Table 6.3. Aquatic Life Screening Assessment
Morning Star Mine
Mojave National Preserve, California

Analyte (µg/L)	Open Pit Mine (Bottom of Pit)			Leach Pad No. 1 / Pregnant Pond																											California Toxics Rule Criteria USEPA AWQC[a]
				External Pregnant Pond				Bottom of Pregnant Pond				Pregnant Pond Leak Detection System			Leach Pad No. 2 Leachate Collection System				Leach Pad No. 2 (cont.) Leak Detection System			Leach Pad No. 2 (cont.) Standing Water (South Side)				Standing Water (East Side)				
	12/98	12/98 (Dup)	3/2/00	12/98	2/99	3/2/00	5/24/01	12/98	2/99	3/2/00	5/24/01	12/98	2/99	3/2/00	12/98	2/99	3/2/00	5/24/01	12/98	2/99	3/2/00	Dec. 98	Feb. 99	3/2/00	3/2/00 (Dup)	12/98	2/99	3/2/00	5/24/01	
Total Cyanide	ND	ND	<10	2,200	7,000	7,290	8,900	ND	NA	<10	<10	NA	NA	<10	NA	220	117	140	NA	1,100	369	1,100	1,800	1,840	1,040	700	1,600	1,030	830	5.2
WAD Cyanide	NA	NA	NA[b]	NA	1,300	1,540	79	NA	1,000	NA[b]	480	1,900	2,100	NA[b]	340	250	189	<10	1,100	450	26.9	NA	880	1,000	527	700	880	569	<10	5.2
Arsenic	ND	ND	<50	ND	NA	<50	<50	ND	NA	<50	<50	ND	NA	<50	ND	NA	<50	<50	ND	NA	<50	ND	NA	<50	<50	ND	NA	<50	<50	150
Antimony	ND	ND	<50	ND	NA	<50	<50	ND	NA	<50	<50	ND	NA	<50	ND	NA	<50	<50	ND	NA	<50	ND	NA	<50	<50	ND	NA	<50	<50	na
Barium	ND	ND	14.9	46	NA	26.6	39.0	73	NA	70.1	64.0	73	NA	91.7	20	NA	20.6	18.0	35	NA	35.2	35	NA	14.4	335	35	NA	29.3	41.0	na
Beryllium	ND	ND	<1.0	ND	NA	<1.0	<1.0	ND	NA	<1.0	<1.0	ND	NA	<1.0	ND	NA	<1.0	<1.0	ND	NA	<1.0	ND	NA	<1.0	<1.0	ND	NA	<1.0	<1.0	na
Cadmium	ND	ND	<5.0	ND	NA	<5.0	<5.0	ND	NA	<5.0	<5.0	ND	NA	<5.0	ND	NA	5.92	<5.0	5.8	NA	<5.0	ND	NA	<5.0	<5.0	ND	NA	<5.0	<5.0	2.2
Chromium	ND	ND	<10	ND	NA	28.9	17.0	ND	NA	<10	<10	ND	NA	<10	ND	NA	<10	<10	ND	NA	<10	ND	NA	<10	<10	ND	NA	<10	<10	11[c]
Cobalt	ND	ND	<7.0	940	NA	681	770	2,300	NA	2,760	2,700	2,200	NA	3,510	1,400	NA	1,480	1,400	1,600	NA	1,570	2,300	NA	2,060	2,210	1,600	NA	1,240	1,600	na
Copper	<10	ND	<10	44	NA	37.4	19.0	78	NA	50.8	53.0	110	NA	84.4	ND	NA	21.8	16.0	290	NA	152	260	NA	244	226	72	NA	91.4	57.0	9
Lead	5.7	ND	<15	7.2	NA	<15	<15	ND	NA	<15	<15	ND	NA	<15	5.0	NA	<15	<15	ND	NA	<15	5.0	NA	20.8	<15	ND	NA	<15	<15	2.5
Mercury	ND	ND	<0.2	ND	NA	1.02	1.02	ND	NA	<0.2	<0.2	ND	NA	<0.2	ND	NA	<0.2	<0.2	ND	NA	<0.2	ND	NA	<0.2	<0.2	ND	NA	<0.2	<0.2	0.77
Molybdenum	ND	ND	<20	100	NA	173	120	370	NA	382	400	360	NA	486	120	NA	84.8	78.0	1,200	NA	615	970	NA	540	568	330	NA	304	260	na
Nickel	ND	ND	<30	ND	NA	<30	<30	ND	NA	<30	<30	ND	NA	<30	ND	NA	<30	<30	ND	NA	<30	ND	NA	<30	<30	ND	NA	<30	<30	52
Selenium	ND	ND	<50	ND	NA	<50	<50	62	NA	<50	<50	60	NA	<50	10	NA	<50	<50	13	NA	<50	16	NA	<100	<100	14	NA	<50	<50	5
Silver	ND	ND	<7.0	ND	NA	<7.0	<7.0	ND	NA	<7.0	<7.0	ND	NA	<7.0	ND	NA	<7.0	<7.0	ND	NA	<7.0	ND	NA	7.6	7.1	ND	NA	<7.0	<7.0	na
Thallium	6.3	ND	<2.0	11	NA	<2.0	<2.0	14	NA	<2.0	<2.0	17	NA	<2.0	18	NA	3.18	<2.0	8.8	NA	<2.0	17	NA	<2.0	<2.0	13	NA	<2.0	<2.0	na
Vandium	ND	ND	<10	ND	NA	<10	<10	ND	NA	<10	<10	ND	NA	<10	ND	NA	<10	<10	ND	NA	<10	ND	NA	<10	<10	ND	NA	<10	<10	na
Zinc	61	20	<20	17	NA	<20	<20	ND	NA	<20	<20	23	NA	<20	13	NA	<20	<20	74	NA	<20	56	NA	<20	<20	13	NA	<20	<20	120
pH	7.22	7.22	8.45	7.38	7.68	8.10	7.94	8.08	8.30	6.62	8.42	7.38	7.62	6.62	8.07	8.09	7.50	7.92	8.20	8.18	7.89	8.78	8.81	8.56	8.47	8.60	8.82	7.87	7.92	na

µg/L Micrograms per liter (equivalent to parts per billion).
<1.0 Not detected at indicated reporting limit.
AWQC Ambient water quality criteria.
NA Not analyzed.
ND Not detected. No detection limit found.
na Not available.
Dup Duplicate sample.
USEPA U.S. Environmental Protection Agency.
WAD Weak acid dissociable.

Exceeds AWQC.

[a] From: USEPA, 2000b.
[b] Total cyanide is non-detect, therefore WAD cyanide would also be non-detect
[c] Value for Chromium VI used.

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