

Summary of Available Data for LOU 5 Beta Ditch

Tronox Facility – Henderson, Nevada

Name of Facility:	On-Site Portion of Beta Ditch Including the Small Diversion Ditches
Goal of Closure:	<ul style="list-style-type: none"> • Closure for future commercial/industrial uses.
Site Investigation Area:	<ul style="list-style-type: none"> • Size: The total size of the Beta Ditch is approximately 3,950 linear feet encompassing 1.76 acres. <ul style="list-style-type: none"> – <u>Stauffer Extension</u>: Approximately 800 feet by 25 feet wide (0.46 acre). – <u>Western Diversion Ditch</u>: Approximately 200 feet by 35 feet (0.16 acre). – <u>Main Portion of Beta Ditch</u>: Approximately 2,000 feet by 25 feet (western and central portions) to 7 feet (eastern portion; 0.92 acre). – <u>Eastern Diversion Ditches</u>: Approximately 950 feet by 10 feet (0.22 acre). • Location: <ul style="list-style-type: none"> – <u>Stauffer Extension</u>: Straight ditch north of the AP Maintenance Shop from the curve of Beta Ditch extending to the western boundary of the Site. – <u>Western Diversion Ditch</u>: Curved portion of the Beta Ditch extending from the Storm Sewer System out flow, on the north side of the ammonium perchlorate (AP) Laboratory, to the confluence with the Stauffer Extension. – <u>Main Portion of Beta Ditch</u>: Central portion of the facility, extending from the confluence of the Western Diversion Ditch and the Stauffer Extension and then curving to the eastern boundary of the property. – <u>Eastern Diversion Ditches</u>: Two branched diversion ditches are described as follows: the first branch extends from the main portion of Beta Ditch southeast to 9th Street which it parallels to Avenue D. The second branch is northwest and west of Pond C-1 (LOU 20) extending from the south side of the first branch. A portion of the westernmost Eastern Diversion Ditch lies within Area III, but for the purpose of this LOU packages, the entire Beta Ditch system will be discussed herein. • Current Status/Features: The Beta Ditch historically carried process wastes, but now carries only storm water. The majority of the Beta Ditch is bermed and supports native vegetation.

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Description:

Stauffer Extension

- The Western Diversion Ditch is an approximate 800-foot long east to west ditch north of the AP Maintenance Shop on the western part of the Site extending from the southern curving section of the Beta Ditch [Ref. 1].
- This ditch receives stormwater run-off from the west-central off-site area and combines with the onsite portion of the Beta Ditch [Ref. 2].

Main Portion of Beta Ditch and Western Diversion Ditch

- The Beta Ditch is an unlined east-west trending ditch that historically received various wastes from process operations at the following facilities: U.S. Government (1941 through 1944), Tronox and tenants (early 1940's through early 1976), Stauffer (1970 to April 1, 1976), and Montrose (1970 to April 1, 1976) [Ref. 1].
- The Beta Ditch was constructed circa 1941 or 1942 [Ref. 1].
- The original western boundary was just northwest of the current Tronox AP Maintenance Shop (LOU 39) and the eastern boundary extended on to the Timet property.
- In 1970, the Beta Ditch was extended westward to allow Stauffer and Montrose wastes to be transmitted through the Beta Ditch [Ref. 1].
- The LOU 5 surface gradient trends across the Site to the east towards topographically lower areas [Ref. 1].
- Prior to 1976, primary use of the Beta Ditch was for a variety of liquid and slurried wastes from various operating companies and leases between 1941 to 1942 and 1976 [Ref. 1].
- Between 1976 and 1993, the ditch conveyed non-contact cooling water and periodically, stormwater run-off [Ref. 1].
- Prior to January 1976, the average combined volume of effluent from process waste discharged to the Beta Ditch was approximately 600,000 gallons per day [Ref. 1].
- By January 1976, the facility achieved a “zero discharge” industrial wastewater effluent program [Ref. 1].
- From January 1976 to present (January 2008), the on-site portion of the Beta Ditch has been used by Tronox to transmit the following [Ref.1]:
 - stormwater run-off from the southern portions of the Site and from the Stauffer facility;
 - once through, non-contact cooling water;
 - periodic upsets of feed water associated with the former Main Cooling Tower (LOU 46); and
 - effluent from Flintkote (until 1979).

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- A water balance calculation, using data from 1981, suggested that seepage from the Beta Ditch was approximately 100,000 gallons each day of use or roughly 3.5 percent of the solution transmitted [Ref. 1].
- In 1993, light colored sediment and salt-like deposits were observed throughout the majority of the Beta Ditch. No evidence of overtopping or other flooding was observed [Ref. 1].

Eastern Diversion Ditches:

- The diversion ditch west and northwest of Pond C-1 (LOU 20) joins the Beta Ditch in the eastern portion of the Site and is considered part of the Beta Ditch [Ref. 1].
- The diversion ditch receives stormwater runoff from the Historic Manganese Tailings Area (LOU 24) and historically from the former Main Cooling Tower (LOU 46) upsets [Ref. 1].
- The ditch was lined with broken concrete and metal parts of cells to reduce bank erosion [Ref. 1].

Process Waste Streams Associated with LOU 5 (Beta Ditch)	Known or Potential Constituents Associated with LOU 5
<p><u>U.S. Government Operations (1941 to 1945)</u> [Ref. 1]:</p> <ul style="list-style-type: none"> • “Trade Effluent” wastes consisting of acid effluent and waste caustic liquor. 	<ul style="list-style-type: none"> • Metals • Hexavalent chromium • Wet chemistry • Organochlorine pesticides
<p><u>Kerr-McGee and Predecessors (1945 to 1976)</u> [Ref. 1]:</p> <p>Waste effluents from the following processes:</p> <ul style="list-style-type: none"> • Sodium chlorate • Potassium chlorate • Sodium perchlorate • Potassium perchlorate • Manganese perchlorate • Ammonium perchlorate • Boron process 	<ul style="list-style-type: none"> • Metals • Hexavalent chromium • Perchlorate • Wet chemistry

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<p><u>Kerr-McGee and Predecessors (1945 to 1976)</u> <u>[Ref. 1]:</u> Cooling tower blowdown, boiler blowdown, housekeeping washings, storm drains, acid drains, and once through cooling water.</p>	<ul style="list-style-type: none"> • Metals • Hexavalent chromium • Cyanide • Wet chemistry analytes <p>Once through cooling water and cooling tower blowdown:</p> <ul style="list-style-type: none"> • Sulfates • Carbonates • Phosphates • Chloride • Sulfide • Perchlorate • Chlorate • Ammonia
<p>Process Waste Streams Associated with LOU 64 (Koch Materials)</p>	<p>Known or Potential Constituents Associated with LOU 64</p>
<p>Fluids containing petroleum hydrocarbon related materials including heavy oils/tars, asphalt cement, and washout of chemical tanks from Koch Materials Company Site [Ref. 1].</p>	<ul style="list-style-type: none"> • Metals • VOCs • SVOCs • Wet chemistry analytes • TPH-DRO/ORO
<p>Unknown process wastes from off-site property to the west.</p>	<ul style="list-style-type: none"> • Metals • Hexavalent chromium • Perchlorate • Wet chemistry analytes • VOCs • SVOCs • Organochlorine pesticides • Radionuclides • Dioxins and furans
<p>Process Waste Streams Associated with LOU 62 (State Industries)</p>	<p>Known or Potential Constituents Associated with LOU 62</p>
<p>Process wastewater from State Industries conveyed to the Beta Ditch through the Acid Drain System [Ref. 1].</p>	<ul style="list-style-type: none"> • Spent sulfuric acid • Borax • Soda ash • Phosphate chemicals • Spent cyanide

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Process Waste Streams Associated with LOU 57 (AP Plant Transfer Lines)	Known or Potential Constituents Associated with LOU 57
Spent caustic scrubbing solution from chlorine gas scrubbing operation from AP Plant process area discharged to the Beta Ditch prior to 1976 and post-1976 recycled to the sodium chlorate process in Unit 3 [Ref. 1].	<ul style="list-style-type: none"> • Sodium chloride and sodium hypochlorite • Metals • Perchlorate • Wet chemistry analytes
Process Waste Streams Associated with LOU 39 (Satellite Accumulation Point-AP Maintenance Shop)	Known or Potential Constituents Associated with LOU 39
Oil and grease sludge containing 1,1,1-TCA from the parts washer, and waste materials from the Satellite Accumulation Point Area.	<ul style="list-style-type: none"> • Metals • Perchlorate • Wet chemistry analytes • VOCs (1,1,1-TCA) • TPH (oil and grease)
Process Waste Streams Associated with LOU 46 (Former Main Cooling Tower)	Known or Potential Constituents Associated with LOU 46
Recirculation cooling water from the Main Cooling Tower [Ref. 1].	<ul style="list-style-type: none"> • Sulfates • Carbonates • Phosphates • Chloride • Sulfide • Perchlorate • Chlorate • Ammonia
Process Waste Streams Associated with LOU 60 (Acid Drain System)	Known or Potential Constituents Associated with LOU 60
Effluent from the Acid Drain System.	<ul style="list-style-type: none"> • Metals • Hexavalent chromium • Cyanide (associated with LOU 62) • Perchlorate • Wet chemistry analytes • Organochlorine pesticides (associated with LOU 4)

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Process Waste Streams Associated with LOU 24 (Leach Beds, Associated Conveyance, and Mn Tailings Area)	Known or Potential Constituents Associated with LOU 24
Leachate from Mn Tailings Pile.	<ul style="list-style-type: none"> • Manganese, trace heavy metal sulfides • Wet chemistry analytes
Waste water from dewatering of Mn tailings placed in the leach beds.	<ul style="list-style-type: none"> • Manganese, trace heavy metal sulfides • Wet chemistry analytes
Process Waste Stream Associated with LOU 46 (Former Main Cooling Tower)	Known or Potential Constituents Associated with LOU 46
Recirculation cooling water from the Main Cooling Tower [Ref. 1].	<ul style="list-style-type: none"> • Metals (manganese) • Hexavalent chromium • Wet chemistry analytes • Sulfates • Carbonates • Phosphates • Chloride • Sulfide • Perchlorate • Chlorate • Ammonia
Several process wastes from historical U.S. Government, Tronox, and Timet processes.	<ul style="list-style-type: none"> • Metal wastes (manganese, boron) • Hexavalent chromium • Wet chemistry analytes
Recirculation cooling water, pass-through and treatment water.	<ul style="list-style-type: none"> • Sulfates • Carbonates • Phosphates • Chloride • Sulfide • Perchlorate • Chlorate • Ammonia

Overlapping or Adjacent LOUs:

The following LOUs overlap or are adjacent to each other as shown on Figure 1:

Overlapping LOUs

- LOU 57 (AP Plant Transfer Lines to Sodium Chlorate Process and Ponds) – The central main portion of the Beta Ditch is overlapped by LOU 57.

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- LOU 60 (Acid Drain System) – The flume of the Acid Drain system crosses diagonally the central main portion of the Beta Ditch.

Adjacent LOUs

- LOU 19 (Pond AP-5) – This LOU is located north of the central main portion of the Beta Ditch.
- LOUs 16, 17, and 18 (Ponds AP-1 through AP-4) – These LOUs are located south of the central main portion of the Beta Ditch. LOU 18 is also located west of the Eastern Diversion Ditches.
- LOU 20 (Pond C-1) – LOU 20 is located south of the east side of the Main portion of the Beta Ditch and east of the Eastern Diversion Ditches.
- LOU 24 (Leach Beds, Associated Conveyance Facilities, and Mn Tailings Area) – LOU 24 is located southeast (upgradient) of the Eastern Diversion Ditches.
- LOU 21 (Pond Mn-1) – LOU 21 is located southeast (cross-gradient) of the Eastern Diversion Ditches.
- LOU 52 (AP Plant Area Screening Building, Dryer Building and Associated Sump) – LOU 52 is located south of the western portion of the Main Portion of the Beta Ditch and east of the Western Diversion Ditch.
- LOU 54 (AP Plant Area Change House/Laboratory Septic Tank) – LOU 54 is located south of the central portion of the Stauffer Extension.
- LOU 2 (Open Area South of Former Trade Effluent Settling Ponds) – LOU 2 is located north of the central portion of the Stauffer Extension.
- LOUs 39 and 38 (Satellite Accumulation Point, AP Maintenance Shop and Satellite Accumulation Point, AP-Laboratory) – LOUs 39 and 38 are located south of the Western Diversion Ditch.

LOUs Potentially Affecting Soils in LOU 5:

The following overlapping or adjacent LOUs to LOU 5 have the potential to be affected:

- LOU 16, 17, 18, 19, and 20 – Though no evidence or documentation indicates overtopping or other flooding of the AP Ponds or Pond C-1 [Ref. 1], there is a small potential for these LOUs to affect the Beta Ditch. Additionally, these LOUs and the Beta Ditch were bermed; and therefore are unlikely to affect each other. For these reasons, the addition of other chemical classes to the Phase B Analytical Plan for LOU 5 is not required.

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- LOU 24 – Storm water run-off from the Mn tails pile and process area flowed to a small north-south trending diversion ditch and into the westernmost Eastern Diversion Ditch (LOU 5) [Ref. 1]. This LOU has the potential for affecting subsurface soil in the Beta Ditch.
- LOU 46 – Historically the former Main Cooling Tower experienced several recirculation water upsets resulting in discharge of high conductivity water into the westernmost Eastern Diversion Ditch (LOU 5) [Ref. 1]. This LOU has the potential for affecting subsurface soil in the Beta Ditch.
- LOU 57 – LOU 5 lies within the footprint of the AP Plant's surface impoundment and transfer lines. The HDPE lines replaced process waste discharge into the Beta Ditch. Minor leaks on pipes were repaired as needed. This LOU has minimal potential for affecting subsurface soil in the Beta Ditch; therefore, the addition of other chemical classes to the Phase B Analytical Plan for LOU 5 is not required.
- LOU 62 – The State Industries Site is located in the southernmost portion of the Site and consists of two surface impoundments (SIs) that received spent pickling process wastes (for solar evaporation) generated during the manufacture of water heaters. On June 21, 1971 un-neutralized cyanide waste was discharged to the Beta Ditch. This LOU has the potential for affecting subsurface soil in the Beta Ditch.
- LOU 60 (Acid Drain System) – An aboveground branch of the Acid Drain System runs diagonally through the center of LOU 5 from northeast to southwest. From the Acid Effluent Neutralization Plant, effluent was transported along a surface conveyance (e.g., a flume) for disposal in the Trade Effluent Settling Ponds. There have been no reported releases from the system [Ref. 1]. Therefore, the addition of other chemical classes to the Phase B Analytical Plan for LOU 5 is not required.

In addition to the above stated LOUs potentially affecting LOU 5, offsite process waste streams have flowed through the Stauffer Extension and Main Portion of the Beta Ditch and may affect LOU 5. The sources of offsite process waste streams are unknown.

Known or potential chemical classes associated with offsite sources, and LOUs 24, 46, and 62 are consistent with those listed for LOU 5; 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.

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Known or Potential Chemical Classes:

- Metals
- Hexavalent chromium
- Cyanide
- Perchlorate
- Wet chemistry analytes
- VOCs
- SVOCs
- Organochlorine pesticides
- TPH-DRO/ORO
- Radionuclides
- Dioxins and furans
- Asbestos

Known or Potential Release Mechanisms:

- Potential infiltration to subsurface soils and groundwater.
- Potential overtopping or other flooding affecting surrounding soils.

Results of Historical Sampling:

Soil

- VOCs, SVOCs, pesticides, and PCBs were detected in the Beta Ditch (samples BDB-02 to BDB-05) during a Phase II investigation conducted in 1996 [Ref. 3].

Groundwater

- Area-wide groundwater sampling of wells I-AR, M-2A, M14A, M-17A, M-19, M-22A, M-34, M-35, M-38, M-39, M-67, M-68, M-75, M-76, and M-89 conducted between 1997 and 2004 identified total chromium and perchlorate in surrounding groundwater. Additionally, wells M-19, M-34, M-35, and M-39 identified manganese in surrounding groundwater. All wells have also been analyzed for pH, electric conductivity, and total dissolved solids.

Analytical results are summarized in **LOU 5 Tables 6 and 23** (see attached) [Ref. 4].

Did Historical Samples Address Potential Release?

- No, historical borings were limited in depth and constituents tested; additionally, the borings were not representative of the full extent of the LOU.

Summary of Phase A SAI:

Soil:

- Phase A borings SA14, SA16, and SA17 are located within the LOU and were specifically sampled to evaluate this LOU [Ref. 5]

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Groundwater:

- Phase A wells M-89 and M-39 to the north (downgradient) were specifically sampled to evaluate this LOU [Ref. 5].
- Groundwater sample (GWSA14) was collected from Phase A boring SA14 and was specifically sampled to evaluate this LOU.

Chemical classes detected in Phase A soil borings SA14, SA 16, and SA 17:

- Metals
- Hexavalent chromium (SA16 and SA17 only)
- Perchlorate
- Wet Chemistry Analytes
- VOCs
- SVOCs (SA14 and SA17 only)
- TPH-GRO (SA14 only)
- Dioxins/furans
- Organochlorine Pesticides
- Radionuclides
- Asbestos

As a result of the Phase A data, the Phase B analytical plan for samples collected from LOU 5 will be expanded to include analyses for TPH-GRO and asbestos.

- Analytical results for soil and groundwater from the Phase A sampling event are summarized in LOU 5 Tables 1 through 5 and 7 through 22 (see attached) [Ref. 5].

Are Phase A Sample Locations in “Worst Case” Areas?

- Yes; however, additional soil borings will be drilled in the Beta Ditch for better LOU coverage.

Is Phase B Investigation Recommended?

- Yes

Proposed Phase B Soil Investigation/Rationale:

The Phase B investigation for LOU 5 consists of collecting judgmental soil samples from 23 locations:

- Nine (9) soil borings will be drilled within the Beta Ditch and associated diversion ditches.
- Six (6) soil borings will be drilled south (upgradient) of LOU 5.
- Five (5) soil borings will be drilled north (downgradient) of LOU 5.
- Two (2) soil borings will be drilled east and west (cross-gradient) of LOU 5.
- One (1) soil boring will be drilled north and south (up- and down-gradient) of LOU 5.

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- All 23 borings along with the analytical program to evaluate soil samples from LOU 5 are listed on **Table A – Soil Sampling and Analytical Plan for LOU 5.**
- Soil sample locations consist of both judgmental and randomly-placed locations.
- Judgmental sample locations:
 - Designed to evaluate soil for known or potential chemical classes associated with LOU 5, based on the known process waste streams.
 - Eighteen (18) of the 23 sample locations are judgmental locations and consist of soil borings SA67, SA69, SA66, SA70, SA128, SA129, SA104, SA175, SA49, SA154, SA107, SA155, SA158, SA86, SA71, SA92, SA165, and SA131.
- Random sample locations:
 - Designed to assess whether unknown constituents associated with LOU 5 are present.
 - Five (5) of the 23 sample locations are randomly-placed locations and include soil borings RSAL8, RSAM4, RSAM5, RSAM7, and RSAN7.

Proposed Phase B Constituents List for Soils:

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

- Metals (Phase A list)
- Hexavalent Chromium
- Perchlorate
- Wet Chemistry analytes
- Cyanide
- Ammonia
- VOCs
- SVOCs
- TPH-GRO/DRO/ORO
- Organochlorine pesticides
- PCBs
- Radionuclides
- Dioxins/furans
- Asbestos

Proposed Phase B Groundwater Investigation/Rationale:

The Phase B groundwater investigation of LOU 5 consists of collecting groundwater samples from 14 locations to evaluate local groundwater conditions as part of Site-wide evaluation of constituent trends in groundwater

- Wells M-14A, M-68, TR-4, M-125, M-110, M-89, M-22A, and M-39 north (downgradient) of LOU 5 will be used to evaluate local and area-wide groundwater conditions.

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- Wells CLD2-R, M-111A, M-19, M-142, and M-17A south (upgradient) of LOU 5 will be used to evaluate local and area-wide groundwater conditions.
- Well M-34 east (cross-gradient) of LOU will be used to evaluate local and area-wide groundwater conditions.
- The sampling wells and the analytical program to evaluate groundwater samples associated with LOU 5 are listed on **Table B – Groundwater Sampling and Analytical Plan for LOU 5.**

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:

Five (5) soil gas samples will be collected to evaluate area conditions for the presence of vapor-phase VOCs in the vadose zone.

- Soil gas points SG58, SG86, SG31, SG26, and SG22 are located within 100 feet of the Beta Ditch and diversion ditches to investigate LOU 5 as a potential VOC source.

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:

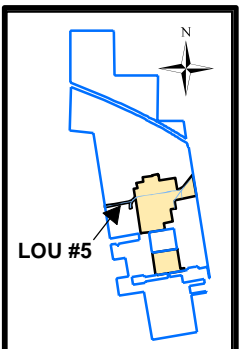
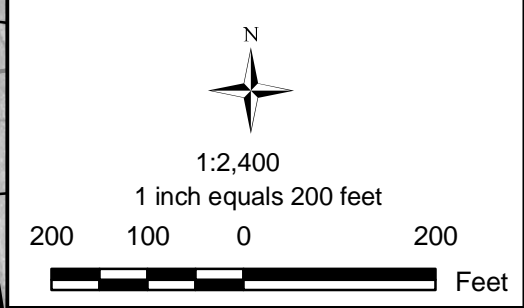
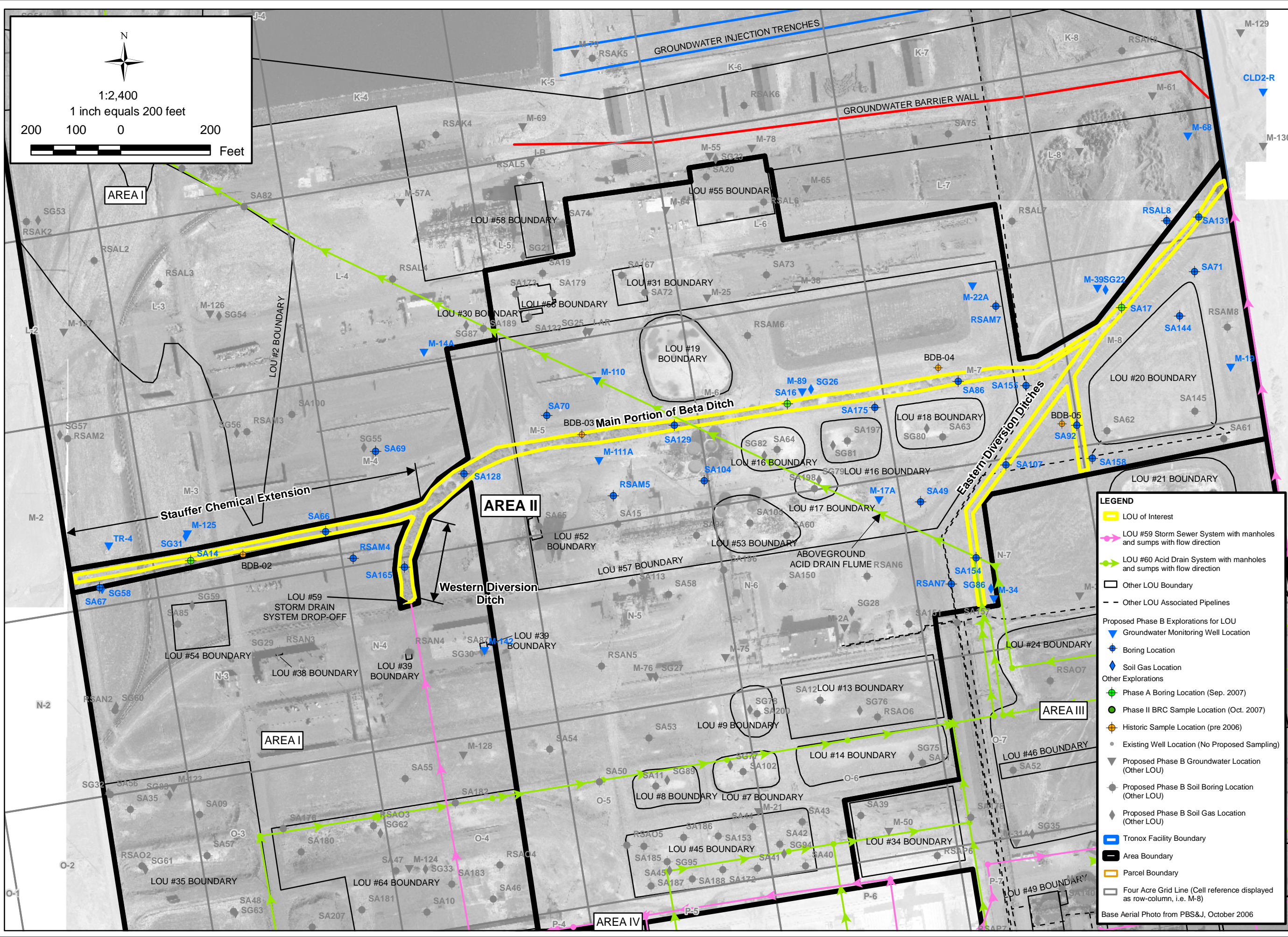
1. Kleinfelder, 1993, Environmental Conditions Assessment, Kerr-McGee Chemical Corporation, Henderson, Nevada Facility, April 15, 1993 (Final).
2. ENSR, 2007a, Gerry Hels, personal observation, October 4, 2007.
3. ENSR, 2005, Conceptual Site Model, Kerr-McGee Facility, Henderson, Nevada, ENSR, Camarillo, California, 04020-023-130, February 2005 and August 2005.

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4. ENSR, 2007b, Quarterly Performance Report for Remediation Systems, Tronox LLC, Henderson, Nevada, July-September 2007, November 2007.
5. ENSR, 2007c, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.

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LOU Figure



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SAMPLE LOCATIONS FOR LOU #5	
Phase B Area II Source Area Investigation	
BETA DITCH	
Tronox Facility	
Henderson, Nevada	
SCALE:	AS SHOWN
DATE:	6/11/2008
PROJECT NUMBER:	04020-023-430

LEGEND

- LOU of Interest
- LOU #59 Storm Sewer System with manholes and sumps with flow direction
- LOU #60 Acid Drain System with manholes and sumps with flow direction
- Other LOU Boundary
- Other LOU Associated Pipelines
- Proposed Phase B Explorations for LOU
 - Groundwater Monitoring Well Location
 - Boring Location
 - Soil Gas Location
- Other Explorations
 - Phase A Boring Location (Sep. 2007)
 - Phase II BRC Sample Location (Oct. 2007)
 - Historic Sample Location (pre 2006)
 - Existing Well Location (No Proposed Sampling)
 - Proposed Phase B Groundwater Location (Other LOU)
 - Proposed Phase B Soil Boring Location (Other LOU)
 - Proposed Phase B Soil Gas Location (Other LOU)
- Tronox Facility Boundary
- Area Boundary
- Parcel Boundary
- Four Acre Grid Line (Cell reference displayed as row-column, i.e. M-8)

Base Aerial Photo from PBS&J, October 2006

FIGURE NUMBER:	1
SHEET NUMBER:	X

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Sampling and Analytical Plans for LOU 5:

- Table A – Soil Sampling and Analytical Plan for LOU 5
- Table B – Groundwater Sampling and Analytical Plan for LOU 5

Grid Location	LOU Number	Phase B Boring No.	Sample ID Number	Sample Depths ¹ (ft. bgs)	Perchlorate (EPA 314.0)	Metals (EPA 6020)	Hex Cr (EPA 7199)	TPH-DRO/ORO (EPA 8015B)	TPH-GRO (EPA 8015B)	VOCs ² (EPA 8260B)	Wet Chemistry ³	Total Cyanide (EPA 9012A)	OCPs ⁴ (EPA 8081A)	SVOCs ⁵ (EPA 8270C)	Radio-nuclides ⁶	Dioxins/Furans ⁷	Asbestos ⁹ EPA/540/R-97/028	Geo-technical Tests ¹⁰	Rationale
Borings are organized by grid location as shown on Plate A - Starting point is on the northwestern most grid in Area 2 (M-2) and ending with the southeastern most grid in Area 2 (S-7).																			
N-7	5, 57		SA49-10	10	X	X	X			X	X		Hold		X				and for general coverage of LOU 57.
N-7	5, 57		SA49-20	20	X	X	X			X	X		Hold		X				
N-7	5, 57		SA49-30	30	X	X	X			X	X		Hold		X				
N-7	5, 57		SA49-35	35	X	X	X			X	X		X		X				
N-7	5	SA154	SA154-0.0	0.0													X		Boring located to evaluate LOU 5 (Beta Ditch). Located in the bottom of the Eastern Diversion Ditch to evaluate
N-7	5		SA154-0.5	0.5	X	X	X	X		X	X		X	X	X	X			upstream tributary source flows in the ditch.
N-7	5		SA154-10	10	X	X	X	X		X	X		Hold	X	X				
N-7	5		SA154-20	20	X	X	X	X		X	X		Hold	X	X				
N-7	5		SA154-30	30	X	X	X	X		X	X		Hold	X	X				
N-7	5		SA154-40	40	X	X	X	X		X	X		X	X	X				
N-7	5	SA107	SA107-0.0	0.0													X		Boring located to evaluate LOU 5 (Beta Ditch). Located in the bottom of the Eastern Diversion Ditch to evaluate
N-7	5		SA107-0.5	0.5	X	X	X			X	X		X	X	X	X			upstream tributary source flows in the ditch.
N-7	5		SA107-10	10	X	X	X			X	X		Hold	X	X				
N-7	5		SA107-20	20	X	X	X			X	X		Hold	X	X				
N-7	5		SA107-30	30	X	X	X			X	X		Hold	X	X				
N-7	5		SA107-40	40	X	X	X			X	X		X	X	X				
N-7	5, 20, 22, 23	RSAN7	RSAN7-0.0	0.0													X		Boring located to evaluate LOU 5 (Beta Ditch), LOU 20 (Pond C-1 and Associated Piping), LOU 22 (Pond WC-West
N-7	5, 20, 22, 23		RSAN7-0.5	0.5	X	X	X	X		X	X		X	X	X	X			Associated Piping), and LOU 23 (Pond WC-East Associated Piping). Randomly located in a low spot of the Eastern
N-7	5, 20, 22, 23		RSAN7-10	10	X	X	X	X		X	X		Hold	X	X				Diversion Ditch of LOU 5 to evaluate possible releases and overflow runoff from LOU 20. Also to evaluate potential
N-7	5, 20, 22, 23		RSAN7-20	20	X	X	X	X		X	X		Hold	X	X				releases from LOUs 22 and 23 piping.
N-7	5, 20, 22, 23		RSAN7-30	30	X	X	X	X		X	X		Hold	X	X				
N-7	5, 20, 22, 23		RSAN7-35	35	X	X	X	X		X	X		X	X	X				
N-8	5, 20	SA158	SA158-0.0	0.0													X		Boring located to evaluate LOU 20 (Pond C-1 and Associated Piping). Located adjacent to a sharp bend in LOU 20
N-8	5, 20		SA158-0.5	0.5	X	X	X	X		X	X		X	X	X	X			inflow piping to evaluate possible pipeline releases at this high risk location and upslope of LOU 20 to evaluate
N-8	5, 20		SA158-10	10	X	X	X	X		X	X		Hold	X	X				overflow releases.
N-8	5, 20		SA158-20	20	X	X	X	X		X	X		Hold	X	X				
N-8	5, 20		SA158-30	30	X	X	X	X		X	X		X	X	X				
Number of Samples:					82	82	82	52	10	82	82	19	36	67	82	18	18	1	

Notes:

- n/a Not applicable - boring is not associated with a specific LOU but is located to evaluate soil for general area-wide coverage.
- X Sample will be collected and analyzed.
- No sample collected under Phase B sampling program.
- DD* Sample depth to be determined in the field where DD = sample depth (ft).
- TPH-DRO/ORO Total petroleum hydrocarbons - Diesel-Range Organics/Oil-Range Organics.
- 1. The 0.5 ft bgs sample will be collected from the 0.0 to 0.5 ft bgs interval, unless the area is paved. If area is paved, samples will be collected at 0.5 feet below or from a representative depth beneath the pavement. Alternately, if an unpaved area is within a reasonable distance, the sample will be moved to the unpaved area.
- 2. Samples for VOC analysis will be preserved in the field using sodium bisulfate (or DI water) and methanol preservatives per EPA Method 5035.
- 3. Consists of wet chemistry parameters (including pH) listed on Table 1 of the Phase B Source Area Work Plan.
- 4. Organochlorine Pesticides (includes analysis for hexachlorobenzene).
- 5. Semi-volatile Organic Compounds
- 6. Radionuclides consists of alpha spec reporting for isotopic thorium and isotopic uranium, and Radium-226, plus Radium-228 by beta counting (per NDEP).
- 7. Dioxins/furans will be analyzed by EPA Method 8290 for all samples. Screening reports will be provided for 90% of the samples and full data packages for 10% of the samples.
- 8. Polychlorinated biphenyls
- 9. Soil samples for asbestos analyses will be collected from a depth of 0 to 2-inches bgs.
- 10. Geotechnical Tests consist of: moisture content (ASTM D-2216), grain size analysis (ASTM D-422 and C117-04), Soil Dry Bulk Density (ASTM D-2937), Grain Density (ASTM D-854, Soil-Water Filled Porosity (ASTM D-2216); Vertical Hydraulic Conductivity (ASTM D-5084/USEPA 9100).
- 11. SPLP samples will be analyzed by EPA method 1312 using two preparation methods: 1) with extraction fluid #2 (reagent water at pH 5.0±0.05), and 2) with extraction method #3 (reagent water); per NDEP.

Grid Location	Location Area	Monitoring Well No.	Screen Interval (ft bgs)	Soil Type Expected Across Screen Interval ¹	Well Sampled for Phase A? (y/n)	Perchlorate (EPA 314.0)	Hex Cr (EPA 7199)	Metals	VOCs ² (EPA 8260)	Wet Chemistry (a)	OCPs ³ (EPA 8081A)	SVOCs ⁴ (EPA 8270C)	Radionuclides ⁵	Rationale
Wells are organized by grid location as shown on Plate A - Starting point is on the northwestern-most grid in Area II (L-4) and ending with the southeastern-most grid covering Area II (S-7).														
L4	IIE	M-14A	20 - 40	Qal/MCf1	no	X	X	X	X	X	X	X	X	Located to serve as a downgradient stepout to LOU 5; and for general Site coverage.
L8	IIN	M-68	11.2 - 39.8	Qal/MCf1	no	X	X	X	X	X	X	X	X	Located to serve as a downgradient stepout for LOU 5; and for general Site coverage.
L9	IIN	CLD2-R	20 - 40.27	Qal	no	X	X	X	X	X	X	X	X	Located to serve as a downgradient stepout for LOU 5; and for general Site coverage.
M2	IIN	TR-4	124.5 - 144.5	MCf1	no	X	X	X	X	X	X	X	X	Located to serve as a downgradient stepout for LOU 5; and for general Site coverage.
M3	IIN	M-125	TBD	TBD	new well	X	X	X	X	X	X	X	X	Located to serve as a downgradient stepout for LOU 5; and for general Site coverage.
M5	II	M-110	30 - 40	Qal/MCf1	no	X	X	X	X	X	X	X	X	Located to evaluate LOU 57 as a downgradient stepout for LOU 5; and for general Site coverage.
M5	II	M-111A*	29.7 - 39.7	Qal/MCf1	new well	X	X	X	X	X	X	X	X	Replacement well for M-111 which was destroyed by site grading and located to evaluate LOU 57; a downgradient stepout for LOU 52; as an upgradient stepout for LOUs 5 and 19; and for general Site coverage.
M6	II	M-89	18 - 38.2	Qal/MCf1	yes	X	X	X	X	X	X	X	X	Located to evaluate LOU 57; as a downgradient stepout for LOUs 5, 16, 17, and 53; and for general Site coverage.
M7	II	M-22A	16 - 36	Qal/MCf1	no	X	X	X	X	X	X	X	X	Located to evaluate LOU 57; as a downgradient stepout for LOUs 5, and 16 through 18; and for general Site coverage.
M8	IIN	M-39	24.9 - 39.9	Qal/MCf1	yes	X	X	X	X	X	X	X	X	Located as a downgradient stepout for LOUs 5, 20, 22 (pipelines in Area II) and LOU 23 (pipelines in Area II); and for general Site coverage.
M8	II	M-19	14.5 - 34.5	Qal/MCf1	no	X	X	X	X	X	X	X	X	Located to serve as an upgradient stepout for LOUs 5 and 20; to evaluate LOUs 22 and 23 and potential offsite sources to the east; and as general Site coverage.
N4	IIN	M-142	TBD	TBD	new well	X	X	X	X	X	X	X	X	Located to serve as an upgradient stepout for LOU 5; and for general Site coverage.
N6	II	M-17A	35 - 45	Qal/MCf1	no	X	X	X	X	X	X	X	X	Located to evaluate LOU 57; as an upgradient stepout for LOUs 5, 16, 17, 18, 22, and 23; and for general Site coverage.
N7	II	M-34	25 - 40	Qal/MCf1	no	X	X	X	X	X	X	X	X	Located to evaluate the outfall of the culvert that empties into the Eastern Diversion segment of LOU 5; as a downgradient stepout for LOUs 13 and 14 as an upgradient step out for LOUs 20, 22, and 23; and for general Site coverage.
Number of Field Samples:						14	14	14	14	14	14	14	14	
Notes:														
* Well completion information or boring log not available. Soil type inferred from nearby wells and geologic cross-section provided in the Phase A Source Area Investigation Report (ENSR 2007). ENSR is in the process of obtaining information from BMI.														
X Sample will be collected and analyzed.														
1 It is anticipated that the large majority of the flow to the well will be from the coarse-grained sediments. As such, in the cases where there are two lithologies present across the screen interval, the water sampled will represent conditions in the coarse-grained interval.														
2 VOCs = Volatile organic compounds (to include analysis for naphthalene).														
3 OCPs = Organochlorine pesticides (to include analysis for hexachlorobenzene).														
4 SVOCs = Semi volatile organic compounds.														
5 Radionuclides consists of alpha spec reporting for isotopic Thorium and isotopic Uranium, and Radium-226, plus Radium-228 by beta counting (per NDEP).														
IIN/E/W/S Well located outside (north, east, west, or south) of Area II.														
nr Not recorded in the All Wells Database (June 2008).														
TBD To be determined when well is constructed														
(a) Complete list of wet chemistry parameters are shown on Table 1. All groundwater samples will have pH measured in the field.														
Qal Quaternary Alluvium														
MCf1 Muddy Creek Formation - first fine-grained facies														
MCcg1 Muddy Creek Formation - first coarse-grained facies														

Summary of Available Data for LOU 5 Beta Ditch
Tronox Facility – Henderson, Nevada

Soil and Groundwater Characterization Data

Summary of Available Data for LOU 5 Beta Ditch

Tronox Facility – Henderson, Nevada

LOU-specific analytes identified include:

- Metals (Phase A list)
- Hexavalent Chromium
- Perchlorate
- Wet Chemistry analytes
- Cyanide
- Ammonia
- VOCs
- SVOCs
- TPH-GRO/DRO/ORO
- Organochlorine pesticides
- PCBs
- Radionuclides
- Dioxins/furans
- Asbestos

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

LOU 5 Table 1 – Soil Characterization Data – Wet Chemistry

LOU 5 Table 2 – Groundwater Characterization Data – Wet Chemistry

LOU 5 Table 3 – Soil Characterization Data – Dioxins and Dibenzofurans

LOU 5 Table 4 – Soil Characterization Data – Metals

LOU 5 Table 5 – Groundwater Characterization Data – Metals

LOU 5 Table 6 – Groundwater Characterization Data – Routine Monitoring

LOU 5 Table 7 – Soil Characterization Data – Organochlorine Pesticides (OCPs)

LOU 5 Table 8 – Groundwater Characterization Data – Organochlorine Pesticides (OCPs)

LOU 5 Table 9 – Soil Characterization Data – Organophosphorus Pesticides (OPPs)

LOU 5 Table 10 – Groundwater Characterization Data – Organophosphorus Pesticides (OPPs)

LOU 5 Table 11 – Soil Characterization Data – PCBs

LOU 5 Table 12 – Groundwater Characterization Data – PCBs

LOU 5 Table 13 – Soil Characterization Data – Perchlorate

LOU 5 Table 14 – Groundwater Characterization Data – Perchlorate

LOU 5 Table 15 – Groundwater Characterization Data – Radionuclides

LOU 5 Table 16 – Soil Characterization Data – Radionuclides

LOU 5 Table 17 – Soil Characterization Data – SVOCs

LOU 5 Table 18 – Groundwater Characterization Data – SVOCs

LOU 5 Table 19 – Soil Characterization Data - TPH and Fuel Alcohols

LOU 5 Table 20 – Soil Characterization Data – VOCs

LOU 5 Table 21 – Groundwater Characterization Data – VOCs

Summary of Available Data for LOU 5 Beta Ditch
Tronox Facility – Henderson, Nevada

LOU 5 Table 22 – Soil Characterization Data – Long Asbestos Fibers in Respirable Soil Fraction

LOU 5 Table 23 – Summary of Historical Soil Analytical Data

Notes for Phase A Data Tables are presented at the end of the tables.

**LOU 5 Table 1
Soil Characterization Data - Wet Chemistry**

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

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	Ph A		
Boring No.	SA14	SA14	SA14	SA14	SA14	SA16	SA16	SA16	SA16	SA16	SA17	SA17	SA17	SA17	SA17	
Sample ID	SA14-0.5	SA14-10	SA14-20	SA14-30	SA14-40	SA16-0.5	SA16-10	SA16-20	SA16-30	SA17-0.5	SA17-0.5D	SA17-10	SA17-20	SA17-25		
Sample Depth (ft)	0.5	10	20	30	40	0.5	10	20	30	0.5	0.5	10	20	25		
Sample Date	11/08/2006	11/08/2006	11/08/2006	11/08/2006	11/08/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006		
Wet Chemistry Parameter	MSSL ² mg/kg															Units
Percent moisture	--	8.7	11.5	19.4	37.5	19.0	6.4	10.2	8.2	38.1	14.7	13.4	12.1	5.8	19.0	percent
Alkalinity (as CaCO ₃)	--	299	685	1440	79.9 U	61.8 U	214 J+	315 J+	275 J+	80.7 UJ	160	109	216	217	389	mg/kg
Bicarbonate	--	846	223	251	170	225	812 J+	371 J+	528 J+	163 J+	524	499	563	439	1260	mg/kg
Total Alkalinity	--	1140	908	1690	170	237	1030 J+	686 J+	803 J+	179 J+	685	608	778	656	1640	mg/kg
Ammonia (as N)	--	R	R	R	R	R	5.3 UJ	5.6 UJ	5.4 UJ	208 J-	5.9 UJ	5.8 UJ	5.7 UJ	5.3 UJ	6.2 UJ	mg/kg
Cyanide	1.37E+04	0.55 UJ	0.57 UJ	0.62 UJ	0.80 UJ	0.62 UJ	0.53 UJ	0.56 UJ	0.54 UJ	0.81 UJ	R	R	R	R	R	mg/kg
MBAS	--	4.2	2.5 J	4.2	4.0 U	4.0 U	2.5 U	2.6 U	3.3 U	4.7 U	2.4 U	2.4 J	2.2 U	2.1 U	2.6 U	mg/kg
pH (solid)	--	9.5	10.1	10.1	8.1	8.2	8.8	9.7	9.6	9.9	9.6	9.6	9.7	9.8	8.5	none
Bromide	--	2.7 U	2.8 U	3.1 U	4.0 U	3.1 U	2.7 U	2.8 U	2.7 U	4.0 U	2.9 U	2.9 U	2.8 U	2.7 U	1.5 J	mg/kg
Chlorate	--	3.3 J-	3.8 J-	2.1 J-	11.3 J-	6.2 UJ	5.3 UJ	5.6 UJ	5.4 U	8.1 U	5.9 UJ	5.8 U	5.7 U	5.3 U	82.9	mg/kg
Chloride	--	9.7	2.5 J+	7.6	2830	2040	6.3	8.4	2.4	1530	8.7	8.1	5.2	1.9 J	155	mg/kg
Nitrate (as N)	--	0.22 U	0.23 U	0.32 J+	1.7 J+	0.30 J+	0.29 J+	0.22 U	0.29 J+	8.0	0.48 J+	0.77 J+	0.96 J+	0.21 U	2.5 J+	mg/kg
Nitrite	--	0.059 J	0.23 U	0.056 J	21.3 J-	15.9 J-	0.21 U	0.18 J	0.095 J	6.7	0.95	0.25	0.83	0.31	0.37	mg/kg
ortho-Phosphate	--	5.5 U	5.7 U	6.2 U	8 U	6.2 U	5.3 U	2.7 J	5.0 J	80.7 U	10.6 J	4.5 J	5.7 U	5.3 U	6.2 U	mg/kg
Sulfate	--	11.7	5.5 J	10.0	774	730	47.0 J	13.9	11.6	229	28.8	24.9	44.4	152	685	mg/kg
Total Organic Carbon	--	15400	11200	13800	3500	25000	2900	9800	3400	11800	3900	4900	3500	2000	13100	mg/kg

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
2. U.S. EPA, Region 6, Medium Specific Screening Levels (MSSLs) for Industrial - Outdoor Worker (March, 2008).

LOU 5 Table 2
Groundwater Characterization Data - Wet Chemistry

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	Ph A	
Well ID		M-39	M-89	SA14	
Sample ID		M-39	M-89	GWSA14	
Sample Date		12/05/2006	12/05/2006	11/08/2006	
Wet Chemistry Parameters	MCL ² mg/L				Units
Total Dissolved Solids	5.00E+02 j	7270	13800	13500	mg/L
Total Suspended Solids	--	56.0 J	70.0 J	4360	mg/L
Alkalinity (as CaCO ₃)	--	5.0 U	5.0 U	5.0 U	mg/L
Bicarbonate	--	137	150	67.0	mg/L
Total Alkalinity	--	137	150	67.0	mg/L
Ammonia (as N)	--	50.0 U		50.0 U	ug/L
MBAS	--	1.2 J	1.8 J	0.27 U	mg/L
Cyanide	2.00E-01	R	R	5.0 UJ	ug/L
pH (liquid)	--	7.1 J	7.0 J	7.5 J	none
Specific Conductance	--	2360 J+	3070	15200	umhos/cm
Bromide	--	2.7	25.0 U	25.0 U	mg/L
Chlorate	--	1620	6460	5.0 U	mg/L
Chloride	2.50E+02	1280	2300	5180	mg/L
Nitrate (as N)	1.00E+01	12.1	32.1	1.1 J	mg/L
Nitrite	1.00E+00	10.0 U	10.0 U	2.0 U	mg/L
ortho-Phosphate	--	5.0 U	5.0 U	50.0 U	mg/L
Sulfate	2.50E+02 j	2720	1080	1950	mg/L
Total Organic Carbon	--	50.0 U	50.0 U	5.9 J-	mg/L

Notes:

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

**LOU 5 Table 3
Soil Characterization Data - Dioxins and Dibenzofurans**

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

				Sampling Program	Ph A ¹	Ph A	Ph A
				Boring No.	SA14	SA16	SA17
				Sample ID	SA14-0.5	SA16-0.5	SA17-0.5
				Sample Depth (ft)	0.5	0.5	0.5
				Sample Date	11/08/2006	11/09/2006	11/15/2006
chemical_name:	Method	Unit	MSSL ² ng/kg				
Dioxin 8290 SCREEN Total TEQ-ENSR Calculated (a) ng/kg		ng/kg	--	4.27	1149	13.64	
Dioxin SW 846 8290 Total TEQ-ENSR Calculated (a) ng/kg		ng/kg	--		894		
Dioxin 8290 SCREEN Total TEQ-ENSR Calculated (b) ng/kg		ng/kg	--	4.27	1149	13.66	
Dioxin SW 846 8290 Total TEQ-ENSR Calculated (b) ng/kg		ng/kg	--		894		
1,2,3,4,6,7,8-Heptachlorodibenzofuran	8290 Screen	ng/kg	--	11.526	6033.394	1.752	
1,2,3,4,6,7,8-Heptachlorodibenzofuran	SW 846 8290	ng/kg	--		5388.734 J		
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	2.097	443.741	0.279	
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--		443.741		
1,2,3,4,7,8,9-Heptachlorodibenzofuran	8290 Screen	ng/kg	--	11.338	2950.816	0.818	
1,2,3,4,7,8,9-Heptachlorodibenzofuran	SW 846 8290	ng/kg	--		2485.881 J		
1,2,3,4,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	--	6.078	2650.305	1.703	
1,2,3,4,7,8-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--		2143.656 J		
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	0.132	49.392	0.062 U	
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--		49.392		
1,2,3,6,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	--	3.817	1625.974	0.773	
1,2,3,6,7,8-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--		1362.448 J		
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	0.576	122.741	0.049 U	
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--		122.741		
1,2,3,7,8,9-Hexachlorodibenzofuran	8290 Screen	ng/kg	--	0.613	246.274	0.700	
1,2,3,7,8,9-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--		246.274		
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	0.506	140.746	0.100	
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--		140.746		
1,2,3,7,8-Pentachlorodibenzofuran	8290 Screen	ng/kg	--	3.929	1287.384	6.375	
1,2,3,7,8-Pentachlorodibenzofuran	SW 846 8290	ng/kg	--		1090.766 J		
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	0.273	87.894	0.042 U	
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--		87.894		
2,3,4,6,7,8-Hexachlorodibenzofuran	8290 Screen	ng/kg	--	1.889	859.203	0.440	
2,3,4,6,7,8-Hexachlorodibenzofuran	SW 846 8290	ng/kg	--		695.192 J		
2,3,4,7,8-Pentachlorodibenzofuran	8290 Screen	ng/kg	--	1.483	592.395	3.691	
2,3,4,7,8-Pentachlorodibenzofuran	SW 846 8290	ng/kg	--		473.372 J		
2,3,7,8-Tetrachlorodibenzofuran	8290 Screen	ng/kg	--	17.368	1518.736	74.100	
2,3,7,8-Tetrachlorodibenzofuran	SW 846 8290	ng/kg	--		446.407 J		
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	1.00E+03 h,v	0.081	23.713	0.121	
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	1.00E+03 h,v		23.713		
Octachlorodibenzofuran	8290 Screen	ng/kg	--	31.029	16111.960	6.847	
Octachlorodibenzofuran	SW 846 8290	ng/kg	--		12526.796 J		
Octachlorodibenzo-p-Dioxin	8290 Screen	ng/kg	--	3.732	442.736	2.193	

LOU 5 Table 3 (continued)
Soil Characterization Data - Dioxins and Dibenzofurans

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

				Sampling Program	Ph A ¹	Ph A	Ph A
				Boring No.	SA14	SA16	SA17
				Sample ID	SA14-0.5	SA16-0.5	SA17-0.5
				Sample Depth (ft)	0.5	0.5	0.5
				Sample Date	11/08/2006	11/09/2006	11/15/2006
chemical_name:	Method	Unit	MSSL ² ng/kg				
Octachlorodibenzo-p-Dioxin	SW 846 8290	ng/kg	--			442.736 J	
Tetrachlorinated Dibenzofurans, (Total)	SW 846 8290	ng/kg	--			10701.264 J	
Total HpCDD	SW 846 8290	ng/kg	--			679.868	
Total HpCDF	SW 846 8290	ng/kg	--			11239.820 J	
Total HxCDD	SW 846 8290	ng/kg	--			968.365	
Total HxCDF	SW 846 8290	ng/kg	--			9676.516 J	
Total PeCDD	SW 846 8290	ng/kg	--			1060.548	
Total PeCDF	SW 846 8290	ng/kg	--			10241.201 J	
Total TCDD	SW 846 8290	ng/kg	--			1020.732	

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
2. U.S. EPA, Region 6, Medium Specific Screening Levels (MSSLs) for Industrial - Outdoor Worker (March, 2008).
 - (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 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. A value of 1000 ng/kg is applicable to residential soils. The range of 5000 to 20000 ng/kg is applicable to commercial/industrial soils. The Agency for Toxic Substances and Disease Registry (ATSDR) provides a screening level of 50 ng/kg for dioxin in residential soil [<http://www.atsdr.cdc.gov/substances/dioxin/policy/>].

**LOU 5 Table 4
Soil Characterization Data - Metals**

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

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	Ph A		
Boring No.	SA14	SA14	SA14	SA14	SA14	SA16	SA16	SA16	SA16	SA17	SA17	SA17	SA17	SA17		
Sample ID	SA14-0.5	SA14-10	SA14-20	SA14-30	SA14-40	SA16-0.5	SA16-10	SA16-20	SA16-30	SA17-0.5	SA17-0.5D	SA17-10	SA17-20	SA17-25		
Sample Depth (ft)	0.5	10	20	30	40	0.5	10	20	30	0.5	0.5	10	20	25		
Sample Date	11/08/2006	11/08/2006	11/08/2006	11/08/2006	11/08/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006		
Metals	MSSL ² mg/kg															Units
Aluminum	1.00E+05	7890 J	8270 J	7540 J	14300 J	9160 J	6810	7320	5230	14100	13300	14300	8000	4050	5120	mg/kg
Antimony	4.50E+02	0.17 J-	0.19 J-	0.13 J-	0.24 J-	0.11 J-	0.16 J-	0.11 J-	0.10 J-	0.19 J-	0.27 J-	0.25 J-	0.21 J-	0.094 J-	0.16 J-	mg/kg
Arsenic	2.80E+02	2.0	2.2	3.7	23.7	14.6	2.5	4.3	5.6	24.8	22.1	37.0	4.2	13.0	13.7	mg/kg
Barium	1.00E+05	162 J	187 J	147 J	118 J	25.2 J	169 J	167 J	74.5 J	172 J	142 J	185 J	202 J	136 J	52.7 J	mg/kg
Beryllium	2.20E+03	0.48	0.54	0.49	0.64	0.43	0.48	0.50	0.36	0.82	0.93	0.88	0.65	0.30	0.35 J	mg/kg
Boron	1.00E+05	5.5 J-	3.8 J-	5.0 J-	21.2 J-	10.6 J-	4.2 UJ	4.0 UJ	6.1 UJ	30.4 UJ	8.5 UJ	8.9 UJ	6.9 UJ	6.8 UJ	24.8 UJ	mg/kg
Cadmium	5.60E+02	0.14	0.090	0.070	0.11	0.22	0.12	0.062	0.041 J	0.18	0.089	0.10	0.24	0.091	0.066	mg/kg
Calcium	--	29700 J	15800 J	22000 J	10400 J	187000 J	15000	19800	10800	24700	7470	11600	16700	25900	47300	mg/kg
Chromium (Total)	7.10E+01	10.9 J-	9.6 J-	7.9 J-	16.8 J-	17.0 J-	11.2 J-	10.7 J-	16.5 J-	36.8 J-	44.6 J-	81.9 J-	23.2 J-	12.5 J-	22.2 J-	mg/kg
Chromium-hexavalent	5.00E+02	0.22 U	0.23 U	0.25 U	0.32 U	0.25 U	0.12 J	0.20 J	0.22 U	9.3	0.58	1.2	0.16 J	0.39	0.19 J	mg/kg
Cobalt	2.10E+03	6.7 J	6.5 J-	5.3 J-	6.0 J-	3.0 J-	7.0 J-	7.7 J-	3.0 J-	6.3 J-	12.2 J-	11.8 J-	7.1 J-	4.6 J-	2.7 J-	mg/kg
Copper	4.20E+04	12.5 J	12.3 J	10.3 J	13.0 J	6.8 J	13.3 J	12.9 J	8.9 J	15.9 J	223 J	175 J	13.6 J	8.3 J	6.7 J	mg/kg
Iron	1.00E+05	13600 J	13900 J	10800 J	17800 J	7500 J	12600	11700	7330	17800	12600	11500	13300	7190	6130	mg/kg
Lead	8.00E+02	11.0	8.8	6.9	9.6	5.3	9.1	7.0	4.9	10.9	28.6	36.3	8.6	5.1	4.3	mg/kg
Magnesium	--	8140 J-	9470 J-	9670 J-	45600 J-	27700 J-	6030 J-	10600 J-	7550 J-	63700 J-	11100 J-	10300 J-	7970 J-	5300 J-	36800 J-	mg/kg
Manganese	3.50E+04	407 J+	407 J+	227 J+	361 J+	143 J+	361	269	92.8	365	349	373	325	171	122	mg/kg
Molybdenum	5.70E+03	0.58	0.46 J	0.36 J	1.2 J	0.42 J	0.52 J	0.31 J	0.40 J	1.1	1.1 J	2.4	0.46 J	0.44 J	0.29 J	mg/kg
Nickel	2.30E+04	17.1 J	13.0 J	10.5 J	13.6 J	10.2 J	13.1 J-	16.9 J-	9.5 J-	14.4 J-	19.3 J-	17.8 J-	15.0 J-	10.7 J-	7.2 J-	mg/kg
Platinum	--	0.014 J	0.013 J	0.012 U	0.016 U	0.013 J	0.017 J	0.011 U	0.011 U	0.018 J	0.029 J	0.027 J	0.022 J	0.011 U	0.012 U	mg/kg
Potassium	--	1940 J	1800 J	1530 J	3170 J	1710 J	1880	1590	1160	3210	2270	2750	1680	1050	1710	mg/kg
Selenium	5.70E+03	0.12 UJ	0.12 UJ	0.13 UJ	0.17 UJ	0.13 UJ	0.12 U	0.12 U	0.12 U	0.17 U	0.13 UJ	0.13 UJ	0.12 UJ	0.11 UJ	0.13 UJ	mg/kg
Silver	5.70E+03	0.14 J	0.16 J	0.16 J	0.14 J	0.11 J	0.13 J	0.13 J	0.14 J	0.22 J	0.15 J	0.14 J	0.48	0.097 J	0.20 J	mg/kg
Sodium	--	2550 J-	3570 J-	3990 J-	4910 J-	1250 J-	345 J-	1550 J-	1470 J-	3070 J-	1420 J-	1860 J-	1090 J-	858 J-	978 J-	mg/kg
Strontium	1.00E+05	142 J	109 J	106 J	98.0 J	168 J	72.5 J	109 J	86.5 J	126 J	112 J	165 J	110 J	137 J	220 J	mg/kg
Thallium	--	0.099 J	0.098 J	0.088 J	0.26 J	0.11 J	0.095 J	0.078 U	0.076 U	0.26 J	0.11 U	0.095 U	0.38 U	0.074 U	0.086 U	mg/kg
Tin	--	0.60	0.56	0.46 J	0.63	0.42	0.51	0.42	0.40	0.74	0.52	0.48	0.56	0.32	0.30	mg/kg
Titanium	--	625 J	594 J	412 J	499 J	352 J	490	490	273	502	480	438	638	298	347	mg/kg
Tungsten	--	0.37 J-	0.23 J-	0.21 J-	0.72 J-	0.16 J-	0.34 J-	0.28 J-	0.16 J-	0.46 J-	9.1 J-	13.9 J-	1.8 J-	2.5 J-	0.64 UJ	mg/kg
Uranium	--	0.93	0.94	1.6	3.3	2.0	0.74	1.2	1.6	3.4	1.8	2.0	1.6	2.6	3.7	mg/kg
Vanadium	5.70E+03	35.9 J-	31.7 J-	25.8 J-	27.8 J-	13.7 J-	30.3 J-	39.2 J-	20.1 J-	27.9 J-	31.8 J-	30.5 J-	37.9 J-	31.9 J-	26.7 J-	mg/kg
Zinc	1.00E+05	25.8 J-	25.4 J-	23.9 J-	37.4 J-	19.4 J-	27.0 J-	24.3 J-	38.4 J-	206 J-	152 J-	28.9 J-	17.0 J-	26.1 UJ		mg/kg
Mercury	3.41E+02 (t)	0.062 U	0.0076 U	0.0083 U	0.011 UJ	0.0083 UJ	0.0071 UJ	0.0093 J	0.011 J	0.011 UJ	0.0078 UJ	0.0077 UJ	0.0076 UJ	0.0071 UJ	0.0083 UJ	mg/kg

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
 2. U.S. EPA, Region 6, Medium Specific Screening Levels (MSSLs) for Industrial - Outdoor Worker (March, 2008).
- (t) Value for mercury and compounds.

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

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	Ph A	
Well ID:		M-39	M-89	SA14	
Sample ID		M-39-Z	M-89-Z	GWSA14	
Sample Date		05/10/2007	05/11/2007	11/08/2006	
Metals	MCL ² ug/L				Unit
Aluminum	5.00E+01 j	393 U	786 U	157 UJ	ug/L
Antimony	6.00E+00	25.0 U	50.0 U	1.9 J-	ug/L
Arsenic	1.00E+01	103 J	200 U	40.6	ug/L
Barium	2.00E+03	17.0 J	42.3 J	83.9	ug/L
Beryllium	4.00E+00	4.4 U	8.8 U	1.8 UJ	ug/L
Boron	7.30E+03	10800	4280 J	1670 J-	ug/L
Cadmium	5.00E+00	2.9 U	5.7 U	0.057 U	ug/L
Calcium	--	620000	764000	1050000 J	ug/L
Chromium (Total)	1.00E+02	4580	22500	56.0 UJ	ug/L
Chromium-hexavalent	1.09E+02	4720 J	21700 J	0.20 UJ	ug/L
Cobalt	7.30E+02	15.7 U	31.3 U	6.4 J-	ug/L
Copper	1.30E+03 p	12.5 U	25.0 U	7.1 J-	ug/L
Iron	3.00E+02 j	R	940 UJ	188 UJ	ug/L
Lead	1.50E+01 u	24.6 U	49.2 U	9.8 U	ug/L
Magnesium	1.50E+05 a	408000	406000	557000 J	ug/L
Manganese	5.00E+01 j	17.1 U	34.2 U	35.6 J+	ug/L
Molybdenum	1.82E+02	25.0 U	50.0 U	12.7	ug/L
Nickel	7.30E+02	25.8 U	51.7 U	31.7 J	ug/L
Platinum	--	5.0 U	10.0 U	0.10 U	ug/L
Potassium	--	24200	38200	31500 J-	ug/L
Selenium	5.00E+01	50.0 U	100 U	1.0 U	ug/L
Silver	1.00E+02 j	10.1 U	20.3 U	0.20 U	ug/L
Sodium	--	864000	2050000	2350000 J	ug/L
Strontium	2.19E+04	14500	19800	27700 J+	ug/L
Thallium	2.00E+00	16.0 U	32.0 U	6.4 U	ug/L
Tin	2.19E+04	10.0 U	20.0 U	0.20 UJ	ug/L
Titanium	1.46E+05	19.6 U	39.1 U	7.5 J	ug/L
Tungsten	--	25.0 U	50.0 U	0.68 J-	ug/L
Uranium	3.00E+01	106	26.7 J	21.3	ug/L
Vanadium	3.65E+01	80.0 UJ	160 UJ	10.6 J-	ug/L
Zinc	5.00E+03 j	50.0 U	100 U	20.0 UJ	ug/L
Mercury	2.00E+00	0.13 U	0.093 U	0.093 U	ug/L

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
2. U.S. EPA Maximum Contaminant Level (MCL) values unless noted.
 - (j) Secondary Drinking Water Regulation value.
 - (p) The national primary drinking water regulations (b) lists a treatment technology action level of 1.3 mg/l as the MCL for Copper. Therefore, the secondary value is not used.
 - (u) See footnote (b). Treatment technology action level.
 - (a) NAC 445A.455 Secondary standards. Certain provisions of the National Primary Drinking Water Regulations are adopted by reference (NAC 445A.4525). These values are listed in the first column of this table and are therefore not listed again here. Only NAC 445A.455 Secondary standards are listed.

**LOU 5 Table 6
Groundwater Characterization Data - Routine Monitoring¹**

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Well ID	Date	Depth to water	Perchlorate mg/L	Qual	MCL ² mg/L	Total Chromium	Qual	MCL ² mg/L	TDS	Qual	MCL ² mg/L	Nitrate (as N)	Qual	MCL ² mg/L	Chlorate	Qual	MCL ² mg/L
I-AR	2/2/2006	27.04	2800	d	1.80E-02	a,m	0.023	d	1.00E-01		5.00E+02	j		1.00E+01			
I-AR	5/2/2006	28.10	2800	d	1.80E-02	a,m	<0.01	ud	1.00E-01	5830	5.00E+02	j		1.00E+01			
I-AR	8/1/2006	28.64	2630	d	1.80E-02	a,m	0.058	d	1.00E-01	5090	5.00E+02	j		1.00E+01			
I-AR	1/30/2007	28.78	3120		1.80E-02	a,m	0.14		1.00E-01	5940	5.00E+02	j		1.00E+01			
I-AR	5/1/2007	42.33	3670		1.80E-02	a,m	0.53		1.00E-01	6850	5.00E+02	j		1.00E+01			
I-AR	7/31/2007	41.99	4020		1.80E-02	a,m	0.49		1.00E-01	6850	5.00E+02	j		1.00E+01			
CLD-1R	5/9/2007	28.60	6.64		1.80E-02	a,m	0.94		1.00E-01	4040	5.00E+02	j		1.00E+01			
CLD-2R	5/9/2007	33.24	4.01		1.80E-02	a,m	0.48		1.00E-01	17600	5.00E+02	j		1.00E+01			
M-2A	5/5/2006	---	430	d	1.80E-02	a,m	18	d	1.00E-01	12100	5.00E+02	j		1.00E+01			
M-2A	5/4/2007	---	362		1.80E-02	a,m	17		1.00E-01	10200	5.00E+02	j		1.00E+01			
M-17A	2/3/2006	32.38	860	d	1.80E-02	a,m	28	d	1.00E-01		5.00E+02	j		1.00E+01			
M-17A	5/5/2006	32.64	810	d	1.80E-02	a,m	29	d	1.00E-01	16200	5.00E+02	j		1.00E+01			
M-17A	8/4/2006	33.02	788	d	1.80E-02	a,m	29	d	1.00E-01	10400	5.00E+02	j		1.00E+01			
M-17A	11/3/2006	33.04	775	d	1.80E-02	a,m	28	d	1.00E-01	13830	5.00E+02	j		1.00E+01			
M-17A	2/2/2007	32.91	788		1.80E-02	a,m	28		1.00E-01	14300	5.00E+02	j		1.00E+01			
M-17A	5/4/2007	32.99	671		1.80E-02	a,m	28		1.00E-01	12800	5.00E+02	j		1.00E+01			
M-17A	8/3/2007	33.41	974		1.80E-02	a,m	27		1.00E-01	13800	J- 5.00E+02	j		1.00E+01			
M-25	2/3/2006	30.93	740	d	1.80E-02	a,m	11	d	1.00E-01		5.00E+02	j		1.00E+01			
M-25	5/4/2006	31.15			1.80E-02	a,m			1.00E-01		5.00E+02	j	3.3	d	1.00E+01		
M-25	5/4/2006	31.15	550	d	1.80E-02	a,m	11	d	1.00E-01	9980	5.00E+02	j	28	d	1.00E+01	3100	d
M-25	8/1/2006	32.06	488	d	1.80E-02	a,m	11	d	1.00E-01	6940	5.00E+02	j	7.8	d	1.00E+01	3200	d
M-25	11/2/2006	32.18	617	d	1.80E-02	a,m	12	d	1.00E-01	9800	5.00E+02	j	28.2	d	1.00E+01	3400	d
M-25	1/30/2007	32.55	523		1.80E-02	a,m	12		1.00E-01	9280	5.00E+02	j		1.00E+01			
M-25	5/1/2007	32.97	495		1.80E-02	a,m	12		1.00E-01	9380	5.00E+02	j	11.9	1.00E+01	3440		
M-25	7/31/2007	33.28	492		1.80E-02	a,m	12		1.00E-01	9400	5.00E+02	j		1.00E+01			
M-34	2/2/2006	---	1800	d	1.80E-02	a,m	17	d	1.00E-01		5.00E+02	j		1.00E+01			
M-34	5/3/2006	---	1700	d	1.80E-02	a,m	18	d	1.00E-01	8960	5.00E+02	j		1.00E+01			
M-34	5/7/2006	40.86	1950	d	1.80E-02	a,m			1.00E-01	14500	5.00E+02	j		1.00E+01			
M-34	8/2/2006	---	1550	d	1.80E-02	a,m	18	d	1.00E-01	7430	5.00E+02	j		1.00E+01			
M-34	11/1/2006	---	1910	d	1.80E-02	a,m	18	d	1.00E-01	10900	5.00E+02	j		1.00E+01			
M-34	1/31/2007	---	1860		1.80E-02	a,m	17		1.00E-01	12000	5.00E+02	j		1.00E+01			
M-34	5/2/2007	37.52	1670		1.80E-02	a,m	17		1.00E-01	9850	5.00E+02	j		1.00E+01			
M-34	8/1/2007	---	2130		1.80E-02	a,m	16		1.00E-01	11900	5.00E+02	j		1.00E+01			
M-38	2/2/2006	30.23	1200	d	1.80E-02	a,m	29	d	1.00E-01		5.00E+02	j		1.00E+01			
M-38	5/4/2006	30.51	1100	d	1.80E-02	a,m	28	d	1.00E-01	9450	5.00E+02	j		1.00E+01			
M-38	8/3/2006	31.65	1010	d	1.80E-02	a,m	29	d	1.00E-01	13300	5.00E+02	j		1.00E+01			
M-38	11/2/2006	31.01	973	d	1.80E-02	a,m	29	d	1.00E-01	15300	5.00E+02	j		1.00E+01			
M-38	2/1/2007	31.03	955		1.80E-02	a,m	28		1.00E-01	14500	5.00E+02	j		1.00E+01			

LOU 5 Table 6 (continued)
Groundwater Characterization Data - Routine Monitoring¹

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Well ID	Date	Depth to water	Perchlorate mg/L	Qual	MCL ² mg/L	Total Chromium	Qual	MCL ² mg/L	TDS	Qual	MCL ² mg/L	Nitrate (as N)	Qual	MCL ² mg/L	Chlorate	Qual	MCL ² mg/L	
M-38	5/4/2007	31.13	863		1.80E-02	a,m	26	1.00E-01	13500		5.00E+02	j		1.00E+01				
M-38	8/3/2007	31.43	906		1.80E-02	a,m	26	1.00E-01	14600		5.00E+02	j		1.00E+01				
M-22A	2/2/2006	---	1800	d	1.80E-02	a,m	30	1.00E-01			5.00E+02	j		1.00E+01				
M-22A	5/4/2006	---	2000	d	1.80E-02	a,m	30	1.00E-01	11600		5.00E+02	j		1.00E+01				
M-22A	8/4/2006	---	2000		1.80E-02	a,m	30	1.00E-01	10400		5.00E+02	j		1.00E+01				
M-22A	11/3/2006	---	1930	d	1.80E-02	a,m	31	1.00E-01	19530		5.00E+02	j		1.00E+01				
M-22A	2/1/2007	---	1790		1.80E-02	a,m	30	1.00E-01	15900		5.00E+02	j		1.00E+01				
M-22A	5/4/2007	---	1650		1.80E-02	a,m	31	1.00E-01	14100		5.00E+02	j		1.00E+01				
M-22A	8/3/2007	---	1800		1.80E-02	a,m	30	1.00E-01	17000		5.00E+02	j		1.00E+01				
M-67	2/2/2006	20.31	540	d	1.80E-02	a,m	5	1.00E-01			5.00E+02	j		1.00E+01				
M-67	5/3/2006	20.57	420	d	1.80E-02	a,m	4.8	1.00E-01	5090		5.00E+02	j		1.00E+01				
M-67	5/7/2006	24.23	420	d	1.80E-02	a,m		1.00E-01	7580		5.00E+02	j		1.00E+01				
M-67	8/3/2006	21.33	485	d	1.80E-02	a,m	5	1.00E-01	5270		5.00E+02	j		1.00E+01				
M-67	11/1/2006	22.85	483	d	1.80E-02	a,m	5.3	1.00E-01	7200		5.00E+02	j		1.00E+01				
M-67	1/31/2007	21.79	500		1.80E-02	a,m	5.6	1.00E-01	7730		5.00E+02	j		1.00E+01				
M-67	5/4/2007	21.65	485		1.80E-02	a,m	5.5	1.00E-01	8140		5.00E+02	j		1.00E+01				
M-67	8/1/2007	22.26	582		1.80E-02	a,m	5.5	1.00E-01	7790		5.00E+02	j		1.00E+01				
M-68	2/2/2006	23.22	42	d	1.80E-02	a,m	0.73	1.00E-01			5.00E+02	j		1.00E+01				
M-68	5/3/2006	22.86	30	d	1.80E-02	a,m	0.68	1.00E-01	4190		5.00E+02	j		1.00E+01				
M-68	8/2/2006	24.11	28.9	d	1.80E-02	a,m	0.71	1.00E-01	4510		5.00E+02	j		1.00E+01				
M-68	11/1/2006	25.61	31.2	d	1.80E-02	a,m	0.72	1.00E-01	5650		5.00E+02	j		1.00E+01				
M-68	1/31/2007	24.58	24.6		1.80E-02	a,m	0.66	1.00E-01	5680		5.00E+02	j		1.00E+01				
M-68	5/3/2007	24.52	35.4	J	1.80E-02	a,m	0.77	1.00E-01	5610	J	5.00E+02	j		1.00E+01				
M-68	8/1/2007	25.12	61		1.80E-02	a,m	0.91	1.00E-01	6350		5.00E+02	j		1.00E+01				
M-75	2/3/2006	---	140	d	1.80E-02	a,m	6.9	1.00E-01			5.00E+02	j		1.00E+01				
M-75	5/5/2006	---	110	d	1.80E-02	a,m	6	1.00E-01	5960		5.00E+02	j		1.00E+01				
M-75	11/3/2006	---	99.8	d	1.80E-02	a,m	5.2	1.00E-01	5090		5.00E+02	j		1.00E+01				
M-75	2/2/2007	---	91.3		1.80E-02	a,m	5.3	1.00E-01	4990		5.00E+02	j		1.00E+01				
M-75	5/4/2007	---	83.7		1.80E-02	a,m	4.7	1.00E-01	5080		5.00E+02	j		1.00E+01				
M-76	2/3/2006	39.05	80	d	1.80E-02	a,m	3.1	1.00E-01			5.00E+02	j		1.00E+01				
M-76	5/5/2006	39.08	83	d	1.80E-02	a,m	3.6	1.00E-01	4400		5.00E+02	j		1.00E+01				
M-76	11/3/2006	38.74	81.3	d	1.80E-02	a,m	4	1.00E-01	4200		5.00E+02	j		1.00E+01				
M-76	2/2/2007	38.80	97.6		1.80E-02	a,m	3.1	1.00E-01	3980		5.00E+02	j		1.00E+01				
M-76	5/4/2007	39.15	77.9		1.80E-02	a,m	3.7	1.00E-01	4320		5.00E+02	j		1.00E+01				
M-39	2/2/2006	30.42	380	d	1.80E-02	a,m	4	1.00E-01			5.00E+02	j		1.00E+01			--	
M-39	5/3/2006	30.36	320	d	1.80E-02	a,m	3.7	1.00E-01	4300		5.00E+02	j	2.6	d	1.00E+01	1100	d	--
M-39	8/2/2006	31.20	320	d	1.80E-02	a,m	4.3	1.00E-01	4560		5.00E+02	j	3.5	d	1.00E+01	1220	d	--
M-39	11/1/2006	31.53	400	d	1.80E-02	a,m	4.5	1.00E-01	6310		5.00E+02	j	10.8	d	1.00E+01	1370	d	--

LOU 5 Table 6 (continued)
Groundwater Characterization Data - Routine Monitoring¹

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Well ID	Date	Depth to water	Perchlorate mg/L	Qual	MCL ² mg/L	Total Chromium	Qual	MCL ² mg/L	TDS	Qual	MCL ² mg/L	Nitrate (as N)	Qual	MCL ² mg/L	Chlorate	Qual	MCL ² mg/L
M-39	1/31/2007	31.78	390		1.80E-02	a,m	4.5	1.00E-01	6730		5.00E+02	j		1.00E+01			--
M-39	5/2/2007	31.67	403		1.80E-02	a,m	4.7	1.00E-01	6990		5.00E+02	j	10.3	1.00E+01	1380		--
M-39	8/1/2007	32.10	489		1.80E-02	a,m	4.6	1.00E-01	7280		5.00E+02	j		1.00E+01			--
M-89	2/2/2006	32.64	1100	d	1.80E-02	a,m	27	1.00E-01			5.00E+02	j		1.00E+01			--
M-89	5/4/2006	32.93	990	d	1.80E-02	a,m	26	1.00E-01	10000		5.00E+02	j		1.00E+01			--
M-89	8/4/2006	33.31	996	d	1.80E-02	a,m	27	1.00E-01	8840		5.00E+02	j		1.00E+01			--
M-89	11/3/2006	33.37	935	d	1.80E-02	a,m	26	1.00E-01	15330		5.00E+02	j		1.00E+01			--
M-89	2/1/2007	33.23	841		1.80E-02	a,m	24	1.00E-01	13400		5.00E+02	j		1.00E+01			--
M-89	5/4/2007	33.38	774		1.80E-02	a,m	21	1.00E-01	11100		5.00E+02	j		1.00E+01			--
M-89	8/3/2007	33.73	728		1.80E-02	a,m	23	1.00E-01	12300	J-	5.00E+02	j		1.00E+01			--
TR-4	1/13/00	---	29		1.80E-02	a,m		1.00E-01	12300		5.00E+02	j		1.00E+01			--
TR-4	2/2/01	---	11		1.80E-02	a,m		1.00E-01	12300		5.00E+02	j		1.00E+01			--
TR-4	2/25/02	---	15		1.80E-02	a,m		1.00E-01	12300		5.00E+02	j		1.00E+01			--
TR-4	2/19/03	---	12		1.80E-02	a,m		1.00E-01	12300		5.00E+02	j		1.00E+01			--
TR-4	2/3/04	---	8.1		1.80E-02	a,m		1.00E-01	12300		5.00E+02	j		1.00E+01			--
TR-4	2/18/05	---	78*		1.80E-02	a,m		1.00E-01	12300		5.00E+02	j		1.00E+01			--
TR-4	2/2/06	---	7.5		1.80E-02	a,m		1.00E-01	12300		5.00E+02	j		1.00E+01			--
TR-4	3/20/06	---	7.9		1.80E-02	a,m		1.00E-01	12300		5.00E+02	j		1.00E+01			--
TR-4	1/17-18/07	---	7.7		1.80E-02	a,m		1.00E-01	12300		5.00E+02	j		1.00E+01			--

Notes:

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

2. U.S. EPA Maximum Contaminant Level (MCL) 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

TDS = Total Dissolved Solids

mg/l = milligram per liter

Laboratory Qualifiers:

d = the sample was diluted

**LOU 5 Table 7
Soil Characterization Data - Organochlorine Pesticides (OCPs)**

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	Ph A	Ph A	
Boring No.		SA14	SA16	SA17	SA17	
Sample ID		SA14-0.5	SA16-0.5	SA17-0.5	SA17-0.5D	
Sample Depth (ft)		0.5	0.5	0.5	0.5	
Sample Date		11/08/2006	11/09/2006	11/15/2006	11/15/2006	
Organochlorine Pesticides	MSSL ² mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Unit
4,4'-DDD	1.10E+01	0.0069 J	0.0018 U	0.0020 U	0.0020 U	mg/kg
4,4'-DDE	7.80E+00	0.46	0.0018 U	0.014	0.015	mg/kg
4,4'-DDT	7.80E+00	0.66	0.0018 U	0.0068	0.0083	mg/kg
Aldrin	1.10E-01	0.0019 U	0.0018 U	0.0020 U	0.0020 U	mg/kg
Alpha-BHC	4.00E-01	0.0019 U	0.0018 U	0.0020 U	0.0020 U	mg/kg
Alpha-chlordane	1.40E+00 (y)	0.0019 U	0.0018 U	0.0020 U	0.0020 U	mg/kg
Beta-BHC	1.40E+00	0.083	0.0041	0.0020 U	0.0026	mg/kg
Delta-BHC	--	0.0019 U	0.0018 U	0.0020 U	0.0020 U	mg/kg
Dieldrin	1.20E-01	0.0019 U	0.0018 U	0.0020 U	0.0020 U	mg/kg
Endosulfan I	4.10E+03 (aa)	0.0019 U	0.0018 U	0.0020 U	0.0020 U	mg/kg
Endosulfan II	4.10E+03 (aa)	0.0019 U	0.0018 U	0.0020 U	0.0020 U	mg/kg
Endosulfan Sulfate	4.10E+03 (aa)	0.0019 U	0.0018 U	0.0020 U	0.0020 U	mg/kg
Endrin	2.10E+02	0.0019 U	0.0018 U	0.0020 U	0.0020 U	mg/kg
Endrin Aldehyde	2.10E+02 (k)	0.038 J	0.0018 U	0.0020 U	0.0020 U	mg/kg
Endrin Ketone	2.10E+02 (k)	0.0019 U	0.0018 U	0.0020 U	0.0020 U	mg/kg
Gamma-BHC (Lindane)	1.90E+00	0.0019 U	0.0018 U	0.0020 U	0.0020 U	mg/kg
Gamma-Chlordane	1.40E+00 (y)	0.0019 U	0.0018 U	0.0020 U	0.0020 U	mg/kg
Heptachlor	4.30E-01	0.0019 U	0.0018 U	0.0020 U	0.0020 U	mg/kg
Heptachlor Epoxide	2.10E-01	0.0019 U	0.0018 U	0.0020 U	0.0020 U	mg/kg
Methoxychlor	3.40E+03	0.0036 U	0.0035 U	0.045 J	0.055 J	mg/kg
Tech-Chlordane	1.40E+00	0.011 U	0.011 U	0.012 U	0.012 U	mg/kg
Toxaphene	1.70E+00	0.055 U	0.053 U	0.059 U	0.058 U	mg/kg

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
2. U.S. EPA, Region 6, Medium Specific Screening Levels (MSSLs) for Industrial - Outdoor Worker (March, 2008).
 (y) Value for chlordane (technical) used as surrogate for alpha-chlordane and gamma-chlordane 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 5 Table 8
Groundwater Characterization Data - Organochlorine Pesticides (OCPs)

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	Ph A		
Well ID		M-39	M-89	SA14		
Sample ID		M-39	M-89	GWSA14		
Sample Date		12/05/2006	12/05/2006	11/08/2006		
Organochlorine Pesticides	MCL ² ug/L				Unit	
4,4'-DDD	2.80E-01		0.050 U	0.050 U	0.050 U	ug/L
4,4'-DDE	1.98E-01		0.050 U	0.050 U	0.050 U	ug/L
4,4'-DDT	1.98E-01		0.050 U	0.050 U	0.050 U	ug/L
Aldrin	4.00E-03		0.050 U	0.050 U	0.050 U	ug/L
Alpha-BHC	1.10E-02		0.050 U	0.050 U	0.13	ug/L
Alpha-chlordane	2.00E+00 (l)		0.050 U	0.050 U	0.050 U	ug/L
Beta-BHC	3.74E-02		0.050 U	0.050 U	0.14	ug/L
Delta-BHC	1.10E-02 (z)		0.050 U	0.050 U	0.11 J	ug/L
Dieldrin	4.20E-03 (z)		0.050 U	0.050 U	0.050 U	ug/L
Endosulfan I	2.19E+02 (aa)		0.050 U	0.050 U	0.050 U	ug/L
Endosulfan II	2.19E+02 (aa)		0.050 U	0.050 U	0.050 U	ug/L
Endosulfan Sulfate	2.19E+02 (aa)		0.050 U	0.050 U	0.050 U	ug/L
Endrin	2.00E+00		0.050 U	0.050 U	0.050 U	ug/L
Endrin Aldehyde	1.09E+01 (k)		0.050 U	0.050 U	0.050 U	ug/L
Endrin Ketone	1.09E+01 (k)		0.050 U	0.050 U	0.050 U	ug/L
Gamma-BHC (Lindane)	2.00E-01		0.050 U	0.050 U	0.097	ug/L
Gamma-Chlordane	2.00E+00 (l)		0.050 U	0.050 U	0.050 U	ug/L
Heptachlor	4.00E-01		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	ug/L
Methoxychlor	4.00E+01		0.10 U	0.10 U	0.10 UJ	ug/L
Tech-Chlordane	2.00E+00 (l)		0.50 U	0.50 U	0.50 U	ug/L
Toxaphene	3.00E+00		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. U.S. EPA Maximum Contaminant Level (MCL) values unless noted.
- (k) Value for endrin used as surrogate for endrin aldehyde and endrin ketone due to structural similarities.
(l) Value for chlordane used as surrogate for alpha-chlordane, chlordane (technical) and gamma-chlordane due to structural similarities.
(z) Value for alpha-BHC used as surrogate for delta-BHC based on structural similarities.
(aa) Value for endosulfan used as surrogate for endosulfan I, endosulfan II and endosulfan sulfate based on structural similarities.

LOU 5 Table 9
Soil Characterization Data - Organophosphorus Pesticides (OPPs)

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	Ph A	Ph A	Ph A	
Boring No.		SA14	SA14	SA16	SA17	SA17	
Sample ID		SA14-0.5	SA14-10	SA16-0.5	SA17-0.5	SA17-0.5D	
Sample Depth (ft)		0.5	10	0.5	0.5	0.5	
Sample Date		11/08/2006	11/08/2006	11/09/2006	11/15/2006	11/15/2006	
OPPs	MSSL ² mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Unit
Azinphos-methyl	--	0.014 U	0.015 UJ	0.014 UJ	0.015 UJ	0.015 UJ	mg/kg
Bolstar	--	0.014 U	0.015 U	0.014 UJ	0.015 U	0.015 U	mg/kg
Chlorpyrifos	2.10E+03	0.022 U	0.023 U	0.021 UJ	0.023 UJ	0.023 UJ	mg/kg
Coumaphos	--	0.014 U	0.015 U	0.014 UJ	0.015 UJ	0.015 UJ	mg/kg
Demeton-O	--	0.043 U	0.044 U	0.042 UJ	0.046 UJ	0.092 J	mg/kg
Demeton-S	--	0.016 U	0.017 U	0.016 UJ	0.018 UJ	0.017 UJ	mg/kg
Diazinon	6.20E+02	0.024 U	0.025 U	0.023 UJ	0.026 U	0.025 U	mg/kg
Dichlorvos	6.60E+00	0.025 U	0.026 U	0.025 UJ	0.027 U	0.027 U	mg/kg
Dimethoate	--	0.024 U	0.025 U	0.023 UJ	0.026 UJ	0.025 UJ	mg/kg
Disulfoton	2.70E+01	0.053 U	0.054 U	0.051 UJ	0.056 U	0.055 U	mg/kg
EPN	--	0.014 UJ	0.015 U	0.014 UJ	0.015 U	0.015 U	mg/kg
Ethoprop	--	0.016 U	0.017 U	0.016 UJ	0.018 U	0.017 U	mg/kg
Ethyl Parathion	4.10E+03	0.020 UJ	0.020 U	0.019 UJ	0.021 U	0.021 U	mg/kg
Famphur	--	0.014 U	0.015 U	0.014 UJ	0.015 UJ	0.015 UJ	mg/kg
Fensulfothion	--	0.014 U	0.015 U	0.014 UJ	0.015 U	0.015 U	mg/kg
Fenthion	1.70E+02 (ff)	0.036 U	0.037 U	0.035 UJ	0.039 U	0.038 U	mg/kg
Malathion	1.40E+04	0.016 U	0.017 U	0.016 UJ	0.018 U	0.017 U	mg/kg
Merphos	--	0.033 U	0.034 U	0.032 UJ	0.035 U	0.035 U	mg/kg
Methyl parathion	1.70E+02	0.022 U	0.023 U	0.021 UJ	0.023 U	0.023 U	mg/kg
Mevinphos	--	0.016 U	0.017 U	0.016 UJ	0.018 U	0.017 U	mg/kg
Naled	1.40E+03	0.036 UJ	0.037 UJ	0.035 UJ	0.039 UJ	0.038 UJ	mg/kg
Phorate	--	0.022 U	0.023 U	0.021 UJ	0.023 U	0.023 U	mg/kg
Ronnel	3.40E+04	0.020 U	0.020 UJ	0.019 UJ	0.021 UJ	0.021 UJ	mg/kg
Stirphos	--	0.016 U	0.017 U	0.016 UJ	0.018 UJ	0.017 UJ	mg/kg
Sulfotep	--	0.022 U	0.023 U	0.021 UJ	0.023 U	0.023 U	mg/kg
Thionazin	--	0.020 U	0.020 U	0.019 UJ	0.021 U	0.021 U	mg/kg
Tokuthion	--	0.022 U	0.023 U	0.021 UJ	0.023 U	0.023 U	mg/kg
Trichloronate	--	0.022 U	0.023 U	0.021 UJ	0.023 UJ	0.023 UJ	mg/kg

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
 2. U.S. EPA, Region 6, Medium Specific Screening Levels (MSSLs) for Industrial - Outdoor Worker (March, 2008).
- (ff) Value for methyl parathion used as surrogate for fenthion based on structural similarities.

LOU 5 Table 10
Groundwater Characterization Data - Organophosphorus Pesticides (OPPs)

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	Ph A	
Well ID		M-39	M-89	SA14	
Sample ID		M-39	M-89	GWSA14	
Sample Date		12/05/2006	12/05/2006	11/08/2006	
OPPs	MCL ² (ug/L)				Unit
Azinphos-methyl	--	2.5 U	2.5 U	2.5 U	ug/L
Bolstar	--	1.0 U	1.0 U	1.0 U	ug/L
Chlorpyrifos	1.09E+02	1.0 U	1.0 U	1.0 U	ug/L
Coumaphos	--	1.0 U	1.0 U	1.0 U	ug/L
Demeton-O	1.46E+00 (cc)	1.0 U	1.0 U	1.0 U	ug/L
Demeton-S	1.46E+00 (cc)	1.0 UJ	1.0 UJ	1.0 U	ug/L
Diazinon	3.28E+01	1.0 U	1.0 U	1.0 U	ug/L
Dichlorvos	2.32E-01	1.0 U	1.0 U	1.0 U	ug/L
Dimethoate	7.30E+00	1.0 U	1.0 U	1.0 U	ug/L
Disulfoton	1.46E+00	0.50 U	0.50 U	0.50 U	ug/L
EPN	3.65E-01	1.2 U	1.2 U	1.2 UJ	ug/L
Ethoprop	--	0.50 U	0.50 U	0.50 U	ug/L
Ethyl Parathion	9.12E+00 (tt)	1.0 U	1.0 U	1.0 UJ	ug/L
Famphur	--	1.0 U	1.0 U	1.0 U	ug/L
Fensulfothion	--	2.5 U	2.5 U	2.5 U	ug/L
Fenthion	9.10E+00 (ff)	2.5 U	2.5 U	2.5 U	ug/L
Malathion	7.30E+02	1.2 U	1.2 U	1.2 U	ug/L
Merphos	1.09E+00	5.0 U	5.0 U	5.0 U	ug/L
Methyl parathion	9.12E+00	4.0 U	4.0 U	4.0 UJ	ug/L
Mevinphos	--	6.2 U	6.2 U	6.2 U	ug/L
Naled	7.30E+01	1.0 UJ	1.0 UJ	1.0 UJ	ug/L
Phorate	7.30E+00	1.2 UJ	1.2 UJ	1.2 U	ug/L
Ronnel	1.82E+03	10 U	10 U	10 U	ug/L
Stirphos	--	3.5 U	3.5 U	3.5 UJ	ug/L
Sulfotep	1.82E+01	1.5 U	1.5 U	1.5 U	ug/L
Thionazin	--	1.0 U	1.0 U	1.0 U	ug/L
Tokuthion	--	1.6 U	1.6 U	1.6 U	ug/L
Trichloronate	--	0.50 U	0.50 U	0.50 U	ug/L

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
2. U.S. EPA Maximum Contaminant Level (MCL) values unless noted.
(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 5 Table 11
Soil Characterization Data - PCBs**

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

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 ID		SA14	SA14	SA14	SA14	SA14	SA16	SA16	SA16	SA16	SA17	SA17	SA17	SA17	SA17	
Sample ID		SA14-0.5	SA14-10	SA14-20	SA14-30	SA14-40	SA16-0.5	SA16-10	SA16-20	SA16-30	SA17-0.5	SA17-0.5D	SA17-10	SA17-20	SA17-25	
Sample Depth (ft)		0.5	10	20	30	40	0.5	10	20	30	0.5	0.5	10	20	25	
Sample Date		11/08/2006	11/08/2006	11/08/2006	11/08/2006	11/08/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	
PCBs	MSSL ² mg/kg															Unit
Aroclor-1016	2.40E+01 (i)	0.036 U	0.037 U	0.041 U	0.053 U	0.041 U	0.035 U	0.037 U	0.036 U	0.053 U	0.039 U	0.038 U	0.038 U	0.035 U	0.041 U	mg/kg
Aroclor-1221	8.30E-01 (i)	0.036 U	0.037 U	0.041 U	0.053 U	0.041 U	0.035 U	0.037 U	0.036 U	0.053 U	0.039 U	0.038 U	0.038 U	0.035 U	0.041 U	mg/kg
Aroclor-1232	8.30E-01 (i)	0.036 U	0.037 U	0.041 U	0.053 U	0.041 U	0.035 U	0.037 U	0.036 U	0.053 U	0.039 U	0.038 U	0.038 U	0.035 U	0.041 U	mg/kg
Aroclor-1242	8.30E-01 (i)	0.036 U	0.037 U	0.041 U	0.053 U	0.041 U	0.035 U	0.037 U	0.036 U	0.053 U	0.039 U	0.038 U	0.038 U	0.035 U	0.041 U	mg/kg
Aroclor-1248	8.30E-01 (i)	0.036 U	0.037 U	0.041 U	0.053 U	0.041 U	0.035 U	0.037 U	0.036 U	0.053 U	0.039 U	0.038 U	0.038 U	0.035 U	0.041 U	mg/kg
Aroclor-1254	8.30E-01 (i)	0.036 U	0.037 U	0.041 U	0.053 U	0.041 U	0.035 U	0.037 U	0.036 U	0.053 U	0.039 U	0.038 U	0.038 U	0.035 U	0.041 U	mg/kg
Aroclor-1260	8.30E-01 (i)	0.036 U	0.037 U	0.041 U	0.053 U	0.041 U	0.035 U	0.037 U	0.036 U	0.053 U	0.039 U	0.038 U	0.038 U	0.035 U	0.041 U	mg/kg

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
 2. U.S. EPA, Region 6, Medium Specific Screening Levels (MSSLs) for Industrial - Outdoor Worker (March, 2008)
- (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 5 Table 12
Groundwater Characterization Data - PCBs

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	Ph A	
Well ID		M-39	M-89	SA14	
Sample ID		M-39	M-89	GWSA14	
Sample Date		12/05/2006	12/05/2006	11/08/2006	
PCBs	MCL ² (ug/L)				Unit
Aroclor-1016	5.00E-01 (bb)	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	ug/L
Aroclor-1232	5.00E-01 (bb)	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	ug/L
Aroclor-1248	5.00E-01 (bb)	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	ug/L
Aroclor-1260	5.00E-01 (bb)	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. U.S. EPA Maximum Contaminant Level (MCL) values unless noted.
(bb) Value for total PCBs.

LOU 5 Table 13
Soil Characterization Data - Perchlorate

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Boring ID	Sample ID	Sample Depth (ft)	Sample Date	Perchlorate ug/kg	MSSL ¹ ug/kg	Sampling Program
SA14	SA14-0.5	0.5	11/08/2006	1410	7.95E+05	Ph A ²
SA14	SA14-10	10	11/08/2006	220	7.95E+05	Ph A
SA14	SA14-20	20	11/08/2006	450	7.95E+05	Ph A
SA14	SA14-30	30	11/08/2006	6710	7.95E+05	Ph A
SA14	SA14-40	40	11/08/2006	500	7.95E+05	Ph A
SA16	SA16-0.5	0.5	11/09/2006	3720	7.95E+05	Ph A
SA16	SA16-10	10	11/09/2006	177	7.95E+05	Ph A
SA16	SA16-20	20	11/09/2006	609	7.95E+05	Ph A
SA16	SA16-30	30	11/09/2006	1860000	7.95E+05	Ph A
SA17	SA17-0.5	0.5	11/15/2006	366	7.95E+05	Ph A
SA17	SA17-0.5D	0.5	11/15/2006	302	7.95E+05	Ph A
SA17	SA17-10	10	11/15/2006	122	7.95E+05	Ph A
SA17	SA17-20	20	11/15/2006	792	7.95E+05	Ph A
SA17	SA17-25	25	11/15/2006	13500	7.95E+05	Ph A

Notes:

1. U.S. EPA, Region 6, Medium Specific Screening Levels (MSSLs) for Industrial - Outdoor Worker (March, 2008).
2. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.

**LOU 5 Table 14
Groundwater Characterization Data - Perchlorate**

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Well ID Number	Sample ID	Sample Date	Perchlorate	Units	MCL¹ ug/L	Sampling Program
M-39	M-39	12/05/2006	403000 J+	ug/L	1.80E+01 a,(m)	Ph A ²
M-89	M-89	12/05/2006	898000 J+	ug/L	1.80E+01 a,(m)	Ph A
SA14	GWSA14	11/08/2006	1120	ug/L	1.80E+01 a,(m)	Ph A

Notes:

1. U.S. EPA Maximum Contaminant Level (MCL) values unless noted.

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

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

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

**LOU 5 Table 15
Soil Characterization Data - Radionuclides**

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

				Ra-226 (gamma) pCi/g	Ra-228 (gamma) pCi/g	Th-228 (TH MOD) pCi/g	Th-230 (TH MOD) pCi/g	Th-232 (TH MOD) pCi/g	U-233/234 (U MOD) pCi/g	U-235/236 (U MOD) pCi/g	U-238 (U MOD) pCi/g	
Sample ID Nu	Sample ID	Sample Depth (ft)	Date									Sampling Program
SA14	SA14-0.5	0.5	11/08/2006	1.07 J+	1.85 J+							Ph A ¹
SA14	SA14-10	10	11/08/2006	1.06 U	1.93 J+							Ph A
SA14	SA14-20	20	11/08/2006	1.35 J+	1.82 J+							Ph A
SA14	SA14-30	30	11/08/2006	1.47 J+	1.38 J+							Ph A
SA14	SA14-40	40	11/08/2006	1.18 J+	0.676 J+							Ph A
SA16	SA16-0.5	0.5	11/09/2006	1.16 J+	1.92 J+							Ph A
SA16	SA16-10	10	11/09/2006	1.07 J+	1.5 J+							Ph A
SA16	SA16-20	20	11/09/2006	1.85 J+	2.07 J+							Ph A
SA16	SA16-30	30	11/09/2006	1.71 J+	1.17 J+							Ph A
SA17	SA17-0.5	0.5	11/15/2006	1.12 J	1.75							Ph A
SA17	SA17-0.5D	0.5	11/15/2006	1.12 J	1.8							Ph A
SA17	SA17-10	10	11/15/2006	1.2 J	1.55							Ph A
SA17	SA17-20	20	11/15/2006	1.8 J	1.99							Ph A
SA17	SA17-25	25	11/15/2006	1.81 J	1.32							Ph A

Notes:

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

**LOU 5 Table 16
Groundwater Characterization Data - Radionuclides**

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

			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	
Well ID Number	Sample ID	Date									Sampling Program
M39	M39-Z	05/10/2007	0.191 J	0.277 U	0.0105 U	5.00 J	0.102 J	55.1	1.19	34.9	Ph A ¹
M39	M39-ZD	05/10/2007	0.185 J	0.106 U	0.0253 U	0.428 B	0.122 J	53.1	1.43	33.3	Ph A
M89	M89-Z	05/11/2007	0.352 J	1.27 JB							Ph A
SA14	GWSA14	11/08/2006	6.55 J+	3.75							Ph A

Notes:

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

LOU 5 Table 17
Soil Characterization Data - SVOCs

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

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.			SA14	SA14	SA14	SA14	SA14	SA16	SA16	SA16	SA16	SA17	SA17	SA17	SA17	
Sample ID			SA14-0.5	SA14-10	SA14-20	SA14-30	SA14-40	SA16-0.5	SA16-10	SA16-20	SA16-30	SA17-0.5	SA17-0.5D	SA17-10	SA17-20	SA17-25
Sample Depth (ft)			0.5	10	20	30	40	0.5	10	20	30	0.5	0.5	10	20	25
Sample Date			11/08/2006	11/08/2006	11/08/2006	11/08/2006	11/08/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006
SVOC	Analytical Method	MSSL ² ug/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	ug/kg	ug/kg
1,4-Dioxane	non-SIM	1.70E+05	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	77 U	380 U	380 U	350 U	410 U
2-Methylnaphthalene	non-SIM	2.10E+05 (jj)	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
2-Methylnaphthalene	SIM	2.10E+05 (jj)	7.2 U									7.7 U				
Acenaphthene	non-SIM	3.30E+07	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Acenaphthene	SIM	3.30E+07	7.2 U									7.7 U				
Acenaphthylene	non-SIM	3.30E+07 (pp)	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Acenaphthylene	SIM	3.30E+07 (pp)	7.2 U									7.7 U				
Anthracene	non-SIM	1.00E+08	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Anthracene	SIM	1.00E+08	7.2 U									7.7 U				
Benz(a)anthracene	non-SIM	2.30E+03	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Benz(a)anthracene	SIM	2.30E+03	7.2 U									7.7 U				
Benzo(a)pyrene	non-SIM	2.30E+02	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Benzo(a)pyrene	SIM	2.30E+02	7.2 U									7.7 U				
Benzo(b)fluoranthene	non-SIM	2.30E+03	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Benzo(b)fluoranthene	SIM	2.30E+03	7.2 U									7.7 U				
Benzo(g,h,i)perylene	non-SIM	3.20E+07 (w)	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Benzo(g,h,i)perylene	SIM	3.20E+07 (w)	7.2 U									7.7 U				
Benzo(k)fluoranthene	non-SIM	2.30E+04	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Benzo(k)fluoranthene	SIM	2.30E+04	7.2 U									7.7 U				
bis(2-Ethylhexyl)phthalate	non-SIM	1.40E+05	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Butyl benzyl phthalate	non-SIM	2.40E+05	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Chrysene	non-SIM	2.30E+05	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Chrysene	SIM	2.30E+05	7.2 U									7.7 U				
Dibenz(a,h)anthracene	non-SIM	2.30E+02	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Dibenz(a,h)anthracene	SIM	2.30E+02	7.2 U									7.7 U				
Diethyl phthalate	non-SIM	1.00E+08	360 U	370 U	260 J	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Dimethyl phthalate	non-SIM	1.00E+08	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Di-N-Butyl phthalate	non-SIM	6.80E+07	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Di-N-Octyl phthalate	non-SIM	--	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Fluoranthene	non-SIM	2.40E+07	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Fluoranthene	SIM	2.40E+07	7.2 U									7.7 U				
Fluorene	non-SIM	2.60E+07	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Fluorene	SIM	2.60E+07	7.2 U									7.7 U				
Hexachlorobenzene	non-SIM	1.20E+03	73 J	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	61 J	45 J	57 J	350 U	410 U
Hexachlorobenzene	SIM	1.20E+03	77									60				
Indeno(1,2,3-cd)pyrene	non-SIM	2.30E+03	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 UJ	380 UJ	380 UJ	350 UJ	410 UJ
Indeno(1,2,3-cd)pyrene	SIM	2.30E+03	7.2 U									7.7 U				
Naphthalene	non-SIM	2.10E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Naphthalene	non-SIM	2.10E+05	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Naphthalene	SIM	2.10E+05	7.2 U									7.7 U				
Nitrobenzene	non-SIM	1.10E+05	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Octachlorostyrene	non-SIM	--	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Phenanthrene	non-SIM	1.00E+08 (n)	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Phenanthrene	SIM	1.00E+08 (n)	7.2 U									7.7 U				

LOU 5 Table 17 (continued)

Soil Characterization Data - SVOCs

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

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.			SA14	SA14	SA14	SA14	SA14	SA16	SA16	SA16	SA16	SA17	SA17	SA17	SA17	
Sample ID			SA14-0.5	SA14-10	SA14-20	SA14-30	SA14-40	SA16-0.5	SA16-10	SA16-20	SA16-30	SA17-0.5	SA17-0.5D	SA17-10	SA17-20	SA17-25
Sample Depth (ft)			0.5	10	20	30	40	0.5	10	20	30	0.5	0.5	10	20	25
Sample Date			11/08/2006	11/08/2006	11/08/2006	11/08/2006	11/08/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006
SVOC	Analytical Method	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	ug/kg	ug/kg
Pyrene	non-SIM	3.20E+07	360 U	370 U	410 U	530 U	410 U	350 U	370 U	360 U	530 U	390 U	380 U	380 U	350 U	410 U
Pyrene	SIM	3.20E+07	7.2 U									7.7 U				
Pyridine	non-SIM	6.80E+05	1800 U	1800 U	2000 U	2600 U	2000 U	1700 U	1800 U	1700 U	2600 U	1900 U	1800 U	1800 U	1700 U	2000 U

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
 2. U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) for industrial soil (October, 2004).
- (n) Value for anthracene used as surrogate for phenanthrene due to structural similarities.
(w) Value for pyrene used as surrogate for benzo(g,h,i)perylene based on structural similarities.
(jj) Value for naphthalene used as surrogate for 2-methylnaphthalene based on structural similarities.
(pp) Value for acenaphthene used as surrogate for acenaphthylene based on structural similarities.

**LOU 5 Table 18
Groundwater Characterization Data - SVOCs**

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Sampling Program			Ph A ¹	Ph A	Ph A
Well No.			M-39	M-89	SA14
Sample ID			M-39	M-89	GWSA14
Sample Date			12/05/2006	12/05/2006	11/08/2006
SVOCs	Analytical Method	MCL ² (ug/L)	ug/L	ug/L	ug/L
1,4-Dioxane	non-SIM	6.11E+00	10 U	10 U	10 U
2-Methylnaphthalene	non-SIM	6.20E+00 (jj)	10 U	10 U	10 U
2-Methylnaphthalene	SIM	6.20E+00 (jj)			
Acenaphthene	non-SIM	3.65E+02	10 U	10 U	10 U
Acenaphthene	SIM	3.65E+02			
Acenaphthylene	non-SIM	3.65E+02 (pp)	10 U	10 U	10 U
Acenaphthylene	SIM	3.65E+02 (pp)			
Anthracene	non-SIM	1.83E+03	10 U	10 U	10 U
Anthracene	SIM	1.83E+03			
Benz(a)anthracene	non-SIM	9.21E-02	10 U	10 U	10 U
Benz(a)anthracene	SIM	9.21E-02			
Benzo(a)pyrene	non-SIM	2.00E-01	10 U	10 U	10 U
Benzo(a)pyrene	SIM	2.00E-01			
Benzo(b)fluoranthene	non-SIM	9.21E-02	10 U	10 U	10 U
Benzo(b)fluoranthene	SIM	9.21E-02			
Benzo(g,h,i)perylene	non-SIM	1.83E+02 (w)	10 U	10 U	10 U
Benzo(g,h,i)perylene	SIM	1.83E+02 (w)			
Benzo(k)fluoranthene	non-SIM	9.21E-01	10 U	10 U	10 U
Benzo(k)fluoranthene	SIM	9.21E-01			
bis(2-Ethylhexyl)phthalate	non-SIM	6.00E+00	10 U	10 U	10 U
Butyl benzyl phthalate	non-SIM	7.30E+03	10 U	10 U	10 U
Chrysene	non-SIM	9.21E+00	10 U	10 U	10 U
Chrysene	SIM	9.21E+00			
Dibenz(a,h)anthracene	non-SIM	9.21E-03	10 U	10 U	10 U
Dibenz(a,h)anthracene	SIM	9.21E-03			
Diethyl phthalate	non-SIM	2.92E+04	10 U	10 U	10 U
Dimethyl phthalate	non-SIM	3.65E+05	10 U	10 U	10 U
Di-N-Butyl phthalate	non-SIM	3.65E+03	10 U	10 U	10 U
Di-N-Octyl phthalate	non-SIM	1.46E+03	10 U	10 U	10 U
Fluoranthene	non-SIM	1.46E+03	10 U	10 U	10 U
Fluoranthene	SIM	1.46E+03			
Fluorene	non-SIM	2.43E+02	10 U	10 U	10 U
Fluorene	SIM	2.43E+02			
Hexachlorobenzene	non-SIM	1.00E+00	10 U	10 U	10 U
Hexachlorobenzene	SIM	1.00E+00			
Indeno(1,2,3-cd)pyrene	non-SIM	9.21E-02	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	SIM	9.21E-02			
Naphthalene	non-SIM	6.20E+00	5.0 U	5.0 U	500 U
Naphthalene	non-SIM	6.20E+00	10 U	10 U	5.2 J
Naphthalene	SIM	6.20E+00			
Nitrobenzene	non-SIM	3.40E+00	10 U	10 U	10 U
Octachlorostyrene	non-SIM	--	10 U	10 U	10 U

**LOU 5 Table 18 (continued)
Groundwater Characterization Data - SVOCs**

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Sampling Program			Ph A ¹	Ph A	Ph A
Well No.			M-39	M-89	SA14
Sample ID			M-39	M-89	GWSA14
Sample Date			12/05/2006	12/05/2006	11/08/2006
SVOCs	Analytical Method	MCL ² (g/L)	ug/L	ug/L	ug/L
Phenanthrene	non-SIM	1.80E+03 (n)	10 U	10 U	10 U
Phenanthrene	SIM	1.80E+03 (n)			
Pyrene	non-SIM	1.83E+02	10 U	10 U	10 U
Pyrene	SIM	1.83E+02			
Pyridine	non-SIM	3.65E+01	20 U	20 U	20 U

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
2. U.S. EPA Maximum Contaminant Level (MCL) values unless noted.
 - (n) Value for anthracene used as surrogate for phenanthrene due to structural similarities.
 - (w) Value for pyrene used as surrogate for benzo(g,h,i)perylene based on structural similarities.
 - (jj) Value for naphthalene used as surrogate for 2-methylnaphthalene based on structural similarities.
 - (pp) Value for acenaphthene used as surrogate for acenaphthylene based on structural similarities.

LOU 5 Table 19
Soil Characterization Data - TPH and Fuel Alcohols

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

				Fuel Alcohols			Total Petroleum Hydrocarbons			
				Ethanol	Ethylene glycol	Methanol	TPH - ORO	TPH - DRO	TPH - GRO	
			MSSL ¹ mg/kg	--	1.00E+05	1.00E+05	1.00E+02 w	1.00E+02 w	1.00E+02 w	
Boring No.	Sample ID.	Sample Depth (ft)	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Sampling Program
SA14	SA14-0.5	0.5	11/08/2006				27 U	27 U	0.11 U	Ph A ²
SA14	SA14-10	10	11/08/2006				28 U	28 U	0.11 U	Ph A
SA14	SA14-20	20	11/08/2006				31 U	31 U	0.12 U	Ph A
SA14	SA14-30	30	11/08/2006				40 U	40 U	0.16 U	Ph A
SA14	SA14-40	40	11/08/2006				31 U	31 U	0.89	Ph A
SA16	SA16-0.5	0.5	11/09/2006				27 U	27 U	0.11 UJ	Ph A
SA16	SA16-10	10	11/09/2006				28 U	28 U	0.11 U	Ph A
SA16	SA16-20	20	11/09/2006				27 U	27 U	0.11 U	Ph A
SA16	SA16-30	30	11/09/2006				40 U	40 U	0.16 U	Ph A
SA17	SA17-0.5	0.5	11/15/2006				29 U	29 U	0.12 U	Ph A
SA17	SA17-0.5D	0.5	11/15/2006				29 U	29 U	0.12 U	Ph A
SA17	SA17-10	10	11/15/2006				28 U	28 U	0.11 U	Ph A
SA17	SA17-20	20	11/15/2006				27 U	27 U	0.11 U	Ph A
SA17	SA17-25	25	11/15/2006				31 U	31 U	0.12 U	Ph A

Notes:

1. U.S. EPA, Region 6, Medium Specific Screening Levels (MSSLs) for Industrial - Outdoor Worker (March, 2008).
 2. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
- (w) Value for pyrene used as surrogate for benzo(g,h,i)perylene based on structural similarities.

**LOU 5 Table 20
Soil Characterization Data - VOCs**

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

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	Ph A	
Boring No.	SA14	SA14	SA14	SA14	SA14	SA14	SA16	SA16	SA16	SA16	SA17	SA17	SA17	SA17	
Sample ID	SA14-0.5	SA14-10	SA14-20	SA14-30	SA14-40	SA14-40	SA16-0.5	SA16-10	SA16-20	SA16-30	SA17-0.5	SA17-0.5D	SA17-10	SA17-20	SA17-25
Sample Depth (ft)	0.5	10	20	30	40	40	0.5	10	20	30	0.5	0.5	10	20	25
Sample Date	11/08/2006	11/08/2006	11/08/2006	11/08/2006	11/08/2006	11/08/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006	11/15/2006	11/15/2006	11/15/2006
VOCs	MSSL ² ug/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	ug/kg	ug/kg
Naphthalene	2.10E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,1,1,2-Tetrachloroethane	7.60E+03	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,1,1-Trichloroethane	1.40E+06	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,1,2,2-Tetrachloroethane	9.70E+02	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,1,2-Trichloroethane	2.10E+03	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,1-Dichloroethane	2.30E+06	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	1.6 J	5.7 U	5.3 U	6.2 U
1,1-Dichloroethene	4.70E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,1-Dichloropropene	1.75E+03 (gg)	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,2,3-Trichlorobenzene	2.60E+05 (hh)	5.5 U	4.8 J	1400	4.2 J	6.2 U	5.3 UJ	5.6 UJ	17 J	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,2,3-Trichloropropane	1.60E+03	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,2,4-Trichlorobenzene	2.60E+05	5.5 U	5.7 U	1500	8.5	1.7 J	5.3 UJ	5.6 UJ	5.0 J	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	1.9 J
1,2,4-Trimethylbenzene	2.20E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,2-Dibromo-3-chloropropane	2.00E+01	5.5 UJ	5.7 UJ	6.2 UJ	8.0 UJ	6.2 UJ	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,2-Dichlorobenzene	3.70E+05	5.5 U	0.29 J	16	1.2 J	5.1 J	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	0.99 J
1,2-Dichloroethane	8.40E+02	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,2-Dichloropropane	8.50E+02	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,3,5-Trimethylbenzene	7.80E+04	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,3-Dichlorobenzene	1.40E+05	5.5 U	5.7 U	14	15	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,3-Dichloropropane	4.10E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
1,4-Dichlorobenzene	8.10E+03	0.93 J	0.99 J	6.5	2.6 J	7.1	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
2,2-Dichloropropane	8.50E+02 (ii)	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
2-Butanone	3.40E+07	11 U	11 U	12 U	16 U	12 U	11 U	11 U	2.0 J	16 U	12 U	12 U	11 U	11 U	12 U
2-Chlorotoluene	5.10E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
2-Hexanone	1.72E+07 (nn)	11 UJ	11 UJ	12 UJ	16 UJ	12 UJ	11 U	11 U	11 U	16 U	12 UJ	12 UJ	11 UJ	11 UJ	12 UJ
2-Methoxy-2-methyl-butane	--	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
4-Chlorotoluene	5.10E+05 (ww)	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
4-Isopropyltoluene	--	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
4-Methyl-2-pentanone	1.70E+07	11 UJ	11 UJ	12 UJ	16 UJ	12 UJ	11 U	11 U	11 U	16 U	12 U	12 U	11 U	11 U	12 U
Acetone	6.00E+07	11 U	11 U	27	16 U	12 U	11 UJ	11 UJ	29 UJ	16 UJ	12 UJ	71 J	6.9 J	11 U	12 U
Benzene	1.60E+03	5.5 U	5.7 U	6.2 U	8.0 U	1700	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Bromobenzene	1.20E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Bromochloromethane	1.75E+03 (qq)	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Bromodichloromethane	2.60E+03	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Bromoform	2.40E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Bromomethane	1.50E+04	11 U	11 U	12 U	16 U	12 U	11 UJ	11 UJ	11 UJ	16 UJ	12 U	12 U	11 U	11 U	12 U
Carbon tetrachloride	5.80E+02	5.5 U	5.7 U	6.2 U	2.3 J	6.0 J	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Chlorobenzene	5.00E+05	5.5 U	5.7 U	6.2 U	8.0 U	7000	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Chloroethane	7.20E+03	5.5 UJ	5.7 UJ	6.2 UJ	8.0 UJ	6.2 UJ	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 UJ	5.8 UJ	5.7 UJ	5.3 UJ	6.2 UJ
Chloroform	5.80E+02	0.28 J	0.78 J	12	2300	6800	5.3 U	5.6 U	5.4 U	240	5.9 U	5.8 U	5.7 U	5.3 U	14
Chloromethane	1.70E+05	5.5 UJ	5.7 UJ	6.2 UJ	8.0 UJ	6.2 UJ	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 UJ	5.8 UJ	5.7 UJ	5.3 UJ	6.2 UJ
cis-1,2-Dichloroethene	1.60E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
cis-1,3-Dichloropropene	1.75E+03 (gg)	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Dibromochloromethane	2.60E+03	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U

**LOU 5 Table 20 (continued)
Soil Characterization Data - VOCs**

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

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	Ph A	
Boring No.	SA14	SA14	SA14	SA14	SA14	SA16	SA16	SA16	SA16	SA16	SA17	SA17	SA17	SA17	
Sample ID	SA14-0.5	SA14-10	SA14-20	SA14-30	SA14-40	SA16-0.5	SA16-10	SA16-20	SA16-30	SA16-30	SA17-0.5	SA17-0.5D	SA17-10	SA17-20	SA17-25
Sample Depth (ft)	0.5	10	20	30	40	0.5	10	20	30	30	0.5	0.5	10	20	25
Sample Date	11/08/2006	11/08/2006	11/08/2006	11/08/2006	11/08/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006	11/09/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006	11/15/2006
VOCs	MSSL ² ug/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	ug/kg	ug/kg
Dibromomethane	5.90E+05 (xx)	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Dichlorodifluoromethane	3.40E+05	5.5 UJ	5.7 UJ	6.2 UJ	8.0 UJ	6.2 UJ	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 UJ	5.8 UJ	5.7 UJ	5.3 UJ	6.2 UJ
Ethyl t-butyl ether	7.90E+04 (kk)	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Ethylbenzene	2.30E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Ethylene dibromide	7.00E+01	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Hexachlorobutadiene	2.50E+04	5.5 U	0.38 J	11	1.1 J	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
isopropyl ether	--	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Isopropylbenzene	5.80E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Methyl tert butyl ether	7.90E+04	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Methylene chloride	2.20E+04	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	15 UJ	8.1 UJ	5.9 UJ	23 UJ	5.7 UJ	5.3 UJ	6.2 UJ
N-Butylbenzene	2.40E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
N-Propylbenzene	2.40E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
sec-Butylbenzene	2.20E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Styrene	1.70E+06	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
t-Butyl alcohol	--	11 UJ	11 UJ	12 UJ	16 UJ	12 UJ	12 UJ	15 UJ	16 UJ	21.0 UJ	12 UJ	12 UJ	11 UJ	11 UJ	12 UJ
tert-Butylbenzene	3.90E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Tetrachloroethene	1.70E+03	5.5 U	5.7 U	0.66 J	2.0 J	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	1.1 J
Toluene	5.20E+05	5.5 U	5.7 U	6.2 U	8 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
trans-1,2-Dichloroethylene	2.00E+05	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
trans-1,3-Dichloropropene	1.75E+03 (gg)	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Trichloroethene	1.00E+02	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 UJ	5.6 UJ	1.1 J	8.8 J	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Trichlorofluoromethane	1.40E+06	5.5 UJ	5.7 UJ	6.2 UJ	8.0 UJ	1.6 J	5.3 UJ	5.6 UJ	5.4 UJ	8.1 UJ	5.9 UJ	5.8 UJ	5.7 UJ	5.3 UJ	6.2 UJ
Vinylchloride	8.60E+02	5.5 U	5.7 U	6.2 U	8.0 U	6.2 U	5.3 U	5.6 U	5.4 U	8.1 U	5.9 U	5.8 U	5.7 U	5.3 U	6.2 U
Xylene (Total)	2.10E+05	11 U	11 U	12 U	16 U	12 U	11 UJ	11 UJ	11 UJ	16 UJ	12 U	12 U	11 U	11 U	12 U

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
 2. U.S. EPA, Region 6, Medium Specific Screening Levels (MSSLs) for Industrial - Outdoor Worker (March, 2008).
- (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.
- (ii) Value for 1,2-dichloropropane used as surrogate for 2,2-dichloropropane based on structural similarities.
- (kk) Value for methyl tertbutyl ether (MTBE) used as surrogate for ethyl-tert-butyl ether (ETBE) based on structural similarities.
- (nn) Value for methyl isobutyl ketone used as surrogate for 2-hexanone based on structural similarities.
- (qq) Value for bromodichloromethane used as surrogate for bromochloromethane due to structural similarities.
- (ww) Value for 2-chlorotoluene used as surrogate for 4-chlorotoluene based on structural similarities.
- (xx) Value for methylene bromide used as surrogate for dibromomethane based on structural similarities.

LOU 5 Table 21
Groundwater Characteristic Data - VOCs

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	Ph A
Well ID		M-39	M-89	GWSA14
Sample ID		M-39	M-89	GWSA14
Sample Date		12/05/2006	12/05/2006	11/08/2006
VOCs	MCL ² (ug/L)	ug/L	ug/L	ug/L
Naphthalene	6.20E+00	5.0 U	5.0 U	500 U
1,1,1,2-Tetrachloroethane	4.32E-01	5.0 U	5.0 U	500 U
1,1,1-Trichloroethane	2.00E+02	5.0 U	5.0 U	500 U
1,1,2,2-Tetrachloroethane	5.00E+00	5.0 U	5.0 U	500 U
1,1,2-Trichloroethane	5.00E+00	5.0 U	5.0 U	500 U
1,1-Dichloroethane	8.11E+02	5.0 U	5.0 U	500 U
1,1-Dichloroethene	7.00E+00	5.0 U	5.0 U	500 U
1,1-Dichloropropene	3.95E-01 gg	5.0 U	5.0 U	500 U
1,2,3-Trichlorobenzene	7.16E+00 hh	5.0 U	5.0 U	500 U
1,2,3-Trichloropropane	5.60E-03	5.0 U	5.0 U	500 U
1,2,4-Trichlorobenzene	7.00E+01	5.0 U	5.0 U	500 U
1,2,4-Trimethylbenzene	1.23E+01	5.0 U	5.0 U	500 U
1,2-Dibromo-3-chloropropane	2.00E-01	5.0 UJ	5.0 UJ	500 U
1,2-Dichlorobenzene	6.00E+02	5.0 U	5.0 U	500 U
1,2-Dichloroethane	5.00E+00	5.0 U	5.0 U	500 U
1,2-Dichloropropane	5.00E+00	5.0 U	5.0 U	500 U
1,3,5-Trimethylbenzene	1.23E+01	5.0 U	5.0 U	500 U
1,3-Dichlorobenzene	1.83E+02	5.0 U	5.0 U	500 U
1,3-Dichloropropane	1.22E+02	5.0 U	5.0 U	500 U
1,4-Dichlorobenzene	7.50E+01	5.0 U	5.0 U	500 U
2,2-Dichloropropane	1.65E-01 ii	5.0 U	5.0 U	500 U
2-Butanone	6.97E+03	10 U	10 U	1000 U
2-Chlorotoluene	1.22E+02	5.0 U	5.0 U	500 U
2-Hexanone	2.00E+03 nn	10 U	10 U	1000 UJ
2-Methoxy-2-methyl-butane	--	5.0 U	5.0 U	500 U
4-Chlorotoluene	1.22E+02 ww	5.0 U	5.0 U	500 U
4-Isopropyltoluene	--	5.0 U	5.0 U	500 U
4-Methyl-2-pentanone	1.99E+03	10 UJ	10 UJ	1000 U
Acetone	5.48E+03	10 U	10 U	1000 U
Benzene	5.00E+00	5.0 U	5.0 U	4800
Bromobenzene	2.03E+01	5.0 U	5.0 U	500 U
Bromochloromethane	1.81E-01 qq	5.0 U	5.0 U	500 U
Bromodichloromethane	8.00E+01 r	5.0 U	5.0 U	500 U
Bromoform	8.00E+01 r	5.0 U	3.4 J	500 U
Bromomethane	8.66E+00	10 UJ	10 UJ	1000 U
Carbon tetrachloride	5.00E+00	5.0 U	1.3 J	500 U
Chlorobenzene	1.00E+02 o	5.0 U	5.0 U	13000
Chloroethane	4.64E+00	5.0 U	5.0 U	500 UJ
Chloroform	8.00E+01 r	820 J+	1700 J+	19000
Chloromethane	1.58E+02	5.0 U	5.0 U	500 UJ
cis-1,2-Dichloroethene	7.00E+01	5.0 U	5.0 U	500 U
cis-1,3-Dichloropropene	3.95E-01 gg	5.0 U	5.0 U	500 U
Dibromochloromethane	8.00E+01 r	5.0 U	5.0 U	500 U
Dibromomethane	6.08E+01 xx	5.0 U	5.0 U	500 U
Dichlorodifluoromethane	3.95E+02	5.0 U	5.0 U	500 UJ
Ethyl t-butyl ether	1.10E+01 kk	5.0 U	5.0 U	500 U
Ethylbenzene	7.00E+02	5.0 U	5.0 U	500 U
Ethylene dibromide	--	5.0 U	5.0 U	500 U
Hexachlorobutadiene	8.62E-01	5.0 U	5.0 U	500 U
isopropyl ether	--	5.0 U	5.0 U	500 U

**LOU 5 Table 21 (continued)
Groundwater Characteristic Data - VOCs**

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	Ph A
Well ID		M-39	M-89	GWSA14
Sample ID		M-39	M-89	GWSA14
Sample Date		12/05/2006	12/05/2006	11/08/2006
VOCs	MCL ² (ug/L)	ug/L	ug/L	ug/L
Isopropylbenzene	6.58E+02	5.0 U	5.0 U	500 U
Methyl tert butyl ether	2.00E+01 a,uu	5.0 U	0.94 J	500 U
Methylene chloride	5.00E+00	5.0 U	5.0 U	500 U
N-Butylbenzene	2.43E+02	5.0 U	5.0 U	500 U
N-Propylbenzene	2.43E+02	5.0 U	5.0 U	500 U
sec-Butylbenzene	2.43E+02	5.0 U	5.0 U	500 U
Styrene	1.00E+02	5.0 U	5.0 U	500 U
t-Butyl alcohol	--	10 UJ	10 UJ	1000 UJ
tert-Butylbenzene	2.43E+02	5.0 U	5.0 U	500 U
Tetrachloroethene	5.00E+00	5.0 U	5.0 U	500 U
Toluene	1.00E+03	5.0 U	5.0 U	500 U
trans-1,2-Dichloroethylene	1.00E+02	5.0 U	5.0 U	500 U
trans-1,3-Dichloropropene	--	5.0 U	5.0 U	500 U
Trichloroethene	5.00E+00	5.0 U	12	500 U
Trichlorofluoromethane	--	5.0 U	5.0 U	500 UJ
Vinylchloride	2.00E+00	5.0 U	5.0 U	500 U
Xylene (Total)	1.00E+04	10 U	10 U	1000 U

Notes:

1. ENSR, 2007, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
 2. U.S. EPA Maximum Contaminant Level (MCL) values unless noted.
- (r) Value for total trihalomethanes.
 (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.
 (ii) Value for 1,2-dichloropropane used as surrogate for 2,2-dichloropropane based on structural similarities.
 (kk) Value for methyl tertbutyl ether (MTBE) used as surrogate for ethyl-tert-butyl ether (ETBE) based on structural similarities.
 (nn) Value for methyl isobutyl ketone used as surrogate for 2-hexanone based on structural similarities.
 (qq) Value for bromodichloromethane used as surrogate for bromochloromethane due to structural similarities.
 (uu) NDEP, 1998. Oxygenated Fuel Corrective Action Guidance. Draft. October, 12 1998. URL [http://ndep.nv.gov/bca/mtbe_doc.htm].
 (ww) Value for 2-chlorotoluene used as surrogate for 4-chlorotoluene based on structural similarities.
 (xx) Value for methylene bromide used as surrogate for dibromomethane based on structural similarities.

LOU 5 Table 22
Soil Characterization Data - Long Asbestos Fibers in Respirable Soil Fraction

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

			Long Amphibole Protocol Structures	Long Amphibole Protocol Structures	Long Chrysotile Protocol Structures	Long Chrysotile Protocol Structures	Sampling Program
Boring No.	Sample ID	Sample Date	s/gPM10	(structures/samples)	s/gPM10	(structures/samples)	
SA14	SA14	12/08/2006	2996000 U	0	12000000	4	Ph A ¹
SA16	SA16	12/02/2006	5900000	2	14800000	5	Ph A
SA17	SA17	12/07/2006	2995000 U	0	2995000 U	0	Ph A

Notes:

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

**LOU 5 Table 23
Summary of Historical Soil Analytical Data**

On-site Portion of Beta Ditch, Including Tributary Ditch Northwest of Pond C-1
Tronox Facility - Henderson, Nevada

Soil Sample Location*	Date	Depth (feet)	Asbestos (%)	Arsenic (mg/kg)	Barium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Vanadium (mg/kg)	Chlorate (mg/kg)	pH	alpha-BHC (mg/kg)	beta-BHC (mg/kg)	4/4-DDE (mg/kg)	4/4 DDT (mg/kg)	1,2-Dichloro benzene (mg/kg)	1-3-Dichloro benzene (mg/kg)	1-4-Dichloro benzene (mg/kg)	Hexa chloro benzene (mg/kg)	Chloro benzene (mg/kg)
BDB02	04/18/96	1.0	9	ND	220 B	11 B	150	ND	35 B	0.019 B	10	ND	1.4 J	64	40	0.7	ND	0.48	0.54	--
BDB02	04/18/96	2.5	--	--	--	--	--	--	--	--	--	--	--	--	--	8.1	0.14	10	--	2.7
BDB02	04/18/96	5.0	ND	ND	270 B	15 B	130	ND	54 B	0.012 B	12	3.12	ND	65	56	770	71	1200	6.4	--
BDB02	04/18/96	5.5	--	--	--	--	--	--	--	--	--	--	--	--	--	1200	98	2200	--	2200
BDB03	04/12/96	1.0	0.9	83 B	310 B	59	110	0.25	32 B	1.2	8.7	ND	ND	17	12	ND	ND	ND	ND	--
BDB04	04/12/96	1.0	3	ND	290 B	39	590	ND	28 B	0.13	8.8	ND	ND	420	53	ND	ND	ND	6.8	--
BDB05	04/12/96	1.0	ND	13 B	300 B	490	240 J	0.53 J	32 J	0.17 B	8.1	ND	ND	0.16	0.53	ND	ND	ND	ND	--
BDB05	04/12/96	1.0	ND	24	220 B	18 B	110	0.2	43 B	0.14	9.5	ND	ND	ND	ND	ND	ND	ND	--	--
BDB05	04/12/96	2.5	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	ND
BDB05	04/12/96	5.0	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	--	--	--	--	--
BDB05	04/12/96	5.5	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	ND

Notes:

* = Samples from the Kerr-McGee Henderson, NV facility only.

B = analyte was detected in the method blank as well as the sample

J = estimated value concentration was between the practical quantitation limit and the method detection limit -- analyte was not sampled

mg/kg = milligrams per kilogram

ND = Not determined

Source: BMI Common Areas ECI

LOU 5
Notes for Phase A Data Tables

Tronox Facility - Henderson, Nevada

Blank	Not analyzed.
Bold	Bold values are constituents detected above the laboratory sample quantitation limit.
Gray	Grayed out values are non-detected values with the laboratory sample quantitation limits shown.
B	The result may be a false positive totally attributable to blank contamination.
D	Dissolved Metals
DO	Dissolved Oxygen
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J-	The result is an estimated quantity and the result may be biased low.
J+	The result is an estimated quantity and the result may be biased high.
JB	The result may be biased high partially attributable to blank contamination.
JK	The result is an estimated maximum possible concentration.
R	The result was rejected and unusable due to serious data deficiencies. The presence or absence of the analyte cannot be verified.
S	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.
--	Not established