

**Summary of Available Data for LOU 10  
On-Site Hazardous Waste Landfill (Closed)**  
Tronox Facility – Henderson, Nevada

- Name of Facility:** Onsite Hazardous Waste Landfill (Closed)
- Goal of Closure:**
- Restricted closure maintaining landfill cap integrity and possible future non-invasive commercial/industrial uses such as a paved parking lot, which could further protect the landfill.
- Site Investigation Area:**
- Size: Approximately 410 ft long by 45 ft wide by 20 ft deep [Ref. 5].
  - Location: West of Pond GW-11 along western property boundary.
  - Current Status/Features: The onsite Hazardous Waste Landfill is currently capped and monitored according to a closure/post-closure plan approved by the Nevada Department of Environmental Protection (NDEP).
- Description:**
- The area operated as a hazardous waste landfill between February 1980 and January 23, 1983 [Ref. 5].
  - During operation, the landfill received truck-load sized increments (approximately 20 yd<sup>3</sup>) that were mixed with an equal volume of soil to solidify wastes. Each lift was compacted to minimize subsidence [Ref. 5].
  - Sodium chlorate filter cakes originating from the sodium chlorate process were disposed of at the Onsite Hazardous Waste Landfill [Ref. 5].
  - The upper fill is comprised of soil originating from the closure of Pond S-1 (LOU 13) and included the dry contents, the pond liner, and two feet of underlying soil [Ref. 5].
  - The area was capped between September 6, 1985 and October 17, 1985 by Espy Bros. and Serrot Corp. The cover extends approximately five feet beyond the boundary of the waste placement and is comprised of: a 1.5- to 4-foot thick compacted clay layer (<10<sup>-7</sup> cm/sec permeability); a 40 mil. high density polyethylene (HDPE) membrane; a 6-inch thick clay layer; and 1-foot thick drainage layer of compacted granular soil [Ref. 5].
  - The landfill is located in an area formerly occupied by the Trade Effluent Settling Ponds (LOU 1), which received process waste from the acid neutralization plant as well as waste materials from the Unit Buildings from 1942 through November 1944 (see LOU 1 data package for additional information).
  - Prior to November 1960 to at least August 1979, this area received material of unknown origin [Ref. 5].
  - The landfill is currently under post-closure care according to a closure/post-closure plan approved by NDEP (April 16, 1985) [Ref. 1 and 4].

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- Groundwater monitoring wells downgradient of LOU 10 are monitored at least annually and are tested per the NDEP-approved sampling plan [Ref. 3].
- Surveyed settlement monuments have been placed to monitor subsidence (surveyed October 17, 1985) [Ref. 5].

<b>Process Waste Streams Associated with LOU 10</b>	<b>Known or Potential Constituents Associated with LOU 10</b>
Chromium in the sodium chlorate and potassium perchlorate process solids [Ref. 5].	<ul style="list-style-type: none"> <li>• Metals</li> <li>• Hexavalent chromium</li> <li>• Chloride</li> <li>• Chlorate</li> <li>• Perchlorate</li> </ul>
<b>Process Waste Streams Associated with Sodium Chlorate Process in Units 3, 4, &amp; 5</b>	
Sodium chlorate filter cakes consisting of diatomaceous earth with carbon, calcium sulfate, sodium carbonate, calcium carbonate, sodium chloride, sodium chlorate, and 0.5% to 1% hexavalent chromium [Ref. 5].	<ul style="list-style-type: none"> <li>• Hexavalent chromium</li> <li>• Chlorate</li> <li>• Ammonia</li> <li>• Wet chemistry analytes</li> </ul>
<b>Process Waste Streams Associated with Pond S-1 (LOU 13)</b>	
Materials from closure of Pond S-1 were placed in the On-site Hazardous Waste Landfill [Ref. 5]. Materials included pond liner, solid contents from Pond S-1, and 2,900 cubic yards of chromium-impacted soil.	<ul style="list-style-type: none"> <li>• Metals (including boron and manganese)</li> <li>• Hexavalent chromium</li> <li>• Chlorate</li> <li>• Perchlorate</li> <li>• Ammonia</li> <li>• Wet chemistry</li> <li>• Sodium hexametaphosphates</li> <li>• Sulfuric acid</li> </ul>

**Overlapping or Adjacent LOUs:**

The following LOUs overlap or are adjacent to LOU 10:

Overlapping LOUs

- LOU 1 (Trade Effluent Settling Ponds) – Overlaps the entire area of LOU 10.

Adjacent LOUs

- None

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Known or potential chemical classes identified for LOU 1 are not consistent with those for LOU 10 (see discussion below).

**LOUs Potentially Affecting Soils in LOU 10:**

- LOU 1 – Trade Effluent Settling Ponds: Trade Effluent Settling Ponds (LOU 1) received process waste streams from the acid neutralization plant as well as solid waste/materials. Waste streams from the acid neutralization plant were discharged to LOU 1 and may have potentially affected the area beneath and/or around LOU 10. No soil borings will be drilled directly in LOU 10 to avoid compromising the cap; Phase B borings will be drilled east and south of LOU 10 as part of the investigation for LOU 1. The analytical plan for samples collected from these borings includes analyses for VOCs, SVOCs, TPH, and OCPs.
- LOU 13 – Pond S-1: Dry contents, liners, and two feet of soil originating from the closure of S-1 were disposed of at the Onsite Hazardous Waste Landfill [Ref. 5]. Known or potential chemical classes associated with LOU 13 are consistent with those listed for LOU 10; therefore, no additional chemical classes have been added to the analytical plan for LOU 10.
- For further information please refer to the LOU 1 and LOU 13 data packages.

**Known or Potential Chemical Classes:**

- Metals
- Chromium and hexavalent chromium
- Perchlorate
- Wet chemistry analytes
- VOCs (associated with LOU 1)
- SVOCs (associated with LOU 1)
- TPH (associated with LOU 1)
- Organochlorine pesticides (associated with LOU 1)

**Known or Potential Release Mechanisms:**

- No known releases documented.
- An engineered cap covers the landfill, but the landfill bottom and sidewalls are unlined. The potential exists for leachate to infiltrate through the landfill sidewalls and/or bottom and affect shallow groundwater; however, the cap prevents surface infiltration and the landfill is above the water table [Ref. 4].

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### Results of Historical Sampling:

- Groundwater monitoring conducted on perimeter wells M-5A, M-6A, M-7B, and H-28; quarterly from 1982 through 1988 and annual since 1988. M-5A is an upgradient water table well, whereas M-6A, M-7B, and H-28 are downgradient water table wells. Routine sampling has not identified impacts to groundwater originating from LOU 10 [Ref. 3]. Analytical results are summarized: LOU 10 Tables 6 and 7 (see attached).

### Did Historical Samples Address Potential Release?

- Yes. Downgradient groundwater samples have not indicated that contents of the landfill have impacted the water table.

### Summary of Phase A SAI:

#### Soil

- Phase A Investigation boring (SA21) is approximately 125 feet north (downgradient) and was specifically sampled to evaluate this LOU [Ref. 2].

#### Groundwater

- Phase A Investigation well sampled (M-7B) is approximately 150 feet to the north northeast (downgradient) and was sampled specifically to evaluate this LOU [Ref. 2].

Chemical classes detected in Phase A soil boring SA21:

- Dioxins
- Radionuclides

As a result of the Phase A data, the Phase B analytical plan for samples collected from LOU 10 will be expanded to include analyses for dioxins/furans and radionuclides.

- Analytical results for soil and groundwater from the Phase A sampling event are summarized in the attached tables: "LOU 10 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?

- No Phase B soil assessment is proposed within this LOU in order to maintain the integrity of the landfill cap. However, soil samples will be collected at a location near LOU 10 as part of the evaluation of LOU 1. Since known or potential chemical classes associated with LOU 10 are consistent with those listed for LOU 1, several sample locations that are proposed for LOU 1 are also applicable to LOU 10.

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**Proposed Phase B Soil Investigation/Rationale:**

- No soil borings will be drilled within the boundaries of LOU 10 in order to maintain the integrity of the landfill cap. However, soil samples will be collected from three (3) locations near LOU 10.
  - One (1) soil boring will be drilled south (upgradient) of LOU 10.
  - One (1) soil boring will be located east (cross-gradient) of LOU 10.
  - One (1) soil boring will be drilled north (downgradient) of LOU 10.
- Random sample locations:
  - Designed to assess whether unknown constituents associated with LOU 10 are present; and
  - Three (3) sample locations (RSAJ2, RSAI2, and RSAH3) are randomly-placed locations.
  - All 3 borings along with the analytical program to evaluate soil samples from LOU 10 are listed on **Table A – Soil Sampling and Analytical Plan for LOU 10.**

**Proposed Phase B Constituents List for Soils:**

The random sample locations will be analyzed for the following full list of Phase A site related chemicals for LOU-specific and area-wide coverage purposes:

- 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 monitoring wells are located within the boundaries of LOU 10 in order to maintain the integrity of the landfill cap. However, three (3) monitoring wells in the vicinity of LOU 10 and will be sampled as part of Phase B activities to evaluate local groundwater conditions and as part of site-wide evaluation of constituent trends in groundwater.
  - One (1) well (M-5A) located south (upgradient) of LOU 10 will be sampled.

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- Two (2) wells located north (downgradient) of LOU 10 will be sampled. These wells are M-7B and H-28.
- All three wells along with the analytical program to evaluate groundwater samples associated with LOU 10 are listed on **Table B – Groundwater Sampling and Analytical Plan for LOU 10.**

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

Groundwater samples will be analyzed for the following analytes:

- Metals (Phase A list)
- Hexavalent chromium
- Perchlorate
- Wet chemistry analytes
- VOCs
- SVOCs
- Organochlorine pesticides
- Radionuclides

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

Two soil gas samples will be collected to evaluate area conditions for the presence of vapor-phase VOCs in the vadose zone.

- One (1) soil gas location (SG19) will be located north of LOU 10 and adjacent to well (M-7B) to evaluate for potential vapor-phase VOCs from groundwater and/or soil.
- One (1) soil gas location (SG51) will be located south of LOU 10 and adjacent to soil boring RSAJ2 to evaluate for vapor-phase VOCs associated with soil and/or groundwater.

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 (by 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, 2007a, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.

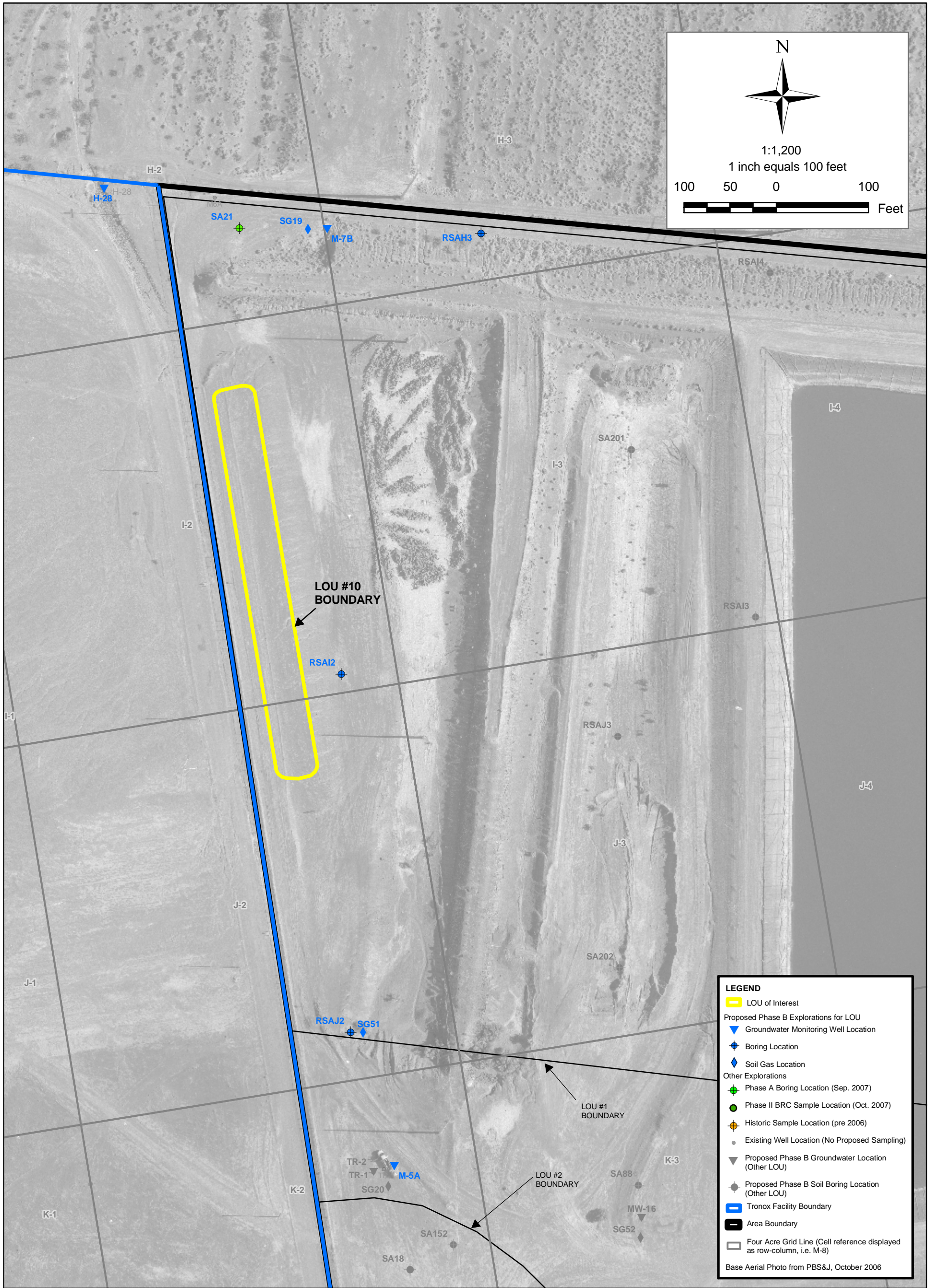
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3. ENSR, 2007b, Quarterly Performance Report for Remediation Systems, Tronox LLC, Henderson, Nevada, July-September 2007, November 2007.
4. Environmental Answers, Keith Bailey, verbal communication, February 25, 2008.
5. Kleinfelder, 1993, Environmental Conditions Assessment, Kerr-McGee Chemical Corporation, Henderson, Nevada Facility, April 15, 1993 (Final).

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**LOU Map**





**LEGEND**

- LOU of Interest
- ▼ Proposed Phase B Explorations for LOU
- ▲ Groundwater Monitoring Well Location
- ⊕ Boring Location
- ◆ Soil Gas Location
- Other Explorations
- ⊕ Phase A Boring Location (Sep. 2007)
- ⊕ Phase II BRC Sample Location (Oct. 2007)
- ⊕ Historic Sample Location (pre 2006)
- Existing Well Location (No Proposed Sampling)
- ▼ Proposed Phase B Groundwater Location (Other LOU)
- ⊕ Proposed Phase B Soil Boring Location (Other LOU)
- Tronox Facility Boundary
- Area Boundary
- Four Acre Grid Line (Cell reference displayed as row-column, i.e. M-8)

Base Aerial Photo from PBS&J, October 2006

SHEET NUMBER:  
X

FIGURE NUMBER:  
1

**SAMPLE LOCATIONS FOR LOU #10  
ON-SITE HAZARDOUS WASTE LANDFILL (CLOSED)**

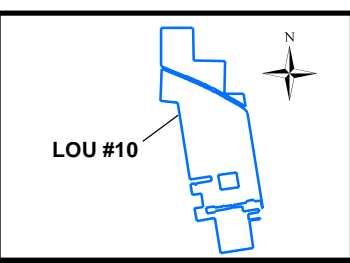
Phase B Source Area Investigation  
Tronox Facility  
Henderson, Nevada

SCALE:	DATE:	PROJECT NUMBER:
AS SHOWN	4/2/2008	04020-023-430

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**Sampling and Analytical Plans for LOU 10:**

Table A – Soil Analytical Plan for LOU 10  
Table B – Groundwater Analytical Plan for LOU 10



**Table A**  
**Soil Sampling and Analytical Plan for LOU 10**  
Phase B Source Area Investigation Work Plan  
Tronox Facility - Henderson, Nevada

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 1. (EPA 8260B)	Wet Chemistry 2.	OCPs 3. (8081A)	SVOCs 4. (EPA 8270C)	Radio-nuclides 5.	Dioxins/Furans 6.	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 (H-3) and ending with the southeastern most grid (J-2).</b>																				
H-3	1, 10	RSAH3	RSA3-0.0	0.0													X	Boring located to evaluate LOU 1 (former Trade Effluent Settling Ponds) and for general site coverage.		
H-3	1, 10		RSA3-0.5	0.5	X	X	X	X		X	X	X	X	X	X					
H-3	1, 10		RSA3-10	10	X	X	X	X		X	X	Hold	X	X						
H-3	1, 10		RSA3-20	20	X	X	X	X		X	X		X	X						
H-3	1, 10		RSA3-30	30	X	X	X	X		X	X		X	X						
I-2	1, 10	RSAI2	RSAI2-0.0	0.0													X	Boring located to evaluate LOU 1 (former Trade Effluent Settling Ponds) and as an eastward step-out to LOU 10 (Former Onsite Hazardous Waste Landfill).		
I-2	1, 10		RSAI2-0.5	0.5	X	X	X	X		X	X	X	X	X	X					
I-2	1, 10		RSAI2-10	10	X	X	X	X		X	X	Hold	X	X						
I-2	1, 10		RSAI2-20	20	X	X	X	X		X	X		X	X						
I-2	1, 10		RSAI2-30	30	X	X	X	X		X	X		X	X						
J-2	1, 10	RSAJ2	RSAJ2-0.0	0.0													X	Boring located to evaluate LOU 1 (former Trade Effluent Settling Ponds) and to investigate potential offsite VOC sources.		
J-2	1, 10		RSAJ2-0.5	0.5	X	X	X	X		X	X	X	X	X	X					
J-2	1, 10		RSAJ2-10	10	X	X	X	X		X	X	Hold	X	X						
J-2	1, 10		RSAJ2-20	20	X	X	X	X		X	X		X	X						
J-2	1, 10		RSAJ2-30	30	X	X	X	X		X	X		X	X						
<b>Number of Borings:</b>		<b>3</b>	--	--																
<b>Number of Samples:</b>			--	--	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>0</b>	<b>12</b>	<b>12</b>	<b>3</b>	<b>12</b>	<b>12</b>	<b>3</b>	<b>0</b>	<b>3</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.

**Table B**  
**Groundwater Sampling and Analysis Plan for LOU 10**  
Phase B Source Area Investigation Area I Work Plan  
Tronox Facility - Henderson, Nevada

Grid Location	Location Area	Monitoring Well No.	Screen Interval (ft bgs)	Well Sampled for Phase A? (y/n)	Perchlorate (EPA 314.0)	Hex Cr (EPA 7199)	Metals	VOCs <sup>1</sup> (EPA 8260)	Wet Chemistry <sup>2</sup>	OCPs <sup>3</sup> (EPA 8081A)	SVOCs <sup>4</sup> (EPA 8270C)	Radio-nuclides <sup>5</sup>	Rationale
<b>Wells are organized by grid location as shown on Plate A - Starting point is on the northwestern-most grid in Area 1 (H-2) and ending with the southeastern-most grid covering Area I (K-2).</b>													
H-2	1N	H-28	nr	no	X	X	X	X	X	X	X	X	Serves as a close stepout downgradient for LOU 1 and LOU 10, and general site coverage and to evaluate potential offsite sources to the west.
H-3	1	M-7B	25.5 - 50.5	yes	X	X	X	X	X	X	X	X	Located as a downgradient stepout for LOU 1 and LOU 10; to evaluate possible offsite sources to the West; and for general site coverage.
K-2	1	M-5A	40 - 50	yes	X	X	X	X	X	X	X	X	Located to evaluate LOU 2 (Open Area South of the Trade Effluent Ponds); as an upgradient stepout for LOU 1 and LOU 10; to evaluate possible offsite sources to the West; and for general site coverage.
<b>Number of Field Samples:</b>					<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	
<b>Notes:</b>													
X Sample will be collected and analyzed.													
1 Volatile organic compounds- 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)													
1N Well located outside (downgradient or cross-gradient) of Area 1.													
nr Not recorded in Tronox database (screen intervals to be acquired from BMI).													

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**Soil and Groundwater Characterization Data**

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Tronox Facility – Henderson, Nevada**

LOU-specific analytes identified include:

- Wet chemistry analytes
- Dioxins/furans
- Metals
- Organochlorine pesticides
- Perchlorate
- Radionuclides
- SVOCs
- TPH
- VOCs
- Asbestos

The tables in **BOLD** below present Phase A data associated with those LOU specific analytes listed above.

**LOU 10 Table 1 – Soil Characterization Data – Wet Chemistry**

**LOU 10 Table 2 – Groundwater Characterization Data – Wet Chemistry**

LOU 10 Table 3 – Soil Characterization Data – Dioxins and Dibenzofurans

**LOU 10 Table 4 – Soil Characterization Data – Metals**

**LOU 10 Table 5 – Groundwater Characterization Data – Metals**

LOU 10 Table 6 – Groundwater Characterization Data – Routine Monitoring

LOU 10 Table 7 – Groundwater Characterization Data

**LOU 10 Table 8 – Soil Characterization Data – Organochlorine Pesticides (OCP)**

**LOU 10 Table 9 – Groundwater Characterization Data – Organochlorine Pesticides (OCP)**

LOU 10 Table 10 – Soil Characterization Data – Organophosphorus Pesticides (OPP)

LOU 10 Table 11 – Groundwater Characterization Data – Organophosphorus Pesticides (OPP)

LOU 10 Table 12 – Soil Characterization Data – PCBs

LOU 10 Table 13 – Groundwater Characterization Data – PCBs

**LOU 10 Table 14 – Soil Characterization Data – Perchlorate**

**LOU 10 Table 15 – Groundwater Characterization Data – Perchlorate**

**LOU 10 Table 16 – Soil Characterization Data – Radionuclides**

**LOU 10 Table 17 – Groundwater Characterization Data – Radionuclides**

**LOU 10 Table 18 – Soil Characterization Data – SVOC**

**LOU 10 Table 19 – Groundwater Characterization Data – SVOC**

**LOU 10 Table 20 – Soil Characterization Data – Total Petroleum Hydrocarbons**

**LOU 10 Table 21 – Soil Characterization Data – VOCs**

**LOU 10 Table 22 – Groundwater Characterization Data – VOCs**

**LOU 10 Table 23 – Soil Characterization Data – Long Asbestos Fibers in Respirable Soil**

Notes for all tables presented at the end of the tables.

**LOU 10 Table 1**  
**Soil Characterization Data - Wet Chemistry**

Tronox LLC Facility - Henderson Nevada  
Onsite Hazardous Waste Landfill

Sampling Program		Ph A	Ph A	Ph A	Ph A	Ph A	
Boring No.		SA21	SA21	SA21	SA21	SA21	
Sample ID		SA21-0.5	SA21-10	SA21-20	SA21-20D	SA21-30	
Sample Depth (ft)		0.5	10	20	20	30	
Sample Date		11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	
Wet Chemistry Parameter	PRG <sup>2</sup> mg/kg						Units
Percent moisture	--	<b>4.3</b>	<b>9.1</b>	<b>9.5</b>	<b>4.2</b>	<b>10.6</b>	percent
Alkalinity (as CaCO <sub>3</sub> )	--	<b>151 J</b>	55.0 UJ	<b>195 J</b>	<b>91.8 J</b>	<b>257 J</b>	mg/kg
Bicarbonate	--	<b>598 J</b>	<b>304 J</b>	<b>1160 J</b>	<b>470 J</b>	<b>302 J</b>	mg/kg
Total Alkalinity	--	<b>749 J</b>	<b>327 J</b>	<b>1360 J</b>	<b>562 J</b>	<b>559 J</b>	mg/kg
Ammonia (as N)	--	5.2 UJ	5.5 UJ	5.5 UJ	5.2 UJ	5.6 UJ	mg/kg
Cyanide	1.20E+04	R	R	R	R	R	mg/kg
MBAS	--	2.1 U	2.6 U	2.1 U	<b>2.2 J</b>	2.2 U	mg/kg
pH (solid)	--	<b>8.7</b>	<b>8.3</b>	<b>8.3</b>	<b>8.3</b>	<b>8.9</b>	none
Bromide	--	2.6 U	2.8 U	2.8 U	2.6 U	2.8 U	mg/kg
Chlorate	--	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	mg/kg
Chloride	--	<b>8.0</b>	<b>683</b>	<b>378</b>	<b>299</b>	<b>154</b>	mg/kg
Nitrate (as N)	--	<b>2.5 J+</b>	<b>4.8 J+</b>	<b>0.93 J+</b>	<b>0.71 J+</b>	<b>0.64 J+</b>	mg/kg
Nitrite	--	<b>0.47</b>	2.2 U	2.2 U	2.1 U	2.2 U	mg/kg
ortho-Phosphate	--	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	mg/kg
Sulfate	--	<b>57.0</b>	<b>2660</b>	<b>1600</b>	<b>1800</b>	<b>252</b>	mg/kg
Total Organic Carbon	--	<b>2480</b>	<b>6900</b>	<b>7200</b>	<b>5800</b>	<b>9400</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 10 Table 2  
Groundwater Characterization Data - Wet Chemistry**

Tronox LLC Facility - Henderson, Nevada  
Onsite Hazardous Waste Landfill

Sampling Program		Ph A	Ph A	
Well ID		M5A	M7B	
Sample ID		M5A	M7B	
Sample Date		12/07/2006	11/30/2006	
Wet Chemistry Parameters	MCL <sup>2</sup> ug/L			Units
Total Dissolved Solids	5.00E+05 j	<b>11000</b>	<b>7650</b>	mg/L
Total Suspended Solids	--	<b>18.0 J</b>	<b>37.0 J</b>	mg/L
Alkalinity (as CaCO3)	--	5.0 U	5.0 U	mg/L
Bicarbonate	--	<b>202</b>	<b>98.0</b>	mg/L
Total Alkalinity	--	<b>202</b>	<b>98.0</b>	mg/L
Ammonia (as N)	--	50.0 U	50.0 U	ug/L
MBAS	--	<b>1.4 J</b>	<b>4.0</b>	mg/L
Cyanide	2.00E+02	R	R	ug/L
pH (liquid)	--	<b>7.0 J</b>	<b>7.2 J</b>	none
Specific Conductance	--	<b>3350 J+</b>	<b>4310</b>	umhos/cm
Bromide	--	25.0 U	<b>84.1 J</b>	mg/L
Chlorate	--	5.0 U	<b>8.0</b>	mg/L
Chloride	2.50E+05	<b>5320</b>	<b>4160</b>	mg/L
Nitrate (as N)	1.00E+04	2.0 U	10.0 U	mg/L
Nitrite	1.00E+03	2.0 U	10.0 U	mg/L
ortho-Phosphate	--	50.0 U	5.0 U	mg/L
Sulfate	2.50E+05 j	<b>1600</b>	<b>1690</b>	mg/L
Total Organic Carbon	--	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 10 Table 3  
Soil Characterization Data - Dioxins and Dibenzofurans**

Tronox LLC Facility - Henderson, Nevada  
Onsite Hazardous Waste Landfill

				<b>Sampling Program</b>	Ph A <sup>1</sup>
				<b>Boring No.</b>	SA21
				<b>Sample ID</b>	SA21-0.5
				<b>Sample Depth (ft)</b>	0.5
				<b>Sample Date</b>	11/15/2006
<b>Chemical Name</b>	<b>Method</b>	<b>Unit</b>	<b>PRG<sup>2</sup> mg/kg</b>		
Dioxin 8290 SCREEN Total TEQ-ENSR Calculated (a) ng/kg		ng/kg	--		2.41
Dioxin SW 846 8290 Total TEQ-ENSR Calculated (a) ng/kg		ng/kg	--		
Dioxin 8290 SCREEN Total TEQ-ENSR Calculated (b) ng/kg		ng/kg	--		2.42
Dioxin SW 846 8290 Total TEQ-ENSR Calculated (b) ng/kg		ng/kg	--		
1,2,3,4,6,7,8-Heptachlorodibenzofuran	8290 Screen	ng/kg	--		18.803
1,2,3,4,6,7,8-Heptachlorodibenzofuran	SW 846 8290	ng/kg	--		
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--		1.360
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--		
1,2,3,4,7,8,9-Heptachlorodibenzofuran	8290 Screen	ng/kg	--		5.435
1,2,3,4,7,8,9-Heptachlorodibenzofuran	SW 846 8290	ng/kg	--		
1,2,3,4,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	--		6.907
1,2,3,4,7,8-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--		
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--		0.144
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--		
1,2,3,6,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	--		4.195
1,2,3,6,7,8-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--		
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--		0.395
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--		
1,2,3,7,8,9-Hexachlorodibenzofuran	8290 Screen	ng/kg	--		0.250 U
1,2,3,7,8,9-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--		
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--		0.383
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--		
1,2,3,7,8-Pentachlorodibenzofuran	8290 Screen	ng/kg	--		2.669
1,2,3,7,8-Pentachlorodibenzofuran	SW 846 8290	ng/kg	--		
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--		0.202
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--		
2,3,4,6,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	--		0.802
2,3,4,6,7,8-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--		
2,3,4,7,8-Pentachlorodibenzofuran	8290 Screen	ng/kg	--		0.772
2,3,4,7,8-Pentachlorodibenzofuran	SW 846 8290	ng/kg	--		
2,3,7,8-Tetrachlorodibenzofuran	8290 Screen	ng/kg	--		2.994
2,3,7,8-Tetrachlorodibenzofuran	SW 846 8290	ng/kg	--		
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	1.00E+04 h,v		0.047
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	1.00E+04 h,v		
Octachlorodibenzofuran	8290 Screen	ng/kg	--		38.958
Octachlorodibenzofuran	SW 846 8290	ng/kg	--		
Octachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--		2.214

**LOU 10 Table 3 (continued)**  
**Soil Characterization Data - Dioxins and Dibenzofurans**

Tronox LLC Facility - Henderson, Nevada  
 Onsite Hazardous Waste Landfill

<b>Sampling Program</b>				Ph A <sup>1</sup>
<b>Boring No.</b>				SA21
<b>Sample ID</b>				SA21-0.5
<b>Sample Depth (ft)</b>				0.5
<b>Sample Date</b>				11/15/2006
<b>Chemical Name</b>	<b>Method</b>	<b>Unit</b>	<b>PRG<sup>2</sup> mg/kg</b>	
Octachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--	
Tetrachlorinated Dibenzofurans, (Total)	SW 846 8290	ng/kg	--	
Total HpCDD	SW 846 8290	ng/kg	--	
Total HpCDF	SW 846 8290	ng/kg	--	
Total HxCDD	SW 846 8290	ng/kg	--	
Total HxCDF	SW 846 8290	ng/kg	--	
Total PeCDD	SW 846 8290	ng/kg	--	
Total PeCDF	SW 846 8290	ng/kg	--	
Total TCDD	SW 846 8290	ng/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)
  - (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.
  - (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

**LOU 10 Table 4  
Soil Characterization Data - Metals**

Tronox LLC Facility - Henderson, Nevada  
Onsite Hazardous Waste Landfill

Sampling Program		Ph A	Ph A	Ph A	Ph A	Ph A	
Boring No.		SA21	SA21	SA21	SA21	SA21	
Sample ID		SA21-0.5	SA21-10	SA21-20	SA21-20D	SA21-30	
Sample Depth (ft)		0.5	10	20	20	30	
Sample Date		11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	
Metals	PRG <sup>2</sup> mg/kg						Units
Aluminum	9.21E+05 (oo)	6140	7480	5840	7430	6380	mg/kg
Antimony	4.09E+02	0.15 J-	0.19 J-	0.17 J-	0.17 J-	0.14 J-	mg/kg
Arsenic	1.59E+00	2.4	4.6	4.2	4.3	10.5	mg/kg
Barium	6.66E+04	165 J	171 J	194 J	154 J	212 J	mg/kg
Beryllium	1.94E+03	0.39	0.47	0.41	0.42	0.40	mg/kg
Boron	2.00E+05 (oo)	3.7 UJ	6.4 UJ	5.9 UJ	6.5 UJ	6.9 UJ	mg/kg
Cadmium	4.50E+02	0.12	0.073	0.073	0.096	0.089	mg/kg
Calcium	--	28400	20600	27200	24200	41800	mg/kg
Chromium (Total)	4.48E+02	8.7 J-	10.0 J-	7.6 J-	9.0 J-	12.0 J-	mg/kg
Chromium-hexavalent	6.40E+01	0.21 U	0.22 U	0.22 U	0.21 U	0.22 U	mg/kg
Cobalt	1.92E+03	5.2 J-	6.0 J-	7.2 J-	6.2 J-	4.4 J-	mg/kg
Copper	4.09E+04	11.2 J	11.1 J	11.2 J	12.3 J	10.8 J	mg/kg
Iron	3.00E+05 (oo)	10300	11400	9990	11300	11100	mg/kg
Lead	8.00E+02	8.2 J	9.1 J	16.4 J	8.4 J	6.7 J	mg/kg
Magnesium	--	7560 J-	10000 J-	6520 J-	8060 J-	9660 J-	mg/kg
Manganese	1.95E+04	269 J	259 J	452 J	254 J	138 J	mg/kg
Molybdenum	5.11E+03	0.56 J	0.74 J	1.2	0.57 J	0.49 J	mg/kg
Nickel	2.04E+04	12.3 J-	12.6 J-	10.4 J-	12.8 J-	10.1 J-	mg/kg
Platinum	--	0.011 U	0.016 J	0.012 J	0.012 J	0.013 J	mg/kg
Potassium	--	2570	2240	1720	1870	1760	mg/kg
Selenium	5.11E+03	0.11 UJ	0.12 UJ	0.12 UJ	0.11 UJ	0.12 UJ	mg/kg
Silver	5.11E+03	0.11 J	0.12 J	0.094 J	0.11 J	0.12 J	mg/kg
Sodium	--	530 J-	1450 J-	820 J-	1260 J-	924 J-	mg/kg
Strontium	6.12E+05 (oo)	139 J	251 J	224 J	310 J	217 J	mg/kg
Thallium	6.75E+01	0.073 U	0.081 U	0.091 U	0.073 U	0.078 U	mg/kg
Tin	6.12E+05 (oo)	0.46	0.51	0.48	0.44	0.45	mg/kg
Titanium	3.80E+06 (oo)	497	482	506	534	636	mg/kg
Tungsten	--	0.28 UJ	0.34 UJ	0.67 J-	0.30 UJ	0.24 UJ	mg/kg
Uranium	2.04E+02	0.86	2.0	2.2	2.3	3.8	mg/kg
Vanadium	1.02E+03	26.2 J-	30.2 J-	30.5 J-	30.7 J-	39.8 J-	mg/kg
Zinc	3.10E+05 (oo)	25.0 J-	23.8 J-	23.8 J-	23.9 J-	24.5 J-	mg/kg
Mercury	3.10E+02 (t)	0.007 UJ	0.0074 UJ	0.0074 UJ	0.007 UJ	0.0075 UJ	mg/kg

**Notes:**

1. 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.

(t) Value for mercury and compounds.

**LOU 10 Table 5  
Groundwater Characterization Data - Metals**

Tronox LLC Facility - Henderson, Nevada  
Onsite Hazardous Waste Landfill

Sampling Program		Ph A	Ph A	
Well ID:		M5A	M7B	
Sample ID		M5A-Z	M7B-Z	
Sample Depth (ft)				
Sample Date		05/10/2007	05/08/2007	
Metals	MCL <sup>2</sup> ug/L			Unit
Aluminum	5.00E+01 j	786 U	393 U	ug/L
Antimony	6.00E+00	50.0 U	25.0 U	ug/L
Arsenic	1.00E+01	<b>261 J</b>	100 U	ug/L
Barium	2.00E+03	<b>44.3 J</b>	<b>36.0 J</b>	ug/L
Beryllium	4.00E+00	8.8 U	4.4 U	ug/L
Boron	7.30E+03 c	<b>2220 J</b>	<b>4120</b>	ug/L
Cadmium	5.00E+00	5.7 U	2.9 U	ug/L
Calcium	--	<b>782000</b>	<b>591000</b>	ug/L
Chromium (Total)	1.00E+02	280 U	R	ug/L
Chromium-hexavalent	1.09E+02 c	1.0 UJ	1.0 U	ug/L
Cobalt	7.30E+02 c	31.3 U	15.7 UJ	ug/L
Copper	1.30E+03 p	25.0 U	12.5 U	ug/L
Iron	3.00E+02 j	R	470 UJ	ug/L
Lead	1.50E+01 u	49.2 U	24.6 U	ug/L
Magnesium	1.50E+05 a	<b>905000</b>	<b>408000</b>	ug/L
Manganese	5.00E+01 j	<b>1540</b>	17.1 U	ug/L
Molybdenum	1.82E+02 c	50.0 U	25.0 U	ug/L
Nickel	7.30E+02 c	51.7 U	25.8 UJ	ug/L
Platinum	--	10.0 U	5.0 U	ug/L
Potassium	--	<b>21100</b>	<b>22500</b>	ug/L
Selenium	5.00E+01	100 U	50.0 U	ug/L
Silver	1.00E+02 j	20.3 U	10.1 U	ug/L
Sodium	--	<b>1860000</b>	<b>1430000</b>	ug/L
Strontium	2.19E+04 c	<b>23900</b>	<b>16900</b>	ug/L
Thallium	2.00E+00	32.0 U	16.0 U	ug/L
Tin	2.19E+04 c	20.0 U	10.0 U	ug/L
Titanium	1.46E+05 c	39.1 U	19.6 U	ug/L
Tungsten	--	50.0 U	25.0 UJ	ug/L
Uranium	3.00E+01	<b>46.4 J</b>	<b>44.9 J+</b>	ug/L
Vanadium	3.65E+01 c	160 UJ	80.0 UJ	ug/L
Zinc	5.00E+03 j	100 U	<b>86.2 J-</b>	ug/L
Mercury	2.00E+00	0.093 U	0.093 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
  - (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 10 Table 6  
Groundwater Characterization Data - Routine Monitoring**

Tronox LLC Facility - Henderson, Nevada  
Onsite Hazardous Waste Landfill

Well ID units	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-5A	5/2/2006	---	24	d	1.80E+01 a,m	<0.01	ud	1.00E+02	10800		5.00E+05 j			1.00E+04			--
M-5A	8/1/2006	---	20.6	d	1.80E+01 a,m	<0.01	ud	1.00E+02	9330		5.00E+05 j			1.00E+04			--
M-5A	5/2/2007	---	22.9		1.80E+01 a,m	<0.02	U	1.00E+02	9250		5.00E+05 j			1.00E+04			--
M-5A	7/31/2007	---	24.7		1.80E+01 a,m	<0.02	U	1.00E+02	11100		5.00E+05 j			1.00E+04			--
M-6A	5/2/2006	---	40	d	1.80E+01 a,m	<0.01	ud	1.00E+02	5620		5.00E+05 j			1.00E+04			--
M-6A	8/1/2006	---			1.80E+01 a,m			1.00E+02	6590		5.00E+05 j			1.00E+04			--
M-6A	5/2/2007	---	30.3		1.80E+01 a,m	<0.02	U	1.00E+02	6350		5.00E+05 j			1.00E+04			--
M-6A	7/31/2007	---	32.4		1.80E+01 a,m	<0.02	U	1.00E+02	6710		5.00E+05 j			1.00E+04			--
M-7B	5/2/2006	---	63	d	1.80E+01 a,m	0.046	d	1.00E+02	8030		5.00E+05 j			1.00E+04			--
M-7B	8/1/2006	---			1.80E+01 a,m			1.00E+02	6650		5.00E+05 j			1.00E+04			--
M-7B	5/2/2007	---	55.6		1.80E+01 a,m	<0.02	U	1.00E+02	7000		5.00E+05 j			1.00E+04			--
M-7B	7/31/2007	---	59.5		1.80E+01 a,m	<0.02	U	1.00E+02	7280		5.00E+05 j			1.00E+04			--
H-28A	5/2/2006	---	6.8	d	1.80E+01 a,m	<0.01	ud	1.00E+02	6130		5.00E+05 j			1.00E+04			--
H-28A	8/1/2006	---	6.85	d	1.80E+01 a,m	<0.01	ud	1.00E+02	6740		5.00E+05 j			1.00E+04			--
H-28A	5/2/2007	---	8.17		1.80E+01 a,m	<0.02	U	1.00E+02	6250		5.00E+05 j			1.00E+04			--
H-28A	7/31/2007	---	9.79		1.80E+01 a,m	<0.02	U	1.00E+02	7240		5.00E+05 j			1.00E+04			--

**Notes:**

1. ENSR, 2007, Quarterly Performance Report for Remediation Systems, Tronox LLC, Henderson, Nevada, July, September 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\\_](http://ndep.nv.gov/bca/perchlorate02_)

(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 10 Table 7  
Groundwater Characterization Data**

Tronox LLC Facility - Henderson, Nevada  
Onsite Hazardous Waste Landfill

Well ID	Sample Date	Total Depth (ft bgs)	Depth to Water (ft TOC)	pH (Lab)	EC (Lab, (µmho/cm)	Cr-total (ppm)	Mn (ppm)	ClO <sub>4</sub> (ppm)
M-5A	8/24/97	--	--	--	--	--	--	<0.7
M-5A	9/15/97	46.79	39.76	6.92	12600	--	--	--
M-5A	4/27/98	--	39.42	7.14	6050	--	--	--
M-5A	5/3/00	--	--	--	14400	--	--	21
M-5A	5/6/99	46.79	37.69	7.11	14200	ND	--	<2
M-5A	5/5/00	46.79	39.44	7.32	14900	0.05	--	32
M-5A	5/4/01	46.79	39.11	--	5860	--	--	28
M-5A	5/2/03	--	39.00	7.0	14500	0.012	--	31
M-5A	12/11/02	--	38.95	--	--	--	--	--
M-5A	5/7/03	--	39.07	--	15600	--	--	--
M-5A	7/9/03	--	--	7.2	15350	--	--	--
M-5A	5/3/04	--	--	7.1	15350	ND<0.05	1.4	--
M-5A	8/3/04	--	--	7.0	15120	--	--	--
M-6A	8/24/97	--	--	--	--	--	--	<0.7
M-6A	9/15/97	47.38	40.45	7.35	7790	--	--	--
M-6A	4/27/98	--	40.27	7.49	5020	--	--	--
M-6A	5/6/99	47.38	38.71	7.46	8150	ND	--	5
M-6A	5/5/00	47.38	40.60	7.69	8510	0.02	--	11
M-6A	5/4/01	47.38	40.15	7.44	8770	0.02	--	12
M-6A	4/30/02	--	39.99	7.5	8940	0.039	--	24
M-6A	12/11/02	--	40.07	--	--	--	--	--
M-6A	5/2/03	--	41.02	--	10180	--	--	--
M-6A	7/9/03	--	--	7.3	9940	--	--	--
M-6A	5/3/04	--	--	7.5	9730	ND<0.02	150	--
M-6A	8/3/04	--	--	7.5	9810	--	--	--
M-7A	8/24/97	--	--	--	--	--	--	47
M-7A	9/15/97	--	37.15	7.20	8230	--	--	--
M-7A	4/27/98	40.47	37.21	7.47	5290	--	--	--
M-7B	5/6/99	54.80	33.73	7.51	8410	ND	--	14
M-7B	5/5/00	54.80	36.69	7.62	8570	0.15	--	13
M-7B	5/4/01	54.80	36.87	7.45	8710	0.09	--	10.6
M-7B	4/30/02	--	36.94	7.4	8520	0.01	--	12
M-7B	12/11/02	--	37.03	--	--	--	--	--
M-7B	5/2/03	--	37.16	--	9800	--	--	--
M-7B	7/9/03	--	--	7.4	9880	--	--	--
M-7B	5/3/04	--	--	7.5	9980	ND<0.02	25	--
M-7B	8/3/04	--	--	7.5	10050	--	--	--
H-28	4/27/98	42.90	--	7.63	7020	--	--	<10
H-28	5/6/99	42.90	38.90	--	--	--	--	--
H-28	5/3/00	--	--	--	8900	--	--	5.86
H-28	5/5/00	47.25	40.92	7.76	9020	0.41	--	9.00
H-28	5/1/01	--	--	--	8570	--	--	2.86
H-28	5/4/01	47.25	40.76	7.11	8780	0.15	--	--
H-28	5/9/01	41.85	7.20	--	8540	--	--	3.70
H-28A	12/11/02	--	40.65	--	--	--	--	--
H-28A	5/7/03	--	40.24	--	9340	--	--	--

**LOU 10 Table 7 (continued)  
Groundwater Characterization Data**

Tronox LLC Facility - Henderson, Nevada  
Onsite Hazardous Waste Landfill

Well ID	Sample Date	Total Depth (ft bgs)	Depth to Water (ft TOC)	pH (Lab)	EC (Lab, $\mu$ mho/cm)	Cr-total (ppm)	Mn (ppm)	ClO <sub>4</sub> (ppm)
H-28A	7/9/03	--	--	7.1	9630	--	--	--
H-28A	5/3/04	--	--	7.2	9710	ND<0.05	1.3	--
H-28A	8/3/04	--	--	7.2	9410	--	--	--

**Notes:**

ft bgs = feet below ground surface

ppm = parts per million

$\mu$ mho/cm = micromhos per centimeter

ft TOC = feet from Top of Casing

EC = Electrical Conductivity

Cr-total: Total Chromium

Mn = Manganese

ClO<sub>4</sub>: Perchlorate

ND<0.15 = Not determined, not detected above the designated detection limit.

-- = Either no data was obtained or was not analyzed for the respective constituent.

**Source:** Kerr-McGee Chemical LLC Company, Mother-hen Database.

**LOU 10 Table 8**  
**Soil Characterization Data - Organochlorine Pesticides (OCP)**

Tronox LLC Facility - Henderson, Nevada  
 Onsite Hazardous Waste Landfill

Sampling Program		Ph A	
Boring No.		SA21	
Sample ID		SA21-0.5	
Sample Depth (ft)		0.5	
Sample Date		11/15/2006	
Organochlorine Pesticides	PRG <sup>2</sup> mg/kg		Unit
4,4'-DDD	9.95E+00	0.0018 U	mg/kg
4,4'-DDE	7.02E+00	0.0018 U	mg/kg
4,4'-DDT	7.02E+00	0.0018 U	mg/kg
Aldrin	1.00E-01	0.0018 U	mg/kg
Alpha-BHC	3.59E-01 (bbb)	0.0018 U	mg/kg
Alpha-chlordane	6.47E+00 (y)	0.0018 U	mg/kg
Beta-BHC	1.26E+00 (bbb)	0.0018 U	mg/kg
Delta-BHC	3.59E-01 (z)	0.0018 U	mg/kg
Dieldrin	1.10E-01	0.0018 U	mg/kg
Endosulfan I	3.70E+03 (aa)	0.0018 U	mg/kg
Endosulfan II	3.70E+03 (aa)	0.0018 U	mg/kg
Endosulfan Sulfate	3.70E+03 (aa)	0.0018 U	mg/kg
Endrin	1.85E+02	0.0018 U	mg/kg
Endrin Aldehyde	1.85E+02 (k)	0.0018 U	mg/kg
Endrin Ketone	1.85E+02 (k)	0.0018 U	mg/kg
Gamma-BHC (Lindane)	1.74E+00 (bbb)	0.0018 U	mg/kg
Gamma-Chlordane	6.47E+00 (y)	0.0018 U	mg/kg
Heptachlor	3.83E-01	0.0018 U	mg/kg
Heptachlor Epoxide	1.89E-01	0.0018 U	mg/kg
Methoxychlor	3.08E+03	0.0034 UJ	mg/kg
Tech-Chlordane	6.47E+00	0.010 U	mg/kg
Toxaphene	1.57E+00	0.052 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 10 Table 9**  
**Groundwater Characterization Data - Organochlorine Pesticides (OCP)**

Tronox LLC Facility - Henderson, Nevada  
 Onsite Hazardous Waste Landfill

Sampling Program		Ph A	Ph A	
Well ID		M5A	M7B	
Sample ID		M5A	M7B	
Sample Date		12/07/2006	11/30/2006	
Organochlorine Pesticides	MCL <sup>2</sup> ug/L	ug/L	ug/L	Unit
4,4'-DDD	2.80E-01 c	0.050 U	0.050 U	ug/L
4,4'-DDE	1.98E-01 c	0.050 U	0.050 U	ug/L
4,4'-DDT	1.98E-01 c	0.050 U	0.050 U	ug/L
Aldrin	4.00E-03 c	0.050 U	0.050 U	ug/L
Alpha-BHC	1.10E-02 c, (bbb)	<b>1.8 J+</b>	0.050 U	ug/L
Alpha-chlordane	2.00E+00 (l)	0.050 U	0.050 U	ug/L
Beta-BHC	3.74E-02 c, (bbb)	0.050 U	0.050 U	ug/L
Delta-BHC	1.10E-02 c, (z)	0.050 U	<b>0.078</b>	ug/L
Dieldrin	4.20E-03 c, (z)	0.050 U	0.050 U	ug/L
Endosulfan I	2.19E+02 c, (aa)	0.050 U	0.050 U	ug/L
Endosulfan II	2.19E+02 c, (aa)	0.050 U	0.050 U	ug/L
Endosulfan Sulfate	2.19E+02 c, (aa)	0.050 U	0.050 U	ug/L
Endrin	2.00E+00	0.050 U	0.050 U	ug/L
Endrin Aldehyde	1.09E+01 c, (k)	0.050 U	0.050 U	ug/L
Endrin Ketone	1.09E+01 c, (k)	0.050 U	0.050 U	ug/L
Gamma-BHC (Lindane)	2.00E-01	0.050 U	<b>0.20</b>	ug/L
Gamma-Chlordane	2.00E+00 (l)	0.050 U	0.050 U	ug/L
Heptachlor	4.00E-01	<b>0.41 J+</b>	<b>0.25 J</b>	ug/L
Heptachlor Epoxide	2.00E-01	0.050 U	0.050 U	ug/L
Methoxychlor	4.00E+01	<b>0.12 J+</b>	0.10 U	ug/L
Tech-Chlordane	2.00E+00 (l)	0.50 U	0.50 U	ug/L
Toxaphene	3.00E+00	2.0 U	2.0 U	ug/L

**Notes:**

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

(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 10 Table 10**  
**Soil Characterization Data - Organophosphorus Pesticides (OPPs)**

Tronox LLC Facility - Henderson, Nevada  
 Onsite Hazardous Waste Landfill

Sampling Program		Ph A	
Boring No.		SA21	
Sample ID		SA21-0.5	
Sample Depth (ft)		0.5	
Sample Date		11/15/2006	
OPPs	PRG <sup>2</sup> mg/kg		Unit
Azinphos-methyl	--	0.014 UJ	mg/kg
Bolstar	--	0.014 U	mg/kg
Chlorpyrifos	1.85E+03	0.021 UJ	mg/kg
Coumaphos	--	0.014 UJ	mg/kg
Demeton-O	2.46E+01 (cc)	0.041 U	mg/kg
Demeton-S	2.46E+01 (cc)	0.016 UJ	mg/kg
Diazinon	5.54E+02	0.023 U	mg/kg
Dichlorvos	5.94E+00	0.024 U	mg/kg
Dimethoate	1.23E+02	0.023 UJ	mg/kg
Disulfoton	2.46E+01	0.050 U	mg/kg
EPN	6.16E+00	0.014 U	mg/kg
Ethoprop	--	0.016 U	mg/kg
Ethyl Parathion	1.54E+02 (tt)	0.019 U	mg/kg
Famphur	--	0.014 UJ	mg/kg
Fensulfothion	--	0.014 U	mg/kg
Fenthion	1.50E+02 (ff)	0.034 U	mg/kg
Malathion	1.23E+04	0.016 U	mg/kg
Merphos	1.85E+01	0.031 U	mg/kg
Methyl parathion	1.54E+02	0.021 U	mg/kg
Mevinphos	--	0.016 U	mg/kg
Naled	1.23E+03	0.034 UJ	mg/kg
Phorate	1.23E+02	0.021 U	mg/kg
Ronnel	3.08E+04	0.019 UJ	mg/kg
Stirphos	--	0.016 UJ	mg/kg
Sulfotep	3.08E+02	0.021 U	mg/kg
Thionazin	--	0.019 U	mg/kg
Tokuthion	--	0.021 U	mg/kg
Trichloronate	--	0.021 UJ	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 10 Table 11**  
**Groundwater Characterization Data - Organophosphorous Pesticides**

Tronox LLC Facility - Henderson, Nevada  
 Onsite Hazardous Waste Landfill

Sampling Program		Ph A	Ph A	
Well ID		M5A	M7B	
Sample ID		M5A	M7B	
Sample Date		12/07/2006	11/30/2006	
OPPs	MCL <sup>2</sup> ug/L			Unit
Azinphos-methyl	--	2.5 U	2.5 UJ	ug/L
Bolstar	--	1.0 U	1.0 U	ug/L
Chlorpyrifos	1.09E+02 c	1.0 U	1.0 U	ug/L
Coumaphos	--	1.0 U	1.0 U	ug/L
Demeton-O	1.46E+00 c,(cc)	1.0 U	1.0 U	ug/L
Demeton-S	1.46E+00 c,(cc)	1.0 U	1.0 U	ug/L
Diazinon	3.28E+01	1.0 U	1.0 U	ug/L
Dichlorvos	2.32E-01	1.0 U	1.0 U	ug/L
Dimethoate	7.30E+00	1.0 U	1.0 U	ug/L
Disulfoton	1.46E+00	0.50 U	0.50 U	ug/L
EPN	3.65E-01	1.2 U	1.2 U	ug/L
Ethoprop	--	0.50 U	0.50 U	ug/L
Ethyl Parathion	9.12E+00 c,(tt)	1.0 U	1.0 U	ug/L
Famphur	--	1.0 U	1.0 U	ug/L
Fensulfothion	--	2.5 U	2.5 U	ug/L
Fenthion	9.10E+00 c,(ff)	2.5 U	2.5 U	ug/L
Malathion	7.30E+02	1.2 U	1.2 U	ug/L
Merphos	1.09E+00	5.0 U	5.0 U	ug/L
Methyl parathion	9.12E+00	4.0 U	4.0 U	ug/L
Mevinphos	--	6.2 U	6.2 U	ug/L
Naled	7.30E+01	1.0 U	1.0 UJ	ug/L
Phorate	7.30E+00	1.2 U	1.2 U	ug/L
Ronnel	1.82E+03	10 U	10 U	ug/L
Stirphos	--	3.5 U	3.5 U	ug/L
Sulfotep	1.82E+01	1.5 U	1.5 U	ug/L
Thionazin	--	1.0 U	1.0 U	ug/L
Tokuthion	--	1.6 U	1.6 U	ug/L
Trichloronate	--	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 10 Table 12  
Soil Characterization Data - PCBs**

Tronox LLC Facility - Henderson, Nevada  
Onsite Hazardous Waste Landfill

Sampling Program		Ph A	Ph A	Ph A	Ph A	Ph A	
Boring ID		SA21	SA21	SA21	SA21	SA21	
Sample ID		SA21-0.5	SA21-10	SA21-20	SA21-20D	SA21-30	
Sample Depth (ft)		0.5	10	20	20	30	
Sample Date		11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	
PCBs	PRG <sup>2</sup> mg/kg						Unit
Aroclor-1016	1.00E+01 (i)	0.034 U	0.036 U	0.036 U	0.034 U	0.037 U	mg/kg
Aroclor-1221	1.00E+01 (i)	0.034 U	0.036 U	0.036 U	0.034 U	0.037 U	mg/kg
Aroclor-1232	1.00E+01 (i)	0.034 U	0.036 U	0.036 U	0.034 U	0.037 U	mg/kg
Aroclor-1242	1.00E+01 (i)	0.034 U	0.036 U	0.036 U	0.034 U	0.037 U	mg/kg
Aroclor-1248	1.00E+01 (i)	0.034 U	0.036 U	0.036 U	0.034 U	0.037 U	mg/kg
Aroclor-1254	1.00E+01 (i)	0.034 U	0.036 U	0.036 U	0.034 U	0.037 U	mg/kg
Aroclor-1260	1.00E+01 (i)	0.034 U	0.036 U	0.036 U	0.034 U	0.037 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)
- (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 10 Table 13  
Groundwater Characterization Data - PCBs**

Tronox LLC Facility - Henderson, Nevada  
Onsite Hazardous Waste Landfill

Sampling Program		Ph A	Ph A	
Well ID		M5A	M7B	
Sample ID		M5A	M7B	
Sample Date		12/07/2006	11/30/2006	
PCBs	MCL <sup>2</sup> ug/L			Unit
Aroclor-1016	5.00E-01 (bb)	0.10 U	0.10 U	ug/L
Aroclor-1221	5.00E-01 (bb)	0.10 U	0.10 U	ug/L
Aroclor-1232	5.00E-01 (bb)	0.10 U	0.10 U	ug/L
Aroclor-1242	5.00E-01 (bb)	0.10 U	0.10 U	ug/L
Aroclor-1248	5.00E-01 (bb)	0.10 U	0.10 U	ug/L
Aroclor-1254	5.00E-01 (bb)	0.10 U	0.10 U	ug/L
Aroclor-1260	5.00E-01 (bb)	0.10 U	0.10 U	ug/L

**Notes:**

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

(bb) Value for total PCBs.

**LOU 10 Table 14  
Soil Characterization Data - Perchlorate**

Tronox LLC Facility - Henderson, Nevada  
Onsite Hazardous Waste Landfill

<b>Boring ID</b>	<b>Sample ID</b>	<b>Sample Depth (ft)</b>	<b>Sample Date</b>	<b>Perchlorate ug/kg</b>	<b>PRG<sup>2</sup> mg/kg</b>	<b>Sampling Program</b>
SA21	SA21-0.5	0.05	11/15/2006	<b>1170</b>	1.00E+02	Ph A
	SA21-10	10	11/15/2006	44.0 U	1.00E+02	Ph A
	SA21-20	20	11/15/2006	44.2 U	1.00E+02	Ph A
	SA21-20D	20	11/15/2006	41.8 U	1.00E+02	Ph A
	SA21-30	30	11/15/2006	<b>2050</b>	1.00E+02	Ph A

**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 10 Table 15**  
**Groundwater Characterization Data - Perchlorate**

Tronox LLC Facility - Henderson, Nevada  
 Onsite Hazardous Waste Landfill

Well ID Number	Sample ID	Sample Date	Perchlorate	Units	MCL <sup>2</sup> ug/L	Sampling Program
M5A	M5A	12/07/2006	33.9 U	ug/L	1.80E+01 a,(m)	Ph A
M7B	M7B	11/30/2006	<b>61000</b>	ug/L	1.80E+01 a,(m)	Ph A

**Notes:**

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 10 Table 16  
Soil Characterization Data - Radionuclides**

Tronox LLC Facility - Henderson, Nevada  
On-site Hazardous Waste Landfill

				<b>Ra-226</b>	<b>Ra-228</b>	<b>Th-228</b>	<b>Th-230</b>	<b>Th-232</b>	<b>U-233/234</b>	<b>U-235/236</b>	<b>U-238</b>	<b>Sampling</b>
				(gamma)	(gamma)	(TH MOD)	(TH MOD)	(TH MOD)	(U MOD)	(U MOD)	(U MOD)	<b>Program</b>
			<b>PRG<sup>2</sup></b> <b>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>	pci/g	pci/g	pci/g	pci/g	pci/g	pci/g	pci/g	pci/g	
SA21	SA21-0.5	0.5	11/15/2006	<b>1.15 J</b>	<b>1.81</b>	<b>0.954 J</b>	<b>0.671 J-</b>	<b>0.742 J</b>	<b>0.314 J</b>	<b>0.0211 J+</b>	<b>0.237 J</b>	Ph A
	SA21-10	10	11/15/2006	1.22 U	<b>2</b>							Ph A
	SA21-20	20	11/15/2006	<b>1.67 J</b>	<b>1.87</b>							Ph A
	SA21-20D	20	11/15/2006	<b>2.01</b>	<b>1.73</b>							Ph A
	SA21-30	30	11/15/2006	<b>1.48 J</b>	<b>1.87</b>							Ph A

**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 10 Table 17  
Groundwater Characterization Data - Radionuclides**

Tronox LLC Facility - Henderson, Nevada  
On-site Hazardous Waste Landfill

			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 (c) (dd)</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	
<b>Well ID Number</b>	<b>Sample ID</b>	<b>Date</b>	pci/L	pci/L	pci/L	pci/L	pci/L	pci/L	pci/L	pci/L	<b>Sampling Program</b>
M5A	M5A-Z	05/10/2007	pci/L	<b>0.566 J</b>	<b>1.11</b>						Ph A
M7B	M7B-Z	05/08/2007	pci/L	<b>0.672 J</b>	<b>1.85 J-</b>						Ph A

**Notes:**

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

**LOU 10 Table 18**  
**Soil Characterization Data - SVOC**

Tronox LLC Facility - Henderson, Nevada  
On-site Hazardous Waste Landfill

Sampling Program			Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.			SA21	SA21	SA21	SA21	SA21
Sample ID			SA21-0.5	SA21-10	SA21-20	SA21-20D	SA21-30
Sample Depth (ft)			0.5	10	20	20	30
Sample Date			11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006
SVOC	Analytical Method	PRG <sup>2</sup> mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,4-Dioxane	non-SIM	1.57E+02	69 U	360 U	360 U	340 U	370 U
2-Methylnaphthalene	non-SIM	1.88E+02 (jj)	340 U	360 U	360 U	340 U	370 U
2-Methylnaphthalene	SIM	1.88E+02 (jj)	6.9 U				
Acenaphthene	non-SIM	2.92E+04	340 U	360 U	360 U	340 U	370 U
Acenaphthene	SIM	2.92E+04	6.9 U				
Acenaphthylene	non-SIM	2.92E+04 (pp)	340 U	360 U	360 U	340 U	370 U
Acenaphthylene	SIM	2.92E+04 (pp)	6.9 U				
Anthracene	non-SIM	2.40E+05 (oo)	340 U	360 U	360 U	340 U	370 U
Anthracene	SIM	2.40E+05 (oo)	6.9 U				
Benz(a)anthracene	non-SIM	2.11E+00	340 U	360 U	360 U	340 U	370 U
Benz(a)anthracene	SIM	2.11E+00	6.9 U				
Benzo(a)pyrene	non-SIM	2.11E-01	340 U	360 U	360 U	340 U	370 U
Benzo(a)pyrene	SIM	2.11E-01	6.9 U				
Benzo(b)fluoranthene	non-SIM	2.11E+00	340 U	360 U	360 U	340 U	370 U
Benzo(b)fluoranthene	SIM	2.11E+00	6.9 U				
Benzo(g,h,i)perylene	non-SIM	2.91E+04 (w)	340 U	360 U	360 U	340 U	370 U
Benzo(g,h,i)perylene	SIM	2.91E+04 (w)	6.9 U				
Benzo(k)fluoranthene	non-SIM	2.11E+01	340 U	360 U	360 U	340 U	370 U
Benzo(k)fluoranthene	SIM	2.11E+01	6.9 U				
bis(2-Ethylhexyl)phthalate	non-SIM	1.23E+02	340 U	360 U	360 U	340 U	370 U
Butyl benzyl phthalate	non-SIM	1.23E+05 (oo)	340 U	360 U	360 U	340 U	370 U
Chrysene	non-SIM	2.11E+02	340 U	360 U	360 U	340 U	370 U
Chrysene	SIM	2.11E+02	6.9 U				
Dibenz(a,h)anthracene	non-SIM	2.11E-01	340 U	360 U	360 U	340 U	370 U
Dibenz(a,h)anthracene	SIM	2.11E-01	6.9 U				
Diethyl phthalate	non-SIM	4.92E+05 (oo)	340 U	360 U	360 U	340 U	370 U
Dimethyl phthalate	non-SIM	6.16E+06 (oo)	340 U	360 U	360 U	340 U	370 U
Di-N-Butyl phthalate	non-SIM	6.16E+04	340 U	360 U	360 U	340 U	370 U
Di-N-Octyl phthalate	non-SIM	2.46E+04	340 U	360 U	360 U	340 U	370 U
Fluoranthene	non-SIM	2.20E+04	340 U	360 U	360 U	340 U	370 U
Fluoranthene	SIM	2.20E+04	6.9 U				
Fluorene	non-SIM	2.63E+04	340 U	360 U	360 U	340 U	370 U
Fluorene	SIM	2.63E+04	6.9 U				
Hexachlorobenzene	non-SIM	1.08E+00	340 U	360 U	360 U	340 U	370 U
Hexachlorobenzene	SIM	1.08E+00	6.9 U				
Indeno(1,2,3-cd)pyrene	non-SIM	2.11E+00	340 UJ	360 UJ	360 UJ	340 UJ	370 UJ
Indeno(1,2,3-cd)pyrene	SIM	2.11E+00	6.9 U				
Naphthalene	non-SIM	1.88E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Naphthalene	non-SIM	1.88E+02	340 U	360 U	360 U	340 U	370 U
Naphthalene	SIM	1.88E+02	6.9 U				
Nitrobenzene	non-SIM	1.03E+02	340 U	360 U	360 U	340 U	370 U
Octachlorostyrene	non-SIM	--	340 U	360 U	360 U	340 U	370 U
Phenanthrene	non-SIM	2.40E+05 (n)	340 U	360 U	360 U	340 U	370 U
Phenanthrene	SIM	2.40E+05 (n)	6.9 U				
Pyrene	non-SIM	2.91E+04	340 U	360 U	360 U	340 U	370 U
Pyrene	SIM	2.91E+04	6.9 U				
Pyridine	non-SIM	6.16E+02	1700 U	1800 U	1800 U	1700 U	1800 U

**Notes:**

- ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
  - 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 10 Table 19  
Groundwater Characterization Data - SVOC**

Tronox LLC Facility - Henderson, Nevada  
On-site Hazardous Waste Landfill

Sampling Program			Ph A	Ph A
Well No.			M5A	M7B
Sample ID			M5A	M7B
Sample Date			12/07/2006	11/30/2006
SVOCs	Analytic Method	MCL <sup>2</sup> ug/L	ug/L	ug/L
1,4-Dioxane	non-SIM	6.11E+00 c	10 U	10 U
2-Methylnaphthalene	non-SIM	6.20E+00 c,(jj)	10 U	10 U
2-Methylnaphthalene	SIM	6.20E+00 c,(jj)		
Acenaphthene	non-SIM	3.65E+02 c	10 U	10 U
Acenaphthene	SIM	3.65E+02 c		
Acenaphthylene	non-SIM	3.65E+02 c,(pp)	10 U	10 U
Acenaphthylene	SIM	3.65E+02 c,(pp)		
Anthracene	non-SIM	1.83E+03 c	10 U	10 U
Anthracene	SIM	1.83E+03 c		
Benz(a)anthracene	non-SIM	9.21E-02 c	10 U	10 U
Benz(a)anthracene	SIM	9.21E-02 c		
Benzo(a)pyrene	non-SIM	2.00E-01	10 U	10 U
Benzo(a)pyrene	SIM	2.00E-01		
Benzo(b)fluoranthene	non-SIM	9.21E-02 c	10 U	10 U
Benzo(b)fluoranthene	SIM	9.21E-02 c		
Benzo(g,h,i)perylene	non-SIM	1.83E+02 c,(w)	10 U	10 U
Benzo(g,h,i)perylene	SIM	1.83E+02 c,(w)		
Benzo(k)fluoranthene	non-SIM	9.21E-01 c	10 U	10 U
Benzo(k)fluoranthene	SIM	9.21E-01 c		
bis(2-Ethylhexyl)phthalate	non-SIM	6.00E+00	10 U	10 U
Butyl benzyl phthalate	non-SIM	7.30E+03 c	10 U	10 U
Chrysene	non-SIM	9.21E+00 c	10 U	10 U
Chrysene	SIM	9.21E+00 c		
Dibenz(a,h)anthracene	non-SIM	9.21E-03 c	10 U	10 U
Dibenz(a,h)anthracene	SIM	9.21E-03 c		
Diethyl phthalate	non-SIM	2.92E+04 c	10 U	10 U
Dimethyl phthalate	non-SIM	3.65E+05 c	10 U	10 U
Di-N-Butyl phthalate	non-SIM	3.65E+03 c	10 U	10 U
Di-N-Octyl phthalate	non-SIM	1.46E+03 c	10 U	10 U
Fluoranthene	non-SIM	1.46E+03 c	10 U	10 U
Fluoranthene	SIM	1.46E+03 c		
Fluorene	non-SIM	2.43E+02 c	10 U	10 U
Fluorene	SIM	2.43E+02 c		
Hexachlorobenzene	non-SIM	1.00E+00	10 U	10 U
Hexachlorobenzene	SIM	1.00E+00		
Indeno(1,2,3-cd)pyrene	non-SIM	9.21E-02 c	10 UJ	10 U
Indeno(1,2,3-cd)pyrene	SIM	9.21E-02 c		
Naphthalene	non-SIM	6.20E+00 c	5.0 U	5.0 U
Naphthalene	non-SIM	6.20E+00 c	10 UJ	10 U
Naphthalene	SIM	6.20E+00 c		
Nitrobenzene	non-SIM	3.40E+00 c	10 U	10 U
Octachlorostyrene	non-SIM	-- c	10 U	10 U
Phenanthrene	non-SIM	1.80E+03 (n)	10 U	10 U
Phenanthrene	SIM	1.80E+03 (n)		
Pyrene	non-SIM	1.83E+02 c	10 U	10 U
Pyrene	SIM	1.83E+02 c		
Pyridine	non-SIM	3.65E+01 c	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 10 Table 20**  
**Soil Characterization Data - Total Petroleum Hydrocarbons**

Tronox LLC Facility - Henderson, Nevada  
 On-Site Hazardous Waste Landfill

					Fuel Alcohols		Total Petroleum Hydrocarbons			
					Ethanol	Ethylene glycol	Methanol	TPH - ORO	TPH - DRO	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
			PRG <sup>2</sup> mg/kg	--	1.23E+06 oo	3.08E+05 oo	1.00E+02 w	1.00E+02 w	1.00E+02 w	
Boring No.	Sample ID.	Sample Depth (ft)	Sample Date							Sampling Program
SA21	SA21-0.5	0.5	11/15/2006				26 U	26 U	0.10 U	Ph A
	SA21-10	10	11/15/2006				28 U	28 U	0.11 U	Ph A
	SA21-20	20	11/15/2006				28 U	28 U	0.11 U	Ph A
	SA21-20D	20	11/15/2006				26 U	26 U	0.10 U	Ph A
	SA21-30	30	11/15/2006				28 U	28 U	0.11 U	Ph A

**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.
- (w) Value for pyrene used as surrogate for benzo(g,h,i)perylene based on structural similarities.

**LOU 10 Table 21**  
**Soil Characterization Data - VOCs**

Tronox LLC Facility - Henderson, Nevada  
On-Site Hazardous Waste Landfill

Sampling Program		Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.		SA21	SA21	SA21	SA21	SA21
Sample ID		SA21-0.5	SA21-10	SA21-20	SA21-20D	SA21-30
Sample Depth (ft)		0.5	10	20	20	30
Sample Date		11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006
VOCs	PRG <sup>2</sup> mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Naphthalene	1.88E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,1,1,2-Tetrachloroethane	7.28E+00	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,1,1-Trichloroethane	6.90E+03 (mm)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,1,2,2-Tetrachloroethane	9.29E-01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,1,2-Trichloroethane	1.61E+00	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,1-Dichloroethane	1.74E+03	5.2 U	<b>3.0 J</b>	5.5 U	5.2 U	5.6 U
1,1-Dichloroethene	4.13E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,1-Dichloropropene	1.76E+00 (gg)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,2,3-Trichlorobenzene	2.16E+02 (hh)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,2,3-Trichloropropane	7.60E-02 (yy)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,2,4-Trichlorobenzene	2.16E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,2,4-Trimethylbenzene	1.70E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,2-Dibromo-3-chloropropane	2.02E+00	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,2-Dichlorobenzene	4.00E+03 (mm)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,2-Dichloroethane	6.03E-01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,2-Dichloropropane	7.42E-01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,3,5-Trimethylbenzene	6.97E+01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,3-Dichlorobenzene	2.10E+03 (mm)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,3-Dichloropropane	3.61E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
1,4-Dichlorobenzene	7.87E+00	5.2 U	<b>1.2 J</b>	5.5 U	5.2 U	5.6 U
2,2-Dichloropropane	7.42E-01 (ii)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
2-Butanone	1.13E+05	10 U	11 U	11 U	10 U	11 U
2-Chlorotoluene	5.60E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
2-Hexanone	4.70E+04 (nn)	10 UJ	11 UJ	11 UJ	10 UJ	11 UJ
2-Methoxy-2-methyl-butane	--	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
4-Chlorotoluene	5.60E+02 (ww)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
4-Isopropyltoluene	--	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
4-Methyl-2-pentanone	4.70E+04	10 U	11 U	11 U	10 U	11 U
Acetone	5.43E+04	<b>20</b>	<b>35</b>	11 U	10 U	<b>15</b>
Benzene	1.41E+00	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Bromobenzene	9.22E+01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Bromochloromethane	1.83E+00 (qq)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Bromodichloromethane	1.83E+00	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Bromoform	2.18E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Bromomethane	1.31E+01	10 U	11 UJ	11 U	10 U	11 U
Carbon tetrachloride	5.49E-01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Chlorobenzene	5.30E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Chloroethane	6.49E+00	5.2 UJ	5.5 UJ	5.5 UJ	5.2 UJ	5.6 UJ
Chloroform	4.70E-01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Chloromethane	1.56E+02	5.2 UJ	5.5 UJ	5.5 UJ	5.2 UJ	5.6 UJ
cis-1,2-Dichloroethene	1.46E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
cis-1,3-Dichloropropene	1.76E+00 (gg)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Dibromochloromethane	2.55E+00	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U

**LOU 10 Table 21 (Continued)**  
**Soil Characterization Data - VOCs**

Tronox LLC Facility - Henderson, Nevada  
On-Site Hazardous Waste Landfill

Sampling Program		Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.		SA21	SA21	SA21	SA21	SA21
Sample ID		SA21-0.5	SA21-10	SA21-20	SA21-20D	SA21-30
Sample Depth (ft)		0.5	10	20	20	30
Sample Date		11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006
VOCs	PRG <sup>2</sup> mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dibromomethane	2.34E+02 (xx)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Dichlorodifluoromethane	3.08E+02	5.2 UJ	5.5 UJ	5.5 UJ	5.2 UJ	5.6 UJ
Ethyl t-butyl ether	3.64E+01 (kk)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Ethylbenzene	7.40E+03 (mm)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Ethylene dibromide	7.30E-02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Hexachlorobutadiene	2.21E+01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
isopropyl ether	--	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Isopropylbenzene	2.00E+03 (zz)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Methyl tert butyl ether	3.64E+01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Methylene chloride	2.05E+01	5.2 U	40	5.5 U	5.2 U	5.6 U
N-Butylbenzene	2.19E+03 (mm)	5.2 U	5.5 UJ	5.5 U	5.2 U	5.6 U
N-Propylbenzene	2.19E+03 (mm)	5.2 UJ	5.5 UJ	5.5 UJ	5.2 UJ	5.6 UJ
sec-Butylbenzene	1.63E+03 (mm)	5.2 UJ	5.5 UJ	5.5 UJ	5.2 UJ	5.6 UJ
Styrene	1.80E+04 (mm)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
t-Butyl alcohol	--	10 UJ	11 UJ	11 UJ	10 UJ	11 UJ
tert-Butylbenzene	1.97E+03 (mm)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Tetrachloroethene	1.31E+00	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Toluene	2.20E+03 (mm)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
trans-1,2-Dichloroethylene		5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
trans-1,3-Dichloropropene	1.76E+00 (gg)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Trichloroethene	1.15E-01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Trichlorofluoromethane	1.28E+03 (mm)	5.2 UJ	5.5 UJ	5.5 UJ	5.2 UJ	5.6 UJ
Vinylchloride	7.46E-01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U
Xylene (Total)	9.00E+02 (mm)	10 U	11 U	11 U	10 U	11 U

**Notes:**

1. 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 10 Table 22  
Groundwater Characterization Data - VOCs**

Tronox LLC Facility - Henderson, Nevada  
On-Site Hazardous Waste Landfill

Sampling Program		Ph A	Ph A
	Well ID	M5A	M7B
	Sample ID	M5A	M7B
	Sample Date	12/07/2006	11/30/2006
VOCs	MCL <sup>2</sup> ug/L	ug/L	ug/L
Naphthalene	6.20E+00 c	5.0 U	5.0 U
1,1,1,2-Tetrachloroethane	4.32E-01 c	5.0 U	5.0 U
1,1,1-Trichloroethane	2.00E+02	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	5.00E+00	5.0 U	5.0 U
1,1,2-Trichloroethane	5.00E+00	5.0 U	5.0 U
1,1-Dichloroethane	8.11E+02 c	5.0 U	<b>2.1 J</b>
1,1-Dichloroethene	7.00E+00	5.0 U	5.0 U
1,1-Dichloropropene	3.95E-01 c,gg	5.0 U	5.0 U
1,2,3-Trichlorobenzene	7.16E+00 c,hh	5.0 U	5.0 U
1,2,3-Trichloropropane	5.60E-03 c,yy	5.0 U	5.0 U
1,2,4-Trichlorobenzene	7.00E+01	5.0 U	5.0 U
1,2,4-Trimethylbenzene	1.23E+01	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane	2.00E-01	5.0 UJ	5.0 U
1,2-Dichlorobenzene	6.00E+02	<b>0.72 J+</b>	5.0 U
1,2-Dichloroethane	5.00E+00	5.0 UJ	5.0 U
1,2-Dichloropropane	5.00E+00	5.0 U	5.0 U
1,3,5-Trimethylbenzene	1.23E+01 c	5.0 U	5.0 U
1,3-Dichlorobenzene	1.83E+02 c	5.0 U	5.0 U
1,3-Dichloropropane	1.22E+02 c	5.0 U	5.0 U
1,4-Dichlorobenzene	7.50E+01	<b>1.2 J+</b>	5.0 U
2,2-Dichloropropane	1.65E-01 c,ii	5.0 U	5.0 U
2-Butanone	6.97E+03 c	10 U	10 U
2-Chlorotoluene	1.22E+02 c	5.0 U	5.0 U
2-Hexanone	2.00E+03 c,nn	10 U	10 UJ
2-Methoxy-2-methyl-butane	--	5.0 U	5.0 U
4-Chlorotoluene	1.22E+02 c,ww	5.0 U	5.0 U
4-Isopropyltoluene	--	5.0 U	5.0 U
4-Methyl-2-pentanone	1.99E+03 c	10 UJ	10 U
Acetone	5.48E+03 c	10 UJ	10 U
Benzene	5.00E+00	<b>0.64 J+</b>	5.0 U
Bromobenzene	2.03E+01 c	5.0 U	5.0 U
Bromochloromethane	1.81E-01 c,qq	5.0 U	5.0 U
Bromodichloromethane	8.00E+01 r	5.0 U	5.0 U
Bromoform	8.00E+01 r	5.0 U	5.0 U
Bromomethane	8.66E+00 c	10 UJ	10 UJ
Carbon tetrachloride	5.00E+00	5.0 U	5.0 U
Chlorobenzene	1.00E+02 c,o	<b>100 J+</b>	5.0 U
Chloroethane	4.64E+00	5.0 U	5.0 UJ
Chloroform	8.00E+01 r	5.0 U	<b>2.3 J</b>
Chloromethane	1.58E+02 c	5.0 U	5.0 UJ
cis-1,2-Dichloroethene	7.00E+01	5.0 U	5.0 U
cis-1,3-Dichloropropene	3.95E-01 c,gg	5.0 U	5.0 U
Dibromochloromethane	8.00E+01 r	5.0 U	5.0 U

**LOU 10 Table 22 (Continued)  
Groundwater Characterization Data - VOCs**

Tronox LLC Facility - Henderson, Nevada  
On-Site Hazardous Waste Landfill

Sampling Program		Ph A	Ph A
	Well ID	M5A	M7B
	Sample ID	M5A	M7B
	Sample Date	12/07/2006	11/30/2006
VOCs	MCL <sup>2</sup> ug/L	ug/L	ug/L
Dibromomethane	6.08E+01 c,xx	5.0 U	5.0 U
Dichlorodifluoromethane	3.95E+02 c	5.0 U	5.0 UJ
Ethyl t-butyl ether	1.10E+01 c,kk	5.0 U	5.0 U
Ethylbenzene	7.00E+02	5.0 U	5.0 U
Ethylene dibromide	--	5.0 U	5.0 U
Hexachlorobutadiene	8.62E-01 c	5.0 U	5.0 U
isopropyl ether	--	5.0 U	5.0 U
Isopropylbenzene	6.58E+02 c,zz	5.0 U	5.0 U
Methyl tert butyl ether	2.00E+01 a,uu	5.0 U	5.0 U
Methylene chloride	5.00E+00	5.0 U	5.0 U
N-Butylbenzene	2.43E+02 c	5.0 U	5.0 U
N-Propylbenzene	2.43E+02 c	5.0 U	5.0 U
sec-Butylbenzene	2.43E+02 c	5.0 U	5.0 UJ
Styrene	1.00E+02	5.0 U	5.0 U
t-Butyl alcohol	--	10.0 UJ	10 UJ
tert-Butylbenzene	2.43E+02 c	5.0 U	5.0 U
Tetrachloroethene	5.00E+00	5.0 U	5.0 U
Toluene	1.00E+03	5.0 U	5.0 U
trans-1,2-Dichloroethylene	1.00E+02	5.0 U	5.0 U
trans-1,3-Dichloropropene	--	5.0 U	5.0 U
Trichloroethene	5.00E+00	5.0 U	5.0 U
Trichlorofluoromethane	--	5.0 U	5.0 UJ
Vinylchloride	2.00E+00	5.0 U	5.0 U
Xylene (Total)	1.00E+04	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 10 Table 23**  
**Soil Characterization Data - Long Asbestos Fibers in Respirable Soil Fraction**

Tronox LLC Facility - Henderson, Nevada  
 On-Site Hazardous Waste Landfill

No.	Sample ID	Sample Date	Long Amphibole Protocol Structures (s/gPM10)	Long Amphibole Protocol Structures (structures/samples)	Long Chrysotile Protocol Structures (s/gPM10)	Long Chrysotile Protocol Structures (structures/samples)	Sampling Program
SA21	SA21	12/02/2006	2935000 U	0	2935000 U	0	Ph A

**Notes:**

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

## Notes for Phase A Data Tables

### On-site Hazardous Waste Landfill (Closed) Tronox 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.
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