

**Summary of Available Data for LOUs 61, 33, and 40
Multiple LOUs within Unit 5
Tronox Facility – Henderson, Nevada**

Name of Facility: **LOU 61 – Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning**
LOU 33 – Former Sodium Perchlorate Platinum By-Product Filter
LOU 40 – PCB Transformer Spill

Goal of Closure: **LOU 61 – Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning**

- Continuation of current manganese dioxide manufacturing use. Regulatory closure not presently requested.

LOU 33 – Former Sodium Perchlorate Platinum By-Product Filter

- Closure for future commercial and industrial uses.

LOU 40 – PCB Transformer Spill

- Closure for future commercial and industrial uses.

Site Investigation Area: **LOU 61 – Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning**

Originally LOU 61 was combined as LOU 43 & 61; however, for ease of discussion LOU 43 & 61 was divided into two separate LOUs: LOU 43 – Unit 4 Basement and LOU 61 – Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning. For the Area III discussion, only LOU 61 – Unit 5 Basement (formally part of LOU 43) and Old Sodium Chlorate Plant Decommissioning will be discussed. The LOUs (43 and 61) associated with Unit 4 will be addressed in the Area II Work Plan.

- **Size:** The Unit 5 basement is approximately 200 feet by 250 feet (2.3 acres)
- **Location:** Southwest corner of Area III, southeast of the Chemstar facility.
- **Current Status/Features:** Only the western portion of the Unit 5 building remains active in manufacturing manganese dioxide, boron, boron trichloride and boron tribromide.
 - Sodium chlorate process equipment has been removed [Ref. 5].
 - Troughs are present in the Unit 5 basement beneath the cell floor and sumps are located at the end of each trough [Ref. 5].
 - The concrete beneath the cell floor is deteriorated [Ref. 5].
 - The electrical sub section is active and the concrete is in good condition [Ref. 5].

LOU 33 – Former Sodium Perchlorate Platinum By-

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Product Filter

- Size: The total area is approximately 3,373 square feet (0.07acre) consisting of four bermed areas.
 - The largest bermed area is 49 feet by 54 feet [Ref. 5].
 - The other three bermed areas measure 10.5 feet by 10.5 feet, 20 feet by 20 feet, and 13.5 feet by 16 feet, respectively [Ref. 5].
- Location: Southeast portion of the Site in the southeast portion of Unit 5.
- Current Status/Features: LOU 33 is no longer active and the filter equipment has been removed.
 - This area consists of four concrete bermed areas and three empty aboveground storage tanks (ASTs).
 - There is a 3.2-foot by 2-foot sump present in the northern portion of this bermed area.
 - The curb around the northern-most containment is breached. Three ASTs are present and are marked "Not in Service." [Ref. 5].

LOU 40 – PCB Transformer Spill

- Size: Approximately 10 feet by 20 feet. The area covered by the spill is likely to be less than 10 feet by 10 feet.
- Location: The site of the PCB spill is located along the southern end of the Unit 5 building.
- Current Status/Features: The Unit 5 basement is vacant and all equipment has been removed. The concrete in the southeast corner of the Unit 5 basement is unbroken and in good condition [Ref. 5].
 - There is currently no evidence of where the PCB spill or reported clean up was located [Ref. 5].

Description:

LOU 61 – Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning

- From 1945 to 1989, sodium chlorate and sodium perchlorate were produced by electrolytic processes on the first floor of the Unit 4 and Unit 5 (LOU 43) buildings. Unit 5 was converted to manganese dioxide production in 1991-1994 [Ref. 7]. Sodium perchlorate production totally ceased around 1998 [Ref. 6].
- The sodium chlorate and sodium perchlorate processes involved the use of sodium dichromate (hexavalent chromium) [Ref. 6].
- The Unit 5 basement is concrete-lined and used as a sump to collect spillage and wash water [Ref. 6].
- The basement floor was repaired in 1983 and 1984

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[Ref. 4].

- Sodium Chlorate process equipment (i.e., electrolytic cells, tanks, piping, pumps, and related hardware) were removed in 1991 and the process was decommissioned. During decommissioning activities, additional cracks and deterioration of the concrete were noted [Ref. 6].
- Decommissioned materials were managed as hazardous waste and transported to TSDF in Beatty, NV [Ref. 6].
- During a Site visit in April 2008, there was evidence that liquids had been present in the basement of Unit 5 and white stains on the cell floor were observed [Ref. 5].
- Two square-shaped openings in the concrete were observed in the southwest electrical sub and were covered with steel plates [Ref. 5]. The nature of these features is not known [Ref. 5].

LOU 33 – Former Sodium Perchlorate Platinum By-Product Filter

- The facility at LOU 33 consisted of a diatomaceous earth filter press to filter solids from sodium perchlorate solution [Ref. 6].
- The facility was located slightly north of the southeast corner of the Unit 5 building [Ref. 6].
- The facility had three concrete containment areas. The northern-most concrete containment area is deteriorated. The curb is one foot high as measured on the outside and six inches high on the inside and the curb is breached in places [Ref. 5].
- The northeast corner of the largest pad is equipped with a concrete sump of 3.2 feet by 2-feet by 2-feet-deep (96 gallons capacity) [Ref. 5].
- The filter containment area is within the process area which is further contained by berms at the north and south ends [Ref. 1].
- The facility was operational from 1968 to approximately 1998 when sodium perchlorate production ceased [Ref. 7].
- From 1968 to 1983, solids were burned in an onsite oven leaving a platinum residue [Ref. 3]. The location of the oven is not known.
- From 1983 to 1998, filter cake was transported in drums to LOU 15 (Platinum Drying Unit) for drying and then sent offsite for platinum recovery [Ref. 6].
- Process liquids, precipitation and washdown flowed to the sump and were returned back to the sodium perchlorate process using centrifugal pumps [Ref. 6].
- A white crystalline crust formed on the outside of the filter cake material as it dried [Ref. 6].

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- During the 1991 Site reconnaissance, several cracks were observed in the floor which had previously been coated; however, the sealant was in need of repair [Ref. 6].
- Subsequently, the cracks were coated with a Chevron industrial membrane material that provided continuous cover over the floor [Ref. 1].
- Currently, there are three empty ASTs located in the southern portion of LOU 33. Two white tanks, approximately 18 feet in diameter and 20 feet high, are present but marked “Not in Service.” A third smaller AST is located just south of the two white tanks [Ref. 5].
- The two large white tanks were formerly used to store sodium perchlorate prior to or after the filtering process [Ref. 4 and 5]. .

LOU 40 – PCB Transformer Spill

- In November 1990, approximately 1.75 lbs of PCB-containing fluid (Inerteen – trade name) was released from a cracked seal in sub 50 (transformer No. 52) [Ref. 6]. The fluid dripped through access holes and collected on the concrete floor in the Unit 5 basement. [Ref. 6].
- The site of the spill has an eight-inch-thick concrete floor [Ref. 6].
- The spilled PCB liquid was cleaned up with absorbents and drummed [Ref. 6].
- Cleanup materials and wastes were drummed and placed in a controlled storage area for disposed [Ref. 6].
- In August 1991, a small layer of soil beneath the concrete was removed as preparation for replacing the concrete flooring. The concrete and soil were disposed of at U.S. Ecology in Beatty, Nevada. [Ref. 6]
- No records of confirmatory soil sample collection prior to the floor being repaired were identified in the documents reviewed.

Process Waste Streams Associated With LOU 61	Known or Potential Constituents Associated with LOU 61
Sodium chlorate and sodium perchlorate process solutions.	<ul style="list-style-type: none"> • Hexavalent chromium • Perchlorate • Chlorate • Ammonia • Wet chemistry analytes
Manganese dioxide process solutions.	<ul style="list-style-type: none"> • Metals (manganese) • Wet chemistry analytes

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Boron, boron trichloride, and boron tribromide process solutions.	<ul style="list-style-type: none"> • Metals (boron) • Wet chemistry analytes
Residual mother liquor drained from the decommissioned process equipment.	<ul style="list-style-type: none"> • Wet chemistry analytes • Chlorate • Perchlorate • Hexavalent chromium • Ammonia
Decontamination fluids from the cleaning of decommissioned process equipment.	<ul style="list-style-type: none"> • Wet chemistry analytes • Chlorate • Perchlorate • Hexavalent chromium • Ammonia
Process Waste Streams Associated With LOU 33	Known or Potential Constituents Associated with LOU 33
By-products from filtering operations included: diatomaceous earth with traces of sodium chloride, sodium carbonate, calcium carbonate, some sodium perchlorate solids, chromium, and platinum.	<ul style="list-style-type: none"> • Metals • Chromium • Platinum • Chlorate • Perchlorate • Ammonia • Wet chemistry analytes
Process liquids and washdown water (filtrate) in containment sump.	<ul style="list-style-type: none"> • Metals • Platinum • Chromium • Chlorate • Perchlorate • Ammonia • Wet chemistry analytes
Process Waste Stream Associated With LOU 40	Known or Potential Constituents Associated with LOU 40
Release of PCB fluids through the first floor to the basement floor (approximately 1.75 lbs).	<ul style="list-style-type: none"> • PCBs • TPH-DRO

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Known or Potential Release Mechanisms:

LOU 61 – Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning

- A 1985 Hydrogeologic Report by Kerr-McGee Chemical Corporation indicated that chromium contamination in groundwater originated from the leakage of process solutions [Ref. 6].
- Potential leaks or spills from the basement sumps into the underlying soil and groundwater occurred through the concrete floor or via expansion joints, cracks or deterioration of the concrete floors [Ref. 6].

LOU 33 – Former Sodium Perchlorate Platinum By-Product Filter

- There were no documented releases from this area in the reports reviewed.
- Potential runoff and potential infiltration into surrounding soil and groundwater [Ref. 6].
- Potential leakage through cracks in the concrete pad to underlying soil and groundwater [Ref. 6].
- Potential release of crystalline material, which formed on the drying filter cake to nearby soil/pavement [Ref. 6].
- Potential leakage of liquids contained in the sump [Ref. 6].

LOU 40 – PCB Transformer Spill

- A PCB release to the eight-inch-thick concrete floor in the basement of Unit 5 occurred in 1990. The fluids and concrete were cleaned up immediately [Ref. 6].

Overlapping or Adjacent LOUs:

The following LOUs overlap or are adjacent:

Overlapping LOUs

- LOU 33 (Former Sodium Perchlorate Platinum By-Product Filter) and LOU 40 (PCB Transformer Spill) – Both LOUs overlap the southeast portion of LOU 61.
- LOU 60 (Acid Drain System) – Branches and inlets of the Acid Drain System overlap LOU 61 on the western, eastern, and northern sides.

Adjacent LOUs:

- LOU 44 (Unit 6 Basement) – Located east (cross-gradient) of LOU 61 and LOU 33.
- LOU 59 (Storm Sewer System) – Located west and east (cross-gradient) of LOU 61. LOU 59 is also located east (cross-gradient) of LOU 33.

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The potential for impacts from LOUs 43, 44, and 59 to LOUs 61, 33, and 40 is considered to be minimal as there have been no reported leaks from these LOUs. Impacts from LOU 60 are also considered to be minimal since there have been no reported leaks and process wastes generated at other LOUs were not discharged to these branches of the Acid Drain System since the inlets are located in LOU 61 and near LOU 33. As a result, the addition of other chemical classes to the Phase B Analytical Plan for these LOUs is not required. For detailed information on these LOUs, please refer to the specific LOU data package.

LOUs Potentially Affecting Soils in LOU 61:

- LOU 40 – PCB Transformer Spill: Approximately 1.7 pounds of PCBs were spilled and dripped to the Unit 5 basement (LOU 61) floor. As a result, the analytical plan for samples collected from LOU 40 (located within LOU 61) will include analyses for PCBs.

Known or Potential Chemical Classes:

- Metals
- Platinum
- Perchlorate
- Wet chemistry analytes
- PCBs (associated with LOU 40)

Results of Historical Sampling:

- No historical soil samples were identified in the documents reviewed.
- Monitoring wells M-10 and M-11 were installed in 1997 and are routinely sampled for pH electric conductivity, total chromium, and perchlorate. M-10 and M-11 are also sampled for manganese and hexavalent chromium, respectively [Ref. 4].

Did Historical Samples Address Potential Release?

- No

Summary of Phase A SAI:

Soil

- None specifically conducted for LOUs 33 and 40. The closest boring (SA07) is located approximately 100 feet north (upgradient) of LOU 61 and was specifically sampled to evaluate LOU 61 [Ref. 2].

Groundwater

- None specifically conducted for LOUs 33 and 40. The closest well sampled (M-11) is located approximately 100

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feet to the north (downgradient) of LOU 61 and was specifically sampled to evaluate LOU 61 [Ref. 2].

Chemical classes detected in Phase A soil boring SA07:

- Metals
- Hexavalent chromium
- Perchlorate
- Wet chemistry analytes
- VOCs
- TPH-ORO
- Dioxins/furans
- Radionuclides
- Asbestos

As a result of the Phase A data, the Phase B analytical plan for samples collected from LOUs 61, 33, and 40 will be expanded to include analyses for hexavalent chromium, VOCs, TPH-ORO, dioxins/furans, radionuclides, and asbestos.

- Analytical results for soil and groundwater from the Phase A sampling event are summarized in LOUs 61, 33 and 40 Tables 1 through 5 and LOUs 61, 33, and 40 Tables 7 through 22 (see attached) [Ref. 2].

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

- No

Is Phase B Investigation Recommended?

- Yes

Proposed Phase B Soil Investigation/Rationale:

The Phase B Source Area Investigation for LOUs 61, 33 and 40 will consist of collecting soil samples from six (6) locations.

- One (1) soil boring, SA132, will be drilled within the boundary of LOU 33.
- One (1) soil boring, SA112, will be drilled with in the boundary of LOU 40.
- One (1) soil boring, SA36, will be drilled north (downgradient) of LOU 61.
- One (1) soil boring, SA33, will be drilled south (upgradient) of LOU 61.
- Two (2) soil borings will be drilled east and west (SA34 and RSAR7, respectively; cross-gradient) of LOU 61.
- All six (6) borings along with the analytical program to evaluate soil samples from LOUs 61, 33, and 40 are listed on **Table A – Soil Sampling**

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- All six (6) borings along with the analytical program to evaluate soil samples from LOUs 61, 33, and 40 are listed on **Table A – Soil Sampling and Analytical Plan for LOUs 61, 33, and 40.**
- 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 LOUs 61, 33, and 40, based on the known process waste streams.
 - Five (5) of the six sample locations are judgmental locations and include soil borings, SA33, SA 34, SA36, SA112, and SA132.
- Random sample grid locations:
 - Designed to assess whether unknown constituents associated with LOUs 61, 33, and 40 are present.
 - One (1) of the six sample locations is randomly-placed (i.e., RSAR7).

Soil borings will not be collected from beneath LOU 61 because it is currently active; however, soils samples will be collected from beneath Unit 4 (in Area II), which had similar process histories; therefore, the borings from Unit 4 will be used as indicators of soil conditions beneath Unit 5.

Proposed Phase B Constituents List for Soils:

Judgmental sample locations will be analyzed for LOU-specific constituents consisting of the following:

- Metals (Phase A list)
- Platinum (SA132 only)
- Wet chemistry analytes
- Perchlorate
- PCBs (SA112 only)

Judgmental sample locations will also be analyzed for the following constituents for area-wide coverage purposes:

- Hexavalent chromium
- VOCs
- TPH – DRO/ORO
- Dioxins/furans
- Radionuclides
- Organochlorine pesticides
- Asbestos

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Random sample grid locations will be analyzed for the following list of Phase A Site-related chemicals for area-wide coverage purposes:

- Metals (Phase A list)
- Hexavalent chromium
- Perchlorate
- Wet chemistry analytes
- VOCs
- SVOCs
- TPH-DRO/ORO
- Organochlorine pesticides
- Dioxins/furans
- Asbestos
- Radionuclides

Proposed Phase B Groundwater Investigation/Rationale:

The Phase B groundwater investigation of LOUs 61, 33, and 40 consists of collecting groundwater samples from three wells to evaluate local groundwater conditions as part of Site-wide evaluation of constituent trends in groundwater.

- Well M-11 is located north (downgradient) of LOU 61 to evaluate local and area-wide groundwater conditions.
- Well M-77 is located northeast (downgradient) of LOU 61 to evaluate local and area-wide groundwater conditions.
- Well M-10 is located south (upgradient in Area IV) of LOU 61 to evaluate local and area-wide groundwater conditions.
- The three wells along with the analytical program to evaluate groundwater samples associated with LOUs 61, 33, and 40 are listed on **Table B: Groundwater Sampling and Analytical Plan for LOUs 61, 33, and 40.**

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

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Proposed Phase B Soil Gas Investigation/Rationale:

Soil gas samples will be collected from one location to evaluate area conditions for the presence of vapor-phase VOCs in the vadose zone.

- SG36 is located north of LOU 61, and is a companion to monitoring well M-11.

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

Proposed Phase B Constituents List for Soil Gas:

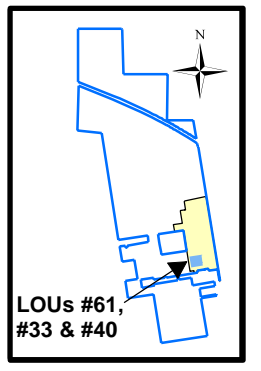
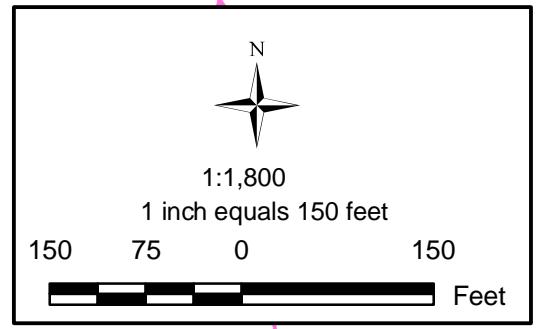
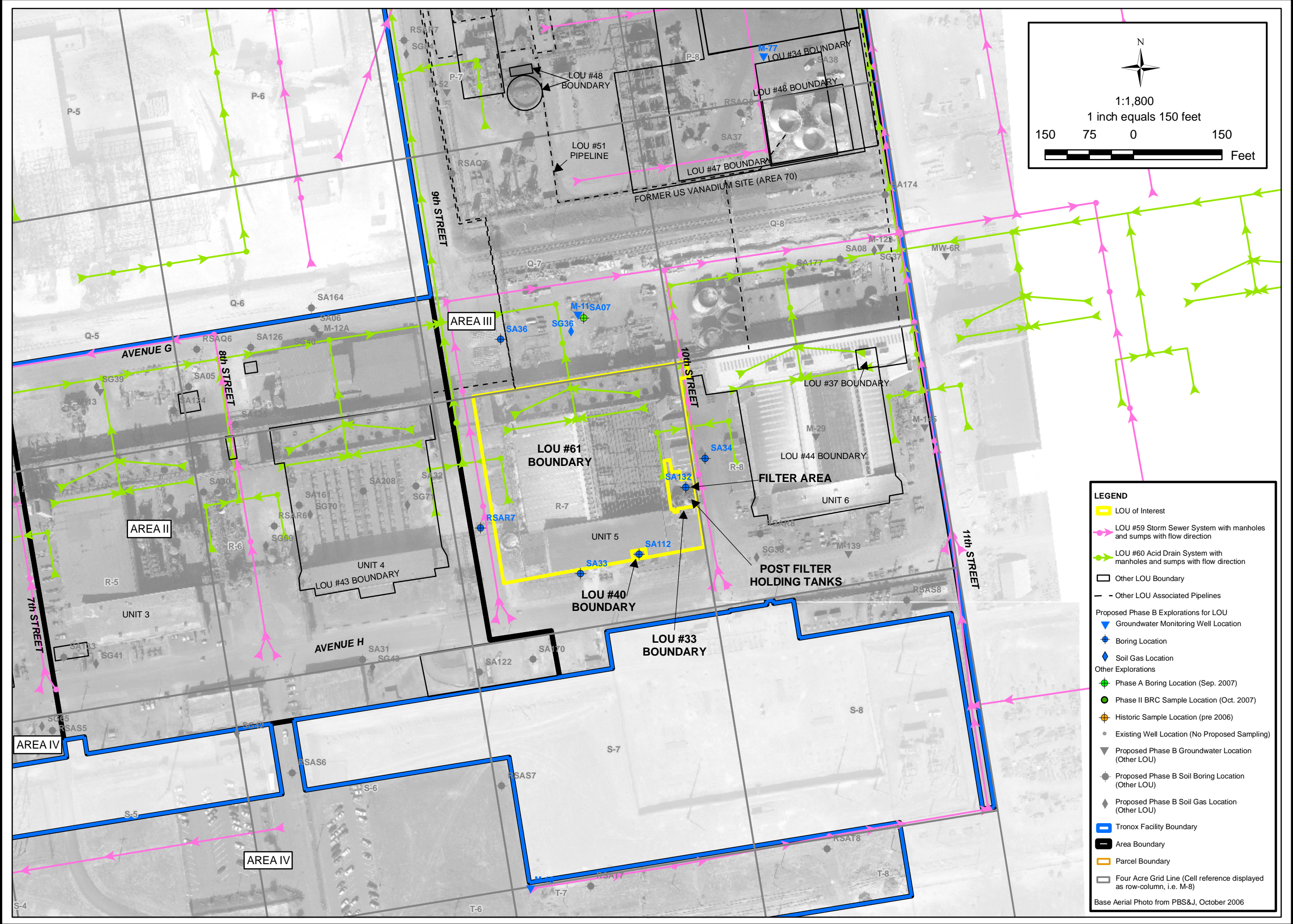
- VOCs (EPA TO-15)

References:

1. ENSR, 2005, Conceptual Site Model, Kerr-McGee Facility, Henderson, Nevada, ENSR, Camarillo, California, 04020-023-130, February 2005 and August 2005.
2. ENSR, 2007a, Phase A Source Area Investigation Results, Tronox Facility, Henderson, Nevada, September 2007.
3. ENSR, 2007b, Quarterly Performance Report for Remediation Systems, Tronox LLC, Henderson, Nevada, July-September 2007, November 2007.
4. ENSR, 2008, Gerry Hels, Site reconnaissance, April 18, 2008.
5. ENSR, 2008, Sally Bilodeau, Site reconnaissance, April 16, 2008.
6. Kleinfelder, 1993, Environmental Conditions Assessment, Kerr-McGee Chemical Corporation, Henderson, Nevada Facility, April 15, 1993 (Final)
7. Tronox, Susan Crowley, verbal communication, January 15, 2008.

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LOU Figure



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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	

SAMPLE LOCATIONS FOR LOUs #61, #33 & #40	
OLD SODIUM CHLORATE PLANT - UNIT 5	
BASEMENT / DECOMMISSIONING, FORMER SODIUM PERCHLORATE PLANTUM BY-PRODUCT FILTER, & PCB TRANSFORMER SPILL	
Phase B Area III Source Area Investigation Tronox Facility, Henderson, Nevada	
SCALE:	DATE: 6/3/2008
AS SHOWN	PROJECT NUMBER: 04020-023-430

FIGURE NUMBER:	1
SHEET NUMBER:	X

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Sampling and Analytical Plans for LOUs 61, 33, and 40

Table A – Soil Sampling and Analytical Plan for LOUs 61, 33, and 40
Table B – Groundwater Sampling and Analytical Plan for LOUs 61, 33, and 40

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	PCBs ⁸ (EPA 8082 and 1668A)	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 3 (N-7) and ending with the southeastern most grid in Area 3 (S-8).																				
Q-7	20, 22, 23, 61	SA36	SA36-0.0	0.0														X		Boring located to evaluate LOU 20 (Pond C-1 Associated Piping), LOU 22 (WC-West Associated Piping), LOU 23 (WC-East Associated Piping), and LOU 61 (Old Sodium Plant Decommissioning and Unit-5 Basement). Located adjacent to piping for LOUs 20,22,and 23 for potential release points, and downgradient of LOU 61 for likely releases (accessible low area).
Q-7	20, 22, 23, 61		SA36-0.5	0.5	X	X	X	X		X	X		X		X	X				
Q-7	20, 22, 23, 61		SA36-10	10	X	X	X	X		X	X		Hold		X					
Q-7	20, 22, 23, 61		SA36-20	20	X	X	X	X		X	X		Hold		X					
Q-7	20, 22, 23, 61		SA36-30	30	X	X	X	X		X	X		Hold		X					
Q-7	20, 22, 23, 61		SA36-40	40	X	X	X	X		X	X		X		X					
R-7	40, 59, 61	RSAR7	RSAR7-0.0	0.0														X		Boring located to evaluate soils for known or potential chemical classes associated with LOU 40 (PCB Transformer Spill), LOU 59 (Storm Sewer System), and LOU 61 (Old Sodium Chlorate Plant Decommissioning and Unit-5 Basement). Random boring located adjacent to LOU 59 piping near a logical release point a (manhole) and randomly near LOUs 40 and 61 for area coverage.
R-7	40, 59, 61		RSAR7-0.5	0.5	X	X	X	X		X	X		X	X	X	X				
R-7	40, 59, 61		RSAR7-10	10	X	X	X	X		X	X		Hold	X	X					
R-7	40, 59, 61		RSAR7-20	20	X	X	X	X		X	X		Hold	X	X					
R-7	40, 59, 61		RSAR7-30	30	X	X	X	X		X	X		Hold	X	X					
R-7	40, 59, 61		RSAR7-40	40	X	X	X	X		X	X		X	X	X					
R-7	40, 61	SA112	SA112-0.0	0.0														X		Boring is located to evaluate LOU 40 (PCB Transformer Spill), and LOU 61 (Old Sodium Chlorate Plant Decommissioning and Unit-5 Basement). Located in PCB transformer Spill area at for SA05. Boring is also located to evaluate LOU 40 (PCB Transformer Spill), and LOU 61 (Old Sodium Chlorate Plant Decommissioning and Unit-5 Basement).
R-7	40, 61		SA112-0.5	0.5	X	X	X	X		X	X		X		X	X				
R-7	40, 61		SA112-10	10	X	X	X	X		X	X		Hold	X		X				
R-7	40, 61		SA112-20	20	X	X	X	X		X	X		Hold	X		X				
R-7	40, 61		SA112-30	30	X	X	X	X		X	X		Hold	X		X				
R-7	40, 61		SA112-40	40	X	X	X	X		X	X		X		X		X			
R-7	33, 59, 61	SA132	SA132-0.0	0.0														X		Located to evaluate LOU 33 (Former Sodium Perchlorate Platinum By-Product Filter), LOU 59 (Storm Sewer System), and LOU 61 (Old Sodium Chlorate Plant Decommissioning and Unit-5 Basement). Located at high risk point, adjacent to containment in pavement crack within LOU 33 and nearby LOUs 59 and 61 for area coverage.
R-7	33, 59, 61		SA132-0.5	0.5	X	X	X	X		X	X		X		X	X				
R-7	33, 59, 61		SA132-10	10	X	X	X	X		X	X		Hold	X						
R-7	33, 59, 61		SA132-20	20	X	X	X	X		X	X		Hold	X						
R-7	33, 59, 61		SA132-30	30	X	X	X	X		X	X		Hold	X						
R-7	33, 59, 61		SA132-40	40	X	X	X	X		X	X		X		X					
R-7	40, 61	SA33	SA33-0.0	0.0														X		Boring located to evaluate LOU 40 (PCB Transformer Spill) and LOU 61 (Old Sodium Chlorate Plant Decommissioning and Unit-5 Basement). Located at an accessible exterior location adjacent to LOUs 40 and 61 (as close as upgradient utilities allow) to potential release points.
R-7	40, 61		SA33-0.5	0.5	X	X	X	X		X	X		X		X	X				
R-7	40, 61		SA33-10	10	X	X	X	X		X	X		Hold	X						
R-7	40, 61		SA33-20	20	X	X	X	X		X	X		Hold	X						
R-7	40, 61		SA33-30	30	X	X	X	X		X	X		Hold	X						
R-7	40, 61		SA33-40	40	X	X	X	X		X	X		X		X					
R-8	33, 44, 61, 59	SA34	SA34-0.0	0.0														X		Boring located to evaluate LOU 33 (Former Sodium Perchlorate Platinum By-Product Filter), LOU 44 (Unit-6 Basement), LOU 59 (Storm Sewer System), and LOU 61 (Old Sodium Chlorate Plant Decommissioning and Unit-5 Basement). Located in between LOUs 44,33 and 61 to evaluate all three LOUs and adjacent to LOU 59 to evaluate pipeline releases.
R-8	33, 44, 61, 59		SA34-0.5	0.5	X	X	X	X		X	X		X		X	X				
R-8	33, 44, 61, 59		SA34-10	10	X	X	X	X		X	X		Hold	X					X	
R-8	33, 44, 61, 59		SA34-20	20	X	X	X	X		X	X		Hold	X						
R-8	33, 44, 61, 59		SA34-30	30	X	X	X	X		X	X		Hold	X						
R-8	33, 44, 61, 59		SA34-40	40	X	X	X	X		X	X		X		X					
Number of Borings:		6																		
Number of Samples:		30 30 30 30 0 30 30 0 12 5 30 6 5 6 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 - Sample locations will be analyzed by USEPA methods 8082 and 1668A. Concrete surfaces at these locations will also include chip and/or wipe samples per EPA Region 1 SOP for Sampling Concrete in the Field (1997)																				
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).																				

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)	Radio-nuclides ⁵ .	Rationale
Wells are organized by grid location as shown on Plate A - Starting point is on the northwestern-most grid in Area III (N-7) and ending with the southeastern-most grid covering Area III (Q-9).														
P-8	III	M-77	29 - 43.8	Qal/MCf _{g1}	no	X	X	X	X	X	X	X	X	Located to evaluate LOUs 34E, 47 through 51 and Area 70 (former U.S. Vanadium); as a downgradient step out for LOUs 33, 40, and 61; as a crossgradient step out for LOU 59; and for general Site coverage.
Q-7	III	M-11	33.3 - 53	Qal/MCf _{g1}	yes	X	X	X	X	X	X	X	X	Located as a downgradient step out for LOU 61; as an upgradient step out for LOUs 34E, 47 through 51 and Area 70 (former U.S. Vanadium); as a crossgradient step out for LOUs 20, 22, 23, and 60, and for general Site coverage.
S-7	IIIS	M-10	43 - 63	MCc _{g1}	no	X	X	X	X	X	X	X	X	Located as a downgradient step out for LOUs 33, 40, and 61; and for general Site coverage.
Number of Field Samples:						3	3	3	3	3	3	3	3	
Notes:														
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).													
(a)	Complete list of wet chemistry parameters are shown on Table 1. All groundwater samples will have pH measured in the field.													
IIIN/E/W/S	Well located outside (north, east, west, or south) of Area III.													
TBD	To be determined when well is constructed.													
nr	Not recorded in the All Wells Database (June 2008).													
Qal	Quaternary Alluvium													
MCf _{g1}	Muddy Creek Formation - first fine-grained facies													
MCc _{g1}	Muddy Creek Formation - first coarse-grained facies													
MCf _{g2}	Muddy Creek Formation - second fine-grained facies													

Summary of Available Data for LOUs 61, 33, and 40
Multiple LOUs within Unit 5
Tronox Facility – Henderson, Nevada

Soil and Groundwater Characterization Data

Summary of Available Data for LOUs 61, 33, and 40
Multiple LOUs within Unit 5
Tronox Facility – Henderson, Nevada

LOU-specific analytes identified include:

- Wet chemistry analytes
- Dioxins/furans
- Metals
- PCBs
- Perchlorate
- Radionuclides
- TPH
- VOCs
- Asbestos

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

LOU 33 Table 1 - Soil Characterization Data - Wet Chemistry

LOU 33 Table 2 - Groundwater Characterization Data - Wet Chemistry

LOU 33 Table 3 - Soil Characterization Data - Dioxins and Dibenzofurans

LOU 33 Table 4 - Soil Characterization Data - Metals

LOU 33 Table 5 - Groundwater Characterization Data - Metals

LOU 33 Table 6 - Soil Characterization Data - Organochlorine Pesticides (OCPs)

LOU 33 Table 7 - Groundwater Characterization Data - Organochlorine Pesticides (OCPs)

LOU 33 Table 8 - Soil Characterization Data - Organophosphorus Pesticides (OPPs)

LOU 33 Table 9 - Groundwater Characterization Data - Organophosphorus Pesticides (OPPs)

LOU 33 Table 10 - Soil Characterization Data - PCBs

LOU 33 Table 11 - Soil Characterization Data - PCBs

LOU 33 Table 12 - Soil Characterization Data - Perchlorate

LOU 33 Table 13 - Groundwater Characterization Data - Perchlorate

LOU 33 Table 14 - Soil Characterization Data - Radionuclides

LOU 33 Table 15 - Groundwater Characterization Data - Radionuclides

LOU 33 Table 16 - Soil Characterization Data - SVOCs

LOU 33 Table 17 - Groundwater Characterization Data - SVOCs

LOU 33 Table 18 - Soil Characteristic Data - TPH and Fuel Alcohols

LOU 33 Table 19 - Soil Characterization Data - VOCs

LOU 33 Table 20 - Groundwater Characteristic Data - VOCs

LOU 33 Table 21 - Soil Characterization Data - Long Asbestos Fibers in Respirable Soil Fraction

Notes for All Phase A Data Tables are Presented at the End of the Tables

LOUs 61, 33, and 40 Table 1
Soil Characterization Data - Wet Chemistry

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	Ph A	Ph A	Ph A	Ph A	
Boring No.		SA7	SA7	SA7	SA7	SA7	SA7	
Sample ID		SA7-0.5	SA7-10	SA7-10D	SA7-20	SA7-30	SA7-34	
Sample Depth (ft)		0.5	10	10	20	30	34	
Sample Date		11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	
Wet Chemistry Parameter	MSSL² mg/kg							Units
Percent moisture	--	5.3	5.6	7.1	7.6	6.3	23.3	%
Alkalinity (as CaCO ₃)	--	68.9	53.0 U	70.2	174	158	65.2 U	mg/kg
Bicarbonate	--	178	212	193	131	340	290	mg/kg
Total Alkalinity	--	247	249	263	305	497	319	mg/kg
Ammonia (as N)	--	5.3 UJ	5.3 UJ	5.4 UJ	5.4 UJ	5.3 UJ	6.5 UJ	mg/kg
Cyanide	1.37E+04	R	R	R	R	R	R	mg/kg
MBAS	--	4.2 U	4.4 U	4.4 U	4.4 U	4.4 U	5.0 U	mg/kg
pH (solid)	--	8.2	7.9	8.0	8.3	8.5	7.6	mg/kg
Bromide	--	1.1 J	0.65 J	2.7 U	2.7 U	2.7 U	32.6 U	mg/kg
Chlorate	--	108 J+	138 J+	183 J+	201 J+	28.7 J+	66.2 J+	mg/kg
Chloride	--	127	160	177	208	46.7	95.6	mg/kg
Nitrate (as N)	--	8.9	7.0	5.3	6.1	0.71 J+	0.89 J+	mg/kg
Nitrite	--	R	2.1 UJ	2.2 UJ	2.2 UJ	2.1 UJ	2.6 UJ	mg/kg
ortho-Phosphate	--	7.2	5.3 U	10.6	5.4 U	2.8 J	6.5 U	mg/kg
Sulfate	--	449 J	805 J	120 J	145 J	67.5 J	5380 J	mg/kg
Total Organic Carbon	--	6780 J-	1950 J-	4480 J-	5000 J-	925 J-	11600 J-	mg/kg

Notes:

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

LOUs 61, 33, and 40 Table 2
Groundwater Characterization Data - Wet Chemistry

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	
Well ID		M-11	
Sample ID		M-11	
Sample Date		12/06/2006	
Wet Chemistry Parameters	MCL ² mg/L		Units
Total Dissolved Solids	5.00E+02 j	3270	mg/L
Total Suspended Solids	--	15.0 J	mg/L
Alkalinity (as CaCO3)	--	5.0 U	mg/L
Bicarbonate	--	205	mg/L
Total Alkalinity	--	205	mg/L
Ammonia (as N)	--	50.0 U	ug/L
MBAS	--	0.20	mg/L
Cyanide	2.00E-01	R	ug/L
pH (liquid)	--	7.7 J	none
Specific Conductance	--	2360 J+	umhos/cm
Bromide	--	25.0 U	mg/L
Chlorate	--	421	mg/L
Chloride	2.50E+02	239	mg/L
Nitrate (as N)	1.00E+01	3.4	mg/L
Nitrite	1.00E+00	3.1	mg/L
ortho-Phosphate	--	5.0 U	mg/L
Sulfate	2.50E+02 j	1290	mg/L
Total Organic Carbon	--	50 U	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.
 - (b) USEPA, 2006. 2006 Edition of the Drinking Water Standards and Health Advisories. EPA 822-R-06-013. August 2006.
 - (j) See footnote (b). Secondary Drinking Water Regulation value.

**LOUs 61, 33, and 40 Table 3
Soil Characterization Data - Dioxins and Dibenzofurans**

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	
Boring No.		SA7	
Sample ID		SA7-0.5	
Sample Depth (ft)		0.5	
Sample Date		11/20/2006	
Chemical Name	MSSL ² ng/kg		Unit
Dioxin 8290 SCREEN Total TEQ-ENSR Calculated (a) ng/kg	--	192	ng/kg
Dioxin SW 846 8290 Total TEQ-ENSR Calculated (a) ng/kg	--	169	ng/kg
Dioxin 8290 SCREEN Total TEQ-ENSR Calculated (b) ng/kg	--	192	ng/kg
Dioxin SW 846 8290 Total TEQ-ENSR Calculated (b) ng/kg	--	169	ng/kg
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	927.107	ng/kg
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	873.925 J	ng/kg
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	--	85.450	ng/kg
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	--	85.45	ng/kg
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	392.108	ng/kg
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	392.11	ng/kg
1,2,3,4,7,8-Hexachlorodibenzofuran	--	372.915	ng/kg
1,2,3,4,7,8-Hexachlorodibenzofuran	--	372.915	ng/kg
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	--	8.841	ng/kg
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	--	8.841	ng/kg
1,2,3,6,7,8-Hexachlorodibenzofuran	--	249.626	ng/kg
1,2,3,6,7,8-Hexachlorodibenzofuran	--	249.626	ng/kg
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	--	19.448	ng/kg
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	--	19.448	ng/kg
1,2,3,7,8,9-Hexachlorodibenzofuran	--	31.354	ng/kg
1,2,3,7,8,9-Hexachlorodibenzofuran	--	31.353	ng/kg
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	--	21.698	ng/kg
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	--	21.698	ng/kg
1,2,3,7,8-Pentachlorodibenzofuran	--	199.693	ng/kg
1,2,3,7,8-Pentachlorodibenzofuran	--	199.692	ng/kg
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	--	16.175	ng/kg
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	--	16.175	ng/kg
2,3,4,6,7,8-Hexachlorodibenzofuran	--	112.484	ng/kg
2,3,4,6,7,8-Hexachlorodibenzofuran	--	112.484	ng/kg
2,3,4,7,8-Pentachlorodibenzofuran	--	92.926	ng/kg
2,3,4,7,8-Pentachlorodibenzofuran	--	92.927	ng/kg
2,3,7,8-Tetrachlorodibenzofuran	--	369.233	ng/kg
2,3,7,8-Tetrachlorodibenzofuran	--	136.994 J	ng/kg
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	1.00E+03 h,v	8.965	ng/kg
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	1.00E+03 h,v	8.965	ng/kg
Octachlorodibenzofuran	--	2502.073	ng/kg
Octachlorodibenzofuran	--	2338.457 J	ng/kg
Octachlorodibenzo-p-Dioxin	--	191.912	ng/kg
Octachlorodibenzo-p-Dioxin	--	191.912	ng/kg
Tetrachlorinated Dibenzofurans, (Total)	--	1642.861 J	ng/kg

LOUs 61, 33, and 40 Table 3 (continued)
Soil Characterization Data - Dioxins and Dibenzofurans

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A	
Boring No.		SA7	
Sample ID		SA7-0.5	
Sample Depth (ft)		0.5	
Sample Date		11/20/2006	
Chemical Name	MSSL² ng/kg		Unit
Total HpCDD	--	151.421	ng/kg
Total HpCDF	--	1846.885 J	ng/kg
Total HxCDD	--	158.189	ng/kg
Total HxCDF	--	1786.919	ng/kg
Total PeCDD	--	154.674	ng/kg
Total PeCDF	--	1665.598	ng/kg
Total TCDD	--	160.412	ng/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).
 - (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/>].

**LOUs 61, 33, and 40 Table 4
Soil Characterization Data - Metals**

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	Ph A	Ph A	Ph A	Ph A	
Boring No.		SA7	SA7	SA7	SA7	SA7	SA7	
Sample ID		SA7-0.5	SA7-10	SA7-10D	SA7-20	SA7-30	SA7-34	
Sample Depth (ft)		0.5	10	10	20	30	34	
Sample Date		11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	
Metals	MSSL ² mg/kg							Units
Aluminum	1.00E+05	6400	5850	7100	6450	6390	7400	mg/kg
Antimony	4.50E+02	0.36 J-	0.17 J-	0.13 J-	0.15 J-	0.15 J-	0.32 J-	mg/kg
Arsenic	2.80E+02	5.5	2.5	2.3	3.3	4.8	24.3	mg/kg
Barium	1.00E+05	201 J+	147	166	149 J	73.6 J	158 J	mg/kg
Beryllium	2.20E+03	0.41	0.42	0.47	0.46	0.44 J-	0.35 J-	mg/kg
Boron	1.00E+05	48.6 J-	8.7 UJ	8.2 UJ	9.3 UJ	12.3 UJ	36.8 J-	mg/kg
Cadmium	5.60E+02	0.24	0.075	0.084	0.068	0.065	0.084	mg/kg
Calcium	--	37500	26400	20500	25200	29000	62700 J+	mg/kg
Chromium (Total)	7.10E+01	18.5 J-	8.2 J-	7.9 J-	8.6 J-	7.4 J-	33.8 J-	mg/kg
Chromium-hexavalent	5.00E+02	0.56	0.21 U	0.22 U	0.22 U	0.12 J	0.13 J	mg/kg
Cobalt	2.10E+03	8.6 J-	6.0 J-	6.2 J-	5.8 J-	5.2 J-	3.1 J-	mg/kg
Copper	4.20E+04	16.5 J-	10.4 J-	11.3 J-	12.0 J-	11.3 J-	9.5 J	mg/kg
Iron	1.00E+05	9830	9600	9830	10300	9530	7520	mg/kg
Lead	8.00E+02	32.5	7.4	7.8	6.7	6.0	4.4	mg/kg
Magnesium	--	8360 J-	5750	6310	8920 J-	8250 J-	19000 J-	mg/kg
Manganese	3.50E+04	1290	278	262	250	159	171 J	mg/kg
Molybdenum	5.70E+03	0.92	0.41 J	0.41 J	0.40 J	0.38 J	0.52 J	mg/kg
Nickel	2.30E+04	12.9 J-	11.4 J-	12.1 J-	11.8 J-	11.6 J-	9.8 J-	mg/kg
Platinum	--	0.077 J	0.014 J	0.016 J	0.014 J	0.012 J	0.014 J	mg/kg
Potassium	--	1910	1790	2110	1280	1340	2080 J-	mg/kg
Selenium	5.70E+03	0.11 U	0.11 U	0.12 U	0.12 U	0.12 U	0.14 UJ	mg/kg
Silver	5.70E+03	0.16 J	0.11 J	0.13 J	0.12 J	0.11 J	0.12 J	mg/kg
Sodium	--	763	314 J-	361 J-	392 J-	638 J-	533 J-	mg/kg
Strontium	1.00E+05	130 J+	133 J-	130 J-	171 J	219 J	2280 J	mg/kg
Thallium	--	0.38 U	0.21 U	0.20 U	0.12 U	0.10 U	0.32 U	mg/kg
Tin	--	0.92	0.43	0.52	0.43	0.42	0.39	mg/kg
Titanium	--	364 J+	379 J+	382 J+	454 J+	368 J+	444	mg/kg
Tungsten	--	1.4 J-	0.41 J-	0.32 J-	0.33 J-	0.30 J-	0.87 J-	mg/kg
Uranium	--	0.96	0.86	0.87	1.6	2.1	4.3	mg/kg
Vanadium	5.70E+03	24.1	23.7	23.5	29.8 J-	24.9 J-	30.1 J-	mg/kg
Zinc	1.00E+05	39.1 J-	21.7 J-	23.0 J-	22.3 J-	21.9 J-	20.3 J-	mg/kg
Mercury	3.41E+02 (t)	0.0071 U	0.0074 J-	0.024 J-	0.0072 UJ	0.0071 UJ	0.0087 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.

LOUs 61, 33, and 40 Table 5
Groundwater Characterization Data - Metals

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	
Well ID:		M-11	
Sample ID		M-11-Z	
Sample Depth (ft)			
Sample Date		05/11/2007	
Metals	MCL ² ug/L		Unit
Aluminum	5.00E+01 j	393 U	ug/L
Antimony	6.00E+00	25.0 U	ug/L
Arsenic	1.00E+01	328	ug/L
Barium	2.00E+03	15.2 U	ug/L
Beryllium	4.00E+00	4.4 U	ug/L
Boron	7.30E+03	10400	ug/L
Cadmium	5.00E+00	2.9 U	ug/L
Calcium	--	50200	ug/L
Chromium (Total)	1.00E+02	3130	ug/L
Chromium-hexavalent	1.09E+02	2510 J	ug/L
Cobalt	7.30E+02	15.7 U	ug/L
Copper	1.30E+03 p	12.5 U	ug/L
Iron	3.00E+02 j	6310 J-	ug/L
Lead	1.50E+01 u	24.6 U	ug/L
Magnesium	1.50E+05 a	39300	ug/L
Manganese	5.00E+01 j	173 U	ug/L
Molybdenum	1.82E+02	25.0 U	ug/L
Nickel	7.30E+02	25.8 U	ug/L
Platinum	--	5.0 U	ug/L
Potassium	--	19900	ug/L
Selenium	5.00E+01	50.0 U	ug/L
Silver	1.00E+02 j	10.1 U	ug/L
Sodium	--	953000	ug/L
Strontium	2.19E+04	1300	ug/L
Thallium	2.00E+00	16.0 U	ug/L
Tin	2.19E+04	10.0 U	ug/L
Titanium	1.46E+05	19.6 U	ug/L
Tungsten	--	25.0 U	ug/L
Uranium	3.00E+01	15.0 J	ug/L
Vanadium	3.65E+01	121 J	ug/L
Zinc	5.00E+03 j	50.0 U	ug/L
Mercury	2.00E+00	0.11 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.
 - (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.
 - (j) See footnote (b). 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.

LOUs 61, 33, and 40 Table 6
Soil Characterization Data - Organochlorine Pesticides (OCPs)

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	
Boring No.		SA7	
Sample ID		SA7-0.5	
Sample Depth (ft)		0.5	
Sample Date		11/20/2006	
Organochlorine Pesticides	MSSL ² mg/kg	mg/kg	Unit
4,4'-DDD	1.10E+01	0.0018 U	mg/kg
4,4'-DDE	7.80E+00	0.0018 U	mg/kg
4,4'-DDT	7.80E+00	0.0018 U	mg/kg
Aldrin	1.10E-01	0.0018 U	mg/kg
Alpha-BHC	4.00E-01	0.0018 U	mg/kg
Alpha-chlordane	1.40E+00 (y)	0.0018 U	mg/kg
Beta-BHC	1.40E+00	0.0018 U	mg/kg
Delta-BHC	--	0.0018 U	mg/kg
Dieldrin	1.20E-01	0.0018 U	mg/kg
Endosulfan I	4.10E+03 (aa)	0.0018 U	mg/kg
Endosulfan II	4.10E+03 (aa)	0.0018 U	mg/kg
Endosulfan Sulfate	4.10E+03 (aa)	0.0018 U	mg/kg
Endrin	2.10E+02	0.0018 U	mg/kg
Endrin Aldehyde	2.10E+02 (k)	0.0018 U	mg/kg
Endrin Ketone	2.10E+02 (k)	0.0018 U	mg/kg
Gamma-BHC (Lindane)	1.90E+00	0.0018 U	mg/kg
Gamma-Chlordane	1.40E+00 (y)	0.0018 U	mg/kg
Heptachlor	4.30E-01	0.0018 U	mg/kg
Heptachlor Epoxide	2.10E-01	0.0018 U	mg/kg
Methoxychlor	3.40E+03	0.0035 UJ	mg/kg
Tech-Chlordane	1.40E+00	0.011 U	mg/kg
Toxaphene	1.70E+00	0.053 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).
- (k) Value for endrin used as surrogate for endrin aldehyde and endrin ketone due to structural similarities.
- (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.

LOUs 61, 33, and 40 Table 7
Groundwater Characterization Data - Organochlorine Pesticides (OCPs)

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	
Well ID		M-11	M-11D	
Sample ID		M-11	M-11D	
Sample Date		12/06/2006	12/06/2006	
Organochlorine Pesticides	MCL ² ug/L			Unit
4,4'-DDD	2.80E-01	0.050 U	0.050 U	ug/L
4,4'-DDE	1.98E-01	0.050 U	0.050 U	ug/L
4,4'-DDT	1.98E-01	0.050 U	0.050 U	ug/L
Aldrin	4.00E-03	0.050 U	0.050 U	ug/L
Alpha-BHC	1.10E-02	0.050 U	0.050 U	ug/L
Alpha-chlordane	2.00E+00 (l)	0.050 U	0.050 U	ug/L
Beta-BHC	3.74E-02	0.050 U	0.050 U	ug/L
Delta-BHC	1.10E-02 (z)	0.050 U	0.050 U	ug/L
Dieldrin	4.20E-03 (z)	0.050 U	0.050 U	ug/L
Endosulfan I	2.19E+02 (aa)	0.050 U	0.050 U	ug/L
Endosulfan II	2.19E+02 (aa)	0.050 U	0.050 U	ug/L
Endosulfan Sulfate	2.19E+02 (aa)	0.050 U	0.050 U	ug/L
Endrin	2.00E+00	0.050 U	0.050 U	ug/L
Endrin Aldehyde	1.09E+01 (k)	0.050 U	0.050 U	ug/L
Endrin Ketone	1.09E+01 (k)	0.050 U	0.050 U	ug/L
Gamma-BHC (Lindane)	2.00E-01	0.050 U	0.050 U	ug/L
Gamma-Chlordane	2.00E+00 (l)	0.050 U	0.050 U	ug/L
Heptachlor	4.00E-01	0.050 U	0.050 U	ug/L
Heptachlor Epoxide	2.00E-01	0.050 U	0.050 U	ug/L
Methoxychlor	4.00E+01	0.10 U	0.10 U	ug/L
Tech-Chlordane	2.00E+00 (l)	0.50 U	0.50 U	ug/L
Toxaphene	3.00E+00	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.

LOUs 61, 33, and 40 Table 8
Soil Characterization Data - Organophosphorus Pesticides (OPPs)

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	
Boring No.		SA7	
Sample ID		SA7-0.5	
Sample Depth (ft)		0.5	
Sample Date		11/20/2006	
OPPs	MSSL ² mg/kg	mg/kg	Unit
Azinphos-methyl	--	0.014 U	mg/kg
Bolstar	--	0.014 U	mg/kg
Chlorpyrifos	2.10E+03	0.021 U	mg/kg
Coumaphos	--	0.014 UJ	mg/kg
Demeton-O	--	0.041 U	mg/kg
Demeton-S	--	0.016 U	mg/kg
Diazinon	6.20E+02	0.023 U	mg/kg
Dichlorvos	6.60E+00	0.024 U	mg/kg
Dimethoate	--	0.023 U	mg/kg
Disulfoton	2.70E+01	0.051 U	mg/kg
EPN	--	0.014 U	mg/kg
Ethoprop	--	0.016 U	mg/kg
Ethyl Parathion	4.10E+03	0.019 U	mg/kg
Famphur	--	0.014 U	mg/kg
Fensulfothion	--	0.014 U	mg/kg
Fenthion	1.70E+02 (ff)	0.035 U	mg/kg
Malathion	1.40E+04	0.016 U	mg/kg
Merphos	--	0.032 U	mg/kg
Methyl parathion	1.70E+02	0.021 U	mg/kg
Mevinphos	--	0.016 U	mg/kg
Naled	1.40E+03	0.035 UJ	mg/kg
Phorate	--	0.021 U	mg/kg
Ronnel	3.40E+04	0.019 U	mg/kg
Stirphos	--	0.016 U	mg/kg
Sulfotep	--	0.021 U	mg/kg
Thionazin	--	0.019 U	mg/kg
Tokuthion	--	0.021 UJ	mg/kg
Trichloronate	--	0.021 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).
- (ff) Value for methyl parathion used as surrogate for fenthion based on structural similarities.

LOUs 61, 33, and 40 Table 9
Groundwater Characterization Data - Organophosphorus Pesticides (OPPs)

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	
Well ID		M-11	M-11D	
Sample ID		M-11	M-11D	
Sample Date		12/06/2006	12/06/2006	
OPPs	MCL ² ug/L			Unit
Azinphos-methyl	--	2.5 U	2.5 U	ug/L
Bolstar	--	1.0 U	1.0 U	ug/L
Chlorpyrifos	1.09E+02	1.0 U	1.0 U	ug/L
Coumaphos	--	1.0 U	1.0 U	ug/L
Demeton-O	1.46E+00 (cc)	1.0 U	1.0 U	ug/L
Demeton-S	1.46E+00 (cc)	1.0 U	1.0 U	ug/L
Diazinon	3.28E+01	1.0 U	1.0 U	ug/L
Dichlorvos	2.32E-01	1.0 U	1.0 U	ug/L
Dimethoate	7.30E+00	1.0 U	1.0 U	ug/L
Disulfoton	1.46E+00	0.50 U	0.50 U	ug/L
EPN	3.65E-01	1.2 U	1.2 U	ug/L
Ethoprop	--	0.50 U	0.50 U	ug/L
Ethyl Parathion	9.12E+00 (tt)	1.0 U	1.0 U	ug/L
Famphur	--	1.0 U	1.0 U	ug/L
Fensulfothion	--	2.5 U	2.5 U	ug/L
Fenthion	9.10E+00 (ff)	2.5 U	2.5 U	ug/L
Malathion	7.30E+02	1.2 U	1.2 U	ug/L
Merphos	1.09E+00	5.0 U	5.0 U	ug/L
Methyl parathion	9.12E+00	4.0 U	4.0 U	ug/L
Mevinphos	--	6.2 U	6.2 U	ug/L
Naled	7.30E+01	1.0 U	1.0 U	ug/L
Phorate	7.30E+00	1.2 U	1.2 U	ug/L
Ronnel	1.82E+03	10 U	10 U	ug/L
Stirphos	--	3.5 U	3.5 U	ug/L
Sulfotep	1.82E+01	1.5 U	1.5 U	ug/L
Thionazin	--	1.0 U	1.0 U	ug/L
Tokuthion	--	1.6 U	1.6 U	ug/L
Trichloronate	--	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.

**LOUs 61, 33, and 40 Table 10
Soil Characterization Data - PCBs**

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	Ph A	Ph A	Ph A	Ph A	
Boring ID		SA7	SA7	SA7	SA7	SA7	SA7	
Sample ID		SA7-0.5	SA7-10	SA7-10D	SA7-20	SA7-30	SA7-34	
Sample Depth (ft)		0.5	10	10	20	30	34	
Sample Date		11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	
PCBs	MSSL ² mg/kg							Unit
Aroclor-1016	2.40E+01 (i)	0.035 U	0.035 U	0.036 U	0.036 U	0.035 U	0.043 U	mg/kg
Aroclor-1221	8.30E-01 (i)	0.035 U	0.035 U	0.036 U	0.036 U	0.035 U	0.043 U	mg/kg
Aroclor-1232	8.30E-01 (i)	0.035 U	0.035 U	0.036 U	0.036 U	0.035 U	0.043 U	mg/kg
Aroclor-1242	8.30E-01 (i)	0.035 U	0.035 U	0.036 U	0.036 U	0.035 U	0.043 U	mg/kg
Aroclor-1248	8.30E-01 (i)	0.035 U	0.035 U	0.036 U	0.036 U	0.035 U	0.043 U	mg/kg
Aroclor-1254	8.30E-01 (i)	0.035 U	0.035 U	0.036 U	0.036 U	0.035 U	0.043 U	mg/kg
Aroclor-1260	8.30E-01 (i)	0.035 U	0.035 U	0.036 U	0.036 U	0.035 U	0.043 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).

**LOUs 61, 33, and 40 Table 11
Groundwater Characterization Data - PCBs**

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	
Well ID		M-11	M-11D	
Sample ID		M-11	M-11D	
Sample Date		12/06/2006	12/06/2006	
PCBs	MCL ² ug/L			Unit
Aroclor-1016	5.00E-01 (bb)	0.10 U	0.10 U	ug/L
Aroclor-1221	5.00E-01 (bb)	0.10 U	0.10 U	ug/L
Aroclor-1232	5.00E-01 (bb)	0.10 U	0.10 U	ug/L
Aroclor-1242	5.00E-01 (bb)	0.10 U	0.10 U	ug/L
Aroclor-1248	5.00E-01 (bb)	0.10 U	0.10 U	ug/L
Aroclor-1254	5.00E-01 (bb)	0.10 U	0.10 U	ug/L
Aroclor-1260	5.00E-01 (bb)	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.

**LOUs 61, 33, and 40 Table 12
Soil Characterization Data - Perchlorate**

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Boring ID	Sample ID	Sample Depth (ft)	Sample Date	Perchlorate ug/kg	MSSL¹ ug/kg	Sampling Program
SA7	SA7-0.5	0.5	11/20/2006	34300 J	7.95E+05	Ph A ²
SA7	SA7-10	10	11/20/2006	109000 J	7.95E+05	Ph A
SA7	SA7-10D	10	11/20/2006	113000 J	7.95E+05	Ph A
SA7	SA7-20	20	11/20/2006	12800 J	7.95E+05	Ph A
SA7	SA7-30	30	11/20/2006	8690 J	7.95E+05	Ph A
SA7	SA7-34	34	11/20/2006	31700 J	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.

**LOUs 61, 33, and 40 Table 13
Groundwater Characterization Data - Perchlorate**

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Well ID Number	Sample ID	Sample Date	Perchlorate	Units	MCL¹ ug/L	Sampling Program
M-11	M-11	12/06/2006	32500 J+	ug/L	1.80E+01 a,(m)	Ph A ²
M-11D	M-11D	12/06/2006	32400 J+	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].

**LOUs 61, 33, and 40 Table 14
Soil Characterization Data - Radionuclides**

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

				Ra-226	Ra-228	Th-228	Th-230	Th-232	U-233/234	U-235/236	U-238	
				(gamma)	(gamma)	(TH MOD)	(TH MOD)	(TH MOD)	(U MOD)	(U MOD)	(U MOD)	
				pci/g	pci/g	pci/g	pci/g	pci/g	pci/g	pci/g	pci/g	
Boring ID Number	Sample ID	Sample Depth (ft)	Date									Sampling Program
SA7	SA7-0.5	0.5	11/20/2006	1.12 J-	1.83 J-							Ph A ¹
SA7	SA7-10	10	11/20/2006	1.02 J-	1.9 J-							Ph A
SA7	SA7-10D	10	11/20/2006	0.939 J-	1.77 J-							Ph A
SA7	SA7-20	20	11/20/2006	1.28 J-	1.57 J-	0.488 J	0.775 J	0.618 J	0.652 J+	0.0145 U	0.493 J	Ph A
SA7	SA7-30	30	11/20/2006	1.79 J-	1.78 J-							Ph A
SA7	SA7-34	34	11/20/2006	7.49 J-	0.805 J-							Ph A

Notes:

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

**LOUs 61, 33, and 40 Table 15
Groundwater Characterization Data - Radionuclides**

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
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
M-11	M-11-Z	05/11/2007	0.332 U	1.23 B							Ph A ¹

Notes:

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

**LOUs 61, 33, and 40 Table 16
Soil Characterization Data - SVOCs**

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program			Ph A ¹	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.			SA7	SA7	SA7	SA7	SA7	SA7
Sample ID			SA7-0.5	SA7-10	SA7-10D	SA7-20	SA7-30	SA7-34
Sample Depth (ft)			0.5	10	10	20	30	34
Sample Date			11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006
SVOC	Analytical Method	MSSL ² ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
1,4-Dioxane	non-SIM	1.70E+05	70 U	350 U	360 U	360 U	350 U	430 U
2-Methylnaphthalene	non-SIM	2.10E+05 (jj)	350 U	350 U	360 U	360 U	350 U	430 U
2-Methylnaphthalene	SIM	2.10E+05 (jj)	7.0 U					
Acenaphthene	non-SIM	3.30E+07	350 U	350 U	360 U	360 U	350 U	430 U
Acenaphthene	SIM	3.30E+07	7.0 U					
Acenaphthylene	non-SIM	3.30E+07 (pp)	350 U	350 U	360 U	360 U	350 U	430 U
Acenaphthylene	SIM	3.30E+07 (pp)	7.0 U					
Anthracene	non-SIM	1.00E+08	350 U	350 U	360 U	360 U	350 U	430 U
Anthracene	SIM	1.00E+08	7.0 U					
Benz(a)anthracene	non-SIM	2.30E+03	350 U	350 U	360 U	360 U	350 U	430 U
Benz(a)anthracene	SIM	2.30E+03	7.0 U					
Benzo(a)pyrene	non-SIM	2.30E+02	350 U	350 U	360 U	360 U	350 U	430 U
Benzo(a)pyrene	SIM	2.30E+02	7.0 U					
Benzo(b)fluoranthene	non-SIM	2.30E+03	350 U	350 U	360 U	360 U	350 U	430 U
Benzo(b)fluoranthene	SIM	2.30E+03	7.0 U					
Benzo(g,h,i)perylene	non-SIM	3.20E+07 (w)	350 U	350 U	360 U	360 U	350 U	430 U
Benzo(g,h,i)perylene	SIM	3.20E+07 (w)	7.0 U					
Benzo(k)fluoranthene	non-SIM	2.30E+04	350 U	350 U	360 U	360 U	350 U	430 U
Benzo(k)fluoranthene	SIM	2.30E+04	7.0 U					
bis(2-Ethylhexyl)phthalate	non-SIM	1.40E+05	350 U	350 U	360 U	360 U	350 U	430 U
Butyl benzyl phthalate	non-SIM	2.40E+05	350 U	350 U	360 U	360 U	350 U	430 U
Chrysene	non-SIM	2.30E+05	350 U	350 U	360 U	360 U	350 U	430 U
Chrysene	SIM	2.30E+05	7.0 U					
Dibenz(a,h)anthracene	non-SIM	2.30E+02	350 U	350 U	360 U	360 U	350 U	430 U
Dibenz(a,h)anthracene	SIM	2.30E+02	7.0 U					
Diethyl phthalate	non-SIM	1.00E+08	350 U	350 U	360 U	360 U	350 U	430 U
Dimethyl phthalate	non-SIM	1.00E+08	350 U	350 U	360 U	360 U	350 U	430 U
Di-N-Butyl phthalate	non-SIM	6.80E+07	350 U	350 U	360 U	360 U	350 U	430 U
Di-N-Octyl phthalate	non-SIM	--	350 U	350 U	360 U	360 U	350 U	430 U
Fluoranthene	non-SIM	2.40E+07	350 U	350 U	360 U	360 U	350 U	430 U
Fluoranthene	SIM	2.40E+07	7.0 U					
Fluorene	non-SIM	2.60E+07	350 U	350 U	360 U	360 U	350 U	430 U
Fluorene	SIM	2.60E+07	7.0 U					
Hexachlorobenzene	non-SIM	1.20E+03	350 U	350 U	360 U	360 U	350 U	430 U
Hexachlorobenzene	SIM	1.20E+03	7.0 U					
Indeno(1,2,3-cd)pyrene	non-SIM	2.30E+03	350 U	350 U	360 U	360 U	350 U	430 U
Indeno(1,2,3-cd)pyrene	SIM	2.30E+03	7.0 U					
Naphthalene	non-SIM	2.10E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Naphthalene	non-SIM	2.10E+05	350 U	350 U	360 U	360 U	350 U	430 U
Naphthalene	SIM	2.10E+05	7.0 U					
Nitrobenzene	non-SIM	1.10E+05	350 U	350 U	360 U	360 U	350 U	430 U
Octachlorostyrene	non-SIM	--	350 U	350 U	360 U	360 U	350 U	430 U
Phenanthrene	non-SIM	1.00E+08 (n)	350 U	350 U	360 U	360 U	350 U	430 U
Phenanthrene	SIM	1.00E+08 (n)	7.0 U					

LOUs 61, 33, and 40 Table 16 (continued)
Soil Characterization Data - SVOCs

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program			Ph A ¹	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.			SA7	SA7	SA7	SA7	SA7	SA7
Sample ID			SA7-0.5	SA7-10	SA7-10D	SA7-20	SA7-30	SA7-34
Sample Depth (ft)			0.5	10	10	20	30	34
Sample Date			11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006
SVOC	Analytical Method	MSSL ² ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Pyrene	non-SIM	3.20E+07	350 U	350 U	360 U	360 U	350 U	430 U
Pyrene	SIM	3.20E+07	7.0 U					
Pyridine	non-SIM	6.80E+05	1700 U	1700 U	1700 U	1700 U	1700 U	2100 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).
- (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.

**LOUs 61, 33, and 40 Table 17
Groundwater Characterization Data - SVOCs**

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

			Sampling Program	Ph A ¹
			Well No.	M-11
			Sample ID	M-11
			Sample Date	12/06/2006
SVOCs	Analytic Method	MCL² ug/L		ug/L
1,4-Dioxane	non-SIM	6.11E+00		10 U
2-Methylnaphthalene	non-SIM	6.20E+00	(jj)	10 U
2-Methylnaphthalene	SIM	6.20E+00	(jj)	
Acenaphthene	non-SIM	3.65E+02		10 U
Acenaphthene	SIM	3.65E+02		
Acenaphthylene	non-SIM	3.65E+02	(pp)	10 U
Acenaphthylene	SIM	3.65E+02	(pp)	
Anthracene	non-SIM	1.83E+03		10 U
Anthracene	SIM	1.83E+03		
Benz(a)anthracene	non-SIM	9.21E-02		10 U
Benz(a)anthracene	SIM	9.21E-02		
Benzo(a)pyrene	non-SIM	2.00E-01		10 U
Benzo(a)pyrene	SIM	2.00E-01		
Benzo(b)fluoranthene	non-SIM	9.21E-02		10 U
Benzo(b)fluoranthene	SIM	9.21E-02		
Benzo(g,h,i)perylene	non-SIM	1.83E+02	(w)	10 U
Benzo(g,h,i)perylene	SIM	1.83E+02	(w)	
Benzo(k)fluoranthene	non-SIM	9.21E-01		10 U
Benzo(k)fluoranthene	SIM	9.21E-01		
bis(2-Ethylhexyl)phthalate	non-SIM	6.00E+00		10 U
Butyl benzyl phthalate	non-SIM	7.30E+03		10 U
Chrysene	non-SIM	9.21E+00		10 U
Chrysene	SIM	9.21E+00		
Dibenz(a,h)anthracene	non-SIM	9.21E-03		10 U
Dibenz(a,h)anthracene	SIM	9.21E-03		
Diethyl phthalate	non-SIM	2.92E+04		10 U
Dimethyl phthalate	non-SIM	3.65E+05		10 U
Di-N-Butyl phthalate	non-SIM	3.65E+03		10 U
Di-N-Octyl phthalate	non-SIM	1.46E+03		10 U
Fluoranthene	non-SIM	1.46E+03		10 U
Fluoranthene	SIM	1.46E+03		
Fluorene	non-SIM	2.43E+02		10 U
Fluorene	SIM	2.43E+02		
Hexachlorobenzene	non-SIM	1.00E+00		10 U
Hexachlorobenzene	SIM	1.00E+00		
Indeno(1,2,3-cd)pyrene	non-SIM	9.21E-02		10 UJ
Indeno(1,2,3-cd)pyrene	SIM	9.21E-02		
Naphthalene	non-SIM	6.20E+00		5.0 U
Naphthalene	non-SIM	6.20E+00		10 UJ
Naphthalene	SIM	6.20E+00		
Nitrobenzene	non-SIM	3.40E+00		10 U
Octachlorostyrene	non-SIM	--		10 U

**LOUs 61, 33, and 40 Table 17 (continued)
Groundwater Characterization Data - SVOC**

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program			Ph A ¹
Well No.			M-11
Sample ID			M-11
Sample Date			12/06/2006
SVOCs	Analytic Method	MCL ² ug/L	ug/L
Phenanthrene	non-SIM	1.80E+03 (n)	10 U
Phenanthrene	SIM	1.80E+03 (n)	
Pyrene	non-SIM	1.83E+02	10 U
Pyrene	SIM	1.83E+02	
Pyridine	non-SIM	3.65E+01	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.

(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.

(w) Value for pyrene used as surrogate for benzo(g,h,i)perylene based on structural similarities.

(n) Value for anthracene used as surrogate for phenanthrene due to structural similarities.

LOUs 61, 33, and 40 Table 18
Soil Characteristic Data - TPH and Fuel Alcohols

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

				Fuel Alcohols			Total Petroleum Hydrocarbons			
				Ethanol	Ethylene glycol	Methanol	TPH - ORO	TPH - DRO	TPH - GRO	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
			MSSL ¹ mg/kg	--	1.00E+05	1.00E+05	1.00E+02 vv	1.00E+02 vv	1.00E+02 vv	
Boring No.	Sample ID.	Sample Depth (ft)	Sample Date							Sampling Program
SA7	SA7-0.5	0.5	11/20/2006				26	26 UJ	0.11 UJ	Ph A ²
SA7	SA7-10	10	11/20/2006				26 U	26 U	0.11 UJ	Ph A
SA7	SA7-10D	10	11/20/2006				27 U	27 U	0.11 UJ	Ph A
SA7	SA7-20	20	11/20/2006				27 U	27 U	0.11 UJ	Ph A
SA7	SA7-30	30	11/20/2006				27 U	27 U	0.11 UJ	Ph A
SA7	SA7-34	34	11/20/2006				33 U	33 U	0.13 UJ	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.

LOUs 61, 33, and 40 Table 19
Soil Characterization Data - VOCs

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.		SA7	SA7	SA7	SA7	SA7	SA7
Sample ID		SA7-0.5	SA7-10	SA7-10D	SA7-20	SA7-30	SA7-34
Sample Depth (ft)		0.5	10	10	20	30	34
Sample Date		11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006
VOCs	MSSL ² ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Naphthalene	2.10E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,1,1,2-Tetrachloroethane	7.60E+03	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,1,1-Trichloroethane	1.40E+06	5.3 U	0.54 J	5.4 U	5.4 U	0.37 J	6.5 U
1,1,2,2-Tetrachloroethane	9.70E+02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,1,2-Trichloroethane	2.10E+03	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,1-Dichloroethane	2.30E+06	5.3 U	1.9 J	5.4 U	5.4 U	1.4 J	6.5 U
1,1-Dichloroethene	4.70E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,1-Dichloropropene	1.75E+03 (gg)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,2,3-Trichlorobenzene	2.60E+05 (hh)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,2,3-Trichloropropane	1.60E+03	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,2,4-Trichlorobenzene	2.60E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,2,4-Trimethylbenzene	2.20E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,2-Dibromo-3-chloropropane	2.00E+01	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,2-Dichlorobenzene	3.70E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,2-Dichloroethane	8.40E+02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,2-Dichloropropane	8.50E+02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,3,5-Trimethylbenzene	7.80E+04	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,3-Dichlorobenzene	1.40E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,3-Dichloropropane	4.10E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
1,4-Dichlorobenzene	8.10E+03	5.3 U	5.3 U	0.32 J	5.4 U	5.3 U	6.5 U
2,2-Dichloropropane	8.50E+02 (ii)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
2-Butanone	3.40E+07	11 U	11 U	11 U	11 U	11 U	13 U
2-Chlorotoluene	5.10E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
2-Hexanone	1.72E+07 (nn)	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ	13 UJ
2-Methoxy-2-methyl-butane	--	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
4-Chlorotoluene	5.10E+05 (ww)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
4-Isopropyltoluene	--	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
4-Methyl-2-pentanone	1.70E+07	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ	13 UJ
Acetone	6.00E+07	4.5 J	6.1 J	11 U	11 U	21	6.6 J
Benzene	1.60E+03	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Bromobenzene	1.20E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Bromochloromethane	1.75E+03 (qg)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Bromodichloromethane	2.60E+03	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Bromoform	2.40E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Bromomethane	1.50E+04	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ	13 UJ
Carbon tetrachloride	5.80E+02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Chlorobenzene	5.00E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Chloroethane	7.20E+03	5.3 UJ	5.3 UJ	5.4 UJ	5.4 UJ	5.3 UJ	6.5 UJ
Chloroform	5.80E+02	5.3 U	0.40 J	0.51 J	1.5 J	1.9 J	20
Chloromethane	1.70E+05	5.3 UJ	5.3 UJ	5.4 UJ	5.4 UJ	5.3 UJ	6.5 UJ
cis-1,2-Dichloroethene	1.60E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
cis-1,3-Dichloropropene	1.75E+03 (gg)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Dibromochloromethane	2.60E+03	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U

LOUs 61, 33, and 40 Table 19 (continued)
Soil Characterization Data - VOCs

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹	Ph A	Ph A	Ph A	Ph A	Ph A
Boring No.		SA7	SA7	SA7	SA7	SA7	SA7
Sample ID		SA7-0.5	SA7-10	SA7-10D	SA7-20	SA7-30	SA7-34
Sample Depth (ft)		0.5	10	10	20	30	34
Sample Date		11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006	11/20/2006
VOCs	MSSL ² ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dibromomethane	5.90E+05 (xx)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Dichlorodifluoromethane	3.40E+05	5.3 UJ	5.3 UJ	5.4 UJ	5.4 UJ	5.3 UJ	6.5 UJ
Ethyl t-butyl ether	7.90E+04 (kk)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Ethylbenzene	2.30E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Ethylene dibromide	7.00E+01	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Hexachlorobutadiene	2.50E+04	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	1.4 J
isopropyl ether	--	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Isopropylbenzene	5.80E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Methyl tert butyl ether	7.90E+04	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Methylene chloride	2.20E+04	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
N-Butylbenzene	2.40E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
N-Propylbenzene	2.40E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
sec-Butylbenzene	2.20E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Styrene	1.70E+06	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
t-Butyl alcohol	--	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ	13 UJ
tert-Butylbenzene	3.90E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Tetrachloroethene	1.70E+03	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	2.1 J
Toluene	5.20E+05	0.36 J	0.58 J	0.31 J	0.31 J	0.45 J	0.37 J
trans-1,2-Dichloroethylene	2.00E+05	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
trans-1,3-Dichloropropene	1.75E+03 (gg)	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Trichloroethene	1.00E+02	5.3 U	5.3 U	5.4 U	5.4 U	5.3 U	6.5 U
Trichlorofluoromethane	1.40E+06	5.3 UJ	5.3 UJ	5.4 UJ	5.4 UJ	5.3 UJ	6.5 UJ
Vinylchloride	8.60E+02	5.3 UJ	5.3 UJ	5.4 UJ	5.4 UJ	5.3 UJ	6.5 UJ
Xylene (Total)	2.10E+05	11 U	11 U	11 U	11 U	11 U	13 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.
- (nn) Value for methyl isobutyl ketone used as surrogate for 2-hexanone based on structural similarities.
- (ww) Value for 2-chlorotoluene used as surrogate for 4-chlorotoluene based on structural similarities.
- (qq) Value for bromodichloromethane used as surrogate for bromochloromethane due to structural similarities.
- (xx) Value for methylene bromide used as surrogate for dibromomethane based on structural similarities.
- (kk) Value for methyl tertbutyl ether (MTBE) used as surrogate for ethyl-tert-butyl ether (ETBE) based on structural similarities.

**LOUs 61, 33, and 40 Table 20
Groundwater Characteristic Data - VOCs**

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹
Well ID		M-11
Sample ID		M-11
Sample Date		12/06/2006
VOCs	MCL ² ug/L	ug/L
Naphthalene	6.20E+00	5.0 U
1,1,1,2-Tetrachloroethane	4.32E-01	5.0 U
1,1,1-Trichloroethane	2.00E+02	5.0 U
1,1,2,2-Tetrachloroethane	5.00E+00	5.0 U
1,1,2-Trichloroethane	5.00E+00	5.0 U
1,1-Dichloroethane	8.11E+02	5.0 U
1,1-Dichloroethene	7.00E+00	5.0 U
1,1-Dichloropropene	3.95E-01 gg	5.0 U
1,2,3-Trichlorobenzene	7.16E+00 hh	5.0 U
1,2,3-Trichloropropane	5.60E-03	5.0 U
1,2,4-Trichlorobenzene	7.00E+01	5.0 U
1,2,4-Trimethylbenzene	1.23E+01	5.0 U
1,2-Dibromo-3-chloropropane	2.00E-01	5.0 U
1,2-Dichlorobenzene	6.00E+02	5.0 U
1,2-Dichloroethane	5.00E+00	5.0 U
1,2-Dichloropropane	5.00E+00	5.0 U
1,3,5-Trimethylbenzene	1.23E+01	5.0 U
1,3-Dichlorobenzene	1.83E+02	5.0 U
1,3-Dichloropropane	1.22E+02	5.0 U
1,4-Dichlorobenzene	7.50E+01	5.0 U
2,2-Dichloropropane	1.65E-01 ii	5.0 U
2-Butanone	6.97E+03	10 U
2-Chlorotoluene	1.22E+02	5.0 U
2-Hexanone	2.00E+03 nn	10 UJ
2-Methoxy-2-methyl-butane	--	5.0 UJ
4-Chlorotoluene	1.22E+02 ww	5.0 U
4-Isopropyltoluene	--	5.0 U
4-Methyl-2-pentanone	1.99E+03	10 UJ
Acetone	5.48E+03	10 U
Benzene	5.00E+00	5.0 U
Bromobenzene	2.03E+01	5.0 U
Bromochloromethane	1.81E-01 qq	5.0 U
Bromodichloromethane	8.00E+01 r	5.0 U
Bromoform	8.00E+01 r	5.0 U
Bromomethane	8.66E+00	10 U
Carbon tetrachloride	5.00E+00	5.0 U
Chlorobenzene	1.00E+02 o	5.0 U
Chloroethane	4.64E+00	5.0 U
Chloroform	8.00E+01 r	130
Chloromethane	1.58E+02	5.0 U
cis-1,2-Dichloroethene	7.00E+01	5.0 U
cis-1,3-Dichloropropene	3.95E-01 gg	5.0 U
Dibromochloromethane	8.00E+01 r	5.0 U
Dibromomethane	6.08E+01 xx	5.0 U
Dichlorodifluoromethane	3.95E+02	5.0 UJ
Ethyl t-butyl ether	1.10E+01 kk	5.0 UJ
Ethylbenzene	7.00E+02	5.0 U
Ethylene dibromide	--	5.0 U
Hexachlorobutadiene	8.62E-01	5.0 U

**LOUs 61, 33, and 40 Table 20 (continued)
Groundwater Characteristic Data - VOCs**

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
Tronox Facility - Henderson, Nevada

Sampling Program		Ph A ¹
Well ID		M-11
Sample ID		M-11
Sample Date		12/06/2006
VOCs	MCL ² ug/L	ug/L
isopropyl ether	--	5.0 UJ
Isopropylbenzene	6.58E+02	5.0 U
Methyl tert butyl ether	2.00E+01 a,uu	5.0 U
Methylene chloride	5.00E+00	5.0 UJ
N-Butylbenzene	2.43E+02	5.0 U
N-Propylbenzene	2.43E+02	5.0 U
sec-Butylbenzene	2.43E+02	5.0 U
Styrene	1.00E+02	5.0 U
t-Butyl alcohol	--	10 UJ
tert-Butylbenzene	2.43E+02	5.0 U
Tetrachloroethene	5.00E+00	5.0 U
Toluene	1.00E+03	5.0 U
trans-1,2-Dichloroethylene	1.00E+02	5.0 U
trans-1,3-Dichloropropene	--	5.0 U
Trichloroethene	5.00E+00	5.0 U
Trichlorofluoromethane	--	5.0 U
Vinylchloride	2.00E+00	5.0 U
Xylene (Total)	1.00E+04	10 UJ

Notes:

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

LOUs 61, 33, and 40 Table 21
Soil Characterization Data - Long Asbestos Fibers in Respirable Soil Fraction

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
 Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
 Tronox Facility - Henderson, Nevada

			Long Amphibole Protocol Structures	Long Amphibole Protocol Structures	Long Chrysotile Protocol Structures	Long Chrysotile Protocol Structures	Sampling Program
No.	Sample ID	Sample Date	s/gPM10	structures/sample	s/gPM10	structures/sample	
SA7	SA7	12/07/2006	2988000 U	0	2990000	1	Ph A ¹

Notes:

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

LOUs 61, 33, and 40
Notes for Phase A Data Tables

Unit 5 Basement and Old Sodium Chlorate Plant Decommissioning;
Former Sodium Perchlorate Platinum By-Product Filter; and PCB Transformer Spill
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