

## Summary of Available Data for LOU 60 Acid Drain System

Tronox Facility – Henderson, Nevada

- Name of LOU:** Acid Drain System
- Goal of Closure:**
- Closure for commercial/industrial future use.
- Site Investigation Area:**
- Size: Approximately 21,100 linear feet (serving the Tronox property).
  - Location: Southern portion of Site.
  - Current Status/Features: The Acid Drain System is currently inactive and inlet drains have been plugged.
  - In Area I, LOU 60 constitutes approximately 1,100 linear feet of the 21,100-foot-long Acid Drain System.
- Description:**
- The Acid Drain System consisted of a network of pipes, sumps and treatment areas used to collect waste acid effluent from throughout the BMI complex in the 1940's (see attached figure) [Ref. 3].
  - Acid-resistant materials were used to construct components of the Acid Drain System [Ref. 3].
- Circa 1941 or 1942 to November 1945:
- The Acid Drain System was utilized until 1945, during production of magnesium oxide at the BMI complex [Ref. 3].
  - The Acid Drain System received acid effluent from various sources in the BMI Industrial Complex including the following [Ref. 3]:
    - the chlorine plant (located west of Tronox on Olin Chemical LLC property);
    - the preparation building (present day location is within Chemstar area – see attached figure);
    - the flux plant (present-day location unknown) and neutralization area (area presently occupied by Tronox Manganese Leach Plant); and
    - all 10 chlorination buildings and associated electrolysis buildings (Units 1 through 10).
  - The System had a single outfall point located west of the Acid Effluent Neutralization Plant (present-day location is north of the Tronox Steam Plant) [Ref. 3].
  - Acid effluent was originally neutralized (using waste caustic liquor from the chlorine plant) prior to disposal in the Trade Effluent Settling Ponds (LOU 1) [Ref. 3].
  - From the Acid Effluent Neutralization Plant, effluent was transported along a surface conveyance (e.g., a flume) for disposal in the Trade Effluent Settling Ponds [Ref. 3].

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- Acid neutralization was discontinued when the pipeline carrying caustic liquor to the Acid Neutralization Plant disintegrated [Ref. 3].
- Since then, un-treated acid waste was apparently discharged directly to the Trade Effluent Settling Ponds (LOU 1) [Ref. 3].

### 1945 – 1976:

- Use of the Acid Drain System after 1945 is not well documented [Ref. 1, 3].
- The Acid Drain System was used by several companies to discharge various wastes from 1945 to 1976 [Ref. 3].
- Segments of the Acid Drain System may have carried effluent from the basements of Units 1 through 5. As a result, this segment of drain system could have carried effluents from State Industries, a Timet shop (location unknown), Jones Chemical, a Stauffer office building, and U.S. Lime (Chemstar) [Ref. 3].
- Another segment of the drain system provided drainage from the Unit 6 manganese dioxide process and various portions of Timet [Ref. 3].
- Between 1945 and 1990, Unit 5 was used to produce sodium perchlorate. Process waste streams may have been discharged from Unit 5 into the acid drain system [Ref. 3].
- Magnesium perchlorate was produced in Unit 5 between 1969 and 1976. Process waste streams were discharged from this process through the acid drain system [Ref. 3].
- Review of a July 11, 1950 aerial photograph indicates that the flume that conveyed waste from the Acid Effluent Neutralization Plant to the Trade Effluent Settling ponds had been removed. Discharges from the Acid Drain System, after this conveyance was disconnected, would have followed surface drainage patterns and entered the Beta Ditch [Ref. 3].

### Post 1976:

- A March 16, 1984 letter from KMCC to NDEP indicates the KMCC (Tronox) Acid Drain System was plugged many years ago, and that basement drains in Units 4 and 5 were being sealed with concrete in March 1984 [Ref. 3].

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<b>Process Waste Streams Associated with LOU 60</b>	<b>Known or Potential Constituents Associated with LOU 60</b>
<p>Process Waste Streams from magnesium production during U.S. Government activities [Ref. 3]:</p> <ul style="list-style-type: none"> <li>- Caustic liquor</li> <li>- Acid process liquors</li> <li>- Magnesium chloride solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Metals (Magnesium)</li> <li>• Sodium hydroxide</li> <li>• Hydrochloric acid solutions</li> <li>• Chlorides</li> </ul>
<p>Acid spills from within an acid storage tank [Ref. 3]</p>	<ul style="list-style-type: none"> <li>• Inorganic acids (hydrochloric or sulfuric acid)</li> <li>• Wet chemistry analytes</li> </ul>
<p>Effluent from drains in basements of Units 1 through 5 prior to 1984 [Ref. 3].</p>	<ul style="list-style-type: none"> <li>• Metals (hexavalent chromium, magnesium, boron)</li> <li>• Phosphates</li> <li>• Chlorides</li> <li>• Perchlorate</li> <li>• Ammonia</li> <li>• Chlorate</li> <li>• Wet chemistry analytes</li> </ul>
<p>Unknown effluents from off-site facilities (Timet, Jones Chemical, Chemstar, Stauffer) were discharged into the acid drain system from 1945 through 1976.</p>	<ul style="list-style-type: none"> <li>• Metals</li> <li>• Hexavalent chromium</li> <li>• Sulfates</li> <li>• Wet chemistry analytes</li> <li>• VOC</li> <li>• SVOC</li> <li>• TPH</li> <li>• Organochlorine pesticides</li> </ul>
<p align="center"><b>Process Waste Streams Associated with LOU 43 (Unit 4) &amp; LOU 61 (Unit 5) That May Have Been Conveyed by LOU 60</b></p>	
<p>Process liquor, spillage and washwater collected in basements of Units 4 and 5 [Ref. 3].</p>	<ul style="list-style-type: none"> <li>• Metals (magnesium, boron)</li> <li>• Hexavalent chromium</li> <li>• Chlorate</li> <li>• Perchlorate</li> <li>• Ammonia</li> <li>• Wet chemistry analytes</li> </ul>
<p>Effluent solutions from chlorates, perchlorates and magnesium metal processes in Unit 4 between 1945 and 1983 [Ref. 3].</p>	<ul style="list-style-type: none"> <li>• Metals</li> <li>• Hexavalent chromium</li> <li>• Perchlorate</li> <li>• Ammonia</li> <li>• Chlorate</li> <li>• Wet chemistry analytes</li> </ul>

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<p>Prior to 1976 – Brine rinse and wash-water from water softeners from sodium perchlorate process in Unit 5 [Ref. 3].</p>	<ul style="list-style-type: none"> <li>• Metals</li> <li>• Wet chemistry analytes</li> </ul>
<p>Unit 5 cooling tower blowdown and reboiler wastes discharged between 1972 to prior to January 1976 [Ref. 3].</p>	<ul style="list-style-type: none"> <li>• Metals (manganese)</li> <li>• Hexavalent chromium</li> <li>• Hexametaphosphates</li> <li>• Neutralized sulfuric acid</li> <li>• Sodium</li> <li>• Sulfite and borate ions</li> </ul>
<p>Condensate from various steam traps, and wash-water from trenches along north wall of cell floor in Unit 5 [Ref. 3].</p>	<ul style="list-style-type: none"> <li>• Metals (magnesium)</li> <li>• Hexavalent chromium</li> <li>• Chlorides</li> <li>• Phosphates</li> <li>• Perchlorate</li> <li>• Chlorate</li> <li>• Ammonia</li> <li>• Wet chemistry analytes</li> </ul>
<p>Boron process neutralization tank waste solution from Unit 5 [Ref. 3]</p>	<ul style="list-style-type: none"> <li>• Metals (boron)</li> <li>• Magnesium sulfate</li> <li>• Neutralized sulfuric acid</li> <li>• Neutralized boric acid</li> </ul>
<p>Halide wall solid and screen filter wastes from Unit 5 were sluiced and discharged to the BMI ponds via the acid drain system prior to January 1976 [Ref. 3].</p>	<ul style="list-style-type: none"> <li>• Solid silicate scale</li> </ul>
<p><b>Process Waste Streams Associated with LOU 62 (State Industries Inc. Site) That May Have Been Conveyed by LOU 60</b></p>	
<p>Pickling process wastes from State Industries process line and surface impoundment that was periodically drained for pond maintenance [Ref. 3].</p>	<ul style="list-style-type: none"> <li>• Metals (iron, total chromium, barium, arsenic, cadmium, lead, selenium)</li> <li>• Sulfuric acid</li> <li>• Borax</li> <li>• Soda ash</li> <li>• Phosphates</li> <li>• pickle liquor (FeSO<sub>4</sub>)</li> <li>• TURCO II HTC Soap</li> <li>• Wet chemistry analytes</li> </ul>
<p>Neutralized and un-neutralized waste cyanide solution [Ref. 3]</p>	<ul style="list-style-type: none"> <li>• Cyanide</li> </ul>

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<b>Process Waste Streams Associated with LOU 44 (Unit 6) That May Have Been Conveyed by LOU 60</b>	
Solutions from basement of Unit 6 [Ref. 3].	<ul style="list-style-type: none"> <li>• Metals (hexavalent chromium)</li> <li>• Manganese sulfates</li> </ul>
Ammonium Perchlorate Process waste including filter slurry [Ref. 3].	<ul style="list-style-type: none"> <li>• Metals (chromium)</li> <li>• Ammonia</li> <li>• Perchlorate</li> <li>• Wet chemistry analytes</li> </ul>
<b>Process Waste Streams Associated with LOU 4 (Hardesty Chemical Site) That May Have Been Conveyed by LOU 60</b>	
Effluents from Hardesty Chemical Site [Ref. 3].	<ul style="list-style-type: none"> <li>• Metals</li> <li>• Wet chemistry analytes</li> <li>• VOC</li> <li>• SVOC</li> <li>• TPH</li> <li>• Organochlorine pesticides</li> </ul>

**Adjacent or Overlapping LOUs:**

- The Acid Drain System was a conveyance feature that carried effluent from the following LOUs:
  - LOU 4 – (former) Hardesty Chemical Site
  - LOU 43 & 61 – Unit 4 and Unit 5 Basements
  - LOU 44 – Unit 6 Basement
  - LOU 62 – (former) State Industries Inc. Site.
- With the exception of LOUs, 4, 43 & 61, and 62, known or potential chemical classes associated with adjacent or overlapping LOUs are consistent with those listed for LOU 60; therefore, no additional chemical classes have been added to the Phase B Analytical Plan for LOU 60.
- For detailed information on these LOUs, please refer to the specific LOU data package.

**LOUs Potentially Affecting Soils in LOU 60:**

- LOU 4 – (former) Hardesty Chemical Company: Process waste streams from LOU 4 may have been discharged to the Acid Drain System between 1946 and 1947. As a result, the analytical plan for samples collected from LOU 60 will include analyses for VOCs, SVOCs, TPH, and OCPs.
- LOU 43 & 61 – Unit 4 and Unit 5 Basements: Process waste streams from these LOUs may have been discharged to the Acid Drain System prior to 1984. As a result, the analytical plan for samples collected from LOU 60 will include analyses for perchlorate.

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- LOU 62 – State Industries Inc. Site: Process waste streams from LOU 62 may have been discharged to the Acid Drain System [Ref. 3]. As a result, the analytical plan for samples collected from LOU 60 will include analyses for cyanide.
- LOU 44 – Unit 6 Basement: Process waste from the manganese dioxide production in Unit 6 was discharged to the Acid Drain System prior to 1976. Known or potential chemical classes associated with LOU 44 are consistent with those listed for LOU 60; therefore, no additional chemical classes have been added to the Phase B Analytical Plan for LOU 60
- For further information please refer to the LOU 4, 43 & 61, 62, and 44 data packages.

### Known or Potential Chemical Classes:

- Metals
- Hexavalent chromium
- Cyanide (associated with LOU 62)
- Perchlorate (associated with LOU 43 & 61)
- Wet chemistry analytes
- VOC (associated with LOU 4)
- SVOC (associated with LOU 4)
- TPH (associated with LOU 4)
- Organochlorine pesticides (associated with LOU 4)

### Known or Potential Release Mechanisms:

- Releases to soil, surface water, or groundwater could have been waste constituent pathways associated with the acid drain system [Ref. 3].
- Releases to soil could have occurred due to breakage of liner pipes or from leakage at pipe joints and connections (no releases documented) [Ref. 3].
- If releases occurred on an on-going basis, migration to groundwater was possible (no releases documented) [Ref. 3].
- If constituents were present in waters conveyed by surface drainage system, they could have discharged to surface water of Beta Ditch during infrequent flow events of that channel [Ref. 3].

### Results of Historical Sampling:

- None known to have been specifically conducted for LOU 60.

### Did Historical Samples Address Potential Release?

- No

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### Summary of Phase A SAI:

#### Soil

- Phase A Investigation borings SA03, SA04, SA05, SA06, SA07, and SA08 are located adjacent or in close proximity to the pipelines for LOU 60 and these borings were specifically sampled to evaluate LOU 60 [Ref. 2].

#### Groundwater

- Phase A Investigation wells M-92, M97, M13, M-12A, M-11, and GWSA08 are located near the pipelines for LOU 60 and were sampled specifically to evaluate this LOU [Ref. 2].

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Chemical classes detected in Phase A soil borings SA03, SA04, SA05, SA06, SA07, SA08, and SA13:

- Metals
- Hexavalent chromium
- Perchlorate
- Wet chemistry analytes
- VOCs
- Organochlorine pesticides (SA22 only)
- Dioxins/furans
- Radionuclides
- Asbestos (SA23 only)

As a result of the Phase A data, the Phase B analytical plan for samples collected from LOU 1 will be expanded to include analyses for dioxins/furans, radionuclides, and asbestos.

- Analytical results for soil and groundwater from the Phase A sampling event are summarized in the attached tables: "LOU 60 Tables 1 through 5 and Tables 8 through 23" (see attached) [Ref. 2].

### Are Phase A Sample Locations in "Worst Case" Areas?

- No

### Is Phase B Investigation Recommended?

- Yes

### Proposed Phase B Soil Investigation/Rationale:

Only a relatively short segment of the conveyance flume of the Acid Drain System and a portion of the Acid Drain System entering the site from the west is present in Area I (see attached Figure).

- The Phase B investigation of this segment of LOU 60 consists of collecting soil samples from seven locations along the conveyance route in Area I. These boring are SA134, SA82, SA189, RSAL4, SA166, SA176, and SA182.

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- All seven borings along with the analytical program to evaluate soil samples from LOU 60 area listed on **Table A – Soil Sampling and Analytical Plan for LOU 60.**
- Soil sample locations consist of both judgmental and randomly-placed locations.
- Judgmental sample locations:
  - Are designed to evaluate soil for known or potential chemical classes associated with LOU 60, based on the known process waste streams.
  - Six (6) of the seven sample locations are judgmental locations and consist of soil borings SA134, SA82, SA189, SA166, SA176, and SA182.
- Random sample grid locations:
  - Are designed to assess whether unknown constituents associated with LOU 60 are present.
  - One soil boring (RSAL4) is a randomly-placed sample location.

#### Proposed Chemical Classes for Phase B Investigation for soils:

Both Judgmental and Random sample locations will be analyzed for the following constituents:

- Metals (Phase A list)
- Hexavalent chromium
- Perchlorate
- Wet chemistry analytes
- VOCs
- SVOCs
- TPH-DRO/ORO
- Organochlorine pesticides
- Dioxins/furans
- Radionuclides
- Asbestos

#### Proposed Phase B Groundwater Investigation/Rationale:

- No wells associated with this segment of LOU 60 in Area I are proposed for sampling because LOU 60 consisted of a ground surface flume that was constructed of acid resistant materials and was only in place for a short time period (1942 to no later than 1949). Moreover, spills or leaks (if any) of acid effluent would have been rapidly neutralized upon contact with the surrounding soil due to the naturally-occurring basic nature (i.e., high calcium carbonate content) of the soil.

#### Proposed Phase B Constituents List for Groundwater:

- NA



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### Proposed Phase B Soil Gas Investigation/Rationale:

In Area I soil gas samples will be collected from one (1) location to evaluate area conditions for the presence of vapor-phase VOCs in the vadose zone.

- SG87 is located to evaluate VOCs associated with LOU 60 and is a companion to soil boring SA189.
- SG62 is located to evaluate VOCs associated with LOU 60 and is a companion to soil boring RSAO3.

Details of the soil gas sampling program are contained in the NDEP-approved (March 26, 2008) Soil Gas Survey Work Plan, Tronox LLC, Henderson, Nevada, dated March 20, 2008.

### Proposed Phase B Constituents List for Soil Gas:

- VOCs (EPA TO-15)

### References:

1. ENSR, 2005, Conceptual Site Model, Kerr-McGee Facility, Henderson, Nevada, ENSR, Camarillo, California, 04020-023-130, February 2005 and August 2005.
2. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
3. Kleinfelder, 1993, Environmental Conditions Assessment, Kerr-McGee Chemical Corporation, Henderson, Nevada Facility, April 15, 1993 (Final).

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**LOU Map**



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**Sampling and Analytical Plan for LOU 60:**

Table A – Soil Sampling and Analytical Plan for LOU 60

Note: There is no Table B for LOU 60

**Table A**  
**Soil Sampling and Analytical Plan for LOU 60**  
Phase B Source Area Investigation Work Plan  
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Grid Location	LOU Number	Phase B Boring No.	Sample ID Number	Sample Depths (ft, bgs)	Perchlorate (EPA 314.0)	Metals (EPA 6020)	Hex Cr (EPA 7199)	TPH-DRO/ORO (EPA 8015B)	TPH-GRO (EPA 8015B)	VOCs <sup>1</sup> (EPA 8260B)	Wet Chemistry <sup>2</sup>	OCPs <sup>3</sup> (8081A)	SVOCs <sup>4</sup> (EPA 8270C)	Radio-nuclides <sup>5</sup>	Dioxins/Furans <sup>6</sup>	Formaldehyde Titrant (EPA 8315A)	Asbestos EPA/540/R-97/028	Location Description and Characterized Area Rationale		
<b>Borings are organized by grid location as shown on Plate A - Starting point is on the northwestern most grid in Area 1 (K-3) and ending with the southeastern most grid in Area I (O-4).</b>																				
K-3	2, 32, 60	SA134	SA134-0.0	0.0													X	Boring located to evaluate LOU 2 (Open Area South of Trade Effluent Settling Ponds).		
K-3	2, 32, 60		SA134-0.5	0.5	X	X	X	X		X	X	X	X	X	X					
K-3	2, 32, 60		SA134-10	10	X	X	X	X		X	X	Hold	X	X						
K-3	2, 32, 60		SA134-20	20	X	X	X	X		X	X		X	X						
K-3	2, 32, 60		SA134030	30	X	X	X	X		X	X		X	X						
L-3	2, 32, 60	SA82	SA82-0.0	0.0													X	Boring located to evaluate LOU 2 (open area south of Trade Effluent Disposal Ponds) and to evaluate pipeline route for LOU 60 (Acid Drain System).		
L-3	2, 32, 60		SA82-0.5	0.5	X	X	X			X	X	X		X	X					
L-3	2, 32, 60		SA82-10	10	X	X	X			X	X	Hold		X						
L-3	2, 32, 60		SA82-20	20	X	X	X			X	X			X						
L-3	2, 32, 60		SA82-30	30	X	X	X		X	X			X							
L-4	32, 60	SA189	SA189-0.0	0.0													X	Boring located to evaluate former Acid Drain System (LOU 60) pipeline/flume route.		
L-4	32, 60		SA189-0.5	0.5	X	X	X	X		X	X	X	X	X	X					
L-4	32, 60		SA189-10	10	X	X	X	X		X	X	Hold	X	X						
L-4	2, 32	RSAL4	RSAL4-0.0	0.0													X	Boring located to evaluate former Acid Drain System (LOU 60) pipeline/flume route and as a step-out to LOU 32 (Chromium and Perchlorate Groundwater Remediation Unit).		
L-4	2, 32		RSAL4-0.5	0.5	X	X	X	X		X	X	X	X	X	X					
L-4	2, 32		RSAL4-10	10	X	X	X	X		X	X	Hold	X	X						
L-4	2, 32		RSAL4-20	20	X	X	X	X		X	X		X	X						
L-4	2, 32		RSAL4-25	25	X	X	X	X		X	X		X	X						
O-2	35	SA166	SA166-0.0	0.0													X	Boring located along west boundary of Site to evaluate LOU 35 (former Truck Emptying/Dumping Site), LOU 60 (Acid Drain System), and potential offsite VOC sources from the west. PCBs and TPH-GRO were detected in Phase A soil boring SA09.		
O-2	35		SA166-0.5	0.5	X	X	X	X	X	X	X	X	X	X	X					
O-2	35		SA166-10	10	X	X	X	X	X	X	X	Hold	X	X						
O-2	35		SA166-20	20	X	X	X	X	X	X	X		X	X						
O-2	35		SA166-30	30	X	X	X	X	X	X	X		X	X						
O-2	35		SA166-40	40	X	X	X	X	X	X		X	X							
O-3	60, 64	SA176	SA176-0.0	0.0													X	Boring located to evaluate Acid Drain System (LOU 60) pipeline.		
O-3	60, 64		SA176-0.5	0.5	X	X	X	X		X	X	X	X	X	X					
O-3	60, 64		SA176-10	10	X	X	X	X		X	X	Hold	X	X						
O-4	64	SA182	SA182-0.0	0.0													X	Boring located to evaluate soil stain in northern portion of LOU 64 (Koch Materials Asphalt Batch Plant).		
O-4	64		SA182-0.5	0.5	X	X	X	X		X	X	X	X	X	X					
O-4	64		SA182-10	10	X	X	X	X		X	X	Hold	X	X						
O-4	64		SA182-20	20	X	X	X	X		X	X		X	X						
O-4	64		SA182-30	30	X	X	X	X		X	X		X	X						
O-4	64		SA182-37	37	X	X	X	X		X	X		X	X						
<b>Number of Borings:</b>		<b>7</b>	--	--																
<b>Number of Samples:</b>		--	--	--	<b>26</b>	<b>26</b>	<b>26</b>	<b>22</b>	<b>5</b>	<b>26</b>	<b>26</b>	<b>7</b>	<b>22</b>	<b>26</b>	<b>7</b>	<b>0</b>	<b>7</b>			

- Notes:**
- X Sample will be collected and analyzed.
  - No sample collected under Phase B sampling program.
  - TPH-DRO/ORO Total petroleum hydrocarbons - Diesel-Range Organics/Oil-Range Organics.
  - 1. Samples for VOC analysis will be preserved in the field using sodium bisulfate (or DI water) and methanol preservatives per EPA Method 5035.
  - 2. Includes wet chemistry parameters listed on Table 1 of the Phase B Source Area Work Plan.
  - 3. Organochlorine Pesticides (includes analysis for hexachlorobenzene).
  - 4. Semi-volatile Organic Compounds
  - 5. Radionuclides consists of alpha spec reporting for Thorium-230/232, Uranium 234/235, Uranium-238, and beta spec for Radium-226/228 (per NDEP).
  - 6. Dioxins/furans: 90% will be tested by immunoassay, 10% analyzed by HRGC/HRMS in the laboratory.

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**Soil and Groundwater Characterization Data**

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LOU-specific analytes identified include:

- Metals
- Hexavalent chromium
- Wet chemistry analytes
- Perchlorate
- Acids
- Cyanide
- Caustics

The tables in **BOLD** below present historical data associated with these LOU specific analytes.

**LOU 60 Table 1 – Soil Characterization Data – Wet Chemistry**

**LOU 60 Table 2 – Groundwater Characterization Data – Wet Chemistry**

LOU 60 Table 3 – Soil Characterization Data – Dioxins and Dibenzofurans

**LOU 60 Table 4 – Soil Characterization Data – Metals**

**LOU 60 Table 5 – Groundwater Characterization Data – Metals**

LOU 60 Table 6 – Groundwater Characterization Data – Routine Monitoring

LOU 60 Table 7 – Soil Characterization Data – Organochlorine Pesticides (OCP)

LOU 60 Table 8 – Groundwater Characterization Data – Organochlorine Pesticides (OCP)

LOU 60 Table 9 – Soil Characterization Data – Organophosphorus Pesticides (OPP)

LOU 60 Table 10 – Groundwater Characterization Data – Organophosphorus Pesticides (OPP)

LOU 60 Table 11 – Soil Characterization Data – PCBs

LOU 60 Table 12 – Groundwater Characterization Data – PCBs

**LOU 60 Table 13 – Soil Characterization Data – Perchlorate**

**LOU 60 Table 14 – Groundwater Characterization Data – Perchlorate**

LOU 60 Table 15 – Soil Characterization Data – Radionuclides

LOU 60 Table 16 – Groundwater Characterization Data – Radionuclides

LOU 60 Table 17 – Soil Characterization Data – SVOC

LOU 60 Table 18 – Groundwater Characterization Data – SVOC

LOU 60 Table 19 – Soil Characteristic Data - TPH and Fuel Alcohols

LOU 60 Table 20 – Soil Characterization Data – VOCs

LOU 60 Table 21 – Groundwater Characterization Data – VOCs

LOU 60 Table 22 – Soil Characterization Data – Long Asbestos Fibers in Respirable Soil Fraction

Notes for Phase A Data Tables

**LOU 60 Table 1  
Soil Characterization Data - Wet Chemistry**

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Sampling Program	Ph A <sup>1</sup>	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	
Boring No.	SA3	SA3	SA3	SA3	SA3	SA3	SA4	SA4	SA4	SA4	SA4	SA4	
Sample ID	SA3-0.5	SA3-0.5D	SA3-10	SA3-20	SA3-30	SA3-40	SA4-0.5	SA4-10	SA4-20	SA4-30	SA4-40		
Sample Depth (ft)	0.5	0.5	10	20	30	40	0.5	10	20	30	40		
Sample Date	11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	
Wet Chemistry Parameter	PRG <sup>2</sup> mg/kg												Units
Percent moisture	--	<b>6.4</b>	<b>6.3</b>	<b>6.3</b>	<b>8.9</b>	<b>22.4</b>	<b>32.1</b>	<b>9.0</b>	<b>6.0</b>	<b>8.5</b>	<b>12.3</b>	<b>5.9</b>	percent
Alkalinity (as CaCO <sub>3</sub> )	--	<b>324</b>	<b>269</b>	<b>162</b>	<b>134</b>	64.4 U	<b>451</b>	<b>476</b>	<b>437</b>	<b>595</b>	<b>278</b>	<b>77.5</b>	mg/kg
Bicarbonate	--	<b>675</b>	<b>296</b>	<b>916</b>	<b>476</b>	<b>139</b>	<b>1670</b>	<b>1480</b>	<b>1630</b>	<b>1740</b>	<b>723</b>	<b>149</b>	mg/kg
Total Alkalinity	--	<b>999</b>	<b>566</b>	<b>1080</b>	<b>611</b>	<b>139</b>	<b>2120</b>	<b>1950</b>	<b>2070</b>	<b>2330</b>	<b>1000</b>	<b>227</b>	mg/kg
Ammonia (as N)	--	5.3 UJ	5.3 UJ	5.3 UJ	5.5 UJ	6.4 UJ	7.4 UJ	5.5 UJ	5.3 UJ	5.5 UJ	5.7 UJ	5.3 UJ	mg/kg
Cyanide	1.20E+04	R	R	R	R	R	R	R	R	R	R	R	mg/kg
MBAS	--	2.2 U	2.2 U	2.1 U	2.2 U	2.8 U	3.1 U	2.2 U	2.1 U	2.2 U	<b>2.7 J</b>	<b>2.8 J</b>	mg/kg
pH (solid)	--	<b>8.8</b>	<b>8.8</b>	<b>8.6</b>	<b>8.8</b>	<b>7.7</b>	<b>8.5</b>	<b>10</b>	<b>7.8</b>	<b>9.8</b>	<b>9.4</b>	<b>8.4</b>	none
Bromide	--	2.7 U	2.7 U	2.7 U	2.7 U	<b>3.4</b>	3.7 U	2.7 U	2.7 U	<b>92.0</b>	<b>1.4 J</b>	<b>2.0 J</b>	mg/kg
Chlorate	--	5.3 U	5.3 U	5.3 U	<b>17.6 J-</b>	6.4 UJ	7.4 UJ	5.5 UJ	5.3 U	5.5 U	<b>91.3 J-</b>	<b>119 J-</b>	mg/kg
Chloride	--	<b>0.90 J</b>	<b>1.0 J</b>	<b>13.2</b>	<b>130</b>	<b>1240</b>	<b>120</b>	<b>2.8</b>	<b>4.4</b>	<b>172</b>	<b>46.5</b>	<b>71.2</b>	mg/kg
Nitrate (as N)	--	0.21 U	0.21 U	<b>2.6</b>	<b>8.2</b>	<b>12.7</b>	<b>1.6</b>	<b>0.53 J+</b>	<b>0.35 J+</b>	<b>1.0 J+</b>	<b>1.4 J+</b>	<b>1.5 J+</b>	mg/kg
Nitrite	--	0.21 U	0.21 U	0.21 U	<b>1.7 J</b>	<b>11.9</b>	29.5 U	<b>0.047 J</b>	<b>0.34</b>	0.22 U	<b>0.059 J</b>	<b>0.14 J</b>	mg/kg
ortho-Phosphate	--	5.3 U	5.3 U	<b>1.4 J</b>	5.5 U	6.4 U	7.4 U	<b>2.7 J</b>	<b>3.1 J</b>	5.5 U	5.7 U	5.3 U	mg/kg
Sulfate	--	<b>7.2</b>	<b>8.6</b>	<b>156</b>	<b>267</b>	<b>573</b>	<b>325</b>	<b>19.5</b>	<b>24.9</b>	<b>87.4</b>	<b>733</b>	<b>177</b>	mg/kg
Total Organic Carbon	--	<b>2780</b>	<b>2680</b>	<b>3720</b>	<b>8300</b>	<b>15900</b>	<b>6600</b>	<b>9550</b>	<b>7100</b>	<b>7500</b>	<b>1600</b>	<b>7800</b>	mg/kg



**LOU 60 Table 1 (continued)**  
**Soil Characterization Data - Wet Chemistry**

Acid Drain System  
Tronox Facility - Henderson, Nevada

Sampling Program	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	
Boring No.	SA5	SA5	SA5	SA5	SA5	SA6	SA6	SA6	SA6	SA6	SA6	SA6	
Sample ID	SA5-0.5	SA5-10	SA5-20	SA5-30	SA5-37	SA6-0.5	SA6-0.5D	SA6-10	SA6-20	SA6-30	SA6-35		
Sample Depth (ft)	0.5	10	20	30	37	0.5	0.5	10	20	30	35		
Sample Date	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	
Wet Chemistry Parameter	PRG <sup>2</sup> mg/kg												Units
Percent moisture	--	22.6	14.2	15.2	7.6	39.9	5.8	13.8	7.6	7.7	5.0	32.6	percent
Alkalinity (as CaCO <sub>3</sub> )	--	561	58.2 U	90.7	54.1 U	83.2 U	637 J	352 J	109 J	131 J	52.6 UJ	148 J	mg/kg
Bicarbonate	--	1400	861	363	301	411	2970 J	1410 J	530 J	690 J	292 J	387 J	mg/kg
Total Alkalinity	--	1960	874	454	314	430	3610 J	1760 J	640 J	821 J	304 J	536 J	mg/kg
Ammonia (as N)	--	6.5 UJ	5.8 UJ	5.9 UJ	5.4 UJ	8.3 UJ	5.3 UJ	5.8 UJ	5.4 UJ	5.4 UJ	5.3 UJ	7.4 UJ	mg/kg
Cyanide	1.20E+04	R	R	R	R	R	R	R	R	R	R	R	mg/kg
MBAS	--	2.4 J	2.5 J	2.1 U	2.5 J	4.6 J	2.4 J	2.2 U	2.2 U	2.2 U	2.2 U	3.1 U	mg/kg
pH (solid)	--	10.0	7.9	8.3	8.3	7.8	9.6	9.5	8.4	9.0	8.1	7.9	none
Bromide	--	3.2 U	29.1 U	29.5 U	27.1 U	41.6 U	2.7 U	2.9 U	2.7 U	2.7 U	26.3 U	37.1 U	mg/kg
Chlorate	--	14.4 J-	642 J-	1310 J-	429 J-	8.3 UJ	5.3 UJ	5.8 UJ	2.8 J-	3.0 J-	86.9 J-	207 J-	mg/kg
Chloride	--	13.0	377	1560	1070	5600	5.1	8.5	9.8	13.9	77.7	414	mg/kg
Nitrate (as N)	--	0.26 U	4.3 J+	20.2 J+	21.0	68.2	0.48 J+	0.27 J+	1.6 J+	2.3 J+	19.6	26.5	mg/kg
Nitrite	--	0.21 J	2.3 U	2.4 U	2.2 U	3.3 U	0.21 U	0.23 U	0.32	0.93	2.1 U	3.0 U	mg/kg
ortho-Phosphate	--	6.5 U	5.8 U	5.9 U	5.4 U	166 U	5.3 U	5.8 U	3.9 J	1.6 J	79.6 J	7.4 U	mg/kg
Sulfate	--	77.0	479	168	1030	804	115	147	175	214	7710	599	mg/kg
Total Organic Carbon	--	15200	6000	8300	6600	11200	9100	4300	6420	7220	900 J	9150	mg/kg

**LOU 60 Table 1 (continued)**  
**Soil Characterization Data - Wet Chemistry**

Acid Drain System  
Tronox Facility - Henderson, Nevada

Sampling Program	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	
Boring No.	SA7	SA7	SA7	SA7	SA7	SA7	SA7	SA8	SA8	SA8	SA8	SA8	
Sample ID	SA7-0.5	SA7-10	SA7-10D	SA7-20	SA7-30	SA7-34	SA8-0.5	SA8-10	SA8-20	SA8-30	SA8-37		
Sample Depth (ft)	0.5	10	10	20	30	34	0.5	10	20	30	37		
Sample Date	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006		
Wet Chemistry Parameter	PRG <sup>2</sup> mg/kg												Units
Percent moisture	--	<b>5.3</b>	<b>5.6</b>	<b>7.1</b>	<b>7.6</b>	<b>6.3</b>	<b>23.3</b>	<b>4.8</b>	<b>6.3</b>	<b>4.7</b>	<b>8.4</b>	<b>26.6</b>	percent
Alkalinity (as CaCO <sub>3</sub> )	--	<b>68.9</b>	53.0 U	<b>70.2</b>	<b>174</b>	<b>158</b>	65.2 U	<b>134</b>	53.4 U	52.4 U	<b>279</b>	68.1 U	mg/kg
Bicarbonate	--	<b>178</b>	<b>212</b>	<b>193</b>	<b>131</b>	<b>340</b>	<b>290</b>	<b>358</b>	<b>247</b>	<b>293</b>	<b>1050</b>	<b>157</b>	mg/kg
Total Alkalinity	--	<b>247</b>	<b>249</b>	<b>263</b>	<b>305</b>	<b>497</b>	<b>319</b>	<b>492</b>	<b>281</b>	<b>333</b>	<b>1330</b>	<b>157</b>	mg/kg
Ammonia (as N)	--	5.3 UJ	5.3 UJ	5.4 UJ	5.4 UJ	5.3 UJ	6.5 UJ	5.3 UJ	5.3 UJ	5.2 UJ	5.5 UJ	6.8 UJ	mg/kg
Cyanide	1.20E+04	R	R	R	R	R	R	R	R	R	R	R	mg/kg
MBAS	--	4.2 U	4.4 U	4.4 U	4.4 U	4.4 U	5.0 U	<b>5.9</b>	4.2 U	4.4 U	4.3 U	5.6 U	mg/kg
pH (solid)	--	<b>8.2</b>	<b>7.9</b>	<b>8.0</b>	<b>8.3</b>	<b>8.5</b>	<b>7.6</b>	<b>8.4</b>	<b>8.2</b>	<b>8.5</b>	<b>8.9</b>	<b>7.7</b>	none
Bromide	--	<b>1.1 J</b>	<b>0.65 J</b>	2.7 U	2.7 U	2.7 U	32.6 U	2.6 U	2.7 U	2.6 U	2.7 U	<b>1.5 J</b>	mg/kg
Chlorate	--	<b>108 J+</b>	<b>138 J+</b>	<b>183 J+</b>	<b>201 J+</b>	<b>28.7 J+</b>	<b>66.2 J+</b>	<b>16.7 J-</b>	<b>1.9 J-</b>	<b>3.2 J-</b>	<b>4.8 J-</b>	<b>16.8 J-</b>	mg/kg
Chloride	--	<b>127</b>	<b>160</b>	<b>177</b>	<b>208</b>	<b>46.7</b>	<b>95.6</b>	<b>495 J+</b>	<b>62.3 J+</b>	<b>345 J+</b>	<b>84.5 J+</b>	<b>395 J+</b>	mg/kg
Nitrate (as N)	--	<b>8.9</b>	<b>7.0</b>	<b>5.3</b>	<b>6.1</b>	<b>0.71 J+</b>	<b>0.89 J+</b>	<b>2.6 J+</b>	<b>1.7 J+</b>	<b>4.4 J+</b>	<b>8.2 J+</b>	<b>14.9</b>	mg/kg
Nitrite	--	R	2.1 UJ	2.2 UJ	2.2 UJ	2.1 UJ	2.6 UJ	<b>4.7 J-</b>	2.1 UJ	<b>4.0 J-</b>	2.2 UJ	2.7 UJ	mg/kg
ortho-Phosphate	--	<b>7.2</b>	5.3 U	<b>10.6</b>	5.4 U	<b>2.8 J</b>	6.5 U	<b>2.4 J</b>	5.3 U	5.2 U	5.5 U	<b>6.8 U</b>	mg/kg
Sulfate	--	<b>449 J</b>	<b>805 J</b>	<b>120 J</b>	<b>145 J</b>	<b>67.5 J</b>	<b>5380 J</b>	<b>177</b>	<b>696</b>	<b>181</b>	<b>193</b>	<b>15100</b>	mg/kg
Total Organic Carbon	--	<b>6780 J-</b>	<b>1950 J-</b>	<b>4480 J-</b>	<b>5000 J-</b>	<b>925 J-</b>	<b>11600 J-</b>	<b>3480 J-</b>	<b>1220 J-</b>	<b>3150 J-</b>	<b>6400 J-</b>	<b>12900 J-</b>	mg/kg

**LOU 60 Table 1 (continued)  
Soil Characterization Data - Wet Chemistry**

Acid Drain System  
Tronox Facility - Henderson, Nevada

<b>Sampling Program</b>	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A		
<b>Boring No.</b>	SA13	SA13	SA13	SA13	SA13	SA13		
<b>Sample ID</b>	SA13-0.5	SA13-0.5D	SA13-10	SA13-20	SA13-30	SA13-40		
<b>Sample Depth (ft)</b>	0.5	0.5	10	20	30	40		
<b>Sample Date</b>	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006		
<b>Wet Chemistry Parameter</b>	<b>PRG<sup>2</sup> mg/kg</b>						<b>Units</b>	
Percent moisture	--	<b>14.1</b>	<b>9.6</b>	<b>4.3</b>	<b>6.1</b>	<b>5.1</b>	<b>20.7</b>	percent
Alkalinity (as CaCO <sub>3</sub> )	--	58.2 UJ	<b>235 J</b>	<b>71.3 J</b>	53.2 UJ	<b>98.4 J</b>	<b>136 J</b>	mg/kg
Bicarbonate	--	<b>279 J</b>	<b>1930 J</b>	<b>523 J</b>	<b>269 J</b>	<b>246 J</b>	<b>699 J</b>	mg/kg
Total Alkalinity	--	<b>279 J</b>	<b>2170 J</b>	<b>594</b>	<b>303 J</b>	<b>344 J</b>	<b>835 J</b>	mg/kg
Ammonia (as N)	--	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ	mg/kg
Cyanide	1.20E+04	R	R	R	R	R	R	mg/kg
MBAS	--	4.2 U	4.3 U	4.2 U	4.3 U	4.3 U	4.8 U	mg/kg
pH (solid)	--	<b>7.4</b>	<b>7.7</b>	<b>8.1</b>	<b>8.1</b>	<b>8.4</b>	<b>7.8</b>	none
Bromide	--	2.9 U	2.8 U	2.6 U	2.7 U	2.6 U	3.2 U	mg/kg
Chlorate	--	5.8 U	5.5 UJ	5.2 UJ	5.3 U	5.3 U	6.3 U	mg/kg
Chloride	--	<b>269 J</b>	<b>15.0 J</b>	<b>13.5 J</b>	<b>16.3 J</b>	<b>19.9 J</b>	<b>41.3 J</b>	mg/kg
Nitrate (as N)	--	0.23 U	<b>0.42 J+</b>	<b>0.80 J+</b>	<b>0.57 J+</b>	<b>0.17 J+</b>	<b>3.2 J+</b>	mg/kg
Nitrite	--	<b>5.7 J</b>	<b>0.10 J</b>	<b>0.55 J</b>	<b>0.11 J</b>	<b>0.74 J</b>	<b>0.13 J</b>	mg/kg
ortho-Phosphate	--	5.8 U	<b>3.2 J</b>	5.2 U	5.3 U	5.3 U	6.3 U	mg/kg
Sulfate	--	<b>13800 J</b>	<b>1080 J</b>	<b>853 J</b>	<b>294 J</b>	<b>174</b>	<b>382 J</b>	mg/kg
Total Organic Carbon	--	<b>4200 J-</b>	<b>2100 J-</b>	<b>1200 J-</b>	<b>6900 J-</b>	<b>6800 J-</b>	<b>10900 J</b>	mg/kg

**Notes:**

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
2. U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) for industrial soil (October, 2004)

**LOU 27 Table 2**  
**Groundwater Characterization Data - Wet Chemistry**

Acid Drain System  
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A	Ph A	Ph A	Ph A	
Well ID		M11	M11D	M12A	M13	
Sample ID		M11	M11D	M12A	M13	
Sample Date		12/06/2006	12/06/2006	12/05/2006	12/01/2006	
Wet Chemistry Parameters	MCL <sup>2</sup> ug/L					Units
Total Dissolved Solids	5.00E+05 j	<b>3270</b>	<b>3280</b>	<b>8170</b>	<b>3440</b>	mg/L
Total Suspended Solids	--	<b>15.0 J</b>	<b>9.0 J</b>	<b>57.0 J</b>	<b>17.0 J</b>	mg/L
Alkalinity (as CaCO3)	--	5.0 U	5.0 U	5.0 U	5.0 U	mg/L
Bicarbonate	--	<b>205</b>	<b>184</b>	<b>381</b>	<b>111 J+</b>	mg/L
Total Alkalinity	--	<b>205</b>	<b>184</b>	<b>381</b>	<b>111 J+</b>	mg/L
Ammonia (as N)	--	50.0 U	50.0 U	50.0 U	50.0 U	ug/L
MBAS	--	<b>0.20</b>	<b>0.17 J</b>	<b>0.41</b>	0.16 U	mg/L
Cyanide	2.00E+02	R	R	R	R	ug/L
pH (liquid)	--	<b>7.7 J</b>	<b>7.6 J</b>	<b>7.8 J</b>	<b>7.5 J</b>	none
Specific Conductance	--	<b>2360 J+</b>	<b>2330 J+</b>	<b>3660 J+</b>	<b>2320</b>	umhos/cm
Bromide	--	25.0 U	25.0 U	25.0 U	<b>0.60</b>	mg/L
Chlorate	--	<b>421</b>	<b>444</b>	<b>2370</b>	<b>279</b>	mg/L
Chloride	2.50E+05	<b>239</b>	<b>246</b>	<b>1030</b>	<b>394</b>	mg/L
Nitrate (as N)	1.00E+04	<b>3.4</b>	<b>3.5</b>	<b>15.2</b>	<b>1.8</b>	mg/L
Nitrite	1.00E+03	<b>3.1</b>	2.0 U	10.0 U	R	mg/L
ortho-Phosphate	--	5.0 U	5.0 U	500 U	5.0 U	mg/L
Sulfate	2.50E+05 j	<b>1290</b>	<b>1380</b>	<b>1510</b>	<b>1520</b>	mg/L
Total Organic Carbon	--	50 U	50 U	50.0 U	50.0 U	mg/L

**Notes:**

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
  2. U.S. EPA Maximum Contaminant Level (MCL) values unless noted
- (j) Secondary Drinking Water Regulation value.

LOU 27 Table 3  
Soil Characterization Data - Dioxins and Dibenzofurans

Acid Drain System  
Tronox Facility - Henderson, Nevada

Sampling Program				Ph A <sup>1</sup>	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.				SA3	SA3	SA4	SA5	SA6	SA6	SA7	SA8	SA13	SA13
Sample ID				SA3-0.5	SA3-0.5D	SA4-0.5	SA5-0.5	SA6-0.5	SA6-0.5D	SA7-0.5	SA8-0.5	SA13-0.5	SA13-0.5D
Sample Depth (ft)				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sample Date				11/13/2006	11/13/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/20/2006	11/17/2006	11/17/2006	11/17/2006
chemical_name:	Method	Unit	PRG <sup>2</sup> mg/kg										
Dioxin 8290 SCREEN Total TEQ-ENSR Calculated (a) ng/kg		ng/kg	--	149.01		42.5	15.09	0.64		192	0.014	0.006	
Dioxin SW 846 8290 Total TEQ-ENSR Calculated (a) ng/kg		ng/kg	--							169			
Dioxin 8290 SCREEN Total TEQ-ENSR Calculated (b) ng/kg		ng/kg	--	149.01		42.5	15.09	0.72		192	0.063	0.1	
Dioxin SW 846 8290 Total TEQ-ENSR Calculated (b) ng/kg		ng/kg	--							169			
1,2,3,4,6,7,8-Heptachlorodibenzofuran	8290 Screen	ng/kg	--	669.842	849.298	18.965	80.879	7.730	2.554	927.107	0.479	0.047 U	0.325
1,2,3,4,6,7,8-Heptachlorodibenzofuran	SW 846 8290	ng/kg	--							873.925 J			
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	53.366	71.721	2.141	5.161	1.036	0.461	85.450	0.714	0.054 U	0.736
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--							85.45			
1,2,3,4,7,8,9-Heptachlorodibenzofuran	8290 Screen	ng/kg	--	269.014	344.266	8.238	36.815	2.617	0.801	392.108	0.075 U	0.067 U	0.140 U
1,2,3,4,7,8,9-Heptachlorodibenzofuran	SW 846 8290	ng/kg	--							392.11			
1,2,3,4,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	--	281.567	356.494	23.006	37.078	2.392	0.864	372.915	0.034 U	0.035 U	0.084 U
1,2,3,4,7,8-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--							372.915			
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	6.265	8.512	0.656	0.652	0.059 U	0.055 U	8.841	0.043 U	0.041 U	0.060 U
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--							8.841			
1,2,3,6,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	--	157.518	196.405	9.753	20.664	1.665	0.552	249.626	0.030 U	0.031 U	0.079 U
1,2,3,6,7,8-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--							249.626			
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	13.496	17.014	1.595	1.273	0.191	0.140	19.448	0.036 U	0.035 U	0.055 U
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--							19.448			
1,2,3,7,8,9-Hexachlorodibenzofuran	8290 Screen	ng/kg	--	45.354	27.487	4.476	5.906	0.259	0.145	31.354	0.041 U	0.042 U	0.113 U
1,2,3,7,8,9-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--							31.353			
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	15.276	19.467	1.534	1.340	0.256	0.176	21.698	0.040 U	0.038 U	0.058 U
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--							21.698			
1,2,3,7,8-Pentachlorodibenzofuran	8290 Screen	ng/kg	--	117.401	143.365	37.501	18.712	0.886	0.456	199.693	0.023 U	0.028 U	0.050 U
1,2,3,7,8-Pentachlorodibenzofuran	SW 846 8290	ng/kg	--							199.692			
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	11.897	13.508	3.343	0.846	0.059 U	0.047 U	16.175	0.030 U	0.023 U	0.055 U
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--							16.175			
2,3,4,6,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	--	50.697	60.179	4.497	10.995	0.795	0.262	112.484	0.034 U	0.035 U	0.092 U
2,3,4,6,7,8-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--							112.484			
2,3,4,7,8-Pentachlorodibenzofuran	8290 Screen	ng/kg	--	57.175	65.924	28.443	8.426	0.279 U	0.195	92.926	0.022 U	0.027 U	0.049 U
2,3,4,7,8-Pentachlorodibenzofuran	SW 846 8290	ng/kg	--							92.927			
2,3,7,8-Tetrachlorodibenzofuran	8290 Screen	ng/kg	--	298.648	320.832	201.573	19.343	1.724	0.752	369.233	0.043 U	0.055 U	0.158 U
2,3,7,8-Tetrachlorodibenzofuran	SW 846 8290	ng/kg	--							136.994 J			
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	1.00E+04 h,v	8.039	8.466	4.487	0.132	0.077 U	0.059 U	8.965	0.028 U	0.036 U	0.141 U
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	1.00E+04 h,v							8.965			
Octachlorodibenzofuran	8290 Screen	ng/kg	--	1674.507	2372.145	38.680	237.642	20.727	6.640	2502.073	1.403	0.109 U	0.670

**LOU 27 Table 3 (continued)**  
**Soil Characterization Data - Dioxins and Dibenzofurans**

Acid Drain System  
Tronox Facility - Henderson, Nevada

Sampling Program				Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.				SA3	SA3	SA4	SA5	SA6	SA6	SA7	SA8	SA13	SA13
Sample ID				SA3-0.5	SA3-0.5D	SA4-0.5	SA5-0.5	SA6-0.5	SA6-0.5D	SA7-0.5	SA8-0.5	SA13-0.5	SA13-0.5D
Sample Depth (ft)				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sample Date				11/13/2006	11/13/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/20/2006	11/17/2006	11/17/2006	11/17/2006
chemical_name:	Method	Unit	PRG <sup>2</sup> mg/kg										
Octachlorodibenzofuran	SW 846 8290	ng/kg	--							2338.457 J			
Octachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	57.568	90.351	2.582	7.486	6.287	2.965	191.912	6.973	0.660	3.166
Octachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--							191.912			
Tetrachlorinated Dibenzofurans, (Total)	SW 846 8290	ng/kg	--							1642.861 J			
Total HpCDD	SW 846 8290	ng/kg	--							151.421			
Total HpCDF	SW 846 8290	ng/kg	--							1846.885 J			
Total HxCDD	SW 846 8290	ng/kg	--							158.189			
Total HxCDF	SW 846 8290	ng/kg	--							1786.919			
Total PeCDD	SW 846 8290	ng/kg	--							154.674			
Total PeCDF	SW 846 8290	ng/kg	--							1665.598			
Total TCDD	SW 846 8290	ng/kg	--							160.412			

**Notes:**

- (a) Calculated assuming 0 for non-detected congeners and 2006 toxic equivalency factors (TEFs).
- (b) Calculated assuming 1/2 detection limit as proxy for non-detected congeners and 2006 TEFs.
- 1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
- 2. U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) for industrial soil (October, 2004)
- (h) Dioxins and furans were expressed as 2,3,7,8- TCDD TEQ (toxic equivalents), calculated using the TEFs (Toxic Equivalency Factors) published by Van den Berg et al., 2006.
- (v) USEPA, 1998. Approach for Addressing Dioxin in Soil at CERCLA and RCRA Sites. OSWER Directive 9200.4-26. April, 1998. Midpoint of the range of 0.005 to 0.02 mg/kg for commercial/industrial soils.

**LOU 60 Table 4  
Soil Characterization Data - Metals**

Acid Drain System  
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A <sup>1</sup>	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.		SA3	SA3	SA3	SA3	SA3	SA3	SA4	SA4	SA4	SA4	SA4
Sample ID		SA3-0.5	SA3-0.5D	SA3-10	SA3-20	SA3-30	SA3-40	SA4-0.5	SA4-10	SA4-20	SA4-30	SA4-40
Sample Depth (ft)		0.5	0.5	10	20	30	40	0.5	10	20	30	40
Sample Date		11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006
Metals	PRG <sup>2</sup> mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	9.21E+05 (oo)	7000	6820	6130	6960	7760	13500	7490	6040	6640	4260	5630
Antimony	4.09E+02	0.17 J-	0.16 J-	0.17 J-	0.094 J-	0.13 J-	0.23 J-	0.17 J-	0.14 J-	0.17 J-	0.12 J-	0.15 J-
Arsenic	1.59E+00	3.5	2.9	3.0	3.5	61.6	27.7	13.4	11.3	5.3	6.1	8.6
Barium	6.66E+04	181 J+	144 J+	161 J+	188 J+	667 J	43.6 J	155 J+	151 J+	176 J+	79.7 J+	152 J+
Beryllium	1.94E+03	0.52	0.47	0.46	0.46	0.40 J	0.81	0.51	0.36	0.49	0.31	0.39
Boron	2.00E+05 (oo)	5.7 UJ	5.0 UJ	3.7 UJ	5.8 UJ	25.6 UJ	24.2 UJ	4.5 UJ	4.7 UJ	5.0 UJ	4.8 UJ	6.9 UJ
Cadmium	4.50E+02	0.15	0.13	0.084	0.077	0.077	0.099	0.087	0.088	0.080	0.053 J	0.082
Calcium	--	40900 J	19800 J	19300 J	30200 J	120000 J	30000 J	21100	25300	38800	9480	26600
Chromium (Total)	4.48E+02	10.7	9.6	9.4	7.0	18.5 J-	34.6 J-	11.2	7.2	10.7	7.3	19.1
Chromium-hexavalent	6.40E+01	0.11 J	0.21 U	0.21 U	0.22 U	0.26 U	0.29 U	0.12 J	0.21 U	1.7	0.23 U	0.54
Cobalt	1.92E+03	6.5	6.3 J-	5.9 J-	6.9 J-	4.0 J-	5.1 J-	6.3 J-	3.8 J-	5.9 J-	3.7 J-	4.1 J-
Copper	4.09E+04	12.3 J-	13.3 J-	12.0 J-	10.3 J-	9.9 J	11.7 J	12.9 J-	8.4 J-	11.8 J-	9.1 J-	10.4 J-
Iron	3.00E+05 (oo)	12000 J-	11300	12000	8290	6880	11900	13300	8350	11500	6470	11200
Lead	8.00E+02	12.4	12.1	8.0	7.7	4.6	8.3	14.5	6.3	7.0	6.3	6.3
Magnesium	--	7260 J-	6640 J-	5890 J-	10100 J-	45900 J-	40800 J-	7570 J-	5530 J-	10500 J-	5110 J-	6050 J-
Manganese	1.95E+04	329 J	369 J	264 J	289 J	119	160	254 J	176 J	295 J	157 J	186 J
Molybdenum	5.11E+03	0.49 J	0.57	0.52 J	0.31 J	0.44 J	0.80	0.45 J	0.42 J	0.51 J	0.46 J	1.7
Nickel	2.04E+04	13.5 J-	12.0 J-	11.5 J-	11.0 J-	10.2 J-	12.5 J-	13.2 J-	9.3 J-	12.2 J-	8.5 J-	11.1 J-
Platinum	--	0.019 J	0.016 J	0.016 J	0.015 J	0.019 J	0.023 J	0.033 J	0.012 J	0.017 J	0.011 U	0.014 J
Potassium	--	1890 J-	1830 J-	1600 J-	1480 J-	1570	3260	2080 J-	2480 J-	1300 J-	1100 J-	1590 J-
Selenium	5.11E+03	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.14 UJ	0.16 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
Silver	5.11E+03	0.14 J	0.13 J	0.12 J	0.11 J	0.15 J	0.18 J	0.13 J	0.11 J	0.13 J	0.061 J	0.11 J
Sodium	--	383 J-	344 J-	317 J-	756 J-	1620 J-	669 J-	1520 J-	823 J-	556 J-	360 J-	609 J-
Strontium	6.12E+05 (oo)	226 J+	152 J+	154 J+	228 J+	299 J	119 J	131 J+	187 J+	260 J+	175 J+	304 J+
Thallium	6.75E+01	0.10 U	0.15 U	0.082 U	0.12 U	0.09 U	0.18 U	0.077 U	0.074 U	0.076 U	0.08 U	0.074 U
Tin	6.12E+05 (oo)	0.54	0.52	0.48	0.36	0.36	0.66	0.52	0.42	0.47	0.39	0.63
Titanium	3.80E+06 (oo)	527	498	504	353	363	581	586	429	507	330	517
Tungsten	--	0.38 UJ	0.32 UJ	0.30 UJ	0.19 UJ	0.49 UJ	0.33 UJ	0.34 UJ	0.23 UJ	0.37 UJ	0.32 UJ	0.46 UJ
Uranium	2.04E+02	1.3	0.89	0.91	1.4	10.6	3.7	0.89	0.85	2.0	0.94	1.6
Vanadium	1.02E+03	32.6 J-	29.9 J-	33.9 J-	23.9 J-	36.2 J-	33.7 J-	35.4 J-	22.2 J-	34.2 J-	22.8 J-	30.6 J-
Zinc	3.10E+05 (oo)	27.6 J-	29.0 J-	24.8 J-	22.9 J-	29.5 UJ	49.2 UJ	29.4 J-	20.1 J-	23.9 J-	17.3 J-	22.7 J-
Mercury	3.10E+02 (t)	0.013 J-	0.019 J-	0.013 J-	0.0073 UJ	0.0086 UJ	0.0098 UJ	0.014 J-	0.014 J-	0.0073 UJ	0.0076 UJ	0.0071 UJ

**LOU 60 Table 4 (continued)  
Soil Characterization Data - Metals**

Acid Drain System  
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.		SA5	SA5	SA5	SA5	SA5	SA6	SA6	SA6	SA6	SA6	SA6
Sample ID		SA5-0.5	SA5-10	SA5-20	SA5-30	SA5-37	SA6-0.5	SA6-0.5D	SA6-10	SA6-20	SA6-30	SA6-35
Sample Depth (ft)		0.5	10	20	30	37	0.5	0.5	10	20	30	35
Sample Date		11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006
Metals	PRG <sup>2</sup> mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	9.21E+05 (oo)	6440	5440	5450	4130	12500	6160	6710	6440	6220	5800	12500
Antimony	4.09E+02	0.32 J-	0.15 J-	0.13 J-	0.16 J-	0.25 J-	0.15 J-	0.15 J-	0.16 J-	0.18 J-	0.16 J-	0.27 J-
Arsenic	1.59E+00	3.2	2.7	2.5	10.9	27.6	2.4	3.1	3.1	4.0	4.2	24.4
Barium	6.66E+04	176 J+	129 J+	98.2 J+	100 J+	39.3 J+	163 J+	149 J+	162 J+	186 J+	143 J+	40.1 J+
Beryllium	1.94E+03	0.48	0.47	0.41	0.28	0.94	0.40	0.44	0.50	0.46	0.43	0.70
Boron	2.00E+05 (oo)	6.7 UJ	6.0 UJ	7.0 UJ	17.9 UJ	85.7 UJ	5.2 UJ	5.3 UJ	5.6 UJ	6.0 UJ	5.8 UJ	20.8 UJ
Cadmium	4.50E+02	0.11	0.085	0.063	0.039 J	0.11	0.089	0.10	0.083	0.083	0.090	0.12
Calcium	-	22400	20700	24000	47100	31600	24600	19400	29300	33600	25500	32500
Chromium (Total)	4.48E+02	14.8	6.6	7.2	5.9	38.8	8.5	12.8	10.6	10.1	7.7	27.4
Chromium-hexavalent	6.40E+01	2.4	0.23 U	0.24 U	8.4	0.33 U	0.22	0.13 J	0.22 U	0.22 U	0.21 U	0.21 J
Cobalt	1.92E+03	8.8 J-	6.9 J-	6.1 J-	4.2 J-	4.5 J-	5.4 J-	5.9 J-	5.6 J-	6.4 J-	6.3 J-	5.2 J-
Copper	4.09E+04	14.3 J-	10.6 J-	11.3 J	7.6 J-	10.5 J-	10.1 J-	12.4 J-	11.4 J-	12.0 J-	12.4 J-	12.0 J-
Iron	3.00E+05 (oo)	11800	10400	9680	6500	11300	9600	11600	11700	12000	11200	12600
Lead	8.00E+02	24.2	6.2	5.5	5.6	6.6	7.1	11.5	7.6	8.1	7.4	8.3
Magnesium	-	7040 J-	6850 J-	7480 J-	7810 J-	46100 J-	6570 J-	7250 J-	6730 J-	8850 J-	6880 J-	28300 J-
Manganese	1.95E+04	483 J	254 J	234 J	131 J	167 J	249 J	271 J	227 J	301 J	323 J	195 J
Molybdenum	5.11E+03	0.69	0.90	0.34 J	0.56	1.1	0.48 J	0.64	0.46 J	0.43 J	0.47 J	0.95
Nickel	2.04E+04	12.7 J-	13.7 J-	13.1 J-	10.1 J-	11.4 J-	12.8 J-	12.6 J-	12.1 J-	11.9 J-	12.2 J-	12.5 J-
Platinum	-	0.015 J	0.012 U	0.012 U	0.011 U	0.018 J	0.012 J	0.018 J	0.018 J	0.016 J	0.015 J	0.022 J
Potassium	-	2000 J-	1290 J-	980 J-	1110 J-	3110 J-	2100 J-	2200 J-	2030 J-	1220 J-	1050 J-	3180 J-
Selenium	5.11E+03	0.14 UJ	0.13 UJ	0.13 UJ	0.12 UJ	0.18 UJ	0.12 UJ	0.13 UJ	0.12 UJ	0.12 UJ	0.11 UJ	0.16 UJ
Silver	5.11E+03	0.13 J	0.088 J	0.081 J	0.074 J	0.14 J	0.10 J	0.13 J	0.13 J	0.12 J	0.12 J	0.17 J
Sodium	-	1790 J-	522 J-	532 J-	1120 J-	4560 J-	626 J-	560 J-	581 J-	443 J-	699 J-	577 J-
Strontium	6.12E+05 (oo)	151 J+	200 J+	210 J+	1120 J+	102 J+	126 J+	101 J+	188 J+	207 J+	299 J+	159 J+
Thallium	6.75E+01	0.091 U	0.081 U	0.082 U	0.076 U	0.19 U	0.080 U	0.081 U	0.095 U	0.082 U	0.082 U	0.22 U
Tin	6.12E+05 (oo)	0.79	0.39	0.35	0.27	0.58	0.40	0.55	0.48	0.46	0.47	0.64
Titanium	3.80E+06 (oo)	511	370	366	287	502	361 J	616 J	549 J	463 J	507 J	530 J
Tungsten	-	0.41 UJ	0.44 UJ	0.27 UJ	0.33 UJ	0.39 UJ	0.28 UJ	0.30 UJ	0.29 UJ	0.42 UJ	0.39 UJ	0.55 UJ
Uranium	2.04E+02	1.1	1.1	1.0	2.3	6.1	0.80	1.0	1.0	2.1	1.8	3.7
Vanadium	1.02E+03	33.2 J-	29.9 J-	26.7 J-	24.9 J-	33.3 J-	21.8 J-	30.5 J-	33.8 J-	35.2 J-	34.8 J-	32.7 J-
Zinc	3.10E+05 (oo)	31.8 J-	27.8 J-	25.2 J-	18.9 J-	32.3 J-	24.1 J-	29.6 J-	24.8 J-	23.9 J-	24.9 J-	36.1 J-
Mercury	3.10E+02 (t)	0.018 J-	0.0078 UJ	0.0079 UJ	0.0072 UJ	0.011 UJ	0.0071 UJ	0.011 J-	0.0072 UJ	0.0072 UJ	0.007 UJ	0.0099 UJ



**LOU 60 Table 4 (continued)**  
**Soil Characterization Data - Metals**

Acid Drain System  
Tronox Facility - Henderson, Nevada

Sampling Program	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.	SA7	SA7	SA7	SA7	SA7	SA7	SA7	SA8	SA8	SA8	SA8	SA8
Sample ID	SA7-0.5	SA7-10	SA7-10D	SA7-20	SA7-30	SA7-34	SA8-0.5	SA8-10	SA8-20	SA8-30	SA8-37	
Sample Depth (ft)	0.5	10	10	20	30	34	0.5	10	20	30	37	
Sample Date	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006
Metals	PRG <sup>2</sup> mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	9.21E+05 (oo)	6400	5850	7100	6450	6390	7400	6450	6650	6270	6930	8070
Antimony	4.09E+02	0.36 J-	0.17 J-	0.13 J-	0.15 J-	0.15 J-	0.32 J-	0.15 J-	0.24 J-	0.13 J-	0.18 J-	0.20 J-
Arsenic	1.59E+00	5.5	2.5	2.3	3.3	4.8	24.3	1.8	2.5	3.4	3.7	44.3
Barium	6.66E+04	201 J+	147	166	149 J	73.6 J	158 J	143 J+	165 J	161 J	168 J	81.9 J
Beryllium	1.94E+03	0.41	0.42	0.47	0.46	0.44 J-	0.35 J-	0.40 J-	0.46 J-	0.42 J-	0.45 J-	0.47 J-
Boron	2.00E+05 (oo)	48.6 J-	8.7 UJ	8.2 UJ	9.3 UJ	12.3 UJ	36.8 J-	2.5 J-	3.5 J-	6.5 J-	5.6 J-	28.3 J-
Cadmium	4.50E+02	0.24	0.075	0.084	0.068	0.065	0.084	0.085	0.087	0.090	0.065	0.058 J
Calcium	-	37500	26400	20500	25200	29000	62700 J+	9930 J+	10500 J+	28800 J+	22800 J+	79600 J+
Chromium (Total)	4.48E+02	18.5 J-	8.2 J-	7.9 J-	8.6 J-	7.4 J-	33.8 J-	10.1 J-	11.2 J-	9.3 J-	11.7 J-	40.9 J-
Chromium-hexavalent	6.40E+01	0.56	0.21 U	0.22 U	0.22 U	0.12 J	0.13 J	0.21 U	0.21 U	0.21 U	0.22 U	0.27 U
Cobalt	1.92E+03	8.6 J-	6.0 J-	6.2 J-	5.8 J-	5.2 J-	3.1 J-	7.0 J-	6.4 J-	7.6 J-	5.1 J-	3.5 J-
Copper	4.09E+04	16.5 J-	10.4 J-	11.3 J-	12.0 J-	11.3 J-	9.5 J	12.4 J-	13.5 J	15.6 J	11.7 J	11.7 J
Iron	3.00E+05 (oo)	9830	9600	9830	10300	9530	7520	14000	13600	12900	13300	7600
Lead	8.00E+02	32.5	7.4	7.8	6.7	6.0	4.4	7.6	8.4	6.9	7.8	4.4
Magnesium	-	8360 J-	5750	6310	8920 J-	8250 J-	19000 J-	6390 J-	5350 J-	7920 J-	7520 J-	51900 J-
Manganese	1.95E+04	1290	278	262	250	159	171 J	316 J	349 J	289 J	214 J	111 J
Molybdenum	5.11E+03	0.92	0.41 J	0.41 J	0.40 J	0.38 J	0.52 J	0.55	0.54	0.47 J	0.56	0.51 J
Nickel	2.04E+04	12.9 J-	11.4 J-	12.1 J-	11.8 J-	11.6 J-	9.8 J-	12.4 J-	12.7 J	18.7 J-	11.5 J-	12.4 J-
Platinum	-	0.077 J	0.014 J	0.016 J	0.014 J	0.012 J	0.014 J	0.016 J	0.013 J	0.014 J	0.015 J	0.014 U
Potassium	-	1910	1790	2110	1280	1340	2080 J-	1380 J-	2390 J-	1120 J-	1350 J-	2390 J-
Selenium	5.11E+03	0.11 U	0.11 U	0.12 U	0.12 U	0.12 U	0.14 UJ	0.11 UJ	0.12 UJ	0.11 UJ	0.12 UJ	0.15 UJ
Silver	5.11E+03	0.16 J	0.11 J	0.13 J	0.12 J	0.11 J	0.12 J	0.12 J	0.12 J	0.12 J	0.12 J	0.10 J
Sodium	-	763	314 J-	361 J-	392 J-	638 J-	533 J-	689 J-	1410 J-	591 J-	586 J-	1540 J-
Strontium	6.12E+05 (oo)	130 J+	133 J-	130 J-	171 J	219 J	2280 J	119 J+	141 J	201 J	206 J	542 J
Thallium	6.75E+01	0.38 U	0.21 U	0.20 U	0.12 U	0.10 U	0.32 U	0.087 U	0.14 U	0.080 U	0.076 U	0.16 U
Tin	6.12E+05 (oo)	0.92	0.43	0.52	0.43	0.42	0.39	1.2	0.99	0.55	0.60	0.39
Titanium	3.80E+06 (oo)	364 J+	379 J+	382 J+	454 J+	368 J+	444	583	654	627	577 J	431
Tungsten	-	1.4 J-	0.41 J-	0.32 J-	0.33 J-	0.30 J-	0.87 J-	0.37 UJ	0.36 UJ	0.28 UJ	0.25 UJ	0.41 UJ
Uranium	2.04E+02	0.96	0.86	0.87	1.6	2.1	4.3	0.75	0.93	1.3	2.0	10.2
Vanadium	1.02E+03	24.1	23.7	23.5	29.8 J-	24.9 J-	30.1 J-	43.1 J-	44.5 J-	41.9 J-	39.5 J-	40.3 J-
Zinc	3.10E+05 (oo)	39.1 J-	21.7 J-	23.0 J-	22.3 J-	21.9 J-	20.3 J-	25.5 J-	26.9 J-	23.8 J-	25.0 J-	19.2 J-
Mercury	3.10E+02 (t)	0.0071 U	0.0074 J-	0.024 J-	0.0072 UJ	0.0071 UJ	0.0087 UJ	0.011 J-	0.0073 J-	0.007 UJ	0.010 J-	0.0091 UJ

**LOU 60 Table 4 (continued)  
Soil Characterization Data - Metals**

Acid Drain System  
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.		SA13	SA13	SA13	SA13	SA13	SA13
Sample ID		SA13-0.5	SA13-0.5D	SA13-10	SA13-20	SA13-30	SA13-40
Sample Depth (ft)		0.5	0.5	10	20	30	40
Sample Date		11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006
Metals	PRG <sup>2</sup> mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	9.21E+05 (oo)	7350	8310	5630	7330	7090	8720
Antimony	4.09E+02	0.19 J-	0.25 J-	0.18 J-	0.19 J-	0.18 J-	0.19 J-
Arsenic	1.59E+00	2.1	2.3	2.1	3.2	3.1	36.4
Barium	6.66E+04	159	181	159 J	197 J	127 J	123 J-
Beryllium	1.94E+03	0.50 J-	0.51 J-	0.37 J-	0.46 J-	0.45 J-	0.55
Boron	2.00E+05 (oo)	3.0 J-	3.8 J-	2.6 J-	3.6 J-	3.3 J-	12.9 J-
Cadmium	4.50E+02	0.13	0.12	0.11	0.080	0.074	0.11
Calcium	—	12600 J	12300 J	9080 J+	21200 J+	15500 J+	28500
Chromium (Total)	4.48E+02	12.8 J-	13.8 J-	10.1 J-	11.4 J-	8.8 J-	14.5
Chromium-hexavalent	6.40E+01	0.23 U	0.12 J	0.21 U	0.21 U	0.21 U	0.25 U
Cobalt	1.92E+03	6.9 J-	7.2 J-	6.3 J-	7.3 J-	6.2 J-	5.6 J-
Copper	4.09E+04	15.9 J-	14.7 J-	12.6 J	12.7 J	12.1 J	12.4 J-
Iron	3.00E+05 (oo)	15600	16100	13200	13200	13600	12600
Lead	8.00E+02	9.0	9.5	9.4	10.4	7.4	8.1
Magnesium	—	6580 J-	7030 J-	4940 J-	8590 J-	7430 J-	15200
Manganese	1.95E+04	1680	2320	350 J	434 J	219 J	606
Molybdenum	5.11E+03	0.58 J	0.52 J	0.60	0.51 J	0.45 J	0.52 J
Nickel	2.04E+04	13.9 J-	14.3 J-	11.6 J-	12.5 J-	12.0 J-	14.0 J-
Platinum	—	0.015 J	0.022 J	0.014 J	0.019 J	0.016 J	0.021 J
Potassium	—	2190	2500	1670 J-	1380 J-	1280 J-	2740
Selenium	5.11E+03	0.13 UJ	0.12 UJ	0.11 UJ	0.12 UJ	0.11 UJ	0.14 UJ
Silver	5.11E+03	0.15 J	0.16 J	0.13 J	0.14 J	0.13 J	0.16 J
Sodium	—	447 J-	564 J	251 J-	593 J-	694 J-	506 J-
Strontium	6.12E+05 (oo)	130 J-	162 J-	117 J	215 J	310 J	178
Thallium	6.75E+01	0.098 U	0.26 U	0.12 U	0.13 U	0.093 U	0.13 U
Tin	6.12E+05 (oo)	0.73	0.69	0.59	0.63	0.57	0.60
Titanium	3.80E+06 (oo)	830	806	733	689	649	681
Tungsten	—	0.36 UJ	0.45 UJ	0.35 UJ	0.40 UJ	0.32 UJ	0.73 UJ
Uranium	2.04E+02	0.92	1.0	0.83	1.4	1.4	3.2
Vanadium	1.02E+03	47.1 J-	48.9 J-	43.4 J-	44.1 J-	41.7 J-	56.3 J-
Zinc	3.10E+05 (oo)	31.5 J-	29.8 J-	27.3 J-	28.2 J-	27.4 J-	30.8 J-
Mercury	3.10E+02 (t)	0.013 J-	0.017 J-	0.0082 J-	0.012 J-	0.011 J-	0.0084 UJ

**Notes:**

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
2. U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) for industrial soil (October, 2004)  
(oo) PRG is based on maximum (1E+05 mg/kg). Therefore, the risk-based value provided in the electronic backup to the PRG table was used.  
(t) Value for mercury and compounds.

**LOU 60 Table 5  
Groundwater Characterization Data - Metals**

Acid Drain System  
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A	Ph A	Ph A	
Well ID:		M11	M12A	M13	
Sample ID		M11-Z	M12A-Z	M13-Z	
Sample Date		05/11/2007	05/11/2007	05/09/2007	
Metals	MCL <sup>2</sup> ug/L				Unit
Aluminum	5.00E+01 j	393 U	786 U	197 U	ug/L
Antimony	6.00E+00	25.0 U	50.0 U	12.5 U	ug/L
Arsenic	1.00E+01	<b>328</b>	<b>700</b>	<b>51.6 J</b>	ug/L
Barium	2.00E+03	15.2 U	24.7 U	10.7 U	ug/L
Beryllium	4.00E+00	4.4 U	8.8 U	2.2 U	ug/L
Boron	7.30E+03 c	<b>10400</b>	3340 U	<b>2680</b>	ug/L
Cadmium	5.00E+00	2.9 U	5.7 U	1.4 U	ug/L
Calcium	--	<b>50200</b>	<b>50100</b>	<b>204000</b>	ug/L
Chromium (Total)	1.00E+02	<b>3130</b>	<b>12800</b>	<b>292</b>	ug/L
Chromium-hexavalent	1.09E+02 c	<b>2510 J</b>	<b>14000</b>	0.20 UJ	ug/L
Cobalt	7.30E+02 c	15.7 U	31.3 U	7.8 U	ug/L
Copper	1.30E+03 p	12.5 U	25.0 U	6.3 U	ug/L
Iron	3.00E+02 j	<b>6310 J-</b>	940 UJ	<b>4370 J-</b>	ug/L
Lead	1.50E+01 u	24.6 U	49.2 U	12.3 U	ug/L
Magnesium	1.50E+05 a	<b>39300</b>	<b>19000</b>	<b>94700</b>	ug/L
Manganese	5.00E+01 j	173 U	140 U	<b>1580</b>	ug/L
Molybdenum	1.82E+02 c	25.0 U	<b>51.1 J</b>	<b>32.5 J</b>	ug/L
Nickel	7.30E+02 c	25.8 U	51.7 U	12.9 U	ug/L
Platinum	--	5.0 U	10.0 U	2.5 U	ug/L
Potassium	--	<b>19900</b>	<b>44400</b>	<b>13500</b>	ug/L
Selenium	5.00E+01	50.0 U	100 U	25.0 U	ug/L
Silver	1.00E+02 j	10.1 U	20.3 U	5.1 U	ug/L
Sodium	--	<b>953000</b>	<b>2330000</b>	<b>613000</b>	ug/L
Strontium	2.19E+04 c	<b>1300</b>	<b>1620</b>	<b>5000</b>	ug/L
Thallium	2.00E+00	16.0 U	32.0 U	8.0 U	ug/L
Tin	2.19E+04 c	10.0 U	20.0 U	5.0 U	ug/L
Titanium	1.46E+05 c	19.6 U	39.1 U	9.8 U	ug/L
Tungsten	--	25.0 U	50.0 U	12.5 U	ug/L
Uranium	3.00E+01	<b>15.0 J</b>	<b>39.4 J</b>	<b>23.8 J</b>	ug/L
Vanadium	3.65E+01 c	<b>121 J</b>	160 UJ	40.0 U	ug/L
Zinc	5.00E+03 j	50.0 U	100 U	48.1 U	ug/L
Mercury	2.00E+00	0.11 U	0.093 U	0.093 U	ug/L

**Notes:**

- ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
- U.S. EPA Maximum Contaminant Level (MCL) values unless noted
  - (j) Secondary Drinking Water Regulation value.
  - (c) Equal to the USEPA Region 9 Preliminary Remediation Goals (PRGs) for tapwater (October, 2004).
  - (p) The national primary drinking water regulations (b) lists a treatment technology action level of 1.3 mg/l as the MCL for Copper. Therefore, the secondary value is not used.
  - (u) See footnote (b). Treatment technology action level.
  - (a) NAC 445A.455 Secondary standards. Certain provisions of the National Primary Drinking Water Regulations are adopted by reference (NAC 445A.4525). These values are listed in the first column of this table and are therefore not listed again here. Only NAC 445A.455 Secondary standards are listed.

**LOU 60 Table 6  
Groundwater Characterization Data - Routine Monitoring<sup>1</sup>**

Acid Drain System  
Tronox LLC, Henderson, Nevada

Well ID	Date	Depth to water (ft)	Perchlorate mg/l	Qual	MCL <sup>2</sup> ug/l	Total Chromium mg/l	Qual	MCL <sup>2</sup> ug/l	TDS mg/l	Qual	MCL <sup>2</sup> ug/l	Nitrate (as N) mg/l	Qual	MCL <sup>2</sup> ug/l	Chlorate mg/l	Qual	MCL <sup>2</sup> ug/l
M-11	2/2/2006	42.69	52	d	1.80E+01 a,m	2.8	d	1.00E+02	3660		5.00E+05 j			1.00E+04			--
M-11	5/3/2006	43.29	43	d	1.80E+01 a,m	2.7	d	1.00E+02	2980		5.00E+05 j	<0.1	ud	1.00E+04	460	d	--
M-11	8/2/2006	43.50	31.4	d	1.80E+01 a,m	2.8	d	1.00E+02	2700		5.00E+05 j	1.3	d	1.00E+04	230	d	--
M-11	10/31/2006	43.51	33.4	d	1.80E+01 a,m	2.7	d	1.00E+02	3260		5.00E+05 j	3.86	d	1.00E+04	487	d	--
M-11	1/31/2007	43.50	30.6		1.80E+01 a,m	3		1.00E+02	3380		5.00E+05 j			1.00E+04			--
M-11	5/2/2007	43.51	25.1		1.80E+01 a,m	2.7		1.00E+02	3180		5.00E+05 j	3.01		1.00E+04	434		--
M-11	8/2/2007	43.82	33.9		1.80E+01 a,m	2.6		1.00E+02	3400		5.00E+05 j			1.00E+04			--
M-12A	2/2/2006	---	360	d	1.80E+01 a,m	13	d	1.00E+02	10230		5.00E+05 j			1.00E+04			--
M-12A	5/4/2006	---	340	d	1.80E+01 a,m	12	d	1.00E+02	8760		5.00E+05 j	<0.1	ud	1.00E+04	2600	d	--
M-12A	8/2/2006	---	312	d	1.80E+01 a,m	12	d	1.00E+02	5640		5.00E+05 j	13	d	1.00E+04	1260	d	--
M-12A	11/1/2006	---	288	d	1.80E+01 a,m	12	d	1.00E+02	7270		5.00E+05 j	14.1	d	1.00E+04	2540	d	--
M-12A	2/1/2007	---	291		1.80E+01 a,m	12		1.00E+02	7820		5.00E+05 j			1.00E+04			--
M-12A	5/3/2007	---	283	J	1.80E+01 a,m	12		1.00E+02	7910	J	5.00E+05 j	18.2	d	1.00E+04	1980	d	--
M-12A	8/1/2007	---	320		1.80E+01 a,m	13		1.00E+02	7890		5.00E+05 j			1.00E+04			--
M-13	5/3/2006	---	27	d	1.80E+01 a,m	1.8	d	1.00E+02	2680		5.00E+05 j	<0.1	ud	1.00E+04	390	d	--
M-13	5/3/2007	---	18.6	J	1.80E+01 a,m	0.8		1.00E+02	3310	J	5.00E+05 j	5.64	d	1.00E+04	255	d	--

**Explanation**

1. ENSR, 2007, Quarterly Performance Report for Remediation Systems, Tronox LLC, Henderson, Nevada, July-September 2007, November 2007.

2. U.S. EPA Maximum Contaminant Level (MCL) values unless noted

< = less than the reporting limit

Blank cell or --- = no data and or no qualifier

Qual = data qualifiers applied by laboratory or during data validation

TDS = Total Dissolved Solids

mg/l = milligram per liter

(a) NAC 445A.455 Secondary standards. Certain provisions of the National Primary Drinking Water Regulations are adopted by reference (NAC 445A.4525). These values are listed in the first column of this table and are therefore not listed again here. Only NAC 445A.455 Secondary standards are listed.

(m) Equal to the provisional action level derived by NDEP as referenced in "Defining a Perchlorate Drinking Water Standard". NDEP Bureau of Corrective Action. URL [[http://ndep.nv.gov/bca/perchlorate02\\_05.htm](http://ndep.nv.gov/bca/perchlorate02_05.htm)].

(j) Secondary Drinking Water Regulation value.

**Laboratory Qualifiers:**

d = the sample was diluted

u = the analyte was not detected above the sample reporting limit

ud = the sample was diluted and was not detected above the sample reporting limit

**Validation Qualifiers:**

J = the result is an estimated quantity

J- = the result is an estimated quantity and the result may be biased low

U = the analyte was analyzed for, but was not detected above the sample reporting limit

UJ = the sample was not detected above the sample reporting limit and the reporting limit is approximate

**LOU 60 Table 7**  
**Soil Characterization Data - Organochlorine Pesticides (OCP)**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program	Ph A <sup>1</sup>	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	
Boring No.	SA3	SA3	SA4	SA5	SA6	SA6	SA7	SA8	SA13	SA13		
Sample ID	SA3-0.5	SA3-0.5D	SA4-0.5	SA5-0.5	SA6-0.5	SA6-0.5D	SA7-0.5	SA8-0.5	SA13-0.5	SA13-0.5D		
Sample Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
Sample Date	11/13/2006	11/13/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/20/2006	11/17/2006	11/17/2006	11/17/2006		
Organochlorine Pesticides	PRG <sup>2</sup> mg/kg											Unit
4,4'-DDD	9.95E+00	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
4,4'-DDE	7.02E+00	0.0018 U	<b>0.0020</b>	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
4,4'-DDT	7.02E+00	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Aldrin	1.00E-01	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Alpha-BHC	3.59E-01 (bbb)	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Alpha-chlordane	6.47E+00 (y)	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Beta-BHC	1.26E+00 (bbb)	0.0018 U	0.0018 U	<b>0.0036</b>	<b>0.0035</b>	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Delta-BHC	3.59E-01 (z)	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Dieldrin	1.10E-01	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Endosulfan I	3.70E+03 (aa)	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Endosulfan II	3.70E+03 (aa)	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Endosulfan Sulfate	3.70E+03 (aa)	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Endrin	1.85E+02	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Endrin Aldehyde	1.85E+02 (k)	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Endrin Ketone	1.85E+02 (k)	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Gamma-BHC (Lindane)	1.74E+00 (bbb)	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Gamma-Chlordane	6.47E+00 (y)	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Heptachlor	3.83E-01	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	R	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Heptachlor Epoxide	1.89E-01	0.0018 U	0.0018 U	0.0019 U	0.0022 U	0.0018 U	0.0020 U	0.0018 U	0.018 U	0.0020 U	0.0019 U	mg/kg
Methoxychlor	3.08E+03	0.0035 UJ	0.0035 UJ	<b>0.0048</b>	0.0043 UJ	0.0035 UJ	0.0038 UJ	0.0035 UJ	0.035 U	0.0038 U	<b>0.0076</b>	mg/kg
Tech-Chlordane	6.47E+00	0.011 U	0.011 U	0.011 U	0.013 U	0.011 U	0.012 U	0.011 U	0.11 U	0.012 U	0.011 U	mg/kg
Toxaphene	1.57E+00	0.053 U	0.053 U	0.055 U	0.065 U	0.053 U	0.058 U	0.053 U	0.53 U	0.058 U	0.055 U	mg/kg

**Notes:**

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
  2. U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) for industrial soil (October, 2004)
- (bbb) BHC listed as HCH in the PRG table.
- (y) Value for chlordane (technical) used as surrogate for alpha-chlordane and gamma-chlordane based on structural similarities.
- (z) Value for alpha-BHC used as surrogate for delta-BHC based on structural similarities.
- (aa) Value for endosulfan used as surrogate for endosulfan I, endosulfan II and endosulfan sulfate based on structural similarities.
- (k) Value for endrin used as surrogate for endrin aldehyde and endrin ketone due to structural similarities.

**LOU 60 Table 8**  
**Groundwater Characterization Data - Organochlorine Pesticides (OCP)**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program			Ph A <sup>1</sup>	Ph A	Ph A	Ph A	
Well ID			M11	M11D	M12A	M13	
Sample ID			M11	M11D	M12A	M13	
Sample Date			12/06/2006	12/06/2006	12/05/2006	12/01/2006	
Organochlorine Pesticides	MCL <sup>2</sup> ug/l						Unit
4,4'-DDD	2.80E-01	c	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
4,4'-DDE	1.98E-01	c	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
4,4'-DDT	1.98E-01	c	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Aldrin	4.00E-03	c	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Alpha-BHC	1.10E-02	c, (bbb)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Alpha-chlordane	2.00E+00	(l)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Beta-BHC	3.74E-02	c, (bbb)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Delta-BHC	1.10E-02	c, (z)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Dieldrin	4.20E-03	c, (z)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Endosulfan I	2.19E+02	c, (aa)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Endosulfan II	2.19E+02	c, (aa)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Endosulfan Sulfate	2.19E+02	c, (aa)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Endrin	2.00E+00		0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Endrin Aldehyde	1.09E+01	c, (k)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Endrin Ketone	1.09E+01	c, (k)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Gamma-BHC (Lindane)	2.00E-01		0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Gamma-Chlordane	2.00E+00	(l)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Heptachlor	4.00E-01		0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Heptachlor Epoxide	2.00E-01		0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Methoxychlor	4.00E+01		0.10 U	0.10 U	0.10 U	0.10 U	ug/L
Tech-Chlordane	2.00E+00	(l)	0.50 U	0.50 U	0.50 U	0.50 U	ug/L
Toxaphene	3.00E+00		2.0 U	2.0 U	2.0 U	2.0 U	ug/L

**Notes:**

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
2. U.S. EPA Maximum Contaminant Level (MCL) values unless noted
  - (c) Equal to the USEPA Region 9 Preliminary Remediation Goals (PRGs) for tapwater (October, 2004).
  - (bbb) BHC listed as HCH in the PRG table.
  - (l) Value for chlordane used as surrogate for alpha-chlordane, chlordane (technical) and gamma-chlordane due to structural similarities.
  - (z) Value for alpha-BHC used as surrogate for delta-BHC based on structural similarities.
  - (aa) Value for endosulfan used as surrogate for endosulfan I, endosulfan II and endosulfan sulfate based on structural similarities.
  - (k) Value for endrin used as surrogate for endrin aldehyde and endrin ketone due to structural similarities.

**LOU 60 Table 9**  
**Soil Characterization Data - Organophosphorus Pesticides (OPPs)**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program	Ph A <sup>1</sup>	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	
Boring No.	SA3	SA3	SA4	SA5	SA6	SA6	SA7	SA8	SA13	SA13		
Sample ID	SA3-0.5	SA3-0.5D	SA4-0.5	SA5-0.5	SA6-0.5	SA6-0.5D	SA7-0.5	SA8-0.5	SA13-0.5	SA13-0.5D		
Sample Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
Sample Date	11/13/2006	11/13/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/20/2006	11/17/2006	11/17/2006	11/17/2006	
OPPs	PRG <sup>2</sup> mg/kg											Unit
Azinphos-methyl	--	0.014 U	0.014 U	0.014 UJ	0.017 UJ	0.014 UJ	0.015 UJ	0.014 U	0.014 U	0.015 UJ	0.014 U	mg/kg
Bolstar	--	0.014 U	0.014 U	0.014 U	0.017 U	0.014 U	0.015 U	0.014 U	0.014 U	0.015 UJ	0.014 U	mg/kg
Chlorpyrifos	1.85E+03	0.021 U	0.021 U	0.022 U	0.026 U	0.021 U	0.023 U	0.021 U	0.021 U	0.023 UJ	0.022 U	mg/kg
Coumaphos	--	0.014 U	0.014 U	0.014 UJ	0.017 UJ	0.014 UJ	0.015 UJ	0.014 UJ	0.014 UJ	0.015 UJ	0.014 UJ	mg/kg
Demeton-O	2.46E+01 (cc)	0.042 U	0.042 U	0.043 U	0.050 U	0.041 U	0.045 U	0.041 U	0.041 U	0.045 UJ	0.043 U	mg/kg
Demeton-S	2.46E+01 (cc)	0.016 U	0.016 U	0.016 U	0.019 U	0.016 U	0.017 U	0.016 U	0.016 U	0.017 UJ	0.017 U	mg/kg
Diazinon	5.54E+02	0.024 U	0.023 U	0.024 U	0.028 U	0.023 U	0.026 U	0.023 U	0.023 U	0.026 UJ	0.024 U	mg/kg
Dichlorvos	5.94E+00	0.025 U	0.025 U	0.025 U	0.030 U	0.024 U	0.027 U	0.024 U	0.024 U	0.027 UJ	0.025 U	mg/kg
Dimethoate	1.23E+02	0.024 U	0.023 U	0.024 U	<b>0.013 J</b>	<b>0.011 J</b>	<b>0.012 J</b>	0.023 U	0.023 U	0.026 UJ	0.024 U	mg/kg
Disulfoton	2.46E+01	0.051 U	0.051 U	0.053 U	0.062 U	0.051 U	0.056 U	0.051 U	0.050 U	0.056 UJ	0.053 U	mg/kg
EPN	6.16E+00	0.014 UJ	0.014 UJ	0.014 U	0.017 U	0.014 UJ	0.015 U	0.014 U	0.014 U	0.015 UJ	0.014 U	mg/kg
Ethoprop	--	0.016 U	0.016 U	0.016 U	0.019 U	0.016 U	0.017 U	0.016 U	0.016 U	0.017 UJ	0.017 U	mg/kg
Ethyl Parathion	1.54E+02 (tt)	0.019 UJ	0.019 UJ	0.020 U	0.023 U	0.019 U	0.021 U	0.019 U	0.019 U	0.021 UJ	0.020 U	mg/kg
Famphur	--	0.014 U	0.014 U	0.014 UJ	0.017 UJ	0.014 UJ	0.015 UJ	0.014 U	0.014 U	0.015 UJ	0.014 U	mg/kg
Fensulfothion	--	0.014 U	0.014 U	0.014 U	0.017 U	0.014 U	0.015 U	0.014 U	0.014 U	0.015 UJ	0.014 U	mg/kg
Fenthion	1.50E+02 (ff)	0.035 U	0.035 U	0.036 U	0.043 U	0.035 U	0.038 U	0.035 U	0.035 U	0.038 UJ	0.037 U	mg/kg
Malathion	1.23E+04	0.016 U	0.016 U	0.016 U	0.019 U	0.016 U	0.017 U	0.016 U	0.016 U	0.017 UJ	0.017 U	mg/kg
Merphos	1.85E+01	0.032 U	0.032 U	0.033 U	0.039 U	0.032 U	0.035 U	0.032 U	0.032 U	0.035 UJ	0.033 U	mg/kg
Methyl parathion	1.54E+02	0.021 U	0.021 U	0.022 U	0.026 U	0.021 U	0.023 U	0.021 U	0.021 U	0.023 UJ	0.022 U	mg/kg
Mevinphos	--	0.016 U	0.016 U	0.016 U	0.019 U	0.016 U	0.017 U	0.016 U	0.016 U	0.017 UJ	0.017 U	mg/kg
Naled	1.23E+03	0.035 UJ	0.035 UJ	0.036 UJ	0.043 UJ	0.035 UJ	0.038 UJ	0.035 UJ	0.035 UJ	0.038 UJ	0.037 UJ	mg/kg
Phorate	1.23E+02	0.021 U	0.021 U	0.022 U	0.026 U	0.021 U	0.023 U	0.021 U	0.021 U	0.023 UJ	0.022 U	mg/kg
Ronnel	3.08E+04	0.019 U	0.019 U	0.020 U	0.023 U	0.019 UJ	0.021 U	0.019 U	0.019 U	0.021 UJ	0.020 U	mg/kg
Stirphos	--	0.016 U	0.016 U	0.016 UJ	0.019 UJ	0.016 UJ	0.017 UJ	0.016 U	0.016 U	0.017 UJ	0.017 U	mg/kg
Sulfotep	3.08E+02	0.021 U	0.021 U	0.022 U	0.026 U	0.021 U	0.023 U	0.021 U	0.021 U	0.023 UJ	0.022 U	mg/kg
Thionazin	--	0.019 U	0.019 U	0.020 U	0.023 U	0.019 U	0.021 U	0.019 U	0.019 U	0.021 UJ	0.020 U	mg/kg
Tokuthion	--	0.021 U	0.021 U	0.022 U	0.026 U	0.021 U	0.023 U	0.021 UJ	0.021 UJ	0.023 UJ	0.022 UJ	mg/kg
Trichloronate	--	0.021 U	0.021 U	0.022 U	0.026 U	0.021 U	0.023 U	0.021 U	0.021 U	0.023 UJ	0.022 U	mg/kg

**Notes:**

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
  2. U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) for industrial soil (October, 2004)
- (cc) Value for demeton used as surrogate for demeton-o and demeton-s based on structural similarities.  
(tt) Value for parathion-methyl used as surrogate for parathion-ethyl due to structural similarities.  
(ff) Value for methyl parathion used as surrogate for fenthion based on structural similarities.

**LOU 60 Table 10**  
**Groundwater Characterization Data - Organophosphorus Pesticides (OPPs)**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program		Ph A <sup>1</sup>	Ph A	Ph A	Ph A	
Well ID		M11	M11D	M12A	M13	
Sample ID		M11	M11D	M12A	M13	
Sample Date		12/06/2006	12/06/2006	12/05/2006	12/01/2006	
OPPs	MCL <sup>2</sup> ug/l					Unit
Azinphos-methyl	--	2.5 U	2.5 U	2.5 U	2.5 UJ	ug/L
Bolstar	--	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Chlorpyrifos	1.09E+02 c	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Coumaphos	--	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Demeton-O	1.46E+00 c,(cc)	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Demeton-S	1.46E+00 c,(cc)	1.0 U	1.0 U	1.0 UJ	1.0 U	ug/L
Diazinon	3.28E+01	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Dichlorvos	2.32E-01	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Dimethoate	7.30E+00	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Disulfoton	1.46E+00	0.50 U	0.50 U	0.50 U	0.50 U	ug/L
EPN	3.65E-01	1.2 U	1.2 U	1.2 U	1.2 U	ug/L
Ethoprop	--	0.50 U	0.50 U	0.50 U	0.50 U	ug/L
Ethyl Parathion	9.12E+00 c,(tt)	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Famphur	--	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Fensulfothion	--	2.5 U	2.5 U	2.5 U	2.5 U	ug/L
Fenthion	9.10E+00 c,(ff)	2.5 U	2.5 U	2.5 U	2.5 U	ug/L
Malathion	7.30E+02	1.2 U	1.2 U	1.2 U	1.2 U	ug/L
Merphos	1.09E+00	5.0 U	5.0 U	5.0 U	5.0 U	ug/L
Methyl parathion	9.12E+00	4.0 U	4.0 U	4.0 U	4.0 U	ug/L
Mevinphos	--	6.2 U	6.2 U	6.2 U	6.2 U	ug/L
Naled	7.30E+01	1.0 U	1.0 U	1.0 UJ	1.0 UJ	ug/L
Phorate	7.30E+00	1.2 U	1.2 U	1.2 UJ	1.2 U	ug/L
Ronnel	1.82E+03	10 U	10 U	10 U	10 U	ug/L
Stirphos	--	3.5 U	3.5 U	3.5 U	3.5 U	ug/L
Sulfotep	1.82E+01	1.5 U	1.5 U	1.5 U	1.5 U	ug/L
Thionazin	--	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Tokuthion	--	1.6 U	1.6 U	1.6 U	1.6 U	ug/L
Trichloronate	--	0.50 U	0.50 U	0.50 U	0.50 U	ug/L

**Notes:**

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
2. U.S. EPA Maximum Contaminant Level (MCL) values unless noted
  - (c) Equal to the USEPA Region 9 Preliminary Remediation Goals (PRGs) for tapwater (October, 2004).
  - (cc) Value for demeton used as surrogate for demeton-o and demeton-s based on structural similarities.
  - (tt) Value for parathion-methyl used as surrogate for parathion-ethyl due to structural similarities.
  - (ff) Value for methyl parathion used as surrogate for fenthion based on structural similarities.



**LOU 60 Table 11  
Soil Characterization Data - PCBs**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program		Ph A <sup>1</sup>	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring ID		SA3	SA3	SA3	SA3	SA3	SA3	SA4	SA4	SA4	SA4	SA4
Sample ID		SA3-0.5	SA3-0.5D	SA3-10	SA3-20	SA3-30	SA3-40	SA4-0.5	SA4-10	SA4-20	SA4-30	SA4-40
Sample Depth (ft)		0.5	0.5	10	20	30	40	0.5	10	20	30	40
Sample Date		11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006
PCBs	PRG <sup>2</sup> mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aroclor-1016	1.00E+01 (i)	0.035 U	0.035 U	0.035 U	0.036 U	0.043 U	0.049 U	0.036 U	0.035 U	0.036 U	0.038 U	0.035 U
Aroclor-1221	1.00E+01 (i)	0.035 U	0.035 U	0.035 U	0.036 U	0.043 U	0.049 U	0.036 U	0.035 U	0.036 U	0.038 U	0.035 U
Aroclor-1232	1.00E+01 (i)	0.035 U	0.035 U	0.035 U	0.036 U	0.043 U	0.049 U	0.036 U	0.035 U	0.036 U	0.038 U	0.035 U
Aroclor-1242	1.00E+01 (i)	0.035 U	0.035 U	0.035 U	0.036 U	0.043 U	0.049 U	0.036 U	0.035 U	0.036 U	0.038 U	0.035 U
Aroclor-1248	1.00E+01 (i)	0.035 U	0.035 U	0.035 U	0.036 U	0.043 U	0.049 U	0.036 U	0.035 U	0.036 U	0.038 U	0.035 U
Aroclor-1254	1.00E+01 (i)	0.035 U	0.035 U	0.035 U	0.036 U	0.043 U	0.049 U	0.036 U	0.035 U	0.036 U	0.038 U	0.035 U
Aroclor-1260	1.00E+01 (i)	0.035 U	0.035 U	0.035 U	0.036 U	0.043 U	0.049 U	0.036 U	0.035 U	0.036 U	0.038 U	0.035 U

Sampling Program		Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring ID		SA5	SA5	SA5	SA5	SA5	SA6	SA6	SA6	SA6	SA6	SA6
Sample ID		SA5-0.5	SA5-10	SA5-20	SA5-30	SA5-37	SA6-0.5	SA6-0.5D	SA6-10	SA6-20	SA6-30	SA6-35
Sample Depth (ft)		0.5	10	20	30	37	0.5	0.5	10	20	30	35
Sample Date		11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006
PCBs	PRG <sup>2</sup> mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aroclor-1016	1.00E+01 (i)	0.043 U	0.038 U	0.039 U	0.036 U	0.055 U	0.035 U	0.038 U	0.036 U	0.036 U	0.035 U	0.049 U
Aroclor-1221	1.00E+01 (i)	0.043 U	0.038 U	0.039 U	0.036 U	0.055 U	0.035 U	0.038 U	0.036 U	0.036 U	0.035 U	0.049 U
Aroclor-1232	1.00E+01 (i)	0.043 U	0.038 U	0.039 U	0.036 U	0.055 U	0.035 U	0.038 U	0.036 U	0.036 U	0.035 U	0.049 U
Aroclor-1242	1.00E+01 (i)	0.043 U	0.038 U	0.039 U	0.036 U	0.055 U	0.035 U	0.038 U	0.036 U	0.036 U	0.035 U	0.049 U
Aroclor-1248	1.00E+01 (i)	0.043 U	0.038 U	0.039 U	0.036 U	0.055 U	0.035 U	0.038 U	0.036 U	0.036 U	0.035 U	0.049 U
Aroclor-1254	1.00E+01 (i)	0.043 U	0.038 U	0.039 U	0.036 U	0.055 U	0.035 U	0.038 U	0.036 U	0.036 U	0.035 U	0.049 U
Aroclor-1260	1.00E+01 (i)	0.043 U	0.038 U	0.039 U	0.036 U	0.055 U	0.035 U	0.038 U	0.036 U	0.036 U	0.035 U	0.049 U

**LOU 60 Table 11 (continued)**  
**Soil Characterization Data - PCBs**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program		Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring ID		SA7	SA7	SA7	SA7	SA7	SA7	SA8	SA8	SA8	SA8	SA8
Sample ID		SA7-0.5	SA7-10	SA7-10D	SA7-20	SA7-30	SA7-34	SA8-0.5	SA8-10	SA8-20	SA8-30	SA8-37
Sample Depth (ft)		0.5	10	10	20	30	34	0.5	10	20	30	37
Sample Date		11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006
PCBs	PRG <sup>2</sup> mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aroclor-1016	1.00E+01 (i)	0.035 U	0.035 U	0.036 U	0.036 U	0.035 U	0.043 U	0.035 U	0.035 U	0.035 U	0.036 U	0.045 U
Aroclor-1221	1.00E+01 (i)	0.035 U	0.035 U	0.036 U	0.036 U	0.035 U	0.043 U	0.035 U	0.035 U	0.035 U	0.036 U	0.045 U
Aroclor-1232	1.00E+01 (i)	0.035 U	0.035 U	0.036 U	0.036 U	0.035 U	0.043 U	0.035 U	0.035 U	0.035 U	0.036 U	0.045 U
Aroclor-1242	1.00E+01 (i)	0.035 U	0.035 U	0.036 U	0.036 U	0.035 U	0.043 U	0.035 U	0.035 U	0.035 U	0.036 U	0.045 U
Aroclor-1248	1.00E+01 (i)	0.035 U	0.035 U	0.036 U	0.036 U	0.035 U	0.043 U	0.035 U	0.035 U	0.035 U	0.036 U	0.045 U
Aroclor-1254	1.00E+01 (i)	0.035 U	0.035 U	0.036 U	0.036 U	0.035 U	0.043 U	0.035 U	0.035 U	0.035 U	0.036 U	0.045 U
Aroclor-1260	1.00E+01 (i)	0.035 U	0.035 U	0.036 U	0.036 U	0.035 U	0.043 U	0.035 U	0.035 U	0.035 U	0.036 U	0.045 U

Sampling Program		Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring ID		SA13	SA13	SA13	SA13	SA13	SA13
Sample ID		SA13-0.5	SA13-0.5D	SA13-10	SA13-20	SA13-30	SA13-40
Sample Depth (ft)		0.5	0.5	10	20	30	40
Sample Date		11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006
PCBs	PRG <sup>2</sup> mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aroclor-1016	1.00E+01 (i)	0.038 U	0.037 U	0.034 U	0.035 U	0.035 U	0.042 U
Aroclor-1221	1.00E+01 (i)	0.038 U	0.037 U	0.034 U	0.035 U	0.035 U	0.042 U
Aroclor-1232	1.00E+01 (i)	0.038 U	0.037 U	0.034 U	0.035 U	0.035 U	0.042 U
Aroclor-1242	1.00E+01 (i)	0.038 U	0.037 U	0.034 U	0.035 U	0.035 U	0.042 U
Aroclor-1248	1.00E+01 (i)	0.038 U	0.037 U	0.034 U	0.035 U	0.035 U	0.042 U
Aroclor-1254	1.00E+01 (i)	0.038 U	0.037 U	0.034 U	0.035 U	0.035 U	0.042 U
Aroclor-1260	1.00E+01 (i)	0.038 U	0.037 U	0.034 U	0.035 U	0.035 U	0.042 U

- Notes:**
1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
  2. U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) for industrial soil (October, 2004)
- (i) For PCBs, the individual Aroclors were compared to the TSCA action level of 10 mg/kg, for high occupancy, restricted (non-residential) use. (40 CFR Part 761; 63 FR 35383-35474, June 29, 1998).

**LOU 60 Table 12**  
**Groundwater Characterization Data - PCBs**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program		Ph A <sup>1</sup>	Ph A	Ph A	Ph A	
Well ID		M11	M11D	M12A	M13	
Sample ID		M11	M11D	M12A	M13	
Sample Date		12/06/2006	12/06/2006	12/05/2006	12/01/2006	
PCBs	MCL <sup>2</sup> ug/l					Unit
Aroclor-1016	5.00E-01 (bb)	0.10 U	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1221	5.00E-01 (bb)	0.10 U	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1232	5.00E-01 (bb)	0.10 U	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1242	5.00E-01 (bb)	0.10 U	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1248	5.00E-01 (bb)	0.10 U	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1254	5.00E-01 (bb)	0.10 U	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1260	5.00E-01 (bb)	0.10 U	0.10 U	0.10 U	0.10 U	ug/L

**Notes:**

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
2. U.S. EPA Maximum Contaminant Level (MCL) values unless noted

**LOU 60 Table 13  
Soil Characterization Data - Perchlorate**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Boring ID	Sample ID	Sample Depth (ft)	Sample Date	Perchlorate ug/kg	PRG <sup>1</sup> mg/kg	Sampling Program
SA3	SA3-0.5	0.5	11/13/2006	1880	1.00E+02	Ph A <sup>2</sup>
	SA3-0.5D	0.5	11/13/2006	1540	1.00E+02	Ph A
	SA3-10	10	11/13/2006	10200	1.00E+02	Ph A
	SA3-20	20	11/13/2006	6100	1.00E+02	Ph A
	SA3-30	30	11/13/2006	974	1.00E+02	Ph A
	SA3-40	40	11/13/2006	86.7	1.00E+02	Ph A
SA4	SA4-0.5	0.5	11/14/2006	3140	1.00E+02	Ph A
	SA4-10	10	11/14/2006	496	1.00E+02	Ph A
	SA4-20	20	11/14/2006	3800	1.00E+02	Ph A
	SA4-30	30	11/14/2006	42800	1.00E+02	Ph A
	SA4-40	40	11/14/2006	73900	1.00E+02	Ph A
SA5	SA5-0.5	0.5	11/14/2006	14900	1.00E+02	Ph A
	SA5-10	10	11/14/2006	112000	1.00E+02	Ph A
	SA5-20	20	11/14/2006	66400	1.00E+02	Ph A
	SA5-30	30	11/14/2006	19100	1.00E+02	Ph A
	SA5-37	37	11/14/2006	375000	1.00E+02	Ph A
SA6	SA6-0.5	0.5	11/14/2006	239	1.00E+02	Ph A
	SA6-0.5D	0.5	11/14/2006	426	1.00E+02	Ph A
	SA6-10	10	11/14/2006	2320	1.00E+02	Ph A
	SA6-20	20	11/14/2006	3020	1.00E+02	Ph A
	SA6-30	30	11/14/2006	5340	1.00E+02	Ph A
	SA6-35	35	11/14/2006	54100	1.00E+02	Ph A
SA7	SA7-0.5	0.5	11/20/2006	34300 J	1.00E+02	Ph A
	SA7-10	10	11/20/2006	109000 J	1.00E+02	Ph A
	SA7-10D	10	11/20/2006	113000 J	1.00E+02	Ph A
	SA7-20	20	11/20/2006	12800 J	1.00E+02	Ph A
	SA7-30	30	11/20/2006	8690 J	1.00E+02	Ph A
	SA7-34	34	11/20/2006	31700 J	1.00E+02	Ph A
SA8	SA8-0.5	0.5	11/17/2006	17500	1.00E+02	Ph A
	SA8-10	10	11/17/2006	1500	1.00E+02	Ph A
	SA8-20	20	11/17/2006	3300	1.00E+02	Ph A
	SA8-30	30	11/17/2006	2690	1.00E+02	Ph A
	SA8-37	37	11/17/2006	12100	1.00E+02	Ph A
SA13	SA13-0.5	0.5	11/17/2006	192	1.00E+02	Ph A
	SA13-0.5D	0.5	11/17/2006	120	1.00E+02	Ph A
	SA13-10	10	11/17/2006	195	1.00E+02	Ph A
	SA13-20	20	11/17/2006	184	1.00E+02	Ph A
	SA13-30	30	11/17/2006	220	1.00E+02	Ph A
	SA13-40	40	11/17/2006	1490	1.00E+02	Ph A

**Notes:**

1. U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) for industrial soil (October, 2004)
2. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.

**LOU 60 Table 14  
Groundwater Characterization Data - Perchlorate**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

<b>Well ID Number</b>	<b>Sample ID</b>	<b>Sample Date</b>	<b>Perchlorate</b>	<b>Units</b>	<b>MCL<sup>1</sup> ug/l</b>	<b>Sampling Program</b>
M11	M11	12/06/2006	<b>32500 J+</b>	ug/L	1.80E+01 a,(m)	Ph A <sup>2</sup>
M11D	M11D	12/06/2006	<b>32400 J+</b>	ug/L	1.80E+01 a,(m)	Ph A
M12A	M12A	12/05/2006	<b>323000 J+</b>	ug/L	1.80E+01 a,(m)	Ph A
M13	M13	12/01/2006	<b>25300</b>	ug/L	1.80E+01 a,(m)	Ph A

**Notes:**

1. U.S. EPA Maximum Contaminant Level (MCL) values unless noted
  2. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
- (a) NAC 445A.455 Secondary standards. Certain provisions of the National Primary Drinking Water Regulations are adopted by reference (NAC 445A.4525). These values are listed in the first column of this table and are therefore not listed again here. Only NAC 445A.455 Secondary standards are listed.
- (m) Equal to the provisional action level derived by NDEP as referenced in "Defining a Perchlorate Drinking Water Standard". NDEP Bureau of Corrective Action. URL [[http://ndep.nv.gov/bca/perchlorate02\\_05.htm](http://ndep.nv.gov/bca/perchlorate02_05.htm)].

**LOU 60 Table 15  
Soil Characterization Data - Radionuclides**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

				Ra-226 (gamma) pCi/g	Ra-228 (gamma) pCi/g	Th-228 (TH MOD) pCi/g	Th-230 (TH MOD) pCi/g	Th-232 (TH MOD) pCi/g	U-233/234 (U MOD) pCi/g	U-235/236 (U MOD) pCi/g	U-238 (U MOD) pCi/g	
			<b>PRG<sup>1</sup> mg/kg</b>	2.60E-02	1.50E-01	2.55E-01	2.02E+01	1.90E+01	3.24E+01	3.98E-01	1.80E+00	
<b>Boring ID Number</b>	<b>Sample ID</b>	<b>Sample Depth (ft)</b>	<b>Date</b>									<b>Sampling Program</b>
SA3	SA3-0.5	0.5	11/13/2006	<b>0.997 J</b>	<b>1.81</b>							Ph A <sup>2</sup>
	SA3-0.5D	0.5	11/13/2006	<b>1.13 J</b>	2.21 U							Ph A
	SA3-10	10	11/13/2006	<b>1.01 J</b>	<b>1.65</b>	<b>0.691 J</b>	<b>0.554 J</b>	<b>0.601 J</b>	<b>0.427 J-</b>	0.0123 UJ	<b>0.292 J-</b>	Ph A
	SA3-20	20	11/13/2006	<b>1.19 J</b>	<b>1.66</b>							Ph A
	SA3-30	30	11/13/2006	<b>1.59 J</b>	0.357 U							Ph A
	SA3-40	40	11/13/2006	<b>2.34</b>	0.913 U							Ph A
SA4	SA4-0.5	0.5	11/14/2006	<b>1.1 J</b>	<b>1.83</b>							Ph A
	SA4-10	10	11/14/2006	<b>1.13 J</b>	<b>1.81</b>							Ph A
	SA4-20	20	11/14/2006	<b>1.19 J</b>	<b>1.53</b>	<b>0.511 JB</b>	<b>0.875 J</b>	<b>0.706 J</b>	<b>1.35</b>	<b>0.0181 J</b>	<b>0.833</b>	Ph A
	SA4-30	30	11/14/2006	<b>1.45 J</b>	<b>1.91</b>							Ph A
	SA4-40	40	11/14/2006	<b>1.6 J</b>	<b>1.9</b>							Ph A
SA5	SA5-0.5	0.5	11/14/2006	<b>1.12 J</b>	<b>1.92</b>							Ph A
	SA5-10	10	11/14/2006	<b>1.07 J</b>	<b>1.66</b>							Ph A
	SA5-20	20	11/14/2006	<b>1.1 J</b>	<b>1.52</b>							Ph A
	SA5-30	30	11/14/2006	<b>2.29</b>	<b>1.68</b>	<b>0.481 JB</b>	<b>2.23</b>	<b>0.59 J</b>	<b>1.58</b>	<b>0.0469 J</b>	<b>1.37</b>	Ph A
	SA5-37	37	11/14/2006	<b>2.46</b>	<b>0.806 J</b>							Ph A
SA6	SA6-0.5	0.5	11/14/2006	<b>1.18 J</b>	<b>1.87</b>							Ph A
	SA6-0.5D	0.5	11/14/2006	<b>1.32 J</b>	<b>1.89</b>							Ph A
	SA6-10	10	11/14/2006	<b>1.07 J</b>	<b>1.8</b>	<b>0.601 J</b>	<b>0.619 JB</b>	<b>0.668 J</b>	<b>0.787</b>	<b>0.0165 J</b>	<b>0.483 J</b>	Ph A
	SA6-20	20	11/14/2006	<b>1.21 J</b>	<b>1.63</b>							Ph A
	SA6-30	30	11/14/2006	<b>1.49 J</b>	<b>1.94</b>							Ph A
	SA6-35	35	11/14/2006	<b>2.1</b>	1.1 U							Ph A
SA7	SA7-0.5	0.5	11/20/2006	<b>1.12 J-</b>	<b>1.83 J-</b>							Ph A
	SA7-10	10	11/20/2006	<b>1.02 J-</b>	<b>1.9 J-</b>							Ph A
	SA7-10D	10	11/20/2006	<b>0.939 J-</b>	<b>1.77 J-</b>							Ph A
	SA7-20	20	11/20/2006	<b>1.28 J-</b>	<b>1.57 J-</b>	<b>0.488 J</b>	<b>0.775 J</b>	<b>0.618 J</b>	<b>0.652 J+</b>	0.0145 U	<b>0.493 J</b>	Ph A
	SA7-30	30	11/20/2006	<b>1.79 J-</b>	<b>1.78 J-</b>							Ph A

**LOU 60 Table 15 (continued)  
Soil Characterization Data - Radionuclides**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

				Ra-226 (gamma) pCi/g	Ra-228 (gamma) pCi/g	Th-228 (TH MOD) pCi/g	Th-230 (TH MOD) pCi/g	Th-232 (TH MOD) pCi/g	U-233/234 (U MOD) pCi/g	U-235/236 (U MOD) pCi/g	U-238 (U MOD) pCi/g	
			<b>PRG mg/kg</b>	2.60E-02	1.50E-01	2.55E-01	2.02E+01	1.90E+01	3.24E+01	3.98E-01	1.80E+00	
<b>Boring ID Number</b>	<b>Sample ID</b>	<b>Sample Depth (ft)</b>	<b>Date</b>									<b>Sampling Program</b>
	SA7-34	34	11/20/2006	<b>7.49 J-</b>	<b>0.805 J-</b>							Ph A
SA8	SA8-0.5	0.5	11/17/2006	<b>1.07 J-</b>	<b>1.76 J-</b>							Ph A
	SA8-10	10	11/17/2006	<b>1.08 J-</b>	2.05 UJ							Ph A
	SA8-20	20	11/17/2006	<b>1 J-</b>	<b>1.88 J-</b>							Ph A
	SA8-30	30	11/17/2006	<b>1.34 J-</b>	<b>1.85 J-</b>							Ph A
	SA8-37	37	11/17/2006	<b>3.16 J-</b>	0.771 UJ							Ph A
SA13	SA13-0.5	0.5	11/17/2006	<b>1.12 J-</b>	<b>1.68 J-</b>							Ph A
	SA13-0.5D	0.5	11/17/2006	<b>1.06 J-</b>	<b>1.87 J-</b>							Ph A
	SA13-10	10	11/17/2006	<b>1.14 J-</b>	<b>2.05 J-</b>							Ph A
	SA13-20	20	11/17/2006	<b>1.27 J-</b>	<b>1.78 J-</b>							Ph A
	SA13-30	30	11/17/2006	<b>1.73 J-</b>	<b>1.88 J-</b>							Ph A
	SA13-40	40	11/17/2006	<b>1.79 J-</b>	<b>1.61 J-</b>	<b>0.659 J</b>	<b>0.922 J</b>	<b>0.539 J</b>	<b>1.05 J+</b>	0.0274 U	<b>0.813</b>	Ph A

**Notes:**

1. U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) for industrial soil (October, 2004)
2. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.

**LOU 60 Table 16**  
**Groundwater Characterization Data - Radionuclides**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

			Ra-226	Ra-228	Th-228	Th-230	Th-232	U-233/234	U-235/236	U-238	
			pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	
		<b>TW PRG 1,2</b>	8.16E-04	4.58E-02	1.59E-01	5.23E-01	4.71E-01	6.74E-01	6.63E-01	5.47E-01	
Well ID Number	Sample ID	Date									Sampling Program
M11	M11-Z	05/11/2007	0.332 U	<b>1.23 B</b>							Ph A <sup>3</sup>
M12A	M12A-Z	05/11/2007	<b>0.601 J</b>	<b>1.45</b>							Ph A
M13	M13-Z	05/09/2007	0.0728 U	0.152 UJ							Ph A

**Notes:**

1. Equal to the USEPA Region 9 Preliminary Remediation Goals (PRGs) for tapwater (October, 2004).
2. USEPA, 2004. Radionuclide Toxicity and Preliminary Remediation Goals (PRGs) for Superfund. <http://epa-prgs.ornl.gov/radionuclides/download.shtml>. August 4, 2004. Soil values are the outdoor worker values; water values are the tapwater values. For radionuclides with decay chains, the PRG for the decay chain was used.
3. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.



LOU 60 Table 17  
Soil Characterization Data - SVOC

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program			Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	
Boring No.			SA3	SA3	SA3	SA3	SA3	SA3	SA4	SA4	SA4	SA4	
Sample ID			SA3-0.5	SA3-0.5D	SA3-10	SA3-20	SA3-30	SA3-40	SA4-0.5	SA4-10	SA4-20	SA4-30	SA4-40
Sample Depth (ft)			0.5	0.5	10	20	30	40	0.5	10	20	30	40
Sample Date			11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006
SVOC	Analytical Method	PRG <sup>2</sup> mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,4-Dioxane	non-SIM	1.57E+02	71 U	70 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
2-Methylnaphthalene	non-SIM	1.88E+02 (ij)	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
2-Methylnaphthalene	SIM	1.88E+02 (ij)	7.1 U	7.0 U					7.3 U				
Acenaphthene	non-SIM	2.92E+04	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Acenaphthene	SIM	2.92E+04	7.1 U	7.0 U					7.3 U				
Acenaphthylene	non-SIM	2.92E+04 (pp)	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Acenaphthylene	SIM	2.92E+04 (pp)	7.1 U	7.0 U					7.3 U				
Anthracene	non-SIM	2.40E+05 (oo)	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Anthracene	SIM	2.40E+05 (oo)	7.1 U	7.0 U					7.3 U				
Benz(a)anthracene	non-SIM	2.11E+00	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Benz(a)anthracene	SIM	2.11E+00	7.1 U	7.0 U					7.3 U				
Benzo(a)pyrene	non-SIM	2.11E-01	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Benzo(a)pyrene	SIM	2.11E-01	7.1 U	7.0 U					7.3 U				
Benzo(b)fluoranthene	non-SIM	2.11E+00	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Benzo(b)fluoranthene	SIM	2.11E+00	7.1 U	7.0 U					7.3 U				
Benzo(g,h,i)perylene	non-SIM	2.91E+04 (w)	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Benzo(g,h,i)perylene	SIM	2.91E+04 (w)	7.1 U	7.0 U					7.3 U				
Benzo(k)fluoranthene	non-SIM	2.11E+01	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Benzo(k)fluoranthene	SIM	2.11E+01	7.1 U	7.0 U					7.3 U				
bis(2-Ethylhexyl)phthalate	non-SIM	1.23E+02	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Butyl benzyl phthalate	non-SIM	1.23E+05 (oo)	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Chrysene	non-SIM	2.11E+02	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Chrysene	SIM	2.11E+02	7.1 U	7.0 U					7.3 U				
Dibenz(a,h)anthracene	non-SIM	2.11E-01	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Dibenz(a,h)anthracene	SIM	2.11E-01	7.1 U	7.0 U					7.3 U				
Diethyl phthalate	non-SIM	4.92E+05 (oo)	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Dimethyl phthalate	non-SIM	6.16E+06 (oo)	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Di-N-Butyl phthalate	non-SIM	6.16E+04	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Di-N-Octyl phthalate	non-SIM	2.46E+04	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Fluoranthene	non-SIM	2.20E+04	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Fluoranthene	SIM	2.20E+04	7.1 U	7.0 U					7.3 U				
Fluorene	non-SIM	2.63E+04	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Fluorene	SIM	2.63E+04	7.1 U	7.0 U					7.3 U				
Hexachlorobenzene	non-SIM	1.08E+00	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Hexachlorobenzene	SIM	1.08E+00	7.1 U	10					8.8				
Indeno(1,2,3-cd)pyrene	non-SIM	2.11E+00	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Indeno(1,2,3-cd)pyrene	SIM	2.11E+00	7.1 U	7.0 U					7.3 U				
Naphthalene	non-SIM	1.88E+02	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Naphthalene	non-SIM	1.88E+02	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Naphthalene	SIM	1.88E+02	7.1 U	7.0 U					7.3 U				
Nitrobenzene	non-SIM	1.03E+02	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Octachlorostyrene	non-SIM	--	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Phenanthrene	non-SIM	2.40E+05 (n)	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Phenanthrene	SIM	2.40E+05 (n)	7.1 U	7.0 U					7.3 U				
Pyrene	non-SIM	2.91E+04	350 U	350 U	350 U	360 U	430 U	490 U	360 U	350 U	360 U	380 U	350 U
Pyrene	SIM	2.91E+04	7.0 J	7.0 U					7.3 U				
Pyridine	non-SIM	6.16E+02	1700 U	1700 U	1700 U	1800 U	2100 U	2400 U	1800 U	1700 U	1700 U	1800 U	1700 U

LOU 60 Table 17 (continued)  
Soil Characterization Data - SVOC

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program			Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.			SA5	SA5	SA5	SA5	SA5	SA6	SA6	SA6	SA6	SA6	SA6
Sample ID			SA5-0.5	SA5-10	SA5-20	SA5-30	SA5-37	SA6-0.5	SA6-0.5D	SA6-10	SA6-20	SA6-30	SA6-35
Sample Depth (ft)			0.5	10	20	30	37	0.5	0.5	10	20	30	35
Sample Date			11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006
SVOC	Analytical Method	PRG <sup>2</sup> mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,4-Dioxane	non-SIM	1.57E+02	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
2-Methylnaphthalene	non-SIM	1.88E+02 (ij)	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
2-Methylnaphthalene	SIM	1.88E+02 (ij)	8.5 U					7.0 U	7.7 U				
Acenaphthene	non-SIM	2.92E+04	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Acenaphthene	SIM	2.92E+04	8.5 U					7.0 U	7.7 U				
Acenaphthylene	non-SIM	2.92E+04 (pp)	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Acenaphthylene	SIM	2.92E+04 (pp)	8.5 U					7.0 U	7.7 U				
Anthracene	non-SIM	2.40E+05 (oo)	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Anthracene	SIM	2.40E+05 (oo)	8.5 U					7.0 U	7.7 U				
Benz(a)anthracene	non-SIM	2.11E+00	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Benz(a)anthracene	SIM	2.11E+00	8.5 U					7.0 U	7.7 U				
Benzo(a)pyrene	non-SIM	2.11E-01	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Benzo(a)pyrene	SIM	2.11E-01	8.5 U					7.0 U	7.7 U				
Benzo(b)fluoranthene	non-SIM	2.11E+00	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Benzo(b)fluoranthene	SIM	2.11E+00	8.5 U					7.0 U	7.7 U				
Benzo(g,h,i)perylene	non-SIM	2.91E+04 (w)	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Benzo(g,h,i)perylene	SIM	2.91E+04 (w)	8.5 U					7.0 U	7.7 U				
Benzo(k)fluoranthene	non-SIM	2.11E+01	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Benzo(k)fluoranthene	SIM	2.11E+01	8.5 U					7.0 U	7.7 U				
bis(2-Ethylhexyl)phthalate	non-SIM	1.23E+02	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Butyl benzyl phthalate	non-SIM	1.23E+05 (oo)	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Chrysene	non-SIM	2.11E+02	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Chrysene	SIM	2.11E+02	8.5 U					7.0 U	7.7 U				
Dibenz(a,h)anthracene	non-SIM	2.11E-01	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Dibenz(a,h)anthracene	SIM	2.11E-01	8.5 U					7.0 U	7.7 U				
Diethyl phthalate	non-SIM	4.92E+05 (oo)	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Dimethyl phthalate	non-SIM	6.16E+06 (oo)	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Di-N-Butyl phthalate	non-SIM	6.16E+04	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Di-N-Octyl phthalate	non-SIM	2.46E+04	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Fluoranthene	non-SIM	2.20E+04	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Fluoranthene	SIM	2.20E+04	8.5 U					7.0 U	7.7 U				
Fluorene	non-SIM	2.63E+04	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Fluorene	SIM	2.63E+04	8.5 U					7.0 U	7.7 U				
Hexachlorobenzene	non-SIM	1.08E+00	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Hexachlorobenzene	SIM	1.08E+00	21					7.0 U	7.7 U				
Indeno(1,2,3-cd)pyrene	non-SIM	2.11E+00	430 U	380 U	390 U	360 U	550 U	350 UJ	380 UJ	360 U	360 U	350 U	490 U
Indeno(1,2,3-cd)pyrene	SIM	2.11E+00	8.5 U					7.0 U	7.7 U				
Naphthalene	non-SIM	1.88E+02	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Naphthalene	non-SIM	1.88E+02	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Naphthalene	SIM	1.88E+02	8.5 U					7.0 U	7.7 U				
Nitrobenzene	non-SIM	1.03E+02	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Octachlorostyrene	non-SIM	-	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Phenanthrene	non-SIM	2.40E+05 (n)	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Phenanthrene	SIM	2.40E+05 (n)	8.5 U					7.0 U	7.7 U				
Pyrene	non-SIM	2.91E+04	430 U	380 U	390 U	360 U	550 U	350 U	380 U	360 U	360 U	350 U	490 U
Pyrene	SIM	2.91E+04	8.5 U					7.0 U	7.7 U				
Pyridine	non-SIM	6.16E+02	2100 U	1900 U	1900 U	1700 U	2700 U	1700 U	1900 U	1700 U	1700 U	1700 U	2400 U

LOU 60 Table 17 (continued)  
Soil Characterization Data - SVOC

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program			Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.			SA7	SA7	SA7	SA7	SA7	SA7	SA8	SA8	SA8	SA8	SA8
Sample ID			SA7-0.5	SA7-10	SA7-10D	SA7-20	SA7-30	SA7-34	SA8-0.5	SA8-10	SA8-20	SA8-30	SA8-37
Sample Depth (ft)			0.5	10	10	20	30	34	0.5	10	20	30	37
Sample Date			11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006
SVOC	Analytical Method	PRG <sup>2</sup> mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,4-Dioxane	non-SIM	1.57E+02	70 U	350 U	360 U	360 U	350 U	430 U	69 U	350 U	350 U	360 U	450 U
2-Methylnaphthalene	non-SIM	1.88E+02 (ij)	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
2-Methylnaphthalene	SIM	1.88E+02 (ij)	7.0 U						6.9 U				
Acenaphthene	non-SIM	2.92E+04	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Acenaphthene	SIM	2.92E+04	7.0 U						6.9 U				
Acenaphthylene	non-SIM	2.92E+04 (pp)	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Acenaphthylene	SIM	2.92E+04 (pp)	7.0 U						6.9 U				
Anthracene	non-SIM	2.40E+05 (oo)	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Anthracene	SIM	2.40E+05 (oo)	7.0 U						6.9 U				
Benzo(a)anthracene	non-SIM	2.11E+00	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Benzo(a)anthracene	SIM	2.11E+00	7.0 U						6.9 U				
Benzo(a)pyrene	non-SIM	2.11E-01	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Benzo(a)pyrene	SIM	2.11E-01	7.0 U						6.9 U				
Benzo(b)fluoranthene	non-SIM	2.11E+00	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Benzo(b)fluoranthene	SIM	2.11E+00	7.0 U						6.9 U				
Benzo(g,h,i)perylene	non-SIM	2.91E+04 (w)	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Benzo(g,h,i)perylene	SIM	2.91E+04 (w)	7.0 U						6.9 U				
Benzo(k)fluoranthene	non-SIM	2.11E+01	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Benzo(k)fluoranthene	SIM	2.11E+01	7.0 U						6.9 U				
bis(2-Ethylhexyl)phthalate	non-SIM	1.23E+02	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Butyl benzyl phthalate	non-SIM	1.23E+05 (oo)	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Chrysene	non-SIM	2.11E+02	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Chrysene	SIM	2.11E+02	7.0 U						7.0				
Dibenz(a,h)anthracene	non-SIM	2.11E-01	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Dibenz(a,h)anthracene	SIM	2.11E-01	7.0 U						6.9 U				
Diethyl phthalate	non-SIM	4.92E+05 (oo)	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Dimethyl phthalate	non-SIM	6.16E+06 (oo)	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Di-N-Butyl phthalate	non-SIM	6.16E+04	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Di-N-Octyl phthalate	non-SIM	2.46E+04	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Fluoranthene	non-SIM	2.20E+04	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Fluoranthene	SIM	2.20E+04	7.0 U						27				
Fluorene	non-SIM	2.63E+04	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Fluorene	SIM	2.63E+04	7.0 U						6.9 U				
Hexachlorobenzene	non-SIM	1.08E+00	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Hexachlorobenzene	SIM	1.08E+00	7.0 U						6.9 U				
Indeno(1,2,3-cd)pyrene	non-SIM	2.11E+00	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Indeno(1,2,3-cd)pyrene	SIM	2.11E+00	7.0 U						6.9 U				
Naphthalene	non-SIM	1.88E+02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	0.79 J	5.3 U	5.2 U	5.5 U	6.8 U
Naphthalene	non-SIM	1.88E+02	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Naphthalene	SIM	1.88E+02	7.0 U						6.9 U				
Nitrobenzene	non-SIM	1.03E+02	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Octachlorostyrene	non-SIM	--	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Phenanthrene	non-SIM	2.40E+05 (n)	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Phenanthrene	SIM	2.40E+05 (n)	7.0 U						6.9 U				
Pyrene	non-SIM	2.91E+04	350 U	350 U	360 U	360 U	350 U	430 U	350 U	350 U	350 U	360 U	450 U
Pyrene	SIM	2.91E+04	7.0 U						12				
Pyridine	non-SIM	6.16E+02	1700 U	1700 U	1700 U	1700 U	1700 U	2100 U	1700 U	1700 U	1700 U	1700 U	2200 U

LOU 60 Table 17 (continued)  
Soil Characterization Data - SVOC

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program			Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.			SA13	SA13	SA13	SA13	SA13	SA13
Sample ID			SA13-0.5	SA13-0.5D	SA13-10	SA13-20	SA13-30	SA13-40
Sample Depth (ft)			0.5	0.5	10	20	30	40
Sample Date			11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006
SVOC	Analytical Method	PRG <sup>2</sup> mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,4-Dioxane	non-SIM	1.57E+02	77 U	73 U	340 U	350 U	350 U	420 U
2-Methylnaphthalene	non-SIM	1.88E+02 (ij)	380 U	370 U	340 U	350 U	350 U	420 U
2-Methylnaphthalene	SIM	1.88E+02 (ij)	7.7 U	7.3 U				
Acenaphthene	non-SIM	2.92E+04	380 U	370 U	340 U	350 U	350 U	420 U
Acenaphthene	SIM	2.92E+04	7.7 U	7.3 U				
Acenaphthylene	non-SIM	2.92E+04 (pp)	380 U	370 U	340 U	350 U	350 U	420 U
Acenaphthylene	SIM	2.92E+04 (pp)	7.7 U	7.3 U				
Anthracene	non-SIM	2.40E+05 (oo)	380 U	370 U	340 U	350 U	350 U	420 U
Anthracene	SIM	2.40E+05 (oo)	7.7 U	7.3 U				
Benz(a)anthracene	non-SIM	2.11E+00	380 U	370 U	340 U	350 U	350 U	420 U
Benz(a)anthracene	SIM	2.11E+00	7.7 U	7.3 U				
Benzo(a)pyrene	non-SIM	2.11E-01	380 U	370 U	340 U	350 U	350 U	420 U
Benzo(a)pyrene	SIM	2.11E-01	7.7 U	7.3 U				
Benzo(b)fluoranthene	non-SIM	2.11E+00	380 U	370 U	340 U	350 U	350 U	420 U
Benzo(b)fluoranthene	SIM	2.11E+00	7.7 U	7.3 U				
Benzo(g,h,i)perylene	non-SIM	2.91E+04 (w)	380 U	370 U	340 U	350 U	350 U	420 U
Benzo(g,h,i)perylene	SIM	2.91E+04 (w)	7.7 U	7.3 U				
Benzo(k)fluoranthene	non-SIM	2.11E+01	380 U	370 U	340 U	350 U	350 U	420 U
Benzo(k)fluoranthene	SIM	2.11E+01	7.7 U	7.3 U				
bis(2-Ethylhexyl)phthalate	non-SIM	1.23E+02	380 U	370 U	340 U	350 U	350 U	420 U
Butyl benzyl phthalate	non-SIM	1.23E+05 (oo)	380 U	370 U	340 U	350 U	350 U	420 U
Chrysene	non-SIM	2.11E+02	380 U	370 U	340 U	350 U	350 U	420 U
Chrysene	SIM	2.11E+02	7.7 U	7.3 U				
Dibenz(a,h)anthracene	non-SIM	2.11E-01	380 U	370 U	340 U	350 U	350 U	420 U
Dibenz(a,h)anthracene	SIM	2.11E-01	7.7 U	7.3 U				
Diethyl phthalate	non-SIM	4.92E+05 (oo)	380 U	370 U	340 U	350 U	350 U	420 U
Dimethyl phthalate	non-SIM	6.16E+06 (oo)	380 U	370 U	340 U	350 U	350 U	420 U
Di-N-Butyl phthalate	non-SIM	6.16E+04	380 U	370 U	340 U	350 U	350 U	420 U
Di-N-Octyl phthalate	non-SIM	2.46E+04	380 U	370 U	340 U	350 U	350 U	420 U
Fluoranthene	non-SIM	2.20E+04	380 U	370 U	340 U	350 U	350 U	420 U
Fluoranthene	SIM	2.20E+04	7.7 U	7.3 U				
Fluorene	non-SIM	2.63E+04	380 U	370 U	340 U	350 U	350 U	420 U
Fluorene	SIM	2.63E+04	7.7 U	7.3 U				
Hexachlorobenzene	non-SIM	1.08E+00	380 U	370 U	340 U	350 U	350 U	420 U
Hexachlorobenzene	SIM	1.08E+00	7.7 U	7.3 U				
Indeno(1,2,3-cd)pyrene	non-SIM	2.11E+00	380 UJ	370 UJ	340 UJ	350 UJ	350 UJ	420 UJ
Indeno(1,2,3-cd)pyrene	SIM	2.11E+00	7.7 U	7.3 U				
Naphthalene	non-SIM	1.88E+02	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Naphthalene	non-SIM	1.88E+02	380 U	370 U	340 U	350 U	350 U	420 U
Naphthalene	SIM	1.88E+02	7.7 U	7.3 U				
Nitrobenzene	non-SIM	1.03E+02	380 U	370 U	340 U	350 U	350 U	420 U
Octachlorostyrene	non-SIM	-	380 U	370 U	340 U	350 U	350 U	420 U
Phenanthrene	non-SIM	2.40E+05 (n)	380 U	370 U	340 U	350 U	350 U	420 U
Phenanthrene	SIM	2.40E+05 (n)	7.7 U	7.3 U				
Pyrene	non-SIM	2.91E+04	380 U	370 U	340 U	350 U	350 U	420 U
Pyrene	SIM	2.91E+04	7.7 U	7.3 U				
Pyridine	non-SIM	6.16E+02	1900 U	1800 U	1700 U	1700 U	1700 U	2000 U

LOU 60 Table 17 (continued)  
Soil Characterization Data - SVOC

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
  2. U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) for industrial soil (October, 2004)
- (jj) Value for naphthalene used as surrogate for 2-methylnaphthalene based on structural similarities.  
(pp) Value for acenaphthene used as surrogate for acenaphthylene based on structural similarities.  
(oo) PRG is based on maximum (1E+05 mg/kg). Therefore, the risk-based value provided in the electronic backup to the PRG table was used.  
(w) Value for pyrene used as surrogate for benzo(g,h,i)perylene based on structural similarities.  
(n) Value for anthracene used as surrogate for phenanthrene due to structural similarities.

**LOU 60 Table 18**  
**Groundwater Characterization Data - SVOC**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program			Ph A <sup>1</sup>	Ph A	Ph A	Ph A
Well No.			M11	M11D	M12A	M13
Sample ID			M11	M11D	M12A	M13
Sample Date			12/06/2006	12/06/2006	12/05/2006	12/01/2006
SVOCs	Analytical Method	MCL <sup>2</sup> ug/l	ug/L	ug/L	ug/L	ug/L
1,4-Dioxane	non-SIM	6.11E+00 c	10 U	10 U	10 U	<b>9.9</b>
2-Methylnaphthalene	non-SIM	6.20E+00 c,(jj)	10 U	10 U	10 U	10 U
2-Methylnaphthalene	SIM	6.20E+00 c,(jj)				0.20 U
Acenaphthene	non-SIM	3.65E+02 c	10 U	10 U	10 U	10 U
Acenaphthene	SIM	3.65E+02 c				0.20 U
Acenaphthylene	non-SIM	3.65E+02 c,(pp)	10 U	10 U	10 U	10 U
Acenaphthylene	SIM	3.65E+02 c,(pp)				0.20 U
Anthracene	non-SIM	1.83E+03 c	10 U	10 U	10 U	10 U
Anthracene	SIM	1.83E+03 c				0.20 U
Benz(a)anthracene	non-SIM	9.21E-02 c	10 U	10 U	10 U	10 U
Benz(a)anthracene	SIM	9.21E-02 c				0.20 U
Benzo(a)pyrene	non-SIM	2.00E-01	10 U	10 U	10 U	10 U
Benzo(a)pyrene	SIM	2.00E-01				0.20 U
Benzo(b)fluoranthene	non-SIM	9.21E-02 c	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	SIM	9.21E-02 c				0.20 U
Benzo(g,h,i)perylene	non-SIM	1.83E+02 c,(w)	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	SIM	1.83E+02 c,(w)				0.20 U
Benzo(k)fluoranthene	non-SIM	9.21E-01 c	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	SIM	9.21E-01 c				0.20 U
bis(2-Ethylhexyl)phthalate	non-SIM	6.00E+00	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	non-SIM	7.30E+03 c	10 U	10 U	10 U	10 U
Chrysene	non-SIM	9.21E+00 c	10 U	10 U	10 U	10 U
Chrysene	SIM	9.21E+00 c				0.20 U
Dibenz(a,h)anthracene	non-SIM	9.21E-03 c	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	SIM	9.21E-03 c				0.20 U
Diethyl phthalate	non-SIM	2.92E+04 c	10 U	10 U	10 U	10 U
Dimethyl phthalate	non-SIM	3.65E+05 c	10 U	10 U	10 U	10 U
Di-N-Butyl phthalate	non-SIM	3.65E+03 c	10 U	10 U	10 U	10 U
Di-N-Octyl phthalate	non-SIM	1.46E+03 c	10 U	10 U	10 U	10 U
Fluoranthene	non-SIM	1.46E+03 c	10 U	10 U	10 U	10 U
Fluoranthene	SIM	1.46E+03 c				0.20 U
Fluorene	non-SIM	2.43E+02 c	10 U	10 U	10 U	10 U
Fluorene	SIM	2.43E+02 c				0.20 U
Hexachlorobenzene	non-SIM	1.00E+00	10 U	10 U	10 U	10 U
Hexachlorobenzene	SIM	1.00E+00				0.20 U
Indeno(1,2,3-cd)pyrene	non-SIM	9.21E-02 c	10 UJ	10 UJ	10 U	10 U
Indeno(1,2,3-cd)pyrene	SIM	9.21E-02 c				0.20 U
Naphthalene	non-SIM	6.20E+00 c	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	non-SIM	6.20E+00 c	10 UJ	10 UJ	10 U	10 U
Naphthalene	SIM	6.20E+00 c				0.20 U
Nitrobenzene	non-SIM	3.40E+00 c	10 U	10 U	10 U	10 U
Octachlorostyrene	non-SIM	-- c	10 U	10 U	10 U	10 U

**LOU 60 Table 18 (continued)  
Groundwater Characterization Data - SVOC**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program			Ph A <sup>1</sup>	Ph A	Ph A	Ph A
Well No.			M11	M11D	M12A	M13
Sample ID			M11	M11D	M12A	M13
Sample Date			12/06/2006	12/06/2006	12/05/2006	12/01/2006
SVOCs	Analytical Method	MCL <sup>2</sup> ug/l	ug/L	ug/L	ug/L	ug/L
Phenanthrene	non-SIM	1.80E+03 (n)	10 U	10 U	10 U	10 U
Phenanthrene	SIM	1.80E+03 (n)				0.20 U
Pyrene	non-SIM	1.83E+02 c	10 U	10 U	10 U	10 U
Pyrene	SIM	1.83E+02 c				0.20 U
Pyridine	non-SIM	3.65E+01 c	20 U	20 U	20 U	20 U

**Notes:**

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
2. U.S. EPA Maximum Contaminant Level (MCL) values unless noted
  - (c) Equal to the USEPA Region 9 Preliminary Remediation Goals (PRGs) for tapwater (October, 2004).
  - (jj) Value for naphthalene used as surrogate for 2-methylnaphthalene based on structural similarities.
  - (pp) Value for acenaphthene used as surrogate for acenaphthylene based on structural similarities.
  - (w) Value for pyrene used as surrogate for benzo(g,h,i)perylene based on structural similarities.
  - (n) Value for anthracene used as surrogate for phenanthrene due to structural similarities.

**LOU 60 Table 19  
Soil Characteristic Data - TPH and Fuel Alcohols**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Boring No.	Sample ID.	Sample Depth (ft)	Sample Date	Fuel Alcohols			Total Petroleum Hydrocarbons			Sampling Program
				Ethanol	Ethylene glycol	Methanol	TPH - ORO	TPH - DRO	TPH - GRO	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
			<b>PRG<sup>1</sup></b>	--	1.23E+06 oo	3.08E+05 oo	1.00E+02 w	1.00E+02 w	1.00E+02 w	
SA3	SA3-0.5	0.5	11/13/2006	53 UJ	92 UJ	53 UJ	27 U	27 U	0.11 U	Ph A <sup>2</sup>
	SA3-0.5D	0.5	11/13/2006	53 UJ	87 UJ	53 UJ	27 U	27 U	0.11 U	Ph A
	SA3-10	10	11/13/2006	53 UJ	79 UJ	53 UJ	27 U	27 U	0.11 U	Ph A
	SA3-20	20	11/13/2006	55 UJ	89 UJ	55 UJ	27 U	27 U	0.11 U	Ph A
	SA3-30	30	11/13/2006	64 UJ	118 UJ	64 UJ	32 U	32 U	0.13 U	Ph A
	SA3-40	40	11/13/2006	74 UJ	115 UJ	74 UJ	37 U	37 U	0.15 U	Ph A
SA4	SA4-0.5	0.5	11/14/2006				<b>43</b>	27 U	0.11 U	Ph A
	SA4-10	10	11/14/2006				27 U	27 U	0.11 U	Ph A
	SA4-20	20	11/14/2006				27 U	27 U	0.11 U	Ph A
	SA4-30	30	11/14/2006				29 U	29 U	0.11 U	Ph A
	SA4-40	40	11/14/2006				27 U	27 U	0.11 UJ	Ph A
SA6	SA6-0.5	0.5	11/14/2006	53 UJ	69 UJ	53 UJ	27 U	27 U	0.11 U	Ph A
	SA6-0.5D	0.5	11/14/2006	58 UJ	75 UJ	58 UJ	29 U	29 U	0.12 U	Ph A
	SA6-10	10	11/14/2006	54 UJ	108 UJ	54 UJ	27 U	27 U	0.11 U	Ph A
	SA6-20	20	11/14/2006	54 UJ	85 UJ	54 UJ	27 U	27 U	0.11 U	Ph A
	SA6-30	30.0	11/14/2006	53 UJ	98 UJ	53 UJ	26 U	26 U	0.11 U	Ph A
	SA6-35	35.0	11/14/2006	74 UJ	112 UJ	74 UJ	37 U	37 U	0.15 U	Ph A
SA7	SA7-0.5	0.5	11/20/2006				<b>26</b>	26 UJ	0.11 UJ	Ph A
	SA7-10	10	11/20/2006				26 U	26 U	0.11 UJ	Ph A
	SA7-10D	10	11/20/2006				27 U	27 U	0.11 UJ	Ph A
	SA7-20	20	11/20/2006				27 U	27 U	0.11 UJ	Ph A
	SA7-30	30	11/20/2006				27 U	27 U	0.11 UJ	Ph A
	SA7-34	34	11/20/2006				33 U	33 U	0.13 UJ	Ph A
SA8	SA8-0.5	0.5	11/17/2006				530 U	<b>3600</b>	<b>0.13</b>	Ph A
	SA8-10	10	11/17/2006				27 U	27 U	0.11 U	Ph A
	SA8-20	20	11/17/2006				26 U	26 U	0.10 U	Ph A
	SA8-30	30	11/17/2006				27 U	27 U	0.11 U	Ph A
	SA8-37	37	11/17/2006				34 U	34 U	0.14 U	Ph A

**Notes:**

1. U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) for industrial soil (October, 2004)
  2. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
- (oo) PRG is based on maximum (1E+05 mg/kg). Therefore, the risk-based value provided in the electronic backup to the PRG table was used.
- (w) Value for pyrene used as surrogate for benzo(g,h,i)perylene based on structural similarities.



LOU 60 Table 20a  
Soil Characterization Data - VOCs

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program	Ph A <sup>1</sup>	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.	SA3	SA3	SA3	SA3	SA3	SA3	SA3	SA4	SA4	SA4	SA4	SA4
Sample ID	SA3-0.5	SA3-0.5D	SA3-10	SA3-20	SA3-30	SA3-40	SA4-0.5	SA4-10	SA4-20	SA4-30	SA4-40	
Sample Depth (ft)	0.5	0.5	10	20	30	40	0.5	10	20	30	40	
Sample Date	11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006
VOCs	PRG <sup>2</sup> mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Naphthalene	1.88E+02	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,1,1,2-Tetrachloroethane	7.28E+00	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,1,1-Trichloroethane	6.90E+03 (mm)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,1,2,2-Tetrachloroethane	9.29E-01	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,1,2-Trichloroethane	1.61E+00	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,1-Dichloroethane	1.74E+03	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,1-Dichloroethene	4.13E+02	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,1-Dichloropropene	1.76E+00 (gg)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,2,3-Trichlorobenzene	2.16E+02 (hh)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	2.2 J
1,2,3-Trichloropropane	7.60E-02 (yy)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,2,4-Trichlorobenzene	2.16E+02	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,2,4-Trimethylbenzene	1.70E+02	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,2-Dibromo-3-chloropropane	2.02E+00	5.3 UJ	5.3 UJ	5.3 UJ	5.5 UJ	6.4 UJ	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,2-Dichlorobenzene	4.00E+03 (mm)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,2-Dichloroethane	6.03E-01	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,2-Dichloropropane	7.42E-01	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,3,5-Trimethylbenzene	6.97E+01	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,3-Dichlorobenzene	2.10E+03 (mm)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,3-Dichloropropane	3.61E+02	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,4-Dichlorobenzene	7.87E+00	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
2,2-Dichloropropane	7.42E-01 (ii)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
2-Butanone	1.13E+05	11 U	11 U	11 U	11 U	13 U	15 UJ	11 U	11 U	11 U	11 U	11 U
2-Chlorotoluene	5.60E+02	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
2-Hexanone	4.70E+04 (nn)	11 UJ	11 UJ	11 UJ	11 UJ	13 UJ	15 UJ	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ
2-Methoxy-2-methyl-butane	--	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
4-Chlorotoluene	5.60E+02 (ww)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
4-Isopropyltoluene	--	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
4-Methyl-2-pentanone	4.70E+04	11 UJ	11 UJ	11 UJ	11 UJ	13 UJ	15 UJ	11 U	11 U	11 U	11 U	11 U
Acetone	5.43E+04	11 U	11 U	11 U	11 U	13 U	15 UJ	11 U	11 U	11 U	11 U	11 U
Benzene	1.41E+00	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Bromobenzene	9.22E+01	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Bromochloromethane	1.83E+00 (qq)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Bromodichloromethane	1.83E+00	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Bromoform	2.18E+02	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Bromomethane	1.31E+01	11 U	11 U	11 U	11 U	13 U	15 UJ	11 U	11 U	11 U	11 U	11 U
Carbon tetrachloride	5.49E-01	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Chlorobenzene	5.30E+02	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Chloroethane	6.49E+00	5.3 UJ	5.3 UJ	5.3 UJ	5.5 UJ	6.4 UJ	7.4 UJ	5.5 UJ	5.3 UJ	5.5 UJ	5.7 UJ	5.3 UJ
Chloroform	4.70E-01	5.3 U	5.3 U	5.3 U	5.5 U	1.0 J	3.9 J	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Chloromethane	1.56E+02	5.3 UJ	5.3 UJ	5.3 UJ	5.5 UJ	6.4 UJ	7.4 UJ	5.5 UJ	5.3 UJ	5.5 UJ	5.7 UJ	5.3 UJ
cis-1,2-Dichloroethene	1.46E+02	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
cis-1,3-Dichloropropene	1.76E+00 (gg)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U

LOU 60 Table 20a (continued)  
Soil Characterization Data - VOCs

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.	SA3	SA3	SA3	SA3	SA3	SA3	SA3	SA4	SA4	SA4	SA4	SA4
Sample ID	SA3-0.5	SA3-0.5D	SA3-10	SA3-20	SA3-30	SA3-40	SA4-0.5	SA4-10	SA4-20	SA4-30	SA4-40	SA4-40
Sample Depth (ft)	0.5	0.5	10	20	30	40	0.5	10	20	30	40	40
Sample Date	11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/13/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006
VOCs	PRG <sup>2</sup> mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dibromochloromethane	2.55E+00	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Dibromomethane	2.34E+02 (xx)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Dichlorodifluoromethane	3.08E+02	5.3 UJ	5.3 UJ	5.3 UJ	5.5 UJ	6.4 UJ	7.4 UJ	5.5 UJ	5.3 UJ	5.5 UJ	5.7 UJ	5.3 UJ
Ethyl t-butyl ether	3.64E+01 (kk)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Ethylbenzene	7.40E+03 (mm)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Ethylene dibromide	7.30E-02	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Hexachlorobutadiene	2.21E+01	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
isopropyl ether	--	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Isopropylbenzene	2.00E+03 (zz)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Methyl tert butyl ether	3.64E+01	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Methylene chloride	2.05E+01	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 UJ	5.3 UJ	5.5 UJ	5.7 UJ	5.3 UJ
N-Butylbenzene	2.19E+03 (mm)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
N-Propylbenzene	2.19E+03 (mm)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
sec-Butylbenzene	1.63E+03 (mm)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Styrene	1.80E+04 (mm)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
t-Butyl alcohol	--	11 UJ	11 UJ	11 UJ	11 UJ	13 UJ	15 UJ	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ
tert-Butylbenzene	1.97E+03 (mm)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Tetrachloroethene	1.31E+00	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Toluene	2.20E+03 (mm)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
trans-1,2-Dichloroethylene	--	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
trans-1,3-Dichloropropene	1.76E+00 (gg)	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Trichloroethene	1.15E-01	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Trichlorofluoromethane	1.28E+03 (mm)	5.3 UJ	5.3 UJ	5.3 UJ	5.5 UJ	6.4 UJ	7.4 UJ	5.5 UJ	5.3 UJ	5.5 UJ	5.7 UJ	5.3 UJ
Vinylchloride	7.46E-01	5.3 U	5.3 U	5.3 U	5.5 U	6.4 U	7.4 UJ	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Xylene (Total)	9.00E+02 (mm)	11 U	11 U	11 U	11 U	13 U	15 UJ	11 U	11 U	11 U	11 U	11 U

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
  2. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility - Henderson, Nevada, September 2007.
- (mm) PRG is based on the soil saturation limit. Therefore, the risk-based value provided in the electronic backup to the PRG table was used.
- (gg) Value for 1,3-dichloropropene used as surrogate for 1,1-dichloropropene, cis-1,3-dichloropropene and trans-1,3-dichloropropene based on structural similarities.
- (hh) Value for 1,2,4-trichlorobenzene used as surrogate for 1,2,3-trichlorobenzene based on structural similarities.
- (yy) PRG table (c) lists both cancer and non-cancer endpoint-based values. The cancer endpoint-based values were selected, as the cancer endpoint-based values are lower than the noncancer endpoint-based values.
- (ii) Value for 1,2-dichloropropane used as surrogate for 2,2-dichloropropane based on structural similarities.
- (nn) Value for methyl isobutyl ketone used as surrogate for 2-hexanone based on structural similarities.
- (ww) Value for 2-chlorotoluene used as surrogate for 4-chlorotoluene based on structural similarities.
- (qq) Value for bromodichloromethane used as surrogate for bromochloromethane due to structural similarities.
- (xx) Value for methylene bromide used as surrogate for dibromomethane based on structural similarities.
- (kk) Value for methyl tertbutyl ether (MTBE) used as surrogate for ethyl-tert-butyl ether (ETBE) based on structural similarities.
- (zz) Isopropyl benzene is listed as cumene (isopropylbenzene) in the PRG table.

LOU 60 Table 20b  
Soil Characterization Data - VOCs

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program	Ph A <sup>1</sup>	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.	SA5	SA5	SA5	SA5	SA5	SA6	SA6	SA6	SA6	SA6	SA6	SA6
Sample ID	SA5-0.5	SA5-10	SA5-20	SA5-30	SA5-37	SA6-0.5	SA6-0.5D	SA6-10	SA6-20	SA6-30	SA6-35	SA6-35
Sample Depth (ft)	0.5	10	20	30	37	0.5	0.5	10	20	30	35	35
Sample Date	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006
VOCs	PRG <sup>2</sup> mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Naphthalene	1.88E+02	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,1,1,2-Tetrachloroethane	7.28E+00	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,1,1-Trichloroethane	6.90E+03 (mm)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,1,2,2-Tetrachloroethane	9.29E-01	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,1,2-Trichloroethane	1.61E+00	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,1-Dichloroethane	1.74E+03	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,1-Dichloroethene	4.13E+02	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,1-Dichloropropene	1.76E+00 (gg)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,2,3-Trichlorobenzene	2.16E+02 (hh)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,2,3-Trichloropropane	7.60E-02 (yy)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,2,4-Trichlorobenzene	2.16E+02	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,2,4-Trimethylbenzene	1.70E+02	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,2-Dibromo-3-chloropropane	2.02E+00	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,2-Dichlorobenzene	4.00E+03 (mm)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,2-Dichloroethane	6.03E-01	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,2-Dichloropropane	7.42E-01	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,3,5-Trimethylbenzene	6.97E+01	6.5 UJ	5.8 U	5.9 UJ	5.4 U	8.3 U	5.3 UJ	5.8 UJ	5.4 UJ	5.4 UJ	5.3 UJ	7.4 U
1,3-Dichlorobenzene	2.10E+03 (mm)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,3-Dichloropropane	3.61E+02	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
1,4-Dichlorobenzene	7.87E+00	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
2,2-Dichloropropane	7.42E-01 (ii)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
2-Butanone	1.13E+05	13 U	12 U	12 U	11 U	17 U	11 U	12 U	11 U	11 U	11 U	15 U
2-Chlorotoluene	5.60E+02	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
2-Hexanone	4.70E+04 (nn)	13 UJ	12 UJ	12 UJ	11 UJ	17 UJ	11 UJ	12 UJ	11 UJ	11 UJ	11 UJ	15 UJ
2-Methoxy-2-methyl-butane	--	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
4-Chlorotoluene	5.60E+02 (ww)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
4-Isopropyltoluene	--	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
4-Methyl-2-pentanone	4.70E+04	13 U	12 U	12 U	11 U	17 U	11 U	12 U	11 U	11 U	11 U	15 U
Acetone	5.43E+04	13 U	12 U	12 U	11 U	17 U	11 U	12 UJ	11 U	11 U	11 U	15 U
Benzene	1.41E+00	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Bromobenzene	9.22E+01	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Bromochloromethane	1.83E+00 (qq)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Bromodichloromethane	1.83E+00	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Bromoform	2.18E+02	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Bromomethane	1.31E+01	13 U	12 U	12 U	11 U	17 U	11 U	12 U	11 U	11 U	11 U	15 U
Carbon tetrachloride	5.49E-01	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Chlorobenzene	5.30E+02	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Chloroethane	6.49E+00	6.5 UJ	5.8 UJ	5.9 UJ	5.4 UJ	8.3 UJ	5.3 UJ	5.8 UJ	5.4 UJ	5.4 UJ	5.3 UJ	7.4 UJ
Chloroform	4.70E-01	6.5 U	5.8 U	<b>0.79 J</b>	<b>19</b>	<b>120</b>	5.3 U	5.8 U	<b>0.50 J</b>	5.4 U	5.3 U	<b>28</b>
Chloromethane	1.56E+02	6.5 UJ	5.8 UJ	5.9 UJ	5.4 UJ	8.3 UJ	5.3 UJ	5.8 UJ	5.4 UJ	5.4 UJ	5.3 UJ	7.4 UJ
cis-1,2-Dichloroethene	1.46E+02	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
cis-1,3-Dichloropropene	1.76E+00 (gg)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Dibromochloromethane	2.55E+00	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Dibromomethane	2.34E+02 (xx)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U

**LOU 60 Table 20b (continued)**  
**Soil Characterization Data - VOCs**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.	SA5	SA5	SA5	SA5	SA5	SA6	SA6	SA6	SA6	SA6	SA6	SA6
Sample ID	SA5-0.5	SA5-10	SA5-20	SA5-30	SA5-37	SA6-0.5	SA6-0.5D	SA6-10	SA6-20	SA6-30	SA6-35	SA6-35
Sample Depth (ft)	0.5	10	20	30	37	0.5	0.5	10	20	30	35	35
Sample Date	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006
VOCs	PRG <sup>2</sup> mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dichlorodifluoromethane	3.08E+02	6.5 UJ	5.8 UJ	5.9 UJ	5.4 UJ	8.3 UJ	5.3 UJ	5.8 UJ	5.4 UJ	5.4 UJ	5.3 UJ	7.4 UJ
Ethyl t-butyl ether	3.64E+01 (kk)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Ethylbenzene	7.40E+03 (mm)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Ethylene dibromide	7.30E-02	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Hexachlorobutadiene	2.21E+01	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
isopropyl ether	--	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Isopropylbenzene	2.00E+03 (zz)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Methyl tert butyl ether	3.64E+01	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Methylene chloride	2.05E+01	6.5 U	5.8 UJ	5.9 U	5.4 UJ	8.3 UJ	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 UJ
N-Butylbenzene	2.19E+03 (mm)	6.5 UJ	5.8 U	5.9 UJ	5.4 U	8.3 U	5.3 UJ	5.8 UJ	5.4 UJ	5.4 UJ	5.3 UJ	7.4 U
N-Propylbenzene	2.19E+03 (mm)	6.5 UJ	5.8 U	5.9 UJ	5.4 U	8.3 U	5.3 UJ	5.8 UJ	5.4 UJ	5.4 UJ	5.3 UJ	7.4 U
sec-Butylbenzene	1.63E+03 (mm)	6.5 UJ	5.8 U	5.9 UJ	5.4 U	8.3 U	5.3 UJ	5.8 UJ	5.4 UJ	5.4 UJ	5.3 UJ	7.4 U
Styrene	1.80E+04 (mm)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
t-Butyl alcohol	--	13 UJ	12 UJ	12 UJ	11 UJ	17 UJ	11 UJ	12 UJ	11 UJ	11 UJ	11 UJ	15 UJ
tert-Butylbenzene	1.97E+03 (mm)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Tetrachloroethene	1.31E+00	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Toluene	2.20E+03 (mm)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
trans-1,2-Dichloroethylene	--	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
trans-1,3-Dichloropropene	1.76E+00 (gg)	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Trichloroethene	1.15E-01	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Trichlorofluoromethane	1.28E+03 (mm)	6.5 UJ	5.8 UJ	5.9 UJ	5.4 UJ	8.3 UJ	5.3 UJ	5.8 UJ	5.4 UJ	5.4 UJ	5.3 UJ	7.4 UJ
Vinylchloride	7.46E-01	6.5 U	5.8 U	5.9 U	5.4 U	8.3 U	5.3 U	5.8 U	5.4 U	5.4 U	5.3 U	7.4 U
Xylene (Total)	9.00E+02 (mm)	13 U	12 U	12 U	11 U	17 U	11 U	12 U	11 U	11 U	11 U	15 U

**Notes:**

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
  2. U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) for industrial soil (October, 2004)
- (mm) PRG is based on the soil saturation limit. Therefore, the risk-based value provided in the electronic backup to the PRG table was used.
- (gg) Value for 1,3-dichloropropene used as surrogate for 1,1-dichloropropene, cis-1,3-dichloropropene and trans-1,3-dichloropropene based on structural similarities.
- (hh) Value for 1,2,4-trichlorobenzene used as surrogate for 1,2,3-trichlorobenzene based on structural similarities.
- (yy) PRG table (c) lists both cancer and non-cancer endpoint-based values. The cancer endpoint-based values were selected, as the cancer endpoint-based values are lower than the noncancer endpoint-based values.
- (ii) Value for 1,2-dichloropropane used as surrogate for 2,2-dichloropropane based on structural similarities.
- (nn) Value for methyl isobutyl ketone used as surrogate for 2-hexanone based on structural similarities.
- (ww) Value for 2-chlorotoluene used as surrogate for 4-chlorotoluene based on structural similarities.
- (qq) Value for bromodichloromethane used as surrogate for bromochloromethane due to structural similarities.
- (xx) Value for methylene bromide used as surrogate for dibromomethane based on structural similarities.
- (kk) Value for methyl tertbutyl ether (MTBE) used as surrogate for ethyl-tert-butyl ether (ETBE) based on structural similarities.
- (zz) Isopropyl benzene is listed as cumene (isopropylbenzene) in the PRG table.

LOU 60 Table 20c  
Soil Characterization Data - VOCs

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program	Ph A <sup>1</sup>	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.	SA7	SA7	SA7	SA7	SA7	SA7	SA7	SA8	SA8	SA8	SA8	SA8
Sample ID	SA7-0.5	SA7-10	SA7-10D	SA7-20	SA7-30	SA7-34	SA8-0.5	SA8-10	SA8-20	SA8-30	SA8-37	
Sample Depth (ft)	0.5	10	10	20	30	34	0.5	10	20	30	37	
Sample Date	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006
VOCs	PRG <sup>2</sup> mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Naphthalene	1.88E+02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	<b>0.79 J</b>	5.3 U	5.2 U	5.5 U	6.8 U
1,1,1,2-Tetrachloroethane	7.28E+00	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
1,1,1-Trichloroethane	6.90E+03 (mm)	5.3 U	<b>0.54 J</b>	5.4 U	5.4 U	<b>0.37 J</b>	6.5 U	<b>0.95 J</b>	5.3 U	5.2 U	5.5 U	6.8 U
1,1,2,2-Tetrachloroethane	9.29E-01	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
1,1,2-Trichloroethane	1.61E+00	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
1,1-Dichloroethane	1.74E+03	5.3 U	<b>1.9 J</b>	5.4 U	5.4 U	<b>1.4 J</b>	6.5 U	<b>3.0 J</b>	5.3 U	5.2 U	5.5 U	6.8 U
1,1-Dichloroethene	4.13E+02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
1,1-Dichloropropene	1.76E+00 (gg)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
1,2,3-Trichlorobenzene	2.16E+02 (hh)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
1,2,3-Trichloropropane	7.60E-02 (yy)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
1,2,4-Trichlorobenzene	2.16E+02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
1,2,4-Trimethylbenzene	1.70E+02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
1,2-Dibromo-3-chloropropane	2.02E+00	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
1,2-Dichlorobenzene	4.00E+03 (mm)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
1,2-Dichloroethane	6.03E-01	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
1,2-Dichloropropane	7.42E-01	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
1,3,5-Trimethylbenzene	6.97E+01	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 UJ	5.2 UJ	5.5 UJ	6.8 UJ
1,3-Dichlorobenzene	2.10E+03 (mm)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
1,3-Dichloropropane	3.61E+02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
1,4-Dichlorobenzene	7.87E+00	5.3 U	5.3 U	<b>0.32 J</b>	5.4 U	5.3 U	6.5 U	<b>16 J</b>	5.3 U	5.2 U	5.5 U	6.8 U
2,2-Dichloropropane	7.42E-01 (ii)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
2-Butanone	1.13E+05	11 U	11 U	11 U	11 U	11 U	13 U	<b>14 J</b>	11 U	<b>38</b>	<b>14</b>	14 U
2-Chlorotoluene	5.60E+02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
2-Hexanone	4.70E+04 (nn)	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ	13 UJ	11 UJ	11 UJ	<b>3.8 J</b>	11 UJ	14 UJ
2-Methoxy-2-methyl-butane	--	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
4-Chlorotoluene	5.60E+02 (ww)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
4-Isopropyltoluene	--	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
4-Methyl-2-pentanone	4.70E+04	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ	13 UJ	11 UJ	11 U	10 U	11 U	14 U
Acetone	5.43E+04	<b>4.5 J</b>	<b>6.1 J</b>	11 U	11 U	<b>21</b>	<b>6.6 J</b>	<b>90 J</b>	<b>24</b>	<b>250</b>	<b>100</b>	<b>45</b>
Benzene	1.41E+00	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	<b>0.62 J</b>	<b>0.72 J</b>	6.8 U
Bromobenzene	9.22E+01	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Bromochloromethane	1.83E+00 (qq)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Bromodichloromethane	1.83E+00	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Bromoform	2.18E+02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Bromomethane	1.31E+01	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ	13 UJ	11 UJ	11 UJ	10 UJ	11 UJ	14 UJ
Carbon tetrachloride	5.49E-01	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Chlorobenzene	5.30E+02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Chloroethane	6.49E+00	5.3 UJ	5.3 UJ	5.4 UJ	5.4 UJ	5.3 UJ	6.5 UJ	5.3 UJ	5.3 UJ	5.2 UJ	5.5 UJ	6.8 UJ
Chloroform	4.70E-01	5.3 U	<b>0.40 J</b>	<b>0.51 J</b>	<b>1.5 J</b>	<b>1.9 J</b>	<b>20</b>	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Chloromethane	1.56E+02	5.3 UJ	5.3 UJ	5.4 UJ	5.4 UJ	5.3 UJ	6.5 UJ	5.3 UJ	5.3 UJ	5.2 UJ	5.5 UJ	6.8 UJ
cis-1,2-Dichloroethene	1.46E+02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
cis-1,3-Dichloropropene	1.76E+00 (gg)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Dibromochloromethane	2.55E+00	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U

LOU 60 Table 20c (continued)  
Soil Characterization Data - VOCs

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.	SA7	SA7	SA7	SA7	SA7	SA7	SA7	SA8	SA8	SA8	SA8	SA8
Sample ID	SA7-0.5	SA7-10	SA7-10D	SA7-20	SA7-30	SA7-34	SA8-0.5	SA8-10	SA8-20	SA8-30	SA8-37	
Sample Depth (ft)	0.5	10	10	20	30	34	0.5	10	20	30	37	
Sample Date	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006
VOCs	PRG <sup>2</sup> mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dibromomethane	2.34E+02 (xx)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Dichlorodifluoromethane	3.08E+02	5.3 UJ	5.3 UJ	5.4 UJ	5.4 UJ	5.3 UJ	6.5 UJ	5.3 UJ	5.3 UJ	5.2 UJ	5.5 UJ	6.8 UJ
Ethyl t-butyl ether	3.64E+01 (kk)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Ethylbenzene	7.40E+03 (mm)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Ethylene dibromide	7.30E-02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Hexachlorobutadiene	2.21E+01	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	<b>1.4 J</b>	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Isopropyl ether	--	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Isopropylbenzene	2.00E+03 (zz)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Methyl tert butyl ether	3.64E+01	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Methylene chloride	2.05E+01	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
N-Butylbenzene	2.19E+03 (mm)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
N-Propylbenzene	2.19E+03 (mm)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 UJ	5.2 UJ	5.5 UJ	6.8 UJ
sec-Butylbenzene	1.63E+03 (mm)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 UJ	5.2 UJ	5.5 UJ	6.8 UJ
Styrene	1.80E+04 (mm)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
t-Butyl alcohol	--	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ	13 UJ	11 UJ	11 UJ	10 UJ	11 UJ	14 UJ
tert-Butylbenzene	1.97E+03 (mm)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Tetrachloroethene	1.31E+00	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	<b>2.1 J</b>	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Toluene	2.20E+03 (mm)	<b>0.36 J</b>	<b>0.58 J</b>	<b>0.31 J</b>	<b>0.31 J</b>	<b>0.45 J</b>	<b>0.37 J</b>	<b>0.82 J</b>	5.3 U	5.2 U	5.5 U	6.8 U
trans-1,2-Dichloroethylene	--	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
trans-1,3-Dichloropropene	1.76E+00 (gg)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Trichloroethene	1.15E-01	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Trichlorofluoromethane	1.28E+03 (mm)	5.3 UJ	5.3 UJ	5.4 UJ	5.4 UJ	5.3 UJ	6.5 UJ	5.3 UJ	5.3 UJ	5.2 UJ	5.5 UJ	6.8 UJ
Vinylchloride	7.46E-01	5.3 UJ	5.3 UJ	5.4 UJ	5.4 UJ	5.3 UJ	6.5 UJ	5.3 UJ	5.3 U	5.2 U	5.5 U	6.8 U
Xylene (Total)	9.00E+02 (mm)	11 U	11 U	11 U	11 U	11 U	13 U	11 UJ	11 U	10 U	11 U	14 U

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
  2. U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) for industrial soil (October, 2004)
- (mm) PRG is based on the soil saturation limit. Therefore, the risk-based value provided in the electronic backup to the PRG table was used.
- (gg) Value for 1,3-dichloropropene used as surrogate for 1,1-dichloropropene, cis-1,3-dichloropropene and trans-1,3-dichloropropene based on structural similarities.
- (hh) Value for 1,2,4-trichlorobenzene used as surrogate for 1,2,3-trichlorobenzene based on structural similarities.
- (yy) PRG table (c) lists both cancer and non-cancer endpoint-based values. The cancer endpoint-based values were selected, as the cancer endpoint-based values are lower than the noncancer endpoint-based values.
- (ii) Value for 1,2-dichloropropane used as surrogate for 2,2-dichloropropane based on structural similarities.
- (nn) Value for methyl isobutyl ketone used as surrogate for 2-hexanone based on structural similarities.
- (ww) Value for 2-chlorotoluene used as surrogate for 4-chlorotoluene based on structural similarities.
- (qq) Value for bromodichloromethane used as surrogate for bromochloromethane due to structural similarities.
- (xx) Value for methylene bromide used as surrogate for dibromomethane based on structural similarities.
- (kk) Value for methyl tertbutyl ether (MTBE) used as surrogate for ethyl-tert-butyl ether (ETBE) based on structural similarities.
- (zz) Isopropyl benzene is listed as cumene (isopropylbenzene) in the PRG table.

**LOU 60 Table 20d**  
**Soil Characterization Data - VOCs**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program		Ph A <sup>1</sup>	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.		SA13	SA13	SA13	SA13	SA13	SA13
Sample ID		SA13-0.5	SA13-0.5D	SA13-10	SA13-20	SA13-30	SA13-40
Sample Depth (ft)		0.5	0.5	10	20	30	40
Sample Date		11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006
VOCs	PRG <sup>2</sup> mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Naphthalene	1.88E+02	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,1,1,2-Tetrachloroethane	7.28E+00	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,1,1-Trichloroethane	6.90E+03 (mm)	5.8 U	5.5 UJ	5.2 UJ	<b>0.53 J</b>	5.3 U	6.3 U
1,1,2,2-Tetrachloroethane	9.29E-01	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,1,2-Trichloroethane	1.61E+00	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,1-Dichloroethane	1.74E+03	5.8 U	5.5 UJ	5.2 UJ	<b>1.8 J</b>	5.3 U	6.3 U
1,1-Dichloroethene	4.13E+02	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,1-Dichloropropene	1.76E+00 (gg)	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2,3-Trichlorobenzene	2.16E+02 (hh)	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2,3-Trichloropropane	7.60E-02 (yy)	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2,4-Trichlorobenzene	2.16E+02	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2,4-Trimethylbenzene	1.70E+02	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2-Dibromo-3-chloropropane	2.02E+00	12 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2-Dichlorobenzene	4.00E+03 (mm)	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2-Dichloroethane	6.03E-01	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2-Dichloropropane	7.42E-01	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,3,5-Trimethylbenzene	6.97E+01	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ
1,3-Dichlorobenzene	2.10E+03 (mm)	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,3-Dichloropropane	3.61E+02	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,4-Dichlorobenzene	7.87E+00	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
2,2-Dichloropropane	7.42E-01 (ii)	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
2-Butanone	1.13E+05	12 U	11 UJ	10 UJ	<b>5.2 J</b>	11 U	13 U
2-Chlorotoluene	5.60E+02	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
2-Hexanone	4.70E+04 (nn)	12 UJ	11 UJ	10 UJ	11 UJ	11 UJ	13 UJ
2-Methoxy-2-methyl-butane	--	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
4-Chlorotoluene	5.60E+02 (ww)	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
4-Isopropyltoluene	--	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ
4-Methyl-2-pentanone	4.70E+04	12 U	11 UJ	10 UJ	11 UJ	11 U	13 U
Acetone	5.43E+04	<b>5.1 J</b>	<b>9.8 J</b>	10 UJ	<b>34 J</b>	11 U	<b>14</b>
Benzene	1.41E+00	5.8 U	5.5 UJ	5.2 UJ	<b>0.19 J</b>	5.3 U	6.3 U
Bromobenzene	9.22E+01	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Bromochloromethane	1.83E+00 (qq)	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Bromodichloromethane	1.83E+00	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Bromoform	2.18E+02	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Bromomethane	1.31E+01	12 UJ	11 UJ	10 UJ	11 UJ	11 U	13 U
Carbon tetrachloride	5.49E-01	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Chlorobenzene	5.30E+02	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Chloroethane	6.49E+00	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ
Chloroform	4.70E-01	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	<b>0.32 J</b>	<b>4.2 J</b>
Chloromethane	1.56E+02	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ
cis-1,2-Dichloroethene	1.46E+02	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
cis-1,3-Dichloropropene	1.76E+00 (gg)	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Dibromochloromethane	2.55E+00	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Dibromomethane	2.34E+02 (xx)	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Dichlorodifluoromethane	3.08E+02	12 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ
Ethyl t-butyl ether	3.64E+01 (kk)	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Ethylbenzene	7.40E+03 (mm)	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U

**LOU 60 Table 20d (continued)  
Soil Characterization Data - VOCs**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program		Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.		SA13	SA13	SA13	SA13	SA13	SA13
Sample ID		SA13-0.5	SA13-0.5D	SA13-10	SA13-20	SA13-30	SA13-40
Sample Depth (ft)		0.5	0.5	10	20	30	40
Sample Date		11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006
VOCs	PRG mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Ethylene dibromide	7.30E-02	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Hexachlorobutadiene	2.21E+01	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
isopropyl ether	--	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Isopropylbenzene	2.00E+03 (zz)	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Methyl tert butyl ether	3.64E+01	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Methylene chloride	2.05E+01	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
N-Butylbenzene	2.19E+03 (mm)	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
N-Propylbenzene	2.19E+03 (mm)	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ
sec-Butylbenzene	1.63E+03 (mm)	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ
Styrene	1.80E+04 (mm)	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
t-Butyl alcohol	--	12 UJ	11 UJ	10 UJ	11 UJ	11 UJ	13 UJ
tert-Butylbenzene	1.97E+03 (mm)	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Tetrachloroethene	1.31E+00	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Toluene	2.20E+03 (mm)	5.8 U	<b>0.28 J</b>	<b>0.28 J</b>	<b>0.67 J</b>	5.3 U	6.3 U
trans-1,2-Dichloroethylene	--	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
trans-1,3-Dichloropropene	1.76E+00 (gg)	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Trichloroethene	1.15E-01	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Trichlorofluoromethane	1.28E+03 (mm)	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ
Vinylchloride	7.46E-01	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 U
Xylene (Total)	9.00E+02 (mm)	12 U	11 UJ	10 UJ	11 UJ	11 U	13 U

**Notes:**

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
  2. U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) for industrial soil (October, 2004)
- (mm) PRG is based on the soil saturation limit. Therefore, the risk-based value provided in the electronic backup to the PRG table was used.
- (gg) Value for 1,3-dichloropropene used as surrogate for 1,1-dichloropropene, cis-1,3-dichloropropene and trans-1,3-dichloropropene based on structural similarities.
- (hh) Value for 1,2,4-trichlorobenzene used as surrogate for 1,2,3-trichlorobenzene based on structural similarities.
- (yy) PRG table (c) lists both cancer and non-cancer endpoint-based values. The cancer endpoint-based values were selected, as the cancer endpoint-based values are lower than the noncancer endpoint-based values.
- (ii) Value for 1,2-dichloropropane used as surrogate for 2,2-dichloropropane based on structural similarities.
- (nn) Value for methyl isobutyl ketone used as surrogate for 2-hexanone based on structural similarities.
- (ww) Value for 2-chlorotoluene used as surrogate for 4-chlorotoluene based on structural similarities.
- (qq) Value for bromodichloromethane used as surrogate for bromochloromethane due to structural similarities.
- (xx) Value for methylene bromide used as surrogate for dibromomethane based on structural similarities.
- (kk) Value for methyl tertbutyl ether (MTBE) used as surrogate for ethyl-tert-butyl ether (ETBE) based on structural similarities.
- (zz) Isopropyl benzene is listed as cumene (isopropylbenzene) in the PRG table.



**LOU 60 Table 21**  
**Groundwater Characteristic Data - VOCs**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program	Ph A <sup>1</sup>	Ph A	Ph A	Ph A	
Well ID	M11	M11D	M12A	M13	
Sample ID	M11	M11D	M12A	M13	
Sample Date	12/06/2006	12/06/2006	12/05/2006	12/01/2006	
VOCs	MCL <sup>2</sup> ug/l	ug/L	ug/L	ug/L	ug/L
Naphthalene	6.20E+00 c	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1,2-Tetrachloroethane	4.32E-01 c	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1-Trichloroethane	2.00E+02	5.0 U	5.0 U	5.0 U	<b>1.6 J</b>
1,1,2,2-Tetrachloroethane	5.00E+00	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	5.00E+00	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	8.11E+02 c	5.0 U	5.0 U	5.0 U	<b>2.6 J</b>
1,1-Dichloroethene	7.00E+00	5.0 U	5.0 U	5.0 U	<b>2.7 J</b>
1,1-Dichloropropene	3.95E-01 c,gg	5.0 U	5.0 U	5.0 U	5.0 U
1,2,3-Trichlorobenzene	7.16E+00 c,hh	5.0 U	5.0 U	5.0 U	5.0 U
1,2,3-Trichloropropane	5.60E-03 c,yy	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trichlorobenzene	7.00E+01	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	1.23E+01	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane	2.00E-01	5.0 U	5.0 U	5.0 UJ	5.0 U
1,2-Dichlorobenzene	6.00E+02	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	5.00E+00	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	5.00E+00	5.0 U	5.0 U	5.0 U	5.0 U
1,3,5-Trimethylbenzene	1.23E+01 c	5.0 U	5.0 U	5.0 U	5.0 U
1,3-Dichlorobenzene	1.83E+02 c	5.0 U	5.0 U	5.0 U	5.0 U
1,3-Dichloropropane	1.22E+02 c	5.0 U	5.0 U	5.0 U	5.0 U
1,4-Dichlorobenzene	7.50E+01	5.0 U	5.0 U	5.0 U	5.0 U
2,2-Dichloropropane	1.65E-01 c,ii	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone	6.97E+03 c	10 U	10 U	10 U	10 U
2-Chlorotoluene	1.22E+02 c	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	2.00E+03 c,nn	10 UJ	10 UJ	10 U	10 UJ
2-Methoxy-2-methyl-butane	--	5.0 UJ	5.0 UJ	5.0 U	5.0 U
4-Chlorotoluene	1.22E+02 c,ww	5.0 U	5.0 U	5.0 U	5.0 U
4-Isopropyltoluene	--	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone	1.99E+03 c	10 UJ	10 UJ	10 UJ	10 U
Acetone	5.48E+03 c	10 U	10 U	10 U	10 U
Benzene	5.00E+00	5.0 U	5.0 U	5.0 U	5.0 U
Bromobenzene	2.03E+01 c	5.0 U	5.0 U	5.0 U	5.0 U
Bromochloromethane	1.81E-01 c,qq	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	8.00E+01 r	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	8.00E+01 r	5.0 U	<b>4.8 J</b>	5.0 U	5.0 U
Bromomethane	8.66E+00 c	10 U	10 U	10 UJ	10 UJ
Carbon tetrachloride	5.00E+00	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	1.00E+02 c,o	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	4.64E+00	5.0 U	5.0 U	5.0 U	5.0 UJ
Chloroform	8.00E+01 r	<b>130</b>	<b>130</b>	<b>1600 J+</b>	<b>40</b>
Chloromethane	1.58E+02 c	5.0 U	5.0 U	5.0 U	5.0 UJ
cis-1,2-Dichloroethene	7.00E+01	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	3.95E-01 c,gg	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	8.00E+01 r	5.0 U	5.0 U	5.0 U	5.0 U
Dibromomethane	6.08E+01 c,xx	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane	3.95E+02 c	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ
Ethyl t-butyl ether	1.10E+01 c,kk	5.0 UJ	5.0 UJ	5.0 U	5.0 U
Ethylbenzene	7.00E+02	5.0 U	5.0 U	5.0 U	5.0 U
Ethylene dibromide	--	5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobutadiene	8.62E-01 c	5.0 U	5.0 U	5.0 U	5.0 U
isopropyl ether	--	5.0 UJ	5.0 UJ	5.0 U	5.0 U
Isopropylbenzene	6.58E+02 c,zz	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether	2.00E+01 a,uu	5.0 U	5.0 U	5.0 U	5.0 U

**LOU 60 Table 21 (continued)**  
**Groundwater Characteristic Data - VOCs**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Sampling Program		Ph A	Ph A	Ph A	Ph A
Well ID		M11	M11D	M12A	M13
Sample ID		M11	M11D	M12A	M13
Sample Date		12/06/2006	12/06/2006	12/05/2006	12/01/2006
VOCs	MCL ug/l	ug/L	ug/L	ug/L	ug/L
Methylene chloride	5.00E+00	5.0 UJ	5.0 UJ	5.0 U	5.0 U
N-Butylbenzene	2.43E+02 c	5.0 U	5.0 U	5.0 U	5.0 U
N-Propylbenzene	2.43E+02 c	5.0 U	5.0 U	5.0 U	5.0 U
sec-Butylbenzene	2.43E+02 c	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	1.00E+02	5.0 U	5.0 U	5.0 U	5.0 U
t-Butyl alcohol	--	10 UJ	10 UJ	10 UJ	10 UJ
tert-Butylbenzene	2.43E+02 c	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	5.00E+00	5.0 U	5.0 U	<b>0.93 J</b>	<b>0.44 J</b>
Toluene	1.00E+03	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethylene	1.00E+02	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	--	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	5.00E+00	5.0 U	5.0 U	5.0 U	<b>33</b>
Trichlorofluoromethane	--	5.0 U	5.0 U	5.0 U	5.0 UJ
Vinylchloride	2.00E+00	5.0 U	5.0 U	5.0 U	5.0 UJ
Xylene (Total)	1.00E+04	10 UJ	10 UJ	10 U	10 U

**Notes:**

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
2. U.S. EPA Maximum Contaminant Level (MCL) values unless noted

**LOU 60 Table 22**  
**Soil Characterization Data - Long Asbestos Fibers in Respirable Soil Fraction**

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

			<b>Long Amphibole Protocol Structures</b>	<b>Long Amphibole Protocol Structures</b>	<b>Long Chrysotile Protocol Structures</b>	<b>Long Chrysotile Protocol Structures</b>	<b>Sampling Program</b>
<b>No.</b>	<b>Sample ID</b>	<b>Sample Date</b>	s/gPM10	(structures/samples)	s/gPM10	(structures/samples)	
SA3	SA3	12/02/2006	<b>7970000</b>	<b>1</b>	<b>7970000</b>	<b>0</b>	Ph A <sup>1</sup>
SA4	SA4	12/07/2006	2946000 U	0	<b>38300000</b>	<b>13</b>	Ph A
SA5	SA5	12/07/2006	2980000 U	0	<b>35800000</b>	<b>12</b>	Ph A
SA6	SA6	12/07/2006	2846000 U	0	2846000 U	0	Ph A
SA7	SA7	12/07/2006	2988000 U	0	<b>2990000</b>	<b>1</b>	Ph A
SA8	SA8	12/07/2006	2997000 U	0	<b>5990000</b>	<b>2</b>	Ph A
SA13	SA13	12/08/2006	<b>3000000</b>	<b>1</b>	2996000 U	0	Ph A

**Notes:**

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.

## Notes for Phase A Data Tables

Acid Drain System  
Tronox LLC Facility - Henderson, Nevada

Blank	Not analyzed.
<b>Bold</b>	Bold values are constituents detected above the laboratory sample quantitation limit.
Gray	Grayed out values are non-detected values with the laboratory sample quantitation limits shown.
B	The result may be a false positive totally attributable to blank contamination.
D	Dissolved Metals.
DO	Dissolved Oxygen.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J-	The result is an estimated quantity and the result may be biased low.
J+	The result is an estimated quantity and the result may be biased high.
J+	The result is an estimated quantity and the result may be biased high.
JB	The result may be biased high partially attributable to blank contamination.
JK	The result is an estimated maximum possible concentration.
R	The result was rejected and unusable due to serious data deficiencies. The presence or absence of the analyte cannot be verified.
S	Soluble metals
T	Total Metals.
U	The analyte was analyzed for, but was not detected above the laboratory sample quantitation limit.
UJ	The analyte was not detected above the laboratory sample quantitation limit and the limit is approximate.
mg/kg	Milligrams per kilogram.
mg/L	Milligrams per liter.
ml/min	Milliliters per minute.
ng/kg	Nanogram per kilogram.
nm	Not measured.
NTUs	Nephelometric Turbidity Units.
ORP	Oxidation-reduction potential.
pCi/g	PicoCuries per gram.
pci/L	PicoCuries per liter.
s/gPM10	Revised protocol structures per gram PM10 fraction dust.
TEF	Toxic Equivalency Factor.
TEQ	Toxic Equivalent Concentration
ug/kg	Micrograms per kilogram.
ug/L	Micrograms per liter.
umhos/cm	MicroSiemens per centimeter.
L	Sample ID suffix indicating the sample was collected using low low-flow pumping rates (100-150 ml/min).
F	Sample ID suffix indicating the sample was collected using low-flow pumping rates (150-480 ml/min) and field filtered.
Z	Sample ID suffix indicating the sample was collected using low-flow pumping rates (150-480 ml/min).
*	No analytical data is available for this sample due to a laboratory error.
(a)	Calculated assuming 0 for non-detected congeners and 2006 toxic equivalency factors (TEFs).
(b)	Calculated assuming 1/2 detection limit as proxy for non-detected congeners and 2006 TEFs.
--	PRG not established