Summary of Available Data for LOU 4 in Evaluation Area 09

Tronox Facility – Henderson, Nevada

Name of Facility:

Former Hardesty Chemical Company Site

Goal of Closure:

- Closure for future commercial and industrial use.

Site Investigation Area:

- Size:
  - Southern Area: Northern portion approximately 120 feet by 170 feet (0.5-acre); southern portion of approximately 60 feet by 340 feet (0.5-acre).
  - Northern Area: Approximately 65 feet by 50 feet (0.1-acre).
- Location:
  - Southern Area: Northern portion of Unit 2 and area adjacent to and north of building Unit 2.
  - Northern Area: North of Unit 2, north of Avenue G and railroad tracks.

Description:

- Site leased by Hardesty from 1945 to 1947 to produce chemicals [Ref. 1 and 5].
- Manufactured products included: synthetic hydrochloric acid (muriatic acid), monochlorobenzene, paradichloro-benzene, orthodichlorobenzene, synthetic detergents, pesticides (DDT), and soda arsenite solution [Ref. 1 and 5].
- No documentation of production quantities, waste streams or disposal locations [Ref. 1].
- Waste was reportedly transported via tanker truck to a remote location and burned or discharged to the "sewer" [Ref. 1 and 5].
- Drawings of the Hardesty facility indicate there were two USTs located north of Unit 2, one for kerosene and one for benzene. In addition, one storage tank for chlorinated alcohol and one storage tank for sludge were also located north of Unit 2 [Ref. 1, 5, 7, and 8].
- These two USTs were removed from the area beneath the current AP Tank (LOU 28) [Ref. 6].
- A tank farm operated by Hardesty was also located north of Unit 2 - north of the rail road tracks. Tank farm contained two storage tanks for fuel oil, one storage tank for blended kerosene, and two electrolysis cell tanks [Ref. 1, 5, 7, and 8].
- It is not known where, or if, there were any connection/pipeline routes between the two Hardesty operations [Ref. 4 and 6].
- None of the tanks are present onsite since at least 1996 [Ref. 5].
- Site leased and operated by Amecco Chemical from 1947 through June 1949 [Ref. 1].

Summary of Available Data for LOU 4 in Evaluation Area 09

Tronox Facility – Henderson, Nevada

Known or Potential Chemical Classes:

- Metals
- Wet chemistry analytes
- VOCs
- SVOCs
- TPH
- Organochlorine pesticides

Process Waste Stream	Known or Potential Constituents Associated with LOU 4
Acid production wastes	• Acids (muriatic/hydrochloric) • Wet chemistry analytes
Benzene compounds production wastes	• VOCs, (benzene derivatives) • SVOCs
Chlorinated paraffin production wastes	• VOCs (halogenated, unspecified) • SVOCs
Soda arsenite production wastes	• Metals (arsenic)
Detergents production wastes	• Wet chemistry analytes
Kerosene wastes	• TPH-DRO and TPH-ORO
Pesticides	• DDT

Known or Potential Release Mechanisms:

- No known releases documented for this LOU.
- Potential leaks from USTs and ASTs to surrounding soils.
- Potential releases to soil and infiltration to groundwater.
- Potential discharges of wastes to the acid drain system and eventual discharge to effluent trade ponds (LOU 1).

Results of Historical Sampling:

- No historical sampling is known to have been conducted.
- One well (M-97) was installed downgradient of the former tank farm to address this LOU in 1997 [Ref. 1]. See attached tables: "LOU 4 Tables 6 and 23" for a summary of historical analytical results.

Did Historical Samples Address Potential Release?

- No

Summary of Available Data for LOU 4 in Evaluation Area 09

Tronox Facility – Henderson, Nevada

Summary of Phase A SAI:

Soil

- The closest boring (SA04) is approximately 75 feet northeast (downgradient) and was designed to evaluate this LOU. [Ref. 2].

Groundwater

- The closest well sampled (M-97) is approximately 350 feet to the north (downgradient) and was designed to evaluate this LOU [Ref. 2].

- Analytical results for the soil and groundwater from the Phase A sampling event are summarized in the attached tables: "LOU 4 Tables 1 through 5 and 7 through 22" (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 SA84 and SA148 located within Southern Area of LOU 4 to evaluate local soil conditions due to potential releases.
- Boring SA138 located in the Northern Area of LOU 4 to evaluate local soil conditions due to potential releases.
- Boring SA121 located approximately 60 feet west (cross-gradient) to LOU 4 to evaluate local soil conditions due to potential releases.
- Boring SA29 and SA191 located south of the LOU serves as a southward step-out boring to evaluate local soil conditions due to potential releases.
- 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 area:

  SAQ4-R1, SAQ5-R1, SAR5-R1, SAR4-R1.

Proposed Phase B Constituents List for Soils:

LOU Specific Analytes

- Metals (Phase A list)
- Wet chemistry analytes
- VOCs
- SVOCs
- TPH-DRO and TPH-ORO
- Organochlorine pesticides

Additional Analytes for Area Coverage:
- Hexavalent chromium
- Perchlorate
- Radionuclides
- Asbestos

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-92 approximately 250 feet northwest (cross to downgradient) to evaluate local groundwater conditions and as part of site-wide evaluation of constituent trends in groundwater.
- Well M-97 approximately 320 feet and 150 feet north (downgradient) of the two areas respectively 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
- VOCs
- SVOCs
- Organochlorine pesticides

Additional Analytes for Area Coverage:
- Hexavalent chromium
- Perchlorate
- Radionuclides

Proposed Phase B Soil Gas Investigation/Rationale:

- None proposed specifically for this LOU.

References:

1. ENSR, 1997, Phase II Environmental Conditions Assessment, Kerr-McGee Chemical LLC, Henderson, Nevada.
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. Environmental Answers, 2008, Keith Bailey, Verbal Communication, February 5, 2008.
5. Kerr-McGee, 1996, Response to Letter of Understanding, Henderson, Nevada Facility, May (revised October 1996).
6. Tronox, Susan Crowley, Verbal Communication, February 5, 2008.
7. Hardesty Chemical Tank Farm General Layout: Map HAR-4, 1945.

8. Hardesty Chemical Preparation Plant Area: Map HAR-6, 1945.

LOU Map

J:\TronoxGIS\...\Phase_B_WorkPlan\LOUs\lou-4.mxd

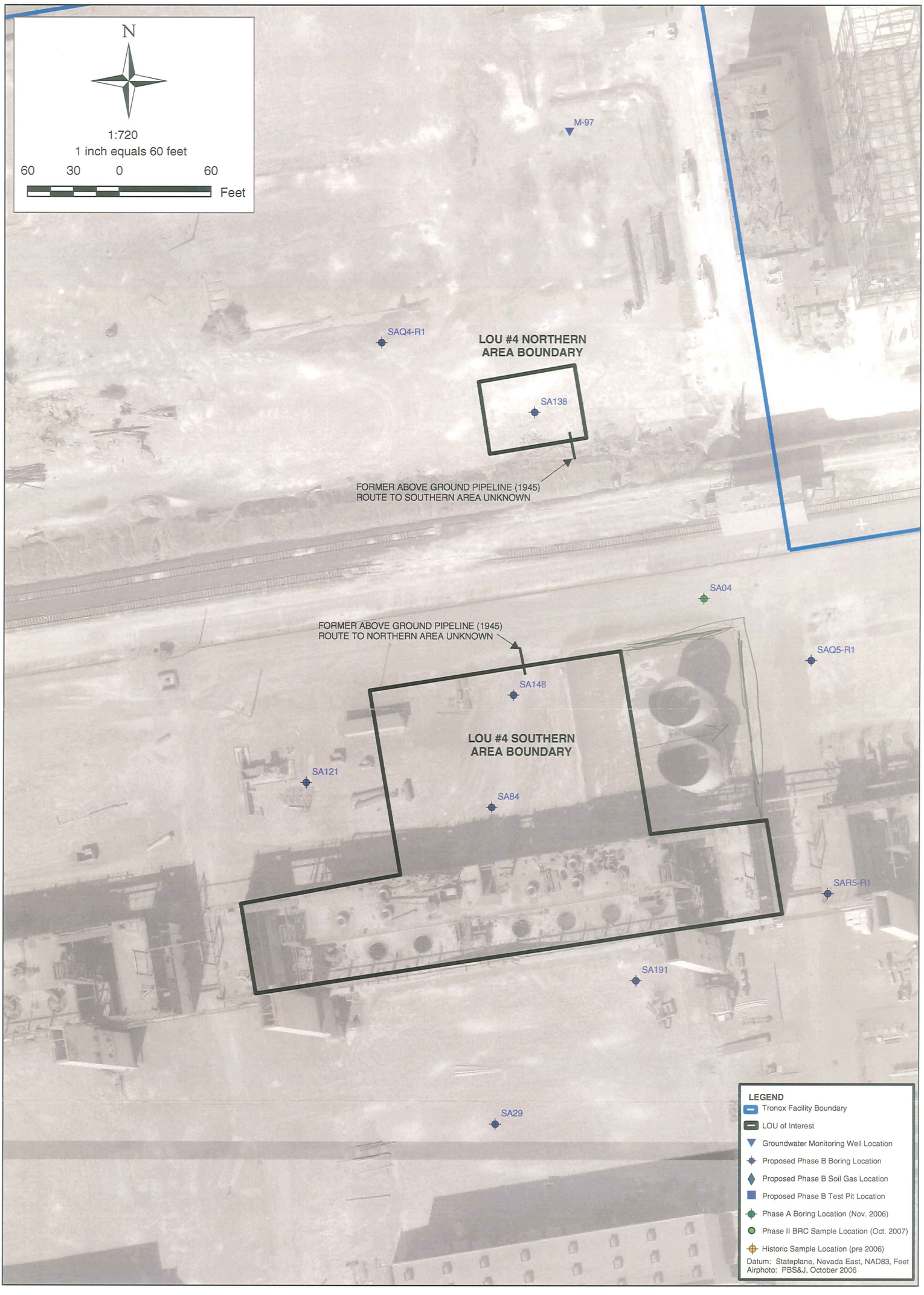

FIGURE NUMBER: X

SHEET NUMBER: X

SAMPLE LOCATIONS FOR LOU #4
FORMER HARDESTY CHEMICAL CO. SITE

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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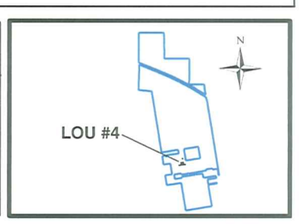

Soil and Groundwater Characterization Data

Summary of Available Data for LOU 4 in Evaluation Area 09

Tronox Facility – Henderson, Nevada

LOU specific analytes identified include:

- Wet chemistry analytes
- Metals (Phase A list)
- Organochlorine pesticides
- SVOCs
- TPH-DRO and ORO
- VOCs

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

LOU 4 Table 1 - Soil Characterization Data - Wet Chemistry
LOU 4 Table 2 - Groundwater Characterization Data - Wet Chemistry
LOU 4 Table 3 - Soil Characterization Data - Dioxins and Dibenzofurans
LOU 4 Table 4 - Soil Characterization Data - Metals
LOU 4 Table 5 - Groundwater Characterization Data - Metals
LOU 4 Table 6 - Groundwater Characterization Data - Routine Monitoring
LOU 4 Table 7 - Soil Characterization Data - Organochlorine Pesticides (OCPs)
LOU 4 Table 8 - Groundwater Characterization Data - Organochlorine Pesticides (OCPs)
LOU 4 Table 9 - Soil Characterization Data - Organophosphorus Pesticides (OPPs)
LOU 4 Table 10 - Groundwater Characterization Data - Organophosphorus Pesticides (OPPs)
LOU 4 Table 11 - Soil Characterization Data - PCBs
LOU 4 Table 12 - Groundwater Characterization Data - PCBs
LOU 4 Table 13 - Soil Characterization Data - Perchlorate
LOU 4 Table 14 - Groundwater Characterization Data - Perchlorate
LOU 4 Table 15 - Soil Characterization Data - Radionuclides
LOU 4 Table 16 - Groundwater Characterization Data - Radionuclides
LOU 4 Table 17 - Soil Characterization Data - SVOCs
LOU 4 Table 18 - Groundwater Characterization Data - SVOCs
LOU 4 Table 19 - Soil Characterization Data - TPH and Fuel Alcohols
LOU 4 Table 20 - Groundwater Characteristic Data - VOCs
LOU 4 Table 21 - Soil Characterization Data - VOCs
LOU 4 Table 22 - Soil Characterization Data - Long Asbestos Fibers in Respirable Soil Fraction
LOU 4 Table 23 - Hardesty Chemical Monitoring well MW-97 - Summary of Analytical Data

LOU 4 Table 1
Soil Characterization Data - Wet Chemistry

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program	Ph A[1]	Ph A	Ph A	Ph A	Ph A	
Boring No.	SA4	SA4	SA4	SA4	SA4	
Sample ID	SA4-0.5	SA4-10	SA4-20	SA4-30	SA4-40	
Sample Depth (ft)	0.5	10	20	30	40	
Sample Date	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	
Wet Chemistry Parameter						**Units**
Percent moisture	**9.0**	**6.0**	**8.5**	**12.3**	**5.9**	percent
Alkalinity (as CaCO3)	**476**	**437**	**595**	**278**	**77.5**	mg/kg
Bicarbonate	**1480**	**1630**	**1740**	**723**	**149**	mg/kg
Total Alkalinity	**1950**	**2070**	**2330**	**1000**	**227**	mg/kg
Ammonia (as N)	5.5 UJ	5.3 UJ	5.5 UJ	5.7 UJ	5.3 UJ	mg/kg
Cyanide	R	R	R	R	R	mg/kg
MBAS	2.2 U	2.1 U	2.2 U	**2.7 J**	**2.8 J**	mg/kg
pH (solid)	**10**	**7.8**	**9.8**	**9.4**	**8.4**	none
Bromide	2.7 U	2.7 U	**92.0**	**1.4 J**	**2.0 J**	mg/kg
Chlorate	5.5 UJ	5.3 U	5.5 U	**91.3 J-**	**119 J-**	mg/kg
Chloride	**2.8**	**4.4**	**172**	**46.5**	**71.2**	mg/kg
Nitrate (as N)	**0.53 J+**	**0.35 J+**	**1.0 J+**	**1.4 J+**	**1.5 J+**	mg/kg
Nitrite	**0.047 J**	**0.34**	0.22 U	**0.059 J**	**0.14 J**	mg/kg
ortho-Phosphate	**2.7 J**	**3.1 J**	5.5 U	5.7 U	5.3 U	mg/kg
Sulfate	**19.5**	**24.9**	**87.4**	**733**	**177**	mg/kg
Total Organic Carbon	**9550**	**7100**	**7500**	**1600**	**7800**	mg/kg

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

LOU 4 Table 2
Groundwater Characterization Data - Wet Chemistry

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program	Ph A[1]	
Well ID	M97	
Sample ID	M97	
Sample Date	11/29/2006	
Wet Chemistry Parameters		**Units**
Total Dissolved Solids	**3750**	mg/L
Total Suspended Solids	**16.0 J**	mg/L
Alkalinity (as CaCO3)	5.0 U	mg/L
Bicarbonate	**90.0**	mg/L
Total Alkalinity	**90.0**	mg/L
Ammonia (as N)	50.0 U	ug/L
MBAS	**0.24**	mg/L
Cyanide	R	ug/L
pH (liquid)	**7.3 J**	none
Specific Conductance	**2410**	umhos/cm
Bromide	25.0 U	mg/L
Chlorate	**277**	mg/L
Chloride	**1190**	mg/L
Nitrate (as N)	**8.4**	mg/L
Nitrite	2.0 U	mg/L
ortho-Phosphate	5.0 U	mg/L
Sulfate	**1150**	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 4 Table 3
Soil Characterization Data - Dioxins and Dibenzofurans

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

	Sampling Program		Ph A[1]
	Boring No.		SA4
	Sample ID		SA4-0.5
	Sample Depth (ft)		0.5
	Sample Date		11/14/2006
chemical_name:	**Method**	**Unit**	
Dioxin 8290 SCREEN Total TEQ-ENSR Calculated (a) ng/kg		ng/kg	**42.5**
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	**42.5**
Dioxin SW 846 8290 Total TEQ-ENSR Calculated (b) ng/kg		ng/kg	
1,2,3,4,6,7,8-Heptachlorodibenzofuran	8290 Screen	ng/kg	**18.965**
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	**2.141**
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	**8.238**
1,2,3,4,7,8,9-Heptachlorodibenzofuran	SW 846 8290	ng/kg	
1,2,3,4,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	**23.006**
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	**0.656**
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	**9.753**
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	**1.595**
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	**4.476**
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	**1.534**
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	
1,2,3,7,8-Pentachlorodibenzofuran	8290 Screen	ng/kg	**37.501**
1,2,3,7,8-Pentachlorodibenzofuran	SW 846 8290	ng/kg	
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	**3.343**
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	
2,3,4,6,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	**4.497**
2,3,4,6,7,8-Hexachlorodibenzofuran	SW 846 8290	ng/kg	
2,3,4,7,8-Pentachlorodibenzofuran	8290 Screen	ng/kg	**28.443**
2,3,4,7,8-Pentachlorodibenzofuran	SW 846 8290	ng/kg	
2,3,7,8-Tetrachlorodibenzofuran	8290 Screen	ng/kg	**201.573**
2,3,7,8-Tetrachlorodibenzofuran	SW 846 8290	ng/kg	
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	**4.487**
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	
Octachlorodibenzofuran	8290 Screen	ng/kg	**38.680**
Octachlorodibenzofuran	SW 846 8290	ng/kg	
Octachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	**2.582**
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 4 Table 4
Soil Characterization Data - Metals

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program	Ph A[1]	Ph A	Ph A	Ph A	Ph A	
Boring No.	SA4	SA4	SA4	SA4	SA4	
Sample ID	SA4-0.5	SA4-10	SA4-20	SA4-30	SA4-40	
Sample Depth (ft)	0.5	10	20	30	40	
Sample Date	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	
Metals						**Units**
Aluminum	**7490**	**6040**	**6640**	**4260**	**5630**	mg/kg
Antimony	**0.17 J-**	**0.14 J-**	**0.17 J-**	**0.12 J-**	**0.15 J-**	mg/kg
Arsenic	**13.4**	**11.3**	**5.3**	**6.1**	**8.6**	mg/kg
Barium	**155 J+**	**151 J+**	**176 J+**	**79.7 J+**	**152 J+**	mg/kg
Beryllium	**0.51**	**0.36**	**0.49**	**0.31**	**0.39**	mg/kg
Boron	4.5 UJ	4.7 UJ	5.0 UJ	4.8 UJ	6.9 UJ	mg/kg
Cadmium	**0.087**	**0.088**	**0.080**	**0.053 J**	**0.082**	mg/kg
Calcium	**21100**	**25300**	**38800**	**9480**	**26600**	mg/kg
Chromium (Total)	**11.2**	**7.2**	**10.7**	**7.3**	**19.1**	mg/kg
Chromium-hexavalent	**0.12 J**	0.21 U	**1.7**	0.23 U	**0.54**	mg/kg
Cobalt	**6.3 J-**	**3.8 J-**	**5.9 J-**	**3.7 J-**	**4.1 J-**	mg/kg
Copper	**12.9 J-**	**8.4 J-**	**11.8 J-**	**9.1 J-**	**10.4 J-**	mg/kg
Iron	**13300**	**8350**	**11500**	**6470**	**11200**	mg/kg
Lead	**14.5**	**6.3**	**7.0**	**6.3**	**6.3**	mg/kg
Magnesium	**7570 J-**	**5530 J-**	**10500 J-**	**5110 J-**	**6050 J-**	mg/kg
Manganese	**254 J**	**176 J**	**295 J**	**157 J**	**186 J**	mg/kg
Molybdenum	**0.45 J**	**0.42 J**	**0.51 J**	**0.46 J**	**1.7**	mg/kg
Nickel	**13.2 J-**	**9.3 J-**	**12.2 J-**	**8.5 J-**	**11.1 J-**	mg/kg
Platinum	**0.033 J**	**0.012 J**	**0.017 J**	0.011 U	**0.014 J**	mg/kg
Potassium	**2080 J-**	**2480 J-**	**1300 J-**	**1100 J-**	**1590 J-**	mg/kg
Selenium	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	mg/kg
Silver	**0.13 J**	**0.11 J**	**0.13 J**	**0.061 J**	**0.11 J**	mg/kg
Sodium	**1520 J-**	**823 J-**	**556 J-**	**360 J-**	**609 J-**	mg/kg
Strontium	**131 J+**	**187 J+**	**260 J+**	**175 J+**	**304 J+**	mg/kg
Thallium	0.077 U	0.074 U	0.076 U	0.08 U	0.074 U	mg/kg
Tin	**0.52**	**0.42**	**0.47**	**0.39**	**0.63**	mg/kg
Titanium	**586**	**429**	**507**	**330**	**517**	mg/kg
Tungsten	0.34 UJ	0.23 UJ	0.37 UJ	0.32 UJ	0.46 UJ	mg/kg
Uranium	**0.89**	**0.85**	**2.0**	**0.94**	**1.6**	mg/kg
Vanadium	**35.4 J-**	**22.2 J-**	**34.2 J-**	**22.8 J-**	**30.6 J-**	mg/kg
Zinc	**29.4 J-**	**20.1 J-**	**23.9 J-**	**17.3 J-**	**22.7 J-**	mg/kg
Mercury	**0.014 J-**	**0.014 J-**	0.0073 UJ	0.0076 UJ	0.0071 UJ	mg/kg

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

LOU 4 Table 5
Groundwater Characterization Data - Metals

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program	Ph A[1]	
Well ID:	M97	
Sample ID	M97-Z	
Sample Date	05/11/2007	
Metals		**Unit**
Aluminum	197 U	ug/L
Antimony	12.5 U	ug/L
Arsenic	**181**	ug/L
Barium	**33.8 J**	ug/L
Beryllium	2.2 U	ug/L
Boron	**4710**	ug/L
Cadmium	1.4 U	ug/L
Calcium	**277000**	ug/L
Chromium (Total)	70.0 U	ug/L
Chromium-hexavalent	**60.5 J**	ug/L
Cobalt	7.8 U	ug/L
Copper	6.3 U	ug/L
Iron	235 UJ	ug/L
Lead	12.3 U	ug/L
Magnesium	**182000**	ug/L
Manganese	8.5 U	ug/L
Molybdenum	**17.2 J**	ug/L
Nickel	12.9 U	ug/L
Platinum	2.5 U	ug/L
Potassium	**15900**	ug/L
Selenium	25.0 U	ug/L
Silver	5.1 U	ug/L
Sodium	**598000**	ug/L
Strontium	**7070**	ug/L
Thallium	8.0 U	ug/L
Tin	5.0 U	ug/L
Titanium	9.8 U	ug/L
Tungsten	12.5 U	ug/L
Uranium	**36.1**	ug/L
Vanadium	40.0 UJ	ug/L
Zinc	25.0 U	ug/L
Mercury	0.093 U	ug/L

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

LOU 4 Table 6
Groundwater Characterization Data - Routine Monitoring[1]

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Well ID	Date	Depth to water	Perchlorate	Qual	Total Chromium	Qual	TDS	Qual	Nitrate (as N)	Qual	Chlorate	Qual
units		feet	mg/l		mg/l		mg/l		mg/l		mg/l	
M-97	2/3/2006	39.83	60	d	0.055	d						
M-97	5/4/2006	39.89	61	d	0.06	d	3640					
M-97	8/2/2006	40.10	62	d	0.067	d	3140					
M-97	11/1/2006	40.07	80	d	0.072	d	3600					
M-97	1/31/2007	40.37	77.7		0.066		3660					
M-97	5/3/2007	40.43	76.8	J	0.063		3770	J				
M-97	8/1/2007	40.97	89.2		0.61		3730					

Explanation
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 4 Table 7
Soil Characterization Data - Organochlorine Pesticides (OCP)

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program	Ph A[1]	
Boring No.	SA4	
Sample ID	SA4-0.5	
Sample Depth (ft)	0.5	
Sample Date	11/14/2006	
Organochlorine Pesticides		**Unit**
4,4'-DDD	0.0019 U	mg/kg
4,4'-DDE	0.0019 U	mg/kg
4,4'-DDT	0.0019 U	mg/kg
Aldrin	0.0019 U	mg/kg
Alpha-BHC	0.0019 U	mg/kg
Alpha-chlordane	0.0019 U	mg/kg
Beta-BHC	**0.0036**	mg/kg
Delta-BHC	0.0019 U	mg/kg
Dieldrin	0.0019 U	mg/kg
Endosulfan I	0.0019 U	mg/kg
Endosulfan II	0.0019 U	mg/kg
Endosulfan Sulfate	0.0019 U	mg/kg
Endrin	0.0019 U	mg/kg
Endrin Aldehyde	0.0019 U	mg/kg
Endrin Ketone	0.0019 U	mg/kg
Gamma-BHC (Lindane)	0.0019 U	mg/kg
Gamma-Chlordane	0.0019 U	mg/kg
Heptachlor	0.0019 U	mg/kg
Heptachlor Epoxide	0.0019 U	mg/kg
Methoxychlor	**0.0048**	mg/kg
Tech-Chlordane	0.011 U	mg/kg
Toxaphene	0.055 U	mg/kg

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

LOU 4 Table 8
Groundwater Characterization Data - Organochlorine Pesticides (OCP)

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program	Ph A[1]	
Well ID	M97	
Sample ID	M97	
Sample Date	11/29/2006	
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 4 Table 9
Soil Characterization Data - Organophosphorus Pesticides (OPPs)

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program	Ph A[1]	
Boring No.	SA4	
Sample ID	SA4-0.5	
Sample Depth (ft)	0.5	
Sample Date	11/14/2006	
OPPs		**Unit**
Azinphos-methyl	0.014 UJ	mg/kg
Bolstar	0.014 U	mg/kg
Chlorpyrifos	0.022 U	mg/kg
Coumaphos	0.014 UJ	mg/kg
Demeton-O	0.043 U	mg/kg
Demeton-S	0.016 U	mg/kg
Diazinon	0.024 U	mg/kg
Dichlorvos	0.025 U	mg/kg
Dimethoate	0.024 U	mg/kg
Disulfoton	0.053 U	mg/kg
EPN	0.014 U	mg/kg
Ethoprop	0.016 U	mg/kg
Ethyl Parathion	0.020 U	mg/kg
Famphur	0.014 UJ	mg/kg
Fensulfothion	0.014 U	mg/kg
Fenthion	0.036 U	mg/kg
Malathion	0.016 U	mg/kg
Merphos	0.033 U	mg/kg
Methyl parathion	0.022 U	mg/kg
Mevinphos	0.016 U	mg/kg
Naled	0.036 UJ	mg/kg
Phorate	0.022 U	mg/kg
Ronnel	0.020 U	mg/kg
Stirphos	0.016 UJ	mg/kg
Sulfotep	0.022 U	mg/kg
Thionazin	0.020 U	mg/kg
Tokuthion	0.022 U	mg/kg
Trichloronate	0.022 U	mg/kg

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

LOU 4 Table 10
Groundwater Characterization Data - Organophosphorus Pesticides (OPPs)

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program	Ph A[1]	
Well ID	M97	
Sample ID	M97	
Sample Date	11/29/2006	
OPPs		**Unit**
Azinphos-methyl	2.5 UJ	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 UJ	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 4 Table 11
Soil Characterization Data - PCBs

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program	Ph A[1]	Ph A	Ph A	Ph A	Ph A	
Boring ID	SA4	SA4	SA4	SA4	SA4	
Sample ID	SA4-0.5	SA4-10	SA4-20	SA4-30	SA4-40	
Sample Depth (ft)	0.5	10	20	30	40	
Sample Date	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006	
PCBs						**Unit**
Aroclor-1016	0.036 U	0.035 U	0.036 U	0.038 U	0.035 U	mg/kg
Aroclor-1221	0.036 U	0.035 U	0.036 U	0.038 U	0.035 U	mg/kg
Aroclor-1232	0.036 U	0.035 U	0.036 U	0.038 U	0.035 U	mg/kg
Aroclor-1242	0.036 U	0.035 U	0.036 U	0.038 U	0.035 U	mg/kg
Aroclor-1248	0.036 U	0.035 U	0.036 U	0.038 U	0.035 U	mg/kg
Aroclor-1254	0.036 U	0.035 U	0.036 U	0.038 U	0.035 U	mg/kg
Aroclor-1260	0.036 U	0.035 U	0.036 U	0.038 U	0.035 U	mg/kg

Notes:

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

LOU 4 Table 12
Groundwater Characterization Data - PCBs

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program	Ph A[1]	
Well ID	M97	
Sample ID	M97	
Sample Date	11/29/2006	
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:
1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.

LOU 4 Table 13
Soil Characterization Data - Perchlorate

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Boring ID	Sample ID	Sample Depth (ft)	Sample Date	Perchlorate ug/kg	Sampling Program
SA4	SA4-0.5	0.5	11/14/2006	**3140**	Ph A[1]
	SA4-10	10	11/14/2006	**496**	Ph A
	SA4-20	20	11/14/2006	**3800**	Ph A
	SA4-30	30	11/14/2006	**42800**	Ph A
	SA4-40	40	11/14/2006	**73900**	Ph A

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

LOU 4 Table 14
Groundwater Characterization Data - Perchlorate

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Well ID Number	Sample ID	Sample Date	Perchlorate	Units	Sampling Program
M97	M97	11/29/2006	**74500**	ug/L	Ph A1

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

LOU 4 Table 15
Soil Characterization Data - Radionuclides

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

				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									
SA4	SA4-0.5	0.5	11/14/2006	**1.1 J**	**1.83**							Ph A[1]
	SA4-10	10	11/14/2006	**1.13 J**	**1.81**							Ph A
	SA4-20	20	11/14/2006	**1.19 J**	**1.53**	**0.511 JB**	**0.875 J**	**0.706 J**	**1.35**	**0.0181 J**	**0.833**	Ph A
	SA4-30	30	11/14/2006	**1.45 J**	**1.91**							Ph A
	SA4-40	40	11/14/2006	**1.6 J**	**1.9**							Ph A

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

LOU 4 Table 16
Groundwater Characterization Data - Radionuclides

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

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
M97	M97-Z		05/11/2007	**0.380 J**	**0.788 B**							Ph A[1]

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

LOU 4 Table 17
Soil Characterization Data - SVOC

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program		Ph A1	Ph A	Ph A	Ph A	Ph A
Boring No.		SA4	SA4	SA4	SA4	SA4
Sample ID		SA4-0.5	SA4-10	SA4-20	SA4-30	SA4-40
Sample Depth (ft)	Analytical	0.5	10	20	30	40
Sample Date	Method	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006
SVOC		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,4-Dioxane	non-SIM	360 U	350 U	360 U	380 U	350 U
2-Methylnaphthalene	non-SIM	360 U	350 U	360 U	380 U	350 U
2-Methylnaphthalene	SIM	7.3 U				
Acenaphthene	non-SIM	360 U	350 U	360 U	380 U	350 U
Acenaphthene	SIM	7.3 U				
Acenaphthylene	non-SIM	360 U	350 U.	360 U	380 U	350 U
Acenaphthylene	SIM	7.3 U				
Anthracene	non-SIM	360 U	350 U	360 U	380 U	350 U
Anthracene	SIM	7.3 U				
Benz(a)anthracene	non-SIM	360 U	350 U	360 U	380 U	350 U
Benz(a)anthracene	SIM	7.3 U				
Benzo(a)pyrene	non-SIM	360 U	350 U	360 U	380 U	350 U
Benzo(a)pyrene	SIM	7.3 U				
Benzo(b)fluoranthene	non-SIM	360 U	350 U	360 U	380 U	350 U
Benzo(b)fluoranthene	SIM	7.3 U				
Benzo(g,h,i)perylene	non-SIM	360 U	350 U	360 U	380 U	350 U
Benzo(g,h,i)perylene	SIM	7.3 U				
Benzo(k)fluoranthene	non-SIM	360 U	350 U	360 U	380 U	350 U
Benzo(k)fluoranthene	SIM	7.3 U				
bis(2-Ethylhexyl)phthalate	non-SIM	360 U	350 U	360 U	380 U	350 U
Butyl benzyl phthalate	non-SIM	360 U	350 U	360 U	380 U	350 U
Chrysene	non-SIM	360 U	350 U	360 U	380 U	350 U
Chrysene	SIM	7.3 U				
Dibenz(a,h)anthracene	non-SIM	360 U	350 U	360 U	380 U	350 U
Dibenz(a,h)anthracene	SIM	7.3 U.				
Diethyl phthalate	non-SIM	360 U	350 U	360 U	380 U	350 U
Dimethyl phthalate	non-SIM	360 U	350 U	360 U	380 U	350 U
Di-N-Butyl phthalate	non-SIM	360 U	350 U	360 U	380 U	350 U
Di-N-Octyl phthalate	non-SIM	360 U	350 U	360 U	380 U	350 U
Fluoranthene	non-SIM	360 U	350 U	360 U	380 U	350 U
Fluoranthene	SIM	7.3 U				
Fluorene	non-SIM	360 U	350 U	360 U	380 U	350 U
Fluorene	SIM	7.3 U				
Hexachlorobenzene	non-SIM	360 U	350 U	360 U	380 U	350 U
Hexachlorobenzene	SIM	**8.8**				
Indeno(1,2,3-cd)pyrene	non-SIM	360 U	350 U	360 U	380 U	350 U
Indeno(1,2,3-cd)pyrene	SIM	7.3 U				
Naphthalene	non-SIM	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Naphthalene	non-SIM	360 U	350 U	360 U	380 U	350 U
Naphthalene	SIM	7.3 U				
Nitrobenzene	non-SIM	360 U	350 U	360 U	380 U	350 U
Octachlorostyrene	non-SIM	360 U	350 U	360 U	380 U	350 U
Phenanthrene	non-SIM	360 U	350 U	360 U	380 U	350 U
Phenanthrene	SIM	7.3 U				
Pyrene	non-SIM	360 U	350 U	360 U	380 U	350 U
Pyrene	SIM	7.3 U				
Pyridine	non-SIM	1800 U	1700 U	1700 U	1800 U	1700 U

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

LOU 4 Table 18
Groundwater Characterization Data - SVOC

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program		Ph A1
Well No.		M97
Sample ID	Analytic	M97
Sample Date	Method	11/29/2006
SVOCs		ug/L
1,4-Dioxane	non-SIM	10 U
2-Methylnaphthalene	non-SIM	10 U
2-Methylnaphthalene	SIM	
Acenaphthene	non-SIM	10 U
Acenaphthene	SIM	
Acenaphthylene	non-SIM	10 U
Acenaphthylene	SIM	
Anthracene	non-SIM	10 U
Anthracene	SIM	
Benz(a)anthracene	non-SIM	10 U
Benz(a)anthracene	SIM	
Benzo(a)pyrene	non-SIM	10 U
Benzo(a)pyrene	SIM	
Benzo(b)fluoranthene	non-SIM	10 U
Benzo(b)fluoranthene	SIM	
Benzo(g,h,i)perylene	non-SIM	10 U
Benzo(g,h,i)perylene	SIM	
Benzo(k)fluoranthene	non-SIM	10 U
Benzo(k)fluoranthene	SIM	
bis(2-Ethylhexyl)phthalate	non-SIM	**1.5 J**
Butyl benzyl phthalate	non-SIM	10 U
Chrysene	non-SIM	10 U
Chrysene	SIM	
Dibenz(a,h)anthracene	non-SIM	10 U
Dibenz(a,h)anthracene	SIM	
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	
Fluorene	non-SIM	10 U
Fluorene	SIM	
Hexachlorobenzene	non-SIM	10 U
Hexachlorobenzene	SIM	
Indeno(1,2,3-cd)pyrene	non-SIM	10 U
Indeno(1,2,3-cd)pyrene	SIM	
Naphthalene	non-SIM	5.0 U
Naphthalene	non-SIM	10 U
Naphthalene	SIM	
Nitrobenzene	non-SIM	10 U
Octachlorostyrene	non-SIM	10 U
Phenanthrene	non-SIM	10 U
Phenanthrene	SIM	
Pyrene	non-SIM	10 U
Pyrene	SIM	
Pyridine	non-SIM	20 U

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

LOU 4 Table 19
Soil Characterization Data - TPH and Fuel Alcohols

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Boring No.	Sample ID.	Sample Depth (ft)	Sample Date	Fuel Alcohols			Total Petroleum Hydrocarbons			Sampling Program
				Ethanol	Ethylene glycol	Methanol	TPH - ORO	TPH - DRO	TPH - GRO	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
SA4	SA4-0.5	0.5	11/14/2006				**43**	27 U	0.11 U	Ph A[1]
	SA4-10	10.0	11/14/2006				27 U	27 U	0.11 U	Ph A
	SA4-20	20.0	11/14/2006				27 U	27 U	0.11 U	Ph A
	SA4-30	30.0	11/14/2006				29 U	29 U	0.11 U	Ph A
	SA4-40	40.0	11/14/2006				27 U	27 U	0.11 UJ	Ph A

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

LOU 4 Table 20
Groundwater Characteristic Data - VOCs

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program	Ph A[1]
Well ID	M97
Sample ID	M97
Sample Date	11/29/2006
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	**5.4**
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 U
4-Chlorotoluene	5.0 U
4-Isopropyltoluene	5.0 U
4-Methyl-2-pentanone	10 U
Acetone	10 U
Benzene	5.0 U
Bromobenzene	5.0 U
Bromochloromethane	5.0 U
Bromodichloromethane	5.0 U
Bromoform	5.0 U
Bromomethane	10 UJ
Carbon tetrachloride	5.0 U
Chlorobenzene	5.0 U
Chloroethane	5.0 UJ
Chloroform	**12**
Chloromethane	5.0 UJ
cis-1,2-Dichloroethene	5.0 U
cis-1,3-Dichloropropene	5.0 U
Dibromochloromethane	5.0 U
Dibromomethane	5.0 U

LOU 4 Table 20 (Continued)
Groundwater Characteristic Data - VOCs

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program	Ph A[1]
Well ID	M97
Sample ID	M97
Sample Date	11/29/2006
VOCs	ug/L
Dichlorodifluoromethane	5.0 UJ
Ethyl t-butyl ether	5.0 U
Ethylbenzene	5.0 U
Ethylene dibromide	5.0 U
Hexachlorobutadiene	5.0 U
isopropyl ether	5.0 U
Isopropylbenzene	5.0 U
Methyl tert butyl ether	5.0 U
Methylene chloride	5.0 U
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 UJ
Vinylchloride	5.0 UJ
Xylene (Total)	10 U

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

LOU 4 Table 21
Soil Characterization Data - VOCs

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program	Ph A[1]	Ph A	Ph A	Ph A	Ph A
Boring No.	SA4	SA4	SA4	SA4	SA4
Sample ID	SA4-0.5	SA4-10	SA4-20	SA4-30	SA4-40
Sample Depth (ft)	0.5	10	20	30	40
Sample Date	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006
VOCs	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Naphthalene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,1,1,2-Tetrachloroethane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,1,1-Trichloroethane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,1,2,2-Tetrachloroethane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,1,2-Trichloroethane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,1-Dichloroethane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,1-Dichloroethene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,1-Dichloropropene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,2,3-Trichlorobenzene	5.5 U	5.3 U	5.5 U	5.7 U	**2.2 J**
1,2,3-Trichloropropane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,2,4-Trichlorobenzene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,2,4-Trimethylbenzene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,2-Dibromo-3-chloropropane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,2-Dichlorobenzene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,2-Dichloroethane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,2-Dichloropropane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,3,5-Trimethylbenzene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,3-Dichlorobenzene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,3-Dichloropropane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
1,4-Dichlorobenzene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
2,2-Dichloropropane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
2-Butanone	11 U	11 U	11 U	11 U	11 U
2-Chlorotoluene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
2-Hexanone	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ
2-Methoxy-2-methyl-butane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
4-Chlorotoluene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
4-Isopropyltoluene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
4-Methyl-2-pentanone	11 U	11 U	11 U	11 U	11 U
Acetone	11 U	11 U	11 U	11 U	11 U
Benzene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Bromobenzene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Bromochloromethane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Bromodichloromethane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Bromoform	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Bromomethane	11 U	11 U	11 U	11 U	11 U
Carbon tetrachloride	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Chlorobenzene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Chloroethane	5.5 UJ	5.3 UJ	5.5 UJ	5.7 UJ	5.3 UJ
Chloroform	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Chloromethane	5.5 UJ	5.3 UJ	5.5 UJ	5.7 UJ	5.3 UJ
cis-1,2-Dichloroethene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
cis-1,3-Dichloropropene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Dibromochloromethane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U

LOU 4 Table 21 (Continued)
Soil Characterization Data - VOCs

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

Sampling Program	Ph A[1]	Ph A	Ph A	Ph A	Ph A
Boring No.	SA4	SA4	SA4	SA4	SA4
Sample ID	SA4-0.5	SA4-10	SA4-20	SA4-30	SA4-40
Sample Depth (ft)	0.5	10	20	30	40
Sample Date	11/14/2006	11/14/2006	11/14/2006	11/14/2006	11/14/2006
VOCs	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dibromomethane	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Dichlorodifluoromethane	5.5 UJ	5.3 UJ	5.5 UJ	5.7 UJ	5.3 UJ
Ethyl t-butyl ether	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Ethylbenzene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Ethylene dibromide	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Hexachlorobutadiene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
isopropyl ether	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Isopropylbenzene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Methyl tert butyl ether	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Methylene chloride	5.5 UJ	5.3 UJ	5.5 UJ	5.7 UJ	5.3 UJ
N-Butylbenzene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
N-Propylbenzene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
sec-Butylbenzene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Styrene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
t-Butyl alcohol	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ
tert-Butylbenzene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Tetrachloroethene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Toluene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
trans-1,2-Dichloroethylene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
trans-1,3-Dichloropropene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Trichloroethene	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Trichlorofluoromethane	5.5 UJ	5.3 UJ	5.5 UJ	5.7 UJ	5.3 UJ
Vinylchloride	5.5 U	5.3 U	5.5 U	5.7 U	5.3 U
Xylene (Total)	11 U	11 U	11 U	11 U	11 U

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

LOU 4 Table 22
Soil Characterization Data - Long Asbestos Fibers in Respirable Soil Fraction

Tronox Facility - Henderson, Nevada
Hardesty Chemical Co. Site

			Long Amphibole Protocol Structures	Long Chrysotile Protocol Structures	Sampling Program
No.	**Sample ID**	**Sample Date**	s/gPM10	s/gPM10	
SA4	SA4	12/07/2006	2946000 U	**38300000**	Ph A[1]

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

LOU 4 Table 23
Hardesty Chemical Monitoring well M-97 - Summary of Analytical Data

Hardesty Chemical Co. Site
Tronox LLC Facility - Henderson, Nevada

Analysis of water from M-97

Water Sample	Date	Conductivity (µS/cm) EPA 120.1	TPH-d (mg/l) EPA 8015M	Volatile organic compounds (µg/l) EPA 8240			SVOCs (µg/l) EPA 8270		Arsenic (µg/l) EPA 6010 ICP	pH EPA 150.1
				Acetone	Chloro-form	All Others	Di-n-butyl-phthalate	All Others		
M-97	4/9/1997	3690	<1.0	3.1 JB	18	ND	7.8	ND	0.124	7.72
PQL		1	1	10	5	various	10	various	0.01	0.1

Periodic analysis of water from M-97

WELL #	Date	Total Depth (ft bgs)	Depth to Water (ft TOC)	pH (Lab)	EC (Lab, µmho/cm)	Cr-total (ppm)	ClO_4 (ppm)	LAB	Well Location from LOU (Approximate)
M-97	5/6/99	47.86	40.63	7.6	3290	0.09	11	KMC	320 ft N
M-97	5/5/00	47.86	41.31	8.09	3550	0.10	22	KMC	
M-97	5/4/01	47.86	40.53	--	3980	--	31	KMC	
M-97	5/1/02	47.86	39.00	7.5	4590	0.059	34	MW	
M-97	5/7/04	47.86	40.22	7.6	3640	0.076	18	MW	

Notes:

TPH-d = Total Petroleum Hydrocarbons, diesel range
SVOCs = Semi-volatile organic compounds
ft bgs = feet below ground surface
ft TOC = feet from Top of Casing
EC = Electrical Conductivity
Cr-total = Total Chromium
ClO_4 = Perchlorate
LOU = Letter of Understanding
ND = Not determined
PQL = Practical Quantitation Limit
µS/cm = micro Siemens per centimeter
mg/l = milligrams per liter
µg/l = micrograms per liter
ppm = parts per million
µmho/cm = micro Mhos per centimeter
< = not detected above the designated reporting limit.

J = estimated value, consituent detected at a level less than the RDL or PQL and greater than the or equal to the MDL
B = Reported value is less than the contract required detection limit but greater than or equal to the istrument detection limit.
-- = Either no data was obtained or was not analyzed for the respective constituent.
Labs: KMC Kerr-McGee Chemical LLC Company
MW Montgomery Watson
Analytic Data for M-97 on 4/9/1997 from ENSR, 1997 Phase II ECA.
Well Data From: Kerr-McGee Chemical LLC Company, Mother-hen Database.

LOU 4 Table 23 (Continued)
Hardesty Chemical Monitoring well M-97 - Summary of Analytical Data

Hardesty Chemical Co. Site
Tronox LLC Facility - Henderson, Nevada

**** Analytes and detection limits for VOC's that were non-detect (µg/L):**

Analyte	PQL	Analyte	PQL	Analyte	PQL
Chloromethane	5	Chloroform	5	1,1,2-Trichloroethane	5
Vinyl Chloride	5	1,1,1-Trichloroethane	5	Tetrachloroethene (PCE)	5
Bromomethane	5	Carbon Tetrachloride	5	Dibromochloromethane	5
Chloroethane	5	1,2-Dichloroethane	5	Chlorobenzene	5
Trichlorofluorometha	5	Benzene	5	Ethyl benzene	5
Acetone	10	Trichloroethene (TCE)	5	m, p-Xylenes	5
1,1-Dichloroethene	5	1,2-Dichloropropane	5	o-Xylene	5
Carbon Disulfide	5	Bromodichloromethane	5	Styrene	5
Methylene Chloride	5	2-Chloroethylvinyl ether	20	Bromoform	5
trans-1,2-Dichloroetl	5	4-Methyl-2-Pentanone	10	1,1,2,2-Tetrachloroethane	5
Vinyl Acetate	10	cis-1,3-Dichloropropene	5	1,3-Dichlorobenzene	5
1,1-Dichloroethane	5	Toluene	5	1,4-Dichlorobenzene	5
2-Butanone	10	trans-1,3-Dichloropropene	5	1,2-Dichlorobenzene	5
cis-1,2-Dichloroethe	5	2-Hexanone	10		

**** Analytes and detection limits for SVOC's that were non-detect (µg/L):**

Analyte	PQL	Analyte	PQL	Analyte	PQL
Phenol	10	Hexachlorobutadiene	10	N-Nitrosodimethylamine	10
Bis (2-chloroethyl) el	10	4-Chloro-3-methylphenol	20	4-Bromophenyl phenyl ether	10
2-Chlorophenol	10	2-Methylnaphthalene	10	Hexachlorobenzene	10
1,3-Dichlorobenzene	10	Hexachlorocyclopentadiene	10	Pentachlorophenol	50
1,4-Dichlorobenzene	10	2,4,6-Trichlorophenol	10	Phenanthrene	10
Benzyl alcohol	20	2,4,5-Trichlorophenol	10	Anthracene	10
1,2-Dichlorobenzene	10	2-Chloronaphthalene	10	Carbazole	10
2-Methylphenol	10	2-Nitroaniline	50	Di-n-butyl phthalate	10
Bis (2-chloroisoprop	10	Dimethyl phthalate	10	Fluoranthene	10
4-Methylphenol	10	Acenaphthylene	10	Pyrene	10
N-Nitroso-di-N-propy	10	2,6-Dinitrotoluene	10	Butylbenzylphthalate	10
Hexachloroethane	10	3-Nitroaniline	50	3,3-Dichlorobenzidine	20
Nitrobenzene	10	Acenaphthene	10	Benz (a) anthracene	10
Isophorone	10	2,4-Dinitrophenol	50	Chrysene	10
2-Nitrophenol	10	4-Nitrophenol	50	Bis (2-ethylhexyl) phthalate	10
2,4-Dimethylphenol	10	Dibenzofuran	10	Di-n-octyl phthalate	10
Benzoic Acid	50	2,4-Dinitrotoluene	10	Benzo (b) fluoranthene	10
Bis (2-chloroethoxy)	10	Diethyl phthalate	10	Benzo (k) fluoranthene	10
2,4-Dichlorophenol	10	4-Chlorophenyl phenyl ether	10	Benzo (a) pyrene	10
1,2,4-Trichlorobenze	10	Fluorene	10	Indeno (1,2,3-c,d) pyrene	10
Naphthalene	10	4-Nitroaniline	20	Dibenzo (a,h) anthracene	10
4-Chloroaniline	20	4,6-Dinitro-2-methylphenol	50	Benzo (g,h,I) perylene	10

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.
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.