



Sierrita Operations
Environment, Land & Water Department
6200 West Duval Mine Road
PO Box 527
Green Valley, Arizona 85622-0527

November 18, 2013

Via Certified Mail # 7011 1150 0000 0283 8027
Return Receipt Requested

Ms. Danielle Taber
Project Manager
Voluntary Remediation Program
Arizona Department of Environmental Quality
1110 W. Washington St.
Phoenix, AZ 85007

**Re: Response to Comments and Technical Memorandum for Final
Voluntary Remediation Soil and Sediment Characterization Report
Freeport Sierrita Mine Green Valley, Arizona; Site Code: 100073-03**

Dear Ms. Taber:

This letter is in response to the Arizona Department Environmental Quality's (ADEQ) August 29, 2013 letter (Letter) regarding review of the Freeport-McMoRan Sierrita Inc.'s (Sierrita) Final Voluntary Remediation Program Soil and Sediment Characterization Report (Report) dated December 2012. Sierrita appreciates ADEQ's approval of the Report and Sierrita's response to comments dated August 1, 2013, as stated in the Letter. The Letter also contained two clarifications regarding the Report. This letter provides Sierrita's responses to those clarifications.

For ease of reference, ADEQ's comments have been restated in italics followed by Sierrita's response.

1. **ADEQ Comment:** *Comment 2. VRP's understanding is that if the soil concentration for the samples analyzed for total chromium using USEPA Method 6010B were greater than the chromium VI residential soil remediation level (SRL) of 30 milligrams per kilogram (mg/kg), the soil sample was then analyzed for chromium VI, using EPA Method 3060A and 7196A. FMI believes that since seven samples were analyzed for chromium VI, and the seven samples were below the respective residential SRL, that the chromium observed in the total chromium results are indicative of chromium III and not chromium VI. VRP does not agree with the reference that it is assumed that all chromium on the site is most likely to be chromium III. Therefore, VRP recommends following the same characterization methodology if soil samples for total chromium are collected in the future, since a No Further Action Determination will only be considered for those constituents that have been adequately characterized. In addition, to avoid confusion, the respective soil tables should state "total chromium" instead of chromium III.*

Sierrita's Response: ADEQ's comment is acknowledged. The tables were revised and are included with the attached memorandum which summarizes the revised data presented in the tables.

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2. **ADEQ Comment:** Comment 4. The guidance document titled *A Screening Method to Determine Soil Concentrations Protective of Groundwater Quality*; dated September 1996 does not indicate that a 95% upper confidence level can be used for determining concentrations that are protective of groundwater. The groundwater protection level (GPL) is a leaching threshold value and is not based on risk, as is the case with the SRLs. VRP recommends calculating an alternative GPL for antimony.

Sierrita Response: Comment noted. An alternative GPL for antimony cannot be calculated with the data in the Report, because synthetic precipitation leaching procedure (SPLP) data was not collected during the characterization events, and is needed to calculate an alternative GPL.

Please do not hesitate to contact me at (520) 393-2252 if you have any question regarding this submittal.

Sincerely,



Kanyembo Katapa, P.E.
Environmental Engineer
Freeport-McMoRan Sierrita Inc.

KK/ms
20121114_001



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MEMO

To:
Kanyembo Katapa (Freeport McMoRan Sierrita)
Martha Motley (Freeport McMoRan Sierrita)
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Copies:
Katy Brantingham

From:
Penny Hunter

Date: ARCADIS Project No.: AZ001233.0008
October 8, 2013

Subject:
Technical Memorandum in Response to ADEQ Letter Dated August 29, 2013
Regarding the SSCR Report

Introduction

This memorandum presents a revision to the site characterization results tables for metals in soil and sediment at the Sierrita Mine (Site) located near Green Valley, Arizona. Constituents of interest (COIs) in soil, sediment, groundwater, rock core and mine materials were investigated under the voluntary remediation program (VRP) from July 2008 to July 2009. The results of the soil metal characterization activities were reported in the *Final Voluntary Remediation Program (VRP) Soil and Sediment Characterization Report* ("SSCR Report"; [URS 2012]).

Subsequently, in response to ADEQ comments on the SSCR Report (ADEQ 2013), this technical memorandum was prepared. The memorandum provides an updated set of results tables to address comment number 2. Specifically, the tables were updated to clarify the type of chromium analysis performed on the soil samples and include the appropriate chromium screening levels.

Results

The analytical results evaluated in the SSCR Report included soil and sediment data collected for the VRP investigation and soil data from two previous reports: *Soil, Surface Water and Groundwater Sampling in the CLEAR Plant and Esperanza Mill Areas* (HGC 2008); and *Supplement to the Aquifer Protection Permit*

Application BADCT Demonstration Amendment (MWH 2005). The data from the two previous reports are referred to in this memorandum as the “2004 Investigation” and “2005 MWH”, respectively.

The tables were revised to clearly show which samples were analyzed for total chromium and/or hexavalent chromium. Subsequently, the analytical results in the revised tables were compared to the appropriate non-residential soil remediation levels (nr-SRLs; [ADEQ 2007]) and minimum soil groundwater protection levels (GPLs; [ADEQ 1996]) for each constituent. The results have also been updated to show the final data usability validation qualifiers for the data collected during the VRP investigation, as originally presented in the SSCR Addendum Report (ARCADIS 2013b).

The revised tables are attached (Tables 1 through 9). The updated tables have not changed the magnitude or frequency of exceedances for any of the COIs and subareas as described in the SSCR Report. As was discussed in the SSCR, arsenic, copper, lead and molybdenum exceeded nr-SRLs in one or more subareas, and antimony and lead exceeded the minimum GPL in one more subareas. For lead, an alternative GPL of 25,554mg/kg was calculated following ADEQ guidance (ADEQ 1996). Derivation of the alternative lead GPL is presented in Sierrita’s response to comments letter dated August 1, 2013 (Sierrita 2013). Although lead was identified to exceed the minimum GPL in some subareas, none of the samples exceeded the alternative lead GPL.

References

ADEQ. 1996. A Screening Method to Determine Soil Concentrations Protective of Groundwater Quality. September. 35 pp and appendices.

ADEQ. 2007. Arizona Administrative Code, Title 18 Environmental Quality, Chapter 7 Department of Environmental Quality Remedial Action, Article 2 Soil Remediation Standards, Appendix A Soil Remediation Levels (SRLs)

ADEQ. 2013. Letter to Mr. John Broderick (Freeport-McMoRan Copper & Gold, Sierrita Operations). Re: Response to Freeport McMoRan Copper & Gold (FMI) Comment Letter dated 08/01/13. August 29, 2013.

ARCADIS. 2013. Addendum to the Soil and Sediment Characterization Report. August 14.

Hydro Geo Chem Inc. (HGC). 2008. Soil, Surface Water, and Groundwater Sampling in the CLEAR Plant and Esperanza Mill Areas.

MWH Americas, Inc. (MWH) 2005. Supplement to the Aquifer Protection Permit Application BADCT Demonstration Amendment, Sierrita Mine, Phelps Dodge Sierrita, Volume I. March

Sierrita. 2013. Letter to Ms. Danielle Taber (Arizona Department of Environmental Quality, Voluntary Remediation Program). Re: Response to Comments and Revised Report for Final Voluntary Remediation Soil and Sediment Characterization Report Freeport Sierrita Mine Green Valley, Arizona; Site Code: 100073-03. August 1, 2013.

URS Corporation (URS). 2012. Final Voluntary Remediation Program (VRP) Soil and Sediment Characterization Report. Prepared for Freeport-McMoRan Sierrita Inc. Green Valley, Arizona. December.

Table 1
Former CLEAR Plant Subarea
Soil and Sediment Metal Analytical Results
Sierrita Mine VRP Investigation

					Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium, Total (mg/kg)	Chromium, Hexavalent (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Thallium (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)	
Non-Residential Soil Remediation Level (nr-SRL) ¹					410	10	170,000	1,900	510	NE	65	13,000	41,000	800	32,000	310	5,100	20,000	5,100	67	200	310,000	
Groundwater Protection Level (GPL) ²					35	290	12,000	23	29	590	NE	NE	NE	290	NE	12	NE	590	290	12	NE	NE	
SSCR Report ID (URS 2012)	Revised Sample ID ³	Field Sample ID	Sample Date	Depth (ft bgs)	Top	Bottom																	
2008 SOIL CHARACTERIZATION																							
CP-JS-01-0-1	CP-JS01-0-1	CP-JS-01-0-1	7/15/2008	0	1	0.4	7.3	654	1.3	<2	8	NA	8	1,390	5.93	297	0.06	15	8	0.28	0.3	2.36	45
CP-JS-01-1-3.0	CP-JS01-1-3	CP-JS-01-1-3	7/15/2008	1	3	0.4 J	12.3	336	0.8	<2	7	NA	12	781	7.4	379	<0.2	53	8	0.69	<0.3	4.29	39
CP-JS-01-5-7	CP-JS01-5-7	CP-JS-01-5-7	7/15/2008	5	7	5.9	32.8	130	0.7	<2	7	NA	12	822	44.3	482	<0.2	34	7	0.24	0.39	5.11	42
CP-JS-01-10-12	CP-JS01-10-12	CP-JS-01-10-12	7/15/2008	10	12	0.7	28.1	159	<5	<8	3	NA	18	506	8.98	1,240	<0.2	200	14	1.68	0.36	7.77	65
CP-JS-02-0-1	CP-JS02-0-1	CP-JS-02-0-1	7/11/2008	0	1	1	6.3	36.8	0.8	<2	3	NA	12	2,690	39.7	345	0.07	618	2	3.15	0.12	6.34	114
CP-JS-02-1-3.0	CP-JS02-1-3	CP-JS-02-1-3	7/11/2008	1	3	0.2	2.8	77.4	0.8	<2	7	NA	5	174	7.39	122	<0.2	27	4	0.17	<0.3	0.93	34
CP-JS-03-0-1	CP-JS03-0-1	CP-JS-03-0-1	7/14/2008	0	1	<1	3.3	164 J	0.3	0.7	7	NA	11	1,700	24.5	456	<0.2	75 J	15	<0.67	0.29	4.29	158
CP-JS-03-1-3.0	CP-JS03-1-3	CP-JS-03-1-3	7/14/2008	1	3	<1 UJ	2	189	0.2	<2	9	NA	12	888	13	456	<0.2	20	15	<0.31	0.22	3.96	129
CP-JS-03-5-7	CP-JS03-5-7	CP-JS-03-5-7	7/14/2008	5	7	<1	2	205	0.4	<2	8	NA	11	1,680	5.98	496	<0.2	26	13	0.44	0.49	5.27	78
CP-JS-04-0-1	CP-JS04-0-1	CP-JS-04-0-1	8/27/2008	0	1	0.4	4.5	165 J	0.5	<2	5 J	NA	13	1,710	14.3	396	<0.2	223	8	1.26	0.35	4.96	82
CP-JS-04-1-3.0	CP-JS04-1-3	CP-JS-04-1-3	8/27/2008	1	3	0.2	1.6	172	0.4	<2	5 J	NA	12	684	4.55	469	<0.2	24	8	0.26 J	0.28 J	5.03 J	77
CP-JS-04-5-7	CP-JS04-5-7	CP-JS-04-5-7	8/27/2008	5	7	0.4	8.7	183	0.4	<2	5	NA	11	1,400	10.9	343	<0.2	202	7	0.76	0.36	16	63
CP-JS-04-10-12	CP-JS04-10-12	CP-JS-04-10-12	8/27/2008	10	12	<1	2.3	106	0.4	<2	5	NA	9	1,080	5.36	347	<0.2	34	7	0.56	0.26	8.72	71
CP-JS-04-15-17	CP-JS04-15-17	CP-JS-04-15-17	8/27/2008	15	17	0.2	2.1	108	0.5	<2	5	NA	8	1,760	7.04	374	<0.2	51	7	0.48	0.22	7.39	59
CP-JS-04-20	CP-JS04-20	CP-JS-04-20	8/27/2008	20	20	<1	2.2	169	0.4	<2	7	NA	10	582	4.12	350	<0.2	24	8	0.29	0.27	6.96	29
CP-M04-0-1	M04-0-1	CP-M04-0-1	7/11/2008	0	1	2.3	12.6	130	0.5	0.7	9	NA	9	9,390	48.1	333	0.15	704	7	3.09	0.24	5.55	272
CP-M04-1-2.5	M04-1-2.5	CP-M04-1-2.5	7/11/2008	1	2.5	1.1	7.5	142	0.4	0.6	26	NA	5	3,900	48.1	319	0.16	206	7	1.29	0.12	3.01	212
CP-M04-5-5.4	M04-5-5.4	CP-M04-5-5.4	7/11/2008	5	5.4	<1	1.5	197	0.5	<2	6	NA	11	1,720	6.55	374	<0.2	48	7	0.87	0.41	9.05	45
CP-M06-0-1	M06-0-1	CP-M06-0-1	7/11/2008	0	1	<1	2.6	67.1	0.5	<2	6	NA	4	207	7.76	159	<0.2	23	3	0.23	0.11	1.45	26
CP-M06-1-3.0	M06-1-3	CP-M06-1-3	7/11/2008	1	3	0.2	3	92.4	0.7	<2	7	NA	4	200	8.17	157	<0.2	14	4	0.35	0.14	1.35	27
CP-N08-0-1	N08-0-1	CP-N08-0-1	7/11/2008	0	1	<1 UJ	4.1	169	0.4	<2	5	NA	11	1,070	10.1	504	<0.2	27	8	0.42	0.27	4.77	94
CP-N08-1-3.0	N08-1-3	CP-N08-1-3	7/11/2008	1	3	0.6	7.5	188 J	0.4 J	<2 UJ	7 J	NA	12 J	2,420	16.3	294	0.04	149 J	9 J	0.85	0.53	8.99	161 J
CP-N08-5-7	N08-5-7	CP-N08-5-7	7/11/2008	5	7	0.5	7.7	186	0.4	<2	11	NA	11	1,100	9.56	365	<0.2	77	9	0.54	0.41	9.35	66
CP-N08-10-11	N08-10-11	CP-N08-10-11	7/11/2008	10	11	2.9	41.9	213	0.6	<2	14	NA	9	1,190	9.66	271	0.1	106	9	1.58	0.34	9.05	73
CP-O03-0-1	O03-0-1	CP-003-0-1	7/11/2008	0	1	<1	2.3	251	0.5	<2	8	NA	14	1,700	5.35	386	<0.2	102	11	0.45	0.4	4.91	119
CP-O03-1-3.0	O03-1-3	CP-003-1-3	7/11/2008	1	3	<1	1.2	212	<1	<2	5	NA	13	298	1.72	440	<0.2	2	11	0.81	0.31	7.25	77
CP-O09-0-1	O09-0-1	CP-O09-0-1	7/11/2008	0	1	<1	3.5	142	0.5	<2	5	NA	11	913	11.2	469	<0.2	69	8	0.39	0.32	4.91	106
CP-O09-1-3.0	O09-1-3	CP-O09-1-3	7/11/2008	1																			

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					Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium, Total (mg/kg)	Chromium, Hexavalent (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Thallium (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)	
Non-Residential Soil Remediation Level (nr-SRL) ¹					410	10	170,000	1,900	510	NE	65	13,000	41,000	800	32,000	310	5,100	20,000	5,100	67	200	310,000	
Groundwater Protection Level (GPL) ²					35	290	12,000	23	29	590	NE	NE	NE	290	NE	12	NE	590	290	12	NE	NE	
SSCR Report ID (URS 2012)	Revised Sample ID ³	Field Sample ID	Sample Date	Depth (ft bgs)	Top	Bottom																	
CP-O09-15-17	O09-15-17	CP-O09-15-17	7/11/2008	15	17	<1	1.4	155	0.3	<2	7	NA	10	666	6.56	326	<0.2	16	9	0.23	0.36	2.62	147
CP-P04-0-1	P04-0-1	CP-P04-0-1	7/15/2008	0	1	<1	1.6	206	0.4	<2	8	NA	7	626	4.87	275	<0.2	33	7	0.48	0.37	3.77	34
CP-P04-1-3.0	P04-1-3	CP-P04-1-3	7/15/2008	1	3	<1	1	154	<1	<2	3	NA	8	518	1.2	295	<0.2	4	6	0.07	0.29	2.41	39
CP-P05-0-1	P05-0-1	CP-P05-0-1	7/15/2008	0	1	<1	1.6	115	0.4	<2	5	NA	9	973	7.41	330	<0.2	72	7	0.34	0.22	4.75	55
CP-P05-1-3.0	P05-1-3	CP-P05-1-3	7/15/2008	1	3	<1	1.1	197	0.4	<2	4	NA	7	289	2.05	307	<0.2	3	6	0.07	0.22	3.16	29
2008 SOIL CHARACTERIZATION																							
CP-P07-0-1	P07-0-1	CP-P07-0-1	7/17/2008	0	1	<1	1.5	99.5	0.4	<2	6	NA	8	538	9.36	293	<0.2	26	7	0.36	0.15	3.24	44
CP-P07-1-3.0	P07-1-3	CP-P07-1-3	7/17/2008	1	3	<1	1.1	80.4	0.3	<2	5	NA	7	210	3.38	276	<0.2	31	6	0.24	0.14	3.79	39
CP-P07-5-7	P07-5-7	CP-P07-5-7	7/17/2008	5	7	<1	1.4	101	<1	<2	13	NA	8	333	3.79	283	<0.2	53	8	0.5	0.16	4.03	88
CP-P12-0-1	P12-0-1	CP-P12-0-1	7/23/2008	0	1	0.9	5.5	81.4	0.7	<2	13	NA	6	1,680	39	167	<0.2	239	31	1.48	0.26	3.15	96
CP-P12-1-3.0	P12-1-3	CP-P12-1-3	7/23/2008	1	3	0.3	3.4	49.9	0.8	<2	10	NA	3	337	7.98	85	<0.2	9	31	0.19	0.18	1.3	27
CP-Q09-0-1	Q09-0-1	CP-Q09-0-1	7/23/2008	0	1	0.3 J	2.3	120	0.6	<2	12	NA	8	724	4.61	202	<0.2	123	29	0.35	0.26	2.21	44
CP-Q09-1-3.0	Q09-1-3	CP-Q09-1-3	7/23/2008	1	3	<1	1.5	247	0.3	<2	7	NA	5	499	3.19	170	<0.2	8	22	0.14	0.49	2.67	30
2008 SEDIMENT CHARATERIZATION																							
CP-SD-01-0-1.5	CP-SD01-0-1.5	CP-SD-01-0-1.5	7/16/2008	0	1.5	<1	2.1	145	0.4	<2	6	NA	10	979	5.49	342	<0.2	121	8	0.37	0.23	4.04	49
CP-SD-01-1.5-3.0	CP-SD01-1.5-3	CP-SD-01-1.5-3.0	7/16/2008	1.5	3	<1	1	140	0.4	<2	6	NA	9	253	1.72	314	<0.2	4	8	0.08	0.25	2.34	30
CP-SD-02-0-1.5	CP-SD02-0-1.5	CP-SD-02-0-1.5	7/16/2008	0	1.5	<1	1.1	117	<1	<2	3	NA	6	451	4	207	<0.2	32	6	0.31	0.18	2.5	31
CP-SD-02-1.5-3.0	CP-SD02-1.5-3	CP-SD-02-1.5-3.0	7/16/2008	1.5	3	<1	1.5	41.1	0.3	<2	2	NA	3	780	3.78	148	<0.2	18	2	0.21	<0.3	2.82	30
CP-SD-03-0-1.5	CP-SD03-0-1.5	CP-SD-03-0-1.5	7/16/2008	0	1.5	<1	2.9	95.3	0.7	<2	5	NA	7	995	9.49	257	<0.2	114	5	0.36	0.13	4.05	48
CP-SD-03-1.5-3.0	CP-SD03-1.5-3	CP-SD-03-1.5-3.0	7/16/2008	1.5	3	<1	1.9	112	0.5	<2	4	NA	7	335	5.32	302	<0.2	44	6	0.2	0.14	3.86	34
CP-SD-04-0-1.5	CP-SD04-0-1.5	CP-SD-04-0-1.5	7/17/2008	0	1.5	<1	1.8	166	0.6	<2	7	NA	11	1,180	4.25	403	<0.2	40	10	0.36	0.43	4.05	57
CP-SD-04-1.5-3.0	CP-SD04-1.5-3	CP-SD-04-1.5-3.0	7/17/2008	1.5	3	<1	1	170	0.4	<2	7	NA	11	512	2.14	448	<0.2	7	10	0.12	0.35	4.76	46
CP-SD-05-0-1.5	CP-SD05-0-1.5	CP-SD-05-0-1.5	7/16/2008	0	1.5	<1	5.4	123	0.6	<2	6	NA	11	561	8.74	343	<0.2	126	7	0.51	0.13	3.61	43
CP-SD-05-1.5-3.0	CP-SD05-1.5-3	CP-SD-05-1.5-3.0	7/16/2008	1.5	3	<1	3.6	181	0.5	<2	6	NA	11	283	4.91	359	<0.2	24	8	0.31	0.17	2.86	42
CP-SD-06-0-1.5	CP-SD06-0-1.5	CP-SD-06-0-1.5	7/16/2008	0	1.5	<1	3.7	177	0.7	<2	6	NA	17	976	4.17	447	<0.2	43	10	0.46	0.29	5.54	86
CP-SD-06-1.5-3.0	CP-SD06-1.5-3	CP-SD-06-1.5-3.0	7/16/2008	1.5	3	<1	4	174	0.5	<2	6	NA	11	729	3.75	375	<0.2	37	8	0.26	0.28	3.81	39
CP-SD-07-0-1.5	CP-SD07-0-1.5	CP-SD-07-0-1.5	7/23/2008	0	1.5	0.2	2.9	136	0.9	<2	14	NA	9	439	7.05	298	<0.2	42	33	0.34	0.27	3.45	45
CP-SD-07-1.5-3.0	CP-SD07-1.5-3	CP-SD-07-1.5-3.0	7/23/2008	1.5	3	0.2	0.8	166	0.5	<2	9	NA	11	180	2.49	344	<0.2	2	31	<0.3	0.3	2.19	47
CP-SD-08-0-1.5	CP-SD08-0-1.5	CP-SD-08-0-1.5	7/28/2008	0	1																		

Table 1
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Soil and Sediment Metal Analytical Results
Sierrita Mine VRP Investigation

							Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium, Total (mg/kg)	Chromium, Hexavalent (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Thallium (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)
Non-Residential Soil Remediation Level (nr-SRL) ¹							410	10	170,000	1,900	510	NE	65	13,000	41,000	800	32,000	310	5,100	20,000	5,100	67	200	310,000
Groundwater Protection Level (GPL) ²							35	290	12,000	23	29	590	NE	NE	NE	290	NE	12	NE	590	290	12	NE	NE
SSCR Report ID (URS 2012)	Revised Sample ID ³	Field Sample ID	Sample Date	Depth (ft bgs)																				
				Top	Bottom																			
CP-SD-08-1.5-3.0	CP-SD08-1.5-3	CP-SD-08-1.5-3.0	7/28/2008	1.5	3	<1	1.2	164	0.5	<2	11	NA	11	142	3.69	300	<0.2	9	27	0.09	0.33	3.99	52	
CP-SD-09-0-1.5	CP-SD09-0-1.5	CP-SD-09-0-1.5	7/28/2008	0	1.5	0.3	1.9	139	0.4	<2	11	NA	10	1,100	11.3	312	<0.2	157	29	0.3	0.21	2.44	75	
CP-SD-09-1.5-3.0	CP-SD09-1.5-3	CP-SD-09-1.5-3.0	7/28/2008	1.5	3	<1	0.7	131	0.2	<2	11	NA	9	380	26.6	239	<0.2	25	28	<0.3	0.25	2.46	52	
CP-SD-10-0-1.5	CP-SD10-0-1.5	CP-SD-10-0-1.5	7/28/2008	0	1.5	0.2	3.6	161	0.5	<2	11	NA	9	570	6.23	278	<0.2	84	29	0.34	0.25	4.13	47	
CP-SD-10-1.5-3.0	CP-SD10-1.5-3	CP-SD-10-1.5-3.0	7/28/2008	1.5	3	<1	1.2	193	0.4	<2	13	NA	12	269	1.81	332	<0.2	3	31	<0.3	0.32	4.41	53	
2004 INVESTIGATION																								
CP-1	CP-1	CP-1	8/13/2004	0	0.25	52	105	NA	0.38	3	42	NA	76	45,600	638	156	<0.04	1,440	38	40	0.7	NA	34	
CP-2	CP-2	CP-2	8/13/2004	0	0.25	66	166	NA	0.11	4	35	NA	40	9,020	1,820	71	0.62	3,020	17	50	5.2	NA	300	
CP-3	CP-3	CP-3	8/13/2004	0	0.25	4.5	16.3	NA	0.27	3.23	21	NA	37	21,700	51.7	317	0.07	1,900	26	13.4	0.35	NA	143	
CP-5	CP-5	CP-5	8/13/2004	0	0.25	2	17.1	NA	0.58	4.5	58	NA	20	6,220	141	332	0.12	522	64	4	0.46	NA	793	
CP-7	CP-7	CP-7	8/13/2004	0	0.25	4.5	31.3	NA	0.52	5.01	9	NA	NA	20,000	152	295	0.32	2,820	7	10.3	0.23	NA	451	
CP-9	CP-9	CP-9	8/13/2004	0	0.25	10.3	40.1	NA	0.51	24.90	20	NA	20	59,300	200	587	0.18	2,290	23	16.1	0.23	NA	6,210	
CP-13	CP-13	CP-13	8/13/2004	0	0.25	0.6	5.44	NA	1.08	0.48	12	NA	NA	1,090	15.40	177	<0.05	273	7	0.7	0.31	NA	76	
CP-14	CP-14	CP-14	8/13/2004	0	0.25	0.3	4.63	NA	0.44	1.01	6	NA	NA	2,080	12.7	464	<0.04	369	8	0.9	0.23	NA	118	
CP-15	CP-15	CP-15	8/13/2004	0	0.25	1.9	13.7	NA	0.51	7.38	22	NA	NA	8,260	116	335	0.11	456	14	3.2	0.17	NA	730	
2004 INVESTIGATION																								
CP-16	CP-16	CP-16	8/13/2004	0	0.25	11	34.9	NA	0.39	21.2	17	NA	NA	109,000	950	384	0.37	1,980	31	12	0.4	NA	4,400	
CP-19	CP-19	CP-19	8/13/2004	0	0.25	1.6	9.1	NA	0.42	5.95	7	NA	NA	23,800	45	273	0.11	2,430	12	28.4	0.21	NA	658	
CP-21	CP-21	CP-21	8/13/2004	0	0.25	0.4	4.81	NA	0.46	1.26	7	NA	NA	2,360	25.1	377	<0.04	446	9	1	0.21	NA	134	
CP-T-1-18"	CP-T-1-18"	CP-T-1-18"	10/4/2004	-	1.5																			
CP-T-1-2'	CP-T-1-2'	CP-T-1-2'	10/4/2004	-	2	NA	8.64	NA	0.82	NA	NA	NA	NA	2,520	21.7	NA	NA	368	NA	NA	NA	NA	NA	
CP-T-1-4'	CP-T-1-4'	CP-T-1-4'	10/4/2004	-	4	NA	14.3	NA	1.29	NA	NA	NA	NA	4,390	37.2	NA	NA	182	NA	NA	NA	NA	NA	
CP-T-1-8'	CP-T-1-8'	CP-T-1-8'	10/4/2004	-	8	NA	4.2	NA	0.52	NA	NA	NA	NA	1,200	12.7	NA	NA	114	NA	NA	NA	NA	NA	
CP-T-2-2'	CP-T-2-2'	CP-T-2-2'	10/4/2004	-	2	NA	3.6	NA	0.63	NA	NA	NA	NA	765	12.5	NA	NA	38	NA	NA	NA	NA	NA	
CP-T-2-7'	CP-T-2-7'	CP-T-2-7'	10/4/2004	-	7	NA	5.63	NA	0.58	NA	NA	NA	NA	2,160	39.8	NA	NA	135	NA	NA	NA	NA	NA	
CP-T-2-7'BL	CP-T-2-7'BL	CP-T-2-7'BL	10/4/2004	-	7	7.6	37.1	NA	0.2	2.2	9	NA	NA	1,470	270	157	<0.05	535	4	8.1	0.2	NA	43	
CP-T-2-10'	CP-T-2-10'	CP-T-2-10'	10/4/2004	-	10	NA	5.43	NA	0.63	NA	NA	NA	NA	2,850	44.7	NA	NA	99	NA	NA	NA	NA	NA	
CP-T-2-15'	CP-T-2-15'	CP-T-2-15'	10/4/2004	-	15	NA	3.62	NA	0.73	NA	NA	NA	NA	4,350	80.1	NA	NA	72	NA	NA	NA	NA	NA	
CP-T-2-B-6'	CP-T-2-B-6'	CP-T-2-B-6'	10/4/2004	-	6	1.4	11.8	NA	0.35	2.75	10	NA	NA	2,600</										

Table 1
Former CLEAR Plant Subarea
Soil and Sediment Metal Analytical Results
Sierrita Mine VRP Investigation

					Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium, Total (mg/kg)	Chromium, Hexavalent (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Thallium (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)	
Non-Residential Soil Remediation Level (nr-SRL) ¹					410	10	170,000	1,900	510	NE	65	13,000	41,000	800	32,000	310	5,100	20,000	5,100	67	200	310,000	
Groundwater Protection Level (GPL) ²					35	290	12,000	23	29	590	NE	NE	NE	290	NE	12	NE	590	290	12	NE	NE	
SSCR Report ID (URS 2012)	Revised Sample ID ³	Field Sample ID	Sample Date	Depth (ft bgs)	Top	Bottom																	
CP-T-3-8'	CP-T-3-8'	CP-T-3-8'	10/5/2004	-	8	NA	26.9	NA	0.5	NA	NA	NA	NA	14,100	488	NA	NA	615	NA	NA	NA		
CP-T-4-18"	CP-T-4-1.5'	CP-T-4-1.5'	10/4/2004	-	1.5	0.4	1.1	NA	1.0	18.1	470	NA	NA	57,300	4.1	759	<0.04	60	70	3.7	<0.1	NA	4,900
CP-T-4-1.5'C	CP-T-4-1.5'C	CP-T-4-1.5'C	10/4/2004	-	1.5	0.5	4.88	NA	0.28	1.74	24	NA	NA	2,790	14.4	244	<0.04	347	11	2.6	0.34	NA	153
CP-T-4-2.5'	CP-T-4-2.5'	CP-T-4-2.5'	10/4/2004	-	2.5	NA	16.4	NA	0.41	NA	NA	NA	NA	998	7.26	NA	NA	330	NA	NA	NA	NA	NA
CP-T-4-14'	CP-T-4-14'	CP-T-4-14'	10/4/2004	-	14	NA	10.4	NA	0.45	NA	NA	NA	NA	1,570	3.66	NA	NA	91	NA	NA	NA	NA	NA
CP-T-5-1.5'	CP-T-5-1.5'	CP-T-5-1.5'	10/4/2004	-	1.5	0.4	4.7	NA	0.23	0.62	9	NA	NA	839	13.9	235	<0.04	115	4	0.8	0.18	NA	57
CP-T-5-3'	CP-T-5-3'	CP-T-5-3'	10/4/2004	-	3	NA	4.14	NA	0.57	NA	NA	NA	NA	1,050	12.4	NA	NA	95	NA	NA	NA	NA	NA
CP-T-5-6'	CP-T-5-6'	CP-T-5-6'	10/4/2004	-	6	NA	5.27	NA	0.44	NA	NA	NA	NA	746	3.98	NA	NA	60	NA	NA	NA	NA	NA
CP-T-6-2'	CP-T-6-2'	CP-T-6-2'	10/4/2004	-	2	NA	5.38	NA	0.6	NA	NA	NA	NA	NA	1,900	29.2	NA	NA	76	NA	NA	NA	NA
CP-T-6-4'	CP-T-6-4'	CP-T-6-4'	10/4/2004	-	4	NA	4.75	NA	0.6	NA	NA	NA	NA	NA	2,150	45	NA	NA	143	NA	NA	NA	NA
CP-T-6-6'	CP-T-6-6'	CP-T-6-6'	10/4/2004	-	6	NA	3.96	NA	0.51	NA	NA	NA	NA	NA	1,410	28.1	NA	NA	52	NA	NA	NA	NA

Notes:

mg/kg - milligrams per kilogram

¹ ADEQ May 2007 Non-Residential Soil Remediation Level (nr-SRL)

NE - Not established

² ADEQ September 1996 Groundwater Protection Level (GPL); minimum GPL shown.

³ Sample ID was revised from either the field ID or the December 2012 SSCR Report ID - revisions were made to correct for mis-labeling in the field, and/or consistency with naming convention specified in the VRP workplan.

ft bgs - feet below ground surface

"<" indicates the analyte was not detected at or above the reporting limit. Reporting limit shown in these cases.

NA - Not analyzed

J - indicates an estimated value.

Results in RED indicate result is greater than the NR-SRL

U - Indicates the analyte was not detected at or above the reporting limit. Reporting limit shown in these cases.

Results in BLUE indicate result is greater than the minimum GPL

Table 2
Former E Pond Subarea
Soil and Sediment Metal Analytical Results
Sierrita Mine VRP Investigation

				Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium, Total (mg/kg)	Chromium, Hexavalent (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Thallium (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)		
Non-Residential Soil Remediation Level (nr-SRL) ¹				410	10	170,000	1,900	510	NE	65	13,000	41,000	800	32,000	310	5,100	20,000	5,100	67	200	310,000		
Groundwater Protection Level (GPL) ²				35	290	12,000	23	29	590	NE	NE	NE	290	NE	12	NE	590	290	12	NE	NE		
SSCR Report ID (URS 2012)	Revised Sample ID ³	Field Sample ID	Sample Date	Depth (ft bgs)																			
2008 CHARACTERIZATION																							
E-JS-01-0-1	E-JS01-0-1	E-JS-01-0-1	7/14/2008	0	1	0.3	2.9	146	<1	0.8	5	NA	10	2,650	22.9	369	<0.2	104	11	0.78	0.17	3.11	197
E-JS-01-1-3	E-JS01-1-3	E-JS-01-1-3	7/14/2008	1	3	0.2	2.5	122	<1	<2	3	NA	8	1,810	19.1	327	<0.2	79	10	0.59	0.13	3.04	165
E-JS-01-5-7	E-JS01-5-7	E-JS-01-5-7	7/14/2008	5	7	<1	2	203	0.3	<2	4	NA	6	1,510	6.62	182	<0.2	246	9	0.42	0.12	2.9	134
E-JS-02-0-1	E-JS02-0-1	E-JS-02-0-1	7/14/2008	0	1	0.3	3	183	0.3	0.5	7	NA	10	1,160	83.5	408	<0.2	138	15	0.57	0.21	3.62	98
E-JS-02-1-3	E-JS02-1-3	E-JS-02-1-3	7/14/2008	1	3	<1	4	75.1	0.5	<2	6	NA	8	1,290	10.2	719	<0.2	98	12	0.67	<0.3	9.68	87

Notes:

mg/kg - milligrams per kilogram

¹ ADEQ May 2007 Non-Residential Soil Remediation Level (nr-SRL)

NE - Not established

² ADEQ September 1996 Groundwater Protection Level (GPL); minimum GPL shown.

³ Sample ID was revised from either the field ID or the December 2012 SSCR Report ID - revisions were made to correct for mis-labeling in the field, and/or consistency with naming convention specified in the VRP workplan.

ft bgs - feet below ground surface

"<" indicates the analyte was not detected at or above the reporting limit. Reporting limit shown in these cases.

NA - Not analyzed

Results in **RED** indicate result is greater than the NR-SRL

Results in **BLUE** indicate result is greater than the minimum GPL

Table 3
Former Evaporation Pond Subarea
Soil and Sediment Metal Analytical Results
Sierrita Mine VRP Investigation

					Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium, Total (mg/kg)	Chromium, Hexavalent (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Thallium (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)	
Non-Residential Soil Remediation Level (nr-SRL) ¹					410	10	170,000	1,900	510	NE	65	13,000	41,000	800	32,000	310	5,100	20,000	5,100	67	200	310,000	
Groundwater Protection Level (GPL) ²					35	290	12,000	23	29	590	NE	NE	NE	290	NE	12	NE	590	290	12	NE	NE	
SSCR Report ID (URS 2012)	Revised Sample ID ³	Field Sample ID	Sample Date	Depth (ft bgs)																			
2008 CHARACTERIZATION																							
EV-JS-01-0-1	EV-JS01-0-1	EV-JS-01-0-1	7/14/2008	0	1	1.1	9.9	122	0.2	0.6	6	NA	7	3,380	196	208	<0.2	547	11	3.43	0.4	4.26	100
EV-JS-01-1-3	EV-JS01-1-3	EV-JS-01-1-3	7/14/2008	1	3	0.4	5.7	213	0.4	1.6	9	NA	15	5,440	73.8	402	<0.2	258	18	1.85	0.44	7.05	224
EV-JS-01-5-7	EV-JS01-5-7	EV-JS-01-5-7	7/14/2008	5	7	<1	5.5	169	0.6	6	7	NA	12	1,550	12	342	<0.2	77	14	1.69	0.1	8.51	407
EV-JS-02-0-1	EV-JS02-0-1	EV-JS-02-0-1	7/14/2008	0	1	0.3	2.8	105	0.2	<2	4	NA	9	2,020	19.1	330	<0.2	67	14	0.47	0.1	2.87	124
EV-JS-02-1-3	EV-JS02-1-3	EV-JS-02-1-3	7/14/2008	1	3	<1	1.1	96.2	<1	<2	7	NA	10	583	1.59	357	<0.2	11	13	1.02	0.12	4.14	54
EV-JS-02-5-7	EV-JS02-5-7	EV-JS-02-5-7	7/14/2008	5	7	<1	3.5	142	<1	<2	20	NA	9	890	11.3	394	<0.2	37	17	0.46	0.14	5.53	77

Notes:

mg/kg - milligrams per kilogram

¹ ADEQ May 2007 Non-Residential Soil Remediation Level (nr-SRL)

NE - Not established

² ADEQ September 1996 Groundwater Protection Level (GPL); minimum GPL shown.

³ Sample ID was revised from either the field ID or the December 2012 SSCR Report ID - revisions were made to correct for mis-labeling in the field, and/or consistency with naming convention specified in the VRP workplan.

ft bgs - feet below ground surface

NA - Not analyzed

"<" indicates the analyte was not detected at or above the reporting limit. Reporting limit shown in these cases.

Results in **RED** indicate result is greater than the NR-SRL

Results in **BLUE** indicate result is greater than the minimum GPL

Table 4
Former Old D Pond Subarea
Soil and Sediment Metal Analytical Results
Sierrita Mine VRP Investigation

					Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium, Total (mg/kg)	Chromium, Hexavalent (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Thallium (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)	
Non-Residential Soil Remediation Level (nr-SRL) ¹					410	10	170,000	1,900	510	NE	65	13,000	41,000	800	32,000	310	5,100	20,000	5,100	67	200	310,000	
Groundwater Protection Level (GPL) ²					35	290	12,000	23	29	590	NE	NE	290	NE	12	NE	590	290	12	NE	NE		
2008 CHARACTERIZATION																							
OD-JS-01-0-1	OD-JS01-0-1	OD-JS-01-0-1	7/29/2008	0	1	0.3	3.6	121	0.3	<2	15	NA	9	1,770	17.7	231	<0.2	95	6	1.1	0.25	5.3	99
OD-JS-01-1-3	OD-JS01-1-3	OD-JS-01-1-3	7/29/2008	1	3	<1	1.8	149	<1	<2	9	NA	10	121	2.1	328	<0.2	8	7	0.11	0.28	2.54	42
OD-JS-02-0-1	OD-JS02-0-1	OD-JS-02-0-1	7/29/2008	0	1	0.4	3.4	96.8	<1	<2	8	NA	7	1,840	13.8	250	<0.2	304	6	1.44	0.28	2.92	83
OD-JS-02-1-3	OD-JS02-1-3	OD-JS-02-1-3	7/29/2008	1	3	<1	1.4	170	0.5	<2	9	NA	13	1,310	4.43	391	<0.2	9	9	0.11	0.32	3.68	89
OD-JS-02-5-7	OD-JS02-5-7	OD-JS-02-5-7	7/29/2008	5	7	<1	0.8	139	0.5	<2	9	NA	11	110	2.12	378	<0.2	8	9	0.71	0.35	7.34	45
OD-JS-03-0-1	OD-JS03-0-1	OD-JS-03-0-1	8/27/2008	0	1	0.6	10.6	118	0.3	<2	8	NA	8	1,470	19.3	236	<0.2	97	7	0.85	0.23	4.32	111
OD-JS-03-1-3	OD-JS03-1-3	OD-JS-03-1-3	8/27/2008	1	3	0.4	6.4	114	<1	<2	5	NA	6	1,510	10.6	203	<0.2	74	6	0.72	0.23	3.31	71
OD-JS-03-1-3D	OD-JS03-1-3D	OD-JS-03-1-3D	8/27/2008	1	3	0.3	2.9	87.4	<1	<2	7	NA	9	1,800	14.9	186	<0.2	74	6	0.78	0.22	3.89	76
OD-SD-01-0-1.5	OD-SD01-0-1.5	OD-SD-01-0-1.5	7/28/2008	0	1.5	0.3	2	184	0.4	<2	13	NA	11	361	5.32	332	<0.2	87	30	0.23	0.29	3.11	51
OD-SD-01-1.5-3.0	OD-SD01-1.5-3	OD-SD-01-1.5-3.0	7/28/2008	1.5	3	<1	1.2	185	<1	<2	14	NA	10	125	2.59	346	<0.2	6	29	0.08	0.28	7.42	43
OD-SD-02-0-1.5	OD-SD02-0-1.5	OD-SD-02-0-1.5	7/28/2008	0	1.5	0.2	2.2	173	0.5	<2	13	NA	12	376	7.63	390	<0.2	107	32	0.42	0.3	4.66	60
OD-SD-02-1.5-3.0	OD-SD02-1.5-3	OD-SD-02-1.5-3.0	7/28/2008	1.5	3	<1	0.9	173	0.2	<2	9	NA	9	27	1.89	320	<0.2	3	26	0.07	0.32	3.37	41
OD-SD-03-0-1.5	OD-SD03-0-1.5	OD-SD-03-0-1.5	7/28/2008	0	1.5	0.3	2.7	158	0.4	<2	18	NA	11	2,350	46.7	316	<0.2	100	31	0.41	0.28	7.57	147
OD-SD-03-1.5-3.0	OD-SD03-1.5-3	OD-SD-03-1.5-3.0	7/28/2008	1.5	3	<2	2.8	87.9 J	0.3	0.5	13	NA	8	4,390	253	173	0.05	145	30	0.4	0.2	7.8	201
OD-SD-04-0-1.5	OD-SD04-0-1.5	OD-SD-04-0-1.5	7/28/2008	0	1.5	0.3	3.1	118	0.4	<2	11	NA	11	1,640	8.86	262	<0.2	128	29	0.53	0.3	4.25	68
OD-SD-04-1.5-3.0	OD-SD04-1.5-3	OD-SD-04-1.5-3.0	7/28/2008	1.5	3	<1	2.1	133	0.3	<2	9	NA	9	671	2.2	258	<0.2	25	27	0.19	0.26	2.18	48
OD-SD-05-0-1.5	OD-SD05-0-1.5	OD-SD-05-0-1.5	7/29/2008	0	1.5	0.8	6.2	141 J	0.6	1.1	22	NA	13	3,960	102	365	0.05	230	8	1.04	0.39	5.57	179
OD-SD-05-1.5-3.0	OD-SD05-1.5-3	OD-SD-05-1.5-3.0	7/29/2008	1.5	3	0.3	4.6	169	0.5	<2	13	NA	12	916	35.3	402	<0.2	63	7	0.47	0.28	10.3	105
OD-SD-06-0-1.5	OD-SD06-0-1.5	OD-SD-06-0-1.5	7/29/2008	0	1.5	0.5	5.3	109	0.5	<2	13	NA	11	2,590	29.3	334	<0.2	115	7	1.04	0.3	4.33	198
OD-SD-06-1.5-3.0	OD-SD06-1.5-3	OD-SD-06-1.5-3.0	7/29/2008	1.5	3	<1	3.2	122	0.5	<2	12	NA	14	1,130	7.26	552	<0.2	9	11	0.23	0.23	6.42	218

Notes:

mg/kg - milligrams per kilogram

¹ ADEQ May 2007 Non-Residential Soil Remediation Level (nr-SRL)

NE - Not established

² ADEQ September 1996 Groundwater Protection Level (GPL); minimum GPL shown

³ Sample ID was revised from either the field ID or the December 2012 SSCR Report ID - revisions were made to correct for mis-labeling in the field, and/or consistency with naming convention specified in the VRP workpla

ft bgs - feet below ground surface

"<" indicates the analyte was not detected at or above the reporting limit. Reporting limit shown in these cases.

NA - Not analyzed

J - indicates an estimated value.

Results in **RED** indicate result is greater than the NR-SRL

Results in **BLUE** indicate result is greater than the minimum GPL

Table 5
Former Esperanza Mill Subarea
Soil and Sediment Metal Analytical Results
Sierrita Mine VRP Investigation

				Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium, Total (mg/kg)	Chromium, Hexavalent (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Thallium (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)		
Non-Residential Soil Remediation Level (nr-SRL) ¹				410	10	170,000	1,900	510	NE	65	13,000	41,000	800	32,000	310	5,100	20,000	5,100	67	200	310,000		
Groundwater Protection Level (GPL) ²				35	290	12,000	23	29	590	NE	NE	NE	290	NE	12	NE	590	290	12	NE	NE		
SSCR Report ID	Revised Sample ID ³	Field Sample ID	Sample Date	Depth (ft bgs)																			
2008 CHARACTERIZATION																							
EM-JS-01-0-1	EM-JS01-0-1	EM-JS-01-0-1	8/1/2008	0	1	0.5	4.3	103	0.6	<2	7	NA	8	840	24	238	<0.2	143	7	0.46	<0.28	2.9	88
EM-JS-01-1-3	EM-JS01-1-3	EM-JS-01-1-3	8/1/2008	1	3	<1	3.1	228	0.8	0.8	11	NA	10	543	9.8	388	<0.2	8	13	0.12	<0.26	3.64	187
EM-C22-0-1	C22-0-1	EM-C22-0-1	7/29/2008	0	1	2	13.9	82.7	0.5	0.8	19	NA	16	5,480	85.2	323	0.2	4,800	5	7.25	0.21	4.74	332
EM-C22-1-3	C22-1-3	EM-C22-1-3	7/29/2008	1	3	0.5	5.1	161	0.5	<2	13	NA	13	1,120	12.1	378	<0.2	270	9	0.28	0.25	3.37	122
EM-C22-5-7	C22-5-7	EM-C22-5-7	7/29/2008	5	7	<1	2.2	234	0.5	<2	10	NA	14	739	5.13	370	<0.2	5	8	0.15	0.26	2.45	85
EM-E24-0-1	E24-0-1	EM-E24-0-1	7/29/2008	0	1	0.6	5	149	0.8	<2	10	NA	9	2,270	26.5	364	0.04	234	2	1.65	0.18	4.05	132
EM-E24-1-3	E24-1-3	EM-E24-1-3	7/29/2008	1	3	1	7.6	116	0.9	<2	11	NA	10	2,470	47.9	369	<0.2	362	3	2.42	0.22	5.32	159
EM-E24-5-7	E24-5-7	EM-E24-5-7	7/29/2008	5	7	0.2	2.2	198	0.6	<2	12	NA	14	364	13.1	434	<0.2	57	10	0.32	0.38	4.07	68
EM-G27-0-1	G27-0-1	EM-G27-0-1	8/7/2008	0	1	0.3	3.5	81.2	0.5	<2	6	NA	7	2,750	30.9	233	<0.2	403	5	0.8	0.2	2.8	90
EM-G27-1-3	G27-1-3	EM-G27-1-3	8/7/2008	1	3	<1 UJ	1.2	126	0.4	<2	4	NA	11	933	3.92	399	<0.2	3	7	0.07	0.29	3.7	57
EM-H22-0-1	H22-0-1	EM-H22-0-1	7/30/2008	0	1	3.7	11.7	115 J	0.5	1.6	8	NA	10	10,000	91.3	294	0.05	821	7	4.53	0.42	3.34	293
EM-H22-1-3	H22-1-3	EM-H22-1-3	7/30/2008	1	3	0.4	3.7	70.4	0.3	1	5	NA	5	2,330	15	188	<0.2	118	7	1.07	0.24	2.3	181
EM-H22-5-7	H22-5-7	EM-H22-5-7	7/31/2008	5	7	<1	1.1	199	0.5	1.7	6	NA	14	1,740	3.75	594	<0.2	10	14	0.06	0.51	3.75	464
EM-K24-0-1	K24-0-1	EM-K24-0-1	7/31/2008	0	1	<1	3	78.7	0.8	<2	7	NA	8	629	15.9	175	<0.2	66	6	0.52	0.28	2.5	46
EM-K24-1-3	K24-1-3	EM-K24-1-3	7/31/2008	1	3	0.2	2.5	79.4	0.6	<2	8	NA	5	530	13.1	124	<0.2	19	6	0.21	0.26	3.16	47
EM-K24-5-7	K24-5-7	EM-K24-5-7	7/31/2008	5	7	<1	2.4	152	0.6	<2	6	NA	8	486	12.3	241	<0.2	24	7	0.27	0.25	2.89	45
EM-M26-0-1	M26-0-1	EM-M26-0-1	8/1/2008	0	1	<1	2.6	126	<1	<2	7	NA	5	358	21.9	146	<0.2	66	5	0.35	<0.18	3.13	57
EM-M26-1-3	M26-1-3	EM-M26-1-3	8/1/2008	1	3	0.3	3.7	48.4	0.4	<2	8	NA	4	469	20.3	109	<0.2	23	5	0.28	<0.16	5.3	97
EM-M26-5-7	M26-5-7	EM-M26-5-7	8/1/2008	5	7	0.2	4.6	67.5	0.7	0.5	10	NA	6	536	19.5	144	<0.2	44	7	0.16	<0.19	5.57	142
EM-N29-0-1	N29-0-1	EM-N29-0-1	8/6/2008	0	1	0.4	5.2	56	0.9	<2	9	NA	6	495	25.8	194	<0.2	124	3	0.5	0.13	1.96	78
EM-N29-1-3	N29-1-3	EM-N29-1-3	8/6/2008	1	3	0.6	7.5	65.9	1.1	<2	6	NA	17	805	41.8	429	<0.2	94	3	0.79	0.13	2.7	59
EM-P24-0-1	P24-0-1	EM-P24-0-1	8/7/2008	0	1	<1	2.3	104	0.7	<2	5	NA	10	719	15	379	<0.2	60	7	0.36	0.24	4.54	82
EM-P24-1-3	P24-1-3	EM-P24-1-3	8/7/2008	1	3	<1	2.6	79.9	0.5	<2	6	NA	5	483	14.6	146	<0.2	260	4	0.48	0.17	5.44	64
EM-P24-5-7	P24-5-7	EM-P24-5-7	8/7/2008	5	7	<1	2.3	86.5	0.4	<2	8	NA	6	540	24.6	230	<0.2	106	5	0.27	0.16	3.97	89
EM-P24-10-11	P24-10-11	EM-P24-10-11	8/7/2008	10	11	<1	2.1	132	0.9	<2	3	NA	8	348	104	293	<0.2	9	8	0.14	0.28	6.46	550

Table 5
Former Esperanza Mill Subarea
Soil and Sediment Metal Analytical Results
Sierrita Mine VRP Investigation

					Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium, Total (mg/kg)	Chromium, Hexavalent (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Thallium (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)	
Non-Residential Soil Remediation Level (nr-SRL) ¹					410	10	170,000	1,900	510	NE	65	13,000	41,000	800	32,000	310	5,100	20,000	5,100	67	200	310,000	
Groundwater Protection Level (GPL) ²					35	290	12,000	23	29	590	NE	NE	290	NE	12	NE	590	290	12	NE	NE		
SSCR Report ID (URS 2012)	Revised Sample ID ³	Field Sample ID	Sample Date	Depth (ft bgs)	Top	Bottom																	
EM-X26-0-1	X26-0-1	EM-X26-0-1	8/6/2008	0	1	0.4	3.2	94.8	0.6	<2	6	NA	10	1,390	12.8	356	<0.2	154	5	0.52	0.3	3.78	67
EM-X26-1-3	X26-1-3	EM-X26-1-3	8/6/2008	1	3	<1	1.7	52.8	0.2	<2	5	NA	7	424	6.02	199	<0.2	51	3	0.27	0.14	2.38	37
EM-X26-5-7	X26-5-7	EM-X26-5-7	8/6/2008	5	7	0.5	4.5	101	0.5	<2	5	NA	7	1,030	75.2	232	0.06	307	5	0.63	0.24	5.86	77
2004 INVESTIGATION																							
EM-3	EM-3	EM-3	8/13/2004	0	0.25	4.7	34.8	NA	1.00	5.65	6	NA	NA	11,600	133	715	0.14	1,570	11	9.4	0.17	NA	824
EM-4	EM-4	EM-4	8/13/2004	0	0.25	0.9	10.8	NA	0.55	2.55	10	NA	NA	8,360	61.90	657	0.08	630	25	1.5	0.15	NA	443
EM-5	EM-5	EM-5	8/13/2004	0	0.25	0.3	3.62	NA	0.37	0.59	7	NA	NA	1,880	12	323	< 0.04	122	8	< 0.5	0.27	NA	195
EM-10	EM-10	EM-10	8/13/2004	0	0.25	0.6	9.52	NA	0.93	1.78	10	NA	12	814	54.5	538	< 0.04	239	8	0.7	0.22	NA	256
EM-13	EM-13	EM-13	8/13/2004	0	0.25	0.3	4.23	NA	0.72	0.83	8	NA	NA	668	12.70	172	< 0.05	2,640	8	< 0.5	0.27	NA	64
EM-14	EM-14	EM-14	8/13/2004	0	0.25	0.4	11.8	NA	0.26	0.85	14	NA	< 5	409	8.87	30	< 0.05	471	< 5	1	0.89	NA	29
EM-17	EM-17	EM-17	8/13/2004	0	0.25	69	101	NA	0.33	2.8	3	NA	3	2,330	80.7	75.5	0.30	1,690	< 1	< 5	< 0.3	NA	77
EM-18	EM-18	EM-18	8/13/2004	0	0.25	0.7	10.4	NA	0.48	2.31	8	NA	NA	3,560	54.8	173	0.04	1,470	4	2.9	0.19	NA	67
EM-21	EM-21	EM-21	8/13/2004	0	0.25	0.5	4.09	NA	0.17	0.32	2	NA	4	514	8.79	110	< 0.04	151	< 1	1.5	0.07	NA	25
EM-T-2-2'	EM-T-2-2'	EM-T-2-2'	10/5/2004	-	2	NA	3.58	NA	0.51	NA	NA	NA	NA	533	17.2	NA	NA	16	NA	NA	NA	NA	NA
EM-T-2-2.5'	EM-T-2-2.5'	EM-T-2-2.5'	10/5/2004	-	2.5	<0.2	5.3	NA	0.7	3.6	36	NA	NA	1,170	19	31	<0.05	1,050	<5	0.9	1.1	NA	40
EM-T-2-B-18"	EM-T-2-B-18"	EM-T-2-B-18"	10/5/2004	-	1.5	0.3	6.4	NA	0.9	0.5	33	NA	NA	1,400	17.5	198	<0.04	103	<5	2.2	0.2	NA	169
EM-T-3-4'	EM-T-3-4'	EM-T-3-4'	10/5/2004	-	4	3.1	38.8	NA	0.9	1.6	90	NA	NA	1,850	43.8	212	<0.05	260	<5	0.9	0.2	NA	111
EM-T-3-6'	EM-T-3-6'	EM-T-3-6'	10/5/2004	-	6	2	4.7	NA	1.03	1.37	8	NA	NA	1,270	10.8	593	<0.04	21	8	0.31	0.16	NA	209
EM-T-3-12'	EM-T-3-12'	EM-T-3-12'	10/5/2004	-	12	NA	3.52	NA	1.43	NA	NA	NA	NA	733	12.4	NA	NA	20	NA	NA	NA	NA	

Notes:

mg/kg - milligrams per kilogram

¹ ADEQ May 2007 Non-Residential Soil Remediation Level (nr-SRL)

NE - Not established

² ADEQ September 1996 Groundwater Protection Level (GPL); minimum GPL shown.

³ Sample ID was revised from either the field ID or the December 2012 SSCR Report ID - revisions were made to correct for mis-labeling in the field, and/or consistency with naming convention specified in the VRP workplan.

ft bgs - feet below ground surface

"<" indicates the analyte was not detected at or above the reporting limit. Reporting limit shown in these cases.

NA - Not analyzed

U - Indicates the analyte was not detected at or above the reporting limit. Reporting limit shown in these cases.

J - indicates an estimated value.

Results in **RED** indicate result is greater than the NR-SRL

Results in **BLUE** indicate result is greater than the minimum GPL

Table 6
Former C Pond and C Pond Spoils Subarea
Soil and Sediment Metal Analytical Results
Sierrita Mine VRP Investigation

					Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium, Total (mg/kg)	Chromium, Hexavalent (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	SPLP-Lead (mg/L)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)		
Non-Residential Soil Remediation Level (nr-SRL) ¹					410	10	170,000	1,900	510	NE	65	13,000	41,000	800	NE	32,000	310	5,100	20,000	5,100	67	200	310,000	
Groundwater Protection Level (GPL) ²					35	290	12,000	23	29	590	NE	NE	NE	290	NE	NE	12	NE	590	290	12	NE	NE	
SSCR Report ID (URS 2012)	Revised Sample ID ³	Field Sample ID	Sample Date	Depth (ft bgs)	Top	Bottom																		
2008 CHARACTERIZATION																								
C POND SPOILS																								
CS-JS-01-0-1	CS-JS01-0-1	CS-JS-01-0-1	8/4/2008	0	1	0.5	8.7	82.3	0.6	<2	14	<4	7	423	65.1	NA	386	<0.2	142	6	<0.62	0.22	3.67	124
CS-JS-01-1-3	CS-JS01-1-3	CS-JS-01-1-3	8/4/2008	1	3	<1	2.2	121	0.6	<2	37	NA	8	432	90.5	NA	546	<0.2	54	6	<0.26	0.2	4.66	172
CS-JS-01-5-7	CS-JS01-5-7	CS-JS-01-5-7	8/4/2008	5	7	0.3	3.6	146	0.7	<2	5	NA	10	602	343	NA	486	<0.2	134	5	<0.48	0.23	6.09	302
CS-JS-01-10-12	CS-JS01-10-12	CS-JS-01-10-12	8/4/2008	10	12	1	5.8	123	0.7	<2	9	NA	12	4,580	47.9	NA	392	<0.2	735	5	<3.37	0.27	6.9	150
CS-JS-02-0-1	CS-JS02-0-1	CS-JS-02-0-1	8/4/2008	0	1	0.3	4	157	0.6	<2	8	NA	9	640	126	NA	348	<0.2	81	6	<0.41	0.32	3.77	218
CS-JS-02-1-3	CS-JS02-1-3	CS-JS-02-1-3	8/4/2008	1	3	0.2	3.3	85.6	0.7	<2	7	NA	7	448	25.7	NA	269	<0.2	28	5	<0.32	0.26	3.28	269
CS-JS-02-5-7	CS-JS02-5-7	CS-JS-02-5-7	8/4/2008	5	7	<1	1.6	366	0.5	<2	5	NA	11	131	20.3	NA	430	<0.2	5	9	<0.19	0.38	3	1,140
CS-JS-02-10-11	CS-JS02-10-11	CS-JS-02-10-11	8/4/2008	10	11	0.7 J	5.3	138	0.6	8.3	5	NA	12	448	376	<0.2	717	<0.2	15	8	<0.24	0.4	7.77	3,630
CS-JS-03-0-1	CS-JS03-0-1	CS-JS-03-0-1	8/5/2008	0	1	0.3	3.8	95.4	0.4	<2	8	NA	17	562	57.2	NA	279	<0.2	51	5	0.28	0.17	11	129
CS-JS-03-1-3	CS-JS03-1-3	CS-JS-03-1-3	8/5/2008	1	3	0.3	3.5	123	0.6	<2	8	NA	8	802	48.8	NA	273	<0.2	66	6	0.37	0.23	3.24	154
CS-JS-03-5-7	CS-JS03-5-7	CS-JS-03-5-7	8/5/2008	5	7	0.2	2.9	142	0.6	<2	13	NA	10	770	88.7	NA	478	<0.2	46	10	0.3	0.31	3.01	217
CS-JS-03-10-12	CS-JS03-10-12	CS-JS-03-10-12	8/5/2008	10	12	0.3	3.3	201	0.4	<2	8	NA	11	641	71.4	NA	371	0.04	98	9	0.34	0.35	3	456
CS-JS-04-0-1	CS-JS04-0-1	CS-JS-04-0-1	8/6/2008	0	1	0.4	3.2	111	0.4	<2	7	NA	8	557	131	NA	375	<0.2	281	6	0.49	0.31	2.94	207
CS-JS-04-1-3	CS-JS04-1-3	CS-JS-04-1-3	8/6/2008	1	3	0.6 J	4.3	101	0.4	<2	17	NA	8	658	18.2	NA	209	<0.2	822	5	0.88	0.19	3.42	76
CS-JS-04-5-7	CS-JS04-5-7	CS-JS-04-5-7	8/6/2008	5	7	<1	1.6	216	0.6	1.4	6	NA	14	425	16.3	NA	495	<0.2	8	9	0.1	0.4	3.29	451
CS-JS-05-0-1	CS-JS05-0-1	CS-JS-05-0-1	8/27/2008	0	1	0.2	3.9	294	0.5	<2	5	NA	12	116	38.1	NA	515	<0.2	19	11	0.16	0.36	5.08	134
CS-JS-05-1-3	CS-JS05-1-3	CS-JS-05-1-3	8/27/2008	1	3	0.5	14.6	103	0.6	1.7	4	NA	6	148	280	NA	538	<0.2	17	6	0.39	0.17	8.01	502
CS-JS-05-1-3D	CS-JS05-1-3D	CS-JS-05-1-3D	8/27/2008	1	3	0.4	14.5	147	0.6	1.7	5	NA	7	120	212	NA	495	<0.2	13	7	0.37	0.23	8.81	417
CS-JS-06-0-1	CS-JS06-0-1	CS-JS-06-0-1	8/27/2008	0	1	0.2	1.6	213	0.4	<2	5	NA	16	175	30.5	NA	501	<0.2	7	12	0.14	0.49	3.15	168
CS-JS-06-1-3	CS-JS06-1-3	CS-JS-06-1-3	8/27/2008	1	3	0.2 J	1.2	168	0.5	1	5	NA	11	149	3.5	NA	373	<0.2	3	9	0.13	0.5	2.88	257
EM-U25-0-1	U25-0-1	EM-U25-0-1	8/6/2008	0	1	0.4	3.2	265	0.6	0.6	7	NA	10	728	100	NA	398	<0.2	113	7	0.32	0.25	3.65	234
EM-U25-1-3	U25-1-3	EM-U25-1-3	8/6/2008	1	3	0.4	4.6	156	0.7	<2	8	NA	11	1,210	136	NA	366	<0.2	292	7	0.72	0.23	3.89	233
EM-U25-5-5.5	U25-5-5.5	EM-U25-5-5.5	8/6/2008	5	5.5	0.3	8.6	88.7	0.6	0.6	7	NA	9	204	433	NA	693	0.05	57	6	0.26	0.15	14.1	971
C POND																								
C-JS-01-0-1	C-JS01-0-1	C-JS-01-0-1	8/1/2008	0	1	0.4	5.3	79.2	0.6	<2	9	NA	7	677	56.6	NA	338	<0.2	135	7	0.33	<0.19	3.39	149
C-JS-01-1-3	C-JS01-1-3	C-JS-01-1-3	8/1/2008	1	3	0.5	4.5	136	0.7	0.6	8	NA	8											

Table 6
Former C Pond and C Pond Spoils Subarea
Soil and Sediment Metal Analytical Results
Sierrita Mine VRP Investigation

					Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium, Total (mg/kg)	Chromium, Hexavalent (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	SPLP-Lead (mg/L)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Uranium (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)	
Non-Residential Soil Remediation Level (nr-SRL) ¹					410	10	170,000	1,900	510	NE	65	13,000	41,000	800	NE	32,000	310	5,100	20,000	5,100	67	200	310,000	
Groundwater Protection Level (GPL) ²					35	290	12,000	23	29	590	NE	NE	290	NE	NE	12	NE	590	290	12	NE	NE		
SSCR Report ID (URS 2012)	Revised Sample ID ³	Field Sample ID	Sample Date	Depth (ft bgs)	Top	Bottom																		
C-JS-03-0-1	C-JS03-0-1	C-JS-03-0-1	8/4/2008	0	1	0.5	6.6	82.5	1.4	<2	11	NA	12	1,020	74.8	NA	573	<0.2	199	10	<0.69	0.2	6.11	256
C-JS-03-1-3	C-JS03-1-3	C-JS-03-1-3	8/4/2008	1	3	<1	3.3	136	0.7	0.7	8	NA	8	485	53.2	NA	351	<0.2	37	6	<0.29	0.22	3.7	442
C-JS-03-5-7	C-JS03-5-7	C-JS-03-5-7	8/4/2008	5	7	<1	2.7	88.1	0.6	<2	12	NA	6	371	45.9	NA	256	<0.2	18	6	<0.23	0.15	3.15	255
C-JS-03-10-12	C-JS03-10-12	C-JS-03-10-12	8/4/2008	10	12	<1	2.2	85.8	0.7	<2	8	NA	4	365	89.3	NA	211	<0.2	7	4	<0.41	0.18	13	178
C-JS-03-15-17	C-JS03-15-17	C-JS-03-15-17	8/4/2008	15	17	<1	2.8	95.6	0.8	<2	10	NA	6	442	66.6	NA	270	<0.2	14	5	<0.42	0.2	15.3	207
C-JS-04-0-1	C-JS04-0-1	C-JS-04-0-1	8/5/2008	0	1	0.4	8.9	73	1.2	<2	23	NA	12	671	44.4	NA	664	<0.2	98	11	0.3	0.18	4.05	245
C-JS-04-1-3	C-JS04-1-3	C-JS-04-1-3	8/5/2008	1	3	<1	1.4	137	0.5	<2	6	NA	7	491	15.1	NA	333	<0.2	16	6	0.15	0.28	3.28	45
C-JS-04-5-7	C-JS04-5-7	C-JS-04-5-7	8/5/2008	5	7	<1	2.3	152	0.6	<2	11	NA	11	420	56.1	NA	388	<0.2	38	8	0.26	0.27	3.23	106
C-JS-04-10-12	C-JS04-10-12	C-JS-04-10-12	8/5/2008	10	12	0.7	4.7	88.1	0.4	2.1	9	NA	11	2,780	41.4	NA	187	<0.2	537	6	2.39	0.22	7.23	135
C-JS-04-15-16	C-JS04-15-16	C-JS-04-15-16	8/5/2008	15	16	0.7	3.9	103	0.5	<2	7	NA	7	1,150	54.8	NA	155	<0.2	276	4	1.02	0.12	4.43	65
C-JS-05-0-1	C-JS05-0-1	C-JS-05-0-1	8/5/2008	0	1	0.2 J	4.2	120	0.9	1.2	16	NA	10	481	477	< 0.0005	838	<0.2	74	7	<1	0.18	5.66	315
C-JS-05-1-3	C-JS05-1-3	C-JS-05-1-3	8/5/2008	1	3	0.3	11.2	104 J	<1	0.6	3	NA	1	185	3,740	0.001	78.1 J	<0.2	18	<5	<5	0.62	4.19	156 J
2004 INVESTIGATION																								
EM-26	EM-26	EM-26	8/13/2004	0	0.25	2.5	23	NA	2.36	1.99	15	NA	NA	5,220	127	NA	928	0.18	936	20	2.2	0.4	NA	429
EM-T-4-6'	EM-T-4-6'	EM-T-4-6'	10/5/2004	-	6	0.7	6.77	NA	0.76	2.83	7	NA	NA	2,020	64.3	NA	250	0.05	550	6	2.27	0.21	NA	104
EM-T-4-10'	EM-T-4-10'	EM-T-4-10'	10/5/2004	-	10	NA	2.66	NA	0.76	NA	NA	NA	NA	643	21.6	NA	NA	NA	88	NA	NA	NA	NA	

Notes:

mg/kg - milligrams per kilogram

mg/L - milligrams per liter

¹ ADEQ May 2007 Non-Residential Soil Remediation Level (nr-SRL)

NE - Not established

² ADEQ September 1996 Groundwater Protection Level (GPL); minimum GPL shown.

³ Sample ID was revised from either the field ID or the December 2012 SSCR Report ID - revisions were made to correct for mis-labeling in the field, and/or consistency with naming convention specified in the VRP workplan.

ft bgs - feet below ground surface

"<" indicates the analyte was not detected at or above the reporting limit. Reporting limit shown in these cases.

NA - Not analyzed

Results in **BLUE** indicate result is greater than the minimum GPL

Results in **RED** indicate result is greater than the NR-SRL

J - indicates an estimated value.

U - Indicates the analyte was not detected at or above the reporting limit. Reporting limit shown in these cases.

Table 7
Former Raffinate Pond Subarea
Soil and Sediment Metal Analytical Results
Sierra Mine VRP Investigation

					Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium, Total (mg/kg)	Chromium, Hexavalent (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	SPLP Lead (mg/L)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Uranium (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)	
Non-Residential Soil Remediation Level (nr-SRL)¹					410	10	170,000	1,900	510	NE	65	13,000	41,000	800	NE	32,000	310	5,100	20,000	5,100	67	200	310,000	
Groundwater Protection Level (GPL)²					35	290	12,000	23	29	590	NE	NE	290	NE	NE	12	NE	590	290	12	NE	NE		
SSCR Report ID (URS 2012)	Revised Sample ID ³	Field Sample ID	Sample Date	Depth (ft bgs)	Top	Bottom																		
2008 CHARACTERIZATION																								
RA-JS-01-0-1	RA-JS01-0-1	RA-JS-01-0-1	8/7/2008	0	1	0.6	9.7	67.3	0.9	<2	5	NA	7	3,550	64.7	NA	401	0.07	955	4	1.9	0.22	4.42	133
RA-JS-01-1-3	RA-JS01-1-3	RA-JS-01-1-3	8/7/2008	1	3	0.8	16.8	99.1	2.1	<2	8	NA	13	4,020	120	NA	566	0.08	767	7	2.17	0.28	13.4	173
RA-JS-01-5-7	RA-JS01-5-7	RA-JS-01-5-7	8/7/2008	5	7	0.9	13.5	83.7	0.8	<2	6	NA	16	7,520	78.6	NA	276	<0.2	525	7	2.43	0.19	6.59	125
RA-JS-02-0-1	RA-JS02-0-1	RA-JS-02-0-1/D/MS/M\$	8/11/2008	0	1	8	<35.4	74.1	<5	1.5	10	NA	17	30,200	137	NA	384	0.36	1,430	2	<11.1	0.35	5.63	281
RA-JS-02-0-1D	RA-JS02-0-1D	RA-JS-02-0-1D	8/11/2008	0	1	18.1	81.6	70	<10	<20	<50	NA	30	88,000	326	NA	223	0.09	3,430	10	26.3	0.3	3.4	540
RA-JS-02-1-3	RA-JS02-1-3	RA-JS-02-1-3/D/MS/M\$	8/11/2008	1	3	17.4	<89.7	68.9	<5	2.5	18	NA	22	27,800	349	< 0.2	327	0.28	3,430	2	<9.76	0.36	8.62	466
RA-JS-02-1-3D	RA-JS02-1-3D	RA-JS-02-1-3D	8/11/2008	1	3	5.2	44.9	73.7	0.8	1.4	9	NA	14	10,600	134	NA	383	0.22	1,950	6	4.77	0.35	10.5	426
RA-JS-02-5-7	RA-JS02-5-7	RA-JS-02-5-7	8/11/2008	5	7	9.6	<60	78.1	6.2	1.8	35	<8 UJ	26	19,600	199	NA	382	0.32	1,950	8	<6.25	0.39	29.9	629
RA-JS-02-5-7D	RA-JS02-5-7D	RA-JS-02-5-7D	8/11/2008	5	7	9.2	<76	81.1	5	2	32	<7 UJ	25	18,000	185	NA	415	0.57	1,960	9	<7.83	0.52	32.2	589
RA-JS-03-0-1	RA-JS03-0-1	RA-JS-03-0-1	8/7/2008	0	1	<1	1.7	163	0.3	<2	5	NA	7	113	4.99	NA	239	<0.2	26	6	0.13	0.32	3.7	75
RA-JS-03-1-3	RA-JS03-1-3	RA-JS-03-1-3	8/7/2008	1	3	<1	1.1	127	<1	<2	4	NA	6	62	2.81	NA	228	<0.2	12	6	0.05	0.26	3.33	63
RA-JS-04-0-1	RA-JS04-0-1	RA-JS-04-0-1	8/7/2008	0	1	<1	1.4	121	<1	<2	4	NA	6	201	10.8	NA	232	<0.2	13	5	0.09	0.34	2.75	60
RA-JS-04-1-2.5	RA-JS04-1-2.5	RA-JS-04-1-2.5	8/7/2008	1	2.5	<1	1	98.9	<1	<2	3	NA	5	136	3	NA	220	<0.2	<5	4	0.06	0.22	3.4	51
RA-JS-05-0-1	RA-JS05-0-1	RA-JS-05-0-1	8/7/2008	0	1	0.4	5.2	52.2	0.4	<2	2	NA	4	380	24.5	NA	169	<0.2	157	3	0.33	0.14	6.88	82
RA-JS-05-1-3	RA-JS05-1-3	RA-JS-05-1-3	8/7/2008	1	3	0.6	3.1	53.5	<1	<2	2	NA	5	284	8.63	NA	210	<0.2	25	3	0.15	0.15	8.31	87
RA-SD-01-0-1.5	RA-SD01-0-1.5	RA-SD-01-0-1.5/D/MS/	8/11/2008	0	1.5	1.3	<10.1	73.1	0.7	<2	11	NA	6	7,630	86.9	NA	277	0.09	998	2	2.61	0.2	7.72	91
RA-SD-01-0-1.5D	RA-SD01-0-1.5D	RA-SD-01-0-1.5D	8/11/2008	0	1.5	0.8	10.9	87.2	0.7	<2	11	NA	5	3,410	57.3	NA	344	<0.3	1,160	5	3.66	0.3	4.32	110
RA-SD-01-1.5-3.0	RA-SD01-1.5-3	RA-SD-01-1.5-3.0/D/M	8/11/2008	1.5	3	4	<24.7	81.7	0.7	0.8	14	NA	10	6,960	114	NA	226	0.11	1,590	2	3.46	0.31	10.9	186
RA-SD-01-1.5-3.0D	RA-SD01-1.5-3D	RA-SD-01-1.5-3.0D	8/11/2008	1.5	3	3.2	21.5	77.3	0.8	<2	13	NA	6	6,150	95.5	NA	255	0.09	1,090	4	3.99	0.28	9.04	150
RA-SD-02-0-1.5	RA-SD02-0-1.5	RA-SD-02-0-1.5/D/MS/	8/11/2008	0	1.5	5.8	<32.4	52.4	<1	<2	7	NA	4	4,210	106	NA	108	0.13	530	<5	3.13	0.18	2.12	51
RA-SD-02-0-1.5D	RA-SD02-0-1.5D	RA-SD-02-0-1.5D	8/11/2008	0	1.5	4.3	26.6	56.6	0.3	<2	4	NA	3	4,240	137	NA	115	0.09	550	2	4.12	0.31	1.63	44
RA-SD-02-1.5-3.0	RA-SD02-1.5-3	RA-SD-02-1.5-3.0/D/M	8/11/2008	1.5	3	7.4	<39.1	57.4	0.5	<2	8	NA	5	4,180	91.3	NA	181	0.13	1,000	2	3.02	0.25	3.98	77
RA-SD-02-1.5-3.0D	RA-SD02-1.5-3D	RA-SD-02-1.5-3.0D	8/11/2008	1.5	3	9.4 J	55.1 J	99.6	0.7	<2	7	NA	4	4,790	87.8 J	NA	175	0.1	1,430	4	4.73	0.29	3.58	86

Table 7
Former Raffinate Pond Subarea
Soil and Sediment Metal Analytical Results
Sierrita Mine VRP Investigation

					Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium, Total (mg/kg)	Chromium, Hexavalent (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	SPLP Lead (mg/L)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Uranium (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)		
Non-Residential Soil Remediation Level (nr-SRL) ¹					410	10	170,000	1,900	510	NE	65	13,000	41,000	800	NE	32,000	310	5,100	20,000	5,100	67	200	310,000		
Groundwater Protection Level (GPL) ²					35	290	12,000	23	29	590	NE	NE	290	NE	NE	12	NE	590	290	12	NE	NE			
SSCR Report ID (URS 2012)	Revised Sample ID ³	Field Sample ID	Sample Date	Depth (ft bgs)																					
2004 INVESTIGATION																									
EM-9	EM-9	EM-9	8/13/2004	0	0.25	0.6	5.01	NA	0.44	0.57	8	NA	NA	522	38.1	NA	340	< 0.04	230	5	< 0.5	0.22	NA	86	
EM-T-1-1.5'	EM-T-1-1.5'	EM-T-1-1.5'	10/5/2004	-	1.5	1.4	28.3	NA	0.41	1.30	9	NA	NA	2,200	60.9	NA	151	<0.05	305	6	3.76	0.17	NA	51	
EM-T-1-2'	EM-T-1-2'	EM-T-1-2'	10/5/2004	-	2	NA	23	NA	0.82	NA	NA	NA	NA	9,850	63.6	NA	NA	NA	229	NA	NA	NA	NA	NA	NA
EM-T-1-6'	EM-T-1-6'	EM-T-1-6'	10/5/2004	-	6	0.5	5.49	NA	0.85	0.26	12	NA	NA	1,700	36.5	NA	146	0.06	24	9	0.41	0.22	NA	100	
EM-T-1-13'	EM-T-1-13'	EM-T-1-13'	10/5/2004	-	13	NA	1.35	NA	0.69	NA	NA	NA	NA	159	65.9	NA	NA	NA	3	NA	NA	NA	NA	NA	

Notes:

mg/kg - milligrams per kilogram

mg/L - milligrams per liter

¹ ADEQ May 2007 Non-Residential Soil Remediation Level (nr-SRL)

NE - Not established

² ADEQ September 1996 Groundwater Protection Level (GPL); minimum GPL shown

³ Sample ID was revised from either the field ID or the December 2012 SSCR Report ID - revisions were made to correct for mis-labeling in the field, and/or consistency with naming convention specified in the VRP workpla

ft bgs - feet below ground surface

"<" indicates the analyte was not detected at or above the reporting limit. Reporting limit shown in these cases.

NA - Not analyzed

Results in **RED** indicate result is greater than the NR-SRL

Results in **BLUE** indicate result is greater than the minimum GPL

U - Indicates the analyte was not detected at or above the reporting limit. Reporting limit shown in these cases.

J - indicates an estimated value.

Table 8
Former Laydown Yard Subarea
Soil and Sediment Metal Analytical Results
Sierrita Mine VRP Investigation

					Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium, Total (mg/kg)	Chromium, Hexavalent (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	SPLP-Lead (mg/L)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Uranium (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)	
Non-Residential Soil Remediation Level (nr-SRL) ¹					410	10	170,000	1,900	510	NE	65	13,000	41,000	800	NE	32,000	310	5,100	20,000	5,100	67	200	310,000	
Groundwater Protection Level (GPL) ²					35	290	12,000	23	29	590	NE	NE	290	NE	NE	12	NE	590	290	12	NE	NE		
SSCR Report ID	Revised Sample ID ³	Field Sample ID	Sample Date	Depth (ft bgs)																				
2008 CHARACTERIZATION																								
EM-JS-02-0-1	EM-JS02-0-1	EM-JS-02-0-1	8/1/2008	0	1	0.4	5.1	115	0.7	0.9	7	NA	9	2,160	187	NA	566	0.11	382	9	0.55	<0.22	6.85	531
EM-JS-02-1-3	EM-JS02-1-3	EM-JS-02-1-3	8/1/2008	1	3	<1	3.4	89.6	0.5	1.5	5	NA	6	722	576	<0.2	684	<0.2	8	5	0.23	<0.17	10.2	640
EM-JS-06-0-1	EM-JS06-0-1	EM-JS-06-0-1	8/13/2008	0	1	1.5	10.3	45	0.7	<2	9	NA	18	4,090	86.1	NA	448	0.06	1,180	4	3.01	0.21	6.63	161
EM-JS-06-1-3	EM-JS06-1-3	EM-JS-06-1-3	8/13/2008	1	3	1	6.5	40.2	0.4	<2	6	NA	14	1,900	33.5	NA	288	<0.2	472	2	2.58	0.19	4.13	53
EM-JS-06-5-7	EM-JS06-5-7	EM-JS-06-5-7	8/13/2008	5	7	0.9	8.1	39.2	0.5	<2	14	NA	17	2,650	157	NA	371	<0.2	309	4	2.53	0.21	5.12	110
EM-JS-06-10-11	EM-JS06-10-11	EM-JS-06-10-11	8/13/2008	10	11	2.1	15.8	142	0.9	1	22	NA	16	5,870	93.3	NA	579	0.05	481	19	1.85	0.25	18.1	283
EM-JS-07-0-1	EM-JS07-0-1	EM-JS-07-0-1	8/13/2008	0	1	1.4	11.7	96.2	0.2	0.6	12	NA	19	3,770	96.4	NA	382	0.09	6,830	<5	3.68	0.27	6.01	122
EM-JS-07-1-3	EM-JS07-1-3	EM-JS-07-1-3	8/13/2008	1	3	2.3	10.7	77.8	0.7	0.7	13	NA	17	4,840	151	NA	556	0.05	1,000	10	2.77	0.21	8.97	238
EM-JS-07-5-7	EM-JS07-5-7	EM-JS-07-5-7	8/13/2008	5	7	1.2	9.1	75.8	0.7	0.9	10	NA	17	3,840	144	NA	590	0.07	343	11	2.13	0.26	6.49	274
EM-JS-07-10-12	EM-JS07-10-12	EM-JS-07-10-12	8/13/2008	10	12	2.6	16.1	62.6	0.5	2	36	<4	25	5,150	147	NA	645	0.23	5,610	16	3.96	0.26	9.21	393
EM-JS-07-15-16	EM-JS07-15-16	EM-JS-07-15-16	8/13/2008	15	16	2.8	17.8	118	2.1	6	45	<5	19	6,910	120	NA	475	0.13	1,050	12	2.45	0.35 J	36.9 J	386
EM-JS-08-0-1	EM-JS08-0-1	EM-JS-08-0-1	8/12/2008	0	1	1.1	11.9 J	55.7	<1	<2	5	NA	4	2,040	57	NA	166	0.08	1,240	<5	3.24	0.12	2.41	39
EM-JS-08-1-3	EM-JS08-1-3	EM-JS-08-1-3	8/12/2008	1	3	0.4	7.7 J	47.3	<1	<2	2	NA	5	1,800	152	NA	190	0.09	315	<5	3.38	0.2	1.17	39
EM-JS-08-1-3D	EM-JS08-1-3D	EM-JS-08-1-3D	8/12/2008	1	3	0.6	8.2 J	69.5	<1	<2	3	NA	5	1,430	51.9	NA	193	0.07	342	<5	2.85	0.17	1.29	43
EM-JS-08-5-7	EM-JS08-5-7	EM-JS-08-5-7	8/12/2008	5	7	13.6	64.8 J	150	<1	5	36 J	<9	42	26,800	999	<0.0005	932	0.6	6,470	33	7.85	0.22	5.2	1,550
EM-JS-08-10-12	EM-JS08-10-12	EM-JS-08-10-12	8/12/2008	10	12	2 J	16	77.6	0.9	5.3	193	4 R	23	4,120	303	<0.0005	683	0.4	2,220	29	2.86	0.17	7.78	741
2004 INVESTIGATION																								
EM-20	EM-20	EM-20	8/13/2004	0	0.25	2	13.7	NA	0.55	2.39	17	NA	NA	4,710	87.8	NA	405	0.07	6,500	14	5.5	0.2	NA	234

Notes:

mg/kg - milligrams per kilogram

mg/L - milligrams per liter

¹ ADEQ May 2007 Non-Residential Soil Remediation Level (nr-SRL)

NE - Not established

² ADEQ September 1996 Groundwater Protection Level (GPL); minimum GPL shown

³ Sample ID was revised from either the field ID or the December 2012 SSCR Report ID - revisions were made to correct for mis-labeling in the field, and/or consistency with naming convention specified in the VRP workpla

ft bgs - feet below ground surface

NA - Not analyzed

"<" indicates the analyte was not detected at or above the reporting limit. Reporting limit shown in these cases.

Results in **BLUE** indicate result is greater than the minimum GPL

Results in **RED** indicate result is greater than the NR-SRL

J - indicates an estimated value.

Table 9
Former Rehenium Ponds Subarea
Soil and Sediment Metal Analytical Results
Sierrita Mine VRP Investigation

					Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium, Total (mg/kg)	Chromium, Hexavalent (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Thallium (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)	
Non-Residential Soil Remediation Level (nr-SRL) ¹					410	10	170,000	1,900	510	NE	65	13,000	41,000	800	32,000	310	5,100	20,000	5,100	67	200	310,000	
Groundwater Protection Level (GPL) ²					35	290	12,000	23	29	590	NE	NE	290	NE	12	NE	590	290	12	NE	NE		
SSCR Report ID (URS 2012)	Revised Sample ID ³	Field Sample ID	Sample Date	Depth (ft bgs)																			
Top Bottom																							
2005 MWH																							
ORP-0118	ORP-0118	ORP-0118	12/20/2001	0	12	0.06	2.9	41.9	<0.4	0.32	5	NA	NA	204	<8	NA	NA	NA	4	1	0.14	3.21	NA
2008 CHARACTERIZATION																							
RP-JS-01-0-1	RP-JS01-0-1	RP-JS-01-0-1	8/12/2008	0	1	<1	3.5 J	127	0.6	<2	4	NA	5	124	11.4	271	0.07	51	2	0.91	0.15	2.64	40
RP-JS-01-1-3	RP-JS01-1-3	RP-JS-01-1-3	8/12/2008	1	3	<1	3.1 J	46.1	0.2	<2	4	NA	5	183	12.7	244	<0.2	86	2	0.8	0.13	2.44	43
RP-JS-01-1-3D	RP-JS01-1-3D	RP-JS-01-1-3D	8/12/2008	1	3	<1	3.1 J	41.8	<1	<2	4	NA	5	181	13.4	239	<0.2	66	1	0.8	0.14	2.35	42
RP-JS-01-5-7	RP-JS01-5-7	RP-JS-01-5-7	8/12/2008	5	7	<1	1.9 J	49	<1	<2	2	NA	5	137	6.43	231	<0.2	33	2	0.6	0.08	1.26	36
RP-JS-01-10-12	RP-JS01-10-12	RP-JS-01-10-12	8/12/2008	10	12	<1	2.6 J	50.8	0.3	<2	2	NA	5	466	9.69	207	0.06	126	2	1.04	0.09	2.25	48
RP-JS-01-15-17	RP-JS01-15-17	RP-JS-01-15-17	8/12/2008	15	17	0.3	3.6 J	56.8	0.3	<2	2	NA	6	254	11.3	368	<0.2	67	2	0.93	0.15	4.6	84
RP-JS-02-0-1	RP-JS02-0-1	RP-JS-02-0-1	8/12/2008	0	1	0.2	3.5 J	303	1.6	<2	7	NA	10	63	10.8	975	0.04	6	6	0.34	0.25	2.11	51
RP-JS-02-1-3	RP-JS02-1-3	RP-JS-02-1-3	8/12/2008	1	3	<1	3.5 J	47.3	<1	<2	3	NA	2	74	8.5	160	<0.2	121	<5	0.74	0.11	1.07	23
RP-JS-02-1-3D	RP-JS02-1-3D	RP-JS-02-1-3D	8/12/2008	1	3	<1	3.7 J	49.3	<1	<2	3	NA	2	81	9.53	169	0.05	109	<5	0.89	0.12	1.25	26
RP-JS-02-5-7	RP-JS02-5-7	RP-JS-02-5-7	8/12/2008	5	7	<1	5.2 J	188	0.8	<2	4	NA	10	123	7.69	1,250	<0.2	32	4	0.7	0.17	2.12	71
RP-JS-02-10-12	RP-JS02-10-12	RP-JS-02-10-12	8/12/2008	10	12	0.3	3.3 J	50.9	0.5	<2	2	NA	16	323	14.5	713	0.07	93	5	0.93	0.12	9.12	139
RP-JS-02-15-17	RP-JS02-15-17	RP-JS-02-15-17	8/12/2008	15	17	0.2	3.1 J	47.5	0.2	<2	2	NA	7	289	14.7	386	<0.2	51	2	0.84	0.15	4.35	64

Notes:

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