

Summary of Available Data for LOU 20 in Evaluation Area 08
Tronox Facility – Henderson, Nevada

Name of LOU:	Pond C-1 and Associated Piping
Goal of Closure	<ul style="list-style-type: none">• Closure for future commercial and industrial uses.
Site Investigation Area:	<ul style="list-style-type: none">• Size: Approximately 175 ft by 275 ft (1.5-acres) [Ref. 4].• Approximately 3.1 million gallon capacity [Ref. 4].• Location: North of Pond Mn-1, north end of EA08.
Description:	<ul style="list-style-type: none">• Pond received non-hazardous industrial liquid waste products from Unit 4, Unit 5, and Steam Plant. Used for evaporation; not equipped to recycle liquids back to processes [Ref. 4 and 6].• Pond was constructed with a single layer, 60-mil liner: PVC floor with reinforced butyl rubber side walls. Lining was removed in 1996 [Ref. 4, 6 and 7].• Pond C-1 period of operation: October 1974 through October 1994 [Ref. 4].• Process waste streams - metal wastes and various sulfates and phosphates discharged into the C-1 Pond [Ref. 4].• Process waste streams discharged into Pond C-1 did not contain fuels, solvents, PCBs, pesticides or herbicides [Ref. 6].
	<u>Associated piping system:</u> <ul style="list-style-type: none">• Consisted of above-ground plastic piping aligned along 9th Street from Units 4 & 5 to pond [Ref 6]. Piping was removed in 1994 when Pond C-1 was decommissioned [Ref. 7].• Above-ground piping also ran from the steam plant across 9th Street to Pond C-1 [Ref. 6].• Pipe system handled low pressure flow with no vents or sample points [Ref. 6].• Pipeline outfalls were in the southeast and southwest corners of Pond C-1 [Ref. 5 and 6].• Process waste flow was diverted to Pond Mn-1 (LOU 21) if Pond C-1 neared maximum capacity [Ref. 4 and 6].
Known or Potential Chemical Classes:	<ul style="list-style-type: none">• Metals• Hexavalent chromium• Wet chemistry analytes• TPH (paraffin)

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Process Waste Stream	Known or Potential Constituents Associated with LOU 20
Sodium chlorate and sodium perchlorate from Units 4 and 5 production	<ul style="list-style-type: none"> • Hexavalent chromium • Paraffin (TPH-DRO/ORO)
Paraffin from Units 4 and 5 processes	<ul style="list-style-type: none"> • TPH-DRO
Steam Plant Boiler Blow-Down – 2.8 to 8.9 gpm [Ref. 4 and 6].	<ul style="list-style-type: none"> • Salts • Phosphates • Sulfates
Boiler Plant Wash-Down – episodic [Ref. 4 and 6].	<ul style="list-style-type: none"> • Salts • Phosphates • Sulfates
Manganese Dioxide Cathode Wash - 1.2 to 8.1 gpm [Ref. 4 and 6].	<ul style="list-style-type: none"> • Manganese • Phosphates • Calcium • Magnesium
Cooling Tower (Main) Blow-Down and Filter Wash – 15,000 gpd [Ref. 4 and 6].	<ul style="list-style-type: none"> • Salts • Phosphates • Sulfates • Metals (hexavalent chromium)
Boron Neutralization Solutions - 0.9 to 1.9 gpm [Ref. 4 and 6].	<ul style="list-style-type: none"> • Boron • Sulfates • Carbonates • Borates
Halide Wall Solid and Screen Filter Wastes [Ref. 6].	<ul style="list-style-type: none"> • Boron trichloride • Boron tribromide

Known or Potential Release Mechanisms:

- No known releases documented for this LOU.
- Possible impacts to surrounding soils from surface releases [Ref. 4].
- Potential liner leaks [Ref. 4]
- Potential infiltration to subsurface soils and groundwater.
- Monitoring wells installed to evaluate potential releases and changes in water chemistry. Kleinfelder (1993) cited increasing conductivity trend in M-22 as indication of impacts, but stated "source location difficult to evaluate based on spatially limited data and the existence of several possible sources upgradient of this monitoring well." Kleinfelder also noted that salt concentrations in groundwater beneath this area increased in the early 1990s [Ref. 4].

Results of Historical Sampling:

- One historical boring (BDB-05) was drilled approximately 150 feet west of Pond C-1. However, this boring was located to evaluate the un-named tributary to Beta-Ditch (LOU 5) and not Pond C-1 (LOU 20) [Ref 1]. Analytical results are summarized on LOU 20 Tables 1, 4, 8, and 21 (see attached).

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- Upgradient, cross-gradient, and downgradient monitoring wells (M-35, M-19, and M-39, respectively) are routinely tested for hexavalent chromium, manganese, sodium chloride, and perchlorate as part of routine groundwater monitoring program [Ref. 3]. Analytical results are summarized on LOU 20 Tables 6 and 7 (see attached).
- General chemistry testing of waste streams for NPDES Permit (pH, sodium TDS, calcium, magnesium, manganese and potassium in late 1980's early 1990's) – NPDES list was intended to see if pond was leaking [Ref. 4].

Did Historical Samples Address Potential Release? No

Summary of Phase A SAI: Soil

- None specifically conducted for this LOU. The closest boring (SA17) is approximately 55 feet north (downgradient) and was not specifically designed to evaluate this LOU.

Groundwater

- None specifically conducted for this LOU. The closest well sampled (M-39) is approximately 140 feet to the north (downgradient) and was not specifically designed to evaluate this LOU.
- Phase A analytical results for soil and groundwater are included as reference information only and are summarized on LOU 20 Tables 1 through 5 and Tables 8 through 23 (see attached).

Are Phase A Sample Locations in "Worst Case" Areas? No

Is Phase B Investigation Recommended? Yes

Proposed Phase B Soil Investigation/Rationale:

- The following soil borings will be sampled as part of the focused Phase B Investigation for this LOU:
- Borings SA62, SA144 and SA145 located in Pond C-1 to evaluate soil conditions beneath this LOU.
- Boring SA71 located north of (downgradient) Pond C-1 to evaluate soil conditions for potential impacts (if any).
- Boring SA61 located near the southeast corner (upgradient) of the Pond C-1 near pipeline outfall point to evaluate soil conditions for potential impacts (if any).
- Boring SA158 located near southwest corner (upgradient) of the Pond C-1 near pipeline outfall point to evaluate soil conditions for potential impacts (if any).

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- Boring SA157, SA159, SA162, and SA107 are located along the pipeline route to LOU 20 from Unit 5 to evaluate for potential impacts from releases associated with the pipeline.
- 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:
 - SAM8-R1, SAL8-R1, SAN7-R1, SAN6-R1, SAO7-R1, SAP7-R1

Proposed Chemical Classes for Phase B Investigation for soils:

LOU Specific Analytes:

- Metals (Phase A list)
- Hexavalent chromium
- Wet chemistry analytes

Additional Analytes for Area Coverage:

- Perchlorate
- Radionuclides
- Asbestos
- VOCs
- Organochlorine pesticides

Proposed Phase B Groundwater Investigation/Rationale:

- The following wells will be sampled as part of the focused Phase B Investigation for this LOU:
- Well M-35 is located 160 feet south (upgradient) from Pond C-1 used to evaluate local groundwater conditions and as part of site-wide evaluation of constituent trends in groundwater.
- Well M-39 is located approximately 100 feet north (downgradient) from Pond C-1 used to evaluate local groundwater conditions and as part of site-wide evaluation of constituent trends in groundwater.
- Well M-19 is located approximately 30 feet east (cross-gradient) from Pond C-1 used to evaluate local groundwater conditions and as part of site-wide evaluation of constituent trends in groundwater.
- Wells M-52, M-31A, and M-34 are located close to the alignment of associated piping that runs from the Unit 4/Unit 5 process area to the C-1 Pond used to evaluate local groundwater conditions and as part of site-wide evaluation of constituent trends in groundwater.
- Well M-2A is located near the alignment of associated piping that runs from the Steam Plant to the C-1 Pond used to evaluate local groundwater conditions and as part of site-wide evaluation of constituent trends in groundwater.

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

LOU Specific Analytes:

- Metals (Phase A list)
- Hexavalent chromium
- Wet chemistry analytes

Additional Analytes for Area Coverage:

- Perchlorate
- VOCs
- Radionuclides
- Organochlorine pesticides

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

- The following point will be sampled for soil gas as part of the focused Phase B Investigation for this LOU:
- Point SG22 located south (downgradient) from this LOU to evaluate area conditions for vapor phase VOCs from soil and/or groundwater.

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

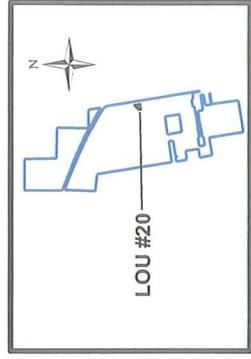
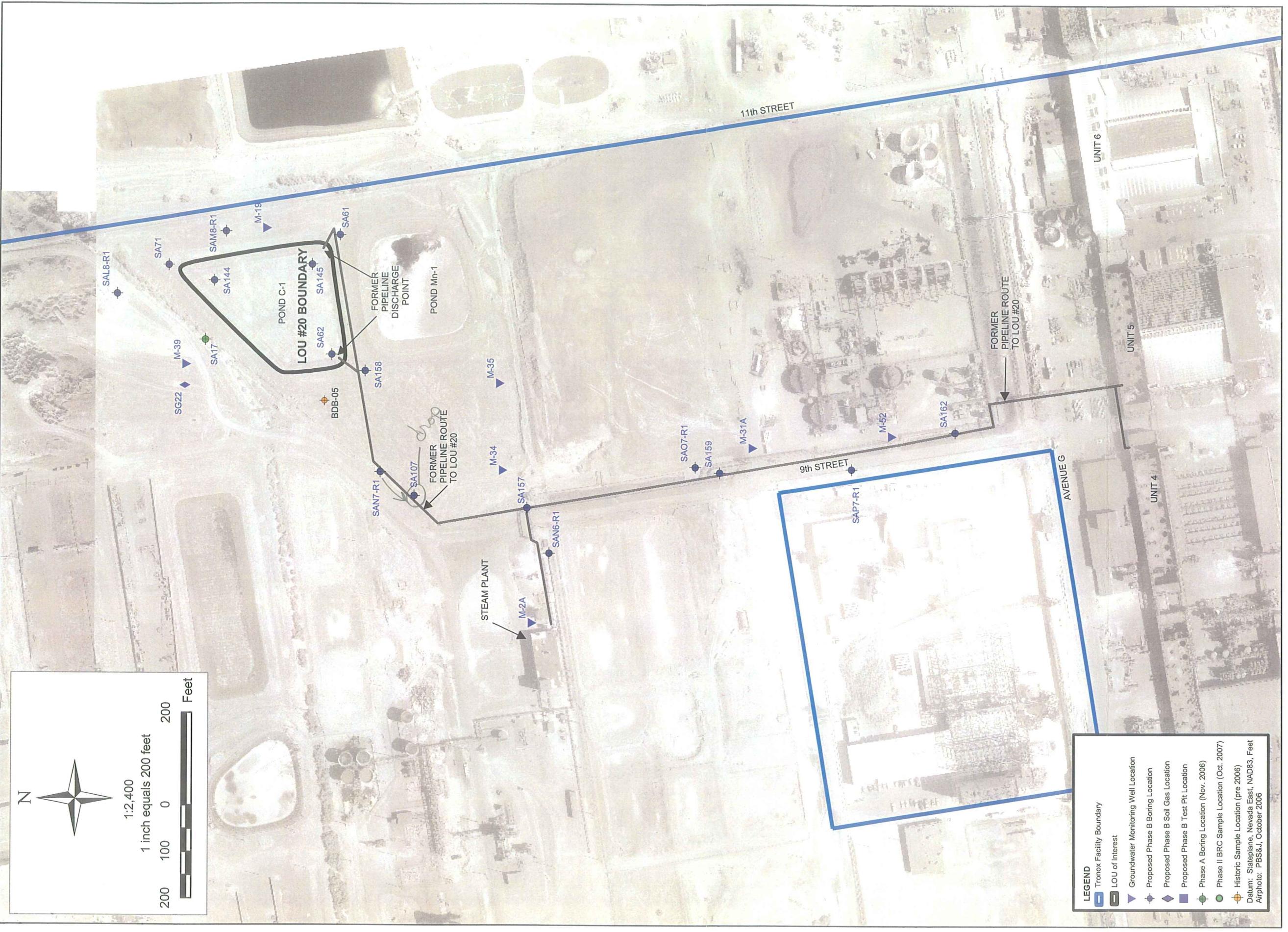
- VOCs (EPA TO-15)

References

1. ENSR Corporation (ENSR), 1997, Phase II Environmental Conditions Assessment located at Kerr-McGee Chemical Corporation, Henderson, Nevada, August 7, 1997.
2. ENSR, 2007a, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
3. ENSR, 2007b, Quarterly Performance Report for Remediation Systems, Tronox LLC, Henderson, Nevada, July-September 2007, November 2007.
4. Kleinfelder, 1993, Environmental Conditions Assessment, Kerr-McGee Chemical Corporation, Henderson, Nevada Facility, April 15, 1993 (Final)
5. Region IX, 1980, Aerial Reconnaissance of Hazardous Waste Sources BMI Industrial Complex, Henderson, 1943-1979.
6. Tronox, Susan Crowley, verbal communication, January 14, 2008.
7. Tronox, Susan Crowley, verbal communication, February 5, 2008.

Summary of Available Data for LOU 20 in Evaluation Area 08
Tronox Facility – Henderson, Nevada

LOU MAP



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DRAWN BY:
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APPROVED BY:
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**SAMPLE LOCATIONS FOR LOU #20,
POND C-1 AND ASSOCIATED PIPING**

Phase B Source Area Investigation
Tronox Facility
Henderson, Nevada

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

FIGURE NUMBER: X

SHEET NUMBER: X

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Soil and Groundwater Characterization Data

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LOU-specific analytes identified include:

- Wet chemistry analytes
- Metals (Phase A list)
- Hexavalent chromium
- TPH (paraffin)

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

LOU 20 Table 1 - Soil Characterization Data - Wet Chemistry

LOU 20 Table 2 - Groundwater Characterization Data - Wet Chemistry

LOU 20 Table 3 - Soil Characterization Data - Dioxins and Dibenzofurans

LOU 20 Table 4 - Soil Characterization Data – Metals

LOU 20 Table 5 - Groundwater Characterization Data – Metals

LOU 20 Table 6 - Groundwater Characterization Data - Routine Monitoring

LOU 20 Table 7 - Groundwater Characterization Data - Routine Monitoring

LOU 20 Table 8 - Soil Characterization Data - Organochlorine Pesticides (OCP)

LOU 20 Table 9 - Soil Characterization Data - Organochlorine Pesticides (OCP)

LOU 20 Table 10 - Soil Characterization Data

LOU 20 Table 11 - Groundwater Characterization Data - Organophosphorus Pesticides (OPPs)

LOU 20 Table 12 - Soil Characterization Data – PCBs

LOU 20 Table 13 - Groundwater Characterization Data – PCBs

LOU 20 Table 14 - Soil Characterization Data – Perchlorate

LOU 20 Table 15 - Groundwater Characterization Data – Perchlorate

LOU 20 Table 16 - Soil Characterization Data – Radionuclides

LOU 20 Table 17 - Groundwater Characterization Data – Radionuclides

LOU 20 Table 18 - Soil Characterization Data – SVOCs

LOU 20 Table 19 - Groundwater Characterization Data – SVOCs

LOU 20 Table 20 - Soil Characteristic Data - TPH and Fuel Alcohols

LOU 20 Table 21 - Soil Characterization Data – VOCs

LOU 20 Table 22 - Groundwater Characteristic Data – VOCs

LOU 20 Table 23 - Soil Characterization Data - Long Asbestos Fibers in Respirable Soil Fraction

Notes for Phase A Data Tables

LOU 20 Table 1
Soil Characterization Data - Wet Chemistry

C-1 Pond and Associated Piping
Tronox Facility - Henderson, Nevada

Sampling Program	CSM ¹	Ph A ²					
Boring No.	BD-B05	SA17	SA17	SA17	SA17	SA17	
Sample ID	BD-B05	SA17-0.5	SA17-0.5D	SA17-10	SA17-20	SA17-25	
Sample Depth (ft)	1	0.5	0.5	10	20	25	
Sample Date	4/12/1996	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	
Wet Chemistry Parameter							Units
Percent moisture		14.7	13.4	12.1	5.8	19.0	percent
Alkalinity (as CaCO ₃)		160	109	216	217	389	mg/kg
Bicarbonate		524	499	563	439	1260	mg/kg
Total Alkalinity		685	608	778	656	1640	mg/kg
Ammonia (as N)		5.9 UJ	5.8 UJ	5.7 UJ	5.3 UJ	6.2 UJ	mg/kg
Cyanide		R	R	R	R	R	mg/kg
MBAS		2.4 U	2.4 J	2.2 U	2.1 U	2.6 U	mg/kg
pH (solid)	8.1	9.6	9.6	9.7	9.8	8.5	none
Bromide		2.9 U	2.9 U	2.8 U	2.7 U	1.5 J	mg/kg
Chlorate	0.17 B	5.9 UJ	5.8 U	5.7 U	5.3 U	82.9	mg/kg
Chloride		8.7	8.1	5.2	1.9 J	155	mg/kg
Nitrate (as N)		0.48 J+	0.77 J+	0.96 J+	0.21 U	2.5 J+	mg/kg
Nitrite		0.95	0.25	0.83	0.31	0.37	mg/kg
ortho-Phosphate		10.6 J	4.5 J	5.7 U	5.3 U	6.2 U	mg/kg
Sulfate		28.8	24.9	44.4	152	685	mg/kg
Total Organic Carbon		3900	4900	3500	2000	13100	mg/kg

Notes:

1. ENSR, 2005, Conceptual Site Model, Kerr-McGee Facility, Henderson, Nevada, ENSR, Camarillo, California, 04020-023-130, February 2005 and August 2005.
2. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.

LOU 20 Table 2
Groundwater Characterization Data - Wet Chemistry

C-1 Pond and Associated Piping
 Tronox Facility - Henderson, Nevada

Sampling Program	Ph A'	Ph A'	Ph A'	
Well ID	M2A	M31A	M39	
Sample ID	M2A	M31A	M39	
Sample Date	12/04/2006	12/06/2006	12/05/2006	
Wet Chemistry Parameters				Units
Total Dissolved Solids	12700	9720	7270	mg/L
Total Suspended Solids	36.0 J	25.0 J	56.0 J	mg/L
Alkalinity (as CaCO ₃)	5.0 U	5.0 U	5.0 U	mg/L
Bicarbonate	92.0	108	137	mg/L
Total Alkalinity	92.0	108	137	mg/L
Ammonia (as N)	50.0 U	1270	50.0 U	ug/L
MBAS	0.63	1.8 J	1.2 J	mg/L
Cyanide	R	R	R	ug/L
pH (liquid)	7.2 J	7.1 J	7.1 J	none
Specific Conductance	2450 J+	2630 J+	2360 J+	umhos/cm
Bromide	0.54	25.0 U	2.7	mg/L
Chlorate	4600	3320	1620	mg/L
Chloride	1800	1130	1280	mg/L
Nitrate (as N)	13.6	17.6	12.1	mg/L
Nitrite	22.5	10.0 U	10.0 U	mg/L
ortho-Phosphate	500 U	500 U	5.0 U	mg/L
Sulfate	1250	1480	2720	mg/L
Total Organic Carbon	50.0 U	50.0 U	50.0 U	mg/L

Notes:

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

LOU 20 Table 3
Soil Characterization Data - Dioxins and Dibenzofurans

C-1 Pond and Associated Piping
Tronox Facility - Henderson, Nevada

Sampling Program			Ph A ¹	Ph A ¹
Boring No.			SA17	SA17
Sample ID			SA17-0.5	SA17-0.5D
Sample Depth (ft)			0.5	0.5
Sample Date			11/15/2006	11/15/2006
Chemical Name:	Method	Unit		
Dioxin 8290 SCREEN Total TEQ-ENSR				
Calculated (a) ng/kg		ng/kg	13.64	
Dioxin 8290 SCREEN Total TEQ-ENSR				
Calculated (b) ng/kg		ng/kg	13.66	
1,2,3,4,6,7,8-Heptachlorodibenzofuran	8290 Screen	ng/kg	1.752	3.563
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	0.279	0.845
1,2,3,4,7,8,9-Heptachlorodibenzofuran	8290 Screen	ng/kg	0.818	1.760
1,2,3,4,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	1.703	3.450
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	0.062 U	0.099 U
1,2,3,6,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	0.773	1.330
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	0.049 U	0.160
1,2,3,7,8,9-Hexachlorodibenzofuran	8290 Screen	ng/kg	0.700	1.218
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	0.100	0.163
1,2,3,7,8-Pentachlorodibenzofuran	8290 Screen	ng/kg	6.375	11.863
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	0.042 U	0.220
2,3,4,6,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	0.440	1.355
2,3,4,7,8-Pentachlorodibenzofuran	8290 Screen	ng/kg	3.691	6.606
2,3,7,8-Tetrachlorodibenzofuran	8290 Screen	ng/kg	74.100	144.703
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	0.121	0.194
Octachlorodibenzofuran	8290 Screen	ng/kg	6.847	14.903
Octachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	2.193	5.440
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 20 Table 4
Soil Characterization Data - Metals

C-1 Pond and Associated Piping
 Tronox Facility - Henderson, Nevada

Sampling Program	CSM ¹	Ph A ²					
Boring No.	BD-B05	SA17	SA17	SA17	SA17	SA17	
Sample ID	BD-B05	SA17-0.5	SA17-0.5D	SA17-10	SA17-20	SA17-25	
Sample Depth (ft)	1	0.5	0.5	10	20	25	
Sample Date	4/12/1996	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	
Metals							Units
Aluminum		13300	14300	8000	4050	5120	mg/kg
Antimony		0.27 J-	0.25 J-	0.21 J-	0.094 J-	0.16 J-	mg/kg
Arsenic	13 B	22.1	37.0	4.2	13.0	13.7	mg/kg
Barium	300 B	142 J	185 J	202 J	136 J	52.7 J	mg/kg
Beryllium		0.93	0.88	0.65	0.30	0.35 J	mg/kg
Boron		8.5 UJ	8.9 UJ	6.9 UJ	6.8 UJ	24.8 UJ	mg/kg
Cadmium		0.089	0.10	0.24	0.091	0.066	mg/kg
Calcium		7470	11600	16700	25900	47300	mg/kg
Chromium (Total)	490	44.6 J-	81.9 J-	23.2 J-	12.5 J-	22.2 J-	mg/kg
Chromium-hexavalent		0.58	1.2	0.16 J	0.39	0.19 J	mg/kg
Cobalt		12.2 J-	11.8 J-	7.1 J-	4.6 J-	2.7 J-	mg/kg
Copper		223 J	175 J	13.6 J	8.3 J	6.7 J	mg/kg
Iron		12600	11500	13300	7190	6130	mg/kg
Lead	240 J	28.6	36.3	8.6	5.1	4.3	mg/kg
Magnesium		11100 J-	10300 J-	7970 J-	5300 J-	36800 J-	mg/kg
Manganese		349	373	325	171	122	mg/kg
Molybdenum		1.1 J	2.4	0.46 J	0.44 J	0.29 J	mg/kg
Nickel		19.3 J-	17.8 J-	15.0 J-	10.7 J-	7.2 J-	mg/kg
Platinum		0.029 J	0.027 J	0.022 J	0.011 U	0.012 U	mg/kg
Potassium		2270	2750	1680	1050	1710	mg/kg
Selenium		0.13 UJ	0.13 UJ	0.12 UJ	0.11 UJ	0.13 UJ	mg/kg
Silver		0.15 J	0.14 J	0.48	0.097 J	0.20 J	mg/kg
Sodium		1420 J-	1860 J-	1090 J-	858 J-	978 J-	mg/kg
Strontium		112 J	165 J	110 J	137 J	220 J	mg/kg
Thallium		0.11 U	0.095 U	0.38 U	0.074 U	0.086 U	mg/kg
Tin		0.52	0.48	0.56	0.32	0.30	mg/kg
Titanium		480	438	638	298	347	mg/kg
Tungsten		9.1 J-	13.9 J-	1.8 J-	2.5 J-	0.64 UJ	mg/kg
Uranium		1.8	2.0	1.6	2.6	3.7	mg/kg
Vanadium	32 J	31.8 J-	30.5 J-	37.9 J-	31.9 J-	26.7 J-	mg/kg
Zinc		206 J-	152 J-	28.9 J-	17.0 J-	26.1 UJ	mg/kg
Mercury	0.53 J	0.0078 UJ	0.0077 UJ	0.0076 UJ	0.0071 UJ	0.0083 UJ	mg/kg

Notes:

1. ENSR, 2005, Conceptual Site Model, Kerr-McGee Facility, Henderson, Nevada, ENSR, Camarillo, California, 04020-023-130, February 2005 and August 2005.
2. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.

LOU 20 Table 5
Groundwater Characterization Data - Metals

C-1 Pond and Associated Piping
Tronox Facility - Henderson, Nevada

Sampling Program	Ph A ¹	Ph A ¹	Ph A ¹		
Well ID:	M02A	M31A	M39		
Sample ID	M02A-Z	M31A-Z	M39-Z	M39-ZD	
Sample Depth (ft)					
Sample Date	05/09/2007	05/09/2007	05/10/2007	05/10/2007	
Metals				Unit	
Aluminum	393 U	760 J	393 U	ug/L	
Antimony	25.0 U	25.0 U	25.0 U	ug/L	
Arsenic	100 U	127 J	103 J	ug/L	
Barium	46.5 J	42.5 J	17.0 J	17.6 J	ug/L
Beryllium	4.4 U	4.4 U	4.4 U	ug/L	
Boron	3210	6950	10800	10900	ug/L
Cadmium	2.9 U	2.9 U	2.9 U	ug/L	
Calcium	713000	617000	620000	633000	ug/L
Chromium (Total)	18100	12300	4580	4700	ug/L
Chromium-hexavalent	18700 J	12900 J	4720 J	4640	ug/L
Cobalt	15.7 U	15.7 U	15.7 U	15.7 U	ug/L
Copper	12.5 U	12.5 U	12.5 U	12.5 U	ug/L
Iron	470 UJ	470 UJ	R	R	ug/L
Lead	24.6 U	24.6 U	24.6 U	24.6 U	ug/L
Magnesium	386000	275000	408000	414000	ug/L
Manganese	17.1 U	127 U	17.1 U	17.1 U	ug/L
Molybdenum	25.0 U	25.0 U	25.0 U	25.0 U	ug/L
Nickel	25.8 U	25.8 U	25.8 U	25.8 U	ug/L
Platinum	5.0 U	5.0 U	5.0 U	5.0 U	ug/L
Potassium	34100	23600	24200	24700	ug/L
Selenium	50.0 U	50.0 U	50.0 U	50.0 U	ug/L
Silver	10.1 U	10.1 U	10.1 U	10.1 U	ug/L
Sodium	1620000	1650000	864000	866000	ug/L
Strontium	18600	14800	14500	14700	ug/L
Thallium	16.0 U	16.0 U	16.0 U	16.0 U	ug/L
Tin	10.0 U	10.0 U	10.0 U	10.0 U	ug/L
Titanium	19.6 U	33.6 J	19.6 U	19.6 U	ug/L
Tungsten	25.0 U	25.0 U	25.0 U	25.0 U	ug/L
Uranium	19.0 J	28.9 J	106	106	ug/L
Vanadium	80.0 U	80.0 U	80.0 UJ	80.0 UJ	ug/L
Zinc	146 J	97.5 J	50.0 U	50.0 U	ug/L
Mercury	0.13 J+	0.11 J+	0.13 U	0.14 U	ug/L

Notes:

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

LOU 20 Table 6
Groundwater Characterization Data - Routine Monitoring¹

C-1 Pond and Associated Piping
Tronox Facility - Henderson, Nevada

Well ID units	Date	Depth to water feet	Perchlorate mg/l	Qual	Total Chromium mg/l	Qual	TDS mg/l	Qual	Nitrate (as N) mg/l	Qual	Chlorate mg/l	Qual
M-19	2/2/2006	31.67	1	d	0.2	d						
M-19	5/3/2006	33.14	0.96	d	0.19	d	2950					
M-19	8/2/2006	34.11	0.91	d	0.22	d	2650					
M-19	11/1/2006	35.72	1.83	d	0.32	d	3670					
M-19	1/31/2007	34.92	1.9		0.29		3740					
M-19	5/2/2007	34.51	1.91		0.34		3720					
M-19	8/1/2007	34.93	2.49		0.38		4820					
M-2A	5/5/2006	---	430	d	18	d	12100					
M-2A	5/4/2007	---	362		17		10200					
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-34	2/2/2006	---	1800	d	17	d						
M-34	5/3/2006	---	1700	d	18	d	8960					
M-34	5/7/2006	40.86	1950	d			14500					
M-34	8/2/2006	---	1550	d	18	d	7430					
M-34	11/1/2006	---	1910	d	18	d	10900					
M-34	1/31/2007	---	1860		17		12000					
M-34	5/2/2007	37.52	1670		17		9850					
M-34	8/1/2007	---	2130		16		11900					
M-35	2/2/2006	34.73	810	d	9.4	d						
M-35	5/3/2006	35.02	550	d	9.8	d	6090					
M-35	5/7/2006	38.68	945	d			9610					
M-35	5/7/2006	38.68	777	d			9670					
M-35	8/2/2006	35.54	694	d	11	d	6240					
M-35	11/1/2006	35.67	785	d	12	d	9070					
M-35	1/31/2007	35.74	650		12		9530					
M-35	5/2/2007	35.52	408		6.2		6090					
M-35	8/1/2007	35.97	407		9.4		7280					
M-39	2/2/2006	30.42	380	d	4	d						
M-39	5/3/2006	30.36	320	d	3.7	d	4300		2.6	d	1100	d
M-39	8/2/2006	31.20	320	d	4.3	d	4560		3.5	d	1220	d
M-39	11/1/2006	31.53	400	d	4.5	d	6310		10.8	d	1370	d
M-39	1/31/2007	31.78	390		4.5		6730					
M-39	5/2/2007	31.67	403		4.7		6990		10.3		1380	
M-39	8/1/2007	32.10	489		4.6		7280					
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					

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 diluted and was not detected above the sample reporting limit

LOU 20 Table 7
Groundwater Characterization Data - Routine Monitoring¹

C-1 Pond and Associated Piping
 Tronox Facility - Henderson, Nevada

Well ID	Sample Date	Total Depth (ft bgs)	Depth to Water (ft TOC)	pH (Lab)	EC (Lab, $\mu\text{mho}/\text{cm}$)	Cr-total (ppm)	Mn (ppm)	ClO_4 (ppm)
M-19	5/6/99	39.54	33.03	7.14	12000	0.62	0.70	13.0
M-19	5/5/00	39.54	34.50	7.62	11300	0.71	0.34	7.360
M-19	5/4/01	39.54	35.06	7.38	10700	0.88	0.08	0.056
M-19	4/29/02	39.54	34.02	7.3	8360	0.45	0.17	6.8
M-35	5/6/99	42.80	34.27	7.13	9720	4.30	0.85	1000
M-35	5/5/00	42.80	35.22	7.31	8970	3.40	1.20	820
M-35	5/4/01	42.80	25.40	7.28	9970	4.60	2.40	1000
M-35	3/11/02	42.80	--	--	--	--	0.07	--
M-35	4/29/02	42.80	34.27	7.2	9370	6.8	0.14	990
M-35	9/9/02	42.80	--	--	--	--	0.22	--
M-35	12/9/02	42.80	35.40	7.2	9280	6.8	0.061	590
M-35	4/29/03	42.80	--	--	--	--	ND<0.15	--
M-39	5/6/99	42.12	30.59	7.45	8080	2.40	0.44	140
M-39	5/5/00	42.12	31.70	7.54	7680	2.80	1.60	190
M-39	5/2/01	42.12	32.10	7.34	7620	3.30	1.80	280
M-39	3/11/02	42.12	--	--	--	--	0.06	--
M-39	4/29/02	42.12	20.60	7.3	7700	13	ND<0.15	450
M-39	9/9/02	42.12	--	--	--	--	ND<0.15	--
M-39	12/10/02	42.12	--	--	--	--	ND<0.15	--
M-39	5/7/03	42.12	--	--	--	--	ND<0.15	--

Notes:

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

ft bgs = feet below ground surface

EC = Electrical Conductivity

ppm = parts per million

Cr-total: Total Chromium

$\mu\text{mho}/\text{cm}$ = micromhos per centimeter

Mn = Manganese

ft TOC = feet from Top of Casing

ClO_4 : 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.

LOU 20 Table 8
Soil Characterization Data - Organochlorine Pesticides (OCP)

C-1 Pond and Associated Piping
 Tronox Facility - Henderson, Nevada

Sampling Program	CSM ¹	Ph A ²	Ph A ²	
Boring No.	BD-B05	SA17	SA17	
Sample ID	BD-B05	SA17-0.5	SA17-0.5D	
Sample Depth (ft)	1	0.5	0.5	
Sample Date	4/12/1996	11/15/2006	11/15/2006	
Organochlorine Pesticides				Unit
4,4'-DDD		0.0020 U	0.0020 U	mg/kg
4,4'-DDE	0.16	0.014	0.015	mg/kg
4,4'-DDT	0.53	0.0068	0.0083	mg/kg
Aldrin		0.0020 U	0.0020 U	mg/kg
Alpha-BHC	ND	0.0020 U	0.0020 U	mg/kg
Alpha-chlordane		0.0020 U	0.0020 U	mg/kg
Beta-BHC	ND	0.0020 U	0.0026	mg/kg
Delta-BHC		0.0020 U	0.0020 U	mg/kg
Dieldrin		0.0020 U	0.0020 U	mg/kg
Endosulfan I		0.0020 U	0.0020 U	mg/kg
Endosulfan II		0.0020 U	0.0020 U	mg/kg
Endosulfan Sulfate		0.0020 U	0.0020 U	mg/kg
Endrin		0.0020 U	0.0020 U	mg/kg
Endrin Aldehyde		0.0020 U	0.0020 U	mg/kg
Endrin Ketone		0.0020 U	0.0020 U	mg/kg
Gamma-BHC (Lindane)		0.0020 U	0.0020 U	mg/kg
Gamma-Chlordane		0.0020 U	0.0020 U	mg/kg
Heptachlor		0.0020 U	0.0020 U	mg/kg
Heptachlor Epoxide		0.0020 U	0.0020 U	mg/kg
Methoxychlor		0.045 J	0.055 J	mg/kg
Tech-Chlordane		0.012 U	0.012 U	mg/kg
Toxaphene		0.059 U	0.058 U	mg/kg

Notes:

1. ENSR, 2005, Conceptual Site Model, Kerr-McGee Facility, Henderson, Nevada, ENSR, Camarillo, California, 04020-023-130, February 2005 and August 2005.
2. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.

LOU 20 Table 9
Groundwater Characterization Data - Organochlorine Pesticides (OCP)

C-1 Pond and Associated Piping
 Tronox Facility - Henderson, Nevada

Sampling Program	Ph A ¹	Ph A ¹	Ph A ¹	
Well ID	M2A	M31A	M39	
Sample ID	M2A	M31A	M39	
Sample Date	12/04/2006	12/06/2006	12/05/2006	
Organochlorine Pesticides				Unit
4,4'-DDD	0.050 U	0.050 U	0.050 U	ug/L
4,4'-DDE	0.050 U	0.050 U	0.050 U	ug/L
4,4'-DDT	0.050 U	0.050 U	0.050 U	ug/L
Aldrin	0.050 U	0.050 U	0.050 U	ug/L
Alpha-BHC	0.050 U	0.050 U	0.050 U	ug/L
Alpha-chlordane	0.050 U	0.050 U	0.050 U	ug/L
Beta-BHC	0.050 U	0.050 U	0.050 U	ug/L
Delta-BHC	0.050 U	0.050 U	0.050 U	ug/L
Dieldrin	0.050 U	0.050 U	0.050 U	ug/L
Endosulfan I	0.050 U	0.050 U	0.050 U	ug/L
Endosulfan II	0.050 U	0.050 U	0.050 U	ug/L
Endosulfan Sulfate	0.050 U	0.050 U	0.050 U	ug/L
Endrin	0.050 U	0.050 U	0.050 U	ug/L
Endrin Aldehyde	0.050 U	0.050 U	0.050 U	ug/L
Endrin Ketone	0.050 U	0.050 U	0.050 U	ug/L
Gamma-BHC (Lindane)	0.050 U	0.050 U	0.050 U	ug/L
Gamma-Chlordane	0.050 U	0.050 U	0.050 U	ug/L
Heptachlor	0.050 U	0.050 U	0.050 U	ug/L
Heptachlor Epoxide	0.050 U	0.050 U	0.050 U	ug/L
Methoxychlor	0.10 U	0.10 U	0.10 U	ug/L
Tech-Chlordane	0.50 U	0.50 U	0.50 U	ug/L
Toxaphene	2.0 U	2.0 U	2.0 U	ug/L

Notes:

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

LOU 20 Table 10
Soil Characterization Data -
Organophosphorus Pesticides (OPPs)

C-1 Pond and Associated Piping
Tronox Facility - Henderson, Nevada

Sampling Program	Ph A ¹	Ph A ¹	
Boring No.	SA17	SA17	
Sample ID	SA17-0.5	SA17-0.5D	
Sample Depth (ft)	0.5	0.5	
Sample Date	11/15/2006	11/15/2006	
OPPs			Unit
Azinphos-methyl	0.015 UJ	0.015 UJ	mg/kg
Bolstar	0.015 U	0.015 U	mg/kg
Chlorpyrifos	0.023 UJ	0.023 UJ	mg/kg
Coumaphos	0.015 UJ	0.015 UJ	mg/kg
Demeton-O	0.046 UJ	0.092 J	mg/kg
Demeton-S	0.018 UJ	0.017 UJ	mg/kg
Diazinon	0.026 U	0.025 U	mg/kg
Dichlorvos	0.027 U	0.027 U	mg/kg
Dimethoate	0.026 UJ	0.025 UJ	mg/kg
Disulfoton	0.056 U	0.055 U	mg/kg
EPN	0.015 U	0.015 U	mg/kg
Ethoprop	0.018 U	0.017 U	mg/kg
Ethyl Parathion	0.021 U	0.021 U	mg/kg
Famphur	0.015 UJ	0.015 UJ	mg/kg
Fensulfothion	0.015 U	0.015 U	mg/kg
Fenthion	0.039 U	0.038 U	mg/kg
Malathion	0.018 U	0.017 U	mg/kg
Merphos	0.035 U	0.035 U	mg/kg
Methyl parathion	0.023 U	0.023 U	mg/kg
Mevinphos	0.018 U	0.017 U	mg/kg
Naled	0.039 UJ	0.038 UJ	mg/kg
Phorate	0.023 U	0.023 U	mg/kg
Ronnel	0.021 UJ	0.021 UJ	mg/kg
Stirphos	0.018 UJ	0.017 UJ	mg/kg
Sulfotep	0.023 U	0.023 U	mg/kg
Thionazin	0.021 U	0.021 U	mg/kg
Tokuthion	0.023 U	0.023 U	mg/kg
Trichloronate	0.023 UJ	0.023 UJ	mg/kg

Notes:

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

LOU 20 Table 11
Groundwater Characterization Data - Organophosphorus Pesticides (OPPs)

C-1 Pond and Associated Piping
 Tronox Facility - Henderson, Nevada

Sampling Program	Ph A ¹	Ph A ¹	Ph A ¹	
Well ID	M2A	M31A	M39	
Sample ID	M2A	M31A	M39	
Sample Date	12/04/2006	12/06/2006	12/05/2006	
OPPs				Unit
Azinphos-methyl	2.5 U	2.5 U	2.5 U	ug/L
Bolstar	1.0 U	1.0 U	1.0 U	ug/L
Chlorpyrifos	1.0 U	1.0 U	1.0 U	ug/L
Coumaphos	1.0 U	1.0 U	1.0 U	ug/L
Demeton-O	1.0 U	1.0 U	1.0 U	ug/L
Demeton-S	1.0 UJ	1.0 U	1.0 UJ	ug/L
Diazinon	1.0 U	1.0 U	1.0 U	ug/L
Dichlorvos	1.0 U	1.0 U	1.0 U	ug/L
Dimethoate	1.0 U	1.0 U	1.0 U	ug/L
Disulfoton	0.50 U	0.50 U	0.50 U	ug/L
EPN	1.2 U	1.2 U	1.2 U	ug/L
Ethoprop	0.50 U	0.50 U	0.50 U	ug/L
Ethyl Parathion	1.0 U	1.0 U	1.0 U	ug/L
Famphur	1.0 U	1.0 U	1.0 U	ug/L
Fensulfothion	2.5 U	2.5 U	2.5 U	ug/L
Fenthion	2.5 U	2.5 U	2.5 U	ug/L
Malathion	1.2 U	1.2 U	1.2 U	ug/L
Merphos	5.0 U	5.0 U	5.0 U	ug/L
Methyl parathion	4.0 U	4.0 U	4.0 U	ug/L
Mevinphos	6.2 U	6.2 U	6.2 U	ug/L
Naled	1.0 UJ	1.0 U	1.0 UJ	ug/L
Phorate	1.2 U	1.2 U	1.2 UJ	ug/L
Ronnel	10 U	10 U	10 U	ug/L
Stirphos	3.5 U	3.5 U	3.5 U	ug/L
Sulfotep	1.5 U	1.5 U	1.5 U	ug/L
Thionazin	1.0 U	1.0 U	1.0 U	ug/L
Tokuthion	1.6 U	1.6 U	1.6 U	ug/L
Trichloronate	0.50 U	0.50 U	0.50 U	ug/L

Notes:

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

LOU 20 Table 12
Soil Characterization Data - PCBs

C-1 Pond and Associated Piping
 Tronox Facility - Henderson, Nevada

Sampling Program	Ph A ¹					
Boring ID	SA17	SA17	SA17	SA17	SA17	
Sample ID	SA17-0.5	SA17-0.5D	SA17-10	SA17-20	SA17-25	
Sample Depth (ft)	0.5	0.5	10	20	25	
Sample Date	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	
PCBs						Unit
Aroclor-1016	0.039 U	0.038 U	0.038 U	0.035 U	0.041 U	mg/kg
Aroclor-1221	0.039 U	0.038 U	0.038 U	0.035 U	0.041 U	mg/kg
Aroclor-1232	0.039 U	0.038 U	0.038 U	0.035 U	0.041 U	mg/kg
Aroclor-1242	0.039 U	0.038 U	0.038 U	0.035 U	0.041 U	mg/kg
Aroclor-1248	0.039 U	0.038 U	0.038 U	0.035 U	0.041 U	mg/kg
Aroclor-1254	0.039 U	0.038 U	0.038 U	0.035 U	0.041 U	mg/kg
Aroclor-1260	0.039 U	0.038 U	0.038 U	0.035 U	0.041 U	mg/kg

Notes:

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

LOU 20 Table 13
Groundwater Characterization Data - PCBs

C-1 Pond and Associated Piping
Tronox Facility - Henderson, Nevada

Sampling Program	Ph A ¹	Ph A ¹	Ph A ¹	
Well ID	M2A	M31A	M39	
Sample ID	M2A	M31A	M39	
Sample Date	12/04/2006	12/06/2006	12/05/2006	
PCBs				Unit
Aroclor-1016	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1221	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1232	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1242	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1248	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1254	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1260	0.10 U	0.10 U	0.10 U	ug/L

Notes:

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

LOU 20 Table 14
Soil Characterization Data - Perchlorate

C-1 Pond and Associated Piping
Tronox Facility - Henderson, Nevada

Boring ID	Sample ID	Sample Depth (ft)	Sample Date	Perchlorate ug/kg	Sampling Program
SA17	SA17-0.5	0.5	11/15/2006	366	Ph A ¹
	SA17-0.5D	0.5	11/15/2006	302	Ph A ¹
	SA17-10	10	11/15/2006	122	Ph A ¹
	SA17-20	20	11/15/2006	792	Ph A ¹
	SA17-25	25	11/15/2006	13500	Ph A ¹

Notes:

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

LOU 20 Table 15
Groundwater Characterization Data - Perchlorate

C-1 Pond and Associated Piping
Tronox Facility - Henderson, Nevada

Well ID Number	Sample ID	Sample Date	Perchlorate	Units	Sampling Program
M2A	M2A	12/04/2006	465000	ug/L	Ph A ¹
M31A	M31A	12/06/2006	1740000 J+	ug/L	Ph A ¹
M39	M39	12/05/2006	403000 J+	ug/L	Ph A ¹

Notes:

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

LOU 20 Table 16
Soil Characterization Data - Radionuclides
C-1 Pond and Associated Piping
Tronox Facility - Henderson, Nevada

Boring ID Number	Sample ID	Sample Depth (ft)	Sample Date	Ra-226 (gamma) pc/g	Ra-228 (gamma) pc/g	Th-228 (TH MOD) pc/g	Th-230 (TH MOD) pc/g	Th-232 (TH MOD) pc/g	U-233/234 (U MOD) pc/g	U-235/236 (U MOD) pc/g	U-238 (U MOD) pc/g	Sampling Program
SA17	SA17-0.5	0.5	11/15/2006	1.12 J	1.75							Ph A ¹
	SA17-0.5D	0.5	11/15/2006	1.12 J	1.8							Ph A ¹
	SA17-10	10	11/15/2006	1.2 J	1.55							Ph A ¹
	SA17-20	20	11/15/2006	1.8 J	1.99							Ph A ¹
	SA17-25	25	11/15/2006	1.81 J	1.32							Ph A ¹

Notes:

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

LOU 20 Table 17
Groundwater Characterization Data - Radionuclides
C-1 Pond and Associated Piping
Tronox Facility - Henderson, Nevada

Well ID	Sample ID	Date	Ra-226 pc/L	Ra-228 pc/L	Th-228 pc/L	Th-230 pc/L	Th-232 pc/L	U-233/234 pc/L	U-235/236 pc/L	U-238 pc/L	Sampling Program
M2A	M2A-Z	05/09/2007	0.0440 U	0.402 UJ							Ph A ¹
M31	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
M39	M39-Z	05/10/2007	0.191 J	0.277 U	0.0105 U	5.00 J	0.102 J	55.1	1.19	34.9	Ph A ¹
M39	M39-ZD	05/10/2007	0.185 J	0.106 U	0.0253 U	0.428 B	0.122 J	53.1	1.43	33.3	Ph A ¹

Notes:

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

LOU 20 Table 18
Soil Characterization Data - SVOCs

C-1 Pond and Associated Piping
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹				
Boring No.		SA17	SA17	SA17	SA17	SA17
Sample ID		SA17-0.5	SA17-0.5D	SA17-10	SA17-20	SA17-25
Sample Depth (ft)	Analytical	0.5	0.5	10	20	25
Sample Date	Method	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006
SVOC		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,4-Dioxane	non-SIM	77 U	380 U	380 U	350 U	410 U
2-Methylnaphthalene	non-SIM	390 U	380 U	380 U	350 U	410 U
2-Methylnaphthalene	SIM	7.7 U				
Acenaphthene	non-SIM	390 U	380 U	380 U	350 U	410 U
Acenaphthene	SIM	7.7 U				
Acenaphthylene	non-SIM	390 U	380 U	380 U	350 U	410 U
Acenaphthylene	SIM	7.7 U				
Anthracene	non-SIM	390 U	380 U	380 U	350 U	410 U
Anthracene	SIM	7.7 U				
Benz(a)anthracene	non-SIM	390 U	380 U	380 U	350 U	410 U
Benz(a)anthracene	SIM	7.7 U				
Benzo(a)pyrene	non-SIM	390 U	380 U	380 U	350 U	410 U
Benzo(a)pyrene	SIM	7.7 U				
Benzo(b)fluoranthene	non-SIM	390 U	380 U	380 U	350 U	410 U
Benzo(b)fluoranthene	SIM	7.7 U				
Benzo(g,h,i)perylene	non-SIM	390 U	380 U	380 U	350 U	410 U
Benzo(g,h,i)perylene	SIM	7.7 U				
Benzo(k)fluoranthene	non-SIM	390 U	380 U	380 U	350 U	410 U
Benzo(k)fluoranthene	SIM	7.7 U				
bis(2-Ethylhexyl)phthalate	non-SIM	390 U	380 U	380 U	350 U	410 U
Butyl benzyl phthalate	non-SIM	390 U	380 U	380 U	350 U	410 U
Chrysene	non-SIM	390 U	380 U	380 U	350 U	410 U
Chrysene	SIM	7.7 U				
Dibenz(a,h)anthracene	non-SIM	390 U	380 U	380 U	350 U	410 U
Dibenz(a,h)anthracene	SIM	7.7 U				
Diethyl phthalate	non-SIM	390 U	380 U	380 U	350 U	410 U
Dimethyl phthalate	non-SIM	390 U	380 U	380 U	350 U	410 U
Di-N-Butyl phthalate	non-SIM	390 U	380 U	380 U	350 U	410 U
Di-N-Octyl phthalate	non-SIM	390 U	380 U	380 U	350 U	410 U
Fluoranthene	non-SIM	390 U	380 U	380 U	350 U	410 U
Fluoranthene	SIM	7.7 U				
Fluorene	non-SIM	390 U	380 U	380 U	350 U	410 U
Fluorene	SIM	7.7 U				
Hexachlorobenzene	non-SIM	61 J	45 J	57 J	350 U	410 U
Hexachlorobenzene	SIM	60				
Indeno(1,2,3-cd)pyrene	non-SIM	390 UJ	380 UJ	380 UJ	350 UJ	410 UJ
Indeno(1,2,3-cd)pyrene	SIM	7.7 U				
Naphthalene	non-SIM	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Naphthalene	non-SIM	390 U	380 U	380 U	350 U	410 U
Naphthalene	SIM	7.7 U				
Nitrobenzene	non-SIM	390 U	380 U	380 U	350 U	410 U
Octachlorostyrene	non-SIM	390 U	380 U	380 U	350 U	410 U
Phenanthrene	non-SIM	390 U	380 U	380 U	350 U	410 U
Phenanthrene	SIM	7.7 U				
Pyrene	non-SIM	390 U	380 U	380 U	350 U	410 U
Pyrene	SIM	7.7 U				
Pyridine	non-SIM	1900 U	1800 U	1800 U	1700 U	2000 U

Notes:

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

LOU 20 Table 19
Groundwater Characterization Data - SVOCs

C-1 Pond and Associated Piping
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A ¹	Ph A ¹
Well No.		M2A	M31A	M39
Sample ID	Analytic	M2A	M31A	M39
Sample Date	Method	12/04/2006	12/06/2006	12/05/2006
SVOCs		ug/L	ug/L	ug/L
1,4-Dioxane	non-SIM	10 U	10 U	10 U
2-Methylnaphthalene	non-SIM	10 U	10 U	10 U
2-Methylnaphthalene	SIM		0.20 U	
Acenaphthene	non-SIM	10 UJ	10 UJ	10 U
Acenaphthene	SIM		0.20 U	
Acenaphthylene	non-SIM	R	R	10 U
Acenaphthylene	SIM		0.20 U	
Anthracene	non-SIM	10 UJ	10 U	10 U
Anthracene	SIM		0.20 U	
Benz(a)anthracene	non-SIM	10 U	10 U	10 U
Benz(a)anthracene	SIM		0.20 U	
Benzo(a)pyrene	non-SIM	10 U	10 U	10 U
Benzo(a)pyrene	SIM		0.20 U	
Benzo(b)fluoranthene	non-SIM	10 U	10 U	10 U
Benzo(b)fluoranthene	SIM		0.20 U	
Benzo(g,h,i)perylene	non-SIM	10 U	10 U	10 U
Benzo(g,h,i)perylene	SIM		0.20 U	
Benzo(k)fluoranthene	non-SIM	10 U	10 U	10 U
Benzo(k)fluoranthene	SIM		0.20 U	
bis(2-Ethylhexyl)phthalate	non-SIM	10 U	10 U	10 U
Butyl benzyl phthalate	non-SIM	10 U	10 U	10 U
Chrysene	non-SIM	10 U	10 U	10 U
Chrysene	SIM		0.20 U	
Dibenz(a,h)anthracene	non-SIM	10 U	10 U	10 U
Dibenz(a,h)anthracene	SIM		0.20 U	
Diethyl phthalate	non-SIM	10 U	10 U	10 U
Dimethyl phthalate	non-SIM	10 U	10 U	10 U
Di-N-Butyl phthalate	non-SIM	10 U	10 U	10 U
Di-N-Octyl phthalate	non-SIM	10 U	10 U	10 U
Fluoranthene	non-SIM	10 U	10 U	10 U
Fluoranthene	SIM		0.23 U	
Fluorene	non-SIM	10 U	10 U	10 U
Fluorene	SIM		0.20 U	
Hexachlorobenzene	non-SIM	10 U	10 U	10 U
Hexachlorobenzene	SIM		0.20 U	
Indeno(1,2,3-cd)pyrene	non-SIM	10 U	10 UJ	10 U
Indeno(1,2,3-cd)pyrene	SIM		0.20 U	
Naphthalene	non-SIM	5.0 U	5.0 U	5.0 U
Naphthalene	non-SIM	10 U	10 UJ	10 U
Naphthalene	SIM		0.20 U	
Nitrobenzene	non-SIM	10 U	10 U	10 U
Octachlorostyrene	non-SIM	10 U	10 U	10 U
Phenanthrene	non-SIM	10 U	10 U	10 U
Phenanthrene	SIM		0.20 U	
Pyrene	non-SIM	10 U	10 U	10 U
Pyrene	SIM		0.20 U	
Pyridine	non-SIM	20 UJ	20 U	20 U

Notes:

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

LOU 20 Table 20
Soil Characteristic Data - TPH and Fuel Alcohols

C-1 Pond and Associated Piping
 Tronox Facility - Henderson, Nevada

Boring No.	Sample ID.	Sample Depth (ft)	Sample Date	Fuel Alcohols			Total Petroleum Hydrocarbons			Sampling Program
				Ethanol mg/kg	Ethylene glycol mg/kg	Methanol mg/kg	TPH - ORO mg/kg	TPH - DRO mg/kg	TPH - GRO mg/kg	
SA17	SA17-0.5	0.5	11/15/2006				29 U	29 U	0.12 U	Ph A ¹
	SA17-0.5D	0.5	11/15/2006				29 U	29 U	0.12 U	Ph A ¹
	SA17-10	10	11/15/2006				28 U	28 U	0.11 U	Ph A ¹
	SA17-20	20	11/15/2006				27 U	27 U	0.11 U	Ph A ¹
	SA17-25	25	11/15/2006				31 U	31 U	0.12 U	Ph A ¹

Notes:

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

LOU 20 Table 21
Soil Characterization Data - VOCs
C-1 Pond and Associated Piping
Tronox Facility - Henderson, Nevada

Sampling Program	CSM ¹	CSM ¹	Ph A ²	Ph A ²	Ph A ²	Ph A ²
Boring No.	BD-B05	BD-B05	SA17	SA17	SA17	SA17
Sample ID	BD-B05	BD-B05	SA17-0.5	SA17-0.5D	SA17-10	SA17-20
Sample Depth (ft)	1	2.5	0.5	0.5	10	20
Sample Date	4/12/1996	4/12/1996	11/15/2006	11/15/2006	11/15/2006	11/15/2006
VOCs	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Naphthalene						
1,1,1,2-Tetrachloroethane						
1,1,1-Trichloroethane						
1,1,2,2-Tetrachloroethane						
1,1,2-Trichloroethane						
1,1-Dichloroethane						
1,1-Dichloroethene						
1,2-Dichloropropene						
1,2,3-Trichlorobenzene						
1,2,3-Trichloropropane						
1,2,4-Trichlorobenzene						
1,2,4-Trimethylbenzene						
1,2-Dibromo-3-chloropropane	ND	ND				
1,2-Dichlorobenzene						
1,2-Dichloroethane						
1,2-Dichloropropane						
1,3,5-Trimethylbenzene	ND	ND				
1,3-Dichlorobenzene	ND	ND				
1,3-Dichloroethane	ND	ND				
1,4-Dichlorobenzene	ND	ND				
2,2-Dichloropropane						
2-Butanone						
2-Chlorotoluene						
2-Hexanone						
2-Methoxy-2-methylbutane						
4-Chlorotoluene						
4-Isopropyltoluene						
4-Methyl-2-pentanone						
Acetone						
Benzene						
Bromobenzene						
Bromoform						
Bromomethane						
Carbon tetrachloride						
Chlorobenzene	NA	ND	ND	ND	ND	ND

LOU 20 Table 21
Soil Characterization Data - VOCs

C-1 Pond and Associated Piping
 Tronox Facility - Henderson, Nevada

Sampling Program	CSM ¹	CSM	Ph A ²	Ph A	Ph A	Ph A
Boring No.	BD-B05	BD-B05	SA17	SA17	SA17	SA17
Sample ID	BD-B05	BD-B05	SA17-0.5	SA17-0.5D	SA17-10	SA17-20
Sample Depth (ft)	1	2.5	0.5	0.5	10	20
Sample Date	4/12/1996	4/12/1996	4/12/1996	11/15/2006	11/15/2006	11/15/2006
VOCs	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Chloroethane			5.9 UJ	5.8 UJ	5.7 UJ	5.3 UJ
Chloroform			5.9 UJ	5.8 UJ	5.7 U	5.3 U
Chloromethane			5.9 UJ	5.8 UJ	5.7 UJ	5.3 UJ
cis-1,2-Dichloroethene			5.9 UJ	5.8 U	5.7 U	5.3 U
cis-1,3-Dichloropropene			5.9 UJ	5.8 U	5.7 U	5.3 U
Dibromochloromethane			5.9 UJ	5.8 U	5.7 U	5.3 U
Dibromomethane			5.9 UJ	5.8 U	5.7 U	5.3 U
Dichlorodifluoromethane			5.9 UJ	5.8 U	5.7 U	5.3 U
Ethyl t-butyl ether			5.9 UJ	5.8 U	5.7 U	5.3 U
Ethylbenzene			5.9 UJ	5.8 U	5.7 U	5.3 U
Ethylene dibromide			5.9 UJ	5.8 U	5.7 U	5.3 U
Hexachlorobutadiene			5.9 UJ	5.8 U	5.7 U	5.3 U
Isopropyl ether			5.9 UJ	5.8 U	5.7 U	5.3 U
Isopropylbenzene			5.9 UJ	5.8 U	5.7 U	5.3 U
Methyl t-butyl ether			5.9 UJ	5.8 U	5.7 U	5.3 U
Methylene chloride			5.9 UJ	5.8 U	5.7 U	5.3 U
N-Butylbenzene			5.9 UJ	5.8 U	5.7 U	5.3 U
N-Propylbenzene			5.9 UJ	5.8 U	5.7 U	5.3 U
sec-Butylbenzene			5.9 UJ	5.8 U	5.7 U	5.3 U
Styrene			5.9 UJ	5.8 U	5.7 U	5.3 U
t-Butyl alcohol			12 UJ	12 UJ	11 UJ	11 UJ
tert-Butylbenzene			5.9 U	5.8 U	5.7 U	5.3 U
Tetrachloroethene			5.9 U	5.8 U	5.7 U	5.3 U
Toluene			5.9 U	5.8 U	5.7 U	5.3 U
trans-1,2-Dichloroethylene			5.9 U	5.8 U	5.7 U	5.3 U
trans-1,3-Dichloropropene			5.9 U	5.8 U	5.7 U	5.3 U
Trichloroethene			5.9 UJ	5.8 U	5.7 U	5.3 U
Trichlorofluoromethane			5.9 UJ	5.8 UJ	5.7 UJ	5.3 UJ
Vinylchloride			5.9 U	5.8 U	5.7 U	5.3 U
Xylene (Total)			12 U	12 U	11 U	11 U

Notes:

1. ENSR, 2005, Conceptual Site Model, Kerr-McGee Facility, Henderson, Nevada, ENSR, Camarillo, California, 04020-023-130, February 2005 and August 2005.
2. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.

LOU 20 Table 22
Groundwater Characteristic Data - VOCs

C-1 Pond and Associated Piping
 Tronox Facility - Henderson, Nevada

Sampling Program	Ph A ¹	Ph A ¹	Ph A ¹
Well ID	M2A	M31A	M39
Sample ID	M2A	M31A	M39
Sample Date	12/04/2006	12/06/2006	12/05/2006
VOCs	ug/L	ug/L	ug/L
Naphthalene	5.0 U	5.0 U	5.0 U
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	5.0 U
1,1,1-Trichloroethane	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	0.83 J	5.0 U	5.0 U
1,1-Dichloropropene	5.0 U	5.0 U	5.0 U
1,2,3-Trichlorobenzene	5.0 U	5.0 U	5.0 U
1,2,3-Trichloropropane	5.0 U	5.0 U	5.0 U
1,2,4-Trichlorobenzene	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane	5.0 UJ	5.0 U	5.0 UJ
1,2-Dichlorobenzene	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	5.0 U	5.0 U	5.0 U
1,3,5-Trimethylbenzene	5.0 U	5.0 U	5.0 U
1,3-Dichlorobenzene	5.0 U	5.0 U	5.0 U
1,3-Dichloropropane	5.0 U	5.0 U	5.0 U
1,4-Dichlorobenzene	5.0 U	5.0 U	5.0 U
2,2-Dichloropropane	5.0 U	5.0 U	5.0 U
2-Butanone	10 U	10 U	10 U
2-Chlorotoluene	5.0 U	5.0 U	5.0 U
2-Hexanone	10 U	10 UJ	10 U
2-Methoxy-2-methyl-butane	5.0 U	5.0 UJ	5.0 U
4-Chlorotoluene	5.0 U	5.0 U	5.0 U
4-Isopropyltoluene	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone	10 UJ	10 UJ	10 UJ
Acetone	10 UJ	10 U	10 U
Benzene	5.0 U	5.0 U	5.0 U
Bromobenzene	5.0 U	5.0 U	5.0 U
Bromochloromethane	5.0 U	5.0 U	5.0 U
Bromodichloromethane	5.0 U	5.0 U	5.0 U
Bromoform	5.0 U	4.8 J	5.0 U
Bromomethane	10 UJ	10 U	10 UJ
Carbon tetrachloride	1.2 J	5.0 U	5.0 U
Chlorobenzene	5.0 U	5.0 U	5.0 U
Chloroethane	5.0 U	5.0 U	5.0 U
Chloroform	1300 J+	930 J+	820 J+

LOU 20 Table 22
Groundwater Characteristic Data - VOCs

C-1 Pond and Associated Piping
 Tronox Facility - Henderson, Nevada

Sampling Program	Ph A ¹	Ph A ¹	Ph A ¹
Well ID	M2A	M31A	M39
Sample ID	M2A	M31A	M39
Sample Date	12/04/2006	12/06/2006	12/05/2006
VOCs	ug/L	ug/L	ug/L
Chloromethane	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	5.0 U	5.0 U	5.0 U
Dibromochloromethane	5.0 U	5.0 U	5.0 U
Dibromomethane	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane	5.0 U	5.0 UJ	5.0 U
Ethyl t-butyl ether	5.0 U	5.0 UJ	5.0 U
Ethylbenzene	5.0 U	5.0 U	5.0 U
Ethylene dibromide	5.0 U	5.0 U	5.0 U
Hexachlorobutadiene	5.0 U	5.0 U	5.0 U
isopropyl ether	5.0 U	5.0 UJ	5.0 U
Isopropylbenzene	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether	0.67 J	5.0 U	5.0 U
Methylene chloride	5.0 U	5.0 UJ	5.0 U
N-Butylbenzene	5.0 U	5.0 U	5.0 U
N-Propylbenzene	5.0 U	5.0 U	5.0 U
sec-Butylbenzene	5.0 U	5.0 U	5.0 U
Styrene	R	5.0 U	5.0 U
t-Butyl alcohol	10 UJ	10 UJ	10 UJ
tert-Butylbenzene	5.0 U	5.0 U	5.0 U
Tetrachloroethene	5.0 U	5.0 U	5.0 U
Toluene	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethylene	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	5.0 U	5.0 U	5.0 U
Trichloroethene	25	5.0 U	5.0 U
Trichlorofluoromethane	5.0 U	5.0 U	5.0 U
Vinylchloride	5.0 U	5.0 U	5.0 U
Xylene (Total)	10 U	10 UJ	10 U

Notes:

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

LOU 20 Table 23
Soil Characterization Data - Long Asbestos Fibers in Respirable Soil Fraction

C-1 Pond and Associated Piping
Tronox Facility - Henderson, Nevada

			Long Amphibole Protocol Structures	Long Chrysotile Protocol Structures	Sampling Program
No.	Sample ID	Sample Date	s/gPM10	s/gPM10	
SA17	SA17	12/07/2006	2995000 U	2995000 U	Ph A'

Notes:

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

Table 23
Notes for Phase A Data Tables
Tronox Facility - Henderson, Nevada

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.