Summary of Available Data for LOU 49 in Evaluation Area 08

Tronox Facility – Henderson, Nevada

Name of LOU: **Leach Plant Area Sulfuric Acid Storage Tank**

Goal of Closure:

- Entire Manganese Leach Plant Area is an active, manufacturing/ processing area and will continue as an operational area for the foreseeable future. As such, regulatory closure not requested at this time.

Site Investigation Area:

- Size: Approximately 30-feet by 30-feet.
- Location: Approximately 550 feet north of Unit 5.

Description:

- Concentrated sulfuric acid (98 percent by weight) is stored in vertical, closed top AST installed on concrete containment pad [Ref. 3].
- Single sulfuric acid storage tank believed to have been installed by WECCO between 1950 and 1953 during construction of original Leach Plant [Ref. 3].
- The original tank was installed directly on the ground surface (no secondary containment); it was replaced with the current sulfuric acid tank (with secondary containment), ca. 1984 [Ref. 3].
- Sulfuric acid storage tank is located in the northwestern corner of Manganese Leach Plant Area [Ref. 3].
- Sulfuric acid from this tank is fed to leach tanks to reconstitute the leach solution [Ref. 3].

Known or Potential Chemical Classes:

- Metals
- Wet chemistry analytes

Process Waste Stream	Known or Potential Constituents Associated with LOU 49
Acid storage tank releases [Ref. 3]	• Sulfuric acid • Acid solutions

Known or Potential Release Mechanisms:

- Sulfuric acid is a corrosive liquid that can potentially be released to surrounding areas through leaks or spills.
- Potential release mechanisms include spills/leaks to adjacent soils, releases to concrete containment pad, and possibly infiltration to groundwater.
- Documented releases included the following:
  - July 31, 1984; 200- to 300-gallons of sulfuric acid was spilled onto ground south of Leach Plant [Ref. 3].
  - Sulfuric acid releases were onto concrete containment area with overflow to surrounding soil

[Ref. 3].

- Documented response actions for the July 31, 1984 release included the following measures:
  - Spilled liquids were neutralized with lime or soda ash [Ref. 3];
  - National Response Center and NDEP were notified on same day to report spill and actions taken [Ref. 3];
  - NDEP advised Kerr-McGee (Tronox) to evaluate soil pH for nonhazardous indications prior to removing and discarding impacted soil to on-site nonhazardous Mn tailings area. [Ref. 3]
- Original tank was replaced with new replacement tank that included secondary containment. Old tank was shut down and removed from service. [Ref. 3]

Results of Historical Sampling:

- No known historical soil sampling has been documented.
- Upgradient, cross-gradient, and downgradient monitoring wells (M-77, M-52, M-31A and M-33) are tested for hexavalent chromium and perchlorate as part of periodic or routine groundwater monitoring program. Analytical results are summarized on attached tables "LOU 49 Tables 6, 7, and 23" [Ref. 2].

Did Historical Samples Address Potential Release?

- No

Summary of Phase A SAI:

Soil

- None specifically conducted for this LOU. Closest boring (SA13) is approximately 140 feet east (crossgradient) and was not specifically designed to evaluate this LOU.

Groundwater

- None specifically conducted for this LOU. Closest well sampled (M31A) is approximately 155 feet to the northwest (downgradient) and was not specifically designed to evaluate this LOU.

- Analytical results for soil and groundwater from the Phase A sampling event are summarized in the attached tables: "LOU 1 Tables 1 through 5 and 8 through 22 (see attached) [Ref. 1].

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

- No

Is Phase B Investigation Recommended?

- Yes

Summary of Available Data for LOU 49 in Evaluation Area 08

Tronox Facility – Henderson, Nevada

Proposed Phase B Soil Investigation/Rationale:

- Boring SA140 located approximately 20 feet north of (downgradient) LOU 49 to evaluate local soil conditions due to potential releases.
- Although not specifically designed to evaluate LOU 49, two soil borings (SA37 and SA38) will be drilled within the Leach Plant Area as part of Phase B Investigation to evaluate general subsurface soil conditions associated with former U.S. Vanadium area (within the Leach Plant Area).
- The following randomly selected soil boring locations will be sampled as part of the site-wide Phase B Investigation, and are located adjacent to this LOU:
  - No random borings are in the vicinity of LOU 49.

Proposed Phase B Constituents List for Soils:

LOU Specific Analytes:

- Metals (Phase A list)
- Wet chemistry analytes

Additional Analytes for Area Coverage:

- Hexavalent chromium
- Perchlorate
- VOCs
- Radionuclides

Proposed Phase B Groundwater Investigation/Rationale:

- Well M-141 located approximately 20 feet north of the LOU will be sampled to evaluate local conditions and as part of site-wide evaluation of constituent trends in groundwater.
- Well M-52 located along the western boundary of the Leach Plant Area will be sampled to evaluate local groundwater conditions and as part of site-wide evaluation of constituent trends in groundwater.
- Well M-77 located in the east-central area of the Leach Plant and within the former U.S. Vanadium (data package 70) site will be sampled to evaluate local groundwater conditions and as part of the Site-wide evaluation of constituent trends in groundwater.
- Well M-31A located in the northwest corner of the Leach Plant Area will be sampled to evaluate local conditions and as part of site-wide evaluation of constituent trends in groundwater.
- Well M-33 located norteast (downgradient) from the LOU and will be sampled to evaluate local groundwater conditions and as part of site-wide evaluation of constituent trends in groundwater.

Proposed Phase B Constituents List for Groundwater:

LOU Specific Analytes:

- Metals (Phase A list)
- Wet chemistry analytes

Additional Analytes for Area Coverage:

- Hexavalent chromium
- Perchlorate
- VOCs
- Radionuclides

Proposed phase B Soil Gas Investigation/Rationale:

- None proposed specifically for this LOU.

Proposed Phase B Constituents List for Soil Gas:

- None

References

1. ENSR, 2007a, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
2. ENSR, 2007b, Quarterly Performance Report for Remediation Systems, Tronox LLC, Henderson, Nevada, July-September 2007, November 2007.
3. Kleinfelder, 1993, Environmental Conditions Assessment, Kerr-McGee Chemical Corporation, Henderson, Nevada Facility, April 15, 1993 (Final).

Summary of Available Data for LOU 49 in Evaluation Area 08

Tronox Facility – Henderson, Nevada

LOU Map

J:\TronoxGIS\mxd\Phase_B_WorkPlan\LOUs\lou-49.mxd

FIGURE NUMBER:	SHEET NUMBER:	
X	X	

SAMPLE LOCATIONS FOR LOU #49
LEACH PLANT AREA SULFURIC ACID STORAGE TANK
Phase B Source Area Investigation
Tronox Facility
Henderson, Nevada

SCALE:	DATE:	PROJECT NUMBER:
AS SHOWN	2/11/2008	04020-023-430

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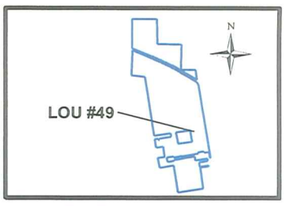

Soil and Groundwater Characterization Data

Summary of Available Data for LOU 49 in Evaluation Area 08

Tronox Facility – Henderson, Nevada

LOU-specific analytes identified include:

- Wet chemistry analytes
- Metals (Phase A list)

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

Table 1 – Soil Characterization Data – Wet Chemistry
Table 2 – Groundwater Characterization Data – Wet Chemistry
Table 3 – Soil Characterization Data – Dioxins and Dibenzofurans
Table 4 – Soil Characterization Data – Metals
Table 5 – Groundwater Characterization Data – Metals
Table 6 – Groundwater Characterization Data – Routine Monitoring
Table 7 – Groundwater Characterization Data
Table 8 – Soil Characterization Data – Organochlorine Pesticides (OCP)
Table 9 – Groundwater Characterization Data – Organochlorine Pesticides (OCP)
Table 10 – Soil Characterization Data – Organophosphorus Pesticides (OPP)
Table 11 – Groundwater Characterization Data – Organophosphorus Pesticides (OPP)
Table 12 – Soil Characterization Data – PCBs
Table 13 – Groundwater Characterization Data – PCBs
Table 14 – Soil Characterization Data – Perchlorate
Table 15 – Groundwater Characterization Data – Perchlorate
Table 16 – Groundwater Characterization Data – Radionuclides
Table 17 – Soil Characterization Data – Radionuclides
Table 18 – Soil Characterization Data – SVOC
Table 19 – Groundwater Characterization Data – SVOC
Table 20 – Soil Characterization Data – VOCs
Table 21 – Groundwater Characterization Data – VOCs
Table 22 – Soil Characterization Data – Long Asbestos Fibers in Respirable Soil Fraction
Table 23 – Groundwater Characterization Data – Routine Monitoring
Notes for Phase A Data Tables

LOU 49 Table 1
Soil Characterization Data - Wet Chemistry

Tronox Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Sampling Program	Ph A[1]	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	
Wet Chemistry Parameter							**Units**
Percent moisture	**14.1**	**9.6**	**4.3**	**6.1**	**5.1**	**20.7**	percent
Alkalinity (as CaCO3)	58.2 UJ	**235 J**	**71.3 J**	53.2 UJ	**98.4 J**	**136 J**	mg/kg
Bicarbonate	**279 J**	**1930 J**	**523 J**	**269 J**	**246 J**	**699 J**	mg/kg
Total Alkalinity	**279 J**	**2170 J**	**594**	**303 J**	**344 J**	**835 J**	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	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)	**7.4**	**7.7**	**8.1**	**8.1**	**8.4**	**7.8**	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	**269 J**	**15.0 J**	**13.5 J**	**16.3 J**	**19.9 J**	**41.3 J**	mg/kg
Nitrate (as N)	0.23 U	**0.42 J+**	**0.80 J+**	**0.57 J+**	**0.17 J+**	**3.2 J+**	mg/kg
Nitrite	**5.7 J**	**0.10 J**	**0.55 J**	**0.11 J**	**0.74 J**	**0.13 J**	mg/kg
ortho-Phosphate	5.8 U	**3.2 J**	5.2 U	5.3 U	5.3 U	6.3 U	mg/kg
Sulfate	**13800 J**	**1080 J**	**853 J**	**294 J**	**174**	**382 J**	mg/kg
Total Organic Carbon	**4200 J-**	**2100 J-**	**1200 J-**	**6900 J-**	**6800 J-**	**10900 J**	mg/kg

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

LOU 49 Table 2
Groundwater Characterization Data - Wet Chemistry

Tronox Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Sampling Program	Ph A[1]	
Well ID	M31A	
Sample ID	M31A	
Sample Date	12/06/2006	
Wet Chemistry Parameters		**Units**
Total Dissolved Solids	**9720**	mg/L
Total Suspended Solids	**25.0 J**	mg/L
Alkalinity (as CaCO3)	5.0 U	mg/L
Bicarbonate	**108**	mg/L
Total Alkalinity	**108**	mg/L
Ammonia (as N)	**1270**	ug/L
MBAS	**1.8 J**	mg/L
Cyanide	R	ug/L
pH (liquid)	**7.1 J**	none
Specific Conductance	**2630 J+**	umhos/cm
Bromide	25.0 U	mg/L
Chlorate	**3320**	mg/L
Chloride	**1130**	mg/L
Nitrate (as N)	**17.6**	mg/L
Nitrite	10.0 U	mg/L
ortho-Phosphate	500 U	mg/L
Sulfate	**1480**	mg/L
Total Organic Carbon	50.0 U	mg/L

Notes:

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

LOU 49 Table 3
Soil Characterization Data - Dioxins and Dibenzofurans

Tronox Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

		Sampling Program	Ph A[1]	Ph A
		Boring No.	SA13	SA13
		Sample ID	SA13-0.5	SA13-0.5D
		Sample Depth (ft)	0.5	0.5
		Sample Date	11/17/2006	11/17/2006
chemical_name:	Method	Unit		
Dioxin 8290 SCREEN Total TEQ-ENSR Calculated (a) ng/kg		ng/kg	0.006	
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	0.1	
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	0.047 U	0.325
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	0.054 U	0.736
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	0.067 U	0.140 U
1,2,3,4,7,8,9-Heptachlorodibenzofuran	SW 846 8290	ng/kg		
1,2,3,4,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	0.035 U	0.084 U
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	0.041 U	0.060 U
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	0.031 U	0.079 U
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	0.035 U	0.055 U
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	0.042 U	0.113 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	0.038 U	0.058 U
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg		
1,2,3,7,8-Pentachlorodibenzofuran	8290 Screen	ng/kg	0.028 U	0.050 U
1,2,3,7,8-Pentachlorodibenzofuran	SW 846 8290	ng/kg		
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	0.023 U	0.055 U
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg		
2,3,4,6,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	0.035 U	0.092 U
2,3,4,6,7,8-Hexachlorodibenzofuran	SW 846 8290	ng/kg		
2,3,4,7,8-Pentachlorodibenzofuran	8290 Screen	ng/kg	0.027 U	0.049 U
2,3,4,7,8-Pentachlorodibenzofuran	SW 846 8290	ng/kg		
2,3,7,8-Tetrachlorodibenzofuran	8290 Screen	ng/kg	0.055 U	0.158 U
2,3,7,8-Tetrachlorodibenzofuran	SW 846 8290	ng/kg		
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	0.036 U	0.141 U
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg		
Octachlorodibenzofuran	8290 Screen	ng/kg	0.109 U	0.670
Octachlorodibenzofuran	SW 846 8290	ng/kg		
Octachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	0.660	3.166
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.

(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.

LOU 49 Table 4
Soil Characterization Data - Metals

Tronox Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Sampling Program	Ph A[1]	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							**Units**
Aluminum	7350	8310	5630	7330	7090	8720	mg/kg
Antimony	0.19 J-	0.25 J-	0.18 J-	0.19 J-	0.18 J-	0.19 J-	mg/kg
Arsenic	2.1	2.3	2.1	3.2	3.1	36.4	mg/kg
Barium	159	181	159 J	197 J	127 J	123 J-	mg/kg
Beryllium	0.50 J-	0.51 J-	0.37 J-	0.46 J-	0.45 J-	0.55	mg/kg
Boron	3.0 J-	3.8 J-	2.6 J-	3.6 J-	3.3 J-	12.9 J-	mg/kg
Cadmium	0.13	0.12	0.11	0.080	0.074	0.11	mg/kg
Calcium	12600 J	12300 J	9080 J+	21200 J+	15500 J+	28500	mg/kg
Chromium (Total)	12.8 J-	13.8 J-	10.1 J-	11.4 J-	8.8 J-	14.5	mg/kg
Chromium-hexavalent	0.23 U	0.12 J	0.21 U	0.21 U	0.21 U	0.25 U	mg/kg
Cobalt	6.9 J-	7.2 J-	6.3 J-	7.3 J-	6.2 J-	5.6 J-	mg/kg
Copper	15.9 J-	14.7 J-	12.6 J	12.7 J	12.1 J	12.4 J-	mg/kg
Iron	15600	16100	13200	13200	13600	12600	mg/kg
Lead	9.0	9.5	9.4	10.4	7.4	8.1	mg/kg
Magnesium	6580 J-	7030 J-	4940 J-	8590 J-	7430 J-	15200	mg/kg
Manganese	1680	2320	350 J	434 J	219 J	606	mg/kg
Molybdenum	0.58 J	0.52 J	0.60	0.51 J	0.45 J	0.52 J	mg/kg
Nickel	13.9 J-	14.3 J-	11.6 J-	12.5 J-	12.0 J-	14.0 J-	mg/kg
Platinum	0.015 J	0.022 J	0.014 J	0.019 J	0.016 J	0.021 J	mg/kg
Potassium	2190	2500	1670 J-	1380 J-	1280 J-	2740	mg/kg
Selenium	0.13 UJ	0.12 UJ	0.11 UJ	0.12 UJ	0.11 UJ	0.14 UJ	mg/kg
Silver	0.15 J	0.16 J	0.13 J	0.14 J	0.13 J	0.16 J	mg/kg
Sodium	447 J-	564 J	251 J-	593 J-	694 J-	506 J-	mg/kg
Strontium	130 J-	162 J-	117 J	215 J	310 J	178	mg/kg
Thallium	0.098 U	0.26 U	0.12 U	0.13 U	0.093 U	0.13 U	mg/kg
Tin	0.73	0.69	0.59	0.63	0.57	0.60	mg/kg
Titanium	830	806	733	689	649	681	mg/kg
Tungsten	0.36 UJ	0.45 UJ	0.35 UJ	0.40 UJ	0.32 UJ	0.73 UJ	mg/kg
Uranium	0.92	1.0	0.83	1.4	1.4	3.2	mg/kg
Vanadium	47.1 J-	48.9 J-	43.4 J-	44.1 J-	41.7 J-	56.3 J-	mg/kg
Zinc	31.5 J-	29.8 J-	27.3 J-	28.2 J-	27.4 J-	30.8 J-	mg/kg
Mercury	0.013 J-	0.017 J-	0.0082 J-	0.012 J-	0.011 J-	0.0084 UJ	mg/kg

Notes:

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

LOU 49 Table 5
Groundwater Characterization Data - Metals

Tronox Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Sampling Program	Ph A[1]	
Well ID:	M31A	
Sample ID	M31A-Z	
Sample Date	05/09/2007	
Metals		**Unit**
Aluminum	**760 J**	ug/L
Antimony	25.0 U	ug/L
Arsenic	**127 J**	ug/L
Barium	**42.5 J**	ug/L
Beryllium	4.4 U	ug/L
Boron	**6950**	ug/L
Cadmium	2.9 U	ug/L
Calcium	**617000**	ug/L
Chromium (Total)	**12300**	ug/L
Chromium-hexavalent	**12900 J**	ug/L
Cobalt	15.7 U	ug/L
Copper	12.5 U	ug/L
Iron	470 UJ	ug/L
Lead	24.6 U	ug/L
Magnesium	**275000**	ug/L
Manganese	127 U	ug/L
Molybdenum	25.0 U	ug/L
Nickel	25.8 U	ug/L
Platinum	5.0 U	ug/L
Potassium	**23600**	ug/L
Selenium	50.0 U	ug/L
Silver	10.1 U	ug/L
Sodium	**1650000**	ug/L
Strontium	**14800**	ug/L
Thallium	16.0 U	ug/L
Tin	10.0 U	ug/L
Titanium	**33.6 J**	ug/L
Tungsten	25.0 U	ug/L
Uranium	**28.9 J**	ug/L
Vanadium	80.0 U	ug/L
Zinc	**97.5 J**	ug/L
Mercury	**0.11 J+**	ug/L

Notes:

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

LOU 49 Table 6
Groundwater Characterization Data - Routine Monitoring

Tronox LLC, Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Well ID		Depth to water	Perchlorate	Qual	Total Chromium	Qual	TDS	Qual	Nitrate (as N)	Qual	Chlorate	Qual
units	Date	feet	mg/l		mg/l		mg/l		mg/l		mg/l	
M-31A	2/2/2006	46.07	1800	d	13	d						
M-31A	5/3/2006	46.41	1700	d	13	d	8030					
M-31A	8/2/2006	46.56	1410	d	12	d	6300					
M-31A	11/1/2006	47.03	1750	d	13	d	9780					
M-31A	1/31/2007	46.43	1490		13		9710					
M-31A	5/2/2007	46.05	1400		13		8750					
M-31A	8/1/2007	46.84	1710		11		9330					
M-52	2/2/2006	---	1200	d	10	d						
M-52	5/4/2006	---	1100	d	9.6	d	6760					
M-52	11/2/2006	---	1020	d	9.1	d	7190					
M-52	1/31/2007	---	946		9		8600					
M-52	5/2/2007	---	720		7.9		7450					
M-77	5/3/2006	37.64	180	d	0.35	d	2710					
M-77	5/2/2007	37.86	168		0.4		2400					

Notes:
1. ENSR, 2007, Quarterly Performance Report for Remediation Systems, Tronox LLC, Henderson, Nevada, July, September 2007.
< = 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

Laboratory Qualifiers:
d = the sample was diluted
u = the analyte was not detected above the sample reporting limit
ud = the sample was dilluted 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 49 Table 7
Groundwater Characterization Data - Routine Monitoring

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

WELL #	Sample Date	Total Depth (ft bgs)	Depth to Water (ft TOC)	pH (Lab)	EC (Lab, µmho/cm)	Mn (ppm)
M-31	1/196	44.10	37.64	7.11	11700	--
M-31	2/1/96	44.10	37.94	7.04	10490	--
M-31	3/1/96	44.10	37.86	7.09	9280	--
M-31	4/27/98	--	39.10	7.13	11610	--
M-31	10/21/98	--	39.85	--	--	--
M-31	5/6/99	44.10	39.28	7.15	16000	0.82
M-31	5/5/00	44.10	40.00	7.25	14500	1.20
M-31	5/4/01	44.10	--	--	--	--
M-31A	11/4/03	--	--	--	--	--
M-31A	5/7/04	--	--	7.20	12040	--
M-31A	8/4/04	--	--	7.30	11530	--
M-32	1/196	57.34	54.61	7.20	7480	5.60
M-32	2/1/96	57.34	55.21	6.98	8120	6.32
M-32	3/1/96	57.34	55.51	7.03	7630	6.00
M-32	8/24/97	--	--	--	--	--
M-32	9/15/97	57.34	46.85	7.11	6770	--
M-32	4/27/98	--	47.75	7.25	8420	--
M-32	10/21/98	--	48.94	--	--	--
M-32	5/6/99	57.34	47.42	7.16	7660	4.20
M-32	5/5/00	57.34	49.01	7.09	10500	5.00
M-32	5/4/01	57.34	49.00	--	12120	--
M-32	5/2/02	--	47.88	7.2	8420	13
M-32	12/11/02	--	DRY	--	--	--
M-32	4/28/03	--	DRY	--	--	--
M-32	2/4/04	--	DRY	--	--	--

Notes:
ft bgs = feet below ground surface
µmho/cm = micromhos per centimeter
ppm = parts per million
ft TOC = feet from Top of Casing
EC = Electrical Conductivity
Mn = Manganese
-- = Either no data was obtained or was not analyzed for the respective constituent.
Labs: KMC Kerr-McGee Corporation
MW Montgomery Watson

Well Data From:

ENSR, 2005, Conceptual Site Model, Kerr-McGee Facility, Henderson, Nevada, ENSR, Camarillo, California 04020-023-130, February 2005 and August 2005.

LOU 49 Table 8
Soil Characterization Data - Organochlorine Pesticides (OCP)

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Sampling Program	Ph A[1]	Ph A	
Boring No.	SA13	SA13	
Sample ID	SA13-0.5	SA13-0.5D	
Sample Depth (ft)	0.5	0.5	
Sample Date	11/17/2006	11/17/2006	
Organochlorine Pesticides			**Unit**
4,4'-DDD	0.0020 U	0.0019 U	mg/kg
4,4'-DDE	0.0020 U	0.0019 U	mg/kg
4,4'-DDT	0.0020 U	0.0019 U	mg/kg
Aldrin	0.0020 U	0.0019 U	mg/kg
Alpha-BHC	0.0020 U	0.0019 U	mg/kg
Alpha-chlordane	0.0020 U	0.0019 U	mg/kg
Beta-BHC	0.0020 U	0.0019 U	mg/kg
Delta-BHC	0.0020 U	0.0019 U	mg/kg
Dieldrin	0.0020 U	0.0019 U	mg/kg
Endosulfan I	0.0020 U	0.0019 U	mg/kg
Endosulfan II	0.0020 U	0.0019 U	mg/kg
Endosulfan Sulfate	0.0020 U	0.0019 U	mg/kg
Endrin	0.0020 U	0.0019 U	mg/kg
Endrin Aldehyde	0.0020 U	0.0019 U	mg/kg
Endrin Ketone	0.0020 U	0.0019 U	mg/kg
Gamma-BHC (Lindane)	0.0020 U	0.0019 U	mg/kg
Gamma-Chlordane	0.0020 U	0.0019 U	mg/kg
Heptachlor	0.0020 U	0.0019 U	mg/kg
Heptachlor Epoxide	0.0020 U	0.0019 U	mg/kg
Methoxychlor	0.0038 U	0.0076	mg/kg
Tech-Chlordane	0.012 U	0.011 U	mg/kg
Toxaphene	0.058 U	0.055 U	mg/kg

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

LOU 49 Table 9
Groundwater Characterization Data - Organochlorine Pesticides (OCP)

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Sampling Program	Ph A[1]	
Well ID	M31A	
Sample ID	M31A	
Sample Date	12/06/2006	
Organochlorine Pesticides		**Unit**
4,4'-DDD	0.050 U	ug/L
4,4'-DDE	0.050 U	ug/L
4,4'-DDT	0.050 U	ug/L
Aldrin	0.050 U	ug/L
Alpha-BHC	0.050 U	ug/L
Alpha-chlordane	0.050 U	ug/L
Beta-BHC	0.050 U	ug/L
Delta-BHC	0.050 U	ug/L
Dieldrin	0.050 U	ug/L
Endosulfan I	0.050 U	ug/L
Endosulfan II	0.050 U	ug/L
Endosulfan Sulfate	0.050 U	ug/L
Endrin	0.050 U	ug/L
Endrin Aldehyde	0.050 U	ug/L
Endrin Ketone	0.050 U	ug/L
Gamma-BHC (Lindane)	0.050 U	ug/L
Gamma-Chlordane	0.050 U	ug/L
Heptachlor	0.050 U	ug/L
Heptachlor Epoxide	0.050 U	ug/L
Methoxychlor	0.10 U	ug/L
Tech-Chlordane	0.50 U	ug/L
Toxaphene	2.0 U	ug/L

Notes:

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

LOU 49 Table 10
Soil Characterization Data - Organophosphorus Pesticides (OPPs)

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Sampling Program	Ph A[1]	Ph A	
Boring No.	SA13	SA13	
Sample ID	SA13-0.5	SA13-0.5D	
Sample Depth (ft)	0.5	0.5	
Sample Date	11/17/2006	11/17/2006	
OPPs			**Unit**
Azinphos-methyl	0.015 UJ	0.014 U	mg/kg
Bolstar	0.015 UJ	0.014 U	mg/kg
Chlorpyrifos	0.023 UJ	0.022 U	mg/kg
Coumaphos	0.015 UJ	0.014 UJ	mg/kg
Demeton-O	0.045 UJ	0.043 U	mg/kg
Demeton-S	0.017 UJ	0.017 U	mg/kg
Diazinon	0.026 UJ	0.024 U	mg/kg
Dichlorvos	0.027 UJ	0.025 U	mg/kg
Dimethoate	0.026 UJ	0.024 U	mg/kg
Disulfoton	0.056 UJ	0.053 U	mg/kg
EPN	0.015 UJ	0.014 U	mg/kg
Ethoprop	0.017 UJ	0.017 U	mg/kg
Ethyl Parathion	0.021 UJ	0.020 U	mg/kg
Famphur	0.015 UJ	0.014 U	mg/kg
Fensulfothion	0.015 UJ	0.014 U	mg/kg
Fenthion	0.038 UJ	0.037 U	mg/kg
Malathion	0.017 UJ	0.017 U	mg/kg
Merphos	0.035 UJ	0.033 U	mg/kg
Methyl parathion	0.023 UJ	0.022 U	mg/kg
Mevinphos	0.017 UJ	0.017 U	mg/kg
Naled	0.038 UJ	0.037 UJ	mg/kg
Phorate	0.023 UJ	0.022 U	mg/kg
Ronnel	0.021 UJ	0.020 U	mg/kg
Stirphos	0.017 UJ	0.017 U	mg/kg
Sulfotep	0.023 UJ	0.022 U	mg/kg
Thionazin	0.021 UJ	0.020 U	mg/kg
Tokuthion	0.023 UJ	0.022 UJ	mg/kg
Trichloronate	0.023 UJ	0.022 U	mg/kg

Notes:

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

LOU 49 Table 11
Groundwater Characterization Data - Organophosphorus Pesticides (OPPs)

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Sampling Program	Ph A	
Well ID	M31A	
Sample ID	M31A	
Sample Date	12/06/2006	
OPPs		**Unit**
Azinphos-methyl	2.5 U	ug/L
Bolstar	1.0 U	ug/L
Chlorpyrifos	1.0 U	ug/L
Coumaphos	1.0 U	ug/L
Demeton-O	1.0 U	ug/L
Demeton-S	1.0 U	ug/L
Diazinon	1.0 U	ug/L
Dichlorvos	1.0 U	ug/L
Dimethoate	1.0 U	ug/L
Disulfoton	0.50 U	ug/L
EPN	1.2 U	ug/L
Ethoprop	0.50 U	ug/L
Ethyl Parathion	1.0 U	ug/L
Famphur	1.0 U	ug/L
Fensulfothion	2.5 U	ug/L
Fenthion	2.5 U	ug/L
Malathion	1.2 U	ug/L
Merphos	5.0 U	ug/L
Methyl parathion	4.0 U	ug/L
Mevinphos	6.2 U	ug/L
Naled	1.0 U	ug/L
Phorate	1.2 U	ug/L
Ronnel	10 U	ug/L
Stirphos	3.5 U	ug/L
Sulfotep	1.5 U	ug/L
Thionazin	1.0 U	ug/L
Tokuthion	1.6 U	ug/L
Trichloronate	0.50 U	ug/L

Notes:

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

LOU 49 Table 12
Soil Characterization Data - PCBs

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Sampling Program	Ph A[1]	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							**Unit**
Aroclor-1016	0.038 U	0.037 U	0.034 U	0.035 U	0.035 U	0.042 U	mg/kg
Aroclor-1221	0.038 U	0.037 U	0.034 U	0.035 U	0.035 U	0.042 U	mg/kg
Aroclor-1232	0.038 U	0.037 U	0.034 U	0.035 U	0.035 U	0.042 U	mg/kg
Aroclor-1242	0.038 U	0.037 U	0.034 U	0.035 U	0.035 U	0.042 U	mg/kg
Aroclor-1248	0.038 U	0.037 U	0.034 U	0.035 U	0.035 U	0.042 U	mg/kg
Aroclor-1254	0.038 U	0.037 U	0.034 U	0.035 U	0.035 U	0.042 U	mg/kg
Aroclor-1260	0.038 U	0.037 U	0.034 U	0.035 U	0.035 U	0.042 U	mg/kg

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

LOU 49 Table 13
Groundwater Characterization Data - PCBs

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Sampling Program	Ph A[1]	
Well ID	M31A	
Sample ID	M31A	
Sample Date	12/06/2006	
PCBs		**Unit**
Aroclor-1016	0.10 U	ug/L
Aroclor-1221	0.10 U	ug/L
Aroclor-1232	0.10 U	ug/L
Aroclor-1242	0.10 U	ug/L
Aroclor-1248	0.10 U	ug/L
Aroclor-1254	0.10 U	ug/L
Aroclor-1260	0.10 U	ug/L

Notes:

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

LOU 49 Table 14
Soil Characterization Data - Perchlorate

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Boring ID	Sample ID	Sample Depth (ft)	Sample Date	Perchlorate ug/kg	Sampling Program
SA13	SA13-0.5	0.5	11/17/2006	**192**	Ph A[1]
	SA13-0.5D	0.5	11/17/2006	**120**	Ph A
	SA13-10	10	11/17/2006	**195**	Ph A
	SA13-20	20	11/17/2006	**184**	Ph A
	SA13-30	30	11/17/2006	**220**	Ph A
	SA13-40	40	11/17/2006	**1490**	Ph A

Notes:

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

LOU 49 Table 15
Groundwater Characterization Data - Perchlorate

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Well ID Number	Sample ID	Sample Date	Perchlorate	Units	Sampling Program
M31A	M31A	12/06/2006	**1740000 J+**	ug/L	Ph A[1]

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

LOU 49 Table 16
Groundwater Characterization Data - Radionuclides

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Well ID			Ra-226	Ra-228	Th-228	Th-230	Th-232	U-233/234	U-235/236	U-238	Sampling
Number	Sample ID	Date	pci/L	pci/L	pci/L	pci/L	pci/L	pci/L	pci/L	pci/L	Program
M31A	M31A-Z	05/09/2007	**0.312 J**	0.862 UJ	0.0584 U	0.0798 U	0.0285 U	**13.7**	**0.408**	**8.09**	Ph A[1]

Notes:
1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson,

LOU 49 Table 17
Soil Characterization Data - Radionuclides

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

				Ra-226	Ra-228	Th-228	Th-230	Th-232	U-233/234	U-235/236	U-238	Sampling
		Sample		(gamma)	(gamma)	(TH MOD)	(TH MOD)	(TH MOD)	(U MOD)	(U MOD)	(U MOD)	Program
Boring		Depth		pci/g	pci/g	pci/g	pci/g	pci/g	pci/g	pci/g	pci/g	
ID Number	Sample ID	(ft)	Date									
SA13	SA13-0.5	0.5	11/17/2006	**1.12 J-**	**1.68 J-**							Ph A[1]
	SA13-0.5D	0.5	11/17/2006	**1.06 J-**	**1.87 J-**							Ph A
	SA13-10	10	11/17/2006	**1.14 J-**	**2.05 J-**							Ph A
	SA13-20	20	11/17/2006	**1.27 J-**	**1.78 J-**							Ph A
	SA13-30	30	11/17/2006	**1.73 J-**	**1.88 J-**							Ph A
	SA13-40	40	11/17/2006	**1.79 J-**	**1.61 J-**	**0.659 J**	**0.922 J**	**0.539 J**	**1.05 J+**	0.0274 U	**0.813**	Ph A

Notes:
1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson,

LOU 49 Table 18
Soil Characterization Data - SVOC

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Sampling Program		Ph A[1]	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)	Analytical	0.5	0.5	10	20	30	40
Sample Date	Method	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006
SVOC		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,4-Dioxane	non-SIM	77 U	73 U	340 U	350 U	350 U	420 U
2-Methylnaphthalene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
2-Methylnaphthalene	SIM	7.7 U	7.3 U				
Acenaphthene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Acenaphthene	SIM	7.7 U	7.3 U				
Acenaphthylene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Acenaphthylene	SIM	7.7 U	7.3 U				
Anthracene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Anthracene	SIM	7.7 U	7.3 U				
Benz(a)anthracene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Benz(a)anthracene	SIM	7.7 U	7.3 U				
Benzo(a)pyrene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Benzo(a)pyrene	SIM	7.7 U	7.3 U				
Benzo(b)fluoranthene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Benzo(b)fluoranthene	SIM	7.7 U	7.3 U				
Benzo(g,h,i)perylene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Benzo(g,h,i)perylene	SIM	7.7 U	7.3 U				
Benzo(k)fluoranthene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Benzo(k)fluoranthene	SIM	7.7 U	7.3 U				
bis(2-Ethylhexyl)phthalate	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Butyl benzyl phthalate	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Chrysene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Chrysene	SIM	7.7 U	7.3 U				
Dibenz(a,h)anthracene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Dibenz(a,h)anthracene	SIM	7.7 U	7.3 U				
Diethyl phthalate	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Dimethyl phthalate	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Di-N-Butyl phthalate	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Di-N-Octyl phthalate	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Fluoranthene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Fluoranthene	SIM	7.7 U	7.3 U				
Fluorene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Fluorene	SIM	7.7 U	7.3 U				
Hexachlorobenzene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Hexachlorobenzene	SIM	7.7 U	7.3 U				
Indeno(1,2,3-cd)pyrene	non-SIM	380 UJ	370 UJ	340 UJ	350 UJ	350 UJ	420 UJ
Indeno(1,2,3-cd)pyrene	SIM	7.7 U	7.3 U				
Naphthalene	non-SIM	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Naphthalene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Naphthalene	SIM	7.7 U	7.3 U				
Nitrobenzene	non-SIM	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	380 U	370 U	340 U	350 U	350 U	420 U
Phenanthrene	SIM	7.7 U	7.3 U				
Pyrene	non-SIM	380 U	370 U	340 U	350 U	350 U	420 U
Pyrene	SIM	7.7 U	7.3 U				
Pyridine	non-SIM	1900 U	1800 U	1700 U	1700 U	1700 U	2000 U

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

LOU 49 Table 19
Groundwater Characterization Data - SVOC

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Sampling Program		Ph A1
Well No.		M31A
Sample ID	Analytic	M31A
Sample Date	Method	12/06/2006
SVOCs		ug/L
1,4-Dioxane	non-SIM	10 U
2-Methylnaphthalene	non-SIM	10 U
2-Methylnaphthalene	SIM	0.20 U
Acenaphthene	non-SIM	10 UJ
Acenaphthene	SIM	0.20 U
Acenaphthylene	non-SIM	R
Acenaphthylene	SIM	0.20 U
Anthracene	non-SIM	10 U
Anthracene	SIM	0.20 U
Benz(a)anthracene	non-SIM	10 U
Benz(a)anthracene	SIM	0.20 U
Benzo(a)pyrene	non-SIM	10 U
Benzo(a)pyrene	SIM	0.20 U
Benzo(b)fluoranthene	non-SIM	10 U
Benzo(b)fluoranthene	SIM	0.20 U
Benzo(g,h,i)perylene	non-SIM	10 U
Benzo(g,h,i)perylene	SIM	0.20 U
Benzo(k)fluoranthene	non-SIM	10 U
Benzo(k)fluoranthene	SIM	0.20 U
bis(2-Ethylhexyl)phthalate	non-SIM	10 U
Butyl benzyl phthalate	non-SIM	10 U
Chrysene	non-SIM	10 U
Chrysene	SIM	0.20 U
Dibenz(a,h)anthracene	non-SIM	10 U
Dibenz(a,h)anthracene	SIM	0.20 U
Diethyl phthalate	non-SIM	10 U
Dimethyl phthalate	non-SIM	10 U
Di-N-Butyl phthalate	non-SIM	10 U
Di-N-Octyl phthalate	non-SIM	10 U
Fluoranthene	non-SIM	10 U
Fluoranthene	SIM	0.23 U
Fluorene	non-SIM	10 U
Fluorene	SIM	0.20 U
Hexachlorobenzene	non-SIM	10 U
Hexachlorobenzene	SIM	0.20 U
Indeno(1,2,3-cd)pyrene	non-SIM	10 UJ
Indeno(1,2,3-cd)pyrene	SIM	0.20 U
Naphthalene	non-SIM	5.0 U
Naphthalene	non-SIM	10 UJ
Naphthalene	SIM	0.20 U
Nitrobenzene	non-SIM	10 U
Octachlorostyrene	non-SIM	10 U
Phenanthrene	non-SIM	10 U
Phenanthrene	SIM	0.20 U
Pyrene	non-SIM	10 U
Pyrene	SIM	0.20 U
Pyridine	non-SIM	20 U

Notes:

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

LOU 49 Table 20
Soil Characterization Data - VOCs

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Sampling Program	Ph A[1]	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	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Naphthalene	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,1,1,2-Tetrachloroethane	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,1,1-Trichloroethane	5.8 U	5.5 UJ	5.2 UJ	0.53 J	5.3 U	6.3 U
1,1,2,2-Tetrachloroethane	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,1,2-Trichloroethane	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,1-Dichloroethane	5.8 U	5.5 UJ	5.2 UJ	1.8 J	5.3 U	6.3 U
1,1-Dichloroethene	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,1-Dichloropropene	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2,3-Trichlorobenzene	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2,3-Trichloropropane	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2,4-Trichlorobenzene	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2,4-Trimethylbenzene	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2-Dibromo-3-chloropropane	12 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2-Dichlorobenzene	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2-Dichloroethane	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,2-Dichloropropane	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,3,5-Trimethylbenzene	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ
1,3-Dichlorobenzene	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,3-Dichloropropane	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
1,4-Dichlorobenzene	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
2,2-Dichloropropane	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
2-Butanone	12 U	11 UJ	10 UJ	5.2 J	11 U	13 U
2-Chlorotoluene	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
2-Hexanone	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	5.8 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	12 U	11 UJ	10 UJ	11 UJ	11 U	13 U
Acetone	5.1 J	9.8 J	10 UJ	34 J	11 U	14
Benzene	5.8 U	5.5 UJ	5.2 UJ	0.19 J	5.3 U	6.3 U
Bromobenzene	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Bromochloromethane	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Bromodichloromethane	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Bromoform	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Bromomethane	12 UJ	11 UJ	10 UJ	11 UJ	11 U	13 U
Carbon tetrachloride	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Chlorobenzene	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Chloroethane	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ
Chloroform	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	0.32 J	4.2 J
Chloromethane	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ
cis-1,2-Dichloroethene	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
cis-1,3-Dichloropropene	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Dibromochloromethane	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Dibromomethane	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Dichlorodifluoromethane	12 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ
Ethyl t-butyl ether	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Ethylbenzene	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Ethylene dibromide	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Hexachlorobutadiene	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	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Methyl tert butyl ether	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Methylene chloride	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
N-Butylbenzene	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
N-Propylbenzene	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ
sec-Butylbenzene	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ
Styrene	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	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Tetrachloroethene	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Toluene	5.8 U	0.28 J	0.28 J	0.67 J	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	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Trichloroethene	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 U	6.3 U
Trichlorofluoromethane	5.8 UJ	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 UJ
Vinylchloride	5.8 U	5.5 UJ	5.2 UJ	5.3 UJ	5.3 UJ	6.3 U
Xylene (Total)	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.

LOU 49 Table 21
Groundwater Characteristic Data - VOCs

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

Sampling Program	Ph A[1]
Well ID	M31A
Sample ID	M31A
Sample Date	12/06/2006
VOCs	ug/L
Naphthalene	5.0 U
1,1,1,2-Tetrachloroethane	5.0 U
1,1,1-Trichloroethane	5.0 U
1,1,2,2-Tetrachloroethane	5.0 U
1,1,2-Trichloroethane	5.0 U
1,1-Dichloroethane	5.0 U
1,1-Dichloroethene	5.0 U
1,1-Dichloropropene	5.0 U
1,2,3-Trichlorobenzene	5.0 U
1,2,3-Trichloropropane	5.0 U
1,2,4-Trichlorobenzene	5.0 U
1,2,4-Trimethylbenzene	5.0 U
1,2-Dibromo-3-chloropropane	5.0 U
1,2-Dichlorobenzene	5.0 U
1,2-Dichloroethane	5.0 U
1,2-Dichloropropane	5.0 U
1,3,5-Trimethylbenzene	5.0 U
1,3-Dichlorobenzene	5.0 U
1,3-Dichloropropane	5.0 U
1,4-Dichlorobenzene	5.0 U
2,2-Dichloropropane	5.0 U
2-Butanone	10 U
2-Chlorotoluene	5.0 U
2-Hexanone	10 UJ
2-Methoxy-2-methyl-butane	5.0 UJ
4-Chlorotoluene	5.0 U
4-Isopropyltoluene	5.0 U
4-Methyl-2-pentanone	10 UJ
Acetone	10 U
Benzene	5.0 U
Bromobenzene	5.0 U
Bromochloromethane	5.0 U
Bromodichloromethane	5.0 U
Bromoform	**4.8 J**
Bromomethane	10 U
Carbon tetrachloride	5.0 U
Chlorobenzene	5.0 U
Chloroethane	5.0 U
Chloroform	**930 J+**
Chloromethane	5.0 U
cis-1,2-Dichloroethene	5.0 U
cis-1,3-Dichloropropene	5.0 U
Dibromochloromethane	5.0 U
Dibromomethane	5.0 U
Dichlorodifluoromethane	5.0 UJ
Ethyl t-butyl ether	5.0 UJ
Ethylbenzene	5.0 U
Ethylene dibromide	5.0 U
Hexachlorobutadiene	5.0 U
Isopropyl ether	5.0 UJ
Isopropylbenzene	5.0 U
Methyl tert butyl ether	5.0 U
Methylene chloride	5.0 UJ
N-Butylbenzene	5.0 U
N-Propylbenzene	5.0 U
sec-Butylbenzene	5.0 U
Styrene	5.0 U
t-Butyl alcohol	10 UJ
tert-Butylbenzene	5.0 U
Tetrachloroethene	5.0 U
Toluene	5.0 U
trans-1,2-Dichloroethylene	5.0 U
trans-1,3-Dichloropropene	5.0 U
Trichloroethene	5.0 U
Trichlorofluoromethane	5.0 U
Vinylchloride	5.0 U
Xylene (Total)	10 UJ

Notes:

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

LOU 49 Table 22
Soil Characterization Data - Long Asbestos Fibers in Respirable Soil Fraction

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

			Long Amphibole Protocol Structures	Long Chrysotile Protocol Structures	Sampling Program
No.	**Sample ID**	**Sample Date**	s/gPM10	s/gPM10	
SA13	SA13	12/08/2006	**3000000**	2996000 U	Ph A[1]

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

LOU 49 Table 23
Groundwater Characterization Data - Routine Monitoring

Tronox LLC Facility - Henderson, Nevada
Leach Plant Area Sulfuric Acid Storage Tank

WELL #	Sample Date	Total Depth (ft bgs)	Depth to Water (ft TOC)	Mn (ppm)	pH (Lab)	EC (Lab, µmho/cm)	Cr_{+6} (ppm)	Cr-total (ppm)	ClO_4 (ppm)	LAB
M-33	5/6/99	57.70	46.09	3.6	7.53	1,730	--	ND	<10	KMC
M-33	5/6/99	57.70	--	2.1	--	--	--	--	--	--

Well Data From: Kerr-McGee Chemical LLC Company, Mother-hen database.

Blank	Not analyzed.
Bold	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	Soluable 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.