

FIVE-YEAR REVIEW REPORT
KENNECOTT NORTH ZONE SUPERFUND SITE

APPENDIX E: ASSESSMENT DATA BY OPERABLE UNIT

Table 1-A Pre-removal Concentrations of Chemicals in WWTP Soils and Sludges (mg/kg, dry weight), OU8

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
WWTP soils	1,100	118.9	766	106.1	163	9.7
Pond A (KUC 1993)		2,516		1,863		51.2
Pond A (Rust, 1994)	6,700	3,425	2,700	1,382	80	67.5
Pond A 1997	19,900	2,531	7,670	1,092	130	25.2
Pond B (KUC, 1993)		4,212		2,373		152.5
Pond B (Rust, 1994)	5,100	4,162	3,000	2,537	200	157
Pond C (KUC, 1993)		4,550		2,133		276.7
Pond C (1994)	7,100	4,566	4,600	3,116	290	252
Pond C+ (KUC, 1993)		3,857		582.9		94.3
Pond C+ (1994)	4,600	2,651	730	319	180	99.2
Pond D (KUC, 1993)		4,437		2,081		156.3
Pond D (1994)	3,700	3,467	3,600	2,071	200	149

Table 1-B Post Removal & Post Reclamation Concentrations of COCs in WWTP and Sludge Pond Soils (mg/kg, dry weight, except where noted), OU8

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
WWTP Soils (post removal)	177	41.2	466	67.3	31.9	3.0
WWTP Soils (post reclaim)	10.6	8.8	17	15.9	5.3	4.6
Pond A 1999, post removal	147	7.5	127	1.4	7.9	0.5
Pond B (post removal)	200	43.6	359	27.9	132	5.9
Pond B (post reclaim)	14.4	4.4	35.5	12.3	9.3	6.6
Pond C (post removal)	430	52.7	386	36.1	272	4.1

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Pond C (post reclaim)	34.2	13.8	28	13.3	4.4	2.2
Pond C+ (post removal)	530	52.7	386	36.1	272	4.1
Pond C+ (post reclaim)	34.2	13.8	28	13.3	4.4	2.2
Pond D (post removal)	177	24.1	258	19.1	4.1	0.3
Pond D water (post reclaim)		14 µg/L		<5 µg/L	10 µg/L	3.75 µg/L

Table 2-A Characterization Concentrations of Chemicals in Magna Soils (mg/kg, dry weight), OU9

Location	Arsenic Concentrations		Copper Concentrations		Lead Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Magna (UDOH, 1990)	186J ††	27.05J	716J	182J	265J	81.34J
Magna (BOR – EPA, 1994)	40-58*	9.5-15.2*	600	208	540-560*	113-119*
Magna Gardens Phase I (Sverdrup/EPA, 1994)	31	<20	461	177	775	158
Magna Gardens Phase II	23.2	12.2			1,420†	183

“J” qualifier means the value is estimated

* The September 2002 ROD notes that two different analytical techniques were used in this study, thus the results of both methods are report. The samples were analyzed by BOR’s XRF and by AWAL using lab methods. The results presented above are discussed further in section C.6.

† Later determined to be an outlier by EPA

†† Value was adjusted from what is reported in Table 3.2 of the September 2002 ROD (“189J”) to the correct value as reported in the 1990 UDOH Study.

Table 3-A Pre-removal Concentrations of Chemicals in at Facilities Comprising OU13 (mg/kg, dry weight)

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Smelters and Associated Facilities						
Smelter Power House	565	132	1,140	241	58	4.2

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Smelters and Associated Facilities						
Smelter Power House & Cooling Tower (post demo)	73	38.3	201	92.7	<4	<4
Reverb Mixing Chamber (pre-capping)	12,400	3,562	18,100	4,051	780	120.9
RR Flue Dust (pre removal soils)	66,970	60,870	120,600	71,066	1,014	612
RR Flue Dust (pre removal bricks)	3,506	1,654	75.6	69.4	89.1	66.8
Overhead Flues (feed gas, pre removal)	131,000	131,000	41,100	41,100	324	324
Overhead Flues (tail gas, pre removal)	169	169 (failed TCLP)	107	107	20	20
Shot Coolers	See Hot Metals Characterization Data					
Misc. Smelter Bldgs						
Noranda Hot Metals Footprint	924	88	4,390	279.5	136	6
Outokumpu Smelter Soils	7,250	815	28,500	1,744	3,611	98.7
Smelter Infrastructure						
East Yard	2,140	544	4,650	1,287	837	71.3
RR Yard Soils (Active Yard)	10,900	1,617	14,000	2,300	156	66.6
Pipelines						
Slag Tails Pipeline	348	40.4	961	77.7	12.5	1.8
Slag Slurry Pipeline	23.3	10.4	13.7	3.7	No data	No data
Section 17 Pump	34 µg/L in water	7.7 µg/L in water	15 µg/L in water	4.3 µg/L in water	13 µg/L in water	3 µg/L in water
Process Water Pipeline	348	108	961	208	No data	No data

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Pipelines						
Weak Acid Pipeline (NE Branch)	125	29.5	179	77.3	12.5	1.2
Weak Acid Pipeline	348	108	961	208	12.5	1.8
Weak Acid Lift Station	4,370	741	1,300	636	81.4	29.1
Water Management						
Section 21 RO Plant	Portion still covered with concrete, rest of data under Smelter Power House					
East and West Process Water Ponds	9,510	7,055	8,040	4,530	154	80.8
Japanese Springs 1-2	See OU22					
Japanese Springs 3-5	See OU22					
Wooden Flume	5,150	641.3	3,490	662	564	49.9
Acid Plants						
Acid Plant #7	8,680	760.3	31,600	2,718	2,740	161.6
Acid Plant #8 and Gas Handling	7,250	856	28,500	2,234	3,611	170.9
Acid Tank Farm	Remediated per Utah Division of Solid and Hazardous Waste Stipulated CD					
Material Management & Smelter Waste Areas						
Praxair	Operational and not characterized					
Thaw Shed	11,200	1,313	13,300	1,865	23.9	5.9
Cherry Bowl	6,600	1,200	3,060	557	52.2	7.3
Materials Handling Building (post demo)	1,200	421	3,890	761	169	49
Slag Pot Cooling	Operational and not characterized					
Round-house	1,160	398	1,080	673	13.5	4.0
Row 5 Screening Plant	Not Characterized					
Slag Mill Thickener	1,850	364	2,610	541	218	25.3
Standby Fuel Station	366.7	61.6	1,302	69.3	<0.5	<0.5
Black Rock Tailings Pond	2,900	1,081	6,200	2,247	300	<70

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Material Management & Smelter Waste Areas						
Smelter Slag	523	489	4,000	1,952	14.3 (J)	6.5 (J)
Last Chance Pond	Facility is the footprint underneath the operating West Stormwater Pond					
Flue Dust Disposal Area	Refer to Smelter Landfills					
East and West Stormwater Ponds	Lined ponds that are operational, not characterized					
Smelter, Kessler Canyon Dumps (1995)	31,100	1,967.4	35,600	2,048.9	244	28.8
Smelter, Kessler Canyon Dumps (2000)	69,800	1,491	135,000	1,757	1,788	14.2
Smelter Parking Lot	155	155	309	309	6.1	6.1

Table 3-B Post Removal & Post Reclamation Concentrations of COCs in soils at Facilities Comprising OU13 (mg/kg, dry weight, except where noted)

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Smelters and Associated facilities						
Smelter Power House (post removal)	255	149.1	824	394.2	24.3	10.2
Smelter Power House (post reclaim)	28.4	11.0	48.4	12.5	<0.5	<0.5
Smelter Power House Cooling Tower (post demo)	73	38.3	201	92.7	<4	<4
RR Flue Dust (back-fill)	39.0	11.7	23.4	38.0	<0.5	<0.5
Lower Ecodyne Cooling Tower (post demo)	83.4	83.4	93.8	93.8	<5	<5
Upper Ecodyne Cooling Tower (post demo)	28	28	115	115	<4	<4
Shot Coolers	See Hot Metals Post Removal Data					

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Misc. Smelter Buildings						
Noranda Hot Metals Footprint (post removal)	2,100	1,428	1,940	1,215	225	97
Noranda Hot Metals Footprint (post reclaim)	35.6	24.5	17.9	12.0	5.8	4.5
Under Conveyors to Noranda Smelter (post removal)	390	78.5	356	110	<0.5	<0.5
Outokumpu Smelter soils (post removal)	141	46.5	1,240	108.4	38.2	0.7
Outokumpu Smelter Soils (excavated from basement area)	2,946	455	3,003	602	370	35.8
Smelter Infrastructure						
East Yard (post removal)	224	59	470	125	9.0	2.0
East Yard (post reclaim)	168	49.9	466	102	9.0	2.1
Pipelines						
Weak Acid Lift Station (post removal)	3,000	367	835	219	9.2	5.3
Weak Acid Lift Station (post reclaim)	155	80.1	228	108	8.4	3.9
Water Management						
Section 21 Reverse Osmosis Plant	Portion still covered with concrete, rest of data under Smelter Power House					
Wooden Flume (post removal)	316	137	2,500	578	<0.5	<0.5
Wooden Flume (post reclaim)	38.7	25.5	22.1	13.4	8.3	6.1
Acid Plants						
Acid Plant #7 soils (post	2,130	412.3	8,630	1,046	416	47.5

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
removal, now under asphalt)						
Acid Plant #8 and Gas Handling (post removal, now under asphalt)	2,240	208	10,700	540.3	320	8.5
Acid Tank Farm (and Loading Station)	Earlier spills not addressed/1991 spill addressed under RCRA program overseen by Utah Div. of Solid & Hazardous Waste/2009 spill at Loading Station addressed under Groundwater Protection Program overseen by Utah Div. of Water Quality					
Material Management & Smelter Waste Areas						
Thaw Shed (post removal (now under asphalt)	1,220	254.3	4,810	905.5	59.5	7.6
Cherry Bowl (post removal)	1,000	428.9	1,910	606.7	13.9	5.3
Cherry Bowl (post reclaim)	9.7	8.1	4.1	2.9	<0.5	<0.5
Materials Handling Building (post removal)	167	48.4	213	82	<0.5	<0.5
Materials Handling Building (post reclaim)	35.2	35.2	1.6	1.6	<0.5	<0.5
Slag Pot Cooling	Operational, surface was covered with slag					
Round-house (post reclaim)	20.9	17.7	<0.5	<0.5	1.1	0.7
Row 5 Screening Plant	Surface covered with slag, no soil removal action					
Slag Mill Thickener (post removal, under asphalt)	94.2	52.7	129	76.9	3.9	0.9
Standby Fuel Station	Facility buried under Outokumpu Smelter					
RR Crossing Spill (post removal)	80.1	80.1	103	103	7.8	7.8

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Material Management & Smelter Waste Areas						
Smelter Kessler Canyon Dumps (post removal)	2,830	171.7	9,190	343.5	577	8.2
Smelter Kessler Canyon Dumps (post reclaim, lower dump)	194	68.1	340	43.8	44.8	2.1

Table 4-A Pre-removal Concentrations of Chemicals in Soils at Facilities Comprising OU14 (mg/ kg, dry weight)

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Refineries, Precious Metals Plant(s), Associated Facilities, Garfield Townsite						
Old Refinery soils (1994, pre removal)	8,930	3,058	-	-	20,826	8,873
Old Refinery soils (1997, pre removal)	-	-	-	-	26,000	2,901
Old Refinery Soils (2000, pre removal)	7,570	288.4	3,370	160.9	42,600	1,610
New Refinery soils (1994, stockpile area)	976	407.8	-	-	3,710	567.0
Electrolyte Purification Building (pre removal)	8,450	519	2,440	99	3,180	118
Electrolyte Purification Building (pre removal)	3,420	1,059	184	91.1	123	21.7
Lead Shop (no removal)	49.8	38.8	325	121	<0.5	<0.5
Oil Storage (no removal)	80.9	29.3	448	59.9	24.3	4.1
Boiler Building (no removal)	45.7	20.1	340	94.2	<0.5	<0.5

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Refineries, Precious Metals Plant(s), Associated Facilities, Garfield Townsite						
Assay Lab (duct dust only removed)	43.6	23	95.6	55.8	72.3	11.9
Refinery Evaporation Ponds (1994, pre removal)	730.5	677.9	-	-	347.1	319.9
Refinery Evaporation Ponds (1997, pre removal)	3,240	193.8	9,935	442.8	11,400	804.2
Refinery Evaporation Ponds (1999, pre removal)	513	126	9,935	659	7,732	700
East Rail Yard (1992, pre removal)	912	186	6,060	492	402	80
East Rail Yard (1994, pre removal)	83.2	39.7	-	-	27.6	7.2
East Rail Yard (2000, pre removal)	211	23.5	830	75.8	28.8	8.0
Electrolyte Pipeline (no removal)	22.4	9.9	73.5	17.8	9.6	3.2
West Laydown Yard (1994, pre removal)	416.3	281.3	-	-	949.7	537.2
West laydown Yard (2000, pre removal)	609	86.6	53,400	507	7,210	149.4
Kessler Spring Dump (pre removal)	404	293	163	141	340	232
R1-R2 Containment Area (no removal)	<14	<14	16.7	5.7	<13	<13
Bosh Pond	Area was not samples (inaccessible), capped with asphalt					
Santa Fe Basin (pre removal)	3,200	771	449	348	593	229

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Refineries, Precious Metals Plant(s), Associated Facilities, Garfield Townsite						
Stormwater Canal (pre removal)	542	199	707	241	667	179
Garfield Townsite (1999, pre reclamation)	190	50.7	1,000	296.2	70	13.7

Table 4-B Post Removal & Post Reclamation Concentrations of COCs in soils at Facilities Comprising OU14 (mg/kg, dry weight, except where noted)

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Refineries, Precious Metals Plant(s), Associated Facilities, Garfield Townsite						
Old Refinery soils (post removal)	6,410	377.9	3,530	265.3	15,200	978.2
Old Refinery soils (post reclamation)	18.5	11.8	16.8	12.2	0	0
Electrolyte Purification Building (post removal)	108	20.0	387	50.9	30.8	14.4
Electrolyte Purification Building (post reclamation)	18.5	11.3	16.8	12.2	<0.5	<0.5
Refinery Evaporation Ponds (1997 post removal, pre capping)	8,970	1,822.1	679	321.8	14,800	4,136.8
Refinery Evaporation Ponds (2000 post capping)	1.4	0.6	8.5	8.3	<0.5	<0.5
Refinery Evaporation Ponds (post reclamation)	18.5	11.3	16.8	12.2	<0.5	<0.5
East Rail Yard (post reclamation)	44	31	141	93.2	<0.5	<0.5

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Refineries, Precious Metals Plant(s), Associated Facilities, Garfield Townsite						
West Laydown Yard (2000, post removal)	189	87.6	558	146.6	715	105.5
West Laydown Yard (2000, post reclamation)	51.5	36.1	76.5	41.7	119	29.0
Kessler Spring Dump (post removal)	129	55	306	118.1	139	36.9
Kessler Spring Dump (post reclamation)	<0.5	<0.5	<0.5	<0.5	139	46.5
Santa Fe Basin (post demolition, pre capping)	23.1	5.1	25.0	3.6	<0.5	<0.5
Garfield Townsite (post reclamation)	86	58.1	832	361.6	25	11.3

Table 5-A Pre-removal Concentrations of Chemicals in Soils at Facilities Comprising OU15 (mg/kg, dry weight)

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Subpart 1: Milling Facilities and Associated Infrastructure						
Magna Leaching Facility	60.4	60.4	162	162	7.9	7.9
Line Kilns						
Lime Slacking Plant (no response action taken)						
Arthur Mill (Boston Consolidated Mill (no response action taken))	33.1	11.9	38.8	12.0	5.2	2.8
Arthur Mill - Reagent Stills (pre removal)	812	133.6	2,700	285.8	89.4	15.8

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Subpart 1: Milling Facilities and Associated Infrastructure						
Arthur Mill - Iron Foundry (pre removal)	393	62.2	8,100	885	130	19
Arthur Mill - West Debris Site (pre removal)	360	146	65,000	10,032	<30	<30
Arthur Mill - Railroad Debris Site (no response action taken)	19.3	19.3	876	876	1.2	1.2
Arthur Mill - Crucible Site (pre removal)	210	63	37,000	6,484	<30	<30
Arthur Mill - Arthur Second Line Ditch (no response action taken)	96.8	75.5	278	238.8	8.0	2.5
Arthur Mill - Pipeline Leak (no response action taken)	96.8		278		8.0	
Bonneville Crusher	The facility underwent demolition, characterization, response action implementation from 2007 to 2009; final report pending.					
Bonneville Railroad Scrap Yard (no response action taken)	13.6	7.97	17.8	11.67	1.15	0.66
Bonneville Gate Hillside Site(pre reclaim)	35	25	47	33	2.9	1.61
Little Valley Settlement Ponds (no removal under CERCLA; removal under NPDES)	124	78.8	96.7	42.3	<13	<13

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Subpart 1: Milling Facilities and Associated Infrastructure						
Bonneville Crusher - North Slope (no response action taken)	44.3	27.5	65.5	34.6	<13	<13
Magna Mill (inside building before demolition) pre 2007	350	162.3	2,400	598	215	52.9
Magna Mill (pre removal, 2007)	The facility (still standing infrastructure) underwent demolition, characterization, response action implementation from 2007 to 2009; final report pending.					
Magna Mill - Railroad Slope (pre removal)	270	104.2	11,000	2,067	15.0	11.7
Magna Mill - Concentrate Loading Area (pre removal)	849	179	2,270	504.1	5.1	0.4
Magna Mill - East Debris Area (pre removal)	990	172.5	9,900	1,594	41	11.0
Subpart 2: Mill Waste Ponds, Piles, Pipelines						
Magna Process Water Pond	2011 facility underwent reconstruction, characterization report is pending.					
Diving Board Tailings	Concentrations of contaminants similar to tailings in South Tailings Impoundment.					
Tailings Slurry Pipeline [†]	<4		6		<5	
Concentrate Slurry Pipeline	No data was available as of 2002. Cleanups of spills based on visual removals, concentrates are black and the underlying soils are light grey to brown.					
Magna Mill Flume	Spilled tailings are similar in composition to tailings in the South Tailings Impoundment (see Table F-5).					
Arthur Step-back Repository and staging area (operational)	Facility is operational and subject to CERCLA oversight as a CAMU. As such, facility has not been characterized.					
Tailings Pond Landfill (buried by tailings)	As each landfill is filled up, it gets buried by the active operations at the North Tailings Impoundment. Previous landfills in the South Tailings Impoundment have been buried by tailings are inaccessible.					

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Subpart 2: Mill Waste Ponds, Piles, Pipelines						
Historic Rail Routes (rail bedding comprised of slag)	197		4,280		38	
North Tailings Impoundment (operational)	Contaminants of concern will have a similar signature as the tailings in the South Tailings Impoundment (see Table F-5).					
Chevron Fertilizer Waste (buried under North Tailings Impoundment)	20		24.3		<2	
Morton Salt (Buried under North Tailings Impoundment)	Metals were not determined in site soils prior to burying the facilities under the North Tailings Impoundment.					
Subpart 3: Wetland Mitigation Areas						
Pond Sediment	28.3	16.3	109	61.7	<4	<4
Canal Sediment	2.2	2.0	16.4	15.7	<3	<3
North Pont Canal Sediment (US FWS, 2001)	11.2	11.2	108	108	<1	<1
North Point Canal Sediment (US ACE EIS)	17.7	14.7	16.5	15.7	2.7	1.3
Goggin Drain Sediment (US FWS, 2000)	8.4	8.4	63.0	63.0	<1	<1
Goggin Drain at GSL (EPA, 1995)		16		97		
Subpart 4: Power Plants						
Old Power Plant (no removal action)	43.5	16.1	346	132.2	10.0	6.8
New Power Plant (operational)	Facility is operational (and as of 2013 is undergoing some renovations) and thus soils were not characterized. Is in the vicinity of pipelines and up-gradient of the Magna Mill.					

[†] Spilled tailings have similar in concentrations to tailings deposited previously in the South Tailings Impoundment (see Table F-5) and (for more recent spills) North Tailings Impoundment. Data reported is from one sample collected of the released tailings (total released volume of approximately 4,000 tons) during an event starting on February 4, 2013.

Table 5-B Post Removal & Post Reclamation Concentrations of COCs in soils at Facilities Comprising OU15 (mg/kg, dry weight, except where noted)

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Subpart 1: Milling Facilities and Associated Infrastructure						
Arthur Mill - Reagent Stills (post removal)	61	33.0	85	57.4	<9	<9
Arthur Mill - Reagent Stills (post reclamation)	62.8	37.4	31.2	17.4	<0.5	<0.5
Arthur Mill - Foundry (post removal)	82.1	37.2	1,710	1,238	9.1	3.7
Arthur Mill - Foundry (post reclamation)	34.4	20.5	24.2	9.2	<0.5	<0.5
Arthur Mill - West Debris Site (post removal)	168	51.8	564	233.4	20.2	8.2
Arthur Mill - West Debris Site (post reclamation)	54.9	46.3	295	130	5.3	2.6
Arthur Mill - Crucible Site (post removal)	59	34	1,750	682	<6	<6
Arthur Mill - Crucible Site (post reclamation)	180	112	23.5	15.0	1.1	0.5
Bonneville Crusher Facility	Post demo removal report is pending					
Bonneville Gate Hillside (post reclamation)	<14	<14	30.6	25.0	<13	<13
Magna Mill (North Concentrator) – still standing	Post demo removal report is pending					
Magna Mill - Railroad Slope (post removal)	338	104.4	5,890	1,553	36	6.8

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Subpart 1: Milling Facilities and Associated Infrastructure						
Magna Mill - Railroad Slope (post reclamation)	84.8	31.1	115	33.9	25.1	10.9
Magna Mill - Concentrate Loading (post removal)	183	43.3	632	123	<0.5	<0.5
Magna Mill - Concentrate Loading (post reclamation)	<0.5	<0.5	0.8	<0.6	<0.5	<0.5
Magna Mill - East Debris (post removal)	71	42.5	460	241.5	<4	<4
Magna Mill - East Debris (post reclamation)	33.0	26.2	162	85.2	<8	<8
Subpart 2: Mill Waste Ponds, Piles, Pipelines						
Magna Mill Flume	See Magna Mill post removal					
South Tailings Impoundment (post reclaim only)	130	14	63	13	5	0.65

Table 6-A Concentrations of Chemicals in Soils at Facilities Comprising OU19 (characterization and/or pre-removal) (mg/kg, dry weight)

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Little Valley (1974)	57.5	36	222	117	3.6	3.1
Little Valley (1988)	298	111	219	66.4	1	<1
Little Valley (1995)	70†	50	275†	155	4.5†	1.6
Kessler Canyon (above & below dams, 1988)	810	206	84	45.3	64	9.7

Location	Arsenic Concentrations		Lead Concentrations		Selenium Concentrations	
	Max	Mean	Max	Mean	Max	Mean
Kessler Canyon (Above first dam only, 1988)	307	126	4	46.8	7	1.3
Kessler Canyon (1995)	109†	67	367†	155	3.4†	2.6
Kessler Canyon Dam Sediments (2001)	88.2	41.5	140	60.4	1.9	0.91
Black Rock Canyon (1974)	654	350	1,126	689	4.5	2.5
Black Rock Canyon (1988)	325	160	133	65.2	1	<1
Black Rock Canyon (1995)	118†	67	508†	161	4.8†	1.8
Black Rock Canyon (proposed Monroc Sand & Gravel Operation, 1999)	76.6	24.9	218	64.9	<0.5	<0/5
Erda Fallout††	991	27.6	4,860	287	ND	ND
Erda Fallout	112	8.4	1,010	151	ND	ND
Background Sites						
Coon Canyon (1974)	22.6	13.9	228	110	1.3	1.3
Coon Canyon (1988)	34	19.4	40	27.5	<1	<1
Coon Canyon (1995)	57†	36	259†	109	4.3†	2.3
Harkers Canyon (1974)	40.2	23.6	230	100	<1	<1

† Concentrations represent the upper 95-percent confidence level of sample results

†† Date set includes samples collected from properties close (<1 mile) to the International Smelter (a separate Superfund site located at the mouth of Pine Canyon, Utah, in Tooele County).

ND equates to "Not Determined"