18355

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: MB 220-18355/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/22/2008 1112
Date Prepared: 07/22/2008 1112

Analysis Batch: 220-18355
Prep Batch: N/A
Units: ug/L

Instrument ID: HP 6890/5973 GC/MS
Lab File ID: Y4797.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
1,4-Dichlorobenzene	10	U	0.10	10
1,2-Dichlorobenzene	10	U	0.10	10
1,2-Dibromo-3-Chloropropane	10	U	0.10	10
1,2,4-Trichlorobenzene	10	U	0.10	10
Methyl acetate	10	U	0.10	10
Cyclohexane	10	U	0.10	10
Methylcyclohexane	10	U	0.10	10

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	94	76 - 114
4-Bromofluorobenzene	94	86 - 115
Toluene-d8 (Surr)	103	88 - 110

Lab Control Spike - Batch: 220-18355

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: LCS 220-18355/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/22/2008 1334
Date Prepared: 07/22/2008 1334

Analysis Batch: 220-18355
Prep Batch: N/A
Units: ug/L

Instrument ID: HP 6890/5973 GC/MS
Lab File ID: Y4800.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethene	20.0	21.7	108	61 - 145	
Benzene	20.0	21.2	106	76 - 127	
Trichloroethene	20.0	21.8	109	71 - 120	
Toluene	20.0	20.7	104	76 - 125	
Chlorobenzene	20.0	20.6	103	75 - 130	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	98	76 - 114
4-Bromofluorobenzene	99	86 - 115
Toluene-d8 (Surr)	101	88 - 110

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Method Blank - Batch: 220-18172

Method: 8082

Preparation: 3550B

Lab Sample ID: MB 220-18172/1-A

Client Matrix: Solid

Dilution: 1.0

Date Analyzed: 07/22/2008 1238

Date Prepared: 07/21/2008 1909

Analysis Batch: 220-18252

Prep Batch: 220-18172

Units: ug/Kg

Instrument ID: HP 5890 with dual ECD

Lab File ID: C4716106.d

Initial Weight/Volume: 30.0 g

Final Weight/Volume: 10 mL

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
PCB-1016	17	U	4.6	17
PCB-1221	33	U	1.1	33
PCB-1232	17	U	4.6	17
PCB-1242	17	U	4.6	17
PCB-1248	17	U	4.6	17
PCB-1254	17	U	1.5	17
PCB-1260	17	U	3.5	17

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	99	24 - 154
DCB Decachlorobiphenyl	107	25 - 159

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	92	24 - 154
DCB Decachlorobiphenyl	101	25 - 159

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Lab Control Spike - Batch: 220-18172

Method: 8082

Preparation: 3550B

Lab Sample ID: LCS 220-18172/2-A

Client Matrix: Solid

Dilution: 1.0

Date Analyzed: 07/22/2008 1255

Date Prepared: 07/21/2008 1909

Analysis Batch: 220-18252

Prep Batch: 220-18172

Units: ug/Kg

Instrument ID: HP 5890 with dual ECD

Lab File ID: C4716107.d

Initial Weight/Volume: 30.0 g

Final Weight/Volume: 10 mL

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
PCB-1016	167	160	96	42 - 130	
PCB-1260	167	137	82	50 - 128	
Surrogate	% Rec		Acceptance Limits		
Tetrachloro-m-xylene	98		24 - 154		
DCB Decachlorobiphenyl	109		25 - 159		
Surrogate	% Rec		Acceptance Limits		
Tetrachloro-m-xylene	89		24 - 154		
DCB Decachlorobiphenyl	103		25 - 159		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Duplicate - Batch: 220-18119

Method: PercentMoisture
Preparation: N/A

Lab Sample ID: 220-5884-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/18/2008 1325
Date Prepared: N/A

Analysis Batch: 220-18119
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	19.8	22.3	12	20	
Percent Solids	80.2	77.7	3	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: Malcolm Pirnie, Inc.

Job Number: 220-5884-1

Sdg Number: 220-5884

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Analyzed for but not detected.
	J	Indicates an estimated value.
	*	Surrogate exceeds the control limit
	B	The analyte was found in an associated blank, as well as in the sample.
GC Semi VOA		
	U	Analyzed for but not detected.
	J	Indicates an estimated value.

ANALYTICAL REPORT

Job Number: 220-5867-1

SDG Number: 220-5867

Job Description: NYSDEC Standby - Tioga Castings

For:

Malcolm Pirnie, Inc.
43 British American Boulevard
1st Floor
Latham, NY 12110

Attention: Mr. Bruce Nelson



Designee for
Johanna Dubauskas
Project Manager I
johanna.dubauskas@testamericainc.com
07/30/2008

The test results in this report meet all NELAP requirements unless specified within the case narrative. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Project Manager.

TestAmerica Connecticut Certifications and Approvals: CTDOH PH-047, MADEP CT023, RIDOH A43, NYDOH 10602, NY NELAP 10602, NHDES 2528, NJDEP CT410, ME DOH CT023, UT DOH 2032614458

Case Narrative for Job: 220-5867-1

Client: Malcolm Pirnie, Inc.
Date: July 30, 2008

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.



Lawrence Decker
Laboratory Director

July 30, 2008

Date

Job Narrative
220-J5867-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC/MS VOA

Method(s) OLM04.2/Vol: Surrogate recovery for the following sample was outside control limits: SB-01 (12-13) (220-5867-1). A second run confirmed matrix interference. One set of data was reported.

Method(s) OLM04.2/Vol: Surrogate recovery for the following sample was outside control limits: SB-08 (9.5-10) (220-5867-11). A second run confirmed matrix interference. One set of data was reported.

No other analytical or quality issues were noted.

GC Semi VOA

Method(s) 8082: The capping continuing calibration verification (CCV) analyzed on 7/23/08 did not meet control limits for Decachlorobiphenyl on the RTX-CLP2 column.

Method(s) 8082: The continuing calibration verifications (CCV) analyzed on 7/22/08 and 7/23/08 did not meet control limits for Aroclor-1016 on the RTX-CLP column. These were both beginning and ending verifications. Early PCB's were not detected in any of the associated samples, SB-02 (3.5-17.5) (220-5867-7), SB-03 (4.5-20) (220-5867-10), SB-05 (4-15) (220-5867-8), SB-06 (7.5-8.5) (220-5867-15), SB-07 (4-5) (220-5867-13), SB-08 (9.5-10) (220-5867-11), therefore there should be no impact on the data.

No other analytical or quality issues were noted.

Metals

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

FORMULAS FOR NYSDEC SAMPLE CALCULATIONS

Volatiles

$$\frac{(AX)(IS)(DF)}{(AIS)(RRF)(V)(\% \text{ solids})} = C$$

$$\frac{(AX)(IS)(VT)(1000)(DF)}{(AIS)(RRF)(VA)(V)(\% \text{ solids})} = C \quad (\text{for medium level soils})$$

SemiVolatiles

$$\frac{(AX)(IS)(VE)(DF)(\text{GPC factor is 2 if needed})}{(AIS)(RRF)(\text{volume injected})(V)(\% \text{ solids})} = C$$

Pesticides

$$\frac{(AX)(VE)(DF)}{(RRF)(V)(\% \text{ solids})(\text{volume injected})} = C$$

PCBs for compound/retention time

$$\frac{(AX)(VE)(DF)}{(RRF \text{ of compound at the stated retention time})(V)(\% \text{ solids})(\text{volume injected})} = C$$

DRO/CTETPH

$$\frac{(AX)(VE)(DF)}{(RRF)(V)(\% \text{ solids})(\text{volume injected})} = C$$

AX = area of the target Ion

AIS = Area of Internal standard

C = concentration as ug/L or ug/Kg

DF = dilution

IS = Internal standard concentration (ng)

RRF = average RF (from initial cal except CLP methods from continuing cal)

V = sample volume for liquids in mls or sample weight for solids in grams

VA = volume of aliquot for medium level soils

VE = volume of concentrated extract

VT = volume of methanol for volatile medium level soils

SAMPLE SUMMARY

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
220-5867-1	SB-01 (12-13)	Solid	07/15/2008 1055	07/16/2008 0944
220-5867-2	SB-02 (17-17.5)	Solid	07/15/2008 1120	07/16/2008 0944
220-5867-3	SB-05 (14.5-15)	Solid	07/15/2008 1145	07/16/2008 0944
220-5867-4	SB-04 (14.5-15)	Solid	07/15/2008 1230	07/16/2008 0944
220-5867-5	SB-03 (19-19.5)	Solid	07/15/2008 1345	07/16/2008 0944
220-5867-6	SB-01 (3.8-18)	Solid	07/15/2008 1055	07/16/2008 0944
220-5867-7	SB-02 (3.5-17.5)	Solid	07/15/2008 1120	07/16/2008 0944
220-5867-8	SB-05 (4-15)	Solid	07/15/2008 1145	07/16/2008 0944
220-5867-9	SB-04 (3.5-15)	Solid	07/15/2008 1230	07/16/2008 0944
220-5867-10	SB-03 (4.5-20)	Solid	07/15/2008 1345	07/16/2008 0944
220-5867-11	SB-08 (9.5-10)	Solid	07/15/2008 1416	07/16/2008 0944
220-5867-12	SB-08 (14.5-15)	Solid	07/15/2008 1435	07/16/2008 0944
220-5867-13	SB-07 (4-5)	Solid	07/15/2008 1500	07/16/2008 0944
220-5867-14	SB-07 (14.5-15.5)	Solid	07/15/2008 1500	07/16/2008 0944
220-5867-15	SB-06 (7.5-8.5)	Solid	07/15/2008 1530	07/16/2008 0944
220-5867-16	SB-06 (14-15)	Solid	07/15/2008 1535	07/16/2008 0944
220-5867-17TB	TRIP BLANK	Water	07/15/2008 0000	07/16/2008 0944

METHOD SUMMARY

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
CLP Volatile Organic Compounds	TAL CT	OLM04.2	OLM04.2/Vol
Purge-and-Trap	TAL CT		SW846 5030B
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL CT	SW846 8082	
Ultrasonic Extraction	TAL CT		SW846 3550B
ILM05.3 Metals	TAL BUF	ILM05.3	ILM05.3
Matrix: Water			
CLP Volatile Organic Compounds	TAL CT	OLM04.2	OLM04.2/Vol
Purge-and-Trap	TAL CT		SW846 5030B

Lab References:

TAL BUF = TestAmerica Buffalo

TAL CT = TestAmerica Connecticut

Method References:

ILM05.3 = U.S. Environmental Protection Agency

OLM04.2 = "Statement of Work for Organic Analysis", Multi-Media, Multi-Concentration September 1998

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

METHOD / ANALYST SUMMARY

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Method	Analyst	Analyst ID
OLM04.2 OLM04.2/Vol	Humbert, Dave	DH
SW846 8082	Smith, Karli	KS
EPA PercentMoisture	Culik, Marie E	MEC

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-01 (12-13)

Lab Sample ID: 220-5867-1

Date Sampled: 07/15/2008 1055

Client Matrix: Solid

% Moisture: 7.8

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5153.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 1400

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1400

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chloromethane		11	U	0.11	11
Vinyl chloride		11	U	0.11	11
Bromomethane		11	U	0.11	11
Chloroethane		11	U	0.11	11
1,1-Dichloroethene		11	U	0.11	11
Carbon disulfide		11	U	0.11	11
Acetone		8.2	J B	0.11	11
Methylene Chloride		8.7	J B	0.11	11
1,1-Dichloroethane		11	U	0.11	11
Methyl Ethyl Ketone		11	U	0.11	11
Chloroform		11	U	0.11	11
1,1,1-Trichloroethane		11	U	0.11	11
Carbon tetrachloride		11	U	0.11	11
Benzene		1.2	J	0.11	11
1,2-Dichloroethane		11	U	0.11	11
Trichloroethene		22		0.11	11
1,2-Dichloropropane		11	U	0.11	11
Bromodichloromethane		11	U	0.11	11
cis-1,3-Dichloropropene		11	U	0.11	11
methyl isobutyl ketone		11	U	0.11	11
Toluene		1.6	J B	0.11	11
trans-1,3-Dichloropropene		11	U	0.11	11
1,1,2-Trichloroethane		11	U	0.11	11
Tetrachloroethene		11	U	0.11	11
2-Hexanone		11	U	0.11	11
Dibromochloromethane		11	U	0.11	11
Chlorobenzene		11	U	0.11	11
Ethylbenzene		1.4	J	0.11	11
Styrene		11	U	0.11	11
Bromoform		11	U	0.11	11
1,1,2,2-Tetrachloroethane		11	U	0.11	11
Xylenes, Total		3.6	J	0.11	11
cis-1,2-Dichloroethene		11	U	0.11	11
trans-1,2-Dichloroethene		11	U	0.11	11
Dichlorodifluoromethane		11	U	0.11	11
Trichlorofluoromethane		11	U	0.11	11
1,1,2-Trichloro-1,2,2-trifluoroethane		11	U	0.11	11
Methyl tert-butyl ether		11	U	0.11	11
1,2-Dibromoethane		11	U	0.11	11
Isopropylbenzene		11	U	0.11	11
1,3-Dichlorobenzene		11	U	0.11	11
1,4-Dichlorobenzene		11	U	0.11	11
1,2-Dichlorobenzene		11	U	0.11	11
1,2-Dibromo-3-Chloropropane		11	U	0.11	11

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-01 (12-13)

Lab Sample ID: 220-5867-1

Date Sampled: 07/15/2008 1055

Client Matrix: Solid

% Moisture: 7.8

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5153.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 1400

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1400

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene		11	U	0.11	11
Methyl acetate		11	U	0.11	11
Cyclohexane		11	U	0.11	11
Methylcyclohexane		11	U	0.11	11
Surrogate		%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		85		70 - 121	
4-Bromofluorobenzene		44	*	59 - 113	
Toluene-d8 (Surr)		86		84 - 138	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-02 (17-17.5)

Lab Sample ID: 220-5867-2

Date Sampled: 07/15/2008 1120

Client Matrix: Solid

% Moisture: 15.7

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18283

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5181.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/23/2008 1301

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1301

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chloromethane		12	U	0.12	12
Vinyl chloride		12	U	0.12	12
Bromomethane		12	U	0.12	12
Chloroethane		12	U	0.12	12
1,1-Dichloroethene		12	U	0.12	12
Carbon disulfide		1.4	J	0.12	12
Acetone		21	B	0.12	12
Methylene Chloride		9.5	J B	0.12	12
1,1-Dichloroethane		12	U	0.12	12
Methyl Ethyl Ketone		12	U	0.12	12
Chloroform		12	U	0.12	12
1,1,1-Trichloroethane		12	U	0.12	12
Carbon tetrachloride		12	U	0.12	12
Benzene		2.2	J	0.12	12
1,2-Dichloroethane		12	U	0.12	12
Trichloroethene		23		0.12	12
1,2-Dichloropropane		12	U	0.12	12
Bromodichloromethane		12	U	0.12	12
cis-1,3-Dichloropropene		12	U	0.12	12
methyl isobutyl ketone		12	U	0.12	12
Toluene		2.9	J B	0.12	12
trans-1,3-Dichloropropene		12	U	0.12	12
1,1,2-Trichloroethane		12	U	0.12	12
Tetrachloroethene		12	U	0.12	12
2-Hexanone		12	U	0.12	12
Dibromochloromethane		12	U	0.12	12
Chlorobenzene		12	U	0.12	12
Ethylbenzene		1.9	J	0.12	12
Styrene		12	U	0.12	12
Bromoform		12	U	0.12	12
1,1,2,2-Tetrachloroethane		12	U	0.12	12
Xylenes, Total		4.6	J	0.12	12
cis-1,2-Dichloroethene		12	U	0.12	12
trans-1,2-Dichloroethene		12	U	0.12	12
Dichlorodifluoromethane		12	U	0.12	12
Trichlorofluoromethane		12	U	0.12	12
1,1,2-Trichloro-1,2,2-trifluoroethane		12	U	0.12	12
Methyl tert-butyl ether		12	U	0.12	12
1,2-Dibromoethane		12	U	0.12	12
Isopropylbenzene		12	U	0.12	12
1,3-Dichlorobenzene		12	U	0.12	12
1,4-Dichlorobenzene		12	U	0.12	12
1,2-Dichlorobenzene		12	U	0.12	12
1,2-Dibromo-3-Chloropropane		12	U	0.12	12

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-02 (17-17.5)

Lab Sample ID: 220-5867-2

Date Sampled: 07/15/2008 1120

Client Matrix: Solid

% Moisture: 15.7

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18283

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5181.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/23/2008 1301

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1301

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene		12	U	0.12	12
Methyl acetate		12	U	0.12	12
Cyclohexane		12	U	0.12	12
Methylcyclohexane		12	U	0.12	12
Surrogate		%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		94		70 - 121	
4-Bromofluorobenzene		63		59 - 113	
Toluene-d8 (Surr)		98		84 - 138	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-05 (14.5-15)

Lab Sample ID: 220-5867-3

Date Sampled: 07/15/2008 1145

Client Matrix: Solid

% Moisture: 16.1

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5155.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 1450

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1450

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chloromethane		12	U	0.12	12
Vinyl chloride		12	U	0.12	12
Bromomethane		12	U	0.12	12
Chloroethane		12	U	0.12	12
1,1-Dichloroethene		12	U	0.12	12
Carbon disulfide		12	U	0.12	12
Acetone		75	B	0.12	12
Methylene Chloride		7.0	J B	0.12	12
1,1-Dichloroethane		12	U	0.12	12
Methyl Ethyl Ketone		18		0.12	12
Chloroform		12	U	0.12	12
1,1,1-Trichloroethane		12	U	0.12	12
Carbon tetrachloride		12	U	0.12	12
Benzene		0.16	J	0.12	12
1,2-Dichloroethane		12	U	0.12	12
Trichloroethene		3.2	J	0.12	12
1,2-Dichloropropane		12	U	0.12	12
Bromodichloromethane		12	U	0.12	12
cis-1,3-Dichloropropene		12	U	0.12	12
methyl isobutyl ketone		12	U	0.12	12
Toluene		0.68	J B	0.12	12
trans-1,3-Dichloropropene		12	U	0.12	12
1,1,2-Trichloroethane		12	U	0.12	12
Tetrachloroethene		12	U	0.12	12
2-Hexanone		12	U	0.12	12
Dibromochloromethane		12	U	0.12	12
Chlorobenzene		12	U	0.12	12
Ethylbenzene		12	U	0.12	12
Styrene		12	U	0.12	12
Bromoform		12	U	0.12	12
1,1,2,2-Tetrachloroethane		12	U	0.12	12
Xylenes, Total		12	U	0.12	12
cis-1,2-Dichloroethene		12	U	0.12	12
trans-1,2-Dichloroethene		12	U	0.12	12
Dichlorodifluoromethane		12	U	0.12	12
Trichlorofluoromethane		12	U	0.12	12
1,1,2-Trichloro-1,2,2-trifluoroethane		12	U	0.12	12
Methyl tert-butyl ether		12	U	0.12	12
1,2-Dibromoethane		12	U	0.12	12
Isopropylbenzene		12	U	0.12	12
1,3-Dichlorobenzene		12	U	0.12	12
1,4-Dichlorobenzene		12	U	0.12	12
1,2-Dichlorobenzene		12	U	0.12	12
1,2-Dibromo-3-Chloropropane		12	U	0.12	12

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-05 (14.5-15)

Lab Sample ID: 220-5867-3

Date Sampled: 07/15/2008 1145

Client Matrix: Solid

% Moisture: 16.1

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5155.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 1450

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1450

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene		12	U	0.12	12
Methyl acetate		12	U	0.12	12
Cyclohexane		12	U	0.12	12
Methylcyclohexane		12	U	0.12	12
Surrogate		%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		94		70 - 121	
4-Bromofluorobenzene		81		59 - 113	
Toluene-d8 (Surr)		97		84 - 138	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-04 (14.5-15)

Lab Sample ID: 220-5867-4

Date Sampled: 07/15/2008 1230

Client Matrix: Solid

% Moisture: 9.9

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18283

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5182.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/23/2008 1326

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1326

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chloromethane		11	U	0.11	11
Vinyl chloride		11	U	0.11	11
Bromomethane		11	U	0.11	11
Chloroethane		11	U	0.11	11
1,1-Dichloroethene		11	U	0.11	11
Carbon disulfide		11	U	0.11	11
Acetone		16	B	0.11	11
Methylene Chloride		16	B	0.11	11
1,1-Dichloroethane		11	U	0.11	11
Methyl Ethyl Ketone		11	U	0.11	11
Chloroform		11	U	0.11	11
1,1,1-Trichloroethane		11	U	0.11	11
Carbon tetrachloride		11	U	0.11	11
Benzene		4.5	J	0.11	11
1,2-Dichloroethane		11	U	0.11	11
Trichloroethene		80		0.11	11
1,2-Dichloropropane		11	U	0.11	11
Bromodichloromethane		11	U	0.11	11
cis-1,3-Dichloropropene		11	U	0.11	11
methyl isobutyl ketone		11	U	0.11	11
Toluene		5.2	J B	0.11	11
trans-1,3-Dichloropropene		11	U	0.11	11
1,1,2-Trichloroethane		11	U	0.11	11
Tetrachloroethene		11	U	0.11	11
2-Hexanone		11	U	0.11	11
Dibromochloromethane		11	U	0.11	11
Chlorobenzene		11	U	0.11	11
Ethylbenzene		4.2	J	0.11	11
Styrene		11	U	0.11	11
Bromoform		11	U	0.11	11
1,1,2,2-Tetrachloroethane		11	U	0.11	11
Xylenes, Total		9.4	J	0.11	11
cis-1,2-Dichloroethene		11	U	0.11	11
trans-1,2-Dichloroethene		11	U	0.11	11
Dichlorodifluoromethane		11	U	0.11	11
Trichlorofluoromethane		11	U	0.11	11
1,1,2-Trichloro-1,2,2-trifluoroethane		11	U	0.11	11
Methyl tert-butyl ether		11	U	0.11	11
1,2-Dibromoethane		11	U	0.11	11
Isopropylbenzene		11	U	0.11	11
1,3-Dichlorobenzene		11	U	0.11	11
1,4-Dichlorobenzene		11	U	0.11	11
1,2-Dichlorobenzene		11	U	0.11	11
1,2-Dibromo-3-Chloropropane		11	U	0.11	11

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-04 (14.5-15)

Lab Sample ID: 220-5867-4

Date Sampled: 07/15/2008 1230

Client Matrix: Solid

% Moisture: 9.9

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18283

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5182.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/23/2008 1326

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1326

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene		11	U	0.11	11
Methyl acetate		11	U	0.11	11
Cyclohexane		11	U	0.11	11
Methylcyclohexane		11	U	0.11	11
Surrogate		%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		91		70 - 121	
4-Bromofluorobenzene		66		59 - 113	
Toluene-d8 (Surr)		107		84 - 138	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-03 (19-19.5)

Lab Sample ID: 220-5867-5

Date Sampled: 07/15/2008 1345

Client Matrix: Solid

% Moisture: 19.0

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5157.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 1553

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1553

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chloromethane		12	U	0.12	12
Vinyl chloride		12	U	0.12	12
Bromomethane		12	U	0.12	12
Chloroethane		12	U	0.12	12
1,1-Dichloroethene		12	U	0.12	12
Carbon disulfide		12	U	0.12	12
Acetone		14	B	0.12	12
Methylene Chloride		2.3	J B	0.12	12
1,1-Dichloroethane		12	U	0.12	12
Methyl Ethyl Ketone		12	U	0.12	12
Chloroform		12	U	0.12	12
1,1,1-Trichloroethane		12	U	0.12	12
Carbon tetrachloride		12	U	0.12	12
Benzene		1.2	J	0.12	12
1,2-Dichloroethane		12	U	0.12	12
Trichloroethene		70		0.12	12
1,2-Dichloropropane		12	U	0.12	12
Bromodichloromethane		12	U	0.12	12
cis-1,3-Dichloropropene		12	U	0.12	12
methyl isobutyl ketone		12	U	0.12	12
Toluene		2.7	J B	0.12	12
trans-1,3-Dichloropropene		12	U	0.12	12
1,1,2-Trichloroethane		12	U	0.12	12
Tetrachloroethene		12	U	0.12	12
2-Hexanone		12	U	0.12	12
Dibromochloromethane		12	U	0.12	12
Chlorobenzene		12	U	0.12	12
Ethylbenzene		1.3	J	0.12	12
Styrene		12	U	0.12	12
Bromoform		12	U	0.12	12
1,1,2,2-Tetrachloroethane		12	U	0.12	12
Xylenes, Total		2.5	J	0.12	12
cis-1,2-Dichloroethene		12	U	0.12	12
trans-1,2-Dichloroethene		12	U	0.12	12
Dichlorodifluoromethane		12	U	0.12	12
Trichlorofluoromethane		12	U	0.12	12
1,1,2-Trichloro-1,2,2-trifluoroethane		12	U	0.12	12
Methyl tert-butyl ether		12	U	0.12	12
1,2-Dibromoethane		12	U	0.12	12
Isopropylbenzene		12	U	0.12	12
1,3-Dichlorobenzene		12	U	0.12	12
1,4-Dichlorobenzene		12	U	0.12	12
1,2-Dichlorobenzene		12	U	0.12	12
1,2-Dibromo-3-Chloropropane		12	U	0.12	12

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-03 (19-19.5)

Lab Sample ID: 220-5867-5

Date Sampled: 07/15/2008 1345

Client Matrix: Solid

% Moisture: 19.0

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5157.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 1553

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1553

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene		12	U	0.12	12
Methyl acetate		12	U	0.12	12
Cyclohexane		12	U	0.12	12
Methylcyclohexane		12	U	0.12	12
Surrogate		%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		105		70 - 121	
4-Bromofluorobenzene		73		59 - 113	
Toluene-d8 (Surr)		124		84 - 138	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-08 (9.5-10)

Lab Sample ID: 220-5867-11

Date Sampled: 07/15/2008 1416

Client Matrix: Solid

% Moisture: 17.1

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18283

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5188.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/23/2008 1634

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1634

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chloromethane		12	U	0.12	12
Vinyl chloride		12	U	0.12	12
Bromomethane		12	U	0.12	12
Chloroethane		12	U	0.12	12
1,1-Dichloroethene		12	U	0.12	12
Carbon disulfide		12	U	0.12	12
Acetone		43	B	0.12	12
Methylene Chloride		6.6	J B	0.12	12
1,1-Dichloroethane		12	U	0.12	12
Methyl Ethyl Ketone		12	U	0.12	12
Chloroform		12	U	0.12	12
1,1,1-Trichloroethane		12	U	0.12	12
Carbon tetrachloride		12	U	0.12	12
Benzene		1.9	J	0.12	12
1,2-Dichloroethane		12	U	0.12	12
Trichloroethene		8.4	J	0.12	12
1,2-Dichloropropane		12	U	0.12	12
Bromodichloromethane		12	U	0.12	12
cis-1,3-Dichloropropene		12	U	0.12	12
methyl isobutyl ketone		12	U	0.12	12
Toluene		5.4	J B	0.12	12
trans-1,3-Dichloropropene		12	U	0.12	12
1,1,2-Trichloroethane		12	U	0.12	12
Tetrachloroethene		12	U	0.12	12
2-Hexanone		12	U	0.12	12
Dibromochloromethane		12	U	0.12	12
Chlorobenzene		12	U	0.12	12
Ethylbenzene		2.5	J	0.12	12
Styrene		12	U	0.12	12
Bromoform		12	U	0.12	12
1,1,2,2-Tetrachloroethane		12	U	0.12	12
Xylenes, Total		9.1	J	0.12	12
cis-1,2-Dichloroethene		12	U	0.12	12
trans-1,2-Dichloroethene		12	U	0.12	12
Dichlorodifluoromethane		12	U	0.12	12
Trichlorofluoromethane		12	U	0.12	12
1,1,2-Trichloro-1,2,2-trifluoroethane		12	U	0.12	12
Methyl tert-butyl ether		12	U	0.12	12
1,2-Dibromoethane		12	U	0.12	12
Isopropylbenzene		12	U	0.12	12
1,3-Dichlorobenzene		12	U	0.12	12
1,4-Dichlorobenzene		12	U	0.12	12
1,2-Dichlorobenzene		12	U	0.12	12
1,2-Dibromo-3-Chloropropane		12	U	0.12	12

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-08 (9.5-10)

Lab Sample ID: 220-5867-11

Date Sampled: 07/15/2008 1416

Client Matrix: Solid

% Moisture: 17.1

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18283

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5188.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/23/2008 1634

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1634

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene		12	U	0.12	12
Methyl acetate		12	U	0.12	12
Cyclohexane		12	U	0.12	12
Methylcyclohexane		12	U	0.12	12
Surrogate		%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		95		70 - 121	
4-Bromofluorobenzene		66		59 - 113	
Toluene-d8 (Surr)		148	*	84 - 138	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-07 (14.5-15.5)

Lab Sample ID: 220-5867-14

Date Sampled: 07/15/2008 1500

Client Matrix: Solid

% Moisture: 11.9

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5159.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 1643

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1643

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chloromethane		11	U	0.11	11
Vinyl chloride		11	U	0.11	11
Bromomethane		11	U	0.11	11
Chloroethane		11	U	0.11	11
1,1-Dichloroethene		11	U	0.11	11
Carbon disulfide		11	U	0.11	11
Acetone		11	U	0.11	11
Methylene Chloride		2.7	J B	0.11	11
1,1-Dichloroethane		11	U	0.11	11
Methyl Ethyl Ketone		11	U	0.11	11
Chloroform		11	U	0.11	11
1,1,1-Trichloroethane		11	U	0.11	11
Carbon tetrachloride		11	U	0.11	11
Benzene		11	U	0.11	11
1,2-Dichloroethane		11	U	0.11	11
Trichloroethene		11	U	0.11	11
1,2-Dichloropropane		11	U	0.11	11
Bromodichloromethane		11	U	0.11	11
cis-1,3-Dichloropropene		11	U	0.11	11
methyl isobutyl ketone		11	U	0.11	11
Toluene		11	U	0.11	11
trans-1,3-Dichloropropene		11	U	0.11	11
1,1,2-Trichloroethane		11	U	0.11	11
Tetrachloroethene		11	U	0.11	11
2-Hexanone		11	U	0.11	11
Dibromochloromethane		11	U	0.11	11
Chlorobenzene		11	U	0.11	11
Ethylbenzene		11	U	0.11	11
Styrene		11	U	0.11	11
Bromoform		11	U	0.11	11
1,1,2,2-Tetrachloroethane		11	U	0.11	11
Xylenes, Total		11	U	0.11	11
cis-1,2-Dichloroethene		11	U	0.11	11
trans-1,2-Dichloroethene		11	U	0.11	11
Dichlorodifluoromethane		11	U	0.11	11
Trichlorofluoromethane		11	U	0.11	11
1,1,2-Trichloro-1,2,2-trifluoroethane		11	U	0.11	11
Methyl tert-butyl ether		11	U	0.11	11
1,2-Dibromoethane		11	U	0.11	11
Isopropylbenzene		11	U	0.11	11
1,3-Dichlorobenzene		11	U	0.11	11
1,4-Dichlorobenzene		11	U	0.11	11
1,2-Dichlorobenzene		11	U	0.11	11
1,2-Dibromo-3-Chloropropane		11	U	0.11	11

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-07 (14.5-15.5)

Lab Sample ID: 220-5867-14

Date Sampled: 07/15/2008 1500

Client Matrix: Solid

% Moisture: 11.9

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5159.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 1643

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1643

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene		11	U	0.11	11
Methyl acetate		11	U	0.11	11
Cyclohexane		11	U	0.11	11
Methylcyclohexane		11	U	0.11	11
Surrogate		%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		96		70 - 121	
4-Bromofluorobenzene		86		59 - 113	
Toluene-d8 (Surr)		93		84 - 138	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-06 (7.5-8.5)

Lab Sample ID: 220-5867-15

Date Sampled: 07/15/2008 1530

Client Matrix: Solid

% Moisture: 11.9

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5168.D

Dilution: 2.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 2051

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 2051

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chloromethane		23	U	0.23	23
Vinyl chloride		23	U	0.23	23
Bromomethane		23	U	0.23	23
Chloroethane		23	U	0.23	23
1,1-Dichloroethene		23	U	0.23	23
Carbon disulfide		23	U	0.23	23
Acetone		250	B	0.23	23
Methylene Chloride		4.6	J B	0.23	23
1,1-Dichloroethane		23	U	0.23	23
Methyl Ethyl Ketone		23	U	0.23	23
Chloroform		23	U	0.23	23
1,1,1-Trichloroethane		23	U	0.23	23
Carbon tetrachloride		23	U	0.23	23
Benzene		0.62	J	0.23	23
1,2-Dichloroethane		23	U	0.23	23
Trichloroethene		12	J	0.23	23
1,2-Dichloropropane		23	U	0.23	23
Bromodichloromethane		23	U	0.23	23
cis-1,3-Dichloropropene		23	U	0.23	23
methyl isobutyl ketone		23	U	0.23	23
Toluene		5.8	J B	0.23	23
trans-1,3-Dichloropropene		23	U	0.23	23
1,1,2-Trichloroethane		23	U	0.23	23
Tetrachloroethene		23	U	0.23	23
2-Hexanone		23	U	0.23	23
Dibromochloromethane		23	U	0.23	23
Chlorobenzene		23	U	0.23	23
Ethylbenzene		1.9	J	0.23	23
Styrene		23	U	0.23	23
Bromoform		23	U	0.23	23
1,1,2,2-Tetrachloroethane		23	U	0.23	23
Xylenes, Total		11	J	0.23	23
cis-1,2-Dichloroethene		23	U	0.23	23
trans-1,2-Dichloroethene		23	U	0.23	23
Dichlorodifluoromethane		23	U	0.23	23
Trichlorofluoromethane		23	U	0.23	23
1,1,2-Trichloro-1,2,2-trifluoroethane		23	U	0.23	23
Methyl tert-butyl ether		23	U	0.23	23
1,2-Dibromoethane		23	U	0.23	23
Isopropylbenzene		4.0	J	0.23	23
1,3-Dichlorobenzene		23	U	0.23	23
1,4-Dichlorobenzene		23	U	0.23	23
1,2-Dichlorobenzene		23	U	0.23	23
1,2-Dibromo-3-Chloropropane		23	U	0.23	23

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-06 (7.5-8.5)

Lab Sample ID: 220-5867-15

Date Sampled: 07/15/2008 1530

Client Matrix: Solid

% Moisture: 11.9

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18353

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5168.D

Dilution: 2.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/22/2008 2051

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 2051

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene		23	U	0.23	23
Methyl acetate		23	U	0.23	23
Cyclohexane		23	U	0.23	23
Methylcyclohexane		23	U	0.23	23
Surrogate		%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		108		70 - 121	
4-Bromofluorobenzene		93		59 - 113	
Toluene-d8 (Surr)		106		84 - 138	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-06 (14-15)

Lab Sample ID: 220-5867-16

Date Sampled: 07/15/2008 1535

Client Matrix: Solid

% Moisture: 11.4

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18283

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5185.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/23/2008 1441

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1441

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Chloromethane		11	U	0.11	11
Vinyl chloride		11	U	0.11	11
Bromomethane		11	U	0.11	11
Chloroethane		11	U	0.11	11
1,1-Dichloroethene		11	U	0.11	11
Carbon disulfide		11	U	0.11	11
Acetone		6.3	J B	0.11	11
Methylene Chloride		7.0	J B	0.11	11
1,1-Dichloroethane		11	U	0.11	11
Methyl Ethyl Ketone		11	U	0.11	11
Chloroform		11	U	0.11	11
1,1,1-Trichloroethane		11	U	0.11	11
Carbon tetrachloride		11	U	0.11	11
Benzene		0.25	J	0.11	11
1,2-Dichloroethane		11	U	0.11	11
Trichloroethene		8.5	J	0.11	11
1,2-Dichloropropane		11	U	0.11	11
Bromodichloromethane		11	U	0.11	11
cis-1,3-Dichloropropene		11	U	0.11	11
methyl isobutyl ketone		11	U	0.11	11
Toluene		0.69	J B	0.11	11
trans-1,3-Dichloropropene		11	U	0.11	11
1,1,2-Trichloroethane		11	U	0.11	11
Tetrachloroethene		11	U	0.11	11
2-Hexanone		11	U	0.11	11
Dibromochloromethane		11	U	0.11	11
Chlorobenzene		11	U	0.11	11
Ethylbenzene		0.29	J	0.11	11
Styrene		11	U	0.11	11
Bromoform		11	U	0.11	11
1,1,2,2-Tetrachloroethane		11	U	0.11	11
Xylenes, Total		1.1	J	0.11	11
cis-1,2-Dichloroethene		11	U	0.11	11
trans-1,2-Dichloroethene		11	U	0.11	11
Dichlorodifluoromethane		11	U	0.11	11
Trichlorofluoromethane		11	U	0.11	11
1,1,2-Trichloro-1,2,2-trifluoroethane		11	U	0.11	11
Methyl tert-butyl ether		11	U	0.11	11
1,2-Dibromoethane		11	U	0.11	11
Isopropylbenzene		11	U	0.11	11
1,3-Dichlorobenzene		11	U	0.11	11
1,4-Dichlorobenzene		11	U	0.11	11
1,2-Dichlorobenzene		11	U	0.11	11
1,2-Dibromo-3-Chloropropane		11	U	0.11	11

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-06 (14-15)

Lab Sample ID: 220-5867-16

Date Sampled: 07/15/2008 1535

Client Matrix: Solid

% Moisture: 11.4

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18283

Instrument ID: HP 5890/5971A GC/MS

Preparation: 5030B

Lab File ID: O5185.D

Dilution: 1.0

Initial Weight/Volume: 5 g

Date Analyzed: 07/23/2008 1441

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1441

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene		11	U	0.11	11
Methyl acetate		11	U	0.11	11
Cyclohexane		11	U	0.11	11
Methylcyclohexane		11	U	0.11	11
Surrogate		%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		96		70 - 121	
4-Bromofluorobenzene		96		59 - 113	
Toluene-d8 (Surr)		96		84 - 138	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: TRIP BLANK

Lab Sample ID: 220-5867-17TB

Date Sampled: 07/15/2008 0000

Client Matrix: Water

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18355

Instrument ID: HP 6890/5973 GC/MS

Preparation: 5030B

Lab File ID: Y4803.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 07/22/2008 1519

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1519

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloromethane	10	U	0.10	10
Vinyl chloride	10	U	0.10	10
Bromomethane	10	U	0.10	10
Chloroethane	10	U	0.10	10
1,1-Dichloroethene	10	U	0.10	10
Carbon disulfide	10	U	0.10	10
Acetone	1.2	J	0.10	10
Methylene Chloride	0.48	J B	0.10	10
1,1-Dichloroethane	10	U	0.10	10
Methyl Ethyl Ketone	10	U	0.10	10
Chloroform	10	U	0.10	10
1,1,1-Trichloroethane	10	U	0.10	10
Carbon tetrachloride	10	U	0.10	10
Benzene	10	U	0.10	10
1,2-Dichloroethane	10	U	0.10	10
Trichloroethene	10	U	0.10	10
1,2-Dichloropropane	10	U	0.10	10
Bromodichloromethane	10	U	0.10	10
cis-1,3-Dichloropropene	10	U	0.10	10
methyl isobutyl ketone	10	U	0.10	10
Toluene	10	U	0.10	10
trans-1,3-Dichloropropene	10	U	0.10	10
1,1,2-Trichloroethane	10	U	0.10	10
Tetrachloroethene	10	U	0.10	10
2-Hexanone	10	U	0.10	10
Dibromochloromethane	10	U	0.10	10
Chlorobenzene	10	U	0.10	10
Ethylbenzene	10	U	0.10	10
Styrene	10	U	0.10	10
Bromoform	10	U	0.10	10
1,1,2,2-Tetrachloroethane	10	U	0.10	10
Xylenes, Total	10	U	0.10	10
cis-1,2-Dichloroethene	10	U	0.10	10
trans-1,2-Dichloroethene	10	U	0.10	10
Dichlorodifluoromethane	10	U	0.10	10
Trichlorofluoromethane	10	U	0.10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	0.10	10
Methyl tert-butyl ether	10	U	0.10	10
1,2-Dibromoethane	10	U	0.10	10
Isopropylbenzene	10	U	0.10	10
1,3-Dichlorobenzene	10	U	0.10	10
1,4-Dichlorobenzene	10	U	0.10	10
1,2-Dichlorobenzene	10	U	0.10	10
1,2-Dibromo-3-Chloropropane	10	U	0.10	10

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: TRIP BLANK

Lab Sample ID: 220-5867-17TB

Date Sampled: 07/15/2008 0000

Client Matrix: Water

Date Received: 07/16/2008 0944

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18355

Instrument ID: HP 6890/5973 GC/MS

Preparation: 5030B

Lab File ID: Y4803.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 07/22/2008 1519

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1519

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene	10	U	0.10	10
Methyl acetate	10	U	0.10	10
Cyclohexane	10	U	0.10	10
Methylcyclohexane	10	U	0.10	10
Surrogate	%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	99		76 - 114	
4-Bromofluorobenzene	93		86 - 115	
Toluene-d8 (Surr)	99		88 - 110	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-01 (3.8-18)

Lab Sample ID: 220-5867-6

Date Sampled: 07/15/2008 1055

Client Matrix: Solid

% Moisture: 10.5

Date Received: 07/16/2008 0944

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082

Analysis Batch: 220-18314

Instrument ID: HP 5890 with dual ECD

Preparation: 3550B

Prep Batch: 220-18170

Lab File ID: D4716144.d

Dilution: 1.0

Initial Weight/Volume: 30.11 g

Date Analyzed: 07/23/2008 1136

Final Weight/Volume: 10.0 mL

Date Prepared: 07/21/2008 1659

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		19	U	5.1	19
PCB-1221		37	U	1.2	37
PCB-1232		19	U	5.1	19
PCB-1242		19	U	5.1	19
PCB-1248		19	U	5.1	19
PCB-1254		19	U	1.7	19
PCB-1260		19	U	3.8	19

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	45	24 - 154
DCB Decachlorobiphenyl	43	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-02 (3.5-17.5)

Lab Sample ID: 220-5867-7

Date Sampled: 07/15/2008 1120

Client Matrix: Solid

% Moisture: 9.5

Date Received: 07/16/2008 0944

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 220-18314	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch: 220-18170	Lab File ID:	C4716145.d
Dilution:	1.0		Initial Weight/Volume:	30.09 g
Date Analyzed:	07/23/2008 1152		Final Weight/Volume:	10.0 mL
Date Prepared:	07/21/2008 1659		Injection Volume:	1.0 uL
			Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		19	U	5.1	19
PCB-1221		36	U	1.2	36
PCB-1232		19	U	5.1	19
PCB-1242		19	U	5.1	19
PCB-1248		19	U	5.1	19
PCB-1254		21		1.7	19
PCB-1260		18	J	3.8	19

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	160	24 - 154
DCB Decachlorobiphenyl	154	25 - 159

Method:	8082	Analysis Batch: 220-18314	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch: 220-18170	Lab File ID:	C4716145.d
Dilution:	1.0		Initial Weight/Volume:	30.09 g
Date Analyzed:	07/23/2008 1152		Final Weight/Volume:	10.0 mL
Date Prepared:	07/21/2008 1659		Injection Volume:	1.0 uL
			Column ID:	SECONDARY

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	120	24 - 154
DCB Decachlorobiphenyl	140	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-05 (4-15)

Lab Sample ID: 220-5867-8

Date Sampled: 07/15/2008 1145

Client Matrix: Solid

% Moisture: 9.4

Date Received: 07/16/2008 0944

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 220-18314	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch: 220-18170	Lab File ID:	C4716146.d
Dilution:	1.0		Initial Weight/Volume:	30.21 g
Date Analyzed:	07/23/2008 1209		Final Weight/Volume:	10.0 mL
Date Prepared:	07/21/2008 1659		Injection Volume:	1.0 uL
			Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		19	U	5.1	19
PCB-1221		36	U	1.2	36
PCB-1232		19	U	5.1	19
PCB-1242		19	U	5.1	19
PCB-1248		19	U	5.1	19
PCB-1254		16	J	1.7	19
PCB-1260		11	J	3.8	19

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	102	24 - 154
DCB Decachlorobiphenyl	121	25 - 159

Method:	8082	Analysis Batch: 220-18314	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch: 220-18170	Lab File ID:	C4716146.d
Dilution:	1.0		Initial Weight/Volume:	30.21 g
Date Analyzed:	07/23/2008 1209		Final Weight/Volume:	10.0 mL
Date Prepared:	07/21/2008 1659		Injection Volume:	1.0 uL
			Column ID:	SECONDARY

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	88	24 - 154
DCB Decachlorobiphenyl	101	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-04 (3.5-15)

Lab Sample ID: 220-5867-9

Date Sampled: 07/15/2008 1230

Client Matrix: Solid

% Moisture: 9.6

Date Received: 07/16/2008 0944

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082

Analysis Batch: 220-18314

Instrument ID: HP 5890 with dual ECD

Preparation: 3550B

Prep Batch: 220-18170

Lab File ID: D4716147.d

Dilution: 1.0

Initial Weight/Volume: 30.25 g

Date Analyzed: 07/23/2008 1226

Final Weight/Volume: 10.0 mL

Date Prepared: 07/21/2008 1659

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		19	U	5.1	19
PCB-1221		36	U	1.2	36
PCB-1232		19	U	5.1	19
PCB-1242		19	U	5.1	19
PCB-1248		19	U	5.1	19
PCB-1254		19	U	1.7	19
PCB-1260		19	U	3.8	19

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	88	24 - 154
DCB Decachlorobiphenyl	88	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-03 (4.5-20)

Lab Sample ID: 220-5867-10

Date Sampled: 07/15/2008 1345

Client Matrix: Solid

% Moisture: 10.7

Date Received: 07/16/2008 0944

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch:	220-18314	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch:	220-18170	Lab File ID:	D4716148.d
Dilution:	1.0			Initial Weight/Volume:	30.16 g
Date Analyzed:	07/23/2008 1243			Final Weight/Volume:	10.0 mL
Date Prepared:	07/21/2008 1659			Injection Volume:	1.0 uL
				Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		19	U	5.1	19
PCB-1221		37	U	1.2	37
PCB-1232		19	U	5.1	19
PCB-1242		19	U	5.1	19
PCB-1248		19	U	5.1	19
PCB-1254		16	J	1.7	19
PCB-1260		9.2	J	3.8	19

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	89	24 - 154
DCB Decachlorobiphenyl	97	25 - 159

Method:	8082	Analysis Batch:	220-18314	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch:	220-18170	Lab File ID:	C4716148.d
Dilution:	1.0			Initial Weight/Volume:	30.16 g
Date Analyzed:	07/23/2008 1243			Final Weight/Volume:	10.0 mL
Date Prepared:	07/21/2008 1659			Injection Volume:	1.0 uL
				Column ID:	SECONDARY

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	70	24 - 154
DCB Decachlorobiphenyl	83	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-08 (9.5-10)

Lab Sample ID: 220-5867-11

Date Sampled: 07/15/2008 1416

Client Matrix: Solid

% Moisture: 17.1

Date Received: 07/16/2008 0944

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 220-18314	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch: 220-18170	Lab File ID:	C4716149.d
Dilution:	1.0		Initial Weight/Volume:	30.39 g
Date Analyzed:	07/23/2008 1259		Final Weight/Volume:	10.0 mL
Date Prepared:	07/21/2008 1659		Injection Volume:	1.0 uL
			Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		20	U	5.5	20
PCB-1221		39	U	1.3	39
PCB-1232		20	U	5.5	20
PCB-1242		20	U	5.5	20
PCB-1248		20	U	5.5	20
PCB-1254		33		1.8	20
PCB-1260		23		4.1	20

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	153	24 - 154
DCB Decachlorobiphenyl	196	25 - 159

Method:	8082	Analysis Batch: 220-18314	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch: 220-18170	Lab File ID:	C4716149.d
Dilution:	1.0		Initial Weight/Volume:	30.39 g
Date Analyzed:	07/23/2008 1259		Final Weight/Volume:	10.0 mL
Date Prepared:	07/21/2008 1659		Injection Volume:	1.0 uL
			Column ID:	SECONDARY

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	131	24 - 154
DCB Decachlorobiphenyl	208	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-08 (14.5-15)

Lab Sample ID: 220-5867-12

Date Sampled: 07/15/2008 1435

Client Matrix: Solid

% Moisture: 15.5

Date Received: 07/16/2008 0944

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082

Analysis Batch: 220-18314

Instrument ID: HP 5890 with dual ECD

Preparation: 3550B

Prep Batch: 220-18170

Lab File ID: D4716150.d

Dilution: 1.0

Initial Weight/Volume: 30.04 g

Date Analyzed: 07/23/2008 1316

Final Weight/Volume: 10.0 mL

Date Prepared: 07/21/2008 1659

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		20	U	5.5	20
PCB-1221		39	U	1.3	39
PCB-1232		20	U	5.5	20
PCB-1242		20	U	5.5	20
PCB-1248		20	U	5.5	20
PCB-1254		20	U	1.8	20
PCB-1260		20	U	4.1	20

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	99	24 - 154
DCB Decachlorobiphenyl	107	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-07 (4-5)

Lab Sample ID: 220-5867-13

Date Sampled: 07/15/2008 1500

Client Matrix: Solid

% Moisture: 11.1

Date Received: 07/16/2008 0944

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 220-18314	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch: 220-18170	Lab File ID:	C4716151.d
Dilution:	1.0		Initial Weight/Volume:	30.66 g
Date Analyzed:	07/23/2008 1333		Final Weight/Volume:	10.0 mL
Date Prepared:	07/21/2008 1659		Injection Volume:	1.0 uL
			Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		19	U	5.1	19
PCB-1221		36	U	1.2	36
PCB-1232		19	U	5.1	19
PCB-1242		19	U	5.1	19
PCB-1248		19	U	5.1	19
PCB-1254		4.1	J	1.7	19
PCB-1260		13	J	3.8	19

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	114	24 - 154
DCB Decachlorobiphenyl	134	25 - 159

Method:	8082	Analysis Batch: 220-18314	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch: 220-18170	Lab File ID:	D4716151.d
Dilution:	1.0		Initial Weight/Volume:	30.66 g
Date Analyzed:	07/23/2008 1333		Final Weight/Volume:	10.0 mL
Date Prepared:	07/21/2008 1659		Injection Volume:	1.0 uL
			Column ID:	SECONDARY

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	115	24 - 154
DCB Decachlorobiphenyl	124	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-07 (14.5-15.5)

Lab Sample ID: 220-5867-14

Date Sampled: 07/15/2008 1500

Client Matrix: Solid

% Moisture: 11.9

Date Received: 07/16/2008 0944

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: 8082

Analysis Batch: 220-18314

Instrument ID: HP 5890 with dual ECD

Preparation: 3550B

Prep Batch: 220-18170

Lab File ID: D4716152.d

Dilution: 1.0

Initial Weight/Volume: 30.53 g

Date Analyzed: 07/23/2008 1350

Final Weight/Volume: 10.0 mL

Date Prepared: 07/21/2008 1659

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		19	U	5.1	19
PCB-1221		37	U	1.2	37
PCB-1232		19	U	5.1	19
PCB-1242		19	U	5.1	19
PCB-1248		19	U	5.1	19
PCB-1254		19	U	1.7	19
PCB-1260		19	U	3.9	19

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	80	24 - 154
DCB Decachlorobiphenyl	103	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Client Sample ID: SB-06 (7.5-8.5)

Lab Sample ID: 220-5867-15

Date Sampled: 07/15/2008 1530

Client Matrix: Solid

% Moisture: 11.9

Date Received: 07/16/2008 0944

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:	8082	Analysis Batch: 220-18314	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch: 220-18170	Lab File ID:	D4716153.d
Dilution:	1.0		Initial Weight/Volume:	30.23 g
Date Analyzed:	07/23/2008 1407		Final Weight/Volume:	10.0 mL
Date Prepared:	07/21/2008 1659		Injection Volume:	1.0 uL
			Column ID:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		19	U	5.2	19
PCB-1221		37	U	1.2	37
PCB-1232		19	U	5.2	19
PCB-1242		19	U	5.2	19
PCB-1248		19	U	5.2	19
PCB-1254		12	J	1.7	19
PCB-1260		34		3.9	19

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	155	24 - 154
DCB Decachlorobiphenyl	150	25 - 159

Method:	8082	Analysis Batch: 220-18314	Instrument ID:	HP 5890 with dual ECD
Preparation:	3550B	Prep Batch: 220-18170	Lab File ID:	D4716153.d
Dilution:	1.0		Initial Weight/Volume:	30.23 g
Date Analyzed:	07/23/2008 1407		Final Weight/Volume:	10.0 mL
Date Prepared:	07/21/2008 1659		Injection Volume:	1.0 uL
			Column ID:	SECONDARY

Surrogate	%Rec	Acceptance Limits
Tetrachloro-m-xylene	131	24 - 154
DCB Decachlorobiphenyl	141	25 - 159

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1
Sdg Number: 220-5867

General Chemistry

Client Sample ID: SB-01 (12-13)

Lab Sample ID: 220-5867-1
Client Matrix: Solid

Date Sampled: 07/15/2008 1055
Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	7.80		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			
Percent Solids	92.2		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			

Client Sample ID: SB-02 (17-17.5)

Lab Sample ID: 220-5867-2
Client Matrix: Solid

Date Sampled: 07/15/2008 1120
Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	15.7		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			
Percent Solids	84.3		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			

Client Sample ID: SB-05 (14.5-15)

Lab Sample ID: 220-5867-3
Client Matrix: Solid

Date Sampled: 07/15/2008 1145
Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	16.1		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			
Percent Solids	83.9		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1
Sdg Number: 220-5867

General Chemistry

Client Sample ID: SB-04 (14.5-15)

Lab Sample ID: 220-5867-4
Client Matrix: Solid

Date Sampled: 07/15/2008 1230
Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	9.91		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			
Percent Solids	90.1		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			

Client Sample ID: SB-03 (19-19.5)

Lab Sample ID: 220-5867-5
Client Matrix: Solid

Date Sampled: 07/15/2008 1345
Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	19.0		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			
Percent Solids	81.0		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			

Client Sample ID: SB-01 (3.8-18)

Lab Sample ID: 220-5867-6
Client Matrix: Solid

Date Sampled: 07/15/2008 1055
Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	10.5		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			
Percent Solids	89.5		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			

Client Sample ID: SB-02 (3.5-17.5)

Lab Sample ID: 220-5867-7
Client Matrix: Solid

Date Sampled: 07/15/2008 1120
Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	9.53		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			
Percent Solids	90.5		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1
Sdg Number: 220-5867

General Chemistry

Client Sample ID: SB-05 (4-15)

Lab Sample ID: 220-5867-8
Client Matrix: Solid

Date Sampled: 07/15/2008 1145
Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	9.39		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			
Percent Solids	90.6		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			

Client Sample ID: SB-04 (3.5-15)

Lab Sample ID: 220-5867-9
Client Matrix: Solid

Date Sampled: 07/15/2008 1230
Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	9.55		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			
Percent Solids	90.4		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			

Client Sample ID: SB-03 (4.5-20)

Lab Sample ID: 220-5867-10
Client Matrix: Solid

Date Sampled: 07/15/2008 1345
Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	10.7		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			
Percent Solids	89.3		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			

Client Sample ID: SB-08 (9.5-10)

Lab Sample ID: 220-5867-11
Client Matrix: Solid

Date Sampled: 07/15/2008 1416
Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	17.1		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			
Percent Solids	82.9		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1
Sdg Number: 220-5867

General Chemistry

Client Sample ID: SB-08 (14.5-15)

Lab Sample ID: 220-5867-12
Client Matrix: Solid

Date Sampled: 07/15/2008 1435
Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	15.5		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			
Percent Solids	84.5		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			

Client Sample ID: SB-07 (4-5)

Lab Sample ID: 220-5867-13
Client Matrix: Solid

Date Sampled: 07/15/2008 1500
Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	11.1		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			
Percent Solids	88.9		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			

Client Sample ID: SB-07 (14.5-15.5)

Lab Sample ID: 220-5867-14
Client Matrix: Solid

Date Sampled: 07/15/2008 1500
Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	11.9		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			
Percent Solids	88.1		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			

Client Sample ID: SB-06 (7.5-8.5)

Lab Sample ID: 220-5867-15
Client Matrix: Solid

Date Sampled: 07/15/2008 1530
Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	11.9		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			
Percent Solids	88.1		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed		07/16/2008 1400			

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

General Chemistry

Client Sample ID: SB-06 (14-15)

Lab Sample ID: 220-5867-16

Date Sampled: 07/15/2008 1535

Client Matrix: Solid

Date Received: 07/16/2008 0944

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	11.4		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed	07/16/2008	1400			
Percent Solids	88.6		%	0.100	0.100	1.0	PercentMoisture
	Any Batch: 220-18053	Date Analyzed	07/16/2008	1400			

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Surrogate Recovery Report

OLM04.2/Vol CLP Volatile Organic Compounds

Client Matrix: Solid

Lab Sample ID	Client Sample ID	12DCE %Rec	TOL %Rec	BFB %Rec
220-5867-1	SB-01 (12-13)	85	86	44*
220-5867-2	SB-02 (17-17.5)	94	98	63
220-5867-3	SB-05 (14.5-15)	94	97	81
220-5867-4	SB-04 (14.5-15)	91	107	66
220-5867-5	SB-03 (19-19.5)	105	124	73
220-5867-11	SB-08 (9.5-10)	95	148*	66
220-5867-14	SB-07 (14.5-15.5)	96	93	86
220-5867-15	SB-06 (7.5-8.5)	108	106	93
220-5867-16	SB-06 (14-15)	96	96	96
MB 220-18283/2		98	97	106
MB 220-18353/2		95	99	103
LCS 220-18283/3		100	98	97
LCS 220-18353/3		96	97	99

Surrogate	Acceptance Limits
12DCE = 1,2-Dichloroethane-d4 (Surr)	70-121
TOL = Toluene-d8 (Surr)	84-138
BFB = 4-Bromofluorobenzene	59-113

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Surrogate Recovery Report

OLM04.2/Vol CLP Volatile Organic Compounds

Client Matrix: Water

Lab Sample ID	Client Sample ID	12DCE %Rec	TOL %Rec	BFB %Rec
220-5867-17	TRIP BLANK	99	99	93
MB 220-18355/2		94	103	94
LCS 220-18355/3		98	101	99

Surrogate	Acceptance Limits
12DCE = 1,2-Dichloroethane-d4 (Surr)	76-114
TOL = Toluene-d8 (Surr)	88-110
BFB = 4-Bromofluorobenzene	86-115

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Surrogate Recovery Report

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Matrix: Solid

Lab Sample ID	Client Sample ID	TCX1 %Rec	TCX2 %Rec	DCB1 %Rec	DCB2 %Rec
220-5867-6	SB-01 (3.8-18)		45		43
220-5867-7	SB-02 (3.5-17.5)	120	160*	154	140
220-5867-8	SB-05 (4-15)	88	102	121	101
220-5867-9	SB-04 (3.5-15)		88		88
220-5867-10	SB-03 (4.5-20)	70	89	97	83
220-5867-11	SB-08 (9.5-10)	131	153	196*	208*
220-5867-12	SB-08 (14.5-15)		99		107
220-5867-13	SB-07 (4-5)	114	115	134	124
220-5867-14	SB-07 (14.5-15.5)		80		103
220-5867-15	SB-06 (7.5-8.5)	155*	131	150	141
MB 220-18170/1-A		83	78	100	96
LCS 220-18170/22-A		95	90	114	104

Surrogate	Acceptance Limits
TCX = Tetrachloro-m-xylene	24-154
DCB = DCB Decachlorobiphenyl	25-159

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Method Blank - Batch: 220-18283

Method: OLM04.2/Vol Preparation: 5030B

Lab Sample ID: MB 220-18283/2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/23/2008 1038
Date Prepared: 07/23/2008 1038

Analysis Batch: 220-18283
Prep Batch: N/A
Units: ug/Kg

Instrument ID: HP 5890/5971A GC/MS
Lab File ID: O5178.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
Chloromethane	10	U	0.10	10
Vinyl chloride	10	U	0.10	10
Bromomethane	10	U	0.10	10
Chloroethane	10	U	0.10	10
1,1-Dichloroethene	10	U	0.10	10
Carbon disulfide	10	U	0.10	10
Acetone	2.2	J	0.10	10
Methylene Chloride	1.7	J	0.10	10
1,1-Dichloroethane	10	U	0.10	10
Methyl Ethyl Ketone	10	U	0.10	10
Chloroform	10	U	0.10	10
1,1,1-Trichloroethane	10	U	0.10	10
Carbon tetrachloride	10	U	0.10	10
Benzene	10	U	0.10	10
1,2-Dichloroethane	10	U	0.10	10
Trichloroethene	10	U	0.10	10
1,2-Dichloropropane	10	U	0.10	10
Bromodichloromethane	10	U	0.10	10
cis-1,3-Dichloropropene	10	U	0.10	10
methyl isobutyl ketone	10	U	0.10	10
Toluene	0.41	J	0.10	10
trans-1,3-Dichloropropene	10	U	0.10	10
1,1,2-Trichloroethane	10	U	0.10	10
Tetrachloroethene	10	U	0.10	10
2-Hexanone	10	U	0.10	10
Dibromochloromethane	10	U	0.10	10
Chlorobenzene	10	U	0.10	10
Ethylbenzene	10	U	0.10	10
Styrene	10	U	0.10	10
Bromoform	10	U	0.10	10
1,1,2,2-Tetrachloroethane	10	U	0.10	10
Xylenes, Total	10	U	0.10	10
cis-1,2-Dichloroethene	10	U	0.10	10
trans-1,2-Dichloroethene	10	U	0.10	10
Dichlorodifluoromethane	10	U	0.10	10
Trichlorofluoromethane	10	U	0.10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	0.10	10
Methyl tert-butyl ether	10	U	0.10	10
1,2-Dibromoethane	10	U	0.10	10
Isopropylbenzene	10	U	0.10	10
1,3-Dichlorobenzene	10	U	0.10	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Method Blank - Batch: 220-18283

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: MB 220-18283/2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/23/2008 1038
Date Prepared: 07/23/2008 1038

Analysis Batch: 220-18283
Prep Batch: N/A
Units: ug/Kg

Instrument ID: HP 5890/5971A GC/MS
Lab File ID: O5178.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
1,4-Dichlorobenzene	10	U	0.10	10
1,2-Dichlorobenzene	10	U	0.10	10
1,2-Dibromo-3-Chloropropane	10	U	0.10	10
1,2,4-Trichlorobenzene	10	U	0.10	10
Methyl acetate	10	U	0.10	10
Cyclohexane	10	U	0.10	10
Methylcyclohexane	10	U	0.10	10

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	98	70 - 121
4-Bromofluorobenzene	106	59 - 113
Toluene-d8 (Surr)	97	84 - 138

Lab Control Spike - Batch: 220-18283

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: LCS 220-18283/3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/23/2008 1126
Date Prepared: 07/23/2008 1126

Analysis Batch: 220-18283
Prep Batch: N/A
Units: ug/Kg

Instrument ID: HP 5890/5971A GC/MS
Lab File ID: O5179.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethene	20.0	20.1	101	59 - 172	
Benzene	20.0	19.7	98	66 - 142	
Trichloroethene	20.0	19.7	98	62 - 137	
Toluene	20.0	20.4	102	59 - 139	
Chlorobenzene	20.0	19.6	98	60 - 133	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	100	70 - 121
4-Bromofluorobenzene	97	59 - 113
Toluene-d8 (Surr)	98	84 - 138

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Method Blank - Batch: 220-18353

Method: OLM04.2/Vol Preparation: 5030B

Lab Sample ID: MB 220-18353/2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/22/2008 1047
Date Prepared: 07/22/2008 1047

Analysis Batch: 220-18353
Prep Batch: N/A
Units: ug/Kg

Instrument ID: HP 5890/5971A GC/MS
Lab File ID: O5149.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
Chloromethane	10	U	0.10	10
Vinyl chloride	10	U	0.10	10
Bromomethane	10	U	0.10	10
Chloroethane	10	U	0.10	10
1,1-Dichloroethene	10	U	0.10	10
Carbon disulfide	10	U	0.10	10
Acetone	2.1	J	0.10	10
Methylene Chloride	1.5	J	0.10	10
1,1-Dichloroethane	10	U	0.10	10
Methyl Ethyl Ketone	10	U	0.10	10
Chloroform	10	U	0.10	10
1,1,1-Trichloroethane	10	U	0.10	10
Carbon tetrachloride	10	U	0.10	10
Benzene	10	U	0.10	10
1,2-Dichloroethane	10	U	0.10	10
Trichloroethene	10	U	0.10	10
1,2-Dichloropropane	10	U	0.10	10
Bromodichloromethane	10	U	0.10	10
cis-1,3-Dichloropropene	10	U	0.10	10
methyl isobutyl ketone	10	U	0.10	10
Toluene	0.24	J	0.10	10
trans-1,3-Dichloropropene	10	U	0.10	10
1,1,2-Trichloroethane	10	U	0.10	10
Tetrachloroethene	10	U	0.10	10
2-Hexanone	10	U	0.10	10
Dibromochloromethane	10	U	0.10	10
Chlorobenzene	10	U	0.10	10
Ethylbenzene	10	U	0.10	10
Styrene	10	U	0.10	10
Bromoform	10	U	0.10	10
1,1,2,2-Tetrachloroethane	10	U	0.10	10
Xylenes, Total	10	U	0.10	10
cis-1,2-Dichloroethene	10	U	0.10	10
trans-1,2-Dichloroethene	10	U	0.10	10
Dichlorodifluoromethane	10	U	0.10	10
Trichlorofluoromethane	10	U	0.10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	0.10	10
Methyl tert-butyl ether	10	U	0.10	10
1,2-Dibromoethane	10	U	0.10	10
Isopropylbenzene	10	U	0.10	10
1,3-Dichlorobenzene	10	U	0.10	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Method Blank - Batch: 220-18353

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: MB 220-18353/2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/22/2008 1047
Date Prepared: 07/22/2008 1047

Analysis Batch: 220-18353
Prep Batch: N/A
Units: ug/Kg

Instrument ID: HP 5890/5971A GC/MS
Lab File ID: O5149.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
1,4-Dichlorobenzene	10	U	0.10	10
1,2-Dichlorobenzene	10	U	0.10	10
1,2-Dibromo-3-Chloropropane	10	U	0.10	10
1,2,4-Trichlorobenzene	10	U	0.10	10
Methyl acetate	10	U	0.10	10
Cyclohexane	10	U	0.10	10
Methylcyclohexane	10	U	0.10	10

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95	70 - 121
4-Bromofluorobenzene	103	59 - 113
Toluene-d8 (Surr)	99	84 - 138

Lab Control Spike - Batch: 220-18353

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: LCS 220-18353/3
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/22/2008 1247
Date Prepared: 07/22/2008 1247

Analysis Batch: 220-18353
Prep Batch: N/A
Units: ug/Kg

Instrument ID: HP 5890/5971A GC/MS
Lab File ID: O5151.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethene	20.0	21.5	108	59 - 172	
Benzene	20.0	21.0	105	66 - 142	
Trichloroethene	20.0	20.4	102	62 - 137	
Toluene	20.0	21.4	107	59 - 139	
Chlorobenzene	20.0	21.2	106	60 - 133	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	96	70 - 121
4-Bromofluorobenzene	99	59 - 113
Toluene-d8 (Surr)	97	84 - 138

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Method Blank - Batch: 220-18355

Method: OLM04.2/Vol Preparation: 5030B

Lab Sample ID: MB 220-18355/2

Analysis Batch: 220-18355

Instrument ID: HP 6890/5973 GC/MS

Client Matrix: Water

Prep Batch: N/A

Lab File ID: Y4797.D

Dilution: 1.0

Units: ug/L

Initial Weight/Volume: 5 mL

Date Analyzed: 07/22/2008 1112

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1112

Analyte	Result	Qual	MDL	RL
Chloromethane	10	U	0.10	10
Vinyl chloride	10	U	0.10	10
Bromomethane	10	U	0.10	10
Chloroethane	10	U	0.10	10
1,1-Dichloroethene	10	U	0.10	10
Carbon disulfide	10	U	0.10	10
Acetone	10	U	0.10	10
Methylene Chloride	0.82	J	0.10	10
1,1-Dichloroethane	10	U	0.10	10
Methyl Ethyl Ketone	10	U	0.10	10
Chloroform	10	U	0.10	10
1,1,1-Trichloroethane	10	U	0.10	10
Carbon tetrachloride	10	U	0.10	10
Benzene	10	U	0.10	10
1,2-Dichloroethane	10	U	0.10	10
Trichloroethene	10	U	0.10	10
1,2-Dichloropropane	10	U	0.10	10
Bromodichloromethane	10	U	0.10	10
cis-1,3-Dichloropropene	10	U	0.10	10
methyl isobutyl ketone	10	U	0.10	10
Toluene	10	U	0.10	10
trans-1,3-Dichloropropene	10	U	0.10	10
1,1,2-Trichloroethane	10	U	0.10	10
Tetrachloroethene	10	U	0.10	10
2-Hexanone	10	U	0.10	10
Dibromochloromethane	10	U	0.10	10
Chlorobenzene	10	U	0.10	10
Ethylbenzene	10	U	0.10	10
Styrene	10	U	0.10	10
Bromoform	10	U	0.10	10
1,1,2,2-Tetrachloroethane	10	U	0.10	10
Xylenes, Total	10	U	0.10	10
cis-1,2-Dichloroethene	10	U	0.10	10
trans-1,2-Dichloroethene	10	U	0.10	10
Dichlorodifluoromethane	10	U	0.10	10
Trichlorofluoromethane	10	U	0.10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	0.10	10
Methyl tert-butyl ether	10	U	0.10	10
1,2-Dibromoethane	10	U	0.10	10
Isopropylbenzene	10	U	0.10	10
1,3-Dichlorobenzene	10	U	0.10	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Method Blank - Batch: 220-18355

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: MB 220-18355/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/22/2008 1112
Date Prepared: 07/22/2008 1112

Analysis Batch: 220-18355
Prep Batch: N/A
Units: ug/L

Instrument ID: HP 6890/5973 GC/MS
Lab File ID: Y4797.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
1,4-Dichlorobenzene	10	U	0.10	10
1,2-Dichlorobenzene	10	U	0.10	10
1,2-Dibromo-3-Chloropropane	10	U	0.10	10
1,2,4-Trichlorobenzene	10	U	0.10	10
Methyl acetate	10	U	0.10	10
Cyclohexane	10	U	0.10	10
Methylcyclohexane	10	U	0.10	10

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	94	76 - 114
4-Bromofluorobenzene	94	86 - 115
Toluene-d8 (Surr)	103	88 - 110

Lab Control Spike - Batch: 220-18355

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: LCS 220-18355/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/22/2008 1334
Date Prepared: 07/22/2008 1334

Analysis Batch: 220-18355
Prep Batch: N/A
Units: ug/L

Instrument ID: HP 6890/5973 GC/MS
Lab File ID: Y4800.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethene	20.0	21.7	108	61 - 145	
Benzene	20.0	21.2	106	76 - 127	
Trichloroethene	20.0	21.8	109	71 - 120	
Toluene	20.0	20.7	104	76 - 125	
Chlorobenzene	20.0	20.6	103	75 - 130	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	98	76 - 114
4-Bromofluorobenzene	99	86 - 115
Toluene-d8 (Surr)	101	88 - 110

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Method Blank - Batch: 220-18170

Method: 8082

Preparation: 3550B

Lab Sample ID: MB 220-18170/1-A

Client Matrix: Solid

Dilution: 1.0

Date Analyzed: 07/22/2008 1656

Date Prepared: 07/21/2008 1659

Analysis Batch: 220-18252

Prep Batch: 220-18170

Units: ug/Kg

Instrument ID: HP 5890 with dual ECD

Lab File ID: D4716109.d

Initial Weight/Volume: 30.0 g

Final Weight/Volume: 10.0 mL

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
PCB-1016	17	U	4.6	17
PCB-1221	33	U	1.1	33
PCB-1232	17	U	4.6	17
PCB-1242	17	U	4.6	17
PCB-1248	17	U	4.6	17
PCB-1254	17	U	1.5	17
PCB-1260	17	U	3.5	17

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	83	24 - 154
DCB Decachlorobiphenyl	100	25 - 159

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	78	24 - 154
DCB Decachlorobiphenyl	96	25 - 159

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Lab Control Spike - Batch: 220-18170

Method: 8082

Preparation: 3550B

Lab Sample ID: LCS 220-18170/22-A

Client Matrix: Solid

Dilution: 1.0

Date Analyzed: 07/22/2008 1713

Date Prepared: 07/21/2008 1659

Analysis Batch: 220-18252

Prep Batch: 220-18170

Units: ug/Kg

Instrument ID: HP 5890 with dual ECD

Lab File ID: C4716110.d

Initial Weight/Volume: 30.0 g

Final Weight/Volume: 10.0 mL

Injection Volume: 1.0 uL

Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
PCB-1016	167	162	97	42 - 130	
PCB-1260	167	142	85	50 - 128	
Surrogate	% Rec		Acceptance Limits		
Tetrachloro-m-xylene	95		24 - 154		
DCB Decachlorobiphenyl	114		25 - 159		
Surrogate	% Rec		Acceptance Limits		
Tetrachloro-m-xylene	90		24 - 154		
DCB Decachlorobiphenyl	104		25 - 159		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Duplicate - Batch: 220-18053

Method: PercentMoisture
Preparation: N/A

Lab Sample ID: 220-5867-9
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/16/2008 1400
Date Prepared: N/A

Analysis Batch: 220-18053
Prep Batch: N/A
Units: %

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	9.55	9.43	1	20	
Percent Solids	90.4	90.6	0	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: Malcolm Pirnie, Inc.

Job Number: 220-5867-1

Sdg Number: 220-5867

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Analyzed for but not detected.
	J	Indicates an estimated value.
	*	Surrogate exceeds the control limit
	B	The analyte was found in an associated blank, as well as in the sample.
GC Semi VOA		
	U	Analyzed for but not detected.
	J	Indicates an estimated value.
	*	Surrogate exceeds the control limit

ANALYTICAL REPORT

Job Number: 220-5904-1

SDG Number: 220-5904

Job Description: NYSDEC Standby - Tioga Castings

For:

Malcolm Pirnie, Inc.
43 British American Boulevard
1st Floor
Latham, NY 12110

Attention: Mr. Bruce Nelson



Designee for
Johanna Dubauskas
Project Manager I
johanna.dubauskas@testamericainc.com
08/04/2008

The test results in this report meet all NELAP requirements unless specified within the case narrative. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Project Manager.

TestAmerica Connecticut Certifications and Approvals: CTDOH PH-047, MADEP CT023, RIDOH A43, NYDOH 10602, NY NELAP 10602, NHDES 2528, NJDEP CT410, ME DOH CT023, UT DOH 2032614458

Case Narrative for Job: 220-5904-1

Client: Malcolm Pirnie, Inc.
Date: August 4, 2008

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.



Lawrence Decker
Laboratory Director

August 4, 2008
Date

Job Narrative
220-J5904-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC/MS VOA

No analytical or quality issues were noted.

SAMPLE SUMMARY

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
220-5904-1	MW-4	Water	07/17/2008 1215	07/18/2008 0930
220-5904-2	MW-5	Water	07/17/2008 1400	07/18/2008 0930
220-5904-3	MW-X	Water	07/17/2008 1445	07/18/2008 0930
220-5904-4	MW-2	Water	07/17/2008 1515	07/18/2008 0930
220-5904-5TB	TRIP BLANK	Water	07/17/2008 0000	07/18/2008 0930

METHOD SUMMARY

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Description	Lab Location	Method	Preparation Method
Matrix: Water			
CLP Volatile Organic Compounds	TAL CT	OLM04.2	OLM04.2/Vol
Purge-and-Trap	TAL CT		SW846 5030B
ILM05.3 Metals	TAL BUF	ILM05.3	ILM05.3

Lab References:

TAL BUF = TestAmerica Buffalo

TAL CT = TestAmerica Connecticut

Method References:

ILM05.3 = U.S. Environmental Protection Agency

OLM04.2 = "Statement of Work for Organic Analysis", Multi-Media, Multi-Concentration September 1998

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

METHOD / ANALYST SUMMARY

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Method	Analyst	Analyst ID
OLM04.2 OLM04.2/Vol	Humbert, Dave	DH

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Client Sample ID: MW-4

Lab Sample ID: 220-5904-1

Client Matrix: Water

Date Sampled: 07/17/2008 1215

Date Received: 07/18/2008 0930

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18379

Instrument ID: HP 6890/5973 GC/MS

Preparation: 5030B

Lab File ID: Y4834.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 07/23/2008 1658

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1658

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloromethane	10	U	0.10	10
Vinyl chloride	10	U	0.10	10
Bromomethane	10	U	0.10	10
Chloroethane	10	U	0.10	10
1,1-Dichloroethene	10	U	0.10	10
Carbon disulfide	10	U	0.10	10
Acetone	10	U	0.10	10
Methylene Chloride	10	U	0.10	10
1,1-Dichloroethane	10	U	0.10	10
Methyl Ethyl Ketone	10	U	0.10	10
Chloroform	10	U	0.10	10
1,1,1-Trichloroethane	10	U	0.10	10
Carbon tetrachloride	10	U	0.10	10
Benzene	10	U	0.10	10
1,2-Dichloroethane	10	U	0.10	10
Trichloroethene	10	U	0.10	10
1,2-Dichloropropane	10	U	0.10	10
Bromodichloromethane	10	U	0.10	10
cis-1,3-Dichloropropene	10	U	0.10	10
methyl isobutyl ketone	10	U	0.10	10
Toluene	10	U	0.10	10
trans-1,3-Dichloropropene	10	U	0.10	10
1,1,2-Trichloroethane	10	U	0.10	10
Tetrachloroethene	10	U	0.10	10
2-Hexanone	10	U	0.10	10
Dibromochloromethane	10	U	0.10	10
Chlorobenzene	10	U	0.10	10
Ethylbenzene	10	U	0.10	10
Styrene	10	U	0.10	10
Bromoform	10	U	0.10	10
1,1,2,2-Tetrachloroethane	10	U	0.10	10
Xylenes, Total	10	U	0.10	10
cis-1,2-Dichloroethene	10	U	0.10	10
trans-1,2-Dichloroethene	10	U	0.10	10
Dichlorodifluoromethane	10	U	0.10	10
Trichlorofluoromethane	10	U	0.10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	0.10	10
Methyl tert-butyl ether	10	U	0.10	10
1,2-Dibromoethane	10	U	0.10	10
Isopropylbenzene	10	U	0.10	10
1,3-Dichlorobenzene	10	U	0.10	10
1,4-Dichlorobenzene	10	U	0.10	10
1,2-Dichlorobenzene	10	U	0.10	10
1,2-Dibromo-3-Chloropropane	10	U	0.10	10

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Client Sample ID: MW-4

Lab Sample ID: 220-5904-1

Date Sampled: 07/17/2008 1215

Client Matrix: Water

Date Received: 07/18/2008 0930

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18379

Instrument ID: HP 6890/5973 GC/MS

Preparation: 5030B

Lab File ID: Y4834.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 07/23/2008 1658

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1658

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene	10	U	0.10	10
Methyl acetate	10	U	0.10	10
Cyclohexane	10	U	0.10	10
Methylcyclohexane	10	U	0.10	10
Surrogate	%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	102		76 - 114	
4-Bromofluorobenzene	91		86 - 115	
Toluene-d8 (Surr)	104		88 - 110	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Client Sample ID: MW-5

Lab Sample ID: 220-5904-2

Client Matrix: Water

Date Sampled: 07/17/2008 1400

Date Received: 07/18/2008 0930

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18379

Instrument ID: HP 6890/5973 GC/MS

Preparation: 5030B

Lab File ID: Y4835.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 07/23/2008 1724

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1724

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloromethane	10	U	0.10	10
Vinyl chloride	10	U	0.10	10
Bromomethane	10	U	0.10	10
Chloroethane	10	U	0.10	10
1,1-Dichloroethene	10	U	0.10	10
Carbon disulfide	10	U	0.10	10
Acetone	10	U	0.10	10
Methylene Chloride	10	U	0.10	10
1,1-Dichloroethane	10	U	0.10	10
Methyl Ethyl Ketone	10	U	0.10	10
Chloroform	10	U	0.10	10
1,1,1-Trichloroethane	10	U	0.10	10
Carbon tetrachloride	10	U	0.10	10
Benzene	10	U	0.10	10
1,2-Dichloroethane	10	U	0.10	10
Trichloroethene	10	U	0.10	10
1,2-Dichloropropane	10	U	0.10	10
Bromodichloromethane	10	U	0.10	10
cis-1,3-Dichloropropene	10	U	0.10	10
methyl isobutyl ketone	10	U	0.10	10
Toluene	10	U	0.10	10
trans-1,3-Dichloropropene	10	U	0.10	10
1,1,2-Trichloroethane	10	U	0.10	10
Tetrachloroethene	10	U	0.10	10
2-Hexanone	10	U	0.10	10
Dibromochloromethane	10	U	0.10	10
Chlorobenzene	10	U	0.10	10
Ethylbenzene	10	U	0.10	10
Styrene	10	U	0.10	10
Bromoform	10	U	0.10	10
1,1,2,2-Tetrachloroethane	10	U	0.10	10
Xylenes, Total	10	U	0.10	10
cis-1,2-Dichloroethene	10	U	0.10	10
trans-1,2-Dichloroethene	10	U	0.10	10
Dichlorodifluoromethane	10	U	0.10	10
Trichlorofluoromethane	10	U	0.10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	0.10	10
Methyl tert-butyl ether	10	U	0.10	10
1,2-Dibromoethane	10	U	0.10	10
Isopropylbenzene	10	U	0.10	10
1,3-Dichlorobenzene	10	U	0.10	10
1,4-Dichlorobenzene	10	U	0.10	10
1,2-Dichlorobenzene	10	U	0.10	10
1,2-Dibromo-3-Chloropropane	10	U	0.10	10

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Client Sample ID: MW-5

Lab Sample ID: 220-5904-2

Date Sampled: 07/17/2008 1400

Client Matrix: Water

Date Received: 07/18/2008 0930

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18379

Instrument ID: HP 6890/5973 GC/MS

Preparation: 5030B

Lab File ID: Y4835.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 07/23/2008 1724

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1724

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene	10	U	0.10	10
Methyl acetate	10	U	0.10	10
Cyclohexane	10	U	0.10	10
Methylcyclohexane	10	U	0.10	10
Surrogate	%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	100		76 - 114	
4-Bromofluorobenzene	91		86 - 115	
Toluene-d8 (Surr)	101		88 - 110	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Client Sample ID: MW-X

Lab Sample ID: 220-5904-3

Date Sampled: 07/17/2008 1445

Client Matrix: Water

Date Received: 07/18/2008 0930

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18379

Instrument ID: HP 6890/5973 GC/MS

Preparation: 5030B

Lab File ID: Y4836.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 07/23/2008 1751

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1751

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloromethane	10	U	0.10	10
Vinyl chloride	10	U	0.10	10
Bromomethane	10	U	0.10	10
Chloroethane	10	U	0.10	10
1,1-Dichloroethene	10	U	0.10	10
Carbon disulfide	10	U	0.10	10
Acetone	10	U	0.10	10
Methylene Chloride	10	U	0.10	10
1,1-Dichloroethane	10	U	0.10	10
Methyl Ethyl Ketone	10	U	0.10	10
Chloroform	10	U	0.10	10
1,1,1-Trichloroethane	10	U	0.10	10
Carbon tetrachloride	10	U	0.10	10
Benzene	10	U	0.10	10
1,2-Dichloroethane	10	U	0.10	10
Trichloroethene	10	U	0.10	10
1,2-Dichloropropane	10	U	0.10	10
Bromodichloromethane	10	U	0.10	10
cis-1,3-Dichloropropene	10	U	0.10	10
methyl isobutyl ketone	10	U	0.10	10
Toluene	10	U	0.10	10
trans-1,3-Dichloropropene	10	U	0.10	10
1,1,2-Trichloroethane	10	U	0.10	10
Tetrachloroethene	10	U	0.10	10
2-Hexanone	10	U	0.10	10
Dibromochloromethane	10	U	0.10	10
Chlorobenzene	10	U	0.10	10
Ethylbenzene	10	U	0.10	10
Styrene	10	U	0.10	10
Bromoform	10	U	0.10	10
1,1,2,2-Tetrachloroethane	10	U	0.10	10
Xylenes, Total	10	U	0.10	10
cis-1,2-Dichloroethene	10	U	0.10	10
trans-1,2-Dichloroethene	10	U	0.10	10
Dichlorodifluoromethane	10	U	0.10	10
Trichlorofluoromethane	10	U	0.10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	0.10	10
Methyl tert-butyl ether	10	U	0.10	10
1,2-Dibromoethane	10	U	0.10	10
Isopropylbenzene	10	U	0.10	10
1,3-Dichlorobenzene	10	U	0.10	10
1,4-Dichlorobenzene	10	U	0.10	10
1,2-Dichlorobenzene	10	U	0.10	10
1,2-Dibromo-3-Chloropropane	10	U	0.10	10

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Client Sample ID: MW-X

Lab Sample ID: 220-5904-3

Date Sampled: 07/17/2008 1445

Client Matrix: Water

Date Received: 07/18/2008 0930

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18379

Instrument ID: HP 6890/5973 GC/MS

Preparation: 5030B

Lab File ID: Y4836.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 07/23/2008 1751

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1751

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene	10	U	0.10	10
Methyl acetate	10	U	0.10	10
Cyclohexane	10	U	0.10	10
Methylcyclohexane	10	U	0.10	10
Surrogate	%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	102		76 - 114	
4-Bromofluorobenzene	87		86 - 115	
Toluene-d8 (Surr)	102		88 - 110	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Client Sample ID: MW-2

Lab Sample ID: 220-5904-4

Client Matrix: Water

Date Sampled: 07/17/2008 1515

Date Received: 07/18/2008 0930

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18379

Instrument ID: HP 6890/5973 GC/MS

Preparation: 5030B

Lab File ID: Y4837.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 07/23/2008 1818

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1818

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloromethane	10	U	0.10	10
Vinyl chloride	10	U	0.10	10
Bromomethane	10	U	0.10	10
Chloroethane	10	U	0.10	10
1,1-Dichloroethene	10	U	0.10	10
Carbon disulfide	10	U	0.10	10
Acetone	10	U	0.10	10
Methylene Chloride	10	U	0.10	10
1,1-Dichloroethane	10	U	0.10	10
Methyl Ethyl Ketone	10	U	0.10	10
Chloroform	10	U	0.10	10
1,1,1-Trichloroethane	10	U	0.10	10
Carbon tetrachloride	10	U	0.10	10
Benzene	10	U	0.10	10
1,2-Dichloroethane	10	U	0.10	10
Trichloroethene	10	U	0.10	10
1,2-Dichloropropane	10	U	0.10	10
Bromodichloromethane	10	U	0.10	10
cis-1,3-Dichloropropene	10	U	0.10	10
methyl isobutyl ketone	10	U	0.10	10
Toluene	10	U	0.10	10
trans-1,3-Dichloropropene	10	U	0.10	10
1,1,2-Trichloroethane	10	U	0.10	10
Tetrachloroethene	10	U	0.10	10
2-Hexanone	10	U	0.10	10
Dibromochloromethane	10	U	0.10	10
Chlorobenzene	10	U	0.10	10
Ethylbenzene	10	U	0.10	10
Styrene	10	U	0.10	10
Bromoform	10	U	0.10	10
1,1,2,2-Tetrachloroethane	10	U	0.10	10
Xylenes, Total	10	U	0.10	10
cis-1,2-Dichloroethene	10	U	0.10	10
trans-1,2-Dichloroethene	10	U	0.10	10
Dichlorodifluoromethane	10	U	0.10	10
Trichlorofluoromethane	10	U	0.10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	0.10	10
Methyl tert-butyl ether	10	U	0.10	10
1,2-Dibromoethane	10	U	0.10	10
Isopropylbenzene	10	U	0.10	10
1,3-Dichlorobenzene	10	U	0.10	10
1,4-Dichlorobenzene	10	U	0.10	10
1,2-Dichlorobenzene	10	U	0.10	10
1,2-Dibromo-3-Chloropropane	10	U	0.10	10

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Client Sample ID: MW-2

Lab Sample ID: 220-5904-4

Date Sampled: 07/17/2008 1515

Client Matrix: Water

Date Received: 07/18/2008 0930

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18379

Instrument ID: HP 6890/5973 GC/MS

Preparation: 5030B

Lab File ID: Y4837.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 07/23/2008 1818

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1818

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene	10	U	0.10	10
Methyl acetate	10	U	0.10	10
Cyclohexane	10	U	0.10	10
Methylcyclohexane	10	U	0.10	10
Surrogate	%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	99		76 - 114	
4-Bromofluorobenzene	89		86 - 115	
Toluene-d8 (Surr)	101		88 - 110	

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Client Sample ID: TRIP BLANK

Lab Sample ID: 220-5904-5TB

Client Matrix: Water

Date Sampled: 07/17/2008 0000

Date Received: 07/18/2008 0930

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18355

Instrument ID: HP 6890/5973 GC/MS

Preparation: 5030B

Lab File ID: Y4805.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 07/22/2008 1618

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1618

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chloromethane	10	U	0.10	10
Vinyl chloride	10	U	0.10	10
Bromomethane	10	U	0.10	10
Chloroethane	10	U	0.10	10
1,1-Dichloroethene	10	U	0.10	10
Carbon disulfide	10	U	0.10	10
Acetone	10	U	0.10	10
Methylene Chloride	10	U	0.10	10
1,1-Dichloroethane	10	U	0.10	10
Methyl Ethyl Ketone	10	U	0.10	10
Chloroform	10	U	0.10	10
1,1,1-Trichloroethane	10	U	0.10	10
Carbon tetrachloride	10	U	0.10	10
Benzene	10	U	0.10	10
1,2-Dichloroethane	10	U	0.10	10
Trichloroethene	10	U	0.10	10
1,2-Dichloropropane	10	U	0.10	10
Bromodichloromethane	10	U	0.10	10
cis-1,3-Dichloropropene	10	U	0.10	10
methyl isobutyl ketone	10	U	0.10	10
Toluene	10	U	0.10	10
trans-1,3-Dichloropropene	10	U	0.10	10
1,1,2-Trichloroethane	10	U	0.10	10
Tetrachloroethene	10	U	0.10	10
2-Hexanone	10	U	0.10	10
Dibromochloromethane	10	U	0.10	10
Chlorobenzene	10	U	0.10	10
Ethylbenzene	10	U	0.10	10
Styrene	10	U	0.10	10
Bromoform	10	U	0.10	10
1,1,2,2-Tetrachloroethane	10	U	0.10	10
Xylenes, Total	10	U	0.10	10
cis-1,2-Dichloroethene	10	U	0.10	10
trans-1,2-Dichloroethene	10	U	0.10	10
Dichlorodifluoromethane	10	U	0.10	10
Trichlorofluoromethane	10	U	0.10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	0.10	10
Methyl tert-butyl ether	10	U	0.10	10
1,2-Dibromoethane	10	U	0.10	10
Isopropylbenzene	10	U	0.10	10
1,3-Dichlorobenzene	10	U	0.10	10
1,4-Dichlorobenzene	10	U	0.10	10
1,2-Dichlorobenzene	10	U	0.10	10
1,2-Dibromo-3-Chloropropane	10	U	0.10	10

Analytical Data

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Client Sample ID: TRIP BLANK

Lab Sample ID: 220-5904-5TB

Client Matrix: Water

Date Sampled: 07/17/2008 0000

Date Received: 07/18/2008 0930

OLM04.2/Vol CLP Volatile Organic Compounds

Method: OLM04.2/Vol

Analysis Batch: 220-18355

Instrument ID: HP 6890/5973 GC/MS

Preparation: 5030B

Lab File ID: Y4805.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 07/22/2008 1618

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1618

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,2,4-Trichlorobenzene	10	U	0.10	10
Methyl acetate	10	U	0.10	10
Cyclohexane	10	U	0.10	10
Methylcyclohexane	10	U	0.10	10
Surrogate	%Rec		Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	99		76 - 114	
4-Bromofluorobenzene	92		86 - 115	
Toluene-d8 (Surr)	102		88 - 110	

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Surrogate Recovery Report

OLM04.2/Vol CLP Volatile Organic Compounds

Client Matrix: Water

Lab Sample ID	Client Sample ID	12DCE %Rec	TOL %Rec	BFB %Rec
220-5904-1	MW-4	102	104	91
220-5904-2	MW-5	100	101	91
220-5904-3	MW-X	102	102	87
220-5904-4	MW-2	99	101	89
220-5904-5	TRIP BLANK	99	102	92
MB 220-18355/2		94	103	94
MB 220-18379/3		102	104	92
LCS 220-18355/3		98	101	99
LCS 220-18379/2		100	101	99
MSB 220-18379/9		101	98	99

Surrogate	Acceptance Limits
12DCE = 1,2-Dichloroethane-d4 (Surr)	76-114
TOL = Toluene-d8 (Surr)	88-110
BFB = 4-Bromofluorobenzene	86-115

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Method Blank - Batch: 220-18355

Method: OLM04.2/Vol Preparation: 5030B

Lab Sample ID: MB 220-18355/2

Analysis Batch: 220-18355

Instrument ID: HP 6890/5973 GC/MS

Client Matrix: Water

Prep Batch: N/A

Lab File ID: Y4797.D

Dilution: 1.0

Units: ug/L

Initial Weight/Volume: 5 mL

Date Analyzed: 07/22/2008 1112

Final Weight/Volume: 5 mL

Date Prepared: 07/22/2008 1112

Analyte	Result	Qual	MDL	RL
Chloromethane	10	U	0.10	10
Vinyl chloride	10	U	0.10	10
Bromomethane	10	U	0.10	10
Chloroethane	10	U	0.10	10
1,1-Dichloroethene	10	U	0.10	10
Carbon disulfide	10	U	0.10	10
Acetone	10	U	0.10	10
Methylene Chloride	0.82	J	0.10	10
1,1-Dichloroethane	10	U	0.10	10
Methyl Ethyl Ketone	10	U	0.10	10
Chloroform	10	U	0.10	10
1,1,1-Trichloroethane	10	U	0.10	10
Carbon tetrachloride	10	U	0.10	10
Benzene	10	U	0.10	10
1,2-Dichloroethane	10	U	0.10	10
Trichloroethene	10	U	0.10	10
1,2-Dichloropropane	10	U	0.10	10
Bromodichloromethane	10	U	0.10	10
cis-1,3-Dichloropropene	10	U	0.10	10
methyl isobutyl ketone	10	U	0.10	10
Toluene	10	U	0.10	10
trans-1,3-Dichloropropene	10	U	0.10	10
1,1,2-Trichloroethane	10	U	0.10	10
Tetrachloroethene	10	U	0.10	10
2-Hexanone	10	U	0.10	10
Dibromochloromethane	10	U	0.10	10
Chlorobenzene	10	U	0.10	10
Ethylbenzene	10	U	0.10	10
Styrene	10	U	0.10	10
Bromoform	10	U	0.10	10
1,1,2,2-Tetrachloroethane	10	U	0.10	10
Xylenes, Total	10	U	0.10	10
cis-1,2-Dichloroethene	10	U	0.10	10
trans-1,2-Dichloroethene	10	U	0.10	10
Dichlorodifluoromethane	10	U	0.10	10
Trichlorofluoromethane	10	U	0.10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	0.10	10
Methyl tert-butyl ether	10	U	0.10	10
1,2-Dibromoethane	10	U	0.10	10
Isopropylbenzene	10	U	0.10	10
1,3-Dichlorobenzene	10	U	0.10	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Method Blank - Batch: 220-18355

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: MB 220-18355/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/22/2008 1112
Date Prepared: 07/22/2008 1112

Analysis Batch: 220-18355
Prep Batch: N/A
Units: ug/L

Instrument ID: HP 6890/5973 GC/MS
Lab File ID: Y4797.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
1,4-Dichlorobenzene	10	U	0.10	10
1,2-Dichlorobenzene	10	U	0.10	10
1,2-Dibromo-3-Chloropropane	10	U	0.10	10
1,2,4-Trichlorobenzene	10	U	0.10	10
Methyl acetate	10	U	0.10	10
Cyclohexane	10	U	0.10	10
Methylcyclohexane	10	U	0.10	10

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	94	76 - 114
4-Bromofluorobenzene	94	86 - 115
Toluene-d8 (Surr)	103	88 - 110

Lab Control Spike - Batch: 220-18355

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: LCS 220-18355/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/22/2008 1334
Date Prepared: 07/22/2008 1334

Analysis Batch: 220-18355
Prep Batch: N/A
Units: ug/L

Instrument ID: HP 6890/5973 GC/MS
Lab File ID: Y4800.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethene	20.0	21.7	108	61 - 145	
Benzene	20.0	21.2	106	76 - 127	
Trichloroethene	20.0	21.8	109	71 - 120	
Toluene	20.0	20.7	104	76 - 125	
Chlorobenzene	20.0	20.6	103	75 - 130	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	98	76 - 114
4-Bromofluorobenzene	99	86 - 115
Toluene-d8 (Surr)	101	88 - 110

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Method Blank - Batch: 220-18379

Method: OLM04.2/Vol Preparation: 5030B

Lab Sample ID: MB 220-18379/3

Analysis Batch: 220-18379

Instrument ID: HP 6890/5973 GC/MS

Client Matrix: Water

Prep Batch: N/A

Lab File ID: Y4824.D

Dilution: 1.0

Units: ug/L

Initial Weight/Volume: 5 mL

Date Analyzed: 07/23/2008 1137

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1137

Analyte	Result	Qual	MDL	RL
Chloromethane	10	U	0.10	10
Vinyl chloride	10	U	0.10	10
Bromomethane	10	U	0.10	10
Chloroethane	10	U	0.10	10
1,1-Dichloroethene	10	U	0.10	10
Carbon disulfide	10	U	0.10	10
Acetone	10	U	0.10	10
Methylene Chloride	0.73	J	0.10	10
1,1-Dichloroethane	10	U	0.10	10
Methyl Ethyl Ketone	10	U	0.10	10
Chloroform	10	U	0.10	10
1,1,1-Trichloroethane	10	U	0.10	10
Carbon tetrachloride	10	U	0.10	10
Benzene	10	U	0.10	10
1,2-Dichloroethane	10	U	0.10	10
Trichloroethene	10	U	0.10	10
1,2-Dichloropropane	10	U	0.10	10
Bromodichloromethane	10	U	0.10	10
cis-1,3-Dichloropropene	10	U	0.10	10
methyl isobutyl ketone	10	U	0.10	10
Toluene	10	U	0.10	10
trans-1,3-Dichloropropene	10	U	0.10	10
1,1,2-Trichloroethane	10	U	0.10	10
Tetrachloroethene	10	U	0.10	10
2-Hexanone	10	U	0.10	10
Dibromochloromethane	10	U	0.10	10
Chlorobenzene	10	U	0.10	10
Ethylbenzene	10	U	0.10	10
Styrene	10	U	0.10	10
Bromoform	10	U	0.10	10
1,1,2,2-Tetrachloroethane	10	U	0.10	10
Xylenes, Total	10	U	0.10	10
cis-1,2-Dichloroethene	10	U	0.10	10
trans-1,2-Dichloroethene	10	U	0.10	10
Dichlorodifluoromethane	10	U	0.10	10
Trichlorofluoromethane	10	U	0.10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	0.10	10
Methyl tert-butyl ether	10	U	0.10	10
1,2-Dibromoethane	10	U	0.10	10
Isopropylbenzene	10	U	0.10	10
1,3-Dichlorobenzene	10	U	0.10	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Method Blank - Batch: 220-18379

Method: OLM04.2/Vol Preparation: 5030B

Lab Sample ID: MB 220-18379/3

Analysis Batch: 220-18379

Instrument ID: HP 6890/5973 GC/MS

Client Matrix: Water

Prep Batch: N/A

Lab File ID: Y4824.D

Dilution: 1.0

Units: ug/L

Initial Weight/Volume: 5 mL

Date Analyzed: 07/23/2008 1137

Final Weight/Volume: 5 mL

Date Prepared: 07/23/2008 1137

Analyte	Result	Qual	MDL	RL
1,4-Dichlorobenzene	10	U	0.10	10
1,2-Dichlorobenzene	10	U	0.10	10
1,2-Dibromo-3-Chloropropane	10	U	0.10	10
1,2,4-Trichlorobenzene	10	U	0.10	10
Methyl acetate	10	U	0.10	10
Cyclohexane	10	U	0.10	10
Methylcyclohexane	10	U	0.10	10
Surrogate	% Rec	Acceptance Limits		
1,2-Dichloroethane-d4 (Surr)	102	76 - 114		
4-Bromofluorobenzene	92	86 - 115		
Toluene-d8 (Surr)	104	88 - 110		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: Malcolm Pirnie, Inc.

Job Number: 220-5904-1

Sdg Number: 220-5904

Lab Control Spike - Batch: 220-18379

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: LCS 220-18379/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/23/2008 1043
Date Prepared: 07/23/2008 1043

Analysis Batch: 220-18379
Prep Batch: N/A
Units: ug/L

Instrument ID: HP 6890/5973 GC/MS
Lab File ID: Y4822.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethene	20.0	21.4	107	61 - 145	
Benzene	20.0	21.2	106	76 - 127	
Trichloroethene	20.0	21.2	106	71 - 120	
Toluene	20.0	21.4	107	76 - 125	
Chlorobenzene	20.0	21.1	105	75 - 130	
Surrogate	% Rec		Acceptance Limits		
1,2-Dichloroethane-d4 (Surr)	100		76 - 114		
4-Bromofluorobenzene	99		86 - 115		
Toluene-d8 (Surr)	101		88 - 110		

Matrix Spike Blank - Batch: 220-18379

Method: OLM04.2/Vol
Preparation: 5030B

Lab Sample ID: MSB 220-18379/9
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/23/2008 1445
Date Prepared: 07/23/2008 1445

Analysis Batch: 220-18379
Prep Batch: N/A
Units: ug/L

Instrument ID: HP 6890/5973 GC/MS
Lab File ID: Y4830.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethene	50.0	46.1	92	61 - 145	
Benzene	50.0	47.9	96	76 - 127	
Trichloroethene	50.0	47.5	95	71 - 120	
Toluene	50.0	47.8	96	76 - 125	
Chlorobenzene	50.0	47.5	95	75 - 130	
Surrogate	% Rec		Acceptance Limits		
1,2-Dichloroethane-d4 (Surr)	101		76 - 114		
4-Bromofluorobenzene	99		86 - 115		
Toluene-d8 (Surr)	98		88 - 110		

Calculations are performed before rounding to avoid round-off errors in calculated results.

DATA REPORTING QUALIFIERS

Client: Malcolm Pirnie, Inc.

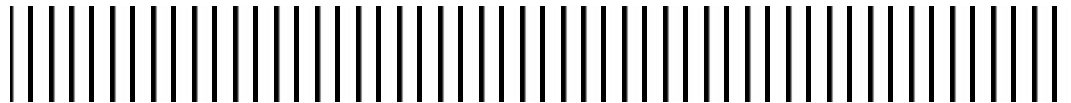
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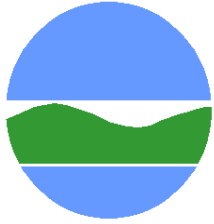
Sdg Number: 220-5904

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Analyzed for but not detected.
	J	Indicates an estimated value.
	*	Surrogate exceeds the control limit

Appendix C

Tioga Castings Site Quarterly Report (Malcolm Pirnie, 2009)





New York State Department of Environmental Conservation

Department of Environmental Remediation • 625 Broadway • Albany, New York 12233

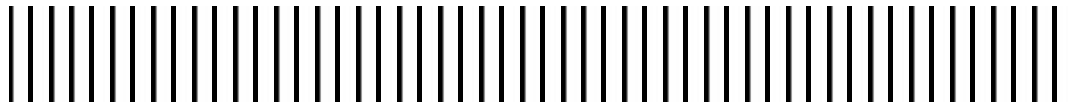
Site Number 7-54-012

Tioga Castings Site Quarterly Report

Second and Third Quarter 2009

New York State Department of Environmental
Conservation Work Assignment D004443-8

December 2009



Report Prepared By:

Malcolm Pirnie, Inc.

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518-250-7300

0266362

**MALCOLM
PIRNIE**

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Appendices

- A. Analytical Reporting Forms

1. Introduction

The New York State Department of Environmental Conservation (NYSDEC) has issued a Work Assignment (# D004443-8) to Malcolm Pirnie, Inc. (Malcolm Pirnie) for Operation, Maintenance, and Monitoring at the Tioga Castings Site (NYSDEC site number 7-54-012) in New York State. Malcolm Pirnie has prepared this Quarterly Report in accordance with the NYSDEC-approved Work Plan to summarize site activities, including Second Quarter 2009 operation and maintenance (O&M) activities and groundwater sampling results, and Third Quarter 2009 surface soil sampling results.



2. Site Description

The Tioga Castings site is located on Foundry Street, Owego, Broome County, New York (Figure 2-1). The former foundry buildings have been razed, leaving the concrete slabs in-place. A capped, closed landfill is present at the western end of the site.

3. Operation and Maintenance

Second quarter 2009 O&M and monitoring activities were conducted by the NYSDEC during pending approval for a budget addendum to the Work Assignment during the designated operating period. The NYSDEC performed the following activities:

- Collection and analysis of groundwater samples (analytical results are presented in Section 4).
- Removal of a chain-link fence surrounding the perimeter of the former foundry buildings.
- Disposal of investigation derived waste (IDW), including four 55 gallon drums of drill cuttings and one 55 gallon drum of decontamination water generated during the October 2008 subsurface investigation of the site.

Third Quarter 2009 O&M activities were conducted by Malcolm Pirnie in accordance with the approved Work Plan.

3.1. Landfill Security

The landfill perimeter fence, entry gate, and locks were inspected for proper operation and signs of deterioration. Figure 3-1 shows the location of the landfill. No problems were identified with the security of the landfill. A warning sign is present at the Foundry Street entrance gate that provides a warning indicating the area within the fence contains hazardous waste and unauthorized entry is forbidden.

3.2. Landfill Cap Maintenance

A visual inspection of the landfill cover was performed to assess the site for burrowing rodents, erosion, woody vegetation, and settlement. Burrowing rodent holes were identified near the northern perimeter of the landfill cell. The burrows will be monitored for activity to evaluate if removal of the rodent(s) is necessary. The landfill cover appeared to be mowed and no large or woody vegetation was present.

4. Groundwater Monitoring Program

4.1. Groundwater Sampling

Groundwater samples are collected to provide information on groundwater quality, monitor contaminant migration in the groundwater at the site, and assess hydrogeologic site conditions, including groundwater flow and velocity. According to the NYSDEC, the Second Quarter 2009 sampling event was also conducted to provide groundwater quality data to evaluate the site for reclassification from Class 2 to Class 3 on the NYSDEC Inactive Hazardous Waste Disposal Site Registry.

In April 2009, the NYSDEC collected groundwater samples from existing groundwater monitoring wells MW-2, MW-3, MW-4, and MW-5. They also collected samples from wells installed in October 2008 following a subsurface soil evaluation of the site. These wells include MW-1R (replacement well for MW-1), MW-3D, MW-5, MW-7, and MW-8. Figure 3-1 shows the locations of the monitoring wells. According to the NYSDEC, prior to collecting groundwater samples, three well volumes were purged from each well using a Whale® submersible pump. The results from the sampling event are summarized in Tables 4-1 (VOCs), 4-2 (SVOCs), and 4-3 (metals). Analytical reporting forms are provided in Appendix A.

4.1.1. Groundwater sampling Results – VOCs and SVOCs

As shown in Table 4-1 and Table 4-2, with the exception of estimated concentration (based on the “J” qualifier) of toluene in the sample from MW-7 (4 micrograms per liter (ug/L)), none of the samples contained concentrations of VOCs or SVOCs greater than the indicated reporting limits. Although the NYSDEC Class GA Standards are lower than a majority of the reporting limits presented on the laboratory reporting forms, the method detection limits for these analytes are generally within the range of the corresponding NYSDEC Class GA Standards. This means that the analytes would likely have been detected if they were present at concentrations less than the NYSDEC Class GA Standards, but would have been accompanied by a “J” (estimated value) qualifier.

4.1.2. Groundwater Sampling Results – Metals

As shown in Table 4-3, the concentrations of iron in the samples collected from monitoring wells MW-2 (532 ug/L), MW-3D (558 ug/L), MW-4 (667 ug/L), MW-7 (2,880 ug/L), and MW-8 (4,530 ug/L) exceeded the corresponding NYSDEC Class GA Standard of 300 ug/L. These exceedances may be anomalous since the previous (2007 and 2008) iron results from MW-2 and MW-4 were listed as non-detect (MW-2) or were an order of magnitude less than the concentrations from the 2009 sampling event.

Manganese was detected at a concentration greater than the applicable NYSDEC Class GA Standard of 300 ug/L in the samples from MW-7 (989 ug/L) and MW-8 (584 ug/L). As with the iron results above, the manganese concentrations in the 2009 samples were significantly higher than samples collected in 2007 and 2008. Therefore, as with the iron exceedances, the elevated manganese concentrations may also be anomalous.

Table 4-3 shows that sodium was detected in samples from groundwater monitoring wells MW-1R (25,600 ug/L), MW-2 (25,200 ug/L), MW-7 (57,500 ug/L), and MW-8 (26,700 ug/L) at concentrations greater than the NYSDEC Class GA Standard of 20,000 ug/L . These results, coupled with the elevated calcium concentrations present in all of the groundwater samples, suggest that road de-icing agents may be the source for the sodium.

As shown in Table 4-3, the sample collected from MW-7 contained lead at a concentration of 32 ug/L, which is greater than the respective site-specific cleanup goal and NYSDEC Class GA Standard of 25 ug/L.

Table 4-3 shows that no other metals were detected at concentrations greater than the applicable NYSDEC Class GA Standards.

5. Surface Soil Sampling

On July 29, 2009, at the request of NYSDEC, surface soil samples were collected from the site to evaluate if surface soil is an exposure route to site-related contaminants.

5.1. Surface Soil Sampling Location Selection

Six surface soil samples were collected from areas of the site known to have contained piles of debris, coal, or concentrations of metals in subsurface soil or groundwater greater than the respective 6NYCRR Part 375, NYSDEC Class GA, or site-specific, cleanup goals. In addition, five surface soil samples were collected from off-site locations for a comparison of background concentrations of metals in the vicinity of the site in accordance with the NYSDEC Division of Environmental Remediation Draft DER-10 Technical Guidance for Site Investigation and Remediation (DER-10) and in consultation with NYSDEC and New York State Department of Health (NYSDOH) representatives. Figure 5-1 shows the on-site surface soil sampling locations. Figure 5-2 shows the background surface soil sampling locations.

5.2. Surface Soil Sampling Procedures

Surface soil samples were collected from the top two inches of soil using pre-cleaned, stainless-steel sampling spoons and bowls. Soil samples were homogenized in the stainless-steel bowls, then transferred to the appropriate sample container and submitted to Test America Laboratories in Shelton, Connecticut following chain-of-custody procedures for analysis of metals by USEPA Method ILM05.3. Analytical data are presented in Table 5-1. Analytical reporting forms are provided in Appendix A.

5.3. Surface Soil Sampling Results

As shown in Table 5-1, none of the surface soil samples contained concentrations of metals greater than the corresponding 6NYCRR Part 375 Commercial SCOs; however, surface soil sample SS-06 contained lead at a concentration of 327 milligrams per kilogram (mg/kg). This result is greater than the applicable site-specific clean up goal of 250 mg/kg. As shown on Figure 5-1, this sample was collected on the eastern side of the site near a former parking lot. According to the on-site geologist's field notes, the soil homogenized in the stainless steel bowl consisted of dark brown fine sand and silt and contained paint chips, an aluminum can "pull tab", and a nail (the nail and pull tab were removed from the soil sample prior to placement in the sampling container). Therefore, the elevated lead result is likely related to the potential presence of lead in the paint chips observed in the soil sample.

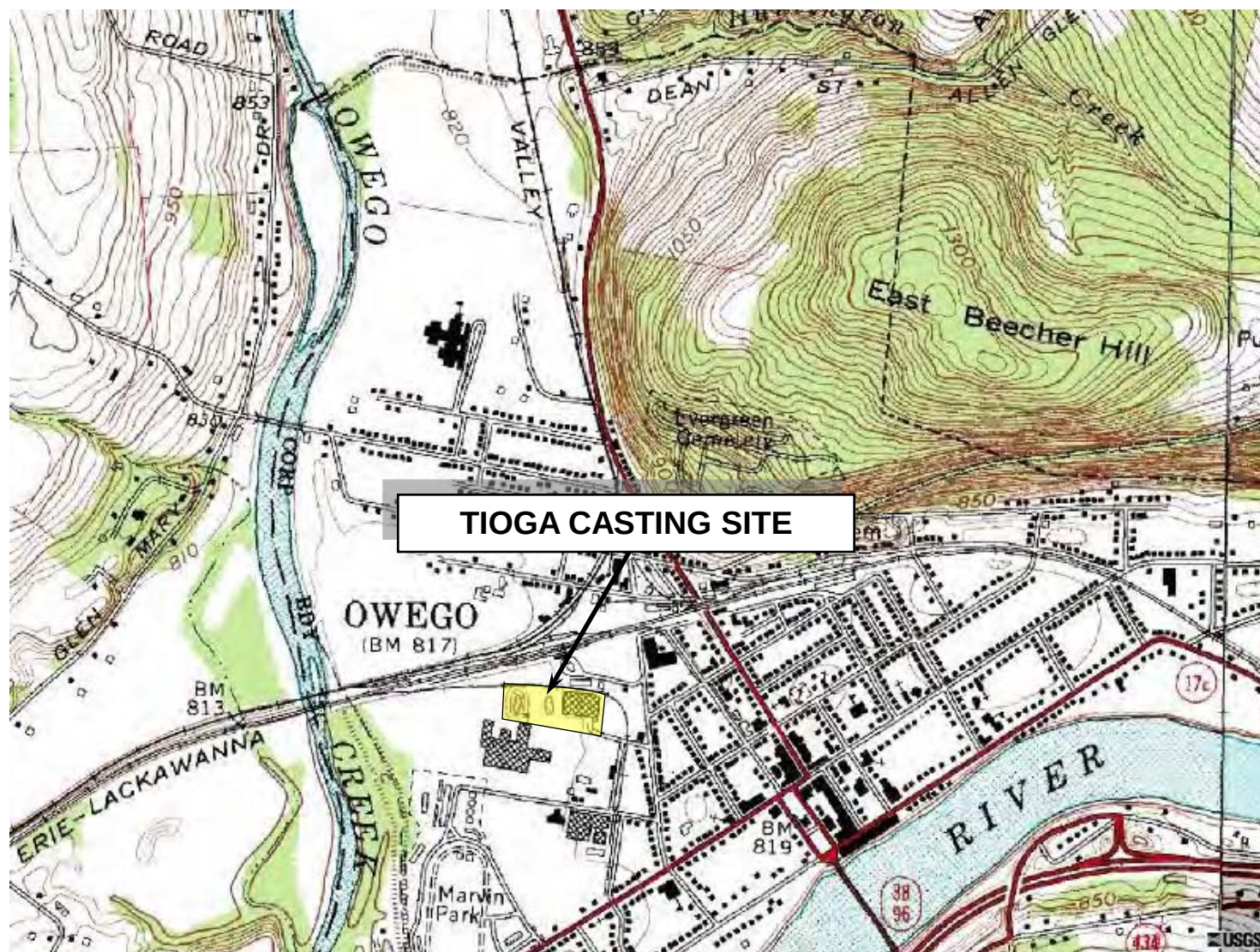
A duplicate surface soil sample (BG-SS-06) was collected as a quality assurance/quality control sample at location BG-SS-02. As shown in Table 5-1, the results from the two samples correlate well.

6. Summary

Second Quarter 2009 O&M and monitoring activities were conducted by the NYSDEC, including groundwater sampling and analysis, removal of a chain-link fence, and disposal of IDW. Malcolm Pirnie conducted O&M site activities during the third quarter 2009. No significant issues were reported with landfill security or the integrity of the landfill cover; however, burrowing rodent activity was observed and will be monitored.

The NYSDEC collected groundwater samples from the site in April, 2009. None of the samples contained concentrations of VOCs or SVOCs greater than the applicable NYSDEC Class GA Standards. Iron and manganese were reported in several samples at concentrations greater than the applicable NYSDEC Class GA Standard; however, based on previous sampling data, these results may be anomalous. Lead was detected in one sample at a concentration greater than the corresponding NYSDEC Class GA Standard. Sodium concentrations exceeded the NYSDEC Class GA Standard in four of the eight samples collected during the second quarter groundwater monitoring event. The sodium exceedances are likely related to the localized application of road de-icing agents.

Surface soil samples were collected from the site in July 2009 to evaluate the potential for exposure to metals. Only one surface soil sample contained lead at a concentration greater than the corresponding site-specific cleanup goal. None of the surface soil samples contained metals concentrations greater than the NYCRR Part 375 Commercial SCOs.



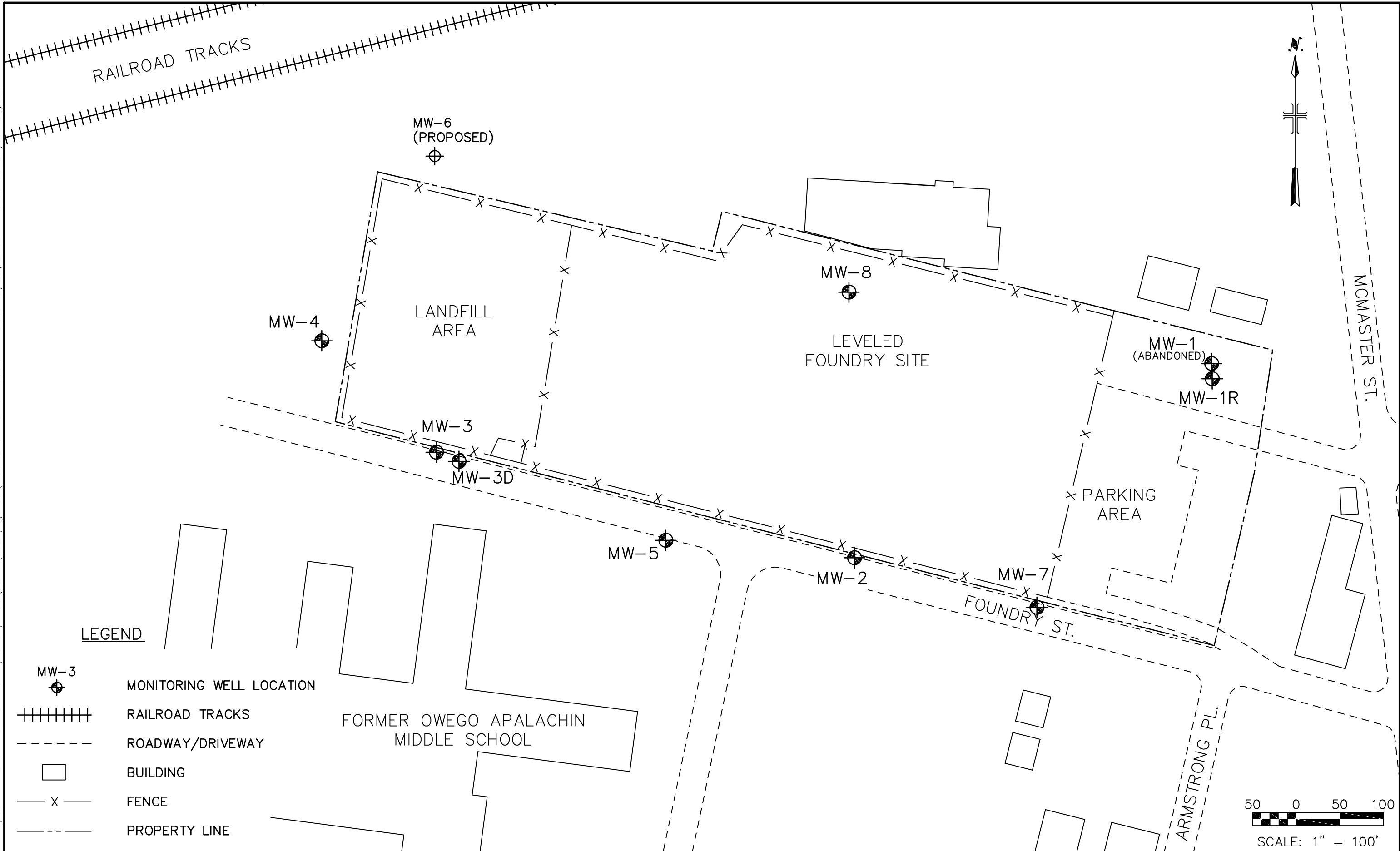
SOURCE: U.S.G.S 7.5 MIN. OWEGO QUAD, 1990

**MALCOLM
PIRNIE**

NYSDEC STANDBY CONTRACT NO. D004443
TIOGA CASTING FACILITIES
OWEGO, NEW YORK
TIOGA CASTING SITE LOCATION

FIGURE 2-1

XREFS: I: \\ACAD\\PROJ\\0266\\362\\X-REFS\\BASEMAP.dwg IMAGES: None
User: Hausmann Spec: PIRNIE STANDARD File: I: \\ACAD\\PROJ\\0266\\362\\Figures\\FIGURE 3-1.DWG Scale: 1:1 Date: 12/22/2009 Time: 09:58 Layout: Layout1



**MALCOLM
PIRNIE**

NYSDEC STANDBY CONTRACT NO. D004443-8
NYSDEC SITE NO. 7-54-012
TIOGA CASTING FACILITY
OWEGO, NEW YORK

MONITORING WELL LOCATIONS

SCALE: 1" = 200'

MALCOLM PIRNIE, INC.

DECEMBER 2009

FIGURE 3-1



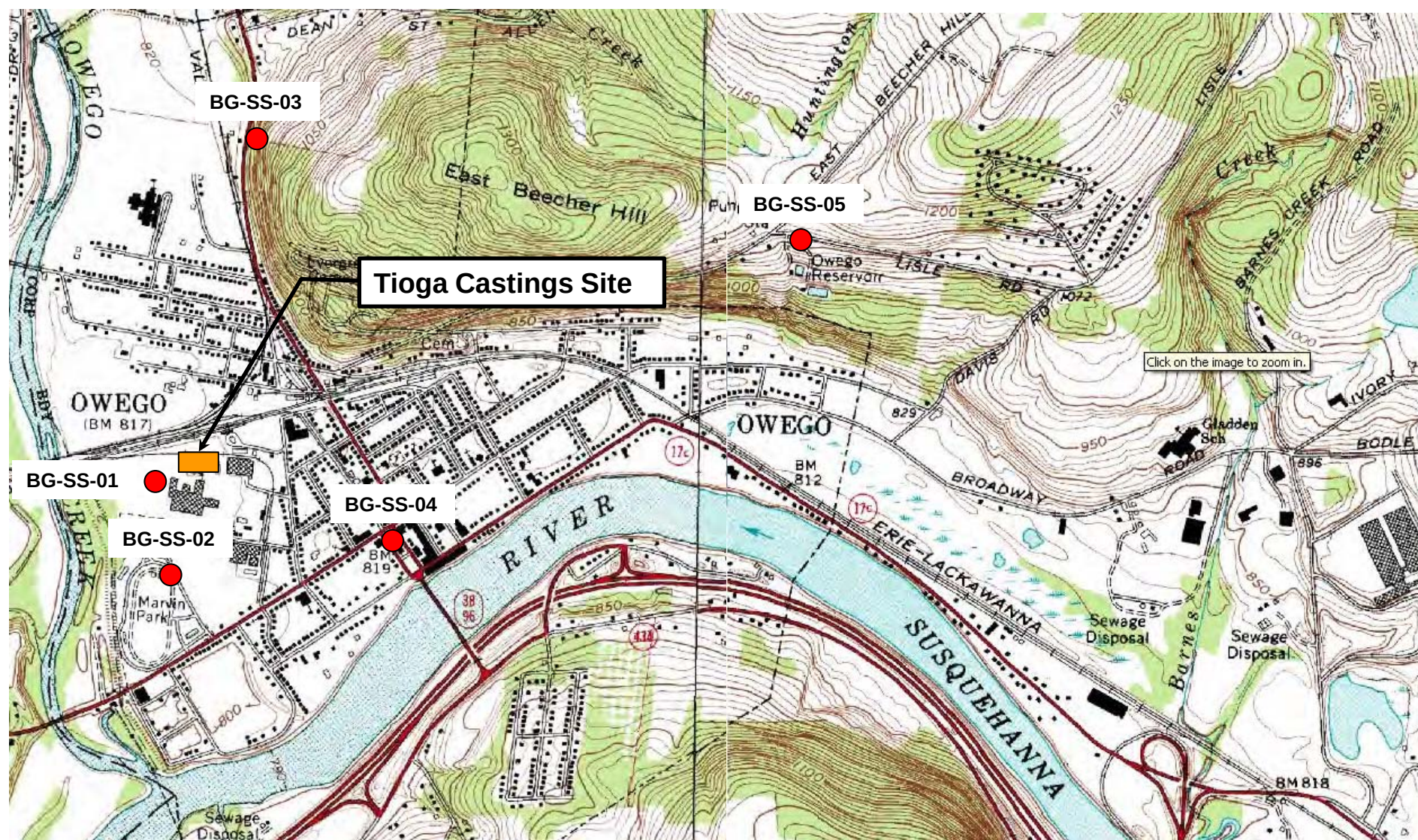


Table 4-1
Groundwater Sample Results - VOCs
Tioga Casting Site
NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-1R 4/2/2009 ug/L	MW-2 7/17/2008 ug/L	MW-2 4/2/2009 ug/L	MW-3 4/2/2009 ug/L
1,1,1-Trichloroethane	5	10 U	10 U	10 U	10 U
1,1,2,2,-Tetrachloroethane	5	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	NA	10 U	NA	NA
1,1,2-Trichloroethane	1	10 U	10 U	10 U	10 U
1,1-Dichloroethane	5	10 U	10 U	10 U	10 U
1,1-Dichloroethene	5	10 U	10 U	10 U	10 U
1,2,3-Trichlorobenzene	5*	10 U	NA	10 U	10 U
1,2,4-Trichlorobenzene	5	10 U	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane	0.04	NA	10 U	NA	NA
1,2-Dibromoethane		NA	10 U	NA	NA
1,2-Dichlorobenzene	3	10 U	10 U	10 U	10 U
1,2-Dichloroethane	0.6	10 U	10 U	10 U	10 U
1,2-Dichloropropane	1	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	3	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	3	10 U	10 U	10 U	10 U
2-Chlorotoluene	5*	10 U	NA	10 U	10 U
2-Hexanone	50*	10 U	10 U	10 U	10 U
4-Chlorotoluene	5*	10 U	NA	10 U	10 U
Acetone		15 U	10 U	15 U	15 U
Benzene	1	10 U	10 U	10 U	10 U
Bromodichloromethane	50	10 U	10 U	10 U	10 U
Bromoform	50*	10 U	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U	10 U
Carbon Disulfide	60	10 U	10 U	10 U	10 U
Carbon Tetrachloride	5	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U
Chloromethane		10 U	10 U	10 U	10 U
cis 1,2-Dichloroethene	5	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	0.4	10 U	10 U	10 U	10 U
Cyclohexane		NA	10 U	NA	NA
Dibromochloromethane	5	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	5	10 U	10 U	10 U	10 U
Ethylbenzene	5	10 U	10 U	10 U	10 U
Isopropylbenzene	5	NA	10 U	NA	NA
m,p-Xylenes	5	10 U	NA	10 U	10 U
Methyl acetate		NA	10 U	NA	NA
Methyl Ethyl Ketone	50	10 U	10 U	10 U	10 U
Methyl isobutyl ketone		10 U	10 U	10 U	10 U
Methylcyclohexane		NA	10 U	NA	NA
Methylene Chloride	5	10 U	10 U	10 U	10 U
Methyl-tert butyl ether	10	10 U	10 U	10 U	10 U
o-Xylene	5	10 U	NA	10 U	10 U

U - Analyte not detected at indicated quantitation limit.

J - Estimated.

NA - Not Analyzed

Table 4-1
Groundwater Sample Results - VOCs
Tioga Casting Site
NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-1R 4/2/2009 ug/L	MW-2 7/17/2008 ug/L	MW-2 4/2/2009 ug/L	MW-3 4/2/2009 ug/L
Styrene	5	10 U	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U	10 U
Toluene	5	10 U	10 U	10 U	10 U
trans 1,2-Dichloroethene	5	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	0.4	10 U	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U	10 U
Trichlorofluoromethane	5	10 U	10 U	10 U	10 U
Vinyl Acetate		10 U	NA	10 U	10 U
Vinyl Chloride	2	10 U	10 U	10 U	10 U
Xylenes, Total		NA	10 U	NA	NA

U - Analyte not detected at indicated quantitation limit.

J - Estimated.

NA - Not Analyzed

Table 4-1
Groundwater Sample Results - VOCs
Tioga Casting Site
NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-3D 4/2/2009 ug/L	MW-4 7/17/2008 ug/L	MW-4 4/2/2009 ug/L	MW-5 7/17/2008 ug/L
1,1,1-Trichloroethane	5	10 U	10 U	10 U	10 U
1,1,2,2,-Tetrachloroethane	5	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	NA	10 U	NA	10 U
1,1,2-Trichloroethane	1	10 U	10 U	10 U	10 U
1,1-Dichloroethane	5	10 U	10 U	10 U	10 U
1,1-Dichloroethene	5	10 U	10 U	10 U	10 U
1,2,3-Trichlorobenzene	5*	10 U	NA	10 U	NA
1,2,4-Trichlorobenzene	5	10 U	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane	0.04	NA	10 U	NA	10 U
1,2-Dibromoethane		NA	10 U	NA	10 U
1,2-Dichlorobenzene	3	10 U	10 U	10 U	10 U
1,2-Dichloroethane	0.6	10 U	10 U	10 U	10 U
1,2-Dichloropropane	1	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	3	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	3	10 U	10 U	10 U	10 U
2-Chlorotoluene	5*	10 U	NA	10 U	NA
2-Hexanone	50*	10 U	10 U	10 U	10 U
4-Chlorotoluene	5*	10 U	NA	10 U	NA
Acetone		15 U	10 U	15 U	10 U
Benzene	1	10 U	10 U	10 U	10 U
Bromodichloromethane	50	10 U	10 U	10 U	10 U
Bromoform	50*	10 U	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U	10 U
Carbon Disulfide	60	10 U	10 U	10 U	10 U
Carbon Tetrachloride	5	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U
Chloromethane		10 U	10 U	10 U	10 U
cis 1,2-Dichloroethene	5	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	0.4	10 U	10 U	10 U	10 U
Cyclohexane		NA	10 U	NA	10 U
Dibromochloromethane	5	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	5	10 U	10 U	10 U	10 U
Ethylbenzene	5	10 U	10 U	10 U	10 U
Isopropylbenzene	5	NA	10 U	NA	10 U
m,p-Xylenes	5	10 U	NA	10 U	NA
Methyl acetate		NA	10 U	NA	10 U
Methyl Ethyl Ketone	50	10 U	10 U	10 U	10 U
Methyl isobutyl ketone		10 U	10 U	10 U	10 U
Methylcyclohexane		NA	10 U	NA	10 U
Methylene Chloride	5	10 U	10 U	10 U	10 U
Methyl-tert butyl ether	10	10 U	10 U	10 U	10 U
o-Xylene	5	10 U	NA	10 U	NA

U - Analyte not detected at indicated quantitation limit.

J - Estimated.

NA - Not Analyzed

Table 4-1
Groundwater Sample Results - VOCs
Tioga Casting Site
NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-3D 4/2/2009 ug/L	MW-4 7/17/2008 ug/L	MW-4 4/2/2009 ug/L	MW-5 7/17/2008 ug/L
Styrene	5	10 U	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U	10 U
Toluene	5	10 U	10 U	10 U	10 U
trans 1,2-Dichloroethene	5	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	0.4	10 U	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U	10 U
Trichlorofluoromethane	5	10 U	10 U	10 U	10 U
Vinyl Acetate		10 U	NA	10 U	NA
Vinyl Chloride	2	10 U	10 U	10 U	10 U
Xylenes, Total		NA	10 U	NA	10 U

U - Analyte not detected at indicated quantitation limit.

J - Estimated.

NA - Not Analyzed

Table 4-1
Groundwater Sample Results - VOCs
Tioga Casting Site
NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-5 4/2/2009 ug/L	MW-7 4/2/2009 ug/L	MW-8 4/2/2009 ug/L
1,1,1-Trichloroethane	5	10 U	10 U	10 U
1,1,2,2,-Tetrachloroethane	5	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	NA	NA	NA
1,1,2-Trichloroethane	1	10 U	10 U	10 U
1,1-Dichloroethane	5	10 U	10 U	10 U
1,1-Dichloroethene	5	10 U	10 U	10 U
1,2,3-Trichlorobenzene	5*	10 U	10 U	10 U
1,2,4-Trichlorobenzene	5	10 U	10 U	10 U
1,2-Dibromo-3-Chloropropane	0.04	NA	NA	NA
1,2-Dibromoethane		NA	NA	NA
1,2-Dichlorobenzene	3	10 U	10 U	10 U
1,2-Dichloroethane	0.6	10 U	10 U	10 U
1,2-Dichloropropane	1	10 U	10 U	10 U
1,3-Dichlorobenzene	3	10 U	10 U	10 U
1,4-Dichlorobenzene	3	10 U	10 U	10 U
2-Chlorotoluene	5*	10 U	10 U	10 U
2-Hexanone	50*	10 U	10 U	10 U
4-Chlorotoluene	5*	10 U	10 U	10 U
Acetone		15 U	15 U	15 U
Benzene	1	10 U	10 U	10 U
Bromodichloromethane	50	10 U	10 U	10 U
Bromoform	50*	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U
Carbon Disulfide	60	10 U	10 U	10 U
Carbon Tetrachloride	5	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U
Chloromethane		10 U	10 U	10 U
cis 1,2-Dichloroethene	5	10 U	10 U	10 U
cis-1,3-Dichloropropene	0.4	10 U	10 U	10 U
Cyclohexane		NA	NA	NA
Dibromochloromethane	5	10 U	10 U	10 U
Dichlorodifluoromethane	5	10 U	10 U	10 U
Ethylbenzene	5	10 U	10 U	10 U
Isopropylbenzene	5	NA	NA	NA
m,p-Xylenes	5	10 U	10 U	10 U
Methyl acetate		NA	NA	NA
Methyl Ethyl Ketone	50	10 U	10 U	10 U
Methyl isobutyl ketone		10 U	10 U	10 U
Methylcyclohexane		NA	NA	NA
Methylene Chloride	5	10 U	10 U	10 U
Methyl-tert butyl ether	10	10 U	10 U	10 U
o-Xylene	5	10 U	10 U	10 U

U - Analyte not detected at indicated quantitation limit.

J - Estimated.

NA - Not Analyzed

Table 4-1
Groundwater Sample Results - VOCs
Tioga Casting Site
NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-5 4/2/2009 ug/L	MW-7 4/2/2009 ug/L	MW-8 4/2/2009 ug/L
Styrene	5	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U
Toluene	5	10 U	4 J	10 U
trans 1,2-Dichloroethene	5	10 U	10 U	10 U
trans-1,3-Dichloropropene	0.4	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U
Trichlorofluoromethane	5	10 U	10 U	10 U
Vinyl Acetate		10 U	10 U	10 U
Vinyl Chloride	2	10 U	10 U	10 U
Xylenes, Total		NA	NA	NA

U - Analyte not detected at indicated quantitation limit.

J - Estimated.

NA - Not Analyzed

Table 4-2
Groundwater Sample Results - SVOCs
Tioga Casting Site
NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-1R 4/2/2009 ug/L	MW-2 4/2/2009 ug/L	MW-3 4/2/2009 ug/L	MW-3D 4/2/2009 ug/L	MW-4 4/2/2009 ug/L	MW-5 4/2/2009 ug/L	MW-7 4/2/2009 ug/L	MW-8 4/2/2009 ug/L
1,2,4-Trichlorobenzene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
1,2-dichlorobenzene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
1,3-dichlorobenzene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
1,4-dichlorobenzene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2,4,5-trichlorophenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2,4,6-trichlorophenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2,4-dichlorophenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2,4-dimethylphenol	1	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2,4-Dinitrotoluene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2,6-Dinitrotoluene	5	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2-chloronaphthalene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2-chlorophenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2-methyl-4,6-dinitrophenol		23 U	24 U	22 U	24 U	24 U	23 U	23 U	22 U
2-Methylnaphthalene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2-methylphenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
2-nitroaniline		23 U	24 U	22 U	24 U	24 U	23 U	23 U	22 U
2-nitrophenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
3,3'-dichlorobenzidine		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
3-nitroaniline		23 U	24 U	22 U	24 U	24 U	23 U	23 U	22 U
4-bromophenyl phenyl ether		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
4-chloro-3-methylphenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
4-chloroaniline		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
4-chlorophenyl phenyl ether		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
4-methylphenol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
4-nitroaniline		23 U	24 U	22 U	24 U	24 U	23 U	23 U	22 U
4-nitrophenol		23 U	24 U	22 U	24 U	24 U	23 U	23 U	22 U
acenaphthene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
acenaphthylene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
anthracene	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
benzo(a)anthracene	0.002	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
benzo(a)pyrene	ND	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
benzo(b)fluoranthene	0.002	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
benzo(g,h,i)perylene	0.002	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
benzo(k)fluoranthene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U

U - Analyte not detected at indicated quantitation limit.

ND - Non-detect.

Table 4-2
Groundwater Sample Results - SVOCs
Tioga Casting Site
NYSDEC Site Number 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-1R 4/2/2009 ug/L	MW-2 4/2/2009 ug/L	MW-3 4/2/2009 ug/L	MW-3D 4/2/2009 ug/L	MW-4 4/2/2009 ug/L	MW-5 4/2/2009 ug/L	MW-7 4/2/2009 ug/L	MW-8 4/2/2009 ug/L
benzyl alcohol		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
bis(2-chloroethoxy)methane		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
bis(2-chloroethyl)ether		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
bis(2-chloroisopropyl)ether		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
bis(2-ethylhexyl)phthalate	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
butyl benzyl phthalate	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Carbazole		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
chrysene	0.002	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
dibenzo(a,h)anthracene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Dibenzofuran		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Diethyl phthalate	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
dimethylphthalate	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
di-n-butyl phthalate	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
di-n-octyl phthalate	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
fluoranthene	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
fluorene	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Hexachlorobenzene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Hexachlorobutadiene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Hexachlorocyclopentadiene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Hexachloroethane		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
indeno(1,2,3-cd)pyrene	0.002	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Isophorone		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Naphthalene	10	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
Nitrobenzene		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
N-nitros-di-n-propylamine		11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
N-nitrosodiphenylamine	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
pentachlorophenol	1	23 U	24 U	22 U	24 U	24 U	23 U	23 U	22 U
phenanthrene	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
phenol	1	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U
pyrene	50	11 U	12 U	11 U	12 U	12 U	11 U	11 U	11 U

U - Analyte not detected at indicated quantitation limit.

ND - Non-detect.

Table 4-3
Groundwater Sample Results - Metals
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-1R 4/13/2009 ug/L	MW-2 8/2/2007 ug/L	MW-2 7/17/2008 ug/L	MW-2 4/13/2009 ug/L
Aluminum		1050	60.2 B	23.6 U	632
Antimony		6.7 U	5.6 U	5.5 U	6.7 U
Arsenic	25	3.0 U	4.2 U	3.7 U	3.0 U
Barium	1000	59.8 B	61.6 B	54.3 B	102
Beryllium		0.5 U	0.40 B	0.3 U	0.5 U
Cadmium	5 [10]	0.3 U	0.36 U	0.3 U	0.3 U
Calcium		61200	54500 E	48800	50900
Chromium	50 [50]	10.4 B	0.84 U	0.9 U	5.8 B
Cobalt		3.8 U	1.1 B	1.1 U	3.8 U
Copper	200	181	1.3 U	1.3 U	105
Iron	300	1410	19.3 U	19 U	532
Lead	25 [25]	1.4 U	2.9 U	2.9 U	1.4 U
Magnesium		11500	8650 E	7670	8320
Manganese	300	106	2.8 B	8.2 B	211
Mercury	0.7	NA	0.12 U	0.1 U	NA
Molybdenum		5.5 B	NA	NA	5.0 U
Nickel		6.9 B	1.2 U	1.0 U	7.3 B
Potassium		2070 B	4710 BE	3900 B	4550
Selenium	10	11.4 U	6.1 U	6.1 U	11.4 U
Silver	50	2.2 U	1.7 B	1.3 U	2.2 U
Sodium	20000	25600	36100 E	18700	25200
Thallium	0.5*	3.0 U	7.0 U	5.9 U	3.0 U
Tin		5.0 U	NA	NA	5.0 U
Titanium		8.8 B	NA	NA	5.0 U
Vanadium		4.7 U	0.80 B	1.0 U	4.7 U
Zinc	2000*	13.5 U	3.6 U	3.6 U	13.5 U

* - NYSDEC Guidance Value.

NA - Not analyzed.

U - Analyte not detected.

B - Greater than MDL but less than RL.

MDL - Method detection limit.

RL - Reporting limit.

E - Estimated value.

[25] - Site-specific cleanup goal.

Table 4-3
Groundwater Sample Results - Metals
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-3 4/13/2009 ug/L	MW-3D 4/13/2009 ug/L	MW-4 8/2/2007 ug/L	MW-4 7/17/2008 ug/L
Aluminum		195.0	668	40.0 U	32.6 B
Antimony		6.7 U	6.7 U	5.6 U	5.5 U
Arsenic	25	3.0 U	3.0 U	4.2 U	3.7 U
Barium	1000	38.3 B	39.2 B	40.0 B	38.3 B
Beryllium		0.5 U	0.5 U	0.27 U	0.3 U
Cadmium	5 [10]	0.3 U	0.3 U	0.36 U	0.7 B
Calcium		42900	42300	42700 E	42400
Chromium	50 [50]	3.5 B	3.8 B	0.84 U	0.9 U
Cobalt		3.8 U	3.8 U	0.89 U	1.1 U
Copper	200	71.3	56.6	1.4 B	1.3 U
Iron	300	144 B	558	47.6 B	34 B
Lead	25 [25]	1.5 B	1.4 U	2.9 U	2.9 U
Magnesium		7450	7490	8190 E	7830
Manganese	300	14.0 B	40.3 B	0.79 B	1.2 B
Mercury	0.7	NA	NA	0.12 U	0.1 U
Molybdenum		5.0 U	5.0 U	NA	NA
Nickel		4.2 B	3.9 B	1.2 U	1.0 U
Potassium		1430 B	1550 B	1020 BE	1860 B
Selenium	10	11.4 U	11.4 U	6.1 U	6.1 U
Silver	50	2.2 U	2.2 U	1.0 U	1.3 U
Sodium	20000	17000	17300	12000 E	12800
Thallium	0.5*	3.0 U	3.0 U	7.0 U	5.9 U
Tin		5.0 U	5.0 U	NA	NA
Titanium		5.0 U	5.0 U	NA	NA
Vanadium		4.7 U	4.7 U	0.78 U	1.0 U
Zinc	2000*	13.5 U	13.5 U	3.6 U	3.6 U

* - NYSDEC Guidance Value.

NA - Not analyzed.

U - Analyte not detected.

B - Greater than MDL but less than RL.

MDL - Method detection limit.

RL - Reporting limit.

E - Estimated value.

[25] - Site-specific cleanup goal.

Table 4-3
Groundwater Sample Results - Metals
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-4 4/13/2009 ug/L	MW-5 8/2/2007 ug/L	MW-5 7/17/2008 ug/L	MW-5 4/13/2009 ug/L
Aluminum		754	79.0 B	28.9 B	102 B
Antimony		6.7 U	5.6 U	5.5 U	6.7 U
Arsenic	25	3.0 U	4.2 U	3.7 U	3.0 U
Barium	1000	60.9 B	56.4 B	55.7 B	47.1 B
Beryllium		0.5 U	0.51 B	0.3 U	0.5 U
Cadmium	5 [10]	0.3 U	0.36 U	0.3 U	0.3 U
Calcium		40500	44400 E	45200	44000
Chromium	50 [50]	3.4 B	0.84 U	0.9 U	3.9 B
Cobalt		3.8 U	0.89 U	1.1 U	3.8 U
Copper	200	49.7	1.3 U	1.3 U	89.3
Iron	300	667	19.3 U	19 U	246
Lead	25 [25]	1.4 U	2.9 U	2.9 U	6.0 B
Magnesium		7080	7600 E	7570	7440
Manganese	300	79.4	0.90 B	0.7 B	10.1 B
Mercury	0.7	NA	0.12 U	0.1 U	NA
Molybdenum		5.0 U	NA	NA	5.0 U
Nickel		4.5 B	1.2 U	1.4 B	5.0 B
Potassium		1190 B	3330 BE	3340 B	2880 B
Selenium	10	11.4 U	6.1 U	6.1 U	11.4 U
Silver	50	2.2 U	1.6 B	1.3 U	2.2 U
Sodium	20000	15200	14200 E	15400	13300
Thallium	0.5*	3.0 U	7.0 U	5.9 U	3.0 U
Tin		5.0 U	NA	NA	5.0 U
Titanium		5.0 U	NA	NA	5.0 U
Vanadium		4.7 U	0.80 B	1.0 U	4.7 U
Zinc	2000*	13.5 U	3.6 U	3.6 U	13.5 U

* - NYSDEC Guidance Value.

NA - Not analyzed.

U - Analyte not detected.

B - Greater than MDL but less than RL.

MDL - Method detection limit.

RL - Reporting limit.

E - Estimated value.

[25] - Site-specific cleanup goal.

Table 4-3
Groundwater Sample Results - Metals
Tioga Castings
Owego, New York
NYSDEC Site No. 7-54-012

Well Date Units	NYSDEC Class GA Standards	MW-7 4/13/2009 ug/L	MW-8 4/13/2009 ug/L
Aluminum		1810	6190
Antimony		6.7 U	6.7 U
Arsenic	25	3.0 U	3.0 U
Barium	1000	165	219
Beryllium		0.5 U	0.5 U
Cadmium	5 [10]	0.3 U	0.3 U
Calcium		64300	52400
Chromium	50 [50]	10.4 B	8.9 B
Cobalt		5.8 B	3.8 U
Copper	200	178	66.3
Iron	300	2880	4530
Lead	25 [25]	30.2 B	17.3 B
Magnesium		10000	8740
Manganese	300	989	524
Mercury	0.7	NA	NA
Molybdenum		5.0 B	5.0 U
Nickel		10.6 B	9.5 B
Potassium		4510	3770
Selenium	10	11.4 U	11.4 U
Silver	50	2.2 U	2.2 U
Sodium	20000	57500	26700
Thallium	0.5*	3.0 U	3.0 U
Tin		5.0 U	5.0 U
Titanium		5.0 U	34.4 B
Vanadium		7.2 B	9.8 B
Zinc	2000*	40.4 B	40.2 B

* - NYSDEC Guidance Value.

NA - Not analyzed.

U - Analyte not detected.

B - Greater than MDL but less than RL.

MDL - Method detection limit.

RL - Reporting limit.

E - Estimated value.

[25] - Site-specific cleanup goal.

Table 5-1
Surface Soil Sample Results - Metals
Tioga Casting Site
NYSDEC Site Number 7-54-012

Sample Date Units	Part 375 Commercial SCO mg/kg	SS-01 7/29/2009 mg/kg	SS-02 7/29/2009 mg/kg	SS-03 7/29/2009 mg/kg
Aluminum		4760	9880 E	5650 E
Antimony		0.6 U	0.6 U	0.6 U
Arsenic	16	2.8	5.2	3.7
Barium	400	62.5	48.7	40.9
Beryllium	590	0.022 J	0.137 J	0.068 J
Cadmium	9.3 [10]	1 B	0.05 U	0.04 U
Calcium		12800 BE	34500 BE	64500 BE
Chromium	400 [50]	25.7	12.1	8.45
Cobalt		2.46 J	7.04	4.93 J
Copper	270	33.2	14.3	22.2
Iron		23400 BE	18000 BE	13500 BE
Lead	1000 [250]	101 B	10.8 B	26.3 B
Magnesium		1460 B	18000 BE	9250 BE
Manganese	10000	973 BE	556 BE	424 BE
Mercury	2.8	0.0402 J	0.036 J	0.0199 J
Nickel	310	23.6	16.8	13.3
Potassium		523	813	777
Selenium	1500	0.6 U	0.7 U	0.6 U
Silver	1500	0.072 U	0.082 U	0.071 U
Sodium		133 J	46.7 J	62.5 J
Thallium		0.3 U	0.3 U	0.3 U
Vanadium		5.46	14.1	8.95
Zinc	10000	173 BE	49.3 B	121 BE

1 - Duplicate of BG-SS-02

U - Analyte not detected.

B - Analyte detected in associated blank.

J - Greater than MDL but less than RL.

MDL - Method detection limit.

RL - Reporting limit.

E - Exceeds calibration range; result quantitative.

[250] - Site-specific cleanup goal.

Table 5-1
Surface Soil Sample Results - Metals
Tioga Casting Site
NYSDEC Site Number 7-54-012

Sample Date Units	Part 375 Commercial SCO mg/kg	SS-04 7/29/2009 mg/kg	SS-05 7/29/2009 mg/kg	SS-06 7/29/2009 mg/kg
Aluminum		9780 E	6750 E	7640 E
Antimony		0.7 U	0.6 U	0.6 J
Arsenic	16	5.3	4.1	8.4
Barium	400	53	80.3	93.9
Beryllium	590	0.049 J	0.126 J	0.04 J
Cadmium	9.3 [10]	0.05 U	0.4 JB	1 B
Calcium		20200 BE	80200 BE	13900 BE
Chromium	400 [50]	19	15.1	35.3
Cobalt		7.82	5.59	5.22 J
Copper	270	24.4	37.7	62.1
Iron		22100 BE	14000 BE	23400 BE
Lead	1000 [250]	21.6 B	163 BE	327 BE
Magnesium		6310 BE	8800 BE	2900 B
Manganese	10000	571 BE	708 BE	865 BE
Mercury	2.8	0.0362 J	0.107	0.122
Nickel	310	25	16.5	30.5
Potassium		1040	1500	1210
Selenium	1500	0.7 U	0.6 U	0.7 U
Silver	1500	0.087 U	0.073 U	0.256 J
Sodium		38.7 U	94.8 J	146 J
Thallium		0.4 U	0.3 U	0.3 U
Vanadium		14.4	16.2	13.8
Zinc	10000	87.5 B	127 BE	395 BE

1 - Duplicate of BG-SS-02

U - Analyte not detected.

B - Analyte detected in associated blank.

J - Greater than MDL but less than RL.

MDL - Method detection limit.

RL - Reporting limit.

E - Exceeds calibration range; result quantitative.

[250] - Site-specific cleanup goal.

Table 5-1
Surface Soil Sample Results - Metals
Tioga Casting Site
NYSDEC Site Number 7-54-012

Sample Date Units	Part 375 Commercial SCO mg/kg	BG-SS-01 7/29/2009 mg/kg	BG-SS-02 7/29/2009 mg/kg	BG-SS-06⁽¹⁾ 7/29/2009 mg/kg
Aluminum		11300 E	10700 E	10000 E
Antimony		0.7 U	0.7 U	0.5 U
Arsenic	16	5	7.6	7.7
Barium	400	122	104	98.6 E
Beryllium	590	0.175 J	0.13 J	0.132 J
Cadmium	9.3 [10]	0.05 U	0.05 U	0.04 U
Calcium		1920 B	2010 B	1890 B
Chromium	400 [50]	14	13.7	13.4
Cobalt		8.41	7.72	7.41
Copper	270	14.6	14.8	13.7
Iron		19900 BE	18800 BE	17900 BE
Lead	1000 [250]	33.1 B	42.3 B	42.7 B
Magnesium		3060 B	2900 B	2750 B
Manganese	10000	577 BE	475 BE	467 BE
Mercury	2.8	0.0728 J	0.0565 J	0.0551 J
Nickel	310	19.3	18.7	17.7
Potassium		986	905	764
Selenium	1500	0.8 J	0.8 U	0.6 U
Silver	1500	0.092 U	0.093 U	0.069 U
Sodium		40.5 U	41.4 U	30.3 U
Thallium		0.4 U	0.4 U	0.3 U
Vanadium		13.3	12.9	12.1
Zinc	10000	69.6 B	78.7 B	78.2 B

1 - Duplicate of BG-SS-02

U - Analyte not detected.

B - Analyte detected in associated blank.

J - Greater than MDL but less than RL.

MDL - Method detection limit.

RL - Reporting limit.

E - Exceeds calibration range; result quantitative.

[250] - Site-specific cleanup goal.

Table 5-1
Surface Soil Sample Results - Metals
Tioga Casting Site
NYSDEC Site Number 7-54-012

Sample Date Units	Part 375 Commercial SCO mg/kg	BG-SS-03 7/29/2009 mg/kg	BG-SS-04 7/29/2009 mg/kg	BG-SS-05 7/29/2009 mg/kg
Aluminum		12000 E	9480 E	14700 E
Antimony		0.7 U	0.5 U	0.7 U
Arsenic	16	7.4	15	6.7
Barium	400	109	85.9	152 E
Beryllium	590	0.176 J	0.153 J	0.387 J
Cadmium	9.3 [10]	0.2 U	0.04 U	0.3 U
Calcium		1120 B	3370 B	3360 B
Chromium	400 [50]	13.5	12.1	15.5
Cobalt		7.03	6.8	10.5
Copper	270	14.1	25	13.1
Iron		20000 BE	16800 BE	22500 BE
Lead	1000 [250]	70.2 B	208 BE	27.6 B
Magnesium		2850 B	2580 B	3680 B
Manganese	10000	507 BE	492 BE	1030 BE
Mercury	2.8	0.109 J	0.757	0.0908 J
Nickel	310	17.4	15.6	22.4
Potassium		753	956	1560
Selenium	1500	0.7 U	0.6 U	0.8 U
Silver	1500	0.086 U	0.067 U	0.095 U
Sodium		37.9 U	78 J	42.1 U
Thallium		0.4 U	0.3 U	0.4 U
Vanadium		14.9	13.2	18.5
Zinc	10000	91.7 B	101 BE	70.9 B

1 - Duplicate of BG-SS-02

U - Analyte not detected.

B - Analyte detected in associated blank.

J - Greater than MDL but less than RL.

MDL - Method detection limit.

RL - Reporting limit.

E - Exceeds calibration range; result quantitative.

[250] - Site-specific cleanup goal.

Appendix A

Analytical Reporting Forms



New York State Department of Environmental Conservation

Division of Environmental Remediation

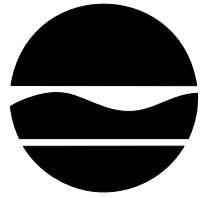
Remedial Bureau A

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Alexander B. Grannis
Commissioner

**Division of Environmental Remediation Laboratory
Analytical Report**

The case narrative and analytical reports - Semi-Volatiles - for the Tioga Casting site are attached.

Case Narrative

Site Name: Tioga Casting

Date received: 04/02/09

For sample delivery group(s): 092-01

For samples - 709-092-001, ...002, ...003, ...004 and ...005:

All QA/QC associated with these samples were within acceptable method criteria, except that one target mass in the check tune - Mass 275 - exceeded the upper limit for relative abundance. It was determined, however, that this did not effect either the qualitative or quantitative results for these samples.

For samples - 709-092-006, ...007 and ...008:

All QA/QC associated with these samples were within acceptable method criteria.

Note:

You will note that in most of the TIC reports for these samples, 13-Docosenamide,Z is reported at levels between 4.0 and 9.0ug/L. We believe this to be a lab contaminant either from our extraction procedure or a column bleed from our instrument, as it was detected in the method blank associated with these samples.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID Number:

MW 1R

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-001

Sample wt/vol: 885 (g/ml) ML Lab File ID: 09F0308.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: _____ decanted:(Y/N) N Date Extracted: 4/6/2009

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/8/2009

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

108-95-2	phenol	11	U
95-57-8	2-chlorophenol	11	U
111-44-4	bis(2-chloroethyl)ether	11	U
541-73-1	1,3-dichlorobenzene	11	U
106-46-7	1,4-dichlorobenzene	11	U
95-50-1	1,2-dichlorobenzene	11	U
100-51-6	benzyl alcohol	11	U
108-60-1	bis(2-chloroisopropyl)ether	11	U
95-48-7	2-methylphenol	11	U
67-72-1	Hexachloroethane	11	U
621-64-7	N-nitros-di-n-propylamine	11	U
106-44-5	4-methylphenol	11	U
98-95-3	Nitrobenzene	11	U
78-59-1	Isophorone	11	U
88-75-5	2-nitrophenol	11	U
105-67-9	2,4-dimethylphenol	11	U
111-91-1	bis(2-chloroethoxy)methane	11	U
120-83-2	2,4-dichlorophenol	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
91-20-3	Naphthalene	11	U
106-47-8	4-chloroaniline	11	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-chloro-3-methylphenol	11	U
91-57-6	2-Methylnaphthalene	11	U
77-47-4	Hexachlorocyclopentadiene	11	U
88-06-2	2,4,6-trichlorophenol	11	U
95-95-4	2,4,5-trichlorophenol	11	U
91-58-7	2-chloronaphthalene	11	U
88-74-4	2-nitroaniline	23	U
208-96-8	acenaphthylene	11	U
131-11-3	dimethylphthalate	11	U
606-20-2	2,6-Dinitrotoluene	11	U
83-32-9	acenaphthene	11	U
99-09-2	3-nitroaniline	23	U
132-64-9	Dibenzofuran	11	U
100-02-7	4-nitrophenol	23	U
121-14-2	2,4-Dinitrotoluene	11	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID Number:

MW 1R

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-001

Sample wt/vol: 885 (g/ml) ML Lab File ID: 09F0308.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: _____ decanted:(Y/N) N Date Extracted: 4/6/2009

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/8/2009

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

86-73-7	fluorene	11	U
7005-72-3	4-chlorophenyl phenyl ether	11	U
84-66-2	Diethyl phthalate	11	U
100-01-6	4-nitroaniline	23	U
534-52-1	2-methyl-4,6-dinitrophenol	23	U
86-30-6	N-nitrosodiphenylamine	11	U
101-55-3	4-bromophenyl phenyl ether	11	U
118-74-1	Hexachlorobenzene	11	U
87-86-5	pentachlorophenol	23	U
85-01-8	phenanthrene	11	U
120-12-7	anthracene	11	U
86-74-8	Carbazole	11	U
84-74-2	di-n-butyl phthalate	11	U
206-44-0	fluoranthene	11	U
129-00-0	pyrene	11	U
85-68-7	butyl benzyl phthalate	11	U
56-55-3	benzo(a)anthracene	11	U
218-01-9	chrysene	11	U
91-94-1	3,3'-dichlorobenzidine	11	U
117-81-7	bis(2-ethylhexyl)phthalate	11	U
117-84-0	di-n-octyl phthalate	11	U
205-99-2	benzo(b)fluoranthene	11	U
207-08-9	benzo(k)fluoranthene	11	U
50-32-8	benzo(a)pyrene	11	U
193-39-5	indeno(1,2,3-cd)pyrene	11	U
53-70-3	dibenzo(a,h)anthracene	11	U
191-24-2	benzo(g,h,i)perylene	11	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID Number:

MW 1R

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-001
 Sample wt/vol: 885 (g/ml) ML Lab File ID: 09F0308.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: _____ decanted: (Y/N) N Date Extracted: 4/6/2009
 Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/8/2009
 Injection Volume: 2.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000112-84-5	13-Docosenamide, (Z)-	34.05	6	JN

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID Number:

MW 7

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-002

Sample wt/vol: 890 (g/ml) ML Lab File ID: 09F0309.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: _____ decanted:(Y/N) N Date Extracted: 4/6/2009

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/8/2009

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

108-95-2	phenol	11	U
95-57-8	2-chlorophenol	11	U
111-44-4	bis(2-chloroethyl)ether	11	U
541-73-1	1,3-dichlorobenzene	11	U
106-46-7	1,4-dichlorobenzene	11	U
95-50-1	1,2-dichlorobenzene	11	U
100-51-6	benzyl alcohol	11	U
108-60-1	bis(2-chloroisopropyl)ether	11	U
95-48-7	2-methylphenol	11	U
67-72-1	Hexachloroethane	11	U
621-64-7	N-nitros-di-n-propylamine	11	U
106-44-5	4-methylphenol	11	U
98-95-3	Nitrobenzene	11	U
78-59-1	Isophorone	11	U
88-75-5	2-nitrophenol	11	U
105-67-9	2,4-dimethylphenol	11	U
111-91-1	bis(2-chloroethoxy)methane	11	U
120-83-2	2,4-dichlorophenol	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
91-20-3	Naphthalene	11	U
106-47-8	4-chloroaniline	11	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-chloro-3-methylphenol	11	U
91-57-6	2-Methylnaphthalene	11	U
77-47-4	Hexachlorocyclopentadiene	11	U
88-06-2	2,4,6-trichlorophenol	11	U
95-95-4	2,4,5-trichlorophenol	11	U
91-58-7	2-chloronaphthalene	11	U
88-74-4	2-nitroaniline	22	U
208-96-8	acenaphthylene	11	U
131-11-3	dimethylphthalate	11	U
606-20-2	2,6-Dinitrotoluene	11	U
83-32-9	acenaphthene	11	U
99-09-2	3-nitroaniline	22	U
132-64-9	Dibenzofuran	11	U
100-02-7	4-nitrophenol	22	U
121-14-2	2,4-Dinitrotoluene	11	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID Number:

MW 7

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-002

Sample wt/vol: 890 (g/ml) ML Lab File ID: 09F0309.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: _____ decanted:(Y/N) N Date Extracted: 4/6/2009

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/8/2009

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

86-73-7	fluorene	11	U
7005-72-3	4-chlorophenyl phenyl ether	11	U
84-66-2	Diethyl phthalate	11	U
100-01-6	4-nitroaniline	22	U
534-52-1	2-methyl-4,6-dinitrophenol	22	U
86-30-6	N-nitrosodiphenylamine	11	U
101-55-3	4-bromophenyl phenyl ether	11	U
118-74-1	Hexachlorobenzene	11	U
87-86-5	pentachlorophenol	22	U
85-01-8	phenanthrene	11	U
120-12-7	anthracene	11	U
86-74-8	Carbazole	11	U
84-74-2	di-n-butyl phthalate	11	U
206-44-0	fluoranthene	11	U
129-00-0	pyrene	11	U
85-68-7	butyl benzyl phthalate	11	U
56-55-3	benzo(a)anthracene	11	U
218-01-9	chrysene	11	U
91-94-1	3,3'-dichlorobenzidine	11	U
117-81-7	bis(2-ethylhexyl)phthalate	11	U
117-84-0	di-n-octyl phthalate	11	U
205-99-2	benzo(b)fluoranthene	11	U
207-08-9	benzo(k)fluoranthene	11	U
50-32-8	benzo(a)pyrene	11	U
193-39-5	indeno(1,2,3-cd)pyrene	11	U
53-70-3	dibenzo(a,h)anthracene	11	U
191-24-2	benzo(g,h,i)perylene	11	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID Number:

MW 7

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-002
 Sample wt/vol: 890 (g/ml) ML Lab File ID: 09F0309.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: _____ decanted: (Y/N) N Date Extracted: 4/6/2009
 Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/8/2009
 Injection Volume: 2.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000112-84-5	13-Docosenamide, (Z)-	34.06	9	JN

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW 2

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-003
 Sample wt/vol: 850 (g/ml) ML Lab File ID: 09F0310.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: _____ decanted:(Y/N) N Date Extracted: 4/6/2009
 Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/8/2009
 Injection Volume: 2.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

108-95-2	phenol	12	U
95-57-8	2-chlorophenol	12	U
111-44-4	bis(2-chloroethyl)ether	12	U
541-73-1	1,3-dichlorobenzene	12	U
106-46-7	1,4-dichlorobenzene	12	U
95-50-1	1,2-dichlorobenzene	12	U
100-51-6	benzyl alcohol	12	U
108-60-1	bis(2-chloroisopropyl)ether	12	U
95-48-7	2-methylphenol	12	U
67-72-1	Hexachloroethane	12	U
621-64-7	N-nitros-di-n-propylamine	12	U
106-44-5	4-methylphenol	12	U
98-95-3	Nitrobenzene	12	U
78-59-1	Isophorone	12	U
88-75-5	2-nitrophenol	12	U
105-67-9	2,4-dimethylphenol	12	U
111-91-1	bis(2-chloroethoxy)methane	12	U
120-83-2	2,4-dichlorophenol	12	U
120-82-1	1,2,4-Trichlorobenzene	12	U
91-20-3	Naphthalene	12	U
106-47-8	4-chloroaniline	12	U
87-68-3	Hexachlorobutadiene	12	U
59-50-7	4-chloro-3-methylphenol	12	U
91-57-6	2-Methylnaphthalene	12	U
77-47-4	Hexachlorocyclopentadiene	12	U
88-06-2	2,4,6-trichlorophenol	12	U
95-95-4	2,4,5-trichlorophenol	12	U
91-58-7	2-chloronaphthalene	12	U
88-74-4	2-nitroaniline	24	U
208-96-8	acenaphthylene	12	U
131-11-3	dimethylphthalate	12	U
606-20-2	2,6-Dinitrotoluene	12	U
83-32-9	acenaphthene	12	U
99-09-2	3-nitroaniline	24	U
132-64-9	Dibenzofuran	12	U
100-02-7	4-nitrophenol	24	U
121-14-2	2,4-Dinitrotoluene	12	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID Number:

MW 2

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-003

Sample wt/vol: 850 (g/ml) ML Lab File ID: 09F0310.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: _____ decanted:(Y/N) N Date Extracted: 4/6/2009

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/8/2009

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

86-73-7	fluorene	12	U
7005-72-3	4-chlorophenyl phenyl ether	12	U
84-66-2	Diethyl phthalate	12	U
100-01-6	4-nitroaniline	24	U
534-52-1	2-methyl-4,6-dinitrophenol	24	U
86-30-6	N-nitrosodiphenylamine	12	U
101-55-3	4-bromophenyl phenyl ether	12	U
118-74-1	Hexachlorobenzene	12	U
87-86-5	pentachlorophenol	24	U
85-01-8	phenanthrene	12	U
120-12-7	anthracene	12	U
86-74-8	Carbazole	12	U
84-74-2	di-n-butyl phthalate	12	U
206-44-0	fluoranthene	12	U
129-00-0	pyrene	12	U
85-68-7	butyl benzyl phthalate	12	U
56-55-3	benzo(a)anthracene	12	U
218-01-9	chrysene	12	U
91-94-1	3,3'-dichlorobenzidine	12	U
117-81-7	bis(2-ethylhexyl)phthalate	12	U
117-84-0	di-n-octyl phthalate	12	U
205-99-2	benzo(b)fluoranthene	12	U
207-08-9	benzo(k)fluoranthene	12	U
50-32-8	benzo(a)pyrene	12	U
193-39-5	indeno(1,2,3-cd)pyrene	12	U
53-70-3	dibenzo(a,h)anthracene	12	U
191-24-2	benzo(g,h,i)perylene	12	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID Number:

MW 2

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-003
 Sample wt/vol: 850 (g/ml) ML Lab File ID: 09F0310.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: _____ decanted: (Y/N) N Date Extracted: 4/6/2009
 Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/8/2009
 Injection Volume: 2.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000112-84-5	13-Docosenamide, (Z)-	34.06	8	JN

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID Number:

MW 5

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-004

Sample wt/vol: 885 (g/ml) ML Lab File ID: 09F0311.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: _____ decanted:(Y/N) N Date Extracted: 4/7/2009

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/8/2009

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

108-95-2	phenol	11	U
95-57-8	2-chlorophenol	11	U
111-44-4	bis(2-chloroethyl)ether	11	U
541-73-1	1,3-dichlorobenzene	11	U
106-46-7	1,4-dichlorobenzene	11	U
95-50-1	1,2-dichlorobenzene	11	U
100-51-6	benzyl alcohol	11	U
108-60-1	bis(2-chloroisopropyl)ether	11	U
95-48-7	2-methylphenol	11	U
67-72-1	Hexachloroethane	11	U
621-64-7	N-nitros-di-n-propylamine	11	U
106-44-5	4-methylphenol	11	U
98-95-3	Nitrobenzene	11	U
78-59-1	Isophorone	11	U
88-75-5	2-nitrophenol	11	U
105-67-9	2,4-dimethylphenol	11	U
111-91-1	bis(2-chloroethoxy)methane	11	U
120-83-2	2,4-dichlorophenol	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
91-20-3	Naphthalene	11	U
106-47-8	4-chloroaniline	11	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-chloro-3-methylphenol	11	U
91-57-6	2-Methylnaphthalene	11	U
77-47-4	Hexachlorocyclopentadiene	11	U
88-06-2	2,4,6-trichlorophenol	11	U
95-95-4	2,4,5-trichlorophenol	11	U
91-58-7	2-chloronaphthalene	11	U
88-74-4	2-nitroaniline	23	U
208-96-8	acenaphthylene	11	U
131-11-3	dimethylphthalate	11	U
606-20-2	2,6-Dinitrotoluene	11	U
83-32-9	acenaphthene	11	U
99-09-2	3-nitroaniline	23	U
132-64-9	Dibenzofuran	11	U
100-02-7	4-nitrophenol	23	U
121-14-2	2,4-Dinitrotoluene	11	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID Number:

MW 5

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-004

Sample wt/vol: 885 (g/ml) ML Lab File ID: 09F0311.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: _____ decanted:(Y/N) N Date Extracted: 4/7/2009

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/8/2009

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

86-73-7	fluorene	11	U
7005-72-3	4-chlorophenyl phenyl ether	11	U
84-66-2	Diethyl phthalate	11	U
100-01-6	4-nitroaniline	23	U
534-52-1	2-methyl-4,6-dinitrophenol	23	U
86-30-6	N-nitrosodiphenylamine	11	U
101-55-3	4-bromophenyl phenyl ether	11	U
118-74-1	Hexachlorobenzene	11	U
87-86-5	pentachlorophenol	23	U
85-01-8	phenanthrene	11	U
120-12-7	anthracene	11	U
86-74-8	Carbazole	11	U
84-74-2	di-n-butyl phthalate	11	U
206-44-0	fluoranthene	11	U
129-00-0	pyrene	11	U
85-68-7	butyl benzyl phthalate	11	U
56-55-3	benzo(a)anthracene	11	U
218-01-9	chrysene	11	U
91-94-1	3,3'-dichlorobenzidine	11	U
117-81-7	bis(2-ethylhexyl)phthalate	11	U
117-84-0	di-n-octyl phthalate	11	U
205-99-2	benzo(b)fluoranthene	11	U
207-08-9	benzo(k)fluoranthene	11	U
50-32-8	benzo(a)pyrene	11	U
193-39-5	indeno(1,2,3-cd)pyrene	11	U
53-70-3	dibenzo(a,h)anthracene	11	U
191-24-2	benzo(g,h,i)perylene	11	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID Number:

MW 5

Site Name: Tioga Casting Contract: _____
Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
Matrix: (soil/water) WATER Lab Sample ID: 709-092-004
Sample wt/vol: 885 (g/ml) ML Lab File ID: 09F0311.D
Level: (low/med) LOW Date Received: 4/2/2009
% Moisture: _____ decanted: (Y/N) N Date Extracted: 4/7/2009
Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/8/2009
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000112-84-5	13-Docosenamide, (Z)-	34.05	5	JN

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID Number:

MW 3

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-005

Sample wt/vol: 890 (g/ml) ML Lab File ID: 09F0312.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: _____ decanted:(Y/N) N Date Extracted: 4/7/2009

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/8/2009

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

108-95-2	phenol	11	U
95-57-8	2-chlorophenol	11	U
111-44-4	bis(2-chloroethyl)ether	11	U
541-73-1	1,3-dichlorobenzene	11	U
106-46-7	1,4-dichlorobenzene	11	U
95-50-1	1,2-dichlorobenzene	11	U
100-51-6	benzyl alcohol	11	U
108-60-1	bis(2-chloroisopropyl)ether	11	U
95-48-7	2-methylphenol	11	U
67-72-1	Hexachloroethane	11	U
621-64-7	N-nitros-di-n-propylamine	11	U
106-44-5	4-methylphenol	11	U
98-95-3	Nitrobenzene	11	U
78-59-1	Isophorone	11	U
88-75-5	2-nitrophenol	11	U
105-67-9	2,4-dimethylphenol	11	U
111-91-1	bis(2-chloroethoxy)methane	11	U
120-83-2	2,4-dichlorophenol	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
91-20-3	Naphthalene	11	U
106-47-8	4-chloroaniline	11	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-chloro-3-methylphenol	11	U
91-57-6	2-Methylnaphthalene	11	U
77-47-4	Hexachlorocyclopentadiene	11	U
88-06-2	2,4,6-trichlorophenol	11	U
95-95-4	2,4,5-trichlorophenol	11	U
91-58-7	2-chloronaphthalene	11	U
88-74-4	2-nitroaniline	22	U
208-96-8	acenaphthylene	11	U
131-11-3	dimethylphthalate	11	U
606-20-2	2,6-Dinitrotoluene	11	U
83-32-9	acenaphthene	11	U
99-09-2	3-nitroaniline	22	U
132-64-9	Dibenzofuran	11	U
100-02-7	4-nitrophenol	22	U
121-14-2	2,4-Dinitrotoluene	11	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID Number:

MW 3

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-005

Sample wt/vol: 890 (g/ml) ML Lab File ID: 09F0312.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: _____ decanted:(Y/N) N Date Extracted: 4/7/2009

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/8/2009

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>UG/L</u>	Q
86-73-7	fluorene	11	U
7005-72-3	4-chlorophenyl phenyl ether	11	U
84-66-2	Diethyl phthalate	11	U
100-01-6	4-nitroaniline	22	U
534-52-1	2-methyl-4,6-dinitrophenol	22	U
86-30-6	N-nitrosodiphenylamine	11	U
101-55-3	4-bromophenyl phenyl ether	11	U
118-74-1	Hexachlorobenzene	11	U
87-86-5	pentachlorophenol	22	U
85-01-8	phenanthrene	11	U
120-12-7	anthracene	11	U
86-74-8	Carbazole	11	U
84-74-2	di-n-butyl phthalate	11	U
206-44-0	fluoranthene	11	U
129-00-0	pyrene	11	U
85-68-7	butyl benzyl phthalate	11	U
56-55-3	benzo(a)anthracene	11	U
218-01-9	chrysene	11	U
91-94-1	3,3'-dichlorobenzidine	11	U
117-81-7	bis(2-ethylhexyl)phthalate	11	U
117-84-0	di-n-octyl phthalate	11	U
205-99-2	benzo(b)fluoranthene	11	U
207-08-9	benzo(k)fluoranthene	11	U
50-32-8	benzo(a)pyrene	11	U
193-39-5	indeno(1,2,3-cd)pyrene	11	U
53-70-3	dibenzo(a,h)anthracene	11	U
191-24-2	benzo(g,h,i)perylene	11	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID Number:

MW 3

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-005
 Sample wt/vol: 890 (g/ml) ML Lab File ID: 09F0312.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: _____ decanted: (Y/N) N Date Extracted: 4/7/2009
 Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/8/2009
 Injection Volume: 2.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID Number:

MW 3D

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-006

Sample wt/vol: 840 (g/ml) ML Lab File ID: 09F0317.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: _____ decanted:(Y/N) N Date Extracted: 4/7/2009

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/9/2009

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

108-95-2	phenol	12	U
95-57-8	2-chlorophenol	12	U
111-44-4	bis(2-chloroethyl)ether	12	U
541-73-1	1,3-dichlorobenzene	12	U
106-46-7	1,4-dichlorobenzene	12	U
95-50-1	1,2-dichlorobenzene	12	U
100-51-6	benzyl alcohol	12	U
108-60-1	bis(2-chloroisopropyl)ether	12	U
95-48-7	2-methylphenol	12	U
67-72-1	Hexachloroethane	12	U
621-64-7	N-nitros-di-n-propylamine	12	U
106-44-5	4-methylphenol	12	U
98-95-3	Nitrobenzene	12	U
78-59-1	Isophorone	12	U
88-75-5	2-nitrophenol	12	U
105-67-9	2,4-dimethylphenol	12	U
111-91-1	bis(2-chloroethoxy)methane	12	U
120-83-2	2,4-dichlorophenol	12	U
120-82-1	1,2,4-Trichlorobenzene	12	U
91-20-3	Naphthalene	12	U
106-47-8	4-chloroaniline	12	U
87-68-3	Hexachlorobutadiene	12	U
59-50-7	4-chloro-3-methylphenol	12	U
91-57-6	2-Methylnaphthalene	12	U
77-47-4	Hexachlorocyclopentadiene	12	U
88-06-2	2,4,6-trichlorophenol	12	U
95-95-4	2,4,5-trichlorophenol	12	U
91-58-7	2-chloronaphthalene	12	U
88-74-4	2-nitroaniline	24	U
208-96-8	acenaphthylene	12	U
131-11-3	dimethylphthalate	12	U
606-20-2	2,6-Dinitrotoluene	12	U
83-32-9	acenaphthene	12	U
99-09-2	3-nitroaniline	24	U
132-64-9	Dibenzofuran	12	U
100-02-7	4-nitrophenol	24	U
121-14-2	2,4-Dinitrotoluene	12	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID Number:

MW 3D

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-006

Sample wt/vol: 840 (g/ml) ML Lab File ID: 09F0317.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: _____ decanted:(Y/N) N Date Extracted: 4/7/2009

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/9/2009

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

86-73-7	fluorene	12	U
7005-72-3	4-chlorophenyl phenyl ether	12	U
84-66-2	Diethyl phthalate	12	U
100-01-6	4-nitroaniline	24	U
534-52-1	2-methyl-4,6-dinitrophenol	24	U
86-30-6	N-nitrosodiphenylamine	12	U
101-55-3	4-bromophenyl phenyl ether	12	U
118-74-1	Hexachlorobenzene	12	U
87-86-5	pentachlorophenol	24	U
85-01-8	phenanthrene	12	U
120-12-7	anthracene	12	U
86-74-8	Carbazole	12	U
84-74-2	di-n-butyl phthalate	12	U
206-44-0	fluoranthene	12	U
129-00-0	pyrene	12	U
85-68-7	butyl benzyl phthalate	12	U
56-55-3	benzo(a)anthracene	12	U
218-01-9	chrysene	12	U
91-94-1	3,3'-dichlorobenzidine	12	U
117-81-7	bis(2-ethylhexyl)phthalate	12	U
117-84-0	di-n-octyl phthalate	12	U
205-99-2	benzo(b)fluoranthene	12	U
207-08-9	benzo(k)fluoranthene	12	U
50-32-8	benzo(a)pyrene	12	U
193-39-5	indeno(1,2,3-cd)pyrene	12	U
53-70-3	dibenzo(a,h)anthracene	12	U
191-24-2	benzo(g,h,i)perylene	12	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID Number:

MW 3D

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-006

Sample wt/vol: 840 (g/ml) ML Lab File ID: 09F0317.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: _____ decanted: (Y/N) N Date Extracted: 4/7/2009

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/9/2009

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW 4

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-007
 Sample wt/vol: 820 (g/ml) ML Lab File ID: 09F0318.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: _____ decanted:(Y/N) N Date Extracted: 4/7/2009
 Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/9/2009
 Injection Volume: 2.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

108-95-2	phenol	12	U
95-57-8	2-chlorophenol	12	U
111-44-4	bis(2-chloroethyl)ether	12	U
541-73-1	1,3-dichlorobenzene	12	U
106-46-7	1,4-dichlorobenzene	12	U
95-50-1	1,2-dichlorobenzene	12	U
100-51-6	benzyl alcohol	12	U
108-60-1	bis(2-chloroisopropyl)ether	12	U
95-48-7	2-methylphenol	12	U
67-72-1	Hexachloroethane	12	U
621-64-7	N-nitros-di-n-propylamine	12	U
106-44-5	4-methylphenol	12	U
98-95-3	Nitrobenzene	12	U
78-59-1	Isophorone	12	U
88-75-5	2-nitrophenol	12	U
105-67-9	2,4-dimethylphenol	12	U
111-91-1	bis(2-chloroethoxy)methane	12	U
120-83-2	2,4-dichlorophenol	12	U
120-82-1	1,2,4-Trichlorobenzene	12	U
91-20-3	Naphthalene	12	U
106-47-8	4-chloroaniline	12	U
87-68-3	Hexachlorobutadiene	12	U
59-50-7	4-chloro-3-methylphenol	12	U
91-57-6	2-Methylnaphthalene	12	U
77-47-4	Hexachlorocyclopentadiene	12	U
88-06-2	2,4,6-trichlorophenol	12	U
95-95-4	2,4,5-trichlorophenol	12	U
91-58-7	2-chloronaphthalene	12	U
88-74-4	2-nitroaniline	24	U
208-96-8	acenaphthylene	12	U
131-11-3	dimethylphthalate	12	U
606-20-2	2,6-Dinitrotoluene	12	U
83-32-9	acenaphthene	12	U
99-09-2	3-nitroaniline	24	U
132-64-9	Dibenzofuran	12	U
100-02-7	4-nitrophenol	24	U
121-14-2	2,4-Dinitrotoluene	12	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID Number:

MW 4

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-007

Sample wt/vol: 820 (g/ml) ML Lab File ID: 09F0318.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: _____ decanted:(Y/N) N Date Extracted: 4/7/2009

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/9/2009

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

86-73-7	fluorene	12	U
7005-72-3	4-chlorophenyl phenyl ether	12	U
84-66-2	Diethyl phthalate	12	U
100-01-6	4-nitroaniline	24	U
534-52-1	2-methyl-4,6-dinitrophenol	24	U
86-30-6	N-nitrosodiphenylamine	12	U
101-55-3	4-bromophenyl phenyl ether	12	U
118-74-1	Hexachlorobenzene	12	U
87-86-5	pentachlorophenol	24	U
85-01-8	phenanthrene	12	U
120-12-7	anthracene	12	U
86-74-8	Carbazole	12	U
84-74-2	di-n-butyl phthalate	12	U
206-44-0	fluoranthene	12	U
129-00-0	pyrene	12	U
85-68-7	butyl benzyl phthalate	12	U
56-55-3	benzo(a)anthracene	12	U
218-01-9	chrysene	12	U
91-94-1	3,3'-dichlorobenzidine	12	U
117-81-7	bis(2-ethylhexyl)phthalate	12	U
117-84-0	di-n-octyl phthalate	12	U
205-99-2	benzo(b)fluoranthene	12	U
207-08-9	benzo(k)fluoranthene	12	U
50-32-8	benzo(a)pyrene	12	U
193-39-5	indeno(1,2,3-cd)pyrene	12	U
53-70-3	dibenzo(a,h)anthracene	12	U
191-24-2	benzo(g,h,i)perylene	12	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID Number:

MW 4

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-007
 Sample wt/vol: 820 (g/ml) ML Lab File ID: 09F0318.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: _____ decanted: (Y/N) N Date Extracted: 4/7/2009
 Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/9/2009
 Injection Volume: 2.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000112-84-5	13-Docosenamide, (Z)-	34.05	5	JN

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID Number:

MW 8

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-008

Sample wt/vol: 900 (g/ml) ML Lab File ID: 09F0319.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: _____ decanted:(Y/N) N Date Extracted: 4/7/2009

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/9/2009

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

108-95-2	phenol	11	U
95-57-8	2-chlorophenol	11	U
111-44-4	bis(2-chloroethyl)ether	11	U
541-73-1	1,3-dichlorobenzene	11	U
106-46-7	1,4-dichlorobenzene	11	U
95-50-1	1,2-dichlorobenzene	11	U
100-51-6	benzyl alcohol	11	U
108-60-1	bis(2-chloroisopropyl)ether	11	U
95-48-7	2-methylphenol	11	U
67-72-1	Hexachloroethane	11	U
621-64-7	N-nitros-di-n-propylamine	11	U
106-44-5	4-methylphenol	11	U
98-95-3	Nitrobenzene	11	U
78-59-1	Isophorone	11	U
88-75-5	2-nitrophenol	11	U
105-67-9	2,4-dimethylphenol	11	U
111-91-1	bis(2-chloroethoxy)methane	11	U
120-83-2	2,4-dichlorophenol	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
91-20-3	Naphthalene	11	U
106-47-8	4-chloroaniline	11	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-chloro-3-methylphenol	11	U
91-57-6	2-Methylnaphthalene	11	U
77-47-4	Hexachlorocyclopentadiene	11	U
88-06-2	2,4,6-trichlorophenol	11	U
95-95-4	2,4,5-trichlorophenol	11	U
91-58-7	2-chloronaphthalene	11	U
88-74-4	2-nitroaniline	22	U
208-96-8	acenaphthylene	11	U
131-11-3	dimethylphthalate	11	U
606-20-2	2,6-Dinitrotoluene	11	U
83-32-9	acenaphthene	11	U
99-09-2	3-nitroaniline	22	U
132-64-9	Dibenzofuran	11	U
100-02-7	4-nitrophenol	22	U
121-14-2	2,4-Dinitrotoluene	11	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Field ID Number:

MW 8

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-008

Sample wt/vol: 900 (g/ml) ML Lab File ID: 09F0319.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: _____ decanted:(Y/N) N Date Extracted: 4/7/2009

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/9/2009

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

86-73-7	fluorene	11	U
7005-72-3	4-chlorophenyl phenyl ether	11	U
84-66-2	Diethyl phthalate	11	U
100-01-6	4-nitroaniline	22	U
534-52-1	2-methyl-4,6-dinitrophenol	22	U
86-30-6	N-nitrosodiphenylamine	11	U
101-55-3	4-bromophenyl phenyl ether	11	U
118-74-1	Hexachlorobenzene	11	U
87-86-5	pentachlorophenol	22	U
85-01-8	phenanthrene	11	U
120-12-7	anthracene	11	U
86-74-8	Carbazole	11	U
84-74-2	di-n-butyl phthalate	11	U
206-44-0	fluoranthene	11	U
129-00-0	pyrene	11	U
85-68-7	butyl benzyl phthalate	11	U
56-55-3	benzo(a)anthracene	11	U
218-01-9	chrysene	11	U
91-94-1	3,3'-dichlorobenzidine	11	U
117-81-7	bis(2-ethylhexyl)phthalate	11	U
117-84-0	di-n-octyl phthalate	11	U
205-99-2	benzo(b)fluoranthene	11	U
207-08-9	benzo(k)fluoranthene	11	U
50-32-8	benzo(a)pyrene	11	U
193-39-5	indeno(1,2,3-cd)pyrene	11	U
53-70-3	dibenzo(a,h)anthracene	11	U
191-24-2	benzo(g,h,i)perylene	11	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID Number:

MW 8

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-008
 Sample wt/vol: 900 (g/ml) ML Lab File ID: 09F0319.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: _____ decanted: (Y/N) N Date Extracted: 4/7/2009
 Concentrated Extract Volume: 2000 (uL) Date Analyzed: 4/9/2009
 Injection Volume: 2.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000112-84-5	13-Docosenamide, (Z)-	34.05	4	JN

New York State Department of Environmental Conservation

Division of Environmental Remediation

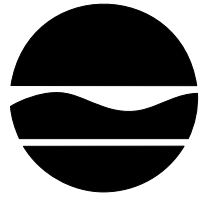
Remedial Bureau A

625 Broadway, 11th Floor

Albany, New York 12233-7015

Phone: (518) 402-9625 • **Fax:** (518) 402-9020 / (518) 402-9627

Website: www.dec.ny.gov



Alexander B. Grannis
Commissioner

**Division of Environmental Remediation Laboratory
Analytical Report**

The case narrative and analytical reports - Metals - for the Tioga Casting site are attached.

Case Narrative

Site Name: Tioga Casting

Date received: 04/02/09

For sample delivery group(s): 092-01

The following problems were noted during water sample analysis:

Initial Calibration Verification - Copper (123%) recovery was greater than the upper limit. This appeared to have no impact on the reported results.

Continuing Calibration Verification - Ba, Be, Cu, Na, Ni, Pb, Se, V and Zn had recoveries that were slightly greater than the upper limit. It was determined not to have an impact on the reported results.

In the method blank associated with these samples, 'B' levels (amount below NELAC PTRL but above MDL) for Ca, Pb, Ni, Ag, and Zn were present. Copper, Iron, and Chromium were present at low, but detectable levels.

Any reported results for these elements, may be higher than the actual concentrations. Detected reports for Copper and Iron that do not exceed 344ug/L and 287ug/L (amount detected in blank), respectively, may be false positives.

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: Tioga Casting

Site Code: 754012

Date Received: 04-02-09

Field ID: MW 1R

SDG: 092-01

Lab Sample ID: 709-092-001

Matrix:GW

CAS NO.	ANALYTE	CONC UG/L	C	Q	M
7429-90-5	Aluminum	1050			PM
7440-36-0	Antimony	6.68	U		PM
7440-38-2	Arsenic	2.95	U		PM
7440-39-3	Barium	59.8	B		PM
7440-41-7	Beryllium	0.45	U		PM
7440-43-9	Cadmium	0.34	U		PM
7440-70-2	Calcium	61200			PM
7440-47-3	Chromium	10.4	B		PM
7440-48-4	Cobalt	3.76	U		PM
7440-50-8	Copper	181			PM
7439-89-6	Iron	1410			PM
7439-92-1	Lead	1.4	U		PM
7439-95-4	Magnesium	11500			PM
7439-96-5	Manganese	106			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	5.48	B		PM
7440-02-0	Nickel	6.92	B		PM
7440-09-7	Potassium	2070	B		PM
7482-49-2	Selenium	11.41	U		PM
7440-22-4	Silver	2.19	U		PM
7440-23-5	Sodium	25600			PM
7440-28-0	Thallium	2.99	U		PM
7440-31-5	Tin	5	U		PM
7440-32-6	Titanium	8.75	B		PM
7440-62-2	Vanadium	4.72	U		PM
7440-66-6	Zinc	13.5	U		PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: Tioga Casting
 Site Code: 754012
 Date Received: 04-02-09

Field ID: MW 7
 SDG: 092-01
 Lab Sample ID: 709-092-002
 Matrix:GW

CAS NO.	ANALYTE	CONC UG/L	C	Q	M
7429-90-5	Aluminum	1810			PM
7440-36-0	Antimony	6.68	U		PM
7440-38-2	Arsenic	2.95	U		PM
7440-39-3	Barium	165			PM
7440-41-7	Beryllium	0.45	U		PM
7440-43-9	Cadmium	0.34	U		PM
7440-70-2	Calcium	64300			PM
7440-47-3	Chromium	10.4	B		PM
7440-48-4	Cobalt	5.83	B		PM
7440-50-8	Copper	178			PM
7439-89-6	Iron	2880			PM
7439-92-1	Lead	30.2	B		PM
7439-95-4	Magnesium	10000			PM
7439-96-5	Manganese	989			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	5	B		PM
7440-02-0	Nickel	10.6	B		PM
7440-09-7	Potassium	4510			PM
7482-49-2	Selenium	11.41	U		PM
7440-22-4	Silver	2.19	U		PM
7440-23-5	Sodium	57500			PM
7440-28-0	Thallium	2.99	U		PM
7440-31-5	Tin	5	U		PM
7440-32-6	Titanium	5	U		PM
7440-62-2	Vanadium	7.18	B		PM
7440-66-6	Zinc	40.4	B		PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: Tioga Casting

Site Code: 754012

Date Received: 04-02-09

Field ID: MW 2

SDG: 092-01

Lab Sample ID: 709-092-003

Matrix:GW

CAS NO.	ANALYTE	CONC UG/L	C	Q	M
7429-90-5	Aluminum	632			PM
7440-36-0	Antimony	6.68	U		PM
7440-38-2	Arsenic	2.95	U		PM
7440-39-3	Barium	102			PM
7440-41-7	Beryllium	0.45	U		PM
7440-43-9	Cadmium	0.34	U		PM
7440-70-2	Calcium	50900			PM
7440-47-3	Chromium	5.79	B		PM
7440-48-4	Cobalt	3.76	U		PM
7440-50-8	Copper	105			PM
7439-89-6	Iron	532			PM
7439-92-1	Lead	1.4	U		PM
7439-95-4	Magnesium	8320			PM
7439-96-5	Manganese	211			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	5	U		PM
7440-02-0	Nickel	7.3	B		PM
7440-09-7	Potassium	4550			PM
7482-49-2	Selenium	11.41	U		PM
7440-22-4	Silver	2.19	U		PM
7440-23-5	Sodium	25200			PM
7440-28-0	Thallium	2.99	U		PM
7440-31-5	Tin	5	U		PM
7440-32-6	Titanium	5	U		PM
7440-62-2	Vanadium	4.72	U		PM
7440-66-6	Zinc	13.5	U		PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: Tioga Casting

Site Code: 754012

Date Received: 04-02-09

Field ID: MW 5

SDG: 092-01

Lab Sample ID: 709-092-004

Matrix:GW

CAS NO.	ANALYTE	CONC UG/L	C	Q	M
7429-90-5	Aluminum	102	B		PM
7440-36-0	Antimony	6.68	U		PM
7440-38-2	Arsenic	2.95	U		PM
7440-39-3	Barium	47.1	B		PM
7440-41-7	Beryllium	0.45	U		PM
7440-43-9	Cadmium	0.34	U		PM
7440-70-2	Calcium	44000			PM
7440-47-3	Chromium	3.88	B		PM
7440-48-4	Cobalt	3.76	U		PM
7440-50-8	Copper	89.3			PM
7439-89-6	Iron	246			PM
7439-92-1	Lead	6.03	B		PM
7439-95-4	Magnesium	7440			PM
7439-96-5	Manganese	10.1	B		PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	5	U		PM
7440-02-0	Nickel	4.97	B		PM
7440-09-7	Potassium	2880	B		PM
7482-49-2	Selenium	11.41	U		PM
7440-22-4	Silver	2.19	U		PM
7440-23-5	Sodium	13300			PM
7440-28-0	Thallium	2.99	U		PM
7440-31-5	Tin	5	U		PM
7440-32-6	Titanium	5	U		PM
7440-62-2	Vanadium	4.72	U		PM
7440-66-6	Zinc	13.5	U		PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: Tioga Casting

Site Code: 754012

Date Received: 04-02-09

Field ID: MW 3

SDG: 092-01

Lab Sample ID: 709-092-005

Matrix:GW

CAS NO.	ANALYTE	CONC UG/L	C	Q	M
7429-90-5	Aluminum	195			PM
7440-36-0	Antimony	6.68	U		PM
7440-38-2	Arsenic	2.95	U		PM
7440-39-3	Barium	38.3	B		PM
7440-41-7	Beryllium	0.45	U		PM
7440-43-9	Cadmium	0.34	U		PM
7440-70-2	Calcium	42900			PM
7440-47-3	Chromium	3.53	B		PM
7440-48-4	Cobalt	3.76	U		PM
7440-50-8	Copper	71.3			PM
7439-89-6	Iron	144	B		PM
7439-92-1	Lead	1.54	B		PM
7439-95-4	Magnesium	7450			PM
7439-96-5	Manganese	14	B		PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	5	U		PM
7440-02-0	Nickel	4.15	B		PM
7440-09-7	Potassium	1430	B		PM
7482-49-2	Selenium	11.41	U		PM
7440-22-4	Silver	2.19	U		PM
7440-23-5	Sodium	17000			PM
7440-28-0	Thallium	2.99	U		PM
7440-31-5	Tin	5	U		PM
7440-32-6	Titanium	5	U		PM
7440-62-2	Vanadium	4.72	U		PM
7440-66-6	Zinc	13.5	U		PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: Tioga Casting

Site Code: 754012

Date Received: 04-02-09

Field ID: MW 3D

SDG: 092-01

Lab Sample ID: 709-092-006

Matrix:GW

CAS NO.	ANALYTE	CONC UG/L	C	Q	M
7429-90-5	Aluminum	668			PM
7440-36-0	Antimony	6.68	U		PM
7440-38-2	Arsenic	2.95	U		PM
7440-39-3	Barium	39.2	B		PM
7440-41-7	Beryllium	0.45	U		PM
7440-43-9	Cadmium	0.34	U		PM
7440-70-2	Calcium	42300			PM
7440-47-3	Chromium	3.84	B		PM
7440-48-4	Cobalt	3.76	U		PM
7440-50-8	Copper	56.6			PM
7439-89-6	Iron	558			PM
7439-92-1	Lead	1.4	U		PM
7439-95-4	Magnesium	7490			PM
7439-96-5	Manganese	40.3	B		PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	5	U		PM
7440-02-0	Nickel	3.92	B		PM
7440-09-7	Potassium	1550	B		PM
7482-49-2	Selenium	11.41	U		PM
7440-22-4	Silver	2.19	U		PM
7440-23-5	Sodium	17300			PM
7440-28-0	Thallium	2.99	U		PM
7440-31-5	Tin	5	U		PM
7440-32-6	Titanium	5	U		PM
7440-62-2	Vanadium	4.72	U		PM
7440-66-6	Zinc	13.5	U		PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: Tioga Casting

Site Code: 754012

Date Received: 04-02-09

Field ID: MW 4

SDG: 092-01

Lab Sample ID: 709-092-007

Matrix:GW

CAS NO.	ANALYTE	CONC UG/L	C	Q	M
7429-90-5	Aluminum	754			PM
7440-36-0	Antimony	6.68	U		PM
7440-38-2	Arsenic	2.95	U		PM
7440-39-3	Barium	60.9	B		PM
7440-41-7	Beryllium	0.45	U		PM
7440-43-9	Cadmium	0.34	U		PM
7440-70-2	Calcium	40500			PM
7440-47-3	Chromium	3.43	B		PM
7440-48-4	Cobalt	3.76	U		PM
7440-50-8	Copper	49.7			PM
7439-89-6	Iron	667			PM
7439-92-1	Lead	1.4	U		PM
7439-95-4	Magnesium	7080			PM
7439-96-5	Manganese	79.4			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	5	U		PM
7440-02-0	Nickel	4.46	B		PM
7440-09-7	Potassium	1190	B		PM
7482-49-2	Selenium	11.41	U		PM
7440-22-4	Silver	2.19	U		PM
7440-23-5	Sodium	15200			PM
7440-28-0	Thallium	2.99	U		PM
7440-31-5	Tin	5	U		PM
7440-32-6	Titanium	5	U		PM
7440-62-2	Vanadium	4.72	U		PM
7440-66-6	Zinc	13.5	U		PM

DIVISION OF ENVIRONMENTAL REMEDIATION

LABORATORY ANALYTICAL REPORT

Site Name: Tioga Casting

Site Code: 754012

Date Received: 04-02-09

Field ID: MW 8

SDG: 092-01

Lab Sample ID: 709-092-008

Matrix:GW

CAS NO.	ANALYTE	CONC UG/L	C	Q	M
7429-90-5	Aluminum	6190			PM
7440-36-0	Antimony	6.68	U		PM
7440-38-2	Arsenic	2.95	U		PM
7440-39-3	Barium	219			PM
7440-41-7	Beryllium	0.45	U		PM
7440-43-9	Cadmium	0.34	U		PM
7440-70-2	Calcium	52400			PM
7440-47-3	Chromium	8.92	B		PM
7440-48-4	Cobalt	3.76	U		PM
7440-50-8	Copper	66.3			PM
7439-89-6	Iron	4530			PM
7439-92-1	Lead	17.3	B		PM
7439-95-4	Magnesium	8740			PM
7439-96-5	Manganese	524			PM
7439-97-6	Mercury	Not Analyzed			n/a
7439-98-7	Molybdenum	5	U		PM
7440-02-0	Nickel	9.48	B		PM
7440-09-7	Potassium	3770			PM
7482-49-2	Selenium	11.41	U		PM
7440-22-4	Silver	2.19	U		PM
7440-23-5	Sodium	26700			PM
7440-28-0	Thallium	2.99	U		PM
7440-31-5	Tin	5	U		PM
7440-32-6	Titanium	34.4	B		PM
7440-62-2	Vanadium	9.75	B		PM
7440-66-6	Zinc	40.2	B		PM

- C (Concentration) qualifier - Enter "B" if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL). If the analyte was analyzed for but not detected, a "U" must be entered.

- M (Method) qualifier - Enter:
 - "P" for ICP
 - "A" for Flame AA
 - "F" for Furnace AA
 - "PM" for ICP when Microwave Digestion is used

New York State Department of Environmental Conservation

Division of Environmental Remediation

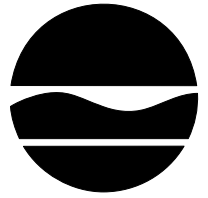
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625 Broadway, 11th Floor

Albany, New York 12233-7015

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Website: www.dec.ny.gov



Alexander B. Grannis
Commissioner

**Division of Environmental Remediation Laboratory
Analytical Report**

The case narrative and analytical reports - Volatiles - for the Tioga Casting site are attached.

Case Narrative

Site Name: Tioga Casting

Date received: 04/02/09

For sample delivery group(s): 092-01

The calibration verification that these samples were run under had three target analytes - dichlorodifluoromethane, chloromethane, and bromomethane - exceeding the calibration verification criteria that is associated with this analytical method. However, the initial calibration that these samples were quantitated against was valid, and none of the analytes that exceeded the calibration verification criteria were found in the samples.

All other QA/QC associated with this sample delivery group were within acceptable method criteria.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW 1R

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-001

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0465.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U	
75-87-3	Chloromethane	10	U	
75-01-4	Vinyl Chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	10	U	
75-35-4	1,1-Dichloroethene	10	U	
75-15-0	Carbon Disulfide	10	U	
67-64-1	Acetone	15	U	
75-09-2	Methylene Chloride	10	U	
540-59-0	trans 1,2-Dichloroethene	10	U	
1634-04-4	Methyl-tert butyl ether	10	U	
75-34-4	1,1-Dichloroethane	10	U	
108-05-4	Vinyl Acetate	10	U	
540-59-0	cis 1,2-Dichloroethene	10	U	
78-93-3	2-Butanone	10	U	
67-66-3	Chloroform	10	U	
71-55-6	1,1,1-Trichloroethane	10	U	
56-23-5	Carbon Tetrachloride	10	U	
71-43-2	Benzene	10	U	
107-06-2	1,2-Dichloroethane	10	U	
79-01-6	Trichloroethene	10	U	
78-87-5	1,2-Dichloropropane	10	U	
75-27-4	Bromodichloromethane	10	U	
10061-01-5	cis-1,3-Dichloropropene	10	U	
108-10-1	4-Methyl-2-pentanone	10	U	
108-88-3	Toluene	10	U	
10061-02-6	trans-1,3-Dichloropropene	10	U	
79-00-5	1,1,2-Trichloroethane	10	U	
127-18-4	Tetrachloroethene	10	U	
591-78-6	2-Hexanone	10	U	
124-48-1	Dibromochloromethane	10	U	
108-90-7	Chlorobenzene	10	U	
100-41-4	Ethylbenzene	10	U	
1330-20-7	m,p-Xylenes	10	U	
1330-20-7	o-Xylene	10	U	
100-42-5	Styrene	10	U	
75-25-2	Bromoform	10	U	
79-34-5	1,1,2,2,-Tetrachloroethane	10	U	

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW 1R

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-001
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0465.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: not dec. _____ Date Analyzed: 4/8/2009
 GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

95-49-8	2-Chlorotoluene	10	U
106-43-4	4-Chlorotoluene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
87-61-6	1,2,3-Trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Sample ID:

MW 1R

Site Name: Tioga Casting Contract: _____
Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
Matrix: (soil/water) WATER Lab Sample ID: 709-092-001
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0465.D
Level: (low/med) LOW Date Received: 4/2/2009
% Moisture: not dec. _____ Date Analyzed: 4/8/2009
GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/LNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW 7

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-002

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0466.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U	U
75-87-3	Chloromethane	10	U	U
75-01-4	Vinyl Chloride	10	U	U
74-83-9	Bromomethane	10	U	U
75-00-3	Chloroethane	10	U	U
75-69-4	Trichlorofluoromethane	10	U	U
75-35-4	1,1-Dichloroethene	10	U	U
75-15-0	Carbon Disulfide	10	U	U
67-64-1	Acetone	15	U	U
75-09-2	Methylene Chloride	10	U	U
540-59-0	trans 1,2-Dichloroethene	10	U	U
1634-04-4	Methyl-tert butyl ether	10	U	U
75-34-4	1,1-Dichloroethane	10	U	U
108-05-4	Vinyl Acetate	10	U	U
540-59-0	cis 1,2-Dichloroethene	10	U	U
78-93-3	2-Butanone	10	U	U
67-66-3	Chloroform	10	U	U
71-55-6	1,1,1-Trichloroethane	10	U	U
56-23-5	Carbon Tetrachloride	10	U	U
71-43-2	Benzene	10	U	U
107-06-2	1,2-Dichloroethane	10	U	U
79-01-6	Trichloroethene	10	U	U
78-87-5	1,2-Dichloropropane	10	U	U
75-27-4	Bromodichloromethane	10	U	U
10061-01-5	cis-1,3-Dichloropropene	10	U	U
108-10-1	4-Methyl-2-pentanone	10	U	U
108-88-3	Toluene	4	J	J
10061-02-6	trans-1,3-Dichloropropene	10	U	U
79-00-5	1,1,2-Trichloroethane	10	U	U
127-18-4	Tetrachloroethene	10	U	U
591-78-6	2-Hexanone	10	U	U
124-48-1	Dibromochloromethane	10	U	U
108-90-7	Chlorobenzene	10	U	U
100-41-4	Ethylbenzene	10	U	U
1330-20-7	m,p-Xylenes	10	U	U
1330-20-7	o-Xylene	10	U	U
100-42-5	Styrene	10	U	U
75-25-2	Bromoform	10	U	U
79-34-5	1,1,2,2,-Tetrachloroethane	10	U	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW 7

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-002
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0466.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: not dec. _____ Date Analyzed: 4/8/2009
 GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

95-49-8	2-Chlorotoluene	10	U
106-43-4	4-Chlorotoluene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
87-61-6	1,2,3-Trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Sample ID:

MW 7

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-002

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0466.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/LNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW 2

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-003

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0467.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U	
75-87-3	Chloromethane	10	U	
75-01-4	Vinyl Chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	10	U	
75-35-4	1,1-Dichloroethene	10	U	
75-15-0	Carbon Disulfide	10	U	
67-64-1	Acetone	15	U	
75-09-2	Methylene Chloride	10	U	
540-59-0	trans 1,2-Dichloroethene	10	U	
1634-04-4	Methyl-tert butyl ether	10	U	
75-34-4	1,1-Dichloroethane	10	U	
108-05-4	Vinyl Acetate	10	U	
540-59-0	cis 1,2-Dichloroethene	10	U	
78-93-3	2-Butanone	10	U	
67-66-3	Chloroform	10	U	
71-55-6	1,1,1-Trichloroethane	10	U	
56-23-5	Carbon Tetrachloride	10	U	
71-43-2	Benzene	10	U	
107-06-2	1,2-Dichloroethane	10	U	
79-01-6	Trichloroethene	10	U	
78-87-5	1,2-Dichloropropane	10	U	
75-27-4	Bromodichloromethane	10	U	
10061-01-5	cis-1,3-Dichloropropene	10	U	
108-10-1	4-Methyl-2-pentanone	10	U	
108-88-3	Toluene	10	U	
10061-02-6	trans-1,3-Dichloropropene	10	U	
79-00-5	1,1,2-Trichloroethane	10	U	
127-18-4	Tetrachloroethene	10	U	
591-78-6	2-Hexanone	10	U	
124-48-1	Dibromochloromethane	10	U	
108-90-7	Chlorobenzene	10	U	
100-41-4	Ethylbenzene	10	U	
1330-20-7	m,p-Xylenes	10	U	
1330-20-7	o-Xylene	10	U	
100-42-5	Styrene	10	U	
75-25-2	Bromoform	10	U	
79-34-5	1,1,2,2,-Tetrachloroethane	10	U	

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW 2

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-003
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0467.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: not dec. _____ Date Analyzed: 4/8/2009
 GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

95-49-8	2-Chlorotoluene	10	U
106-43-4	4-Chlorotoluene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
87-61-6	1,2,3-Trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Sample ID:

MW 2

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-003

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0467.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/LNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW 5

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-004

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0468.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U	
75-87-3	Chloromethane	10	U	
75-01-4	Vinyl Chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	10	U	
75-35-4	1,1-Dichloroethene	10	U	
75-15-0	Carbon Disulfide	10	U	
67-64-1	Acetone	15	U	
75-09-2	Methylene Chloride	10	U	
540-59-0	trans 1,2-Dichloroethene	10	U	
1634-04-4	Methyl-tert butyl ether	10	U	
75-34-4	1,1-Dichloroethane	10	U	
108-05-4	Vinyl Acetate	10	U	
540-59-0	cis 1,2-Dichloroethene	10	U	
78-93-3	2-Butanone	10	U	
67-66-3	Chloroform	10	U	
71-55-6	1,1,1-Trichloroethane	10	U	
56-23-5	Carbon Tetrachloride	10	U	
71-43-2	Benzene	10	U	
107-06-2	1,2-Dichloroethane	10	U	
79-01-6	Trichloroethene	10	U	
78-87-5	1,2-Dichloropropane	10	U	
75-27-4	Bromodichloromethane	10	U	
10061-01-5	cis-1,3-Dichloropropene	10	U	
108-10-1	4-Methyl-2-pentanone	10	U	
108-88-3	Toluene	10	U	
10061-02-6	trans-1,3-Dichloropropene	10	U	
79-00-5	1,1,2-Trichloroethane	10	U	
127-18-4	Tetrachloroethene	10	U	
591-78-6	2-Hexanone	10	U	
124-48-1	Dibromochloromethane	10	U	
108-90-7	Chlorobenzene	10	U	
100-41-4	Ethylbenzene	10	U	
1330-20-7	m,p-Xylenes	10	U	
1330-20-7	o-Xylene	10	U	
100-42-5	Styrene	10	U	
75-25-2	Bromoform	10	U	
79-34-5	1,1,2,2,-Tetrachloroethane	10	U	

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW 5

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-004
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0468.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: not dec. _____ Date Analyzed: 4/8/2009
 GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

95-49-8	2-Chlorotoluene	10	U
106-43-4	4-Chlorotoluene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
87-61-6	1,2,3-Trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Sample ID:

MW 5

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-004

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0468.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/LNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW 3

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-005

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0469.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U	
75-87-3	Chloromethane	10	U	
75-01-4	Vinyl Chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	10	U	
75-35-4	1,1-Dichloroethene	10	U	
75-15-0	Carbon Disulfide	10	U	
67-64-1	Acetone	15	U	
75-09-2	Methylene Chloride	10	U	
540-59-0	trans 1,2-Dichloroethene	10	U	
1634-04-4	Methyl-tert butyl ether	10	U	
75-34-4	1,1-Dichloroethane	10	U	
108-05-4	Vinyl Acetate	10	U	
540-59-0	cis 1,2-Dichloroethene	10	U	
78-93-3	2-Butanone	10	U	
67-66-3	Chloroform	10	U	
71-55-6	1,1,1-Trichloroethane	10	U	
56-23-5	Carbon Tetrachloride	10	U	
71-43-2	Benzene	10	U	
107-06-2	1,2-Dichloroethane	10	U	
79-01-6	Trichloroethene	10	U	
78-87-5	1,2-Dichloropropane	10	U	
75-27-4	Bromodichloromethane	10	U	
10061-01-5	cis-1,3-Dichloropropene	10	U	
108-10-1	4-Methyl-2-pentanone	10	U	
108-88-3	Toluene	10	U	
10061-02-6	trans-1,3-Dichloropropene	10	U	
79-00-5	1,1,2-Trichloroethane	10	U	
127-18-4	Tetrachloroethene	10	U	
591-78-6	2-Hexanone	10	U	
124-48-1	Dibromochloromethane	10	U	
108-90-7	Chlorobenzene	10	U	
100-41-4	Ethylbenzene	10	U	
1330-20-7	m,p-Xylenes	10	U	
1330-20-7	o-Xylene	10	U	
100-42-5	Styrene	10	U	
75-25-2	Bromoform	10	U	
79-34-5	1,1,2,2,-Tetrachloroethane	10	U	

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW 3

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-005
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0469.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: not dec. _____ Date Analyzed: 4/8/2009
 GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

95-49-8	2-Chlorotoluene	10	U
106-43-4	4-Chlorotoluene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
87-61-6	1,2,3-Trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Sample ID:

MW 3

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-005

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0469.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/LNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW 3D

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-006

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0471.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U	
75-87-3	Chloromethane	10	U	
75-01-4	Vinyl Chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	10	U	
75-35-4	1,1-Dichloroethene	10	U	
75-15-0	Carbon Disulfide	10	U	
67-64-1	Acetone	15	U	
75-09-2	Methylene Chloride	10	U	
540-59-0	trans 1,2-Dichloroethene	10	U	
1634-04-4	Methyl-tert butyl ether	10	U	
75-34-4	1,1-Dichloroethane	10	U	
108-05-4	Vinyl Acetate	10	U	
540-59-0	cis 1,2-Dichloroethene	10	U	
78-93-3	2-Butanone	10	U	
67-66-3	Chloroform	10	U	
71-55-6	1,1,1-Trichloroethane	10	U	
56-23-5	Carbon Tetrachloride	10	U	
71-43-2	Benzene	10	U	
107-06-2	1,2-Dichloroethane	10	U	
79-01-6	Trichloroethene	10	U	
78-87-5	1,2-Dichloropropane	10	U	
75-27-4	Bromodichloromethane	10	U	
10061-01-5	cis-1,3-Dichloropropene	10	U	
108-10-1	4-Methyl-2-pentanone	10	U	
108-88-3	Toluene	10	U	
10061-02-6	trans-1,3-Dichloropropene	10	U	
79-00-5	1,1,2-Trichloroethane	10	U	
127-18-4	Tetrachloroethene	10	U	
591-78-6	2-Hexanone	10	U	
124-48-1	Dibromochloromethane	10	U	
108-90-7	Chlorobenzene	10	U	
100-41-4	Ethylbenzene	10	U	
1330-20-7	m,p-Xylenes	10	U	
1330-20-7	o-Xylene	10	U	
100-42-5	Styrene	10	U	
75-25-2	Bromoform	10	U	
79-34-5	1,1,2,2,-Tetrachloroethane	10	U	

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW 3D

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-006
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0471.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: not dec. _____ Date Analyzed: 4/8/2009
 GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

95-49-8	2-Chlorotoluene	10	U
106-43-4	4-Chlorotoluene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
87-61-6	1,2,3-Trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Sample ID:

MW 3D

Site Name: Tioga Casting Contract: _____
Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
Matrix: (soil/water) WATER Lab Sample ID: 709-092-006
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0471.D
Level: (low/med) LOW Date Received: 4/2/2009
% Moisture: not dec. _____ Date Analyzed: 4/8/2009
GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/LNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW 4

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-007

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0472.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U	U
75-87-3	Chloromethane	10	U	U
75-01-4	Vinyl Chloride	10	U	U
74-83-9	Bromomethane	10	U	U
75-00-3	Chloroethane	10	U	U
75-69-4	Trichlorofluoromethane	10	U	U
75-35-4	1,1-Dichloroethene	10	U	U
75-15-0	Carbon Disulfide	10	U	U
67-64-1	Acetone	15	U	U
75-09-2	Methylene Chloride	10	U	U
540-59-0	trans 1,2-Dichloroethene	10	U	U
1634-04-4	Methyl-tert butyl ether	10	U	U
75-34-4	1,1-Dichloroethane	10	U	U
108-05-4	Vinyl Acetate	10	U	U
540-59-0	cis 1,2-Dichloroethene	10	U	U
78-93-3	2-Butanone	10	U	U
67-66-3	Chloroform	10	U	U
71-55-6	1,1,1-Trichloroethane	10	U	U
56-23-5	Carbon Tetrachloride	10	U	U
71-43-2	Benzene	10	U	U
107-06-2	1,2-Dichloroethane	10	U	U
79-01-6	Trichloroethene	10	U	U
78-87-5	1,2-Dichloropropane	10	U	U
75-27-4	Bromodichloromethane	10	U	U
10061-01-5	cis-1,3-Dichloropropene	10	U	U
108-10-1	4-Methyl-2-pentanone	10	U	U
108-88-3	Toluene	10	U	U
10061-02-6	trans-1,3-Dichloropropene	10	U	U
79-00-5	1,1,2-Trichloroethane	10	U	U
127-18-4	Tetrachloroethene	10	U	U
591-78-6	2-Hexanone	10	U	U
124-48-1	Dibromochloromethane	10	U	U
108-90-7	Chlorobenzene	10	U	U
100-41-4	Ethylbenzene	10	U	U
1330-20-7	m,p-Xylenes	10	U	U
1330-20-7	o-Xylene	10	U	U
100-42-5	Styrene	10	U	U
75-25-2	Bromoform	10	U	U
79-34-5	1,1,2,2,-Tetrachloroethane	10	U	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW 4

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-007
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0472.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: not dec. _____ Date Analyzed: 4/8/2009
 GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

95-49-8	2-Chlorotoluene	10	U
106-43-4	4-Chlorotoluene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
87-61-6	1,2,3-Trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Sample ID:

MW 4

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-007
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0472.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: not dec. _____ Date Analyzed: 4/8/2009
 GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/LNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW 8

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-008

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0473.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U	
75-87-3	Chloromethane	10	U	
75-01-4	Vinyl Chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	10	U	
75-35-4	1,1-Dichloroethene	10	U	
75-15-0	Carbon Disulfide	10	U	
67-64-1	Acetone	15	U	
75-09-2	Methylene Chloride	10	U	
540-59-0	trans 1,2-Dichloroethene	10	U	
1634-04-4	Methyl-tert butyl ether	10	U	
75-34-4	1,1-Dichloroethane	10	U	
108-05-4	Vinyl Acetate	10	U	
540-59-0	cis 1,2-Dichloroethene	10	U	
78-93-3	2-Butanone	10	U	
67-66-3	Chloroform	10	U	
71-55-6	1,1,1-Trichloroethane	10	U	
56-23-5	Carbon Tetrachloride	10	U	
71-43-2	Benzene	10	U	
107-06-2	1,2-Dichloroethane	10	U	
79-01-6	Trichloroethene	10	U	
78-87-5	1,2-Dichloropropane	10	U	
75-27-4	Bromodichloromethane	10	U	
10061-01-5	cis-1,3-Dichloropropene	10	U	
108-10-1	4-Methyl-2-pentanone	10	U	
108-88-3	Toluene	10	U	
10061-02-6	trans-1,3-Dichloropropene	10	U	
79-00-5	1,1,2-Trichloroethane	10	U	
127-18-4	Tetrachloroethene	10	U	
591-78-6	2-Hexanone	10	U	
124-48-1	Dibromochloromethane	10	U	
108-90-7	Chlorobenzene	10	U	
100-41-4	Ethylbenzene	10	U	
1330-20-7	m,p-Xylenes	10	U	
1330-20-7	o-Xylene	10	U	
100-42-5	Styrene	10	U	
75-25-2	Bromoform	10	U	
79-34-5	1,1,2,2,-Tetrachloroethane	10	U	

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW 8

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-008
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0473.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: not dec. _____ Date Analyzed: 4/8/2009
 GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

95-49-8	2-Chlorotoluene	10	U
106-43-4	4-Chlorotoluene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
87-61-6	1,2,3-Trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Sample ID:

MW 8

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-008

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0473.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/LNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID:

MW DUP

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-009

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0474.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U	
75-87-3	Chloromethane	10	U	
75-01-4	Vinyl Chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	10	U	
75-35-4	1,1-Dichloroethene	10	U	
75-15-0	Carbon Disulfide	10	U	
67-64-1	Acetone	15	U	
75-09-2	Methylene Chloride	10	U	
540-59-0	trans 1,2-Dichloroethene	10	U	
1634-04-4	Methyl-tert butyl ether	10	U	
75-34-4	1,1-Dichloroethane	10	U	
108-05-4	Vinyl Acetate	10	U	
540-59-0	cis 1,2-Dichloroethene	10	U	
78-93-3	2-Butanone	10	U	
67-66-3	Chloroform	10	U	
71-55-6	1,1,1-Trichloroethane	10	U	
56-23-5	Carbon Tetrachloride	10	U	
71-43-2	Benzene	10	U	
107-06-2	1,2-Dichloroethane	10	U	
79-01-6	Trichloroethene	10	U	
78-87-5	1,2-Dichloropropane	10	U	
75-27-4	Bromodichloromethane	10	U	
10061-01-5	cis-1,3-Dichloropropene	10	U	
108-10-1	4-Methyl-2-pentanone	10	U	
108-88-3	Toluene	10	U	
10061-02-6	trans-1,3-Dichloropropene	10	U	
79-00-5	1,1,2-Trichloroethane	10	U	
127-18-4	Tetrachloroethene	10	U	
591-78-6	2-Hexanone	10	U	
124-48-1	Dibromochloromethane	10	U	
108-90-7	Chlorobenzene	10	U	
100-41-4	Ethylbenzene	10	U	
1330-20-7	m,p-Xylenes	10	U	
1330-20-7	o-Xylene	10	U	
100-42-5	Styrene	10	U	
75-25-2	Bromoform	10	U	
79-34-5	1,1,2,2,-Tetrachloroethane	10	U	

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW DUP

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-009
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0474.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: not dec. _____ Date Analyzed: 4/8/2009
 GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

95-49-8	2-Chlorotoluene	10	U
106-43-4	4-Chlorotoluene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
87-61-6	1,2,3-Trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Sample ID:

MW DUP

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-009

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0474.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID:

Trip Blank

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-010

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0475.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U	
75-87-3	Chloromethane	10	U	
75-01-4	Vinyl Chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	10	U	
75-35-4	1,1-Dichloroethene	10	U	
75-15-0	Carbon Disulfide	10	U	
67-64-1	Acetone	15	U	
75-09-2	Methylene Chloride	10	U	
540-59-0	trans 1,2-Dichloroethene	10	U	
1634-04-4	Methyl-tert butyl ether	10	U	
75-34-4	1,1-Dichloroethane	10	U	
108-05-4	Vinyl Acetate	10	U	
540-59-0	cis 1,2-Dichloroethene	10	U	
78-93-3	2-Butanone	10	U	
67-66-3	Chloroform	10	U	
71-55-6	1,1,1-Trichloroethane	10	U	
56-23-5	Carbon Tetrachloride	10	U	
71-43-2	Benzene	10	U	
107-06-2	1,2-Dichloroethane	10	U	
79-01-6	Trichloroethene	10	U	
78-87-5	1,2-Dichloropropane	10	U	
75-27-4	Bromodichloromethane	10	U	
10061-01-5	cis-1,3-Dichloropropene	10	U	
108-10-1	4-Methyl-2-pentanone	10	U	
108-88-3	Toluene	10	U	
10061-02-6	trans-1,3-Dichloropropene	10	U	
79-00-5	1,1,2-Trichloroethane	10	U	
127-18-4	Tetrachloroethene	10	U	
591-78-6	2-Hexanone	10	U	
124-48-1	Dibromochloromethane	10	U	
108-90-7	Chlorobenzene	10	U	
100-41-4	Ethylbenzene	10	U	
1330-20-7	m,p-Xylenes	10	U	
1330-20-7	o-Xylene	10	U	
100-42-5	Styrene	10	U	
75-25-2	Bromoform	10	U	
79-34-5	1,1,2,2,-Tetrachloroethane	10	U	

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Site Name: Tioga Casting Contract: _____
 Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01
 Matrix: (soil/water) WATER Lab Sample ID: 709-092-010
 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0475.D
 Level: (low/med) LOW Date Received: 4/2/2009
 % Moisture: not dec. _____ Date Analyzed: 4/8/2009
 GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

95-49-8	2-Chlorotoluene	10	U
106-43-4	4-Chlorotoluene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
87-61-6	1,2,3-Trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Sample ID:

Trip Blank

Site Name: Tioga Casting Contract: _____

Site Code: 754012 Case No.: _____ SAS No.: _____ SDG No.: 092-01

Matrix: (soil/water) WATER Lab Sample ID: 709-092-010

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: 09C0475.D

Level: (low/med) LOW Date Received: 4/2/2009

% Moisture: not dec. _____ Date Analyzed: 4/8/2009

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/LNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

Analytical Report

Work Order: RSG1084

Project Description

Tioga Castings

For:

Jeremy Wyckoff

Malcolm Pirnie - Clifton Park, NY

885 Route 16, Suite 210

Clifton Park, NY 12065

DRAFT REPORT

DATA SUBJECT TO CHANGE

Amy.Haag@testamericainc.com

Thursday, August 13, 2009

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exception to 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 Current Certifications

As of 1/27/2009

STATE	Program	Cert # / Lab ID
Arkansas	CWA, RCRA, SOIL	88-0686
California*	NELAP CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida*	NELAP CWA, RCRA	E87672
Georgia*	SDWA, NELAP CWA, RCRA	956
Illinois*	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas*	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana*	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY0044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	SDWA, CWA, RCRA	036-999-337
New Hampshire*	NELAP SDWA, CWA	233701
New Jersey*	NELAP, SDWA, CWA, RCRA,	NY455
New York*	NELAP, AIR, SDWA, CWA, RCRA, CLP	10026
Oklahoma	CWA, RCRA	9421
Pennsylvania*	NELAP CWA, RCRA	68-00281
Tennessee	SDWA	02970
Texas*	NELAP CWA, RCRA	T104704412-08-TX
USDA	FOREIGN SOIL PERMIT	S-41579
USDOE	Department of Energy	DOECAP-STB
Virginia	SDWA	278
Washington*	NELAP CWA, RCRA	C1677
Wisconsin	CWA, RCRA	998310390
West Virginia	CWA, RCRA	252

*As required under the indicated accreditation, the test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report.

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084

Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Case Narrative

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. field-pH), they were not analyzed immediately, but as soon as possible after laboratory receipt.

There are pertinent documents appended to this report, 2 pages, are included and are an integral part of this report. Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
D02	Dilution required due to sample matrix effects
D08	Dilution required due to high concentration of target analyte(s)
E	Concentration exceeds the calibration range and therefore result is semi-quantitative.
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
M1	The MS and/or MSD were outside the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
R4	Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.
NR	Any inclusion of NR indicates that the project specific requirements do not require reporting estimated values below the laboratory reporting limit.

ADDITIONAL COMMENTS

Results are reported on a wet weight basis unless otherwise noted.

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-01 (DRAFT: SS-01 - Solid)						Sampled: 07/29/09 10:20		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	4760		20.6	1.3	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Arsenic	2.8		1.0	0.2	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Barium	62.5		20.6	0.027	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Beryllium	0.022	J	0.515	0.010	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Calcium	12800	B, E	515	10.3	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Chromium	25.7		1.03	0.093	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Cobalt	2.46	J	5.15	0.052	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Copper	33.2		2.6	0.1	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Iron	23400	E, B	10.3	3.1	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Lead	101	B	1.0	0.1	mg/kg dry	1.00	08/07/09 15:42	AMH	9G31048	CLP-M
Magnesium	1460	B	20.6	1.0	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Manganese	973	B, E	1.5	0.03	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Mercury	0.0402	J	0.101	0.0082	mg/kg dry	1.00	07/31/09 17:09	MXM	9G31042	CLP-M
Nickel	23.6		4.12	0.082	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Potassium	523		515	5.0	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Sodium	133	J	515	31.9	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Vanadium	5.46		5.15	0.098	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Zinc	173	E, B	6.2	0.2	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
<u>DRAFT: General Chemistry Parameters</u>										
Percent Solids	93		0.010	NR	%	1.00	07/31/09 10:06	KMB/ C	9G30063	Dry Weight
Sample ID: RSG1084-02 (DRAFT: SS-02 - Solid)						Sampled: 07/29/09 10:30		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	9880	E	23.3	1.5	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Arsenic	5.2		1.2	0.3	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Barium	48.7		23.3	0.030	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Beryllium	0.137	J	0.582	0.012	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Calcium	34500	B, E	582	11.6	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Chromium	12.1		1.16	0.105	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Cobalt	7.04		5.82	0.058	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Copper	14.3		2.9	0.1	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Iron	18000	B, E	11.6	3.5	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Lead	10.8	B	1.2	0.1	mg/kg dry	1.00	08/07/09 15:47	AMH	9G31048	CLP-M
Magnesium	18000	B, E	23.3	1.1	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Manganese	556	B, E	1.7	0.04	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Mercury	0.0360	J	0.106	0.0086	mg/kg dry	1.00	07/31/09 17:15	MXM	9G31042	CLP-M
Nickel	16.8		4.66	0.093	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Potassium	813		582	5.7	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Sodium	46.7	J	582	36.1	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Vanadium	14.1		5.82	0.111	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Zinc	49.3	B	7.0	0.2	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
<u>DRAFT: General Chemistry Parameters</u>										
Percent Solids	94		0.010	NR	%	1.00	07/31/09 10:08	KMB/	9G30063	Dry Weight

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Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-03 (DRAFT: SS-03 - Solid)						Sampled: 07/29/09 10:40		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	5650	E	20.4	1.3	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Arsenic	3.7		1.0	0.2	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Barium	40.9		20.4	0.026	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Beryllium	0.068	J	0.509	0.010	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Calcium	64500	D08, B	5090	102	mg/kg dry	10.0	08/07/09 17:47	AMH	9G31048	CLP-M
Chromium	8.45		1.02	0.092	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Cobalt	4.93	J	5.09	0.051	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Copper	22.2		2.5	0.1	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Iron	13500	B, E	10.2	3.1	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Lead	26.3	B	1.0	0.1	mg/kg dry	1.00	08/07/09 15:52	AMH	9G31048	CLP-M
Magnesium	9250	B, E	20.4	0.9	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Manganese	424	B, E	1.5	0.03	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Mercury	0.0199	J	0.102	0.0083	mg/kg dry	1.00	07/31/09 17:17	MXM	9G31042	CLP-M
Nickel	13.3		4.07	0.081	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Potassium	777		509	5.0	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Sodium	62.5	J	509	31.6	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Vanadium	8.95		5.09	0.097	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Zinc	121	E, B	6.1	0.2	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M

DRAFT: General Chemistry Parameters

Percent Solids	94		0.010	NR	%	1.00	07/31/09 10:10	KMB/ C	9G30063	Dry Weight

Sample ID: RSG1084-04 (DRAFT: SS-04 - Solid)

Sampled: 07/29/09 10:55

Recvd: 07/30/09 11:30

DRAFT: CLP Metals

Aluminum	9780	E	25.0	1.6	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Arsenic	5.3		1.2	0.3	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Barium	53.0		25.0	0.032	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Beryllium	0.049	J	0.624	0.012	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Calcium	20200	B, E	624	12.5	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Chromium	19.0		1.25	0.112	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Cobalt	7.82		6.24	0.062	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Copper	24.4		3.1	0.1	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Iron	22100	B, E	12.5	3.7	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Lead	21.6	B	1.2	0.1	mg/kg dry	1.00	08/07/09 16:18	AMH	9G31048	CLP-M
Magnesium	6310	B, E	25.0	1.2	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Manganese	571	B, E	1.9	0.04	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Mercury	0.0362	J	0.113	0.0092	mg/kg dry	1.00	07/31/09 17:18	MXM	9G31042	CLP-M
Nickel	25.0		4.99	0.100	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Potassium	1040		624	6.1	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Vanadium	14.4		6.24	0.119	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Zinc	87.5	B	7.5	0.2	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M

DRAFT: General Chemistry Parameters

Percent Solids	87		0.010	NR	%	1.00	07/31/09 10:12	KMB/ C	9G30063	Dry Weight

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Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-05 (DRAFT: SS-05 - Solid)						Sampled: 07/29/09 11:13		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	6750	E	21.0	1.3	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Arsenic	4.1		1.0	0.2	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Barium	80.3		21.0	0.027	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Beryllium	0.126	J	0.525	0.010	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Calcium	80200	D08, B	2620	52.5	mg/kg dry	5.00	08/07/09 18:12	AMH	9G31048	CLP-M
Chromium	15.1		1.05	0.094	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Cobalt	5.59		5.25	0.052	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Copper	37.7		2.6	0.1	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Iron	14000	B, E	10.5	3.1	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Lead	163	B	1.0	0.1	mg/kg dry	1.00	08/07/09 16:34	AMH	9G31048	CLP-M
Magnesium	8800	B, E	21.0	1.0	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Manganese	708	B, E	1.6	0.03	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Mercury	0.107		0.106	0.0086	mg/kg dry	1.00	07/31/09 17:20	MXM	9G31042	CLP-M
Nickel	16.5		4.20	0.084	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Potassium	1500		525	5.1	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Sodium	94.8	J	525	32.5	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Vanadium	16.2		5.25	0.100	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Zinc	127	E, B	6.3	0.2	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M

DRAFT: General Chemistry Parameters

Percent Solids	89		0.010	NR	%	1.00	07/31/09 10:14	KMB/ C	9G30063	Dry Weight

Sample ID: RSG1084-06 (DRAFT: SS-06 - Solid)

Sampled: 07/29/09 11:30

Recvd: 07/30/09 11:30

DRAFT: CLP Metals

Aluminum	7640	E	22.9	1.4	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Antimony	0.6	J	6.9	0.6	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Arsenic	8.4		1.1	0.3	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Barium	93.9		22.9	0.030	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Beryllium	0.040	J	0.571	0.011	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Calcium	13900	B, E	571	11.4	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Chromium	35.3		1.14	0.103	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Cobalt	5.22	J	5.71	0.057	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Copper	62.1		2.9	0.1	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Iron	23400	B, E	11.4	3.4	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Lead	327	B	1.1	0.1	mg/kg dry	1.00	08/07/09 16:39	AMH	9G31048	CLP-M
Magnesium	2900	B	22.9	1.1	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Manganese	865	B, E	1.7	0.04	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Mercury	0.122		0.105	0.0085	mg/kg dry	1.00	07/31/09 17:22	MXM	9G31042	CLP-M
Nickel	30.5		4.57	0.091	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Potassium	1210		571	5.6	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Silver	0.256	J	1.14	0.080	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Sodium	146	J	571	35.4	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Vanadium	13.8		5.71	0.109	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Zinc	395	E, B	6.9	0.2	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M

DRAFT: General Chemistry Parameters

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Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-06 (DRAFT: SS-06 - Solid) - cont.						Sampled: 07/29/09 11:30		Recvd: 07/30/09 11:30		
<u>DRAFT: General Chemistry Parameters - cont.</u>										
Percent Solids	89		0.010	NR	%	1.00	07/31/09 10:16	KMB/ C	9G30063	Dry Weight
Sample ID: RSG1084-07 (DRAFT: BG-SS-01 - Solid)						Sampled: 07/29/09 11:40		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	11300	E	26.1	1.6	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Arsenic	5.0		1.3	0.3	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Barium	122		26.1	0.034	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Beryllium	0.175	J	0.654	0.013	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Calcium	1920	B	654	13.1	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Chromium	14.0		1.31	0.118	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Cobalt	8.41		6.54	0.065	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Copper	14.6		3.3	0.2	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Iron	19900	B, E	13.1	3.9	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Lead	33.1	B	1.3	0.2	mg/kg dry	1.00	08/07/09 16:44	AMH	9G31048	CLP-M
Magnesium	3060	B	26.1	1.2	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Manganese	577	B, E	2.0	0.04	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Mercury	0.0728	J	0.137	0.0111	mg/kg dry	1.00	07/31/09 17:23	MXM	9G31042	CLP-M
Nickel	19.3		5.23	0.105	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Potassium	986		654	6.4	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Selenium	0.8	J	4.6	0.8	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Vanadium	13.3		6.54	0.124	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Zinc	69.6	B	7.8	0.2	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
<u>DRAFT: General Chemistry Parameters</u>										
Percent Solids	73		0.010	NR	%	1.00	07/31/09 10:18	KMB/ C	9G30063	Dry Weight
Sample ID: RSG1084-08 (DRAFT: BG-SS-02 - Solid)						Sampled: 07/29/09 12:05		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	10700	E	26.7	1.7	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Arsenic	7.6		1.3	0.3	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Barium	104		26.7	0.035	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Beryllium	0.130	J	0.668	0.013	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Calcium	2010	B	668	13.4	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Chromium	13.7		1.34	0.120	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Cobalt	7.72		6.68	0.067	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Copper	14.8		3.3	0.2	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Iron	18800	B, E	13.4	4.0	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Lead	42.3	B	1.3	0.2	mg/kg dry	1.00	08/07/09 16:49	AMH	9G31048	CLP-M
Magnesium	2900	B	26.7	1.2	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Manganese	475	B, E	2.0	0.04	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Mercury	0.0565	J	0.109	0.0088	mg/kg dry	1.00	07/31/09 17:28	MXM	9G31042	CLP-M
Nickel	18.7		5.34	0.107	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Potassium	905		668	6.5	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Vanadium	12.9		6.68	0.127	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Zinc	78.7	B	8.0	0.2	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M

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Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-08 (DRAFT: BG-SS-02 - Solid) - cont.						Sampled: 07/29/09 12:05		Recvd: 07/30/09 11:30		
<u>DRAFT: General Chemistry Parameters</u>										
Percent Solids	81		0.010	NR	%	1.00	07/31/09 10:20	KMB/ C	9G30063	Dry Weight
Sample ID: RSG1084-09 (DRAFT: BG-SS-03 - Solid)						Sampled: 07/29/09 13:05		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	12000	E	24.4	1.5	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Arsenic	7.4		1.2	0.3	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Barium	109		24.4	0.032	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Beryllium	0.176	J	0.611	0.012	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Calcium	1120	B	611	12.2	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Chromium	13.5		1.22	0.110	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Cobalt	7.03		6.11	0.061	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Copper	14.1		3.1	0.1	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Iron	20000	B, E	12.2	3.7	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Lead	70.2	B	1.2	0.1	mg/kg dry	1.00	08/07/09 16:54	AMH	9G31048	CLP-M
Magnesium	2850	B	24.4	1.1	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Manganese	507	B, E	1.8	0.04	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Mercury	0.109	J	0.120	0.0097	mg/kg dry	1.00	07/31/09 17:29	MXM	9G31042	CLP-M
Nickel	17.4		4.89	0.098	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Potassium	753		611	5.9	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Vanadium	14.9		6.11	0.116	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Zinc	91.7	B	7.3	0.2	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
<u>DRAFT: General Chemistry Parameters</u>										
Percent Solids	86		0.010	NR	%	1.00	07/31/09 10:22	KMB/ C	9G30063	Dry Weight
Sample ID: RSG1084-10 (DRAFT: BG-SS-04 - Solid)						Sampled: 07/29/09 13:00		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	9480	E	19.0	1.2	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Arsenic	15.0		1.0	0.2	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Barium	85.9		19.0	0.025	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Beryllium	0.153	J	0.475	0.010	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Calcium	3370	B	475	9.5	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Chromium	12.1		0.951	0.086	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Cobalt	6.80		4.75	0.048	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Copper	25.0		2.4	0.1	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Iron	16800	B, E	9.5	2.9	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Lead	208	B	1.0	0.1	mg/kg dry	1.00	08/07/09 16:59	AMH	9G31048	CLP-M
Magnesium	2580	B	19.0	0.9	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Manganese	492	B, E	1.4	0.03	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Mercury	0.757		0.0938	0.0076	mg/kg dry	1.00	07/31/09 17:31	MXM	9G31042	CLP-M
Nickel	15.6		3.80	0.076	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Potassium	956		475	4.6	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Sodium	78.0	J	475	29.5	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Vanadium	13.2		4.75	0.090	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Zinc	101	E, B	5.7	0.1	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M

TestAmerica Buffalo

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Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-10 (DRAFT: BG-SS-04 - Solid) - cont.						Sampled: 07/29/09 13:00		Recvd: 07/30/09 11:30		
<u>DRAFT: General Chemistry Parameters</u>										
Percent Solids	96		0.010	NR	%	1.00	07/31/09 10:24	KMB/ C	9G30063	Dry Weight
Sample ID: RSG1084-11 (DRAFT: BG-SS-05 - Solid)						Sampled: 07/29/09 13:40		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	14700	E	27.1	1.7	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Arsenic	6.7		1.4	0.3	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Barium	152	E	27.1	0.035	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Beryllium	0.387	J	0.678	0.014	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Calcium	3360	B	678	13.6	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Chromium	15.5		1.36	0.122	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Cobalt	10.5		6.78	0.068	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Copper	13.1		3.4	0.2	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Iron	22500	B, E	13.6	4.1	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Lead	27.6	B	1.4	0.2	mg/kg dry	1.00	08/07/09 17:04	AMH	9G31048	CLP-M
Magnesium	3680	B	27.1	1.3	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Manganese	1030	B, E	2.0	0.04	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Mercury	0.0908	J	0.140	0.0113	mg/kg dry	1.00	07/31/09 17:33	MXM	9G31042	CLP-M
Nickel	22.4		5.43	0.109	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Potassium	1560		678	6.6	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Vanadium	18.5		6.78	0.129	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Zinc	70.9	B	8.1	0.2	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
<u>DRAFT: General Chemistry Parameters</u>										
Percent Solids	68		0.010	NR	%	1.00	07/31/09 10:26	KMB/ C	9G30063	Dry Weight
Sample ID: RSG1084-12 (DRAFT: BG-SS-06 - Solid)						Sampled: 07/29/09 13:50		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	10000	E	19.6	1.2	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Arsenic	7.7		1.0	0.2	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Barium	98.6	E	19.6	0.025	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Beryllium	0.132	J	0.489	0.010	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Calcium	1890	B	489	9.8	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Chromium	13.4		0.979	0.088	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Cobalt	7.41		4.89	0.049	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Copper	13.7		2.4	0.1	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Iron	17900	E, B	9.8	2.9	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Lead	42.7	B	1.0	0.1	mg/kg dry	1.00	08/07/09 17:42	AMH	9G31048	CLP-M
Magnesium	2750	B	19.6	0.9	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Manganese	467	B, E	1.5	0.03	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Mercury	0.0551	J	0.0962	0.0078	mg/kg dry	1.00	07/31/09 17:34	MXM	9G31042	CLP-M
Nickel	17.7		3.92	0.078	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Potassium	764		489	4.8	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Vanadium	12.1		4.89	0.093	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Zinc	78.2	B	5.9	0.1	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
<u>DRAFT: General Chemistry Parameters</u>										

TestAmerica Buffalo

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Malcolm Pirnie - Clifton Park, NY
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Clifton Park, NY 12065

Work Order: RSG1084

Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Executive Summary - Detections

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-12 (DRAFT: BG-SS-06 - Solid) - cont.					Sampled: 07/29/09 13:50			Recvd: 07/30/09 11:30		
<u>DRAFT: General Chemistry Parameters - cont.</u>										
Percent Solids	96		0.010	NR	%	1.00	07/31/09 10:28	KMB/ C	9G30063	Dry Weight

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084

Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Sample Summary

Sample Identification	Lab Number	Client Matrix	Date/Time Sampled	Date/Time Received	Sample Qualifiers
DRAFT: SS-01	RSG1084-01	Solid	07/29/09 10:20	07/30/09 11:30	
DRAFT: SS-02	RSG1084-02	Solid	07/29/09 10:30	07/30/09 11:30	
DRAFT: SS-03	RSG1084-03	Solid	07/29/09 10:40	07/30/09 11:30	
DRAFT: SS-04	RSG1084-04	Solid	07/29/09 10:55	07/30/09 11:30	
DRAFT: SS-05	RSG1084-05	Solid	07/29/09 11:13	07/30/09 11:30	
DRAFT: SS-06	RSG1084-06	Solid	07/29/09 11:30	07/30/09 11:30	
DRAFT: BG-SS-01	RSG1084-07	Solid	07/29/09 11:40	07/30/09 11:30	
DRAFT: BG-SS-02	RSG1084-08	Solid	07/29/09 12:05	07/30/09 11:30	
DRAFT: BG-SS-03	RSG1084-09	Solid	07/29/09 13:05	07/30/09 11:30	
DRAFT: BG-SS-04	RSG1084-10	Solid	07/29/09 13:00	07/30/09 11:30	
DRAFT: BG-SS-05	RSG1084-11	Solid	07/29/09 13:40	07/30/09 11:30	
DRAFT: BG-SS-06	RSG1084-12	Solid	07/29/09 13:50	07/30/09 11:30	

Malcolm Pirnie - Clifton Park, NY
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Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-01 (DRAFT: SS-01 - Solid)						Sampled: 07/29/09 10:20		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	4760		20.6	1.3	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Antimony	ND		6.2	0.6	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Arsenic	2.8		1.0	0.2	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Barium	62.5		20.6	0.027	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Beryllium	0.022	J	0.515	0.010	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Cadmium	ND		0.515	0.041	mg/kg dry	1.00	08/07/09 15:42	AMH	9G31048	CLP-M
Calcium	12800	B, E	515	10.3	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Chromium	25.7		1.03	0.093	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Cobalt	2.46	J	5.15	0.052	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Copper	33.2		2.6	0.1	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Iron	23400	E, B	10.3	3.1	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Lead	101	B	1.0	0.1	mg/kg dry	1.00	08/07/09 15:42	AMH	9G31048	CLP-M
Magnesium	1460	B	20.6	1.0	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Manganese	973	B, E	1.5	0.03	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Mercury	0.0402	J	0.101	0.0082	mg/kg dry	1.00	07/31/09 17:09	MXM	9G31042	CLP-M
Nickel	23.6		4.12	0.082	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Potassium	523		515	5.0	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Selenium	ND		3.6	0.6	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Silver	ND		1.03	0.072	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Sodium	133	J	515	31.9	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Thallium	ND		2.6	0.3	mg/kg dry	1.00	08/07/09 15:42	AMH	9G31048	CLP-M
Vanadium	5.46		5.15	0.098	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
Zinc	173	E, B	6.2	0.2	mg/kg dry	1.00	08/06/09 22:13	AMH	9G31048	CLP-M
<u>DRAFT: General Chemistry Parameters</u>										
Percent Solids	93		0.010	NR	%	1.00	07/31/09 10:06	KMB/ C	9G30063	Dry Weight

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
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Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-02 (DRAFT: SS-02 - Solid)						Sampled: 07/29/09 10:30		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	9880	E	23.3	1.5	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Antimony	ND		7.0	0.6	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Arsenic	5.2		1.2	0.3	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Barium	48.7		23.3	0.030	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Beryllium	0.137	J	0.582	0.012	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Cadmium	ND		0.582	0.047	mg/kg dry	1.00	08/07/09 15:47	AMH	9G31048	CLP-M
Calcium	34500	B, E	582	11.6	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Chromium	12.1		1.16	0.105	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Cobalt	7.04		5.82	0.058	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Copper	14.3		2.9	0.1	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Iron	18000	B, E	11.6	3.5	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Lead	10.8	B	1.2	0.1	mg/kg dry	1.00	08/07/09 15:47	AMH	9G31048	CLP-M
Magnesium	18000	B, E	23.3	1.1	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Manganese	556	B, E	1.7	0.04	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Mercury	0.0360	J	0.106	0.0086	mg/kg dry	1.00	07/31/09 17:15	MXM	9G31042	CLP-M
Nickel	16.8		4.66	0.093	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Potassium	813		582	5.7	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Selenium	ND		4.1	0.7	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Silver	ND		1.16	0.082	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Sodium	46.7	J	582	36.1	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Thallium	ND		2.9	0.3	mg/kg dry	1.00	08/07/09 15:47	AMH	9G31048	CLP-M
Vanadium	14.1		5.82	0.111	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M
Zinc	49.3	B	7.0	0.2	mg/kg dry	1.00	08/06/09 22:18	AMH	9G31048	CLP-M

DRAFT: General Chemistry Parameters

Percent Solids	94		0.010	NR	%	1.00	07/31/09 10:08	KMB/ C	9G30063	Dry Weight

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-03 (DRAFT: SS-03 - Solid)						Sampled: 07/29/09 10:40		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	5650	E	20.4	1.3	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Antimony	ND		6.1	0.6	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Arsenic	3.7		1.0	0.2	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Barium	40.9		20.4	0.026	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Beryllium	0.068	J	0.509	0.010	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Cadmium	ND		0.509	0.041	mg/kg dry	1.00	08/07/09 15:52	AMH	9G31048	CLP-M
Calcium	64500	D08, B	5090	102	mg/kg dry	10.0	08/07/09 17:47	AMH	9G31048	CLP-M
Chromium	8.45		1.02	0.092	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Cobalt	4.93	J	5.09	0.051	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Copper	22.2		2.5	0.1	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Iron	13500	B, E	10.2	3.1	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Lead	26.3	B	1.0	0.1	mg/kg dry	1.00	08/07/09 15:52	AMH	9G31048	CLP-M
Magnesium	9250	B, E	20.4	0.9	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Manganese	424	B, E	1.5	0.03	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Mercury	0.0199	J	0.102	0.0083	mg/kg dry	1.00	07/31/09 17:17	MXM	9G31042	CLP-M
Nickel	13.3		4.07	0.081	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Potassium	777		509	5.0	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Selenium	ND		3.6	0.6	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Silver	ND		1.02	0.071	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Sodium	62.5	J	509	31.6	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Thallium	ND		2.5	0.3	mg/kg dry	1.00	08/07/09 15:52	AMH	9G31048	CLP-M
Vanadium	8.95		5.09	0.097	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M
Zinc	121	E, B	6.1	0.2	mg/kg dry	1.00	08/06/09 22:23	AMH	9G31048	CLP-M

DRAFT: General Chemistry Parameters

Percent Solids	94		0.010	NR	%	1.00	07/31/09 10:10	KMB/ C	9G30063	Dry Weight

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-04 (DRAFT: SS-04 - Solid)						Sampled: 07/29/09 10:55		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	9780	E	25.0	1.6	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Antimony	ND		7.5	0.7	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Arsenic	5.3		1.2	0.3	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Barium	53.0		25.0	0.032	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Beryllium	0.049	J	0.624	0.012	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Cadmium	ND		0.624	0.050	mg/kg dry	1.00	08/07/09 16:18	AMH	9G31048	CLP-M
Calcium	20200	B, E	624	12.5	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Chromium	19.0		1.25	0.112	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Cobalt	7.82		6.24	0.062	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Copper	24.4		3.1	0.1	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Iron	22100	B, E	12.5	3.7	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Lead	21.6	B	1.2	0.1	mg/kg dry	1.00	08/07/09 16:18	AMH	9G31048	CLP-M
Magnesium	6310	B, E	25.0	1.2	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Manganese	571	B, E	1.9	0.04	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Mercury	0.0362	J	0.113	0.0092	mg/kg dry	1.00	07/31/09 17:18	MXM	9G31042	CLP-M
Nickel	25.0		4.99	0.100	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Potassium	1040		624	6.1	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Selenium	ND		4.4	0.7	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Silver	ND		1.25	0.087	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Sodium	ND		624	38.7	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Thallium	ND		3.1	0.4	mg/kg dry	1.00	08/07/09 16:18	AMH	9G31048	CLP-M
Vanadium	14.4		6.24	0.119	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
Zinc	87.5	B	7.5	0.2	mg/kg dry	1.00	08/06/09 22:48	AMH	9G31048	CLP-M
<u>DRAFT: General Chemistry Parameters</u>										
Percent Solids	87		0.010	NR	%	1.00	07/31/09 10:12	KMB/ C	9G30063	Dry Weight

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-05 (DRAFT: SS-05 - Solid)						Sampled: 07/29/09 11:13		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	6750	E	21.0	1.3	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Antimony	ND		6.3	0.6	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Arsenic	4.1		1.0	0.2	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Barium	80.3		21.0	0.027	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Beryllium	0.126	J	0.525	0.010	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Cadmium	ND		0.525	0.042	mg/kg dry	1.00	08/07/09 16:34	AMH	9G31048	CLP-M
Calcium	80200	D08, B	2620	52.5	mg/kg dry	5.00	08/07/09 18:12	AMH	9G31048	CLP-M
Chromium	15.1		1.05	0.094	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Cobalt	5.59		5.25	0.052	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Copper	37.7		2.6	0.1	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Iron	14000	B, E	10.5	3.1	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Lead	163	B	1.0	0.1	mg/kg dry	1.00	08/07/09 16:34	AMH	9G31048	CLP-M
Magnesium	8800	B, E	21.0	1.0	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Manganese	708	B, E	1.6	0.03	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Mercury	0.107		0.106	0.0086	mg/kg dry	1.00	07/31/09 17:20	MXM	9G31042	CLP-M
Nickel	16.5		4.20	0.084	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Potassium	1500		525	5.1	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Selenium	ND		3.7	0.6	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Silver	ND		1.05	0.073	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Sodium	94.8	J	525	32.5	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Thallium	ND		2.6	0.3	mg/kg dry	1.00	08/07/09 16:34	AMH	9G31048	CLP-M
Vanadium	16.2		5.25	0.100	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M
Zinc	127	E, B	6.3	0.2	mg/kg dry	1.00	08/06/09 23:05	AMH	9G31048	CLP-M

DRAFT: General Chemistry Parameters

Percent Solids	89		0.010	NR	%	1.00	07/31/09 10:14	KMB/ C	9G30063	Dry Weight

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-06 (DRAFT: SS-06 - Solid)						Sampled: 07/29/09 11:30		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	7640	E	22.9	1.4	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Antimony	0.6	J	6.9	0.6	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Arsenic	8.4		1.1	0.3	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Barium	93.9		22.9	0.030	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Beryllium	0.040	J	0.571	0.011	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Cadmium	ND		0.571	0.046	mg/kg dry	1.00	08/07/09 16:39	AMH	9G31048	CLP-M
Calcium	13900	B, E	571	11.4	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Chromium	35.3		1.14	0.103	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Cobalt	5.22	J	5.71	0.057	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Copper	62.1		2.9	0.1	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Iron	23400	B, E	11.4	3.4	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Lead	327	B	1.1	0.1	mg/kg dry	1.00	08/07/09 16:39	AMH	9G31048	CLP-M
Magnesium	2900	B	22.9	1.1	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Manganese	865	B, E	1.7	0.04	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Mercury	0.122		0.105	0.0085	mg/kg dry	1.00	07/31/09 17:22	MXM	9G31042	CLP-M
Nickel	30.5		4.57	0.091	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Potassium	1210		571	5.6	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Selenium	ND		4.0	0.7	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Silver	0.256	J	1.14	0.080	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Sodium	146	J	571	35.4	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Thallium	ND		2.9	0.3	mg/kg dry	1.00	08/07/09 16:39	AMH	9G31048	CLP-M
Vanadium	13.8		5.71	0.109	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M
Zinc	395	E, B	6.9	0.2	mg/kg dry	1.00	08/06/09 23:10	AMH	9G31048	CLP-M

DRAFT: General Chemistry Parameters

Percent Solids	89		0.010	NR	%	1.00	07/31/09 10:16	KMB/ C	9G30063	Dry Weight

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-07 (DRAFT: BG-SS-01 - Solid)						Sampled: 07/29/09 11:40		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	11300	E	26.1	1.6	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Antimony	ND		7.8	0.7	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Arsenic	5.0		1.3	0.3	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Barium	122		26.1	0.034	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Beryllium	0.175	J	0.654	0.013	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Cadmium	ND		0.654	0.052	mg/kg dry	1.00	08/07/09 16:44	AMH	9G31048	CLP-M
Calcium	1920	B	654	13.1	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Chromium	14.0		1.31	0.118	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Cobalt	8.41		6.54	0.065	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Copper	14.6		3.3	0.2	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Iron	19900	B, E	13.1	3.9	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Lead	33.1	B	1.3	0.2	mg/kg dry	1.00	08/07/09 16:44	AMH	9G31048	CLP-M
Magnesium	3060	B	26.1	1.2	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Manganese	577	B, E	2.0	0.04	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Mercury	0.0728	J	0.137	0.0111	mg/kg dry	1.00	07/31/09 17:23	MXM	9G31042	CLP-M
Nickel	19.3		5.23	0.105	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Potassium	986		654	6.4	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Selenium	0.8	J	4.6	0.8	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Silver	ND		1.31	0.092	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Sodium	ND		654	40.5	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Thallium	ND		3.3	0.4	mg/kg dry	1.00	08/07/09 16:44	AMH	9G31048	CLP-M
Vanadium	13.3		6.54	0.124	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M
Zinc	69.6	B	7.8	0.2	mg/kg dry	1.00	08/06/09 23:15	AMH	9G31048	CLP-M

DRAFT: General Chemistry Parameters

Percent Solids	73		0.010	NR	%	1.00	07/31/09 10:18	KMB/ C	9G30063	Dry Weight

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-08 (DRAFT: BG-SS-02 - Solid)						Sampled: 07/29/09 12:05		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	10700	E	26.7	1.7	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Antimony	ND		8.0	0.7	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Arsenic	7.6		1.3	0.3	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Barium	104		26.7	0.035	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Beryllium	0.130	J	0.668	0.013	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Cadmium	ND		0.668	0.053	mg/kg dry	1.00	08/07/09 16:49	AMH	9G31048	CLP-M
Calcium	2010	B	668	13.4	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Chromium	13.7		1.34	0.120	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Cobalt	7.72		6.68	0.067	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Copper	14.8		3.3	0.2	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Iron	18800	B, E	13.4	4.0	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Lead	42.3	B	1.3	0.2	mg/kg dry	1.00	08/07/09 16:49	AMH	9G31048	CLP-M
Magnesium	2900	B	26.7	1.2	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Manganese	475	B, E	2.0	0.04	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Mercury	0.0565	J	0.109	0.0088	mg/kg dry	1.00	07/31/09 17:28	MXM	9G31042	CLP-M
Nickel	18.7		5.34	0.107	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Potassium	905		668	6.5	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Selenium	ND		4.7	0.8	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Silver	ND		1.34	0.093	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Sodium	ND		668	41.4	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Thallium	ND		3.3	0.4	mg/kg dry	1.00	08/07/09 16:49	AMH	9G31048	CLP-M
Vanadium	12.9		6.68	0.127	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
Zinc	78.7	B	8.0	0.2	mg/kg dry	1.00	08/06/09 23:20	AMH	9G31048	CLP-M
<u>DRAFT: General Chemistry Parameters</u>										
Percent Solids	81		0.010	NR	%	1.00	07/31/09 10:20	KMB/ C	9G30063	Dry Weight

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-09 (DRAFT: BG-SS-03 - Solid)						Sampled: 07/29/09 13:05		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	12000	E	24.4	1.5	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Antimony	ND		7.3	0.7	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Arsenic	7.4		1.2	0.3	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Barium	109		24.4	0.032	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Beryllium	0.176	J	0.611	0.012	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Cadmium	ND	D02	3.06	0.244	mg/kg dry	5.00	08/11/09 14:23	AMH	9G31048	CLP-M
Calcium	1120	B	611	12.2	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Chromium	13.5		1.22	0.110	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Cobalt	7.03		6.11	0.061	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Copper	14.1		3.1	0.1	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Iron	20000	B, E	12.2	3.7	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Lead	70.2	B	1.2	0.1	mg/kg dry	1.00	08/07/09 16:54	AMH	9G31048	CLP-M
Magnesium	2850	B	24.4	1.1	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Manganese	507	B, E	1.8	0.04	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Mercury	0.109	J	0.120	0.0097	mg/kg dry	1.00	07/31/09 17:29	MXM	9G31042	CLP-M
Nickel	17.4		4.89	0.098	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Potassium	753		611	5.9	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Selenium	ND		4.3	0.7	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Silver	ND		1.22	0.086	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Sodium	ND		611	37.9	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Thallium	ND		3.1	0.4	mg/kg dry	1.00	08/07/09 16:54	AMH	9G31048	CLP-M
Vanadium	14.9		6.11	0.116	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
Zinc	91.7	B	7.3	0.2	mg/kg dry	1.00	08/06/09 23:25	AMH	9G31048	CLP-M
<u>DRAFT: General Chemistry Parameters</u>										
Percent Solids	86		0.010	NR	%	1.00	07/31/09 10:22	KMB/ C	9G30063	Dry Weight

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-10 (DRAFT: BG-SS-04 - Solid)						Sampled: 07/29/09 13:00		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	9480	E	19.0	1.2	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Antimony	ND		5.7	0.5	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Arsenic	15.0		1.0	0.2	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Barium	85.9		19.0	0.025	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Beryllium	0.153	J	0.475	0.010	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Cadmium	ND		0.475	0.038	mg/kg dry	1.00	08/07/09 16:59	AMH	9G31048	CLP-M
Calcium	3370	B	475	9.5	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Chromium	12.1		0.951	0.086	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Cobalt	6.80		4.75	0.048	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Copper	25.0		2.4	0.1	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Iron	16800	B, E	9.5	2.9	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Lead	208	B	1.0	0.1	mg/kg dry	1.00	08/07/09 16:59	AMH	9G31048	CLP-M
Magnesium	2580	B	19.0	0.9	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Manganese	492	B, E	1.4	0.03	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Mercury	0.757		0.0938	0.0076	mg/kg dry	1.00	07/31/09 17:31	MXM	9G31042	CLP-M
Nickel	15.6		3.80	0.076	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Potassium	956		475	4.6	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Selenium	ND		3.3	0.6	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Silver	ND		0.951	0.067	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Sodium	78.0	J	475	29.5	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Thallium	ND		2.4	0.3	mg/kg dry	1.00	08/07/09 16:59	AMH	9G31048	CLP-M
Vanadium	13.2		4.75	0.090	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M
Zinc	101	E, B	5.7	0.1	mg/kg dry	1.00	08/06/09 23:30	AMH	9G31048	CLP-M

DRAFT: General Chemistry Parameters

Percent Solids	96		0.010	NR	%	1.00	07/31/09 10:24	KMB/ C	9G30063	Dry Weight

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-11 (DRAFT: BG-SS-05 - Solid)						Sampled: 07/29/09 13:40		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	14700	E	27.1	1.7	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Antimony	ND		8.1	0.7	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Arsenic	6.7		1.4	0.3	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Barium	152	E	27.1	0.035	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Beryllium	0.387	J	0.678	0.014	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Cadmium	ND	D02	3.39	0.271	mg/kg dry	5.00	08/11/09 14:28	AMH	9G31048	CLP-M
Calcium	3360	B	678	13.6	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Chromium	15.5		1.36	0.122	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Cobalt	10.5		6.78	0.068	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Copper	13.1		3.4	0.2	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Iron	22500	B, E	13.6	4.1	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Lead	27.6	B	1.4	0.2	mg/kg dry	1.00	08/07/09 17:04	AMH	9G31048	CLP-M
Magnesium	3680	B	27.1	1.3	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Manganese	1030	B, E	2.0	0.04	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Mercury	0.0908	J	0.140	0.0113	mg/kg dry	1.00	07/31/09 17:33	MXM	9G31042	CLP-M
Nickel	22.4		5.43	0.109	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Potassium	1560		678	6.6	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Selenium	ND		4.7	0.8	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Silver	ND		1.36	0.095	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Sodium	ND		678	42.1	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Thallium	ND		3.4	0.4	mg/kg dry	1.00	08/07/09 17:04	AMH	9G31048	CLP-M
Vanadium	18.5		6.78	0.129	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
Zinc	70.9	B	8.1	0.2	mg/kg dry	1.00	08/06/09 23:35	AMH	9G31048	CLP-M
<u>DRAFT: General Chemistry Parameters</u>										
Percent Solids	68		0.010	NR	%	1.00	07/31/09 10:26	KMB/ C	9G30063	Dry Weight

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSG1084-12 (DRAFT: BG-SS-06 - Solid)						Sampled: 07/29/09 13:50		Recvd: 07/30/09 11:30		
<u>DRAFT: CLP Metals</u>										
Aluminum	10000	E	19.6	1.2	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Antimony	ND		5.9	0.5	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Arsenic	7.7		1.0	0.2	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Barium	98.6	E	19.6	0.025	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Beryllium	0.132	J	0.489	0.010	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Cadmium	ND		0.489	0.039	mg/kg dry	1.00	08/07/09 17:42	AMH	9G31048	CLP-M
Calcium	1890	B	489	9.8	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Chromium	13.4		0.979	0.088	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Cobalt	7.41		4.89	0.049	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Copper	13.7		2.4	0.1	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Iron	17900	E, B	9.8	2.9	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Lead	42.7	B	1.0	0.1	mg/kg dry	1.00	08/07/09 17:42	AMH	9G31048	CLP-M
Magnesium	2750	B	19.6	0.9	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Manganese	467	B, E	1.5	0.03	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Mercury	0.0551	J	0.0962	0.0078	mg/kg dry	1.00	07/31/09 17:34	MXM	9G31042	CLP-M
Nickel	17.7		3.92	0.078	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Potassium	764		489	4.8	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Selenium	ND		3.4	0.6	mg/kg dry	1.00	08/11/09 14:33	AMH	9G31048	CLP-M
Silver	ND		0.979	0.069	mg/kg dry	1.00	08/07/09 17:42	AMH	9G31048	CLP-M
Sodium	ND		489	30.3	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Thallium	ND		2.4	0.3	mg/kg dry	1.00	08/07/09 17:42	AMH	9G31048	CLP-M
Vanadium	12.1		4.89	0.093	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
Zinc	78.2	B	5.9	0.1	mg/kg dry	1.00	08/07/09 00:13	AMH	9G31048	CLP-M
<u>DRAFT: General Chemistry Parameters</u>										
Percent Solids	96		0.010	NR	%	1.00	07/31/09 10:28	KMB/ C	9G30063	Dry Weight

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084

Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracte	Units	Extract Volume	Units	Date Prepared	Lab Tech	Extraction Method
DRAFT: CLP Metals									
CLP-M	9G31048	RSG1084-02	0.46	g	50.00	mL	08/04/09 09:15	KCW	3050B
CLP-M	9G31048	RSG1084-04	0.46	g	50.00	mL	08/04/09 09:15	KCW	3050B
CLP-M	9G31048	RSG1084-08	0.46	g	50.00	mL	08/04/09 09:15	KCW	3050B
CLP-M	9G31048	RSG1084-09	0.47	g	50.00	mL	08/04/09 09:15	KCW	3050B
CLP-M	9G31048	RSG1084-06	0.49	g	50.00	mL	08/04/09 09:15	KCW	3050B
CLP-M	9G31048	RSG1084-03	0.52	g	50.00	mL	08/04/09 09:15	KCW	3050B
CLP-M	9G31048	RSG1084-01	0.52	g	50.00	mL	08/04/09 09:15	KCW	3050B
CLP-M	9G31048	RSG1084-07	0.53	g	50.00	mL	08/04/09 09:15	KCW	3050B
CLP-M	9G31048	RSG1084-12	0.53	g	50.00	mL	08/04/09 09:15	KCW	3050B
CLP-M	9G31048	RSG1084-05	0.54	g	50.00	mL	08/04/09 09:15	KCW	3050B
CLP-M	9G31048	RSG1084-11	0.54	g	50.00	mL	08/04/09 09:15	KCW	3050B
CLP-M	9G31048	RSG1084-10	0.55	g	50.00	mL	08/04/09 09:15	KCW	3050B
CLP-M	9G31042	RSG1084-09	0.19	g	50.00	mL	07/31/09 15:00	MXM	CLP-M_Hg_Prep
CLP-M	9G31042	RSG1084-07	0.20	g	50.00	mL	07/31/09 15:00	MXM	CLP-M_Hg_Prep
CLP-M	9G31042	RSG1084-02	0.20	g	50.00	mL	07/31/09 15:00	MXM	CLP-M_Hg_Prep
CLP-M	9G31042	RSG1084-04	0.20	g	50.00	mL	07/31/09 15:00	MXM	CLP-M_Hg_Prep
CLP-M	9G31042	RSG1084-03	0.21	g	50.00	mL	07/31/09 15:00	MXM	CLP-M_Hg_Prep
CLP-M	9G31042	RSG1084-11	0.21	g	50.00	mL	07/31/09 15:00	MXM	CLP-M_Hg_Prep
CLP-M	9G31042	RSG1084-05	0.21	g	50.00	mL	07/31/09 15:00	MXM	CLP-M_Hg_Prep
CLP-M	9G31042	RSG1084-01	0.21	g	50.00	mL	07/31/09 15:00	MXM	CLP-M_Hg_Prep
CLP-M	9G31042	RSG1084-06	0.21	g	50.00	mL	07/31/09 15:00	MXM	CLP-M_Hg_Prep
CLP-M	9G31042	RSG1084-12	0.22	g	50.00	mL	07/31/09 15:00	MXM	CLP-M_Hg_Prep
CLP-M	9G31042	RSG1084-10	0.22	g	50.00	mL	07/31/09 15:00	MXM	CLP-M_Hg_Prep
CLP-M	9G31042	RSG1084-08	0.23	g	50.00	mL	07/31/09 15:00	MXM	CLP-M_Hg_Prep
DRAFT: General Chemistry Parameters									
Dry Weight	9G30063	RSG1084-01	10.00	g	10.00	g	07/30/09 21:00	KMB	Dry Weight
Dry Weight	9G30063	RSG1084-02	10.00	g	10.00	g	07/30/09 21:00	KMB	Dry Weight
Dry Weight	9G30063	RSG1084-03	10.00	g	10.00	g	07/30/09 21:00	KMB	Dry Weight
Dry Weight	9G30063	RSG1084-04	10.00	g	10.00	g	07/30/09 21:00	KMB	Dry Weight
Dry Weight	9G30063	RSG1084-05	10.00	g	10.00	g	07/30/09 21:00	KMB	Dry Weight
Dry Weight	9G30063	RSG1084-06	10.00	g	10.00	g	07/30/09 21:00	KMB	Dry Weight
Dry Weight	9G30063	RSG1084-07	10.00	g	10.00	g	07/30/09 21:00	KMB	Dry Weight
Dry Weight	9G30063	RSG1084-08	10.00	g	10.00	g	07/30/09 21:00	KMB	Dry Weight
Dry Weight	9G30063	RSG1084-09	10.00	g	10.00	g	07/30/09 21:00	KMB	Dry Weight
Dry Weight	9G30063	RSG1084-10	10.00	g	10.00	g	07/30/09 21:00	KMB	Dry Weight
Dry Weight	9G30063	RSG1084-11	10.00	g	10.00	g	07/30/09 21:00	KMB	Dry Weight

TestAmerica Buffalo

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Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084

Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracte	Units	Extract Volume	Units	Date Prepared	Lab Tech	Extraction Method
Dry Weight	9G30063	RSG1084-12	10.00	g	10.00	g	07/30/09 21:00	KMB	Dry Weight

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers

DRAFT: CLP Metals

Blank Analyzed: 07/31/09 (Lab Number:9G31042-BLK1, Batch: 9G31042)

Mercury			0.0995	0.0081	mg/kg wet	ND					

Duplicate Analyzed: 07/31/09 (Lab Number:9G31042-DUP1, Batch: 9G31042)

QC Source Sample: RSG1084-01

Mercury	0.0402		0.102	0.0083	mg/kg dry	0.0289			33	20	R4,J

Matrix Spike Analyzed: 07/31/09 (Lab Number:9G31042-MS1, Batch: 9G31042)

QC Source Sample: RSG1084-01

Mercury	0.0402	0.258	0.103	0.0083	mg/kg dry	0.307	103	75-125			

Reference Analyzed: 07/31/09 (Lab Number:9G31042-SRM1, Batch: 9G31042)

Mercury		1.77	0.176	0.0142	mg/kg wet	1.54	87	68.4-132.2			

DRAFT: CLP Metals

Blank Analyzed: 08/06/09 (Lab Number:9G31048-BLK1, Batch: 9G31048)

Aluminum			20.0	1.3	mg/kg wet	ND					
Antimony			6.0	0.5	mg/kg wet	ND					
Arsenic			1.0	0.2	mg/kg wet	ND					
Barium			20.0	0.026	mg/kg wet	ND					
Beryllium			0.500	0.010	mg/kg wet	ND					
Cadmium			0.500	0.040	mg/kg wet	ND					
Calcium			500	10.0	mg/kg wet	13.1					B,J
Chromium			1.00	0.090	mg/kg wet	ND					
Cobalt			5.00	0.050	mg/kg wet	ND					
Copper			2.5	0.1	mg/kg wet	ND					
Iron			10.0	3.0	mg/kg wet	5.9					B,J
Lead			1.0	0.1	mg/kg wet	0.1					B,J
Magnesium			20.0	0.9	mg/kg wet	1.8					B,J
Manganese			1.5	0.03	mg/kg wet	0.07					B,J
Nickel			4.00	0.080	mg/kg wet	ND					
Potassium			500	4.9	mg/kg wet	ND					
Selenium			3.5	0.6	mg/kg wet	ND					
Silver			1.00	0.070	mg/kg wet	ND					
Sodium			500	31.0	mg/kg wet	ND					
Thallium			2.5	0.3	mg/kg wet	0.9					B,J
Vanadium			5.00	0.095	mg/kg wet	ND					
Zinc			6.0	0.2	mg/kg wet	0.5					B,J

Duplicate Analyzed: 08/06/09 (Lab Number:9G31048-DUP1, Batch: 9G31048)

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Malcolm Pirnie - Clifton Park, NY
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Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers
<u>DRAFT: CLP Metals</u>											
Duplicate Analyzed: 08/06/09 (Lab Number:9G31048-DUP1, Batch: 9G31048)											
QC Source Sample: RSG1084-03											
Aluminum	5650		21.0	1.3	mg/kg dry	6190			9	20	E
Antimony	ND		6.3	0.6	mg/kg dry	ND				20	
Arsenic	3.67		1.1	0.2	mg/kg dry	3.99			9	20	
Barium	40.9		21.0	0.027	mg/kg dry	44.3			8	20	
Beryllium	0.0682		0.525	0.011	mg/kg dry	0.0882			26	20	R3,J
Cadmium	ND		0.525	0.042	mg/kg dry	ND				20	
Calcium	64500		5250	105	mg/kg dry	65300			1	20	D08,B,E
Chromium	8.45		1.05	0.095	mg/kg dry	9.79			15	20	
Cobalt	4.93		5.25	0.053	mg/kg dry	5.37			9	20	
Copper	22.2		2.6	0.1	mg/kg dry	24.3			9	20	
Iron	13500		10.5	3.2	mg/kg dry	14000			3	20	B,E
Lead	26.3		1.1	0.1	mg/kg dry	30.1			13	20	B
Magnesium	9250		21.0	1.0	mg/kg dry	9810			6	20	B,E
Manganese	424		1.6	0.03	mg/kg dry	527			22	20	R3,B,E
Nickel	13.3		4.20	0.084	mg/kg dry	13.9			4	20	
Potassium	777		525	5.1	mg/kg dry	811			4	20	
Selenium	ND		3.7	0.6	mg/kg dry	ND				20	
Silver	ND		1.05	0.074	mg/kg dry	ND				20	
Sodium	62.5		525	32.6	mg/kg dry	67.7			8	20	J
Thallium	ND		2.6	0.3	mg/kg dry	ND				20	
Vanadium	8.95		5.25	0.100	mg/kg dry	9.65			7	20	
Zinc	121		6.3	0.2	mg/kg dry	81.7			39	20	R3,B

Matrix Spike Analyzed: 08/06/09 (Lab Number:9G31048-MS1, Batch: 9G31048)

QC Source Sample: RSG1084-03

Aluminum	5650	424	21.2	1.3	mg/kg dry	6940	304	75-125			MHA,E
Antimony	ND	21.2	6.4	0.6	mg/kg dry	7.65	36	75-125			M1
Arsenic	3.67	8.48	1.1	0.2	mg/kg dry	11.5	92	75-125			
Barium	40.9	424	21.2	0.028	mg/kg dry	440	94	75-125			E
Beryllium	0.0682	10.6	0.530	0.011	mg/kg dry	9.85	92	75-125			
Cadmium	ND	10.6	0.530	0.042	mg/kg dry	0.0934	1	75-125			M1,J
Calcium	64500		5300	106	mg/kg dry	62400		75-125			D08,B,E
Chromium	8.45	42.4	1.06	0.095	mg/kg dry	48.0	93	75-125			
Cobalt	4.93	106	5.30	0.053	mg/kg dry	103	93	75-125			
Copper	22.2	53.0	2.7	0.1	mg/kg dry	72.3	95	75-125			
Iron	13500	212	10.6	3.2	mg/kg dry	15100	726	75-125			MHA,B,E
Lead	26.3	4.24	1.1	0.1	mg/kg dry	48.7	527	75-125			MHA,B

TestAmerica Buffalo

10 Hazelwood Drive Amherst, NY 14228 tel 716-691-2600 fax 716-691-7991

www.testamericainc.com

Malcolm Pirnie - Clifton Park, NY
885 Route 16, Suite 210
Clifton Park, NY 12065

Work Order: RSG1084
Project: Tioga Castings
Project Number: [none]

Received: 07/30/09
Reported: 08/13/09 17:02

LABORATORY QC DATA

Analyte	Source Result	Spike Level	RL	MDL	Units	Result	% REC	% REC Limits	% RPD	RPD Limit	Data Qualifiers
<u>DRAFT: CLP Metals</u>											
Matrix Spike Analyzed: 08/06/09 (Lab Number:9G31048-MS1, Batch: 9G31048)											
QC Source Sample: RSG1084-03											
Magnesium	9250		21.2	1.0	mg/kg dry	10100		75-125			B,E
Manganese	424	106	1.6	0.03	mg/kg dry	634	198	75-125			MHA,B,E
Nickel	13.3	106	4.24	0.085	mg/kg dry	108	89	75-125			E
Potassium	777		530	5.2	mg/kg dry	798		75-125			
Selenium	ND	10.6	3.7	0.6	mg/kg dry	9.18	87	75-125			
Silver	ND	10.6	1.06	0.074	mg/kg dry	9.80	92	75-125			
Sodium	62.5		530	32.9	mg/kg dry	64.4		75-125			J
Thallium	ND	10.6	2.7	0.3	mg/kg dry	8.46	80	75-125			B
Vanadium	8.95	106	5.30	0.101	mg/kg dry	107	92	75-125			E
Zinc	121	106	6.4	0.2	mg/kg dry	173	49	75-125			M1,B,E

Chain of Custody Record

Connecticut
128 Long Hill Cross Road
Shelton, CT 06484
Tel: 203-929-8140
Fax: 203-929-8142

TAL-0015 (05/08)

Client Malcolm Pirnie, Inc.		Project Manager Jeremy Wyckoff		Date 7/29/09		Chain of Custody Number 19989	
Address 855 Route 146, Suite 210		Telephone Number (Area Code)/Fax Number/e-mail address 518-250-7300/7301/jwyckoff@pirnie.com		Field Telephone Number 607-434-3926		Page 1 of 2	
City Clifton Park		State NY		Zip Code 12065		Analysis (Attach list if more space is needed)	
Project Name and Location (State) Tioga Castings		Site Contact J. Wyckoff		Lab Contact J. Bohuskas		Comments	
Contract/Purchase Order/Project No. 026636Z		Sample Disposal ☐ Return To Client ☒ Dispose By Lab		If no may be assessed / samples are assessed longer than 1 month			
		Major		Containers & Preservatives			
		Analysis		Other			
		Collection Date		Collection Time			
Field Sample I.D. (Containers for each sample may be combined on one line)		Collection Date		Collection Time			
SS-01		7/29/09		1020		X	
SS-02				1030			
SS-03				1040			
SS-04				1055			
SS-05				1113			
SS-06				1130			
SS-07 BG-SS-01				1140			
BG-SS-02				1205			
BG-SS-03				1305			
BG-SS-04				1300			
BG-SS-05				1340			
Turn Around Time Required (business days) Report / EDD Requirements		State Regulatory QC Requirements					
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☒ 10 Days ☐ 15 Days ☐ Other		1. Received By Shawn Wyckoff		Date 7/29/09		Time 1430	
		2. Received By		Date		Time	
3. Received By		Date		Time		Cooler Temp	
Comments		Passed Rad. Screen (Lab Use Only)		☐ Yes ☐ No			

2.0⁰¹

DISTRIBUTION: WHITE - Stays with the Samples; CANARY - Returned to Client with Report; PINK - Field Copy

Appendix D

IC/EC Certification Form





Enclosure 1
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form



Site No. 7-54-012

Site Details

Box 1

Site Name: Tioga Castings Site

Site Address: Foundry Street

Zip Code: 13827

City/Town: Owego

County: Tioga

Current Use: Landfill

Intended Use: Landfill

Verification of Site Details

Box 2

YES NO

1. Are the Site Details above, correct?	☒	☐
If NO, are changes handwritten above or included on a separate sheet?	☐	
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment since the initial/last certification?	☐	☒
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
3. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property since the initial/last certification?	☐	☒
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
4. Has a change-of-use occurred since the initial/last certification?	☐	☒
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	
5. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), has any new information revealed that assumptions made in the Qualitative Exposure Assessment for offsite contamination are no longer valid ?	☐	☐
If YES, is the new information or evidence that new information has been previously submitted included with this Certification?	☐	
6. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), are the assumptions in the Qualitative Exposure Assessment still valid (must be certified every five years) ?	☐	☐
If NO, are changes in the assessment included with this certification?	☐	

SITE NO.

Box 3

Description of Institutional Control

1. NYSDEC notification of all ground-intrusive activities.
 2. Restriction on all ground-intrusive activities.
 3. Groundwater monitoring.
 4. Periodic review of remedy in accordance with NYSDEC Periodic Review requirements.
 5. Considerations for site and groundwater use restrictions.
- Deficiencies: None.

Control Certification

YES	NO
XX	

Box 4

Description of Engineering Control

1. Low-permeability cap and cover landfill completed in 1997 in accordance with the ROD.
 2. Landfill perimeter fence with secure gate.
- Deficiencies: None.

Control Certification

YES	NO
XX	

Control Certification Statement

For each Institutional or Engineering control listed above, I certify by checking "Yes" that all of the following statements are true:

- (a) the Institutional Control and/or Engineering Control employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;
- (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;
- (c) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and
- (d) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control.
- (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

**IC/EC CERTIFICATIONS
SITE NO.**

Box 5

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 2 and/or 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Payson Long, Environmental Engineer at New York State Department of Environmental Conservation,
625 Broadway 12th Floor, Albany, New York 12233-7013,
print name print business address

am certifying as Remdiedial Party (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner or Remedial Party Rendering Certification

Date

Box 6

QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) SIGNATURE

I certify that all information and statements in Box 4 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Bruce Nelson, CPG at Malcolm Pirnie, Inc., 855 Route 146, Suite 210
Clifton Park, New York 12065,
print name print business address

am certifying as a Qualified Environmental Professional for the Remedial Party

(Owner or Remedial Party) for the Site named in the Site Details Section of this form.

Signature of Qualified Environmental Professional, for
the Owner or Remedial Party, Rendering
Certification

Stamp (if Required)

Date