

**Table 4-2**  
**Metal Concentrations in Groundwater Samples**  
Upgradient Investigation, Tronox Facility - Henderson, Nevada

Well Cluster	Well ID	Screened Interval (ft)	Metals <sup>1</sup>												
			Aluminum EPA 6020 ug/L	Antimony EPA 6020 ug/L	Arsenic EPA 6020 ug/L	Barium EPA 6020 ug/L	Beryllium EPA 6020 ug/L	Boron EPA 6010B mg/L	Cadmium EPA 6020 ug/L	Calcium EPA 6010B mg/L	Chromium EPA 6020 ug/L	Chromium-hex EPA 7199 ug/L	Cobalt EPA 6020 ug/L	Copper EPA 6020 ug/L	Cyanide EPA 9012A mg/L
--	H-11	95 - 105	78 J	1.000 UJ	3.5 J	22 J	1.000 UJ	1.0	0.500 UJ	72	2.2 J	0.100 U	2.000 UJ	2.000 UJ	0.005 U
--	M-103	69.5 - 89.5	1600 J	1.000 UJ	115 J	50 J	1.000 UJ	1.2	0.500 UJ	120	16 J	16.9	2.000 UJ	7.0 J	0.020 U
--	M-117	130 - 150	31000 J	1.000 UJ	58 J	310 J	1.5 J	0.76	0.500 UJ	100	54 J	5.3	9.4 J	24 J	0.005 U
--	M-118	138 - 158	1100 J	1.000 UJ	36 J	37 J	1.000 UJ	0.74	0.500 UJ	60	9.1 J	7.5	2.000 UJ	2.000 UJ	0.005 U
--	M-120	80 - 100	38 J	1 UJ	155 J	37 J	1.000 UJ	1.6	0.5 U	260	2.5 J	2.7	2.000 UJ	2.6 J	0.005 U
--	M-121	77 - 97	250 J	1.000 UJ	88 J	39 J	1.000 UJ	3.8	0.500 UJ	240	23 J	22.6	2.000 UJ	2.9 J	0.005 U
1	TR-07	260 - 290	640 J	1.000 UJ	50 J	38 J	1.000 UJ	0.47	0.500 UJ	59	31 J	na	2.000 UJ	2.1 J	0.005 U
	TR-08	63 - 93	2800 J	1.000 UJ	75 J	85 J	1.000 UJ	1.2	0.500 UJ	99	17 J	14.8	2.000 UJ	4.3 J	0.007
	TR-08D	63 - 93	1500 J	1.000 UJ	74 J	58 J	1.000 UJ	1.2	0.500 UJ	89	15 J	14.9	2.000 UJ	2.5 J	0.005 U
2	TR-09	230 - 250	185 J	1.000 UJ	39 J	29 J	1.000 UJ	0.54	0.500 UJ	59	11 J	12.7	2.000 UJ	2.000 UJ	0.005 U
	TR-10	80 - 100	115 J	1.000 UJ	63 J	53 J	1.000 UJ	1.4	0.500 UJ	140	41 J	na	2.000 UJ	2.0 J	0.005 U
USEPA PRG <sup>2</sup> (ug/L)			36,500	15	0.0448			7,300	18	NE			730		730
MCL <sup>3</sup>						2,000	4			NE	100	50		1300	

Well Cluster	Well ID	Screened Interval (ft)	Metals <sup>1</sup>												
			Iron EPA 6010B mg/L	Lead EPA 6020 ug/L	Magnesium EPA 6010B mg/L	Manganese EPA 6020 ug/L	Mercury EPA 7470 ug/L	Methyl mercury EPA 1630 ng/L	Molybdenum EPA 6020 ug/L	Nickel EPA 6020 ug/L	Platinum EPA 6020 ug/L	Potassium EPA 6010B mg/L	Selenium EPA 6020 ug/L	Silicon EPA 6010B mg/L	Silver EPA 6020 ug/L
--	H-11	95 - 105	340	1.8	22 J	4000 J	0.200 U	na	2.000 UJ	5.000 UJ	1.000 U	4.8	5.000 UJ	na	0.500 UJ
--	M-103	69.5 - 89.5	1.6	2.1	69 J	56 J	0.200 U	na	49 J	5.000 UJ	1.000 U	11	5.000 U	na	0.500 UJ
--	M-117	130 - 150	31	15	95 J	530 J	0.200 U	na	13 J	33 J	1.000 U	19	5.000 U	na	0.500 UJ
--	M-118	138 - 158	1.3	0.67	23 J	55 J	0.200 U	na	13 J	5.000 UJ	1.000 U	9.5	5.000 UJ	na	0.500 UJ
--	M-120	80 - 100	0.054	0.5 U	140 J	82 J	0.2 U	0.025 U	18	6 J	1 U	12	0.5 UJ	42	0.5 U
--	M-121	77 - 97	0.42	0.500 U	120 J	84 J	0.200 U	na	125 J	5.3 J	1.000 U	18	5.000 UJ	na	0.500 UJ
1	TR-07	260 - 290	1.2	1.2	26 J	25 J	0.200 U	na	5.2 J	5.000 UJ	1.000 U	9.2	5.000 UJ	na	0.500 UJ
	TR-08	63 - 93	3.0 J	2.3	51 J	53 J	0.200 U	na	13 J	5.1 J	1.000 U	11	5.000 UJ	na	0.500 UJ
	TR-08D	63 - 93	1.2 J	1.2	46 J	26 J	0.200 U	na	13 J	5.000 UJ	1.000 U	10	5.000 UJ	na	0.500 UJ
2	TR-09	230 - 250	0.18	0.67	23 J	10 J	0.200 U	na	5.2 J	5.000 UJ	1.000 U	9.0	5.000 UJ	na	0.500 UJ
	TR-10	80 - 100	0.14	0.500 U	53 J	4.6 J	0.200 UJ	na	21 J	5.000 UJ	1.000 U	15	5.000 UJ	na	0.500 UJ
USEPA PRG <sup>2</sup>				15	NE			11	182	730	NE	NE	182	NE	182
MCL <sup>3</sup>			0.6	15	NE	100	2				NE			NE	

**Notes:**

- All results on this table based on low-flow purge and sampling.
- Preliminary Remediation Goal for Tap Water established by U.S. EPA Region 9 (October 2004).
- Maximum Contaminant Level in groundwater established by Nevada Department of Environmental Protection

ug/L micrograms per liter

mg/L milligrams per liter

TR-08D Denotes a duplicate sample of TR-08.

U Not detected at concentrations below the listed laboratory quantitation limit.

J Estimated value; concentration was less than the quantitation limit.

na Not analyzed.

NE Not established.

**Bold** Bold values are constituents detected above the laboratory quantitation limit.

Gray Grayed out values are non-detected values with the laboratory quantitative limits shown.

**Table 4-2**  
**Metal Concentrations in Groundwater Samples**  
 Upgradient Investigation, Tronox Facility - Henderson, Nevada

(continued)

Well Cluster	Well ID	Screened Interval (ft)	Metals <sup>1</sup>				
			Sodium EPA 6010B mg/L	Strontium EPA 6010B mg/L	Thallium EPA 6020 ug/L	Tin EPA 6020 ug/L	Titanium EPA 6010B mg/L
--	H-11	95 - 105	<b>150 J</b>	na	1.000 U	na	0.020 U
--	M-103	69.5 - 89.5	<b>330 J</b>	na	1.000 U	na	<b>0.074</b>
--	M-117	130 - 150	<b>170 J</b>	na	1.000 U	na	<b>1.4</b>
--	M-118	138 - 158	<b>160 J</b>	na	1.000 U	na	<b>0.064</b>
--	M-120	80 - 100	<b>250 J</b>	<b>5.3</b>	1 U	1 U	0.02 U
--	M-121	77 - 97	<b>420 J</b>	na	1.000 U	na	<b>0.026</b>
1	TR-07	260 - 290	<b>160 J</b>	na	1.000 U	na	<b>0.026</b>
	TR-08	63 - 93	<b>230 J</b>	na	1.000 U	na	<b>0.16 J</b>
	TR-08D	63 - 93	<b>220 J</b>	na	1.000 U	na	<b>0.064 J</b>
2	TR-09	230 - 250	<b>170 J</b>	na	1.000 U	na	0.020 U
	TR-10	80 - 100	<b>310 J</b>	na	1.000 U	na	0.020 U
USEPA PRG <sup>1</sup> (ug/L)			NE	22,000	2.409	22,000	146,000
MCL <sup>2</sup>			NE				

Well Cluster	Well ID	Screened Interval (ft)	Metals <sup>1</sup>			
			Tungsten EPA 6020 ug/L	Uranium-Total EPA 6020 ug/L	Vanadium EPA 6020 ug/L	Zinc EPA 6020 ug/L
--	H-11	95 - 105	2.000 UJ	1.000 U	3.000 U	<b>290 J</b>
--	M-103	69.5 - 89.5	2.000 UJ	<b>3.0</b>	<b>26 J</b>	<b>11 J</b>
--	M-117	130 - 150	2.000 U	<b>6.4</b>	<b>55 J</b>	<b>105 J</b>
--	M-118	138 - 158	2.000 U	<b>1.9</b>	<b>21 J</b>	<b>10 J</b>
--	M-120	80 - 100	<b>2 U</b>	<b>43</b>	<b>12 J</b>	5 UJ
--	M-121	77 - 97	2.000 U	<b>13</b>	<b>14 J</b>	5.000 UJ
1	TR-07	260 - 290	2.000 UJ	<b>2.4</b>	<b>28 J</b>	<b>43 J</b>
	TR-08	63 - 93	2.000 U	<b>4.8</b>	<b>33 J</b>	<b>75 J</b>
	TR-08D	63 - 93	2.000 U	<b>4.7</b>	<b>30 J</b>	<b>41 J</b>
2	TR-09	230 - 250	2.000 UJ	<b>2.1</b>	<b>25 J</b>	<b>52 J</b>
	TR-10	80 - 100	2.000 UJ	<b>4.0</b>	<b>27 J</b>	<b>5.0 J</b>
USEPA PRG <sup>2</sup> (ug/L)			NE	7	36	10950
MCL <sup>3</sup>						

**Notes:**

- ug/L micrograms per liter
- mg/L milligrams per liter
- TR-08D Denotes a duplicate sample of TR-08.
- U Not detected at concentrations below the listed laboratory quantitation limit.
- J Estimated value; concentration was less than the quantitation limit.
- na Not analyzed.
- NE Not established.
- Bold** Bold values are constituents detected above the laboratory quantitation limit.
- Gray Grayed out values are non-detected values with the laboratory quantitative limits shown.

**Table 4-4**  
**Perchlorate Concentrations in Groundwater Samples**  
 Upgradient Investigation, Tronox Facility - Henderson, Nevada

<b>Well Cluster</b>	<b>Well ID</b>	<b>Date Sampled</b>	<b>Perchlorate<sup>1</sup> EPA 314.0 ug/L</b>
--	H-11	3/23/2006	16.000 U
--	M-103	3/21/2006	<b>230</b>
	M-103A	3/20/2006	<b>310</b>
--	M-117	3/23/2006	16.000 U
--	M-118	3/22/2006	<b>56</b>
--	M-120	3/22/2006	<b>550</b>
--	M-121	3/23/2006	<b>2000</b>
1	TR-07	3/21/2006	4.000 U
	TR-07A	3/20/2006	4.000 U
	TR-08	3/20/2006	<b>64</b>
	TR-08A	3/20/2006	<b>65</b>
	TR-08D	3/20/2006	<b>65</b>
2	TR-09	3/21/2006	4.000 U
	TR-09A	3/14/2006	4.000 U
	TR-10	3/21/2006	<b>970</b>
	TR-10A	3/13/2006	<b>860</b>
USEPA PRG <sup>2</sup>			4
<p><b>Notes:</b></p> <p>1. Analysis for perchlorate was by EPA Method 314.0.</p> <p>2. Preliminary Remediation Goal for Tap Water established by U.S. EPA Region 9 (October 2004).</p> <p>ug/L Micrograms per liter.</p> <p>TR-08D Denotes a duplicate sample of TR-08.</p> <p>U Not detected at concentrations below the listed laboratory quantitation limit.</p> <p><b>Bold</b> Bold values are constituents detected above the laboratory quantitation limit.</p> <p>Gray Grayed out values are non-detected values with the laboratory quantitative limits shown.</p>			

**Table 4-6**  
**TPH and Fuel Alcohol Concentrations in Groundwater Samples**  
 Upgradient Investigation, Tronox Facility - Henderson, Nevada

Well Cluster	Well ID	Screened Interval (ft)	Date Sampled	TPH <sup>1.</sup>			Fuel Alcohols <sup>2.</sup>		
				Gasoline-range (C <sub>6</sub> -C <sub>10</sub> ) mg/L	Diesel-range (C <sub>10</sub> -C <sub>28</sub> ) mg/L	Oil-range (C <sub>28</sub> -C <sub>38</sub> ) mg/L	Ethanol mg/L	Ethylene Glycol mg/L	Methanol mg/L
--	H-11	95 - 105	3/23/2006	<b>0.083J</b>	<b>0.18 J</b>	0.94 U	1 U	10 U	1 U
--	M-103	69.5 - 89.5	3/21/2006	0.1U	0.47 U	0.94 U	1 U	10 U	1 U
--	M-117	130 - 150	3/23/2006	0.1U	0.47 U	0.94 U	1 U	10 U	1 U
--	M-118	138 - 158	3/22/2006	0.1U	0.47 U	0.94 U	1 U	10 U	1 U
--	M-120	80 - 100	3/22/2006	0.1U	0.47 U	0.94 U	1 U	10 U	1 U
--	M-121	77 - 97	3/23/2006	0.1U	0.47 U	0.94 U	1 U	10 U	1 U
1	TR-07	260 - 290	3/21/2006	0.1U	0.47 U	0.94 U	1 U	10 U	1 U
	TR-08	63 - 93	3/20/2006	0.1U	0.47 U	0.94 U	1 U	10 U	1 U
	TR-08D	63 - 93	3/20/2006	0.1U	0.47 U	0.94 U	1 U	10 U	1 U
2	TR-09	230 - 250	3/21/2006	0.1U	0.47 U	0.94 U	1 U	10 U	1 U
	TR-10	80 - 100	3/21/2006	0.1U	0.47 U	0.94 U	1 U	10 U	1 U
USEPA PRG <sup>3.</sup>				NE	NE	NE	NE	73	18

**Notes:**

mg/L milligrams per liter

TR-08D Denotes a duplicate sample of TR-08.

NE None established.

J Estimated value; concentration was less than the quantitation limit.

U Not detected at concentrations below the listed laboratory quantitation limit.

1. Total Petroleum Hydrocarbon analysis was by EPA Method 8015B.

2. Methanol, ethanol, and ethylene glycol analyses by EPA Method 8015B.

3. Preliminary Remediation Goal for Tap Water established by U.S. EPA Region 9 (October 2004).

**Bold** Bold values are constituents detected above the laboratory quantitation limit.

Gray Grayed out values are non-detected values with the laboratory quantitative limits shown.

**Table 4-8**  
**Volatile Organic Compound (VOC) Concentrations in Groundwater**  
 Upgradient Investigation, Tronox Facility - Henderson, Nevada

Well Cluster	Well ID	Screened Interval (ft)	Date Sampled	Volatile Organic Compounds <sup>1</sup>																			
				1,1,1,2-Tetrachloroethane ug/L	1,1,1-Trichloroethane ug/L	1,1,2,2-Tetrachloroethane ug/L	1,1,2-Trichloroethane ug/L	1,1-Dichloroethane ug/L	1,1-Dichloroethene ug/L	1,1-Dichloropropene ug/L	1,2,3-Trichlorobenzene ug/L	1,2,3-Trichloropropane ug/L	1,2,4-Trichlorobenzene ug/L	1,2,4-Trimethylbenzene ug/L	1,2-Dibromo-3-chloropropane ug/L	1,2-Dichlorobenzene ug/L	1,2-Dichloroethane ug/L	1,2-Dichloropropane ug/L	1,3,5-Trimethylbenzene ug/L	1,3-Dichlorobenzene ug/L	1,3-Dichloropropane ug/L	1,4-Dichlorobenzene ug/L	
--	H-11	95 - 105	3/23/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
--	M-103	69.5 - 89.5	3/21/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
--	M-117	130 - 150	3/23/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
--	M-118	138 - 158	3/22/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
--	M-120	80 - 100	3/22/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
--	M-121	77 - 97	3/23/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1	TR-07	260 - 290	3/21/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
	TR-08	63 - 93	3/20/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
	TR-08D	63 - 93	3/20/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
2	TR-09	230 - 250	3/21/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
	TR-10	80 - 100	3/21/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
US EPA PRG <sup>3</sup> (ug/L)				0.432	3172	0.055	0.200	811	339	0.395	7	0.006	7	12	0.048	0.037	0.123	0.165	12	180	122	0.502	
<b>Notes:</b>																							
1. VOC analysis was by EPA Method 8260B.																							
2. 2-Butanone is also known as Methyl Ethyl/Ketone (MEK) Preliminary Remediation Goal for Tap Water established by U.S. EPA Region 9 (October 2004).																							
3. ug/L micrograms per liter																							
J Estimated value; concentration was less than the quantitation limit.																							
U Not detected at concentrations below the listed laboratory quantitation limit.																							
UJ Not detected; estimated value below quantitation limit.																							
TR-08D Denotes a duplicate sample of TR-08.																							
<b>Bold</b> Bold values are constituents detected above the laboratory quantitation limit.																							
Gray Grayed out values are non-detected values with the laboratory quantitative limits shown.																							

**Table 4-8**  
**Volatile Organic Compound (VOC) Concentrations in Groundwater**  
 Upgradient Investigation, Tronox Facility - Henderson, Nevada

(Continued)

Well Cluster	Well ID	Screened Interval (ft)	Date Sampled	Volatile Organic Compounds <sup>1</sup>																			
				1-Chlorohexane ug/L	2,2-Dichloropropane ug/L	2-Butanone <sup>2</sup> ug/L	2-Chlorotoluene ug/L	2-Hexanone ug/L	2-Methoxy-2-methyl-butane ug/L	4-Chlorotoluene ug/L	4-Isopropyltoluene ug/L	4-Methyl-2-pentanone ug/L	Acetone ug/L	Benzene ug/L	Bromobenzene ug/L	Bromochloromethane ug/L	Bromodichloromethane ug/L	Bromoform ug/L	Bromomethane ug/L	Carbon tetrachloride ug/L	Chlorobenzene ug/L	Chloroethane ug/L	
--	H-11	95 - 105	3/23/2006	5 U	5 U	10 U	5 U	10 U	5 U	5 U	5 U	10 U	<b>11</b>	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	
--	M-103	69.5 - 89.5	3/21/2006	5 U	5 U	10 U	5 U	10 U	5 U	5 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	
--	M-117	130 - 150	3/23/2006	5 U	5 U	10 U	5 U	10 U	5 U	5 U	5 U	10 U	<b>5 J</b>	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	
--	M-118	138 - 158	3/22/2006	5 U	5 U	10 U	5 U	10 U	5 U	5 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	
--	M-120	80 - 100	3/22/2006	5 U	5 U	10 U	5 U	10 U	5 U	5 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	
--	M-121	77 - 97	3/23/2006	5 U	5 U	10 U	5 U	10 U	5 U	5 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	
1	TR-07	260 - 290	3/21/2006	5 U	5 U	10 U	5 U	10 U	5 U	5 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	
	TR-08	63 - 93	3/20/2006	5 U	5 U	10 U	5 U	10 U	5 U	5 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	
	TR-08D	63 - 93	3/20/2006	5 U	5 U	10 U	5 U	10 U	5 U	5 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	
2	TR-09	230 - 250	3/21/2006	5 U	5 U	10 U	5 U	10 U	5 U	5 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	
	TR-10	80 - 100	3/21/2006	5 U	5 U	10 U	5 U	10 U	5 U	5 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	
US EPA PRG <sup>3</sup> (ug/L)				417	0.165	6968	122	6,968	NE	122	658	1993	5,475	0.354	20	0.181	0.181	9	9	0.171	106	5	
<b>Notes:</b>																							
1. VOC analysis was by EPA Method 8260B.																							
2. 2-Butanone is also known as Methyl Ethyl/Ketone (MEK) Preliminary Remediation Goal for Tap Water established by U.S. EPA Region 9 (October 2004).																							
3. U.S. EPA Region 9 (October 2004).																							
ug/L micrograms per liter																							
J Estimated value; concentration was less than the quantitation limit.																							
U Not detected at concentrations below the listed laboratory quantitation limit.																							
UJ Not detected; estimated value below quantitation limit.																							
TR-08D Denotes a duplicate sample of TR-08.																							
<b>Bold</b> Bold values are constituents detected above the laboratory quantitation limit.																							
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**Table 4-8**  
**Volatile Organic Compound (VOC) Concentrations in Groundwater**  
 Upgradient Investigation, Tronox Facility - Henderson, Nevada

(Continued)

Well Cluster	Well ID	Screened Interval (ft)	Date Sampled	Volatile Organic Compounds <sup>1</sup>																			
				Chloroform ug/L	Chloromethane ug/L	cis-1,2-Dichloroethene ug/L	cis-1,3-Dichloropropene ug/L	Dibromochloromethane ug/L	Dibromomethane ug/L	Dichlorodifluoromethane ug/L	Ethyl t-butyl ether ug/L	Ethylbenzene ug/L	Ethylene dibromide ug/L	Hexachlorobutadiene ug/L	isopropyl ether ug/L	Isopropylbenzene ug/L	Methyl tert butyl ether ug/L	Methylene chloride ug/L	Naphthalene ug/L	N-Butylbenzene ug/L	N-Propylbenzene ug/L	sec-Butylbenzene ug/L	
--	H-11	95 - 105	3/23/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
--	M-103	69.5 - 89.5	3/21/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
--	M-117	130 - 150	3/23/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
--	M-118	138 - 158	3/22/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
--	M-120	80 - 100	3/22/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
--	M-121	77 - 97	3/23/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1	TR-07	260 - 290	3/21/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
	TR-08	63 - 93	3/20/2006	<b>14</b>	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
	TR-08D	63 - 93	3/20/2006	<b>13</b>	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2	TR-09	230 - 250	3/21/2006	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
	TR-10	80 - 100	3/21/2006	<b>1.6 J</b>	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
US EPA PRG <sup>3</sup> (ug/L)				0.166	158	61	0.395	0.133	61	395	NE	1340	0.006	0.862	NE	658	6	4	6	243	243	243	
<b>Notes:</b>																							
1. VOC analysis was by EPA Method 8260B.																							
2. 2-Butanone is also known as Methyl Ethyl/Ketone (MEK) Preliminary Remediation Goal for Tap Water established by U.S. EPA Region 9 (October 2004).																							
3. ug/L micrograms per liter																							
J Estimated value; concentration was less than the quantitation limit.																							
U Not detected at concentrations below the listed laboratory quantitation limit.																							
UJ Not detected; estimated value below quantitation limit.																							
TR-08D Denotes a duplicate sample of TR-08.																							
<b>Bold</b> Bold values are constituents detected above the laboratory quantitation limit.																							
Gray Grayed out values are non-detected values with the laboratory quantitative limits shown.																							

**Table 4-8**  
**Volatile Organic Compound (VOC) Concentrations in Groundwater**  
 Upgradient Investigation, Tronox Facility - Henderson, Nevada

(Continued)

Well Cluster	Well ID	Screened Interval (ft)	Date Sampled	Volatile Organic Compounds <sup>1</sup>										
				Styrene ug/L	t-Butyl alcohol ug/L	tert-Butylbenzene ug/L	Tetrachloroethene ug/L	Toluene ug/L	trans-1,2-Dichloroethylene ug/L	trans-1,3-Dichloropropene ug/L	Trichloroethene ug/L	Trichlorofluoromethane ug/L	Vinylchloride ug/L	Xylene (Total) ug/L
--	H-11	95 - 105	3/23/2006	5 U	R	5 U	5 U	<b>33</b>	5 U	5 U	5 U	5 U	5 U	10 U
--	M-103	69.5 - 89.5	3/21/2006	5 U	R	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U
--	M-117	130 - 150	3/23/2006	5 U	R	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U
--	M-118	138 - 158	3/22/2006	5 U	R	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U
--	M-120	80 - 100	3/22/2006	5 U	R	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U
--	M-121	77 - 97	3/23/2006	5 U	R	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U
1	TR-07	260 - 290	3/21/2006	5 U	R	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U
	TR-08	63 - 93	3/20/2006	5 U	R	5 U	5 U	5 U	5 U	5 U	<b>1.3 J</b>	5 U	5 U	10 U
	TR-08D	63 - 93	3/20/2006	5 U	R	5 U	5 U	5 U	5 U	5 U	<b>1.1 J</b>	5 U	5 U	10 U
2	TR-09	230 - 250	3/21/2006	5 U	R	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U
	TR-10	80 - 100	3/21/2006	5 U	R	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U
US EPA PRG <sup>3</sup> (ug/L)				1,641	NE	243	0.104	723	122	0.395	0.028	1288	0.020	206
<b>Notes:</b> 1. VOC analysis was by EPA Method 8260B. 2. 2-Butanone is also known as Methyl Ethyl/Ketone (MEK) Preliminary Remediation Goal for Tap Water established by U.S. EPA Region 9 (October 2004). 3. U.S. EPA Region 9 (October 2004). ug/L micrograms per liter J Estimated value; concentration was less than the quantitation limit U Not detected at concentrations below the listed laboratory quantitation limit. UJ Not detected; estimated value below quantitation limit. TR-08D Denotes a duplicate sample of TR-08. <b>Bold</b> Bold values are constituents detected above the laboratory quantitation limit. Gray Grayed out values are non-detected values with the laboratory quantitative limits shown.														



**Table 4-10**  
**Semi-Volatile Compound (SVOC) Concentrations**  
**in Groundwater**  
Upgradient Investigation, Tronox Facility - Henderson, Nevada

Analyte <sup>1</sup>	Unit	M-120 <sup>2</sup>	US EPA PRG <sup>3</sup>
2,4,5-Trichlorophenol	ug/kg	9.4 U	3650
2,4,6-Trichlorophenol	ug/kg	9.4 U	4
2,4-Dichlorophenol	ug/kg	9.4 U	109
2,4-Dimethylphenol	ug/kg	9.4 U	730
2,4-Dinitrophenol	ug/kg	19 U	73
2,4-Dinitrotoluene	ug/kg	9.4 U	0.099
2,6-Dinitrotoluene	ug/kg	9.4 U	0.099
2-Chloronaphthalene	ug/kg	9.4 U	487
2-Chlorophenol	ug/kg	9.4 U	30
2-Methylphenol	ug/kg	9.4 U	1825
2-Nitroaniline	ug/kg	9.4 U	109
2-Nitrophenol	ug/kg	9.4 U	73
3,3-Dichlorobenzidine	ug/kg	R	0.15
3-Nitroaniline	ug/kg	9.4 U	3
4,6-Dinitro-2-methylphenol	ug/kg	19 U	73
4-Bromophenyl-phenylether	ug/kg	9.4 U	73
4-Chloro-3-methylphenol	ug/kg	9.4 U	109
4-Chloroaniline	ug/kg	9.4 U	146
4-Chlorophenyl-phenylether	ug/kg	9.4 U	73
4-Methylphenol	ug/kg	9.4 U	182
4-Nitroaniline	ug/kg	9.4 U	3
4-Nitrophenol	ug/kg	19 U	73
Benzoic acid	ug/kg	19 U	145979
Benzyl alcohol	ug/kg	9.4 U	10950
bis(2-Chloroethoxy)methane	ug/kg	9.4 U	0.274
bis(2-Chloroethyl)ether	ug/kg	9.4 U	0.274
bis(2-Chloroisopropyl)ether	ug/kg	9.4 U	0.274
bis(2-Ethylhexyl)phthalate	ug/kg	9.4 U	4.802
Butyl benzyl phthalate	ug/kg	9.4 U	7300
Carbazole	ug/kg	9.4 U	3
Dibenzofuran	ug/kg	9.4 U	12
Diethyl phthalate	ug/kg	9.4 U	29199
Dimethyl phthalate	ug/kg	9.4 U	29199
Di-N-Butyl phthalate	ug/kg	9.4 U	3650
Di-N-Octyl phthalate	ug/kg	9.4 U	1460
Hexachlorocyclopentadiene	ug/kg	9.4 U	219
Hexachloroethane	ug/kg	9.4 U	5
Isophorone	ug/kg	9.4 U	71
Nitrobenzene	ug/kg	9.4 U	3
N-Nitroso-di-N-propylamine	ug/kg	9.4 U	0.010
N-Nitrosodiphenylamine	ug/kg	9.4 U	14
Octachlorostyrene	ug/kg	9.4 U	NE
Phenol	ug/kg	9.4 U	10950
Pyridine	ug/kg	38 U	36
2-Methylnaphthalene	ug/kg	0.19 U	6
Acenaphthene	ug/kg	0.19 U	365
Acenaphthylene	ug/kg	0.19 U	365
Anthracene	ug/kg	0.19 U	1825

**Table 4-10**  
**Semi-Volatile Compound (SVOC) Concentrations**  
**in Groundwater**  
 Upgradient Investigation, Tronox Facility - Henderson, Nevada  
 (Continued)

Analyte <sup>1</sup>	Unit	M-120 <sup>2</sup>	US EPA PRG <sup>3</sup>
Benzo(a)pyrene	ug/kg	0.19 U	0.009
Benzo(b)fluoranthene	ug/kg	0.19 U	0.092
Benzo(g,h,i)perylene	ug/kg	0.19 U	183
Benzo(k)fluoranthene	ug/kg	0.19 U	0.921
Chrysene	ug/kg	0.19 U	9
Dibenz(a,h)anthracene	ug/kg	0.19 U	0.009
Fluoranthene	ug/kg	0.19 U	1460
Fluorene	ug/kg	0.19 U	243
Hexachlorobenzene	ug/kg	0.94 U	0.042
Indeno(1,2,3-cd)pyrene	ug/kg	0.19 U	0.092
Pentachlorophenol	ug/kg	0.94 U	0.560
Phenanthrene	ug/kg	0.19 U	1825
Pyrene	ug/kg	0.19 U	183
1,2-Dichlorobenzene	ug/kg	9.4 U	370
1,3-Dichlorobenzene	ug/kg	9.4 U	183
1,4-Dichlorobenzene	ug/kg	9.4 U	0.502
Hexachlorobutadiene	ug/kg	9.4 U	0.862
Naphthalene	ug/kg	0.19 U	6

**Notes:**

- Analysis for semi-volatile organic compounds was by EPA Methode 8270C.
- No other soil samples were tested for semi-volatile organic compounds.
- Preliminary Remediation Goal for Tap Water established by U.S. EPA Region 9 (October 2004).

ug/kg micorgrams per kilogram  
 U Not detected at concentrations below the listed laboratory quantitation limit.  
 R Rejected.  
 NE None established.  
 Gray Grayed out values are non-detected values with the laboratory quantitative limits shown.

**Table 4-12**  
**Radionuclide Concentrations in Groundwater Samples**  
 Upgradient Investigation, Tronox Facility - Henderson, Nevada

Well Cluster	Well ID	Screened Interval (ft)	Date Sampled	Radionuclides <sup>1</sup>																			
				U-nat - total ug/L	Lead - 210 total pCi/L	Lead - 212 total pCi/L	Gross Alpha pCi/L	Actinium - 228 total pCi/L	Bismuth - 212 total pCi/L	Polonium - 210 total pCi/L	Protactinium - 231 total pCi/L	Ra-226 - total pCi/L	Ra-228 - total pCi/L	Thorium-228 pCi/L	Thorium-230 pCi/L	Thorium-232 pCi/L	Uranium (natural) ug/L	Uranium-234 pCi/L	Uranium-235 pCi/L	Uranium-238 pCi/L	Radon-222 pCi/L	U-Total ug/L	
--	H-11	95 - 105	3/23/2006	0.227 U	-0.215 U	1.05 U	na	na	na	na	na	na	0.422 B	0.934 U	0.335 U	0.0194 U	0.018 U	0.227U	0.0851 U	-0.0411 U	-0.0777 U	na	1.000 U
--	M-103	69.5 - 89.5	3/21/2006	<b>3.41</b>	1.03 U	0.412 U	na	na	na	na	na	na	0.390 U	0.177 U	0.200 U	0.136 U	-0.00725 U	<b>3.41</b>	<b>1.44</b>	-0.0962 U	<b>0.680</b>	na	<b>3</b>
--	M-117	130 - 150	3/23/2006	<b>3.20</b>	0.411 U	10 U	na	na	na	na	na	na	<b>0.828</b>	<b>1.35</b>	0.237 U	0.0123 U	0.138 U	<b>3.20</b>	<b>1.22</b>	0.00157 U	<b>1.28</b>	na	<b>6.4</b>
--	M-118	138 - 158	3/22/2006	<b>2.57</b>	-0.707 U	2.22 U	na	na	na	na	na	na	<b>0.737</b>	0.828 U	0.121 U	-0.0231 U	0.113 U	<b>2.57</b>	<b>1.31</b>	-0.0265 U	<b>1.01</b>	na	<b>1.9</b>
--	M-120	80 - 100	3/22/2006	<b>47.5</b>	-0.346 UJ	10 U	<b>48.2</b>	-6.36 U	10 U	-0.0487 U	28.2 U	28.2 U	0.232 U	0.381 UJ	<b>0.451</b>	<b>0.422</b>	<b>0.436</b>	<b>47.5</b>	<b>26.1</b>	<b>1.14</b>	<b>15.6</b>	<b>514</b>	<b>43</b>
--	M-121	77 - 97	3/23/2006	<b>13.7</b>	1.08 U	0.777 U	na	na	na	na	na	na	0.471 U	<b>1.24</b>	<b>0.311</b>	0.114 U	0.0416 U	<b>13.7</b>	<b>9.54</b>	<b>0.311</b>	<b>4.98</b>	na	<b>13</b>
1	TR-07	260 - 290	3/21/2006	<b>2.65</b>	1.15 U	4.71 U	na	na	na	na	na	na	0.529 U	0.276 U	0.161 U	0.0866 U	0.0402 U	<b>2.65</b>	<b>1.46</b>	-0.0886 U	<b>0.725</b>	na	<b>2.4</b>
	TR-08	63 - 93	3/20/2006	<b>5.29</b>	1.13 U	3.69 U	na	na	na	na	na	na	0.356 U	0.674 U	<b>0.181</b>	<b>0.192</b>	0.0847 U	<b>5.29</b>	<b>3.06</b>	<b>0.132</b>	<b>1.58</b>	na	<b>4.8</b>
	TR-08D	63 - 93	3/20/2006	<b>5.25</b>	1.80 U	0.0126 U	na	na	na	na	na	na	0.277 U	0.606 U	<b>0.232</b>	<b>0.109</b>	<b>0.0814</b>	<b>5.25</b>	<b>3.93</b>	<b>0.524</b>	<b>1.83</b>	na	<b>4.7</b>
2	TR-09	230 - 250	3/21/2006	<b>2.35</b>	1.55 U	2.75 U	na	na	na	na	na	na	0.402 U	0.389 U	0.191 U	0.00 U	0.0191 U	<b>2.35</b>	<b>1.07</b>	0.238 U	<b>1.13</b>	na	<b>2.1</b>
	TR-10	80 - 100	3/21/2006	<b>4.26</b>	1.04 U	10 U	na	na	na	na	na	na	<b>0.848</b>	<b>1.03</b>	0.0682 U	-0.0346 U	0.015 U	<b>4.26</b>	<b>2.94</b>	0.0571 U	<b>1.77</b>	na	<b>4</b>
USEPA PRG <sup>1</sup> (pCi/L)				7	0.054	2	NE	24	67	0.126	NE	0.001	0.046	NE	0.523	0.471	7	0.674	0.684	0.547	NE	NE	
MCL <sup>2</sup> (pCi/L)							15							NE	NE	NE	NE	NE	NE	NE	NE	300	

**Notes:**

- Analytical Methods:  
 EPA 901.1 for Actinium-228, Bismuth-212, and Lead-212  
 EPA 903.1 Modified for Radium-226  
 EPA 904.0 Modified for Radium-228  
 HASL-300 Po Modified for Polonium-210;  
 HASL-300 Th Modified for Thorium-228, Thorium-230, and Thorium-232;  
 HASL-300 U Modified for Uranium-234, Uranium-235, and Uranium-238  
 ASTM D5174 for Uranium (natural) total  
 EPA 900.0 Mod for Gross Alpha
- Preliminary Remediation Goal for Tap Water established by U.S. EPA Region 9 (October 2004).
- Maximum Contaminant Level in groundwater established by Nevada Department of Environmental Protection.

Ra-226 Radium-226

Th-228 Thorium-228

U-234 Uranium-234

pCi/L picoCuries per liter

ug/L micrograms per liter

B Analyte detected in blank sample.

U Not detected at concentrations below the listed laboratory quantitation limit.

UJ Not detected; \*Estimated value below quantitation limit

na Not sampled.

**Bold** Bold values are constituents detected above the laboratory quantitation limit.

Gray Grayed out values are non-detected values with the laboratory quantitative limits shown.

**Table 4-14**  
**Organochlorine Pesticide (OCP) Concentrations in Groundwater Samples**  
 Upgradient Investigation, Tronox Facility - Henderson, Nevada

<b>Date Sampled</b>	<b>Chemical Name</b>	<b>Unit</b>	<b>Equipment Blank</b>	<b>M-120<sup>1</sup></b>	<b>US EPA PRG (ug/L)<sup>2</sup></b>
3/24/2006	4,4'-DDD	ug/L	0.094 U	0.094 U	0.280
3/24/2006	4,4'-DDE	ug/L	0.094 U	0.094 U	0.198
3/24/2006	4,4'-DDT	ug/L	0.094 U	0.094 U	0.198
3/24/2006	Aldrin	ug/L	0.047 U	0.047 U	0.004
3/24/2006	Alpha-BHC	ug/L	0.047 U	0.047 U	0.011
3/24/2006	Alpha-chlordane	ug/L	0.047 U	0.047 U	0.192
3/24/2006	Beta-BHC	ug/L	0.047 U	0.047 U	0.037
3/24/2006	Delta-BHC	ug/L	0.047 U	0.047 U	0.011
3/24/2006	Dieldrin	ug/L	0.094 U	0.094 U	0.004
3/24/2006	Endosulfan I	ug/L	0.047 U	0.047 U	219
3/24/2006	Endosulfan II	ug/L	0.094 U	0.094 U	219
3/24/2006	Endosulfan Sulfate	ug/L	0.094 U	0.094 U	219
3/24/2006	Endrin	ug/L	0.094 U	0.094 U	11
3/24/2006	Endrin Aldehyde	ug/L	0.047 U	0.047 U	11
3/24/2006	Endrin Ketone	ug/L	0.047 U	0.047 U	11
3/24/2006	Gamma-BHC (Lindane)	ug/L	0.047 U	0.047 U	0.052
3/24/2006	Gamma-Chlordane	ug/L	0.047 U	0.047 U	0.192
3/24/2006	Heptachlor	ug/L	0.047 U	0.047 U	0.015
3/24/2006	Heptachlor Epoxide	ug/L	0.047 U	0.047 U	0.007
3/24/2006	Methoxychlor	ug/L	0.47 U	0.47 U	182
3/24/2006	Technical-Chlordane	ug/L	0.47 U	0.47 U	0.19
3/24/2006	Toxaphene	ug/L	0.94 U	0.94 U	0.061

**Notes:**

- 1. No other soil samples were tested for OCPs.
  - 2. Preliminary Remediation Goal for Tap Water established by U.S. EPA Region 9. (October 2004).
- ug/L      micrograms per liter  
 U          Not detected at concentrations above the listed laboratory quantitation limit.
- Bold**      Bold values are constituents detected above the laboratory quantitation limit.  
 Gray        Grayed out values are non-detected values with the laboratory quantitative limits shown.

**Table 4-16**  
**Organophosphorous Pesticide (OPP) Concentrations in Groundwater Sample**  
Upgradient Investigation, Tronox Facility - Henderson, Nevada

Date Sampled	Chemical Name	Unit	Equipment Blank	M-120 <sup>1</sup>	US EPA PRG (ug/L) <sup>2</sup>
3/24/2006	Azinphos-methyl	ug/L	1.2 U	0.94 UJ	NE
3/24/2006	Bolstar	ug/L	1.2 U	0.94 UJ	NE
3/24/2006	Chlorpyrifos	ug/L	1.2 U	0.94 UJ	109
3/24/2006	Coumaphos	ug/L	1.2 U	0.94 UJ	NE
3/24/2006	Demeton-O	ug/L	1.2 UJ	0.94 UJ	1.5
3/24/2006	Demeton-S	ug/L	1.2 UJ	0.94 UJ	1.5
3/24/2006	Diazinon	ug/L	1.2 U	0.94 UJ	33
3/24/2006	Dichlorvos	ug/L	1.2 U	0.94 UJ	0.232
3/24/2006	Dimethoate	ug/L	1.2 UJ	0.94 UJ	7
3/24/2006	Disulfoton	ug/L	1.2 UJ	0.94 UJ	1
3/24/2006	EPN	ug/L	1.2 U	0.94 UJ	NE
3/24/2006	Ethoprop	ug/L	1.2 U	0.94 UJ	NE
3/24/2006	Famphur	ug/L	1.2 U	0.94 UJ	NE
3/24/2006	Fensulfothion	ug/L	1.2 UJ	0.94 UJ	NE
3/24/2006	Fenthion	ug/L	1.2 U	0.94 UJ	NE
3/24/2006	Malathion	ug/L	1.2 U	0.94 UJ	730
3/24/2006	Merphos	ug/L	1.2 U	0.94 UJ	1
3/24/2006	Methyl parathion	ug/L	1.2 U	0.94 UJ	220
3/24/2006	Mevinphos	ug/L	1.2 U	0.94 UJ	NE
3/24/2006	Naled	ug/L	1.2 UJ	0.94 UJ	73
3/24/2006	Parathion	ug/L	1.2 U	0.94 UJ	220
3/24/2006	Phorate	ug/L	1.2 U	0.94 UJ	7
3/24/2006	Ronnel	ug/L	1.2 U	0.94 UJ	1825
3/24/2006	Stirophos	ug/L	1.2 U	0.94 UJ	3
3/24/2006	Sulfotep	ug/L	1.2 U	0.94 UJ	18
3/24/2006	Thionazin	ug/L	2.4 U	1.9 UJ	NE
3/24/2006	Tokuthion	ug/L	1.2 U	0.94 UJ	NE
3/24/2006	Trichloronate	ug/L	1.2 U	0.94 UJ	NE

**Notes:**

1. No other groundwater samples were tested for OCPs.
2. Preliminary Remediation Goal for Tap Water established by U.S. EPA Region 9. (October 2004).

ug/L micrograms per liter

U Not detected at concentrations above the listed laboratory quantitation limit.

UJ Not detected; 'Estimated value below quantitation limit.

NE None established

Gray Grayed out values are non-detected values with the laboratory quantitative limits shown.

**Table 4-18**  
**Concentrations of Polychlorinated Biphenyl Compounds (PCB) in Groundwater Sample**  
 Upgradient Investigation, Tronox Facility - Henderson, Nevada

<b>Analyte<sup>1</sup></b>	<b>Unit</b>	<b>Well M-120<sup>2</sup></b>	<b>US EPA PRG<sup>3</sup> (ug/L)</b>
Aroclor-1016	ug/L	0.47 U	0.960
Aroclor-1221	ug/L	0.47 U	0.034
Aroclor-1232	ug/L	0.47 U	0.034
Aroclor-1242	ug/L	0.47 U	0.034
Aroclor-1248	ug/L	0.47 U	0.034
Aroclor-1254	ug/L	0.47 U	0.034
Aroclor-1260	ug/L	0.47 U	0.034

**Notes:**

1. Analysis for PCB compounds was by EPA Method 8082.
2. No other groundwater samples were tested for PCBs.
3. Preliminary Remediation Goal for Tap Water established by U.S. EPA Region 9 (October 2004).

ug/L micrograms per liter  
 U Not detected at concentrations below the listed laboratory quantitation limit.  
 No other soil samples were tested for Organo Chlorine Pesticides (OCP) in soil.

Gray Grayed out values are non-detected values with the laboratory quantitative limits shown.

**Table 4-20**  
**Dioxins/Furans Concentrations in Groundwater Sample**  
 Upgradient Investigation, Tronox Facility - Henderson, Nevada

Date Sampled	Analytical Method	Chemical Name	Well No. M-120 <sup>1</sup> (ug/L)	US EPA PRG <sup>2</sup> (ug/L)
3/22/2006	SW 846 8290	1,2,3,4,5,6,7,8-Octachlorodibenzofuran	5.00E-05 U	4.40E-07
3/22/2006	SW 846 8290	1,2,3,4,5,6,7,8-Octachlorodibenzo-p-dioxin	<b>1.10E-04</b>	4.40E-07
3/22/2006	SW 846 8290	1,2,3,4,6,7,8-Heptachlorodibenzofuran	2.50E-05 U	4.40E-07
3/22/2006	SW 846 8290	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	<b>2.70E-05 J</b>	4.40E-07
3/22/2006	SW 846 8290	1,2,3,4,7,8,9-Heptachlorodibenzofuran	2.50E-05 U	4.40E-07
3/22/2006	SW 846 8290	1,2,3,4,7,8-Hexachlorodibenzofuran	7.40E-06 U	4.40E-07
3/22/2006	SW 846 8290	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	5.60E-06 U	4.40E-07
3/22/2006	SW 846 8290	1,2,3,6,7,8-Hexachlorodibenzofuran	6.80E-06 U	4.40E-07
3/22/2006	SW 846 8290	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	5.00E-06 U	4.40E-07
3/22/2006	SW 846 8290	1,2,3,7,8,9-Hexachlorodibenzofuran	8.30E-06 U	4.40E-07
3/22/2006	SW 846 8290	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	4.90E-06 U	4.40E-07
3/22/2006	SW 846 8290	1,2,3,7,8-Pentachlorodibenzofuran	3.40E-06 U	4.40E-07
3/22/2006	SW 846 8290	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	5.70E-06 U	4.40E-07
3/22/2006	SW 846 8290	2,3,4,6,7,8-Hexachlorodibenzofuran	7.60E-06 U	4.40E-07
3/22/2006	SW 846 8290	2,3,4,7,8-Pentachlorodibenzofuran	3.30E-06 U	4.40E-07
3/22/2006	SW 846 8290	2,3,7,8-Tetrachlorodibenzofuran	3.90E-06 U	4.40E-07
3/22/2006	SW 846 8290	2,3,7,8-Tetrachlorodibenzo-p-dioxin	2.60E-06 U	4.40E-07
3/22/2006	SW 846 8290	Total Heptachlorodibenzofuran	2.50E-05 U	4.40E-07
3/22/2006	SW 846 8290	Total Heptachlorodibenzo-p-dioxin	<b>2.70E-05 J</b>	4.40E-07
3/22/2006	SW 846 8290	Total Hexachlorodibenzofuran	8.30E-06 U	4.40E-07
3/22/2006	SW 846 8290	Total Hexachlorodibenzo-p-dioxin	5.60E-06 U	4.40E-07
3/22/2006	SW 846 8290	Total Pentachlorodibenzofuran	4.30E-06 U	4.40E-07
3/22/2006	SW 846 8290	Total Pentachlorodibenzo-p-dioxin	5.70E-06 U	4.40E-07
3/22/2006	SW 846 8290	Total Tetrachlorodibenzofuran	3.90E-06 U	4.40E-07
3/22/2006	SW 846 8290	Total Tetrachlorodibenzo-p-dioxin	2.60E-06 U	4.40E-07

**Notes:**

1. No other groundwater samples were tested for dioxins furans.
  2. Preliminary Remediation Goal for Tap Water established by U.S. EPA Region 9 (October 2004).
- J Estimated value; concentration was below the listed practical quantitation limit.  
 U Not detected at concentrations above the listed laboratory quantitation limit.  
 ug/L Micrograms per liter  
**Bold** Bold values are constituents detected above the laboratory quantitation limit.  
 Gray Grayed out values are non-detected values with the laboratory quantitative limits shown.

**Table 4-22**  
**General Chemistry Parameter Concentrations in Groundwater Samples**  
 Upgradient Investigation, Tronox Facility - Henderson, Nevada

Well Cluster	Well ID	Screened Interval (ft)	Date Sampled	TDS EPA 160.1 mg/L	Alkalinity as CaCO <sub>3</sub> SM 2320B mg/L	Bicarbonate SM 2320B mg/L	Carbonate SM 2320B mg/L	Ignitability EPA 1010 degrees C	Cyanide (total) 9012A mg/L	pH EPA 9040B unitless	Electrical Conductivity EPA 9050A um/cm	Bromide EPA 9056 ug/L	Chloride EPA 9056 mg/L	Chlorate EPA 160.1 ug/L	Nitrate (as N) EPA 9056 mg/L	Nitrite SW 846 9056 mg/L	Sulfate EPA 9056 mg/L	TOC EPA 9060 mg/L	Fluoride EPA 9214 mg/L	Ortho Phosphate SM 4500 P-E mg/L
--	H-11	95 - 105	3/23/2006	<b>1360</b>	2.0 UJ	na	na	na	0.005 U	<b>5 J</b>	<b>2050</b>	na	<b>209</b>	10.000U	0.500 U	0.500 U	<b>735</b>	na	na	na
--	M-103	69.5 - 89.5	3/21/2006	<b>1560</b>	<b>82</b>	na	na	na	0.005 U	<b>6.7 J</b>	<b>2320</b>	na	<b>127</b>	<b>808</b>	<b>2.5</b>	0.500 U	<b>1027</b>	na	na	na
--	M-117	130 - 150	3/23/2006	<b>788</b>	<b>76 J-</b>	na	na	na	0.005 U	<b>8.0</b>	<b>1260</b>	na	<b>148</b>	10.000U	<b>1.0</b>	0.500 U	<b>314</b>	na	na	na
--	M-118	138 - 158	3/22/2006	<b>768</b>	<b>66</b>	na	na	na	0.005 U	<b>8.2 J</b>	<b>1240</b>	na	<b>152</b>	<b>237</b>	<b>1.27</b>	0.500 U	<b>310</b>	na	na	na
--	M-120	80 - 100	3/22/2006	<b>2430</b>	<b>108</b>	<b>130</b>	2 U	<b>&gt;60</b>	0.005 U	<b>7.6</b>	<b>2760</b>	<b>370</b>	<b>167</b>	<b>917</b>	<b>2.1</b>	0.5 U	<b>1432</b>	<b>1.8</b>	<b>0.67</b>	<b>0.014</b>
--	M-121	77 - 97	3/23/2006	<b>2820</b>	<b>93 J-</b>	na	na	na	0.005 U	<b>7.7 J</b>	<b>3320</b>	na	<b>121</b>	<b>1000</b>	<b>7.9 J-</b>	1.0 UJ	<b>1512</b>	na	na	na
1	TR-07	260 - 290	3/21/2006	<b>760</b>	<b>82</b>	na	na	na	0.005 U	<b>7.9 J</b>	<b>1310</b>	na	<b>198</b>	10.000U	<b>1.1</b>	0.500 U	<b>255</b>	na	na	na
	TR-08	63 - 93	3/20/2006	<b>1210</b>	<b>78</b>	na	na	na	<b>0.007</b>	<b>8.0 J</b>	<b>1680</b>	na	<b>150</b>	<b>2310</b>	<b>2.2</b>	0.500 U	<b>594</b>	na	na	na
	TR-08D	63 - 93	3/20/2006	<b>1174</b>	<b>83</b>	na	na	na	0.005 U	<b>7.9 J</b>	<b>1690</b>	na	<b>150</b>	<b>2100</b>	<b>2.3</b>	0.500 U	<b>587</b>	na	na	na
2	TR-09	230 - 250	3/21/2006	<b>750</b>	<b>70</b>	na	na	na	0.005 U	<b>8.0 J</b>	<b>1300</b>	na	<b>190</b>	10.000U	<b>1.2</b>	0.500 U	<b>269</b>	na	na	na
	TR-10	80 - 100	3/21/2006	<b>1380</b>	<b>65</b>	na	na	na	0.005 U	<b>7.9 J</b>	<b>2210</b>	na	<b>122</b>	<b>8950</b>	<b>0.77</b>	0.500 U	<b>971</b>	na	na	na
USEPA PRG <sup>1</sup>				NE	NE	NE	NE	NE	0.73	NE	NE	NE	NE	NE	10	1	NE	NE	2	NE
MCL <sup>2</sup>					NE	NE		NE		NE	NE	NE	NE	NE	10		500	NE		

**Notes:**

1. Preliminary Remediation Goal for Tap Water established by U.S. EPA Region 9 (October 2004).
  2. Maximum Contaminant Level in groundwater established by the Nevada Department of Environmental Protection.
- TDS Total Dissolved Solids  
 CaCO<sub>3</sub> Calcium Carbonate  
 TOC Total Organic Carbon  
 mg/L milligram per liter  
 ug/L microgram per liter  
 um/cm micromhos per centimeter  
 degrees C degrees Celsius
- U Not detected at concentrations below the listed laboratory quantitation limit.  
 J Estimated value; concentration was less than the quantitation limit.  
 J- Estimated value; Biased low  
 na Not analyzed  
 > Greater than
- Bold** Bold values are constituents detected above the laboratory quantitation limit.  
 Gray Grayed out values are non-detected values with the laboratory quantitative limits shown.  
 NE None established.



**Table 4-24**  
**Other Parameter Concentrations in Groundwater Sample**  
 Upgradient Investigation, Tronox Facility - Henderson, Nevada

		Analyte												
Boring No.	Sample ID	Residual chlorine	Ammonia (as N)	Phosphorus-P (Total)	Phosphate (ortho)	Sulfide	Sulfite	MBA's	Asbestos	Flashpoint	Bromide	Fluoride	Total Organic Carbon	TSS
		EPA 330.3 mg/L	EPA 350.2 mg/L	EPA 365.2 mg/L	SW 846 9056 mg/L	EPA 376.2 mg/L	EPA 377.1 mg/L	EPA 425.1 mg/L	EPA600/R-93/116 mfl	SW 846 1010 deg C	SW 846 9056 ug/L	SW 846 9056 mg/L	Walkley-Black mg/L	EPA 160.2 mg/L
M-120 <sup>1</sup>	M120	0.1 U	0.05 U	0.01 U	0.014	0.05 U	2 U	0.05 U	0.2 U	60 >	370	0.67	1.8	10 U
U.S. EPA PRG <sup>2</sup>		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	2.2	NE	NE

**Notes:**

1. No other groundwater samples were analyzed for Other Parameters.
  2. Preliminary Remediation Goal for Industrial Sites established by U.S. EPA Region 9 (October 2004).
- mg/kg milligrams per kilogram  
 MBAS Methylene blue active substances; Surfactants  
 TSS Total suspended solids  
 umhos/cm micromhos per centimeter  
 deg C degrees celsius  
 U Undetected at concentrations below the listed reporting limit.  
 J Estimated value; concentration was less than the quantitation limit.  
**Bold** Bold values are constituents detected above the laboratory quantitation limit.  
 Gray Grayed out values are non-detected values with the laboratory quantitative limits shown.