

Summary of Available Data for LOU 1 – Former Trade Effluent Settling Ponds Tronox Facility – Henderson, Nevada

- Name of Facility:** (Former) Trade Effluent (TE) Settling Ponds
- Goal of Closure:**
- Closure for future commercial/industrial uses, except for active facilities (ponds, etc.) which will be closed later.
- Site Investigation Area:**
- Size: Approximately 49-acres [Ref. 4]
 - Location: North-central portion of the Site south of Warm Springs Road.
 - Current Status/Features: The TE settling ponds are no longer active. The area is currently occupied by Pond GW-11, Pond WC-West (LOU 22), Pond WC-East (LOU 23), the Hazardous Waste Landfill (LOU 10), and the Groundwater Injection Trenches that are part of LOU 32. Additionally, portions of LOU 1 were located to the west of the Tronox site, inside of the BMI Complex [Ref 5].
- Description:**
- The TE settling ponds were operated by the U.S. Government and likely began receiving liquid wastes when operation started in 1942 and may have been used until the magnesium plant closed on November 15, 1944 [Ref.4].
 - Actual dates of pond operation are not known [Ref.4].
 - In the 1940s, four surface impoundments (ponds T3-T6) (20-acres each) were located inside the BMI Complex. The two easternmost TE settling ponds (ponds T5 and T6) and part of a third pond (pond T4) were located within what is now Tronox property [Ref. 5].
 - The TE settling ponds were unlined and constructed of earthen dikes along northern, eastern, and western margins. An earthen dike along the southern margin was unnecessary due to natural north sloping topography [Ref. 4].
 - A French drain system was incorporated north of the ponds [Ref. 4]. The outlet of the French drain is not known. Currently the French drain system is inactive. This feature has been evaluated as part of the Phase II Parcel C sampling program by BRC.
- Pre-1944:
- Waste was conveyed via the acid drain system (LOU 60) and absorber drain system from all 10 Unit buildings northward to the acid neutralization plant (see LOU 60 Data Package for location of acid neutralization plant). A distribution flume then conveyed the waste from the acid effluent neutralization plant to the TE settling ponds [Ref. 4].
 - Initially, acid waste was neutralized with waste caustic liquor prior to discharge to the TE settling ponds. The neutralization process was abandoned when the caustic

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- line disintegrated and un-neutralized liquid acid wastes were discharged directly to the TE settling ponds [Ref. 4].
- Waste from the sodium chlorate plant was discharged to the acid drain system, which eventually led to the TE settling ponds [Ref. 4].
 - A 1943 aerial photograph of the BMI Complex showed linear 'streaks' extending northward of the TE settling ponds suggesting possible seepage from the TE settling ponds [Ref. 5].
 - Use of these TE settling ponds for liquid waste management after November 15, 1944 is not known. [Ref. 4].

Post-1944:

- The TE settling ponds received solid materials/wastes at various times between 1945 and 1979 based on aerial photos taken in 1950, 1960, 1969, and 1979 [Ref. 4 and 5].
- From 1945 to approximately 1947, Hardesty Chemical Company (LOU 4) operated in Unit 2. Waste effluent from Hardesty may have been discharged into the acid drain system (LOU 60) which may have been discharged to LOU 1 [Ref. 4 and 5].
- Sodium chlorate and sodium perchlorate were produced by electrolytic processes on the first floor of Units 4 and 5, in LOU 43, from 1945 to 1989. Production waste was discharged to the acid drain system which may have been discharged to LOU 1 [Ref. 4 and 7].
- After about 1945, waste was routed from the TE settling ponds to the Beta Ditch [Ref. 4] and by 1950s, the aboveground flume that conveyed wastes to the TE settling pond area was no longer visible in the aerial photographs [Ref. 5].
- Portions of the southern extent of the former TE settling ponds were converted to ammonium perchlorate (AP) storage areas, circa 1953 [Ref. 4].
- The majority of the TE settling pond area remained inactive until the 1980s [Ref. 4].
- From February 1980 to January 1983: the hazardous waste landfill (LOU 10) was constructed and operated in the western portion of the area formerly occupied by TE settling pond T4 [Ref. 4].
- Sodium chlorate filter cakes originating from the sodium chlorate process were disposed of at the Onsite Hazardous Waste Landfill [Ref. 4].

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- The sodium chlorate filter cakes consisted of diatomaceous earth with carbon, calcium sulfate, sodium carbonate, calcium carbonate, sodium chloride, sodium chlorate, and 0.5% to 1% hexavalent chromium [Ref. 4].
- From September to October 1985: The landfill was closed and a multi-layered cover system was constructed over the landfill [Ref. 4].
- In 1985/1986, two groundwater recharge trenches (associated with LOU 32) were installed and subsequently replaced in 1994 [Ref. 8]. The trenches are located along the southern boundary of TE settling pond T6 and are in use today. Water from Lake Mead is injected into these trenches to replenish the groundwater that is extracted for on-site treatment to remove hexavalent chromium and perchlorate.
- October 1988: surface impoundments WC-West (LOU 22) and WC-East (LOU 23) were constructed in part of the area formerly occupied by TE Settling Pond T6 [Ref. 4, 5].
- November 1998: Pond GW-11 was constructed in the area formerly occupied by TE settling pond T5. GW-11 is a double-lined pond that is currently in use to temporarily store groundwater treated for hexavalent chromium for processing by the on-site perchlorate groundwater treatment plant [Ref. 6].

Process Waste Streams Associated with LOU 1	Known or Potential Constituents Associated with LOU 1
U.S. Government Discharges	<ul style="list-style-type: none"> • Specific chemical composition is unknown but included acidic and caustic process liquors [Ref. 4].
Waste streams from chlorination process in the Unit buildings	<ul style="list-style-type: none"> • Hydrochloric acid liquid wastes • Liquid wastes containing metals
Chlorine and hydrochloric acid from absorber towers.	<ul style="list-style-type: none"> • Waste caustic liquor presumed to be sodium hydroxide [Ref. 4].
Unknown solids / wastes from 1945 to 1979	<ul style="list-style-type: none"> • Potential solids from waste neutralization processes [Ref. 4].
<p>Process Waste Streams Associated with Hardesty Chemical Company (LOU 4)</p> <p>Process waste streams from LOU 4 may have been discharged into the TE settling ponds via the acid drain system.</p>	

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Process Waste Streams Associated with LOU 1	Known or Potential Constituents Associated with LOU 1
Acid production wastes	<ul style="list-style-type: none"> • Acids (muriatic/hydrochloric) • Wet chemistry analytes
Benzene compounds production wastes	<ul style="list-style-type: none"> • VOCs (benzene) • SVOCs
Chlorinated paraffin production wastes	<ul style="list-style-type: none"> • VOCs (halogenated, unspecified) • SVOCs • TPH-DRO
Detergents production wastes	<ul style="list-style-type: none"> • Wet chemistry analytes • Surfactants
Kerosene wastes	<ul style="list-style-type: none"> • TPH-DRO and TPH-ORO
Pesticides	<ul style="list-style-type: none"> • DDT
<p align="center">Process Waste Streams Associated with Sodium Chlorate Plant in Unit 3</p> <p>Process waste streams from the sodium chlorate plant may have been discharged into the TE settling ponds via the acid drain system.</p>	
Sodium chlorate production wastes.	<ul style="list-style-type: none"> • Hexavalent chromium • Chlorate • Ammonia • Wet chemistry analytes
<p align="center">Process Waste Streams Associated with Unit 4 and Unit 5 (LOUs 43 and 61)</p> <p>Process waste streams from the sodium perchlorate production in Units 4 and 5 may have been discharged into the TE settling ponds via the acid drain system.</p>	
Sodium chlorate and sodium perchlorate production wastes.	<ul style="list-style-type: none"> • Hexavalent chromium • Perchlorate • Chlorate • Ammonia • Wet chemistry analytes

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Overlapping or Adjacent LOUs: The following LOUs overlap or are adjacent to LOU 1:

Overlapping LOUs

- LOU 10 (Hazardous Waste Landfill) – Overlaps the western portion of LOU 1.
- LOUs 22 (Pond WC-West) & 23 (Pond WC-East) – Overlaps the eastern portion of LOU 1.
- LOU 32 (Chromium Groundwater Remediation Unit) - Overlaps the southeastern portion of LOU 1.

Adjacent LOUs

- LOU 55 (Area Affected by July 1990 Fire) & LOU 58 (AP Plant Area, New Building D-1 Wash Down) – Located south (upgradient) of and adjacent to LOU 1.
- Areas downgradient (north) of the TE ponds have already been sampled as part of the Phase II effort.

Known or potential chemical classes associated with adjacent or overlapping LOUs are consistent with those listed for LOU 1; therefore, no additional chemical classes have been added to the Phase B Analytical Plan for LOU 1. For detailed information on these LOUs, please refer to the specific LOU data package.

Other LOUs Potentially Affecting Soils in LOU 1:

- LOU 4 – Hardesty Chemical Company: Process waste streams from Hardesty Chemical Company may have been discharged to the Acid Drain System that discharged to the TE settling ponds (LOU 1), and may have potentially affected LOU 1. As a result, the analytical plan for samples collected from LOU 1 will include analyses for VOCs, SVOCs, TPH, and OCPs.
- LOU 60 – Acid Drain System: Effluent from the Acid Drain System discharged to the TE settling ponds via an aboveground flume from the acid effluent neutralization plant. As a result, the analytical plan for samples collected from LOU 1 will include analyses for VOCs, SVOCs, TPH, and OCPs.

For further information please refer to the LOU 4 and LOU 60 data packages.

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Known or Potential Chemical Classes Associated with LOU 1:

- Metals
- Hexavalent chromium
- Perchlorate
- Wet chemistry analytes
- VOCs (associated with LOU 4 and LOU 60)
- SVOCs (associated with LOU 4 and LOU 60)
- TPH (associated with LOU 4 and LOU 60)
- Organochlorine pesticides (associated with LOU 4 and LOU 60)

Known or Potential Release Mechanisms:

- Potential leaching to subsurface soils and potentially to groundwater. The ponds were reportedly unlined increasing the likelihood for a release to the soil and groundwater [Ref. 4].
- Historic releases via infiltration through underlying soil occurred as wastewater seeped into near surface coarse alluvium [Ref. 4].
- Possible release to surface soils via infiltration through containment dikes/berms [Ref. 4].

Results of Historical Sampling:

- Surface and subsurface soils samples were collected (in 1987) prior to the construction of WC-West and WC-East, and analyzed for EP Toxicity procedures, six organic compounds, and eight RCRA metals [Ref. 4].
- In 1997, several borings (SB1-1 through SB1-7) were drilled within the area formerly occupied by the TE settling ponds, prior to the construction of the GW-11 Pond [Ref. 1]. Soil samples were collected at depths up to 10 feet below ground surface (bgs) and tested for eight metals (arsenic, barium, cadmium, total chromium, lead, mercury, selenium, and silver [Ref. 1].
- Groundwater is collected on a periodic or quarterly basis from the following wells: M-7B, M-79, M-83, M-84, M-88, M-98, M-99, M-100, M-101, and M-102.
- Analytical results from historical sampling events are summarized: LOU 1 Tables 6 and 7 (see attached).

Did Historical Samples Address Potential Release?

- Not completely. Historical borings were limited in depth and constituents, and were not representative of the full extent of this LOU.

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Summary of Phase A SAI:

Soil:

- Phase A Investigation borings SA21 and SA23 are located along the northern boundary of LOU 1 to specifically evaluate this LOU [Ref. 2].
- Phase A Investigation boring SA22 is located north (downgradient) LOU 1 and was specifically sampled to evaluate this LOU [Ref. 2].

Groundwater:

- Wells M-7B and M-100 are located within LOU 1 and were sampled specifically to evaluate this LOU [Ref. 2].
- Well M-98 is located north (downgradient) of LOU 1 and was specifically sampled to evaluate this LOU [Ref. 2].

Chemical classes detected in Phase A soil borings SA21, SA22, and SA23:

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

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

- Analytical results for soil and groundwater from the Phase A sampling event are summarized: LOU 1 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

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Proposed Phase B Soil Investigation/Rationale:

- The location of borings proposed to evaluate the former TE settling ponds are limited in part, due to the presence of the GW-11 Pond, Ponds WC-West and WC-East – all of which are active operating units that occupy parts of this LOU, and the closed RCRA landfill that occupies the western end of this LOU.
- The Phase B investigation of LOU 1 consists of collecting soil samples from 23 locations.
 - Nineteen (19) of the locations will be placed within the boundaries of LOU 1.
 - Four (4) soil boring locations will be drilled south (upgradient) of LOU 1.
 - One (1) boring location will be drilled east (cross-gradient) of LOU 1.
 - All 23 borings along with the analytical program to evaluate soil samples from LOU 1 are listed on **Table A – Soil Sampling and Analytical Plan for LOU 1.**
- Soil sample locations consist of both judgmental and randomly-placed locations.
- Judgmental sample locations:
 - Are designed to evaluate soil for known or potential chemical classes associated with LOU 1, based on the known process waste streams.
 - Five (5) of the 23 sample locations are judgmental locations and include soil borings SA201, SA202, SA79, SA88, and SA76.
- Random sample grid locations:
 - Are designed to assess whether unknown constituents associated with LOU 1 are present.
 - Eighteen (18) of the 23 sample locations are randomly-placed locations and include soil borings RSAH3, RSAI2, RSAI3, RSAI4, RSAI5, RSAI7, RSAJ2, RSAJ3, RSAJ5, RSAJ6, RSAJ7, RSAJ8, RSAK3, RSAK4, RSAK5, RSAK6, RSAK7, and RSAK8.

Proposed Phase B Constituents List for Soils:

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

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

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- TPH-GRO/DRO/ORO
- Organochlorine pesticides
- Dioxins/furans
- Radionuclides
- Asbestos

Proposed Phase B Groundwater Investigation/Rationale:

- The Phase B groundwater investigation of LOU 1 consists of collecting groundwater samples from 19 locations to evaluate local groundwater conditions and as part of site-wide evaluation of constituent trends in groundwater.
 - Nine (9) wells within the boundaries of LOU 1 will be sampled. These wells are: M-7B, M-79, M-83, M-84, M-88, M-98, M-99, M-100, and M-101.
 - Five (5) wells south (upgradient) of LOU 1 will be sampled. These wells are M-5A, M-57A, M-69, MW-16, and TR-4.
 - Five (5) wells north (downgradient or cross-gradient) of LOU 1 and will be sampled. These wells are H-28A, MC-32, M-23, M-48, and M-102.
 - All 19 wells along with the analytical program to evaluate groundwater samples associated with LOU 1 are listed on **Table B – Groundwater Sampling and Analytical Plan for LOU 1**.

Proposed Phase B Constituents List for Groundwater:

Groundwater samples will be analyzed for the following analytes:

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

Proposed Phase B Soil Gas Investigation/Rationale:

Soil gas samples will be collected from nine (9) locations to evaluate area conditions for the presence of vapor-phase VOCs in the vadose zone.

- SG19 is located to evaluate VOCs from a groundwater source as indicated by Phase A well M-7B (2.3 ug/L Chloroform; 5U ug/L TCE).
- SG20 is located to evaluate VOCs from a groundwater source as indicated by Phase A well M-5A (5U g/L Chloroform; 5U ug/L TCE).
- SG24 is located to evaluate VOCs from a groundwater source as a companion for Phase B well M-99; also to provide area-wide coverage.

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- SG51 is located to provide area-wide coverage and to evaluate potential VOCs in groundwater from an offsite source to the west; also as a companion to soil boring RSAJ2.
- SG52 is located to evaluate VOCs (270 ug/L Chlorobenzene; 93 ug/L Benzene) from a groundwater source as a companion for Phase B well MW-16.
- SG90 is located to evaluate VOCs from a groundwater source as indicated by Phase A well M-98 (810J ug/L Chloroform).
- SG91 is located to evaluate VOCs from a groundwater source as indicated by Phase A well M-100 (36 ug/L Chloroform).
- SG92 is located to provide area-wide coverage and to evaluate potential VOCs in groundwater; also as a companion to soil boring RSAJ5.
- SG93 is located to provide area-wide coverage as a companion to well M-88.

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

Proposed Phase B Constituents List for Soil Gas:

- VOCs (EPA TO-15)

References:

1. ENSR 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, Keith Bailey, verbal communication, February 20, 2007.
7. Tronox, Susan Crowley, verbal communication, February 5, 2008.
8. Tronox, Thomas Reed, verbal communication, January 30, 2008.

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LOU Map

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Sampling and Analytical Plans for LOU 1:

- Table A – Soil Sampling and Analytical Plan for LOU 1
- Table B – Groundwater Sampling and Analytical Plan for LOU 1

Table A
Soil Sampling and Analytical Plan for LOU 1
Phase B Source Area Investigation Work Plan
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Grid Location	LOU Number	Phase B Boring No.	Sample ID Number	Sample Depths (ft, bgs)	Perchlorate (EPA 314.0)	Metals (EPA 6020)	Hex Cr (EPA 7199)	TPH-DRO/ORO (EPA 8015B)	TPH-GRO (EPA 8015B)	VOCs 1. (EPA 8260B)	Wet Chemistry 2.	OCPs 3. (8081A)	Radio-nuclides 5.	Dioxins/Furans 6.	Formaldehyde Titrant (EPA 8315A)	Asbestos EPA/540/R-97/028	Location Description and Characterized Area Rationale	
Borings are organized by grid location as shown on Plate A - Starting point is on the northwestern-most grid in Area 1 (H-3) and ending with the southeastern-most grid in Area I (K-8).																		
H-3	1, 10	RSAH3	RSA3-0.0	0.0												X	Boring located to evaluate LOU 1 (former Trade Effluent Settling Ponds) and for general site coverage.	
H-3	1, 10		RSA3-0.5	0.5	X	X	X	X		X	X	X	X	X				
H-3	1, 10		RSA3-10	10	X	X	X	X		X	X	Hold	X					
H-3	1, 10		RSA3-20	20	X	X	X	X		X	X		X					
H-3	1, 10		RSA3-30	30	X	X	X	X		X	X		X					
I-2	1, 10	RSAI2	RSAI2-0.0	0.0												X	Boring located to evaluate LOU 1 (former Trade Effluent Settling Ponds) and as an eastward step-out to LOU 10 (Former Onsite Hazardous Waste Landfill).	
I-2	1, 10		RSAI2-0.5	0.5	X	X	X	X		X	X	X	X	X				
I-2	1, 10		RSAI2-10	10	X	X	X	X		X	X	Hold	X					
I-2	1, 10		RSAI2-20	20	X	X	X	X		X	X		X					
I-2	1, 10		RSAI2-30	30	X	X	X	X		X	X		X					
I-3	1, 32	RSAI3	RSAI3-0.0	0.0												X	Boring located on the west berm of the GW-11 Pond to evaluate LOU 1(former Trade Effluent Settling Ponds) and LOU 32 (Chromium and Perchlorate Groundwater Remediation Unit).	
I-3	1, 32		RSAI3-0.5	0.5	X	X	X	X		X	X	X	X	X				
I-3	1, 32		RSAI3-10	10	X	X	X	X		X	X	Hold	X					
I-3	1, 32		RSAI3-20	20	X	X	X	X		X	X		X					
I-3	1, 32		RSAI3-25	25	X	X	X	X		X	X		X					
I-3	1, 32	SA201	SA201-0.0	0												X	Boring located to evaluate LOU 1 (former Trade Effluent Settling Ponds) and for general site coverage.	
I-3	1, 32		SA201-0.5	0.5	X	X	X	X		X	X	X	X	X				
I-3	1, 32		SA201-10	10	X	X	X	X		X	X	Hold	X					
I-3	1, 32		SA201-20	20	X	X	X	X		X	X		X					
I-3	1, 32		SA201-25	25	X	X	X	X		X	X		X					
I-4	1, 32	RSAI4	RSAI4-0.0	0.0												X	Boring located on the north berm of the GW-11 Pond to evaluate LOU 32 (Chromium and Perchlorate Groundwater Remediation Unit), to evaluate LOU 1 (former Trade Effluent Settling Ponds) and for general site coverage.	
I-4	1, 32		RSAI4-0.5	0.5	X	X	X	X		X	X	X	X	X				
I-4	1, 32		RSAI4-10	10	X	X	X	X		X	X	Hold	X					
I-4	1, 32		RSAI4-20	20	X	X	X	X		X	X		X					
I-4	1, 32		RSAI4-30	30	X	X	X	X		X	X		X					
I-5	1, 32	RSAI5	RSAI5-0.0	0.0												X	Boring located on the north berm of the GW-11 Pond to evaluate LOU 32	
I-5	1, 32		RSAI5-0.5	0.5	X	X	X	X		X	X	X	X	X				
I-5	1, 32		RSAI5-10	10	X	X	X	X		X	X	Hold	X					
I-5	1, 32		RSAI5-20	20	X	X	X	X		X	X		X					
I-5	1, 32		RSAI5-30	30	X	X	X	X		X	X		X					
I-7	1, 22, 23, 32	RSAI7	RSAI7-0.0	0.0												X	Boring located to evaluate LOU 1 (former Trade Effluent Settling Ponds), LOUs 22 & 23 (Ponds WC-West & WC-East), and LOU 32 (Chromium and Perchlorate Groundwater Remediation Unit).	
I-7	1, 22, 23, 32		RSAI7-0.5	0.5	X	X	X	X		X	X	X	X	X				
I-7	1, 22, 23, 32		RSAI7-10	10	X	X	X	X		X	X	Hold	X					
I-7	1, 22, 23, 32		RSAI7-20	20	X	X	X	X		X	X		X					
I-7	1, 22, 23, 32		RSAI7-30	30	X	X	X	X		X	X		X					
J-2	1, 10	RSAJ2	RSAJ2-0.0	0.0												X	Boring located to evaluate LOU 1 (former Trade Effluent Settling Ponds) and to investigate potential offsite VOC sources.	
J-2	1, 10		RSAJ2-0.5	0.5	X	X	X	X		X	X	X	X	X				
J-2	1, 10		RSAJ2-10	10	X	X	X	X		X	X	Hold	X					
J-2	1, 10		RSAJ2-20	20	X	X	X	X		X	X		X					
J-2	1, 10		RSAJ2-30	30	X	X	X	X		X	X		X					
J-3	1, 32	RSAJ3	RSAJ3-0.0	0.0												X	Boring located to evaluate LOU 1 (former Trade Effluent Settling Ponds) and for general site coverage.	
J-3	1, 32		RSAJ3-0.5	0.5	X	X	X	X		X	X	X	X	X				
J-3	1, 32		RSAJ3-10	10	X	X	X	X		X	X	Hold	X					
J-3	1, 32		RSAJ3-20	20	X	X	X	X		X	X		X					
J-3	1, 32		RSAJ3-30	30	X	X	X	X		X	X		X					
J-3	1, 32	SA202	SA202-0.0	0.0												X	Boring located to evaluate LOU 1 (former Trade Effluent Settling Ponds) and for general site coverage.	
J-3	1, 32		SA202-0.5	0.5	X	X	X	X		X	X	X	X	X				
J-3	1, 32		SA202-10	10	X	X	X	X		X	X	Hold	X					
J-3	1, 32		SA202-20	20	X	X	X	X		X	X		X					
J-3	1, 32		SA202-30	30	X	X	X	X		X	X		X					
J-5	1, 22, 23, 32	RSAJ5	RSAJ5-0.0	0.0												X	Boring located east of GW-11 Pond (LOU 32-Chromium and Perchlorate Groundwater Remediation Unit) to evaluate LOU 1 (former Trade Effluent Pond area), as an upgradient boring to evaluate LOU 22 (Pond WC-West and associated piping), and for general site coverage.	
J-5	1, 22, 23, 32		RSAJ5-0.5	0.5	X	X	X	X		X	X	X	X	X				
J-5	1, 22, 23, 32		RSAJ5-10	10	X	X	X	X		X	X	Hold	X					
J-5	1, 22, 23, 32		RSAJ5-20	20	X	X	X	X		X	X		X					
J-5	1, 22, 23, 32		RSAJ5-25	25	X	X	X	X		X	X		X					
J-6	1, 22, 23, 32	RSAJ6	RSAJ6-0.0	0.0												X	Boring located east of GW-11 Pond (LOU 32-Chromium and Perchlorate Groundwater Remediation Unit) to evaluate LOU 1 (former Trade Effluent Pond area), as an upgradient boring to evaluate LOU 22 (Pond WC-West and associated piping), and for general site coverage.	
J-6	1, 22, 23, 32		RSAJ6-0.5	0.5	X	X	X	X		X	X	X	X	X				
J-6	1, 22, 23, 32		RSAJ6-10	10	X	X	X	X		X	X	Hold	X					
J-6	1, 22, 23, 32		RSAJ6-20	20	X	X	X	X		X	X		X					
J-6	1, 22, 23, 32		RSAJ6-30	30	X	X	X	X		X	X		X					
J-7	1, 22, 23, 32	RSAJ7	RSAJ7-0.0	0.0												X	Boring located east of GW-11 Pond (LOU 32-Chromium and Perchlorate Groundwater Remediation Unit) to evaluate LOU 1 (former Trade Effluent Pond area), as an upgradient boring to evaluate LOU 23 (Pond WC-East and associated piping), and for general site coverage.	
J-7	1, 22, 23, 32		RSAJ7-0.5	0.5	X	X	X	X		X	X	X	X	X				
J-7	1, 22, 23, 32		RSAJ7-10	10	X	X	X	X		X	X	Hold	X					
J-7	1, 22, 23, 32		RSAJ7-20	20	X	X	X	X		X	X		X					
J-7	1, 22, 23, 32		RSAJ7-30	30	X	X	X	X		X	X		X					

Table A
Soil Sampling and Analytical Plan for LOU 1
Phase B Source Area Investigation Work Plan
Tronox Facility - Henderson, Nevada

Grid Location	LOU Number	Phase B Boring No.	Sample ID Number	Sample Depths (ft, bgs)	Perchlorate (EPA 314.0)	Metals (EPA 6020)	Hex Cr (EPA 7199)	TPH-DRO/ORO (EPA 8015B)	TPH-GRO (EPA 8015B)	VOCs 1. (EPA 8260B)	Wet Chemistry 2.	OCPs 3. (8081A)	Radio-nuclides 5.	Dioxins/Furans 6.	Formal-dehyde Titrant (EPA 8315A)	Asbestos EPA/540/R-97/028	Location Description and Characterized Area Rationale	
Borings are organized by grid location as shown on Plate A - Starting point is on the northwestern-most grid in Area 1 (H-3) and ending with the southeastern-most grid in Area I (K-8).																		
J-8	1, 32	SA79	SA79-0.0	0.0												X	Boring located south of Warm Springs Road near Timet boundary to evaluate LOU 1 (former Trade Effluent Settling Pond area).	
J-8	1, 32		SA79-0.5	0.5	X	X	X				X	X	X	X				
J-8	1, 32		SA79-10	10	X	X	X					Hold	X					
J-8	1, 32		SA79-20	20	X	X	X					X	X					
J-8	1, 32		SA79-25	25	X	X	X					X	X					
J-8	1, 22, 23, 32	RSAJ8	RSAJ8-0.0	0.0												X	Boring located south (downgradient) of Warm Springs Road near Timet boundary to evaluate LOU 1 (former Trade Effluent Settling Pond area) and for general site coverage.	
J-8	1, 22, 23, 32		RSAJ8-0.5	0.5	X	X	X	X		X	X	X	X	X				
J-8	1, 22, 23, 32		RSAJ8-10	10	X	X	X	X		X	X	Hold	X					
J-8	1, 22, 23, 32		RSAJ8-20	20	X	X	X	X		X	X		X					
J-8	1, 22, 23, 32		RSAJ8-30	30	X	X	X	X		X	X		X					
K-3	1, 2, 32	SA88	SA88-0.0	0.0												X	Boring located north (downgradient) of LOU 2 (open area south of Trade Effluent Settling Ponds) and south (upgradient) of LOU 1 (former Trade Effluent Settling Pond area) and for general site coverage.	
K-3	1, 2, 32		SA88-0.5	0.5	X	X	X	X		X	X	X	X	X				
K-3	1, 2, 32		SA88-10	10	X	X	X	X		X	X	Hold	X					
K-3	1, 2, 32		SA88-20	20	X	X	X	X		X	X		X					
K-3	1, 2, 32		SA88-30	30	X	X	X	X		X	X		X					
K-3	1, 32	RSAK3	RSK3-0.0	0.0												X	Boring located west of GW-11 Pond to evaluate LOU 1 (former Trade Effluent Pond area) and LOU 32 (Chromium and Perchlorate Groundwater Remediation Unit).	
K-3	1, 32		RSK3-0.5	0.5	X	X	X	X		X	X	X	X	X				
K-3	1, 32		RSK3-10	10	X	X	X	X		X	X	Hold	X					
K-3	1, 32		RSK3-20	20	X	X	X	X		X	X		X					
K-3	1, 32		RSK3-30	30	X	X	X	X		X	X		X					
K-4	1, 2, 32	RSAK4	RSK4-0.0	0.0												X	Boring located to evaluate LOU 32 and as an upgradient boring to LOU 1 (former Trade Effluent Settling).	
K-4	1, 2, 32		RSK4-0.5	0.5	X	X	X	X		X	X	X	X	X				
K-4	1, 2, 32		RSK4-10	10	X	X	X	X		X	X	Hold	X					
K-4	1, 2, 32		RSK4-20	20	X	X	X	X		X	X		X					
K-4	1, 2, 32		RSK4-30	30	X	X	X	X		X	X		X					
K-5	1, 32	RSAK5	RSK5-0.0	0.0												X	Boring located to evaluate LOU 1 (former Trade Effluent Settling Ponds).	
K-5	1, 32		RSK5-0.5	0.5	X	X	X	X		X	X	X	X	X				
K-5	1, 32		RSK5-10	10	X	X	X	X		X	X	Hold	X					
K-5	1, 32		RSK5-20	20	X	X	X	X		X	X		X					
K-5	1, 32		RSK5-30	30	X	X	X	X		X	X		X					
K-6	1, 32	SA76	SA76-0.0	0.0												X	Boring located north of groundwater recharge trenches to evaluate LOU 1 (former Trade Effluent Settling Ponds) and LOU 32 (Chromium and Perchlorate Groundwater Remediation Unit).	
K-6	1, 32		SA76-0.5	0.5	X	X	X	X		X	X	X	X	X				
K-6	1, 32		SA76-10	10	X	X	X	X		X	X	Hold	X					
K-6	1, 32		SA76-20	20	X	X	X	X		X	X		X					
K-6	1, 32		SA76-25	25	X	X	X	X		X	X		X					
K-6	1, 32	RSAK6	RSK6-0.0	0.0												X	Boring located to evaluate LOU 32 (Chromium and Perchlorate Groundwater Remediation Unit).	
K-6	1, 32		RSK6-0.5	0.5	X	X	X	X		X	X	X	X	X				
K-6	1, 32		RSK6-10	10	X	X	X	X		X	X	Hold	X					
K-6	1, 32		RSK6-20	20	X	X	X	X		X	X		X					
K-6	1, 32		RSK6-30	30	X	X	X	X		X	X		X					
K-7	1, 22, 23, 32	RSAK7	RSK7-0.0	0.0												X	Boring located to evaluate LOU 1 (former Trade Effluent Settling Ponds) and LOU 32 (Chromium and Perchlorate Groundwater Remediation Unit), and to evaluate pipeline associated with LOU 22 & LOU 23.	
K-7	1, 22, 23, 32		RSK7-0.5	0.5	X	X	X	X		X	X	X	X	X				
K-7	1, 22, 23, 32		RSK7-10	10	X	X	X	X		X	X	Hold	X					
K-7	1, 22, 23, 32		RSK7-20	20	X	X	X	X		X	X		X					
K-7	1, 22, 23, 32		RSK7-24	24	X	X	X	X		X	X		X					
K-8	1, 32	RSAK8	RSK8-0.0	0.0												X	Boring located to evaluate LOU 32 (Chromium and Perchlorate Groundwater Remediation Unit) and as upgradient location to LOU 1 (former Trade Effluent Settling Ponds), and for general site coverage.	
K-8	1, 32		RSK8-0.5	0.5	X	X	X	X		X	X	X	X	X				
K-8	1, 32		RSK8-10	10	X	X	X	X		X	X	Hold	X					
K-8	1, 32		RSK8-20	20	X	X	X	X		X	X		X					
K-8	1, 32		RSK8-27	27	X	X	X	X		X	X		X					
Number of borings:		23	--	--														
Number of Soil Samples:		--	--	--	92	92	92	88	0	88	92	23	92	23	0	23		

Notes:

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

Table B
Groundwater Sampling and Analysis Plan For LOU 1
Phase B Source Area Investigation Area I Work Plan
Tronox Facility - Henderson, Nevada

Grid Location	Monitoring Well No.	Screen Interval (ft bgs)	Well Sampled for Phase A? (y/n)	Perchlorate (EPA 314.0)	Hex Cr (EPA 7199)	Metals	VOCs ¹ (EPA 8260)	Wet Chemistry ²	OCPs ³ (EPA 8081A)	SVOCs ⁴ (EPA 8270C)	Radio-nuclides ⁵	Rationale
Wells are organized by grid location as shown on Plate A - Starting point is on the northwestern-most grid in Area 1 (H-2) and ending with the southeastern-most grid covering Area I (L-4).												
H-2	H-28A	nr	no	X	X	X	X	X	X	X	X	Serves as a close stepout downgradient for LOU 1 and LOU 10, and general site coverage and to evaluate potential offsite sources to the west.
H-2	MC-32	nr	no	X	X	X	X	X	X	X	X	Located to serve as a downgradient stepout for LOU 10; to evaluate potential offsite sources to the west; to provide general site coverage; and to evaluate BRC Parcels C and E.
H-3	M-7B	25.5 - 50.5	yes	X	X	X	X	X	X	X	X	Located as a downgradient stepout for LOU 1 and LOU 10; to evaluate possible offsite sources to the West; and for general site coverage.
H-6	M-23	9.4 - 37.4	no	X	X	X	X	X	X	X	X	Located to serve as an upgradient stepout for LOU 68; as a downgradient stepout for LOU 1; to evaluate BRC Parcels C and D; and for general site coverage.
H-8	M-48	6.1 - 36.1	no	X	X	X	X	X	X	X	X	Located to evaluate LOU 69 and to evaluate BRC Parcels B and J.
I-4	M-98	19 - 29	yes	X	X	X	X	X	X	X	X	Located to evaluate LOU 1 and for general site coverage.
I-5	M-99	16 - 31	no	X	X	X	X	X	X	X	X	Located to evaluate LOU 1; as a downgradient stepout for LOUs 22, 23, and 32; as an upgradient stepout for LOU 69; and for general site coverage.
I-6	M-100	19 - 29	yes	X	X	X	X	X	X	X	X	Located to evaluate LOU 1; as a downgradient stepout for LOUs 22, 23, and 32; as an upgradient stepout for LOU 69; and for general site coverage.
I-7	M-101	17 - 27	no	X	X	X	X	X	X	X	X	Located to evaluate LOU 1; as a downgradient stepout for LOUs 22, 23, and 32; as an upgradient stepout for LOU 69; and for general site coverage.
J-8	M-102	19.4 - 39.4	no	X	X	X	X	X	X	X	X	Located to evaluate LOU 1; as a downgradient stepout for LOUs 22, 23, and 32; as an upgradient stepout for LOU 69; and for general site coverage.
K-2	M-5A	40 - 50	yes	X	X	X	X	X	X	X	X	Located to evaluate LOU 2 (Open Area South of the Trade Effluent Ponds); as an upgradient stepout for LOU 1 and LOU 10; to evaluate possible offsite sources to the West; and for general site coverage.
K-2	TR-2	144.5 - 174.5	no	X	X	X	X	X	X	X	X	To evaluate for SRCs in upper Muddy Creek Fm.
K-3	MW-16	25 - 40	no	X	X	X	X	X	X	X	X	New monitoring well to evaluate SRCs from in upper Muddy Creek from offsite sources from west.
K-5	M-69	19.9 - 39.3	no	X	X	X	X	X	X	X	X	Located to evaluate LOU 32 and to evaluate the western end of the Groundwater Barrier Wall.
K-5	M-79	10.8 - 35.4	no	X	X	X	X	X	X	X	X	Located to evaluate LOU 32 and the western end of the Groundwater Injection Trenches; and for general site coverage.
K-6	M-83	10.8 - 40.3	no	X	X	X	X	X	X	X	X	Located to evaluate LOU 32 and the Groundwater Injection Trench area; as an upgradient stepout for LOU 1, LOUs 22 and 23; and for general site coverage.
K-6	M-84	11.8 - 34.1	no	X	X	X	X	X	X	X	X	Located to evaluate LOU 32 and the Groundwater Injection Trench area; as an upgradient stepout for LOU 1 and LOUs 22 and 23; and for general site coverage.
K-8	M-88	7.3 - 36.8	no	X	X	X	X	X	X	X	X	Located to serve as an upgradient stepout for LOU 1; as a downgradient stepout for LOU 32; to evaluate possible offsite sources to the east; and for general site coverage.

Table B
Groundwater Sampling and Analysis Plan For LOU 1
Phase B Source Area Investigation Area I Work Plan
Tronox Facility - Henderson, Nevada

Grid Location	Monitoring Well No.	Screen Interval (ft bgs)	Well Sampled for Phase A? (y/n)	Perchlorate (EPA 314.0)	Hex Cr (EPA 7199)	Metals	VOCs ¹ (EPA 8260)	Wet Chemistry ²	OCPs ³ (EPA 8081A)	SVOCs ⁴ (EPA 8270C)	Radio-nuclides ⁵	Rationale
L-4	M-57A	20 - 40	no	X	X	X	X	X	X	X	X	Located to serve as an upgradient stepout for LOU 32; to evaluate the west end of the groundwater barrier wall; and for general site coverage.
Number of Field Samples:				19	19	19	19	19	19	19	19	
Notes:												
X Sample will be collected and analyzed.												
1 Volatile organic compounds- samples for VOC analysis will be preserved in the field using sodium bisulfate(or DI water) and methanol preservatives per EPA method 5035												
2 Includes wet chemistry parameters listed on table 1. of the Phase B Source Area Work Plan.												
3 Organochlorine pesticides(includes analysis for hexachlorobenzene).												
4 Semi-volatile organic compounds												
5 Radionuclides consists of alpha spec reporting for Thorium-230/232, Uranium 234/235, Uranium-238, and beta spec for Radium-226/228 (per NDEP)												
nr Not recorded in Tronox database (screen intervals to be acquired from BMI).												

Summary of Available Data for LOU 1 – Former Trade Effluent Settling Ponds
Tronox Facility – Henderson, Nevada

Soil and Groundwater Characterization Data

Summary of Available Data for LOU 1 – Former Trade Effluent Settling Ponds
Tronox Facility – Henderson, Nevada

LOU-specific analytes identified include:

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

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

LOU 1 Table 1 - Soil Characterization Data - Wet Chemistry

LOU 1 Table 2 - Groundwater Characterization Data - Wet Chemistry

LOU 1 Table 3 - Soil Characterization Data - Dioxins and Dibenzofurans

LOU 1 Table 4 - Soil Characterization Data - Metals

LOU 1 Table 5 - Groundwater Characterization Data - Metals

LOU 1 Table 6 - Groundwater Characterization Data - Routine Monitoring

LOU 1 Table 7 - Summary of Soil Analytical Data

LOU 1 Table 8 - Soil Characterization Data - Organochlorine Pesticides (OCPs)

LOU 1 Table 9 - Groundwater Characterization Data - Organochlorine Pesticides (OCPs)

LOU 1 Table 10 - Soil Characterization Data - Organophosphorus Pesticides (OPPs)

LOU 1 Table 11 - Groundwater Characterization Data - Organophosphorus Pesticides (OPPs)

LOU 1 Table 12 - Soil Characterization Data - PCBs

LOU 1 Table 13 - Groundwater Characterization Data - PCBs

LOU 1 Table 14 - Soil Characterization Data - Perchlorate

LOU 1 Table 15 - Groundwater Characterization Data - Perchlorate

LOU 1 Table 16 - Soil Characterization Data - Radionuclides

LOU 1 Table 17 - Groundwater Characterization Data - Radionuclides

LOU 1 Table 18 - Soil Characterization Data - SVOCs

LOU 1 Table 19 - Groundwater Characterization Data - SVOCs

LOU 1 Table 20 - Soil Characteristic Data - TPH and Fuel Alcohols

LOU 1 Table 21 - Soil Characterization Data - VOCs

LOU 1 Table 22 - Groundwater Characterization Data - VOCs

LOU 1 Table 23 - Soil Characterization Data – Long Asbestos Fibers in Respirable Soil Fraction

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

LOU 1 Table 1
Soil Characterization Data - Wet Chemistry

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program	Ph A ¹	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	
Boring No.	SA21	SA21	SA21	SA21	SA21	SA22	SA22	SA22	SA23	SA23	SA23	SA23	SA23	
Sample ID	SA21-0.5	SA21-10	SA21-20	SA21-20D	SA21-30	SA22-0.5	SA22-10	SA22-20	SA23-0.5	SA23-10	SA23-20	SA23-20D	SA23-20D	
Sample Depth (ft)	0.5	10	20	20	30	0.5	10	20	0.5	10	20	20	20	
Sample Date	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/16/2006	11/16/2006	11/16/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006	
Wet Chemistry Parameter	PRG ² mg/kg													Units
Percent moisture	--	4.3	9.1	9.5	4.2	10.6	21.1	9.7	14.3	14.0	16.7	16.9	13.5	percent
Alkalinity (as CaCO3)	--	151 J	55.0 UJ	195 J	91.8 J	257 J	113	55.4 U	417	223 J+	570 J+	60.1 UJ	57.8 UJ	mg/kg
Bicarbonate	--	598 J	304 J	1160 J	470 J	302 J	373	317	2000	347 J+	697 J+	583 J+	426 J+	mg/kg
Total Alkalinity	--	749 J	327 J	1360 J	562 J	559 J	486	317	2420	570 J+	1270 J+	595 J+	426 J+	mg/kg
Ammonia (as N)	--	5.2 UJ	5.5 UJ	5.5 UJ	5.2 UJ	5.6 UJ	6.3 UJ	5.5 UJ	5.8 UJ	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ	mg/kg
Cyanide	1.20E+04	R	R	R	R	R	R	R	R	0.58 UJ	0.60 UJ	0.60 UJ	0.58 UJ	mg/kg
MBAS	--	2.1 U	2.6 U	2.1 U	2.2 J	2.2 U	5.1 U	4.3 U	4.6 U	2.8 U	2.3 U	3.3 U	2.9 U	mg/kg
pH (solid)	--	8.7	8.3	8.3	8.3	8.9	8.4	8.7	8.3	9.9	8.1	8.1	9.6	none
Bromide	--	2.6 U	2.8 U	2.8 U	2.6 U	2.8 U	3.2 UJ	2.8 UJ	2.9 UJ	2.9 U	2.6 J	3.0 U	2.9 U	mg/kg
Chlorate	--	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.4 J	5.2 J	6.0 U	101	101	mg/kg
Chloride	--	8.0	683	378	299	154	9.0 J-	10.0 J-	155 J-	4.2	41.6	204	100	mg/kg
Nitrate (as N)	--	2.5 J+	4.8 J+	0.93 J+	0.71 J+	0.64 J+	5.7 J+	2.0 J+	1.6 J+	0.21 J+	2.4 J+	11.3	6.8	mg/kg
Nitrite	--	0.47	2.2 U	2.2 U	2.1 U	2.2 U	1.1 J-	0.68 J-	2.3 UJ	0.23 U	2.4 U	3.1	1.9	mg/kg
ortho-Phosphate	--	5.2 U	5.5 U	5.5 U	5.2 U	5.8 U	6.3 U	6.3	5.8 U	5.7 J	6 U	6.0 U	5.8 U	mg/kg
Sulfate	--	57.0	2660	1600	1800	252	112 J+	23.1 J+	696	6.8	77.6	7410	5380	mg/kg
Total Organic Carbon	--	2480	6900	7200	5800	9400	7000 J-	11900 J-	7200 J-	5020	11700	1350	2520	mg/kg

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility - Henderson, Nevada, September 2007.
2. Preliminary Remediation Goals (PRGs) for industrial soil

LOU 1 Table 2
Groundwater Characterization Data - Wet Chemistry

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program		Ph A ¹	Ph A	Ph A	Ph A	
Well ID		M7B	M98	M100	M100D	
Sample ID		M7B	M98	M100	M100D	
Sample Date		11/30/2006	11/30/2006	12/04/2006	12/04/2006	
Wet Chemistry Parameters	MCL ² ug/L					Units
Total Dissolved Solids	5.00E+05 j	7650	3900	1670	1630	mg/L
Total Suspended Solids	--	37.0 J	21.0 J	12.0 J	7.0 J	mg/L
Alkalinity (as CaCO ₃)	--	5.0 U	5.0 U	5.0 U	5.0 U	mg/L
Bicarbonate	--	98.0	90.0	126	136	mg/L
Total Alkalinity	--	98.0	90.0	126	136	mg/L
Ammonia (as N)	--	50.0 U	50.0 U	3620	3770	ug/L
MBAS	--	4.0	0.22	0.41	0.34	mg/L
Cyanide	2.00E+02	R	R	R	R	ug/L
pH (liquid)	--	7.2 J	7.1 J	7.5 J	7.6 J	none
Specific Conductance	--	4310	2420	1360 J+	1410 J+	umhos/cm
Bromide	--	84.1 J	125 U	0.22 J	0.23 J	mg/L
Chlorate	--	8.0	25.0	85.0	108	mg/L
Chloride	2.50E+05	4160	1120	165	168	mg/L
Nitrate (as N)	1.00E+04	10.0 U	2.6	12.8	12.9	mg/L
Nitrite	1.00E+03	10.0 U	10.0 U	1.9	2.2	mg/L
ortho-Phosphate	--	5.0 U	5.0 U	5.0 U	5.0 U	mg/L
Sulfate	2.50E+05 j	1690	1100	3520	3530	mg/L
Total Organic Carbon	--	50.0 U	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.
 2. USEPA values unless noted
- (j) Secondary Drinking Water Regulation value.

LOU 1 Table 3
Soil Characterization Data - Dioxins and Dibenzofurans

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program				Ph A ¹	Ph A	Ph A
Boring No.				SA21	SA22	SA23
Sample ID				SA21-0.5	SA22-0.5	SA23-0.5
Sample Depth (ft)				0.5	0.5	0.5
Sample Date				11/15/2006	11/16/2006	11/09/2006
Chemical Name	Method	Unit	PRG ² ng/kg			
Dioxin 8290 SCREEN Total TEQ-ENSR						
Calculated (a) ng/kg		ng/kg	--	2.41	0.43	409
Dioxin SW 846 8290 Total TEQ-ENSR						
Calculated (a) ng/kg		ng/kg	--			330
Dioxin 8290 SCREEN Total TEQ-ENSR						
Calculated (b) ng/kg		ng/kg	--	2.42	0.47	409
Dioxin SW 846 8290 Total TEQ-ENSR						
Calculated (b) ng/kg		ng/kg	--			330
1,2,3,4,6,7,8-Heptachlorodibenzofuran	8290 Screen	ng/kg	--	18.803	1.882	2499.060
1,2,3,4,6,7,8-Heptachlorodibenzofuran	SW 846 8290	ng/kg	--			1955.868 J
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	1.360	0.735	208.977
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--			208.977
1,2,3,4,7,8,9-Heptachlorodibenzofuran	8290 Screen	ng/kg	--	5.435	0.739	1015.630
1,2,3,4,7,8,9-Heptachlorodibenzofuran	SW 846 8290	ng/kg	--			845.761 J
1,2,3,4,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	--	6.907	0.819	1021.396
1,2,3,4,7,8-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--			756.882 J
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	0.144	0.050	18.367
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--			18.367
1,2,3,6,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	--	4.195	0.541	685.128
1,2,3,6,7,8-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--			489.535 J
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	0.395	0.159	51.669
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--			51.669
1,2,3,7,8,9-Hexachlorodibenzofuran	8290 Screen	ng/kg	--	0.250 U	0.208	71.553
1,2,3,7,8,9-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--			71.553
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	0.383	0.102	55.546
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--			55.546
1,2,3,7,8-Pentachlorodibenzofuran	8290 Screen	ng/kg	--	2.669	0.420	457.566
1,2,3,7,8-Pentachlorodibenzofuran	SW 846 8290	ng/kg	--			457.566
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	0.202	0.070	28.207
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--			28.207
2,3,4,6,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	--	0.802	0.282	332.361
2,3,4,6,7,8-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--			266.934 J
2,3,4,7,8-Pentachlorodibenzofuran	8290 Screen	ng/kg	--	0.772	0.182	199.983
2,3,4,7,8-Pentachlorodibenzofuran	SW 846 8290	ng/kg	--			199.983
2,3,7,8-Tetrachlorodibenzofuran	8290 Screen	ng/kg	--	2.994	0.399	389.197
2,3,7,8-Tetrachlorodibenzofuran	SW 846 8290	ng/kg	--			199.366 J
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	1.00E+04 h,v	0.047	0.073 U	5.753
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	1.00E+04 h,v			5.753
Octachlorodibenzofuran	8290 Screen	ng/kg	--	38.958	3.974	6299.878
Octachlorodibenzofuran	SW 846 8290	ng/kg	--			5039.988 J
Octachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	2.214	3.430	213.695
Octachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--			213.695 J
Tetrachlorinated Dibenzofurans, (Total)	SW 846 8290	ng/kg	--			2262.272 J
Total HpCDD	SW 846 8290	ng/kg	--			328.279
Total HpCDF	SW 846 8290	ng/kg	--			4149.869 J
Total HxCDD	SW 846 8290	ng/kg	--			399.39
Total HxCDF	SW 846 8290	ng/kg	--			3588.757 J
Total PeCDD	SW 846 8290	ng/kg	--			291.05
Total PeCDF	SW 846 8290	ng/kg	--			4381.88
Total TCDD	SW 846 8290	ng/kg	--			212.030

Notes:

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

**LOU 1 Table 4
Soil Characterization Data - Metals**

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program	Ph A ¹	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	
Boring No.	SA21	SA21	SA21	SA21	SA21	SA22	SA22	SA22	SA23	SA23	SA23	SA23		
Sample ID	SA21-0.5	SA21-10	SA21-20	SA21-20D	SA21-30	SA22-0.5	SA22-10	SA22-20	SA23-0.5	SA23-10	SA23-20	SA23-20D		
Sample Depth (ft)	0.5	10	20	20	30	0.5	10	20	0.5	10	30	20		
Sample Date	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/16/2006	11/16/2006	11/16/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006		
Metals	PRG ² mg/kg													Units
Aluminum	9.21E+05 (oo)	6140	7480	5840	7430	6380	6400	7430	8490	6850	7040	7080	6920	mg/kg
Antimony	4.09E+02	0.15 J-	0.19 J-	0.17 J-	0.17 J-	0.14 J-	0.18 J-	0.17 J-	0.13 J-	0.13 J-	0.11 J-	0.076 J-	0.086 J-	mg/kg
Arsenic	1.59E+00	2.4	4.6	4.2	4.3	10.5	3.1	5.8	26.8	2.6	3.0	14.0	12.9	mg/kg
Barium	6.66E+04	165 J	171 J	194 J	154 J	212 J	277 J-	188 J	61.0 J	181 J	192 J	47.3 J	47.9 J	mg/kg
Beryllium	1.94E+03	0.39	0.47	0.41	0.42	0.40	0.46	0.53	0.50	0.46	0.47	0.43	0.42	mg/kg
Boron	2.00E+05 (oo)	3.7 UJ	6.4 UJ	5.9 UJ	6.5 UJ	6.9 UJ	7.1 J-	8.4 J-	23.8 J-	4.5 UJ	4.2 UJ	18.3 J-	17.5 J-	mg/kg
Cadmium	4.50E+02	0.12	0.073	0.073	0.096	0.089	0.076	0.082	0.092	0.14	0.056 J	0.069	0.070	mg/kg
Calcium	--	28400	20600	27200	24200	41800	18500	32000	31200	17500	24300	64700	55600	mg/kg
Chromium (Total)	4.48E+02	8.7 J-	10.0 J-	7.6 J-	9.0 J-	12.0 J-	8.0	10.4 J-	10.6 J-	8.5 J-	8.0 J-	11.0 J-	10.6 J-	mg/kg
Chromium-hexavalent	6.40E+01	0.21 U	0.22 U	0.22 U	0.21 U	0.22 U	0.25 U	0.11 J	0.23 U	0.23 U	0.24 U	0.16 J	0.18 J	mg/kg
Cobalt	1.92E+03	5.2 J-	6.0 J-	7.2 J-	6.2 J-	4.4 J-	7.0 J-	5.5 J-	2.8 J-	7.1 J-	7.5 J-	3.2 J-	3.8 J-	mg/kg
Copper	4.09E+04	11.2 J	11.1 J	11.2 J	12.3 J	10.8 J	13.5 J-	11.3 J-	6.6 J-	15.2 J	13.7 J	7.2 J	7.1 J	mg/kg
Iron	3.00E+05 (oo)	10300	11400	9990	11300	11000	11500	10600	6640	11500	11300	7520	7700	mg/kg
Lead	8.00E+02	8.2 J	9.1 J	16.4 J	8.4 J	6.7 J	8.3	7.7	5.3	9.2	6.7	4.4	4.8	mg/kg
Magnesium	--	7560 J-	10000 J-	6520 J-	8060 J-	9660 J-	7680	10800 J-	15100 J-	6660 J-	8870 J-	9050 J-	7970 J-	mg/kg
Manganese	1.95E+04	269 J	259 J	452 J	254 J	138 J	619	328	139	439	323	131	183	mg/kg
Molybdenum	5.11E+03	0.56 J	0.74 J	1.2	0.57 J	0.49 J	0.69	0.74	0.73	0.54 J	0.41 J	0.39 J	0.43 J	mg/kg
Nickel	2.04E+04	12.3 J-	12.6 J-	10.4 J-	12.8 J-	10.1 J-	12.9 J-	12.3 J-	6.6 J-	14.1 J-	11.7 J-	9.4 J	9.8 J-	mg/kg
Platinum	--	0.011 U	0.016 J	0.012 J	0.012 J	0.013 J	0.014 J	0.014 J	0.015 J	0.012 U	0.012 U	0.012 U	0.012 U	mg/kg
Potassium	--	2570	2240	1720	1870	1760	1840	1460	2210	1870	1180	2150	2020	mg/kg
Selenium	5.11E+03	0.11 UJ	0.12 UJ	0.12 UJ	0.11 UJ	0.12 UJ	0.14 U	0.12 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	mg/kg
Silver	5.11E+03	0.11 J	0.12 J	0.094 J	0.11 J	0.12 J	0.15 J	0.13 J	0.13 J	0.12 J	0.10 J	0.092 J	0.092 J	mg/kg
Sodium	--	530 J-	1450 J-	820 J-	1260 J-	924 J-	812	1460 J-	1060 J-	1120 J-	2790 J-	907 J-	852 J-	mg/kg
Strontium	6.12E+05 (oo)	139 J	251 J	224 J	310 J	217 J	166 J-	164 J	461 J	126 J	218 J	207 J	235 J	mg/kg
Thallium	6.75E+01	0.073 U	0.081 U	0.091 U	0.073 U	0.078 U	0.10 J	0.11 J	0.12 J	0.083 J	0.084 U	0.094 J	0.098 J	mg/kg
Tin	6.12E+05 (oo)	0.46	0.51	0.48	0.44	0.45	0.49	0.45	0.64	0.51	0.36	0.46	0.46	mg/kg
Titanium	3.80E+06 (oo)	497	482	506	534	636	432 J+	408 J+	330 J+	410	371	328	336	mg/kg
Tungsten	--	0.28 UJ	0.34 UJ	0.67 J-	0.30 UJ	0.24 UJ	0.87 J-	0.46 J-	0.39 J-	0.36 J-	0.35 J-	0.29 J-	0.49 J-	mg/kg
Uranium	2.04E+02	0.86	2.0	2.2	2.3	3.8	0.94	2.3	3.9	0.73	0.94	2.8	2.8	mg/kg
Vanadium	1.02E+03	26.2 J-	30.2 J-	30.5 J-	30.7 J-	39.8 J-	29.1 J-	33.1 J-	33.5 J-	24.3 J-	25.7 J-	21.8 J-	22.1 J-	mg/kg
Zinc	3.10E+05 (oo)	25.0 J-	23.8 J-	23.8 J-	23.9 J-	24.5 J-	25.0 J-	22.5 J-	20.0 UJ	30.5 J-	22.4 J-	20.4 J-	20.6 J-	mg/kg
Mercury	3.10E+02 (t)	0.007 UJ	0.0074 UJ	0.0074 UJ	0.007 UJ	0.0075 UJ	0.0085 UJ	0.0074 UJ	0.0078 UJ	0.020 J	0.008 UJ	0.008 UJ	0.0077 UJ	mg/kg

Notes:

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

**LOU 1 Table 5
Groundwater Characterization Data - Metals**

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program	Ph A ¹	Ph A	Ph A		
Well ID:	M7B	M98	M100		
Sample ID	M7B-Z	M98	M100-Z		
Sample Date	05/08/2007	11/30/2006	05/09/2007		
Metals	MCL ² ug/L			Unit	
Aluminum	5.00E+01 j	393 U	157 U	78.6 U	ug/L
Antimony	6.00E+00	25.0 U	10.0 U	5.0 U	ug/L
Arsenic	1.00E+01	100 U	184	79.6	ug/L
Barium	2.00E+03	36.0 J	16.3 J	23.6 U	ug/L
Beryllium	4.00E+00	4.4 U	1.8 U	0.88 U	ug/L
Boron	7.30E+03 c	4120	3200	2580	ug/L
Cadmium	5.00E+00	2.9 U	1.2 U	0.57 U	ug/L
Calcium	--	591000	273000	133000	ug/L
Chromium (Total)	1.00E+02	R	100 J	237	ug/L
Chromium-hexavalent	1.09E+02 c	1.0 U	93.2 J	284	ug/L
Cobalt	7.30E+02 c	15.7 UJ	6.3 U	3.1 U	ug/L
Copper	1.30E+03 p	12.5 U	5.2	3.0 U	ug/L
Iron	3.00E+02 j	470 UJ	188 UJ	94.0 UJ	ug/L
Lead	1.50E+01 u	24.6 U	9.8 U	4.9 U	ug/L
Magnesium	1.50E+05 a	408000	147000	56900	ug/L
Manganese	5.00E+01 j	17.1 U	6.8 U	24.4 U	ug/L
Molybdenum	1.82E+02 c	25.0 U	27.1 J	10.0 J	ug/L
Nickel	7.30E+02 c	25.8 UJ	10.3 U	5.2 U	ug/L
Platinum	--	5.0 U	2 U	1.0 U	ug/L
Potassium	--	22500	8110	6780	ug/L
Selenium	5.00E+01	50.0 U	20 U	10.0 U	ug/L
Silver	1.00E+02 j	10.1 U	4.1 U	2.0 U	ug/L
Sodium	--	1430000	847000	300000	ug/L
Strontium	2.19E+04 c	16900	6620	4400	ug/L
Thallium	2.00E+00	16.0 U	6.4 U	3.2 U	ug/L
Tin	2.19E+04 c	10.0 U	4 U	2.0 U	ug/L
Titanium	1.46E+05 c	19.6 U	7.8 U	6.1 U	ug/L
Tungsten	--	25.0 UJ	10.0 U	5.5 J	ug/L
Uranium	3.00E+01	44.9 J+	41.1	25.1	ug/L
Vanadium	3.65E+01 c	80.0 UJ	133 J	163	ug/L
Zinc	5.00E+03 j	86.2 J-	20 UJ	25.7 U	ug/L
Mercury	2.00E+00	0.093 U	0.093 U	0.14 J+	ug/L

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility - Henderson, Nevada, September 2007.
2. USEPA values unless noted
 - (oo) PRG is based on maximum (1E+05 mg/kg). Therefore, the risk-based value provided in the electronic backup to the PRG table was used.
 - (j) See footnote (b). Secondary Drinking Water Regulation value.
 - (c) Equal to the USEPA Region 9 Preliminary Remediation Goals (PRGs) for tapwater (October, 2004).
 - (p) The national primary drinking water regulations (b) lists a treatment technology action level of 1.3 mg/l as the MCL for Copper. Therefore, the secondary value is not used.
 - (u) See footnote (b). Treatment technology action level.
 - (a) NAC 445A.455 Secondary standards. Certain provisions of the National Primary Drinking Water Regulations are adopted by reference (NAC 445A.4525). These values are listed in the first column of this table and are therefore not listed again here. Only NAC 445A.455 Secondary standards are listed.
 - (b) USEPA, 2006. 2006 Edition of the Drinking Water Standards and Health Advisories. EPA 822-R-06-013. August 2006.

LOU 1 Table 6
Groundwater Characterization Data - Routine Monitoring¹

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Well ID	Date	Depth to water (ft)	Perchlorate mg/l	Qual	MCL ² ug/L	Total Chromium mg/l	Qual	MCL ug/L	TDS mg/l	Qual	MCL ug/L	Nitrate (as N) mg/l	Qual	MCL ug/L	Chlorate mg/l	Qual	MCL ug/L
M-7B	5/2/2006	---	63	d	1.80E-01 a,m	0.046	d	1.00E-01 c	8030		5.00E+02 j			1.00E+01			--
M-7B	8/1/2006	---			1.80E-01 a,m			1.00E-01 c	6650		5.00E+02 j			1.00E+01			--
M-7B	5/2/2007	---	55.6		1.80E-01 a,m	<0.02	U	1.00E-01 c	7000		5.00E+02 j			1.00E+01			--
M-7B	7/31/2007	---	59.5		1.80E-01 a,m	<0.02	U	1.00E-01 c	7280		5.00E+02 j			1.00E+01			--
M-86	2/2/2006	29.23	20	d	1.80E-01 a,m	0.12	d	1.00E-01 c			5.00E+02 j			1.00E+01			--
M-86	5/4/2006	29.34	100	d	1.80E-01 a,m	0.43	d	1.00E-01 c	1600		5.00E+02 j			1.00E+01			--
M-86	8/3/2006	29.24	213	d	1.80E-01 a,m	0.96	d	1.00E-01 c	1930		5.00E+02 j			1.00E+01			--
M-86	11/2/2006	29.89	427	d	1.80E-01 a,m	1.9	d	1.00E-01 c	4040		5.00E+02 j			1.00E+01			--
M-86	2/1/2007	30.00	370		1.80E-01 a,m	1.7		1.00E-01 c	3420		5.00E+02 j			1.00E+01			--
M-86	5/3/2007	31.09	295	J	1.80E-01 a,m	1.4		1.00E-01 c	3240	J	5.00E+02 j			1.00E+01			--
M-86	8/2/2007	32.51	497		1.80E-01 a,m	1.8		1.00E-01 c	4050		5.00E+02 j			1.00E+01			--
M-87	1/11/2006	33.01	94	d	1.80E-01 a,m			1.00E-01 c			5.00E+02 j			1.00E+01			--
M-87	2/2/2006	33.27	120	d	1.80E-01 a,m	1.3	d	1.00E-01 c			5.00E+02 j			1.00E+01			--
M-87	2/8/2006	33.27	130	d	1.80E-01 a,m	1.4	d	1.00E-01 c			5.00E+02 j			1.00E+01			--
M-87	3/8/2006	33.61	110	d	1.80E-01 a,m			1.00E-01 c			5.00E+02 j			1.00E+01			--
M-87	4/12/2006	33.91	130	d	1.80E-01 a,m			1.00E-01 c			5.00E+02 j			1.00E+01			--
M-87	5/4/2006	33.82	150	d	1.80E-01 a,m	1.3	d	1.00E-01 c	1960		5.00E+02 j			1.00E+01			--
M-87	5/10/2006	33.82	127	d	1.80E-01 a,m	1.4	d	1.00E-01 c			5.00E+02 j			1.00E+01			--
M-87	6/13/2006	33.89	68.5	d	1.80E-01 a,m			1.00E-01 c			5.00E+02 j			1.00E+01			--
M-87	7/13/2006	33.86	1140	d	1.80E-01 a,m			1.00E-01 c			5.00E+02 j			1.00E+01			--
M-87	8/3/2006	33.92	92.2	d	1.80E-01 a,m	0.96	d	1.00E-01 c	1640		5.00E+02 j			1.00E+01			--
M-87	8/9/2006	33.92	167	d	1.80E-01 a,m	3.3	d	1.00E-01 c	2680		5.00E+02 j			1.00E+01			--
M-87	9/13/2006	34.24	129	d	1.80E-01 a,m			1.00E-01 c	1640		5.00E+02 j			1.00E+01			--
M-87	10/12/2006	34.49	146	d	1.80E-01 a,m			1.00E-01 c	1940		5.00E+02 j			1.00E+01			--
M-87	11/2/2006	34.33	155	d	1.80E-01 a,m	1.8	d	1.00E-01 c	2180		5.00E+02 j			1.00E+01			--
M-87	11/9/2006	34.33	351	d	1.80E-01 a,m	2.2	d	1.00E-01 c	4170		5.00E+02 j			1.00E+01			--
M-87	12/12/2006	34.59	120	d	1.80E-01 a,m			1.00E-01 c	1890		5.00E+02 j			1.00E+01			--
M-87	1/10/2007	0.00	133		1.80E-01 a,m			1.00E-01 c	1970		5.00E+02 j			1.00E+01			--
M-87	2/1/2007	34.64	116		1.80E-01 a,m	1.3		1.00E-01 c	1820		5.00E+02 j			1.00E+01			--
M-87	2/8/2007	34.64	80.9		1.80E-01 a,m	1.9		1.00E-01 c	1590		5.00E+02 j			1.00E+01			--
M-87	3/15/2007	34.65	118		1.80E-01 a,m			1.00E-01 c	1990		5.00E+02 j			1.00E+01			--
M-87	4/12/2007	34.84	120		1.80E-01 a,m			1.00E-01 c	1910		5.00E+02 j			1.00E+01			--
M-87	5/3/2007	35.05	121	J	1.80E-01 a,m	1.5		1.00E-01 c	2030	J	5.00E+02 j			1.00E+01			--
M-87	5/10/2007	35.05	271		1.80E-01 a,m	0.99		1.00E-01 c	3500		5.00E+02 j			1.00E+01			--
M-87	6/14/2007	35.78	147		1.80E-01 a,m			1.00E-01 c	2370		5.00E+02 j			1.00E+01			--
M-87	7/13/2007	36.09	216		1.80E-01 a,m			1.00E-01 c	3070		5.00E+02 j			1.00E+01			--
M-87	8/2/2007	36.19	196		1.80E-01 a,m	1.9		1.00E-01 c	2610		5.00E+02 j			1.00E+01			--

LOU 1 Table 6 (continued)
Groundwater Characterization Data - Routine Monitoring¹

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Well ID	Date	Depth to water (ft)	Perchlorate mg/l	Qual	MCL ² ug/L	Total Chromium mg/l	Qual	MCL ug/L	TDS mg/l	Qual	MCL ug/L	Nitrate (as N) mg/l	Qual	MCL ug/L	Chlorate mg/l	Qual	MCL ug/L
M-87	8/16/2007	36.19	197		1.80E-01 a,m	2.4		1.00E-01 c	2860		5.00E+02 j			1.00E+01			--
M-87	9/14/2007	36.57	211		1.80E-01 a,m			1.00E-01 c	2490		5.00E+02 j			1.00E+01			--
M-88	2/2/2006	29.95	49	d	1.80E-01 a,m	0.87	d	1.00E-01 c			5.00E+02 j			1.00E+01			--
M-88	5/3/2006	30.07	54	d	1.80E-01 a,m	0.89	d	1.00E-01 c	5670		5.00E+02 j			1.00E+01			--
M-88	8/3/2006	30.41	56.3	d	1.80E-01 a,m	0.93	d	1.00E-01 c	5430		5.00E+02 j			1.00E+01			--
M-88	11/1/2006	30.61	56.1	d	1.80E-01 a,m	0.92	d	1.00E-01 c	6360		5.00E+02 j			1.00E+01			--
M-88	2/1/2007	30.63	52.4		1.80E-01 a,m	0.93		1.00E-01 c	6280		5.00E+02 j			1.00E+01			--
M-88	5/3/2007	30.80	47.8	J	1.80E-01 a,m	0.97		1.00E-01 c	6260	J	5.00E+02 j			1.00E+01			--
M-88	8/2/2007	31.33	55.3		1.80E-01 a,m	0.87		1.00E-01 c	6510		5.00E+02 j			1.00E+01			--
M-98	1/31/2006	30.16	42	d	1.80E-01 a,m	0.099	d	1.00E-01 c			5.00E+02 j			1.00E+01			--
M-98	5/2/2006	28.66	35	d	1.80E-01 a,m	0.085	d	1.00E-01 c	3120		5.00E+02 j			1.00E+01			--
M-98	8/1/2006	29.90	25.4	d	1.80E-01 a,m	0.15	d	1.00E-01 c	3160		5.00E+02 j			1.00E+01			--
M-98	10/31/2006	30.01	23.2	d	1.80E-01 a,m	0.094	d	1.00E-01 c	4940		5.00E+02 j			1.00E+01			--
M-98	1/30/2007	29.40	17.3		1.80E-01 a,m	0.089		1.00E-01 c	3610		5.00E+02 j			1.00E+01			--
M-98	5/1/2007	30.11	17.3		1.80E-01 a,m	0.091		1.00E-01 c	3810		5.00E+02 j			1.00E+01			--
M-98	7/31/2007	30.89	19.4		1.80E-01 a,m	0.089		1.00E-01 c	3620		5.00E+02 j			1.00E+01			--
M-99	1/31/2006	28.03	980	d	1.80E-01 a,m	0.88	d	1.00E-01 c			5.00E+02 j			1.00E+01			--
M-99	5/2/2006	27.85	1100	d	1.80E-01 a,m	0.88	d	1.00E-01 c	4140		5.00E+02 j			1.00E+01			--
M-99	8/1/2006	27.89	803	d	1.80E-01 a,m	0.92	d	1.00E-01 c	4650		5.00E+02 j			1.00E+01			--
M-99	10/31/2006	28.02	975	d	1.80E-01 a,m	1	d	1.00E-01 c	5980		5.00E+02 j			1.00E+01			--
M-99	1/30/2007	27.92	780		1.80E-01 a,m	1.1		1.00E-01 c	5750		5.00E+02 j			1.00E+01			--
M-99	5/1/2007	28.32	756		1.80E-01 a,m	1.1		1.00E-01 c	5900		5.00E+02 j			1.00E+01			--
M-99	7/31/2007	29.25	905		1.80E-01 a,m	1.1		1.00E-01 c	5760		5.00E+02 j			1.00E+01			--
M-100	2/2/2006	26.00	110	d	1.80E-01 a,m	0.62	d	1.00E-01 c	2140		5.00E+02 j			1.00E+01			--
M-100	5/4/2006	25.98	71	d	1.80E-01 a,m	0.41	d	1.00E-01 c			5.00E+02 j			1.00E+01			--
M-100	8/3/2006	26.02	63.2	d	1.80E-01 a,m	0.35	d	1.00E-01 c	1670		5.00E+02 j			1.00E+01			--
M-100	11/2/2006	26.27	54.8	d	1.80E-01 a,m	0.29	d	1.00E-01 c	1820		5.00E+02 j			1.00E+01			--
M-100	2/1/2007	26.21	43.2		1.80E-01 a,m	0.26		1.00E-01 c	1680		5.00E+02 j			1.00E+01			--
M-100	5/3/2007	26.77	12.9	J	1.80E-01 a,m	0.24		1.00E-01 c	546	J	5.00E+02 j			1.00E+01			--
M-100	8/2/2007	28.66	37.5		1.80E-01 a,m	0.19		1.00E-01 c	1540		5.00E+02 j			1.00E+01			--
M-101	2/2/2006	26.91	130	d	1.80E-01 a,m	0.29	d	1.00E-01 c			5.00E+02 j			1.00E+01			--
M-101	5/4/2006	28.41	92	d	1.80E-01 a,m	0.26	d	1.00E-01 c	3960		5.00E+02 j			1.00E+01			--
M-101	8/3/2006	28.54	71.5	d	1.80E-01 a,m	0.19	d	1.00E-01 c	3160		5.00E+02 j			1.00E+01			--
M-101	11/2/2006	28.42	70.6	d	1.80E-01 a,m	0.25	d	1.00E-01 c	3940		5.00E+02 j			1.00E+01			--
M-101	2/1/2007	28.55	97.8		1.80E-01 a,m	0.35		1.00E-01 c	3820		5.00E+02 j			1.00E+01			--
M-101	5/3/2007	28.62	100	J	1.80E-01 a,m	0.54		1.00E-01 c	3390	J	5.00E+02 j			1.00E+01			--
M-101	8/2/2007	30.37	103		1.80E-01 a,m	0.47		1.00E-01 c	3380		5.00E+02 j			1.00E+01			--

LOU 1 Table 6 (continued)
Groundwater Characterization Data - Routine Monitoring¹

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Well ID	Date	Depth to water (ft)	Perchlorate mg/l	Qual	MCL ² ug/L	Total Chromium mg/l	Qual	MCL ug/L	TDS mg/l	Qual	MCL ug/L	Nitrate (as N) mg/l	Qual	MCL ug/L	Chlorate mg/l	Qual	MCL ug/L
M-102	2/2/2006	36.48	170	d	1.80E-01 a,m	1.8	d	1.00E-01 c			5.00E+02 j			1.00E+01			--
M-102	5/4/2006	36.91	130	d	1.80E-01 a,m	1.4	d	1.00E-01 c	2420		5.00E+02 j			1.00E+01			--
M-102	8/3/2006	37.33	123	d	1.80E-01 a,m	1.4	d	1.00E-01 c	7860		5.00E+02 j			1.00E+01			--
M-102	11/2/2006	37.59	110	d	1.80E-01 a,m	1.1	d	1.00E-01 c	2020		5.00E+02 j			1.00E+01			--
M-102	2/1/2007	37.76	84.9		1.80E-01 a,m	0.98		1.00E-01 c	1840		5.00E+02 j			1.00E+01			--
M-102	5/3/2007	38.05	92.1	J	1.80E-01 a,m	1		1.00E-01 c	1920	J	5.00E+02 j			1.00E+01			--
M-102	8/2/2007	39.38	147		1.80E-01 a,m	1.3		1.00E-01 c	2330		5.00E+02 j			1.00E+01			--

Explanation

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

2. USEPA values unless noted

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

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

(j) Secondary Drinking Water Regulation value.

< = less than the reporting limit

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

Qual = data qualifiers applied by laboratory or during data validation

Explanation

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

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 1 Table 7
Summary of Soil Analytical Data¹**

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

EP Toxicity Metals and pH Analysis

Sample Description	Date Collected	Sample Depth	Metals EPA Method 6010 (mg/l), Preparation Method 1310								pH (Method)
			As	Ba	Cd	Cr	Pb	Hg *	Se	Ag	
Hole 1	10-23-87	3-4	<0.3	0.16	<0.05	<0.05	<0.3	<0.0002	<0.3	<0.1	7.0
Hole 1	10-23-87	5-6	<0.3	0.95	<0.05	<0.05	<0.3	<0.0002	<0.3	<0.1	8.0
Hole 1	10-23-87	7-8	<0.3	0.48	<0.05	<0.05	<0.3	<0.0002	<0.3	<0.1	8.2
Hole 1	10-23-87	9-10	<0.3	0.95	<0.05	<0.05	<0.3	<0.0002	<0.3	<0.1	6.8
Hole 1	10-23-87	11-12	<0.3	0.66	<0.05	<0.05	<0.3	<0.0002	<0.3	<0.1	6.9
Hole 1	10-23-87	13-14	<0.3	1.00	<0.05	<0.05	<0.3	<0.0002	<0.3	<0.1	6.8
Hole 1	10-23-87	15-16	<0.3	0.90	<0.05	<0.05	<0.3	<0.0002	<0.3	<0.1	6.5
Hole 2	10-23-87	1-2	<0.3	0.10	<0.05	<0.05	<0.3	<0.0002	<0.3	<0.1	8.4
Hole 2	10-23-87	3-4	<0.3	0.65	<0.05	<0.05	<0.3	<0.0002	<0.3	<0.1	6.8

Pesticide and Silvex Analysis

Sample Description	Date Collected	Sample Depth (ft bgs)	EPA Method 608 (µg/l)								EPA Method 615 (µg/l)			
			Endrin	MCL ⁴	Lindane	MCL ⁴	Methoxychlor	MCL ⁴	Toxaphene	MCL ⁴	2,4-D	MCL ⁴	2,4,5-TP Silvex	MCL ⁴
Hole 1	10-23-87	1-2	<0.01	2.00E+00	<0.01	2.00E-01	<0.1	4.00E+01	<0.1	3.00E+00	<0.1	7.00E+01	<0.1	5.00E+01
Hole 2	10-23-87	Surface	<0.01	2.00E+00	<0.01	2.00E-01	<0.1	4.00E+01	<0.1	3.00E+00	<0.1	7.00E+01	<0.1	5.00E+01
Iron Oxide (not associated with the LOU)	10-23-87	Solid	<0.01	2.00E+00	<0.01	2.00E-01	<0.1	4.00E+01	<0.1	3.00E+00	<0.1	7.00E+01	<0.1	5.00E+01

Notes:

1. Kerr-McGee, 1996b, Response to Letter of Understanding, Henderson, Nevada, October 1996.
2. U.S. EPA Maximum Contaminant Level (MCL) values unless noted

LOU = Letter of Understanding Hg * = Mercury, EPA Method
ft bgs = feet below ground surface Se = Selenium
As = Arsenic Ag = Silver
Ba = Barium < = not detected above the designated method detection limit, with qualifier U-constituent was
Cd = Cadmium analyzed for but not detected.
Cr = Chromium mg/l = milligrams per liter
Pb = Lead µg/l = micrograms per liter

LOU 1 Table 7 (continued)
Summary of Soil Analytical Data¹

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Boring Number	Date	Sample Depth (ft bgs)	Metals EPA Method 6010 (mg/kg)																pH Method 9045
			As	PRG ⁴ mg/kg	Ba	PRG ⁴ mg/kg	Cd	PRG ⁴ mg/kg	Total Cr	PRG ⁴ mg/kg	Pb	PRG ⁴ mg/kg	Hg	PRG ⁴ mg/kg	Se	PRG ⁴ mg/kg	Ag	PRG ⁴ mg/kg	
SB1-1	4/9/1997	-1	3.2 ³	1.59E+00	173 ³	6.66E+04	<0.4	4.50E+02	11.4	4.48E+02	8.0	8.00E+02	<0.1	3.10E+02 (t)	<0.8	5.11E+03	<0.4	5.11E+03	8.9
		-5	4.4 ³	1.59E+00	131 ³	6.66E+04	<0.4	4.50E+02	9.9	4.48E+02	5.1	8.00E+02	<0.1	3.10E+02 (t)	<0.8	5.11E+03	<0.4	5.11E+03	8.6
		-10	5.1 ³	1.59E+00	183.0	6.66E+04	<0.4	4.50E+02	13.6	4.48E+02	8.7	8.00E+02	<0.1	3.10E+02 (t)	<0.8	5.11E+03	<0.4	5.11E+03	8.2
SB1-2	4/9/1997	-10 D	5.2	1.59E+00	193.0	6.66E+04	<0.4	4.50E+02	14.2	4.48E+02	8.2	8.00E+02	<0.1	3.10E+02 (t)	<0.8	5.11E+03	<0.4	5.11E+03	ND
		-1	3.9	1.59E+00	180.0	6.66E+04	<0.4	4.50E+02	11.0	4.48E+02	9.7	8.00E+02	<0.1	3.10E+02 (t)	<0.9	5.11E+03	<0.4	5.11E+03	8.2
		-5	4.1	1.59E+00	286.0	6.66E+04	<0.4	4.50E+02	12.8	4.48E+02	9.0	8.00E+02	<0.1	3.10E+02 (t)	<0.9	5.11E+03	<0.4	5.11E+03	8.3
SB1-3	4/9/1997	-10	5.0	1.59E+00	198.0	6.66E+04	<0.4	4.50E+02	11.8	4.48E+02	8.0	8.00E+02	<0.1	3.10E+02 (t)	<0.8	5.11E+03	<0.4	5.11E+03	8.7
		-1	3.5	1.59E+00	182.0	6.66E+04	<0.5	4.50E+02	10.2	4.48E+02	8.4	8.00E+02	<0.1	3.10E+02 (t)	<0.9	5.11E+03	<0.5	5.11E+03	9.6
		-5	3.4	1.59E+00	96.8	6.66E+04	<0.5	4.50E+02	9.9	4.48E+02	6.0	8.00E+02	<0.1	3.10E+02 (t)	<0.9	5.11E+03	<0.5	5.11E+03	9.5
SB1-4	4/9/1997	-10	5.2	1.59E+00	213.0	6.66E+04	<0.4	4.50E+02	13.4	4.48E+02	8.4	8.00E+02	<0.1	3.10E+02 (t)	<0.8	5.11E+03	<0.4	5.11E+03	9.7
		-1	5.6	1.59E+00	72.3	6.66E+04	<0.4	4.50E+02	5.70 (B)	4.48E+02	8.3	8.00E+02	<0.1	3.10E+02 (t)	<0.8	5.11E+03	<0.4	5.11E+03	9.6
		-5	5.0	1.59E+00	328.0	6.66E+04	<0.4	4.50E+02	12.6	4.48E+02	8.5	8.00E+02	<0.1	3.10E+02 (t)	<0.8	5.11E+03	<0.4	5.11E+03	8.7
SB1-5	4/9/1997	-10	6.3	1.59E+00	75.2	6.66E+04	<0.4	4.50E+02	18.0	4.48E+02	7.8	8.00E+02	<0.4	3.10E+02 (t)	<0.9	5.11E+03	<0.4	5.11E+03	8.6
		-1	8.6	1.59E+00	237.0	6.66E+04	<0.5	4.50E+02	23.8	4.48E+02	65.8	8.00E+02	0.1	3.10E+02 (t)	<5	5.11E+03	<0.5	5.11E+03	9.6
		-5	17.4	1.59E+00	397.0	6.66E+04	2.6	4.50E+02	43.5	4.48E+02	158.0	8.00E+02	<0.4	3.10E+02 (t)	<5	5.11E+03	<0.5	5.11E+03	9.0
SB1-5	4/9/1997	-10	4.3	1.59E+00	212.0	6.66E+04	<0.4	4.50E+02	16.1	4.48E+02	10.3	8.00E+02	<0.5	3.10E+02 (t)	<0.8	5.11E+03	<0.4	5.11E+03	9.5
		-1	4.1	1.59E+00	245.0	6.66E+04	<0.5	4.50E+02	15.9	4.48E+02	16.0	8.00E+02	<0.1	3.10E+02 (t)	<1	5.11E+03	<0.5	5.11E+03	9.8
		-5	4.2 ³	1.59E+00	164 ³	6.66E+04	<0.4	4.50E+02	15.8	4.48E+02	8.9	8.00E+02	<0.1	3.10E+02 (t)	<0.8	5.11E+03	<0.4	5.11E+03	8.4
SB1-6	4/10/1997	-10	6.7 ³	1.59E+00	197 ³	6.66E+04	<0.4	4.50E+02	13.8	4.48E+02	7.0	8.00E+02	<0.1	3.10E+02 (t)	<0.8	5.11E+03	<0.4	5.11E+03	8.6
		-1	6.6 ³	1.59E+00	168 ³	6.66E+04	<0.4	4.50E+02	31.3	4.48E+02	184.0	8.00E+02	<0.1	3.10E+02 (t)	<0.9	5.11E+03	<0.4	5.11E+03	9.2
		-5	18.3 ³	1.59E+00	812 ³	6.66E+04	0.428 (B)	4.50E+02	37.7	4.48E+02	60.6	8.00E+02	<0.1	3.10E+02 (t)	<9	5.11E+03	0.6 (B)	5.11E+03	8.4
SB1-7	4/10/1997	-10	5.1 ³	1.59E+00	178 ³	6.66E+04	<0.4	4.50E+02	14.6	4.48E+02	8.9	8.00E+02	<0.1	3.10E+02 (t)	<0.8	5.11E+03	<0.4	5.11E+03	8.9
		-10D	4.7	1.59E+00	134.0	6.66E+04	<0.4	4.50E+02	14.3	4.48E+02	6.9	8.00E+02	<0.4	3.10E+02 (t)	<0.9	5.11E+03	<0.4	5.11E+03	8.8

Notes:

2. ENSR Corporation (ENSR), 1997, Phase II Environmental Conditions Assessment located at Kerr-McGee Chemical Corporation, Henderson, Nevada, August 7, 1997.

4. U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) for industrial soil (October, 2004)

ft bgs = feet below ground surface

As = Arsenic

Ba = Barium

Cd = Cadmium

Cr = Chromium

Pb = Lead

Hg = Mercury

Se = Selenium

Ag = Silver

< = not detected above the designated method detection limit with qualifier U-constituent was analyzed for but not detected.

B = Reported value is less than the contract-required detection limit but greater than or equal to the instrument detection limit.

³ = Relative percent difference (RPD) exceeded acceptable quality control limits.

D = Duplicate

ND = Not determined

LOU 1 Table 8
Soil Characterization Data - Organochlorine Pesticides (OCPs)

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program		Ph A ¹	Ph A	Ph A	
Boring No.		SA21	SA22	SA23	
Sample ID		SA21-0.5	SA22-0.5	SA23-0.5	
Sample Depth (ft)		0.5	0.5	0.5	
Sample Date		11/15/2006	11/16/2006	11/09/2006	
Organochlorine Pesticides	PRG ² mg/kg				Unit
4,4'-DDD	9.95E+00	0.0018 U	0.0022 U	0.0020 U	mg/kg
4,4'-DDE	7.02E+00	0.0018 U	0.0022 U	0.0020 U	mg/kg
4,4'-DDT	7.02E+00	0.0018 U	0.0022 U	0.0020 U	mg/kg
Aldrin	1.00E-01	0.0018 U	0.0022 U	0.0020 U	mg/kg
Alpha-BHC	3.59E-01 (bbb)	0.0018 U	0.0022 U	0.0020 U	mg/kg
Alpha-chlordane	6.47E+00 (y)	0.0018 U	0.0022 U	0.0020 U	mg/kg
Beta-BHC	1.26E+00 (bbb)	0.0018 U	0.0088 J	0.0020 U	mg/kg
Delta-BHC	3.59E-01 (z)	0.0018 U	0.0022 U	0.0020 U	mg/kg
Dieldrin	1.10E-01	0.0018 U	0.0022 U	0.0020 U	mg/kg
Endosulfan I	3.70E+03 (aa)	0.0018 U	0.0022 U	0.0020 U	mg/kg
Endosulfan II	3.70E+03 (aa)	0.0018 U	0.0022 U	0.0020 U	mg/kg
Endosulfan Sulfate	3.70E+03 (aa)	0.0018 U	0.0022 U	0.0020 U	mg/kg
Endrin	1.85E+02	0.0018 U	0.0022 U	0.0020 U	mg/kg
Endrin Aldehyde	1.85E+02 (k)	0.0018 U	0.0022 U	0.0020 U	mg/kg
Endrin Ketone	1.85E+02 (k)	0.0018 U	0.0022 U	0.0020 U	mg/kg
Gamma-BHC (Lindane)	1.74E+00 (bbb)	0.0018 U	0.0022 U	0.0020 U	mg/kg
Gamma-Chlordane	6.47E+00 (y)	0.0018 U	0.0022 U	0.0020 U	mg/kg
Heptachlor	3.83E-01	0.0018 U	0.0022 U	0.0020 U	mg/kg
Heptachlor Epoxide	1.89E-01	0.0018 U	0.0022 U	0.0020 U	mg/kg
Methoxychlor	3.08E+03	0.0034 UJ	0.0042 UJ	0.0038 U	mg/kg
Tech-Chlordane	6.47E+00	0.010 U	0.013 U	0.012 U	mg/kg
Toxaphene	1.57E+00	0.052 U	0.063 U	0.058 U	mg/kg

Notes:

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

LOU 1 Table 9
Groundwater Characterization Data - Organochlorine Pesticides (OCPs)

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program		Ph A ¹	Ph A	Ph A	Ph A	
Well ID		M7B	M98	M100	M100D	
Sample ID		M7B	M98	M100	M100D	
Sample Date		11/30/2006	11/30/2006	12/04/2006	12/04/2006	
Organochlorine Pesticides	MCL ² ug/L					Unit
4,4'-DDD	2.80E-01 c	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
4,4'-DDE	1.98E-01 c	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
4,4'-DDT	1.98E-01 c	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Aldrin	4.00E-03 c	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Alpha-BHC	1.10E-02 c, (bbb)	0.050 U	0.050 U	0.082	0.087	ug/L
Alpha-chlordane	2.00E+00 (l)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Beta-BHC	3.74E-02 c, (bbb)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Delta-BHC	1.10E-02 c, (z)	0.078	0.050 U	0.050 U	0.050 U	ug/L
Dieldrin	4.20E-03 c, (z)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Endosulfan I	2.19E+02 c, (aa)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Endosulfan II	2.19E+02 c, (aa)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Endosulfan Sulfate	2.19E+02 c, (aa)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Endrin	2.00E+00	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Endrin Aldehyde	1.09E+01 c, (k)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Endrin Ketone	1.09E+01 c, (k)	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Gamma-BHC (Lindane)	2.00E-01	0.20	0.050 U	0.050 U	0.050 U	ug/L
Gamma-Chlordane	2.00E+00 (l)	0.050 U	0.17 J	0.050 U	0.050 U	ug/L
Heptachlor	4.00E-01	0.25 J	0.050 U	0.050 U	0.050 U	ug/L
Heptachlor Epoxide	2.00E-01	0.050 U	0.050 U	0.050 U	0.050 U	ug/L
Methoxychlor	4.00E+01	0.10 U	0.10 U	0.10 U	0.10 U	ug/L
Tech-Chlordane	2.00E+00 (l)	0.50 U	0.50 U	0.50 U	0.50 U	ug/L
Toxaphene	3.00E+00	2.0 U	2.0 U	2.0 U	2.0 U	ug/L

Notes:

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

LOU 1 Table 10
Soil Characterization Data - Organophosphorus Pesticides (OPPs)

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program		Ph A ¹	Ph A	Ph A	
Boring No.		SA21	SA22	SA23	
Sample ID		SA21-0.5	SA22-0.5	SA23-0.5	
Sample Depth (ft)		0.5	0.5	0.5	
Sample Date		11/15/2006	11/16/2006	11/09/2006	
OPPs	PRG ² mg/kg				Unit
Azinphos-methyl	--	0.014 UJ	0.016 UJ	0.015 U	mg/kg
Bolstar	--	0.014 U	0.016 U	0.015 U	mg/kg
Chlorpyrifos	1.85E+03	0.021 UJ	0.025 U	0.023 U	mg/kg
Coumaphos	--	0.014 UJ	0.016 UJ	0.015 U	mg/kg
Demeton-O	2.46E+01 (cc)	0.041 U	0.049 U	0.045 U	mg/kg
Demeton-S	2.46E+01 (cc)	0.016 UJ	0.019 U	0.017 U	mg/kg
Diazinon	5.54E+02	0.023 U	0.028 U	0.026 U	mg/kg
Dichlorvos	5.94E+00	0.024 U	0.029 U	0.027 U	mg/kg
Dimethoate	1.23E+02	0.023 UJ	0.028 UJ	0.026 U	mg/kg
Disulfoton	2.46E+01	0.050 U	0.061 U	0.056 U	mg/kg
EPN	6.16E+00	0.014 U	0.016 UJ	0.015 UJ	mg/kg
Ethoprop	--	0.016 U	0.019 U	0.017 U	mg/kg
Ethyl Parathion	1.54E+02 (tt)	0.019 U	0.023 U	0.021 UJ	mg/kg
Famphur	--	0.014 UJ	0.016 UJ	0.015 U	mg/kg
Fensulfothion	--	0.014 U	0.016 U	0.015 U	mg/kg
Fenthion	1.50E+02 (ff)	0.034 U	0.042 U	0.038 U	mg/kg
Malathion	1.23E+04	0.016 U	0.019 U	0.017 U	mg/kg
Merphos	1.85E+01	0.031 U	0.038 U	0.035 U	mg/kg
Methyl parathion	1.54E+02	0.021 U	0.025 U	0.023 U	mg/kg
Mevinphos	--	0.016 U	0.019 U	0.017 U	mg/kg
Naled	1.23E+03	0.034 UJ	0.042 UJ	0.038 UJ	mg/kg
Phorate	1.23E+02	0.021 U	0.025 U	0.023 U	mg/kg
Ronnel	3.08E+04	0.019 UJ	0.023 UJ	0.021 U	mg/kg
Stirphos	--	0.016 UJ	0.019 UJ	0.017 U	mg/kg
Sulfotep	3.08E+02	0.021 U	0.025 U	0.023 U	mg/kg
Thionazin	--	0.019 U	0.023 U	0.021 U	mg/kg
Tokuthion	--	0.021 U	0.025 U	0.023 U	mg/kg
Trichloronate	--	0.021 UJ	0.025 U	0.023 U	mg/kg

Notes:

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

LOU 1 Table 11
Groundwater Characterization Data - Organophosphorus Pesticides (OPPs)

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program		Ph A ¹	Ph A	Ph A	Ph A	
Well ID		M7B	M98	M100	M100D	
Sample ID		M7B	M98	M100	M100D	
Sample Date		11/30/2006	11/30/2006	12/04/2006	12/04/2006	
OPPs	MCL ² ug/L					Unit
Azinphos-methyl	--	2.5 UJ	2.5 UJ	2.5 U	2.5 U	ug/L
Bolstar	--	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Chlorpyrifos	1.09E+02 c	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Coumaphos	--	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Demeton-O	1.46E+00 c,(cc)	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Demeton-S	1.46E+00 c,(cc)	1.0 U	1.0 U	1.0 UJ	1.0 UJ	ug/L
Diazinon	3.28E+01	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Dichlorvos	2.32E-01	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Dimethoate	7.30E+00	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Disulfoton	1.46E+00	0.50 U	0.50 U	0.50 U	0.50 U	ug/L
EPN	3.65E-01	1.2 U	1.2 U	1.2 U	1.2 U	ug/L
Ethoprop	--	0.50 U	0.50 U	0.50 U	0.50 U	ug/L
Ethyl Parathion	9.12E+00 c,(tt)	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Famphur	--	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Fensulfothion	--	2.5 U	2.5 U	2.5 U	2.5 U	ug/L
Fenthion	9.10E+00 c,(ff)	2.5 U	2.5 U	2.5 U	2.5 U	ug/L
Malathion	7.30E+02	1.2 U	1.2 U	1.2 U	1.2 U	ug/L
Merphos	1.09E+00	5.0 U	5.0 U	5.0 U	5.0 U	ug/L
Methyl parathion	9.12E+00	4.0 U	4.0 U	4.0 U	4.0 U	ug/L
Mevinphos	--	6.2 U	6.2 U	6.2 U	6.2 U	ug/L
Naled	7.30E+01	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	ug/L
Phorate	7.30E+00	1.2 U	1.2 U	1.2 U	1.2 U	ug/L
Ronnel	1.82E+03	10 U	10 U	10 U	10 U	ug/L
Stirphos	--	3.5 U	3.5 U	3.5 U	3.5 U	ug/L
Sulfotep	1.82E+01	1.5 U	1.5 U	1.5 U	1.5 U	ug/L
Thionazin	--	1.0 U	1.0 U	1.0 U	1.0 U	ug/L
Tokuthion	--	1.6 U	1.6 U	1.6 U	1.6 U	ug/L
Trichloronate	--	0.50 U	0.50 U	0.50 U	0.50 U	ug/L

Notes:

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

**LOU 1 Table 12
Soil Characterization Data - PCBs**

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program	Ph A ¹	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A		
Boring ID	SA21	SA21	SA21	SA21	SA21	SA22	SA22	SA22	SA23	SA23	SA23	SA23		
Sample ID	SA21-0.5	SA21-10	SA21-20	SA21-20D	SA21-30	SA22-0.5	SA22-10	SA22-20	SA23-0.5	SA23-10	SA23-20	SA23-20D		
Sample Depth (ft)	0.5	10	20	20	30	0.5	10	20	0.5	10	20	20		
Sample Date	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/16/2006	11/16/2006	11/16/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006		
PCBs	PRG ² mg/kg												Unit	
Aroclor-1016	1.00E+01 (i)	0.034 U	0.036 U	0.036 U	0.034 U	0.037 U	0.042 U	0.037 U	0.038 U	0.038 U	0.040 U	0.040 U	0.038 U	mg/kg
Aroclor-1221	1.00E+01 (i)	0.034 U	0.036 U	0.036 U	0.034 U	0.037 U	0.042 U	0.037 U	0.038 U	0.038 U	0.040 U	0.040 U	0.038 U	mg/kg
Aroclor-1232	1.00E+01 (i)	0.034 U	0.036 U	0.036 U	0.034 U	0.037 U	0.042 U	0.037 U	0.038 U	0.038 U	0.040 U	0.040 U	0.038 U	mg/kg
Aroclor-1242	1.00E+01 (i)	0.034 U	0.036 U	0.036 U	0.034 U	0.037 U	0.042 U	0.037 U	0.038 U	0.038 U	0.040 U	0.040 U	0.038 U	mg/kg
Aroclor-1248	1.00E+01 (i)	0.034 U	0.036 U	0.036 U	0.034 U	0.037 U	0.042 U	0.037 U	0.038 U	0.038 U	0.040 U	0.040 U	0.038 U	mg/kg
Aroclor-1254	1.00E+01 (i)	0.034 U	0.036 U	0.036 U	0.034 U	0.037 U	0.042 U	0.037 U	0.038 U	0.038 U	0.040 U	0.040 U	0.038 U	mg/kg
Aroclor-1260	1.00E+01 (i)	0.034 U	0.036 U	0.036 U	0.034 U	0.037 U	0.042 U	0.037 U	0.038 U	0.038 U	0.040 U	0.040 U	0.038 U	mg/kg

Notes:

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

2. Preliminary Remediation Goals (PRGs) for industrial soil

(i) For PCBs, the individual Aroclors were compared to the TSCA action level of 10 mg/kg, for high occupancy, restricted (non-residential) use. (40 CFR Part 761; 63 FR 35383-35474, June 29, 1998).

**LOU 1 Table 13
Groundwater Characterization Data - PCBs**

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program		Ph A ¹	Ph A	Ph A	Ph A	
Well ID		M7B	M98	M100	M100D	
Sample ID		M7B	M98	M100	M100D	
Sample Date		11/30/2006	11/30/2006	12/04/2006	12/04/2006	
PCBs	MCL ² ug/L					Unit
Aroclor-1016	5.00E-01 (bb)	0.10 U	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1221	5.00E-01 (bb)	0.10 U	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1232	5.00E-01 (bb)	0.10 U	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1242	5.00E-01 (bb)	0.10 U	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1248	5.00E-01 (bb)	0.10 U	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1254	5.00E-01 (bb)	0.10 U	0.10 U	0.10 U	0.10 U	ug/L
Aroclor-1260	5.00E-01 (bb)	0.10 U	0.10 U	0.10 U	0.10 U	ug/L

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility - Henderson, Nevada, September 2007.
 2. USEPA values unless noted
- (bb) Value for total PCBs.

**LOU 1 Table 14
Soil Characterization Data - Perchlorate**

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Boring ID	Sample ID	Sample Depth (ft)	Sample Date	Perchlorate ug/kg	PRG ² mg/kg	Sampling Program
SA21	SA21-0.5	0.5	11/15/2006	1170	1.00E+02	Ph A ¹
	SA21-10	10	11/15/2006	44.0 U	1.00E+02	Ph A
	SA21-20	20	11/15/2006	44.2 U	1.00E+02	Ph A
	SA21-20D	20	11/15/2006	41.8 U	1.00E+02	Ph A
	SA21-30	30	11/15/2006	2050	1.00E+02	Ph A
SA22	SA22-0.5	0.5	11/16/2006	4950	1.00E+02	Ph A
	SA22-10	10	11/16/2006	2460	1.00E+02	Ph A
	SA22-20	20	11/16/2006	60400	1.00E+02	Ph A
SA23	SA23-0.5	0.5	11/09/2006	2760	1.00E+02	Ph A
	SA23-10	10	11/09/2006	1280	1.00E+02	Ph A
	SA23-20	20	11/09/2006	43200	1.00E+02	Ph A
	SA23-20D	20	11/09/2006	34300	1.00E+02	Ph A

Notes:

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

LOU 1 Table 15
Groundwater Characterization Data - Perchlorate

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Well ID Number	Sample ID	Sample Date	Perchlorate	Units	MCL ² ug/L	Sampling Program
M7B	M7B	11/30/2006	61000	ug/L	1.80E+01 a,(m)	Ph A ¹
M98	M98	11/30/2006	21800	ug/L	1.80E+01 a,(m)	Ph A
M100	M100	12/04/2006	51400 J+	ug/L	1.80E+01 a,(m)	Ph A
M100D	M100D	12/04/2006	50700 J+	ug/L	1.80E+01 a,(m)	Ph A

Notes:

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

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

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

**LOU 1 Table 16
Soil Characterization Data - Radionuclides**

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

				Ra-226	Ra-228	Th-228	Th-230	Th-232	U-233/234	U-235/236	U-238	
				(gamma)	(gamma)	(TH MOD)	(TH MOD)	(TH MOD)	(U MOD)	(U MOD)	(U MOD)	
				pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	
			PRG² mg/kg	2.60E-02	1.50E-01	2.55E-01	2.02E+01	1.90E+01	3.24E+01	3.98E-01	1.80E+00	
Boring	Sample ID	Sample	Date									Sampling
SA21	SA21-0.5	0.5	11/15/2006	1.15 J	1.81	0.954 J	0.671 J-	0.742 J	0.314 J	0.0211 J+	0.237 J	Ph A ¹
	SA21-10	10	11/15/2006	1.22 U	2							Ph A
	SA21-20	20	11/15/2006	1.67 J	1.87							Ph A
	SA21-20D	20	11/15/2006	2.01	1.73							Ph A
	SA21-30	30	11/15/2006	1.48 J	1.87							Ph A
SA22	SA22-0.5	0.5	11/16/2006	1.01 J-	1.78 J-							Ph A
	SA22-10	10	11/16/2006	1.37 J-	1.78 J-							Ph A
	SA22-20	20	11/16/2006	2.28 J-	1.99 J-							Ph A
SA23	SA23-0.5	0.5	11/09/2006	1.11 J+	2.06 J+							Ph A
	SA23-10	10	11/09/2006	1.18 J+	1.66 U							Ph A
	SA23-20	20	11/09/2006	1.73 J+	1.59 J+							Ph A
	SA23-20D	20	11/09/2006	1.72 J+	1.34 J+							Ph A

Notes:

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

**LOU 1 Table 17
Groundwater Characterization Data - Radionuclides**

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

			Ra-226	Ra-228	Th-228	Th-230	Th-232	U-233/234	U-235/236	U-238	
			pci/L	pci/L	pci/L	pci/L	pci/L	pci/L	pci/L	pci/L	
		TW PRG (c) (dd)	8.16E-04	4.58E-02	1.59E-01	5.23E-01	4.71E-01	6.74E-01	6.63E-01	5.47E-01	
Well ID Number	Sample ID	Date									Sampling Program
M7B	M7B-Z	05/08/2007	0.672 J	1.85 J-							Ph A ¹
M98	M98	11/30/2006	0.43 J	0.465 J-							Ph A
M100	M100-Z	05/09/2007	0.151 U	0.240 UJ							Ph A
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

Notes:

(c) Equal to the USEPA Region 9 Preliminary Remediation Goals (PRGs) for tapwater (October, 2004).

(dd) USEPA, 2004. Radionuclide Toxicity and Preliminary Remediation Goals (PRGs) for Superfund. <http://epa-prgs.ornl.gov/radionuclides/download.shtml>. August 4, 2004. Soil values are the outdoor worker values; water values are the tapwater values. For radionuclides with decay chains, the PRG for the decay chain was used.

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

LOU 1 Table 18
Soil Characterization Data - SVOCs

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program			Ph A1	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.			SA21	SA21	SA21	SA21	SA21	SA22	SA22	SA22	SA23	SA23	SA23	SA23
Sample ID			SA21-0.5	SA21-10	SA21-20	SA21-20D	SA21-30	SA22-0.5	SA22-10	SA22-20	SA23-0.5	SA23-10	SA23-20	SA23-20D
Sample Depth (ft)			0.5	10	20	20	30	0.5	10	20	0.5	10	20	20
Sample Date			11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/16/2006	11/16/2006	11/16/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006
SVOC	PRG ² mg/kg	Analytical Method	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,4-Dioxane	1.57E+05	non-SIM	69 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
2-Methylnaphthalene	1.88E+05	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
2-Methylnaphthalene	1.88E+05	SIM	6.9 U											
Acenaphthene	2.92E+07	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Acenaphthene	2.92E+07	SIM	6.9 U											
Acenaphthylene	2.92E+07	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Acenaphthylene	2.92E+07	SIM	6.9 U											
Anthracene	2.40E+08	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Anthracene	2.40E+08	SIM	6.9 U											
Benz(a)anthracene	2.11E+03	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Benz(a)anthracene	2.11E+03	SIM	6.9 U											
Benzo(a)pyrene	2.11E+02	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Benzo(a)pyrene	2.11E+02	SIM	6.9 U											
Benzo(b)fluoranthene	2.11E+03	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Benzo(b)fluoranthene	2.11E+03	SIM	6.9 U											
Benzo(g,h,i)perylene	2.91E+07	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Benzo(g,h,i)perylene	2.91E+07	SIM	6.9 U											
Benzo(k)fluoranthene	2.11E+04	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	360 U
Benzo(k)fluoranthene	2.11E+04	SIM	6.9 U											
bis(2-Ethylhexyl)phthalate	1.23E+05	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Butyl benzyl phthalate	1.23E+08	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Chrysene	2.11E+05	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Chrysene	2.11E+05	SIM	6.9 U											
Dibenz(a,h)anthracene	2.11E+02	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Dibenz(a,h)anthracene	2.11E+02	SIM	6.9 U											
Diethyl phthalate	4.92E+08	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Dimethyl phthalate	6.16E+09	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Di-N-Butyl phthalate	6.16E+07	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Di-N-Octyl phthalate	2.46E+07	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Fluoranthene	2.20E+07	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Fluoranthene	2.20E+07	SIM	6.9 U											
Fluorene	2.63E+07	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Fluorene	2.63E+07	SIM	6.9 U											
Hexachlorobenzene	1.08E+03	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Hexachlorobenzene	1.08E+03	SIM	6.9 U											
Indeno(1,2,3-cd)pyrene	2.11E+03	non-SIM	340 UJ	360 UJ	360 UJ	340 UJ	370 UJ	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Indeno(1,2,3-cd)pyrene	2.11E+03	SIM	6.9 U											
Naphthalene	1.88E+05	non-SIM	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
Naphthalene	1.88E+05	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Naphthalene	1.88E+05	SIM	6.9 U											
Nitrobenzene	1.03E+05	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Octachlorostyrene	--	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U

**LOU 1 Table 18 (continued)
Soil Characterization Data - SVOCs**

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program			Ph A1	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.			SA21	SA21	SA21	SA21	SA21	SA22	SA22	SA22	SA23	SA23	SA23	SA23
Sample ID			SA21-0.5	SA21-10	SA21-20	SA21-20D	SA21-30	SA22-0.5	SA22-10	SA22-20	SA23-0.5	SA23-10	SA23-20	SA23-20D
Sample Depth (ft)			0.5	10	20	20	30	0.5	10	20	0.5	10	20	20
Sample Date			11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/16/2006	11/16/2006	11/16/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006
SVOC	PRG ² mg/kg	Analytical Method	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Phenanthrene	2.40E+08	n	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Phenanthrene	2.40E+08	SIM	6.9 U											
Pyrene	2.91E+07	non-SIM	340 U	360 U	360 U	340 U	370 U	420 U	370 U	380 U	380 U	400 U	400 U	380 U
Pyrene	2.91E+07	SIM	6.9 U											
Pyridine	6.16E+05	non-SIM	1700 U	1800 U	1800 U	1700 U	1800 U	2000 U	1800 U	1900 U	1900 U	1900 U	1900 U	1800 U

Notes:

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

LOU 1 Table 19
Groundwater Characterization Data - SVOCs

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program			Ph A ¹	Ph A	Ph A	Ph A
	Well No.		M7B	M98	M100	M100D
	Sample ID		M7B	M98	M100	M100D
	Sample Date		11/30/2006	11/30/2006	12/04/2006	12/04/2006
SVOCs	Analytic Method	MCL ² ug/L	ug/L	ug/L	ug/L	ug/L
1,4-Dioxane	non-SIM	6.11E+00 c	10 U	10 U	10 UJ	10 U
2-Methylnaphthalene	non-SIM	6.20E+00 c,(j)	10 U	10 U	10 UJ	10 U
2-Methylnaphthalene	SIM	6.20E+00 c,(j)				
Acenaphthene	non-SIM	3.65E+02 c	10 U	10 U	10 UJ	10 U
Acenaphthene	SIM	3.65E+02 c				
Acenaphthylene	non-SIM	3.65E+02 c,(pp)	10 U	10 U	10 UJ	10 U
Acenaphthylene	SIM	3.65E+02 c,(pp)				
Anthracene	non-SIM	1.83E+03 c	10 U	10 U	10 UJ	10 U
Anthracene	SIM	1.83E+03 c				
Benz(a)anthracene	non-SIM	9.21E-02 c	10 U	10 U	10 UJ	10 U
Benz(a)anthracene	SIM	9.21E-02 c				
Benzo(a)pyrene	non-SIM	2.00E-01	10 U	10 U	10 UJ	10 U
Benzo(a)pyrene	SIM	2.00E-01				
Benzo(b)fluoranthene	non-SIM	9.21E-02 c	10 U	10 U	10 UJ	10 U
Benzo(b)fluoranthene	SIM	9.21E-02 c				
Benzo(g,h,i)perylene	non-SIM	1.83E+02 c,(w)	10 U	10 U	10 UJ	10 U
Benzo(g,h,i)perylene	SIM	1.83E+02 c,(w)				
Benzo(k)fluoranthene	non-SIM	9.21E-01 c	10 U	10 U	10 UJ	10 U
Benzo(k)fluoranthene	SIM	9.21E-01 c				
bis(2-Ethylhexyl)phthalate	non-SIM	6.00E+00	10 U	10 U	10 UJ	10 U
Butyl benzyl phthalate	non-SIM	7.30E+03 c	10 U	10 U	10 UJ	10 U
Chrysene	non-SIM	9.21E+00 c	10 U	10 U	10 UJ	10 U
Chrysene	SIM	9.21E+00 c				
Dibenz(a,h)anthracene	non-SIM	9.21E-03 c	10 U	10 U	10 UJ	10 U
Dibenz(a,h)anthracene	SIM	9.21E-03 c				
Diethyl phthalate	non-SIM	2.92E+04 c	10 U	10 U	10 UJ	10 U
Dimethyl phthalate	non-SIM	3.65E+05 c	10 U	10 U	10 UJ	10 U
Di-N-Butyl phthalate	non-SIM	3.65E+03 c	10 U	10 U	10 UJ	10 U
Di-N-Octyl phthalate	non-SIM	1.46E+03 c	10 U	10 U	10 UJ	10 U
Fluoranthene	non-SIM	1.46E+03 c	10 U	10 U	10 UJ	10 U
Fluoranthene	SIM	1.46E+03 c				
Fluorene	non-SIM	2.43E+02 c	10 U	10 U	10 UJ	10 U
Fluorene	SIM	2.43E+02 c				
Hexachlorobenzene	non-SIM	1.00E+00	10 U	10 U	10 UJ	10 U
Hexachlorobenzene	SIM	1.00E+00				
Indeno(1,2,3-cd)pyrene	non-SIM	9.21E-02 c	10 U	10 U	10 UJ	10 U
Indeno(1,2,3-cd)pyrene	SIM	9.21E-02 c				
Naphthalene	non-SIM	6.20E+00 c	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	non-SIM	6.20E+00 c	10 U	10 U	10 UJ	10 U
Naphthalene	SIM	6.20E+00 c				
Nitrobenzene	non-SIM	3.40E+00 c	10 U	10 U	10 UJ	10 U
Octachlorostyrene	non-SIM	-- c	10 U	10 U	10 UJ	10 U
Phenanthrene	non-SIM	1.80E+03 (n)	10 U	10 U	10 UJ	10 U
Phenanthrene	SIM	1.80E+03 (n)				
Pyrene	non-SIM	1.83E+02 c	10 U	10 U	10 UJ	10 U
Pyrene	SIM	1.83E+02 c				
Pyridine	non-SIM	3.65E+01 c	20 U	20 U	20 UJ	20 UJ

Notes:

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

**LOU 1 Table 20
Soil Characterization Data - TPH and Fuel Alcohols**

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

				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	
			PRG ² mg/kg	--	1.23E+06 oo	3.08E+05 oo	1.00E+02 w	1.00E+02 w	1.00E+02 w	
Boring No.	Sample ID.	Sample Depth (ft)	Sample Date							
SA21	SA21-0.5	0.5	11/15/2006				26 U	26 U	0.10 U	Ph A ¹
	SA21-10	10	11/15/2006				28 U	28 U	0.11 U	Ph A
	SA21-20	20	11/15/2006				28 U	28 U	0.11 U	Ph A
	SA21-20D	20	11/15/2006				26 U	26 U	0.10 U	Ph A
	SA21-30	30	11/15/2006				28 U	28 U	0.11 U	Ph A
SA22	SA22-0.5	0.5	11/16/2006				32 U	32 U	0.13 UJ	Ph A
	SA22-10	10	11/16/2006				28 U	28 U	0.11 U	Ph A
	SA22-20	20	11/16/2006				29 U	29 U	0.12 U	Ph A

Notes:

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

LOU 1 Table 21
Soil Characterization Data - VOCs

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program	CSM ¹	CSM	CSM	Ph A ²	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.	SA21	SA21	SA21	SA21	SA21	SA22	SA22	SA22	SA22	SA23	SA23	SA23	SA23
Sample ID	SA21-0.5	SA21-10	SA21-20	SA21-20D	SA21-30	SA22-0.5	SA22-10	SA22-20	SA23-0.5	SA23-10	SA23-20	SA23-20D	SA23-20D
Sample Depth (ft)	0.5	10	20	20	30	0.5	10	20	0.5	10	20	20	20
Sample Date	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/16/2006	11/16/2006	11/16/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006
VOCs	PRG ² mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Naphthalene	1.88E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
1,1,1,2-Tetrachloroethane	7.28E+00	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
1,1,1-Trichloroethane	6.90E+03 (mm)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
1,1,2,2-Tetrachloroethane	9.29E-01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
1,1,2-Trichloroethane	1.61E+00	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
1,1-Dichloroethane	1.74E+03	5.2 U	3.0 J	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
1,1-Dichloroethene	4.13E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
1,1-Dichloropropene	1.76E+00 (gg)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
1,2,3-Trichlorobenzene	2.16E+02 (hh)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
1,2,3-Trichloropropane	7.60E-02 (yy)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
1,2,4-Trichlorobenzene	2.16E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
1,2,4-Trimethylbenzene	1.70E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
1,2-Dibromo-3-chloropropane	2.02E+00	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
1,2-Dichlorobenzene	4.00E+03 (mm)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
1,2-Dichloroethane	6.03E-01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
1,2-Dichloropropane	7.42E-01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
1,3,5-Trimethylbenzene	6.97E+01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
1,3-Dichlorobenzene	2.10E+03 (mm)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
1,3-Dichloropropane	3.61E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
1,4-Dichlorobenzene	7.87E+00	5.2 U	1.2 J	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
2,2-Dichloropropane	7.42E-01 (ii)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
2-Butanone	1.13E+05	10 U	11 U	11 U	10 U	11 U	13 U	11 U	4.2 J	12 U	12 U	12 U	12 U
2-Chlorotoluene	5.60E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
2-Hexanone	4.70E+04 (nn)	10 UJ	11 UJ	11 UJ	10 UJ	11 UJ	13 UJ	11 UJ	12 UJ	12 U	12 U	12 U	12 U
2-Methoxy-2-methyl-butane	--	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
4-Chlorotoluene	5.60E+02 (ww)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
4-Isopropyltoluene	--	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
4-Methyl-2-pentanone	4.70E+04	10 U	11 U	11 U	10 U	11 U	13 U	11 U	12 U	12 U	12 U	12 U	12 U
Acetone	5.43E+04	20	35	11 U	10 U	15	13 U	11 U	14 U	12 UJ	12 UJ	12.0 UJ	12 UJ
Benzene	1.41E+00	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	0.37 J	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
Bromobenzene	9.22E+01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
Bromochloromethane	1.83E+00 (qq)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
Bromodichloromethane	1.83E+00	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
Bromoform	2.18E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
Bromomethane	1.31E+01	10 U	11 UJ	11 U	10 U	11 U	13 U	11 U	12 U	12 UJ	12 UJ	12 UJ	12 UJ
Carbon tetrachloride	5.49E-01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
Chlorobenzene	5.30E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
Chloroethane	6.49E+00	5.2 UJ	5.5 UJ	5.5 UJ	5.2 UJ	5.6 UJ	6.3 UJ	5.5 UJ	5.8 UJ	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
Chloroform	4.70E-01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	0.31 J	5.8 U	7.8	6.0 U	5.8 U
Chloromethane	1.56E+02	5.2 UJ	5.5 UJ	5.5 UJ	5.2 UJ	5.6 UJ	6.3 UJ	5.5 UJ	5.8 UJ	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
cis-1,2-Dichloroethene	1.46E+02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U

LOU 1 Table 21 (Continued)
Soil Characterization Data - VOCs

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

Sampling Program	CSM ¹	CSM	CSM	Ph A ²	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.	SA21	SA21	SA21	SA21	SA21	SA22	SA22	SA22	SA22	SA23	SA23	SA23	SA23
Sample ID	SA21-0.5	SA21-10	SA21-20	SA21-20D	SA21-30	SA22-0.5	SA22-10	SA22-20	SA22-20	SA23-0.5	SA23-10	SA23-20	SA23-20D
Sample Depth (ft)	0.5	10	20	20	30	0.5	10	20	20	0.5	10	20	20
Sample Date	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/16/2006	11/16/2006	11/16/2006	11/16/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006
VOCs	PRG ² mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
cis-1,3-Dichloropropene	1.76E+00 (gg)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
Dibromochloromethane	2.55E+00	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
Dibromomethane	2.34E+02 (xx)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
Dichlorodifluoromethane	3.08E+02	5.2 UJ	5.5 UJ	5.5 UJ	5.2 UJ	5.6 UJ	6.3 UJ	5.5 UJ	5.8 UJ	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
Ethyl t-butyl ether	3.64E+01 (kk)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
Ethylbenzene	7.40E+03 (mm)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
Ethylene dibromide	7.30E-02	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
Hexachlorobutadiene	2.21E+01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
isopropyl ether	--	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
Isopropylbenzene	2.00E+03 (zz)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
Methyl tert butyl ether	3.64E+01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
Methylene chloride	2.05E+01	5.2 U	40	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
N-Butylbenzene	2.19E+03 (mm)	5.2 U	5.5 UJ	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
N-Propylbenzene	2.19E+03 (mm)	5.2 UJ	5.5 UJ	5.5 UJ	5.2 UJ	5.6 UJ	6.3 UJ	5.5 UJ	5.8 UJ	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
sec-Butylbenzene	1.63E+03 (mm)	5.2 UJ	5.5 UJ	5.5 UJ	5.2 UJ	5.6 UJ	6.3 UJ	5.5 UJ	5.8 UJ	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
Styrene	1.80E+04 (mm)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
t-Butyl alcohol	--	10 UJ	11 UJ	11 UJ	10 UJ	11 UJ	13 UJ	11 UJ	12 UJ	15 UJ	16 UJ	16.0 UJ	18 UJ
tert-Butylbenzene	1.97E+03 (mm)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
Tetrachloroethene	1.31E+00	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
Toluene	2.20E+03 (mm)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	0.31 J	0.34 J	5.8 U	6.0 U	6.0 U	5.8 U
trans-1,2-Dichloroethylene	--	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
trans-1,3-Dichloropropene	1.76E+00 (gg)	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
Trichloroethene	1.15E-01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
Trichlorofluoromethane	1.28E+03 (mm)	5.2 UJ	5.5 UJ	5.5 UJ	5.2 UJ	5.6 UJ	6.3 UJ	5.5 UJ	5.8 UJ	5.8 UJ	6.0 UJ	6.0 UJ	5.8 UJ
Vinylchloride	7.46E-01	5.2 U	5.5 U	5.5 U	5.2 U	5.6 U	6.3 U	5.5 U	5.8 U	5.8 U	6.0 U	6.0 U	5.8 U
Xylene (Total)	9.00E+02 (mm)	10 U	11 U	11 U	10 U	11 U	13 U	11 U	12 U	12 UJ	12 UJ	12 UJ	12 UJ

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

LOU 1 Table 22
Groundwater Characterization Data - VOCs

Trade Effluent Settling Ponds
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	Ph A	Ph A
	Well ID	M7B	M98	M100	M100D
	Sample ID	M7B	M98	M100	M100D
	Sample Date	11/30/2006	11/30/2006	12/04/2006	12/04/2006
VOCs	MCL ² ug/L	ug/L	ug/L	ug/L	ug/L
Naphthalene	6.20E+00 c	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1,2-Tetrachloroethane	4.32E-01 c	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1-Trichloroethane	2.00E+02	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	5.00E+00	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	5.00E+00	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	8.11E+02 c	2.1 J	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	7.00E+00	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloropropene	3.95E-01 c,gg	5.0 U	5.0 U	5.0 U	5.0 U
1,2,3-Trichlorobenzene	7.16E+00 c,hh	5.0 U	5.0 U	5.0 U	5.0 U
1,2,3-Trichloropropane	5.60E-03 c,yy	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trichlorobenzene	7.00E+01	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trimethylbenzene	1.23E+01	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-chloropropane	2.00E-01	5.0 U	5.0 U	5.0 UJ	5.0 UJ
1,2-Dichlorobenzene	6.00E+02	5.0 U	5.0 U	0.48 J	0.60 J
1,2-Dichloroethane	5.00E+00	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	5.00E+00	5.0 U	5.0 U	5.0 U	5.0 U
1,3,5-Trimethylbenzene	1.23E+01 c	5.0 U	5.0 U	5.0 U	5.0 U
1,3-Dichlorobenzene	1.83E+02 c	5.0 U	5.0 U	0.60 J	0.73 J
1,3-Dichloropropane	1.22E+02 c	5.0 U	5.0 U	5.0 U	5.0 U
1,4-Dichlorobenzene	7.50E+01	5.0 U	5.0 U	1.5 J	0.72 J
2,2-Dichloropropane	1.65E-01 c,ii	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone	6.97E+03 c	10 U	10 U	10 U	10 U
2-Chlorotoluene	1.22E+02 c	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	2.00E+03 c,nn	10 UJ	10 UJ	10 U	10 U
2-Methoxy-2-methyl-butane	--	5.0 U	5.0 U	5.0 U	5.0 U
4-Chlorotoluene	1.22E+02 c,ww	5.0 U	5.0 U	5.0 U	5.0 U
4-Isopropyltoluene	--	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone	1.99E+03 c	10 U	10 U	10 UJ	10 UJ
Acetone	5.48E+03 c	10 U	10 U	10 U	10 U
Benzene	5.00E+00	5.0 U	5.0 U	5.0 U	5.0 U
Bromobenzene	2.03E+01 c	5.0 U	5.0 U	5.0 U	5.0 U
Bromochloromethane	1.81E-01 c,qq	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	8.00E+01 r	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	8.00E+01 r	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane	8.66E+00 c	10 UJ	10 UJ	10 UJ	10 UJ
Carbon tetrachloride	5.00E+00	5.0 U	9.6 J+	5.0 U	5.0 U
Chlorobenzene	1.00E+02 c,o	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	4.64E+00	5.0 UJ	5.0 UJ	5.0 U	5.0 U
Chloroform	8.00E+01 r	2.3 J	810 J+	36	38
Chloromethane	1.58E+02 c	5.0 UJ	5.0 UJ	5.0 U	5.0 U
cis-1,2-Dichloroethene	7.00E+01	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	3.95E-01 c,gg	5.0 U	5.0 U	5.0 U	5.0 U

LOU 1 Table 22 (Continued)
Groundwater Characterization Data - VOCs

Trade Effluent Settling Ponds
Tronox Facility - Henderson, Nevada

Sampling Program			Ph A ¹	Ph A	Ph A	Ph A
		Well ID	M7B	M98	M100	M100D
		Sample ID	M7B	M98	M100	M100D
		Sample Date	11/30/2006	11/30/2006	12/04/2006	12/04/2006
VOCs	MCL ² ug/L		ug/L	ug/L	ug/L	ug/L
Dibromochloromethane	8.00E+01	r	5.0 U	5.0 U	5.0 U	5.0 U
Dibromomethane	6.08E+01	c,xx	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane	3.95E+02	c	5.0 UJ	5.0 UJ	5.0 U	5.0 U
Ethyl t-butyl ether	1.10E+01	c,kk	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	7.00E+02		5.0 U	5.0 U	5.0 U	5.0 U
Ethylene dibromide	--		5.0 U	5.0 U	5.0 U	5.0 U
Hexachlorobutadiene	8.62E-01	c	5.0 U	5.0 U	5.0 U	5.0 U
isopropyl ether	--		5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	6.58E+02	c,zz	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert butyl ether	2.00E+01	a,uu	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	5.00E+00		5.0 U	5.0 U	5.0 U	5.0 U
N-Butylbenzene	2.43E+02	c	5.0 U	5.0 U	5.0 U	5.0 U
N-Propylbenzene	2.43E+02	c	5.0 U	5.0 U	5.0 U	5.0 U
sec-Butylbenzene	2.43E+02	c	5.0 UJ	5.0 UJ	5.0 U	5.0 U
Styrene	1.00E+02		5.0 U	5.0 U	5.0 U	5.0 U
t-Butyl alcohol	--		10 UJ	10 UJ	10 UJ	10 UJ
tert-Butylbenzene	2.43E+02	c	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	5.00E+00		5.0 U	0.54 J+	5.0 U	5.0 U
Toluene	1.00E+03		5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethylene	1.00E+02		5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	--		5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	5.00E+00		5.0 U	5.0 U	5.0 U	5.0 U
Trichlorofluoromethane	--		5.0 UJ	5.0 UJ	5.0 U	5.0 U
Vinylchloride	2.00E+00		5.0 U	5.0 U	5.0 U	5.0 U
Xylene (Total)	1.00E+04		10 U	10 U	10 U	10 U

Notes:

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

LOU 1 Table 23
Soil Characterization Data - Long Asbestos Fibers in Respirable Soil Fraction

Tronox LLC Facility - Henderson, Nevada
Trade Effluent Settling Ponds

No.	Sample ID	Sample Date	Long Amphibole Protocol Structures (s/gPM10)	Long Amphibole Protocol Structures (structures/samples)	Long Chrysotile Protocol Structures (s/gPM10)	Long Chrysotile Protocol Structures (structures/samples)	Sampling Program
SA21	SA21	12/02/2006	2935000 U	0	2935000 U	0	Ph A ¹
SA22	SA22	12/02/2006	2883000 U	0	2883000 U	0	Ph A
SA23	SA23	12/02/2006	2939000 U	0	2940000	1	Ph A

Notes:

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

Notes for Phase A Data Tables

Trade Effluent Settling Ponds
Tronox Facility - Henderson, Nevada

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