APPENDIX A

PRIOR NEPA DOCUMENTS AND PERMITS

Table A-1
Summary of Plans of Operations and Environmental Analysis Documents for Cortez Gold Mines 1981 to Present

Plan Date	Plan Case File No./ General Location/ BLM Administration	Description of Operation	Proposed Disturbance Acreage	EA or EIS No./ROD	Plan Approval Date	Comments and Remarks
3/30/81	N64-81-001P Cortez Mine/Cortez Canyon BLM-Battle Mountain	East Pit, Horse Canyon Pit, waste dumps, heap leach pad, leach ponds, mill, tailings disposal, lab, shop, 17-mile haul road and other ancillary facilities.	1,857	N64-EA1-47	8/11/81 Letter of Authorization on post 1981 disturbance	Existing operations when 3809 regulations became effective. Cortez submitted a plan of operation as required by regulations.
5/10/84	N64-81-001P Amendment #1 Cortez Mine/Cortez Canyon BLM-Battle Mountain	Construction of additional tailings cell/pond and surrounding access roads and monitoring wells.	105	Undocumented	10/22/86	Phone conversation records in case file indicate Area Manager verbal approval 10/22/86.
5/21/86	N66-P06-01	Cortez Roasting Project; Gold Acres Deposit.	264	N66-EA6-29	7/31/86	Approval of POO-FONSI Affected Environment – 1.5 pages; Mitigation – 2 pages.
8/86	N14-81-001P Horse Canyon/Mount Tenabo BLM-Elko	South Extension Pit, South Silicified Pit, and waste dumps.	55.8	Undocumented	10/16/86 Letter of Authorization	
2/26/87	N66-P06-01	Request that existing haul road and water line be included in plan.				
3/19/87	N14-81-001P Amendment #1 Horse Canyon/Mount Tenabo BLM-Elko	Access and drill road construction and drilling.	5			
8/12/87	N64-87-010P Cortez Canyon/Pixie area BLM-Battle Mountain	Construction and drilling.	10	N64-EA7-46	10/26/87 Letter of Authorization	Exploration activities were conducted under Notices up to that point. An exploration plan was required for Cortez' exploration and assessment work on unpatented mining claims.
8/17/87	N64-87-010P Amendment #1 Gold Acres area/North Shoshone BLM-Battle Mountain	Exploration: Access and drilling road construction and drilling.	5	N64-EA7-57	9/28/87 Letter of Authorization	Additional exploration activities on claims held by Cortez.

Table A-1 (Continued)

Plan Date	Plan Case File No./ General Location/ BLM Administration	Description of Operation	Proposed Disturbance Acreage	EA or EIS No./ROD	Plan Approval Date	Comments and Remarks
11/9/87	N64-87-010P Amendment #2 Gold Acres area/North Shoshone BLM-Battle Mountain	Exploration: Access and drill road construction and drilling.	1	N64-EA8-13	12/3/87 Letter of Authorization	Additional exploration activities on claims held by Cortez.
11/10/87	N64-87-010P Amendment 88-1A	Exploration for 5 additional drill holes.		N66-EA7-57	11/18/87 Verbal Approval	
11/19/87	N64-87-010P Amendment #3 Cortez Canyon area BLM-Battle Mountain	Exploration: Access and drill road construction and drilling.	1	N64-EA8-16	12/14/87 Letter of Authorization	
5/10/88	N14-81-001P Horse Canyon/Mount Tenabo Amendment #1 BLM-Elko	Exploration: Access and drill road construction and drilling.	1	Undocumented		Additional exploration activities on claims held by Cortez.
5/17/88	N64-87-010P Amendment #4 Cortez Canyon area BLM-Battle Mountain	Exploration: Access and drill road construction and drilling.	1	N64-EA8-65	6/13/88 Letter of Authorization	Additional exploration activities on claims help by Cortez.
6/13/88	N64-87-010P Amendment #5 Cortez Canyon area BLM-Battle Mountain	Exploration: Access and drill road construction and drilling.	1	N64-EA8-83	8/16/88 Letter of Authorization	Additional exploration.
6/29/88	N14-81-001P Amendment #2 Four Mile area/Mount Tenabo BLM-Elko	Exploration: Access and drill road construction and drilling.	1.32	Undocumented	Letter of Approval	
7/12/88	N14-81-001P Amendment #3 Upper Mill Canyon/Mount Tenabo BLM-Elko	Exploration: Access and drill road construction and drilling.	1	Undocumented	8/2/88 Letter of Approval	
7/88 (?)	None in file. Amendment to POO N66-87-001P	Access and drill road construction and drilling.		N66-EA8-83	8/88	Approval of Plans – FONSI (8/15/88). Refers to N66-EA7-46.

Table A-1 (Continued)

Plan Date	Plan Case File No./ General Location/ BLM Administration	Description of Operation	Proposed Disturbance Acreage	EA or EIS No./ROD	Plan Approval Date	Comments and Remarks
7/18/88	N64-87-010P Amendment #6 Cortez Canyon/Pixie area BLM-Battle Mountain	Access and drill road construction and drilling.	12	N64-EA8-91	10/3/88 Letter of Authorization	
10/6/88	N64-86-001P Amendment #2 Gold Acres Mine/North Shoshone BLM-Battle Mountain	Expansion of waste dumps and processing of old leached ore piles.		N64-EA9-11	11/25/88 Letter of Authorization	Extension of waste dumps and remaining of old ore stockpiles.
11/29/88	N64-87-010P Amendment #8 Cortez Canyon area BLM-Battle Mountain	Access and drill road construction and drilling.	10	N64-EA9-25	3/14/89 Record of Decision	A 1,500-acre exploration target under Cortez' control was identified. Programmatic EA to cover exploration activities as submitted by Cortez and approved by BLM.
1/23/89	N64-81-001P Amendment #2 Cortez Mine/Cortez Canyon BLM-Battle Mountain	Development of the ADA 52 deposit and pit and waste dump expansion.	75	N64-EA9-34		
3/2/89	N64-81-001P	Application for removal of 3,000 cubic yards of gravel.				
4/19/89	N64-87-010P Amendment #7 Cortez Canyon/Pixie area BLM-Battle Mountain	Access and drill road construction and drilling.	5	N64-EA8-91	5/2/89 Letter of Authorization	Previous plan proposed 12 acres; only 7 were conducted. Cortez shifted remaining acreage to an adjacent location that is of similar affected environment.
4/27/89	N64-81-001P Amendment #3 Cortez Mine area F-Canyon project BLM-Battle Mountain	Mining F-Canyon Pit and waste dumps.	60	N64-EA0-17	2/8/90 Letter of Authorization	Development of the F-Canyon pit to increase amount of oxide ore to mill until roaster comes on line.
12/89	N64-EA0-17	Amendment to Cortez Mine POO N64-81-001P.			Approved 2/7/90	ADA-52 deposit and F-Canyon Project.

Table A-1 (Continued)

Plan Date	Plan Case File No./ General Location/ BLM Administration	Description of Operation	Proposed Disturbance Acreage	EA or EIS No./ROD	Plan Approval Date	Comments and Remarks
1/90	N64-87- 010P Amendment #10 Cortez and Gold Acres area BLM-Battle Mountain	Expansion – tailings, heap leach, and open pit.	428	N64-EIS3-54	9/20/93 Record of Decision	EIS required by BLM for expansion activities.
2/90	POO Horse Canyon, Cortez Canyon, Gold Acres BLM-Battle Mountain				2/8/90	
3/20/90	POO Supplement BLM-Battle Mountain		7			
5/3/90	N64-87-010P Amendment #9 Cortez Canyon and Gold Acres area BLM-Battle Mountain	Access and drill road construction and drilling.	5	Tiering on existing EA for the project area.	9/17/90 Record of Decision	Administratively determined to be within the scope of previously prepared EAs for the project area.
2/28/91	N64-81-001P	Proposal to expand gravel pit.			5/5/91	
10/7/91	N64-87-010P Gold Acres BLM-Battle Mountain	Exploration drilling.	6.5	N64-EA2-13	1/28/92	
2/28/92	N64-87-010P Gold Acres BLM-Battle Mountain	Phase I drilling.	2.5	N64-EA2-13	3/12/92	
4/20/92	N64-81-001P Amendment #92-1A BLM-Battle Mountain	Construction of 3 wells for groundwater remediation purposes.	0.6	N63-CX92-46	5/18/92	
7/13/92	N64-87-010P Amendment #92-3A BLM-Battle Mountain	Construction of 2 water wells and 9 exploration holes.		N64-EA2-13	7/28/92	
10/5/92	N64-93-001P Pipeline Project BLM-Battle Mountain	New open pit mine, dewatering system, waste dumps, and 5,000 tpd ore processing facility.	1,827	NV64-EIS-94-65	3/4/96	
1/28/93	N64-87-010P Amendment #92-2A BLM-Battle Mountain	Exploration drilling.	6.3	N64-EA8-91 N64-EA7-57	2/16/93	
3/24/93	N64-87-010P Amendment #92-2B BLM-Battle Mountain	Exploration drilling.	16.4		4/29/93	

Table A-1 (Continued)

Plan Date	Plan Case File No./ General Location/ BLM Administration	Description of Operation	Proposed Disturbance Acreage	EA or EIS No./ROD	Plan Approval Date	Comments and Remarks
4/16/93	N64-87-010P Amendment #93-3A BLM-Battle Mountain	Exploration drilling.	7.5	N64-AD3-40	5/14/93	
4/16/93	N64-87-010P Amendment #93-4A BLM-Battle Mountain	Construction of a temporary fuel depot.	0.5	N64-CX3-36	5/14/93	
6/24/93	N64-87-010P Amendment #93-5A BLM-Battle Mountain	Relocating the explosives facility.	1.7	NV64-95AD-05	9/22/93	
7/2/93	N64-87-010P Amendment #92-3A BLM-Battle Mountain	Well drilling to test groundwater system.			7/28/93	
10/22/93	N64-94-001P Crescent Pit BLM-Battle Mountain	Development of Crescent Pit.	219	N64-EA94-1	5/4/94	
2/3/94	N64-94-001P	Environmental Assessment of Crescent Mine.		N64-EA94-21	4/6/94	Decision of Record and FONSI.
3/9/94	N64-81-001P Amendment #94-1A BLM-Battle Mountain	Closure of a landfill and opening 2 landfills.	0.75	NV64-EA94-082	8/22/94	
7/22/94	N64-81-001P Amendment #94-2A BLM-Battle Mountain	Construction of monitoring wells.	0.2	NV64-CX94-83	8/23/94	
9/23/94	N64-87-010P Amendment #94-1A BLM-Battle Mountain	Relocation of an explosives facility.	1.7	NV64-95-AD-05	11/18/94	
6/29/95	N64-87-010P Amendment #95-1A BLM-Battle Mountain	Construction of 3 drill holes, sumps, and roads.	0.8	N64-AD95-061	7/20/95	
10/13/95	N64-87-010P Amendment #96-1A BLM-Battle Mountain	Construction of exploration holes for a gravel pit.	0.5	NV64-CX95-006	1/23/96	
1/8/96	N64-81-001P Amendment #96-1A BLM-Battle Mountain	Construction of 3 monitoring wells (ARD).	0.5	NV64-CX96-27	6/21/96	
1/96	N64-93-100P BLM-Battle Mountain	Cortez Pipeline Gold Deposit Final EIS	1,827	NV64-EIS92-36	3/4/96	
2/8/96	N64-87-010P Amendment #96-3A BLM-Battle Mountain	Construction of gravel pit.	2.5	NV64-AD96-31	3/7/96	

Table A-1 (Continued)

Plan Date	Plan Case File No./ General Location/ BLM Administration	Description of Operation	Proposed Disturbance Acreage	EA or EIS No./ROD	Plan Approval Date	Comments and Remarks
3/25/96	N64-87-010P Amendment #96-4A BLM-Battle Mountain	Construction of a gravel pit.	75	NV64-EA96-35	5/23/96	
5/13/96	N64-81-001P Amendment #96-2A BLM-Battle Mountain	Construction of 3 exploration drill holes.	0.48	NV64-AD96-56	8/28/96	
7/5/96	N64-81-001P Amendment #96A BLM-Battle Mountain	Horse Canyon exploration.		N64-AD96-56	8/28/96	
9/4/95	N64-93-001P Amendment #96-1A Pipeline Project BLM-Battle Mountain	Exploration activities.	50	NV062-AD97-11	2/6/97	
9/16/96	N64-96-001P	Proposal of South Pipeline Project.				
3/3/97	N64-93-001P Amendment #97-1A Pipeline Project BLM-Battle Mountain	Relocation of a road.	6.8	NV063-AD97-32	3/5/97	
3/27/97	N64-87-010P Amendment #97-1A Pipeline Project BLM-Battle Mountain	Expansion of project boundaries.	0	NV63-AD97-048	6/4/97	
3/27/97	N64-93-001P Amendment #97-2A Pipeline Project BLM-Battle Mountain	Expansion of exploration area.	0	NV063-AD97-72	8/18/97	
4/3/97	N64-94-001P Amendment #97-1A Crescent Pit BLM-Battle Mountain	Deepen the Crescent Pit.	0	N63-AD97-43	4/15/97	
6/5/97	N64-93-001P Amendment #97-3A Pipeline Project BLM-Battle Mountain	Construction of 70 infiltration basins.	236	NV063-AD94-064	6/17/97	
10/22/98	N64-93-001P Amendment #98-1A Pipeline Project BLM-Battle Mountain	Expansion of infiltration facilities.	600	NV063-EA98-06	3/12/99	

Table A-1 (Continued)

Plan Date	Plan Case File No./ General Location/ BLM Administration	Description of Operation	Proposed Disturbance Acreage	EA or EIS No./ROD	Plan Approval Date	Comments and Remarks
12/10/99	N64-87-010P (97-1A) NVN-066621 Horse Canyon BLM-Battle Mountain	Horse Canyon/Cortez Unified Exploration Plan.	50	NV063-EA00-35	8/23/01	
2/00	NV64-93-001P (96-2A) NVN-067575 BLM-Battle Mountain	South Pipeline Project Final EIS.	7,616	NV063-EIS98-014	6/27/00	
2/00	NVN-067575	Exploration Acreage Assessment[1].	91	NV063-EIS98-014	6/27/00	
1/16/01	NVN-067575 (01-1A) South Pipeline BLM-Battle Mountain	Modification to the Pipeline Plan of Operations for the Pipeline/South Pipeline Pit Expansion.	0	NV063-EIS01-70	2005	
12/18/01	NVN-067575 (01-2A)	Amendment to the Plan of Operations, Pipeline Gravel Pit Expansion.	60[2]	NV063-DNA02-15	1/8/02	
6/03	NVN-77313	West Pine Valley Exploration.	150	BLM/EK/PL-2003-032	1/05	
7/1/03	NVN-066621 (03-1A) Horse Canyon BLM-Battle Mountain	Horse Canyon/Cortez Unified Exploration Plan Amendment #1.	200	NV063-EA03-37 vs NV063-EA04-61	10/25/04 Amended by BLM State Director 4/4/05	
7/21/03	NVN-078041	West Side Exploration Plan.	200	NV063-EA-04-18	Pending	
12/04	NVN-067575(01-1A)	Pipeline/South Pipeline Pit Expansion Project Final SEIS.	7,676	NV063-EIS01-70	7/13/05	
2/16/06	NVN-067261 Cortez Mine BLM-Battle Mountain	Cortez Underground Exploration Project.	22	NV063-EA05-088	2/16/06	

[1] The BLM has determined that 91 acres have been approved, through several approval processes, for exploration rather than the 98 acres sited in the South Pipeline Project Final EIS approval for a difference of 6.8 acres.
[2] The additional 60 acres are the result of two boundary adjustments that increased the gravel pit and road surface disturbance by 67 acres and an adjustment to the exploration surface disturbance by a decrease of 6.8 acres.

Source: BLM 2000a; 2004e.

APPENDIX B

WATER RESOURCES

Table B-1
Seep and Spring Monitoring Summary

Seep/Spring Concentration Area	Site Identification Number	Quarterly Monitoring Period	Overall Flow Range (gpm)	Late Fall/Winter Flow Range (gpm[1])	Remarks
Rocky Pass Group	27-46-16-11	5/1996 – 9/2006	0.0 – 0.5	0.0 – 0.3	Only wet or unmeasured trickle after May 2000
	27-46-28-11	5/1996 – 9/2006	0.0 – 809	0.0 – 49.3	Mostly dry from August 2002 until March 2005
	27-46-28-221	5/1996 – 9/2006	0.0 – 15	0.0 – 8.6	Mostly dry after July 2003. Dry or non-flowing every August 2000 through 2004.
	27-46-28-224	5/1996 – 9/2006	0.0 – 86.9	4.0 – 38.8	No flow in August 2000 – 2003; no data for August 2004
Peripheral Area	26-46-21-12	5/1996 – 9/2006	0.0 – 1.09	0.0 – 1.09	Mostly unmeasured trickle after August 2000
Toiyabe Catchment	26-47-04-24	5/1996 – 9/2006	0.0 – 18	0.0 – 5.29	Often dry or unmeasured trickle after August 2000
	27-47-27-43	5/1996 – 9/2006	0.0 – 0.1	0.0 – 0.0	Site dry after May 1998
	27-47-33-42	5/1996 – 9/2006	Trickle – 3.3	0.67 – 1.50	Always some flow
	27-47-35-32	5/1996 – 9/2006	0.90 – 111.8	0.9 – 41.3	Always some flow
	27-48-16-31	5/1996 – 9/2006	1.80 – 10.48	2.10 – 6.40	Always some flow
	27-48-19-24	5/1996 – 9/2006	Trickle – 34.28	Trickle – 12.0	Always some flow
Shoshone Group	28-46-02-34	5/1996 – 9/2006	1.36 – 20.0	1.36 – 12.00	Always some flow
	28-46-04-33	5/1996 – 9/2006	0.0 – 0.72	0.0 – 0.13	Site often just wet or with only a trickle
	28-46-05-42	5/1996 – 9/2006	0.0 – 4.3	0.0 – 0.0	Site often dry
	28-46-15-32	5/1996 – 9/2006	0.0 – 2.0	0.0 – 0.0	Site often dry
	28-46-21-11	5/1996 – 9/2006	0.0 – 0.75	0.0 – 0.3	Wet but no flow after March, 2001
	28-46-07-31	5/1996 – 6/2006	0.0 – 32.5	0.0 – 1.9	Semi-annual monitoring; spring, fall
	28-46-17-11	5/1996 – 6/2006	0.0 – 60.0	0.00 – 4.74	Semi-annual monitoring; spring, fall
	28-46-29-22	4/1996 – 5/2006	1.0 – 168.7	1.0 – 30.37	Semi-annual monitoring; spring, fall
	29-46-29-234	4/1996 – 5/2006	0.0 – 5.5	0.0 – 5.2	Semi-annual monitoring; spring, fall
	29-46-29-31	4/1996 – 5/2006	0.0 – 231.5	0.0 – 52.3	Semi-annual monitoring; spring, fall
	29-46-31-22	4/1996 – 6/2006	0.0 – 150.0	0.0 – 7.0	Semi-annual monitoring; spring, fall
	29-46-31-434	5/1996 – 6/2006	0.0 – 100.0	0.0 – 3.5	Semi-annual monitoring; spring, fall
East Valley Group	28-48-28-14	5/1996 – 9/2006	0.0 – 15.0	0.0 – 5.0	At stock tank
	28-48-28-342	5/1996 – 9/2006	0.0 – 0.0	0.0 – 0.0	Seep - wet area only
	28-48-28-343	5/1996 – 9/2006	0.0 – 0.0	0.0 – 0.0	Seep - wet area only
	28-48-28-43	5/1996 – 9/2006	0.0 – 0.0	0.0 – 0.0	Seep - wet area only
	28-48-32-24	5/1996 – 9/2006	0.0 – 2.0	0.0 – 2.0	Observed flow (2.0 gpm) only in November 1998; otherwise wet (seep)
	28-48-32-32	5/1996 – 9/2006	0.0 – 0.0	0.0 – 0.0	Seep - wet area only
	28-48-32-33	5/1996 – 9/2006	0.0 – 2.0	0.0 – 1.3	Mostly just wet area; no flow after August 1997
	28-48-32-34	5/1996 – 9/2006	0.0 – 0.0	0.0 – 0.0	Seep - wet area only
Indian Creek	IC-1	2/1997 – 9/2006	12.4 – 15,427	58.8 – 1,561[2]	Streamflow
Mapped Cortez Spring	26-47-01-41	6/2002 – 11/2004	0.0 – Trickle	0.0 – Trickle	Flows absent or too small to measure
NE Toiyabe Seeps	26-47-01-43	6/2002 – 11/2004	0.0 – 0.0	0.0 – 0.0	Dry except for wet area in March 2004
	26-47-12-21	6/2002 – 11/2004	0.0 – 5	0.0 – 0.0	Dry except for 3 to 5 gpm in March 2004

Table B-1 (Continued)

Seep/Spring Concentration Area	Site Identification Number	Quarterly Monitoring Period	Overall Flow Range (gpm)	Late Fall/Winter Flow Range (gpm[1])	Remarks
Cortez Canyon	27-47-36-431	6/2002 – 11/2004	0.0 – 0.0	0.0 – 0.0	Dry except for drilling water in June 2002
	27-47-36-433	6/2002 – 11/2004	0.0 – 0.0	0.0 – 0.0	Dry except for drilling water in June 2002
	26-47-01-212	6/2002 – 11/2004	0.0 – 0.0	0.0 – 0.0	Dry except for drilling water in June 2002
	26-47-01-214	6/2002 – 11/2004	0.0 – 0.0	0.0 – 0.0	Dry except for drilling water in June 2002
NE Survey Area	27-48-30-44	6/2002 – 11/2004	0.0 – 0.0	0.0 – 0.0	Seep; generally wet, but no flow except for trickle in November 2004
NE Corner	27-48-421	6/2002 – 11/2004	0.0 – 0.0	0.0 – 0.0	Dry
	27-48-30-412	6/2002 – 11/2004	0.0 – 0.0	0.0 – 0.0	Dry
	27-48-30-423	6/2002 – 11/2004	0.0 – 0.0	0.0 – 0.0	Dry
Horse Canyon Area	26-48-3-143	8/2005	21	No data	Sources within and outside channel; flow seeps into substrate nearby
	26-48-34-322A	8/2005	5.2	No data	Originates below a reclaimed waste rock facility
	26-48-3-213	8/2005	4.4	No data	Multiple spring sources
	26-48-3-321	8/2005	24	No data	Large source originating below outcrop
	26-48-2-423A	8/2005	5.3	No data	Two sources; flow seeps into substrate nearby
	26-48-10-344	8/2005	14.2	No data	Large spring in incised channel
	26-48-23-211B	8/2005	Trickle	No data	Flow re-emergence; standing water
	26-48-14-424	8/2005	7.0	No data	Flow seeps into substrate nearby
	26-48-26-123A	8/2005	2.9	No data	Flow from seepage entering through channel materials

[1] Generally November through February. Does not include flows suspected to be influenced by spring snowmelt.
[2] Reflects November data only (assumed low-flow period).

Sources: Geomega 2006e; JBR 2007c.

Table B-2
Summary of Active Water Rights in the Vicinity of the Cortez Hills Expansion Project

Map Number[1]	Basin	Application	Certificate	File Date	Status[2]	Source	Section	Township	Range	Diversion Rate (CFS)	Type of Use[3]	Owner
1	Pine	7434	1724	7/11/1925	CER	Spring	2	26N	48E	0.053	Stock	Connolly, Thomas
2	Pine	7436	1725	7/11/1925	CER	Spring	3	26N	48E	0.034	Stock	Connolly, Thomas
3	Pine	7492	1729	9/4/1925	CER	Spring	35	27N	48E	0.05	Stock	Cortez Joint Venture
4	Pine	7503	1730	9/16/1925	CER	Spring	10	26N	48E	0.034	Stock	Connolly, Thomas
5	Pine	7504	1731	9/16/1925	CER	Spring	11	26N	48E	0.038	Stock	Connolly, Thomas
6	Pine	21178	7397	4/5/1963	CER	Stream	14	26N	48E	2	Irrigation	Connolly, Thomas
7	Pine	V01945		9/23/1925	VST	Spring	10	26N	48E	1	Stock	Connolly, Thomas
8	Pine	V01946		9/23/1925	VST	Spring	4	26N	48E	0.025	Stock	Connolly, Thomas
9	Crescent	6800	2360	10/19/1922	CER	Stream	3	28N	49E	0.504	Irrigation	Dann, Mary
10	Crescent	7095	2361	4/23/1924	CER	Stream	2	28N	49E	0.155	Irrigation	Dann, Mary
11	Crescent	7189	1809	8/4/1924	CER	Spring	21	27N	48E	0.184	Mining/Milling	Cortez Joint Venture
12	Crescent	7400	3458	6/18/1925	CER	Spring	36	26N	45 E	0.002	Stock	Filippini, Henry
13	Crescent	7401	3459	6/18/1925	CER	Spring	6	25N	46E	0.002	Stock	Filippini, Henry
14	Crescent	7435	2336	7/11/1925	CER	Spring	12	27N	49E	0.025	Stock	Cortez Joint Venture
15	Crescent	7437	2337	7/11/1925	CER	Spring	21	28N	49E	0.034	Stock	Cortez Joint Venture
16	Crescent	7438	2481	7/11/1925	CER	Spring	24	28N	49E	0.019	Stock	Cortez Joint Venture
17	Crescent	7439	2338	7/11/1925	CER	Spring	25	28N	49E	0.013	Stock	Cortez Joint Venture
18	Crescent	7440	2482	7/11/1925	CER	Spring	27	28N	49E	0.019	Stock	Cortez Joint Venture
19	Crescent	7464	1726	8/5/1925	CER	Spring	23	27N	48E	0.05	Stock	Cortez Joint Venture
20	Crescent	7465	1727	8/5/1925	CER	Spring	26	27N	48E	0.05	Stock	Cortez Joint Venture
21	Crescent	7466	1728	8/5/1925	CER	Spring	15	27N	48E	0.05	Stock	Cortez Joint Venture
22	Crescent	7500	3460	9/8/1925	CER	Spring	6	25N	46E	0.002	Stock	Filippini, Henry
23	Crescent	7502	2480	9/16/1925	CER	Spring	24	28N	49E	0.019	Stock	Cortez Joint Venture
24	Crescent	7788	2339	6/24/1926	CER	Spring	36	28N	48E	0.034	Stock	Cortez Joint Venture
25	Crescent	10071	2599	1/11/1937	CER	Groundwater	22	28N	47E	0.67	Mining/Milling	Mill Gulch Placer Mining Co.
26	Crescent	10485	2773	4/4/1940	CER	Groundwater	17	27N	47E	0.016	Stock	Filippini, Ed
27	Crescent	11186	3528	10/13/1944	CER	Stream	29	26N	47E	0.58	Irrigation	Filippini, Ed
28	Crescent	11451	3940	12/20/1945	CER	Stream	9	28N	49E	4	Irrigation	Cortez Joint Venture
29	Crescent	13254	3999	2/3/1950	CER	Spring	19	27N	48E	0.018	Stock	Cortez Joint Venture
30	Crescent	13343	4845	3/29/1950	CER	Groundwater	3	28N	47E	0.13	Mining/Milling	Little Gem Mining Co.
31	Crescent	15835	4832	10/27/1954	CER	Spring	10	28N	49E	0.006	Stock	Dann, Dewey
32	Crescent	17622	5646	7/24/1958	CER	Stream	17	27N	48E	1.2	Irrigation	Cortez Joint Venture
33	Crescent	17623	5647	7/24/1958	CER	Stream	17	27N	48E	1.6	Irrigation	Cortez Joint Venture
34	Crescent	19093	6656	8/3/1960	CER	Groundwater	10	28N	47E	0.2785	Mining/Milling	Wright, Elwood
35	Crescent	44757		10/29/1981	RFP	Groundwater	8	27N	47E	0.01	Stock	BLM
36	Crescent	50683		3/13/1987	PER	Groundwater	10	28N	47E	2	Mining/Milling	Wright, Elwood
37	Crescent	73266		9/22/2005	PER	Spring	1	26N	47E	0.0155	Stock	Cortez Joint Venture
38	Crescent	73267		9/22/2005	PER	Spring	1	26N	47E	0.0155	Stock	Cortez Joint Venture
39	Crescent	73268		9/22/2005	PER	Spring	12	26N	47E	0.0155	Stock	Cortez Joint Venture
40	Crescent	73269		9/22/2005	PER	Spring	36	27N	47E	0.0155	Stock	Cortez Joint Venture
41	Crescent	73270		9/22/2005	PER	Spring	36	27N	47E	0.0155	Stock	Cortez Joint Venture
42	Crescent	73271		9/22/2005	PER	Spring	1	26N	47E	0.0155	Stock	Cortez Joint Venture
43	Crescent	73272		9/22/2005	PER	Spring	1	26N	47E	0.0155	Stock	Cortez Joint Venture
44	Crescent	73273		9/22/2005	PER	Spring	30	27N	48E	0.0155	Stock	Cortez Joint Venture
45	Crescent	73274		9/22/2005	PER	Spring	30	27N	48E	0.0155	Stock	Cortez Joint Venture
46	Crescent	73275		9/22/2005	PER	Spring	30	27N	48E	0.0155	Stock	Cortez Joint Venture
47	Crescent	73276		9/22/2005	PER	Spring	30	27N	48E	0.0155	Stock	Cortez Joint Venture

Table B-2 (Continued)

Map Number[1]	Basin	Application	Certificate	File Date	Status[2]	Source	Section	Township	Range	Diversion Rate (CFS)	Type of Use[3]	Owner
48	Crescent	74542T		7/19/2006	PER	Groundwater	24	29N	47E	1.5	Mining/Milling	Nevada Rae Gold Inc.
49	Crescent	74543T		7/19/2006	PER	Groundwater	24	29N	47E	0.84	Mining/Milling	Nevada Rae Gold Inc.
50	Crescent	V01545		2/20/1918	VST	Spring	18	29N	47E	1	Irrigation	Cortez Joint Venture
51	Crescent	V01911		8/12/1925	VST	Spring	21	26N	46E	0.003	Stock	Filippini, Henry
52	Crescent	V01912		8/12/1925	VST	Spring	10	25N	46E	0.002	Stock	Filippini, Henry
53	Crescent	V01913		8/12/1925	VST	Spring	10	25N	46E	0.001	Stock	Filippini, Henry
54	Crescent	V01916		8/12/1925	VST	Spring	8	25N	47E	0.001	Stock	Filippini, Henry
55	Crescent	V01917		8/12/1925	VST	Spring	17	25N	47E	0		Filippini, Henry
56	Crescent	V01918		8/12/1925	VST	Spring	8	25N	47E	0.001	Stock	Filippini, Henry
57	Crescent	V01919		8/12/1925	VST	Spring	14	25N	46E	0.003	Stock	Filippini, Henry
58	Crescent	V01920		8/12/1925	VST	Spring	14	25N	46E	0.001	Stock	Filippini, Henry
59	Crescent	V01921		8/12/1925	VST	Spring	6	25N	47E	0		Filippini, Henry
60	Crescent	V01922		8/12/1925	VST	Spring	6	25N	47E	0		Filippini, Henry
61	Crescent	V01923		8/12/1925	VST	Spring	8	25N	47E	0.002	Stock	Filippini, Henry
62	Crescent	V01924		8/12/1925	VST	Spring	11	25N	46E	0.001	Stock	Filippini, Henry
63	Crescent	V01928		8/12/1925	VST	Spring	6	25N	46E	0	Stock	Filippini, Henry
64	Crescent	V01941		9/23/1925	VST	Spring	22	28N	49E	0.103	Stock	Cortez Joint Venture
65	Crescent	V02041		6/16/1926	VST	Spring	10	27N	49E	0.5	Stock	Cortez Joint Venture
66	Crescent	V02042		6/16/1926	VST	Spring	14	27N	49E	0.5	Stock	Cortez Joint Venture
67	Crescent	V02043		6/16/1926	VST	Spring	18	27N	49E	0.5	Stock	Cortez Joint Venture
68	Crescent	V02045		6/16/1926	VST	Spring	33	27N	48E	0.5	Stock	Cortez Joint Venture
69	Crescent	V02047		6/16/1926	VST	Spring	21	28N	49E	0.11	Stock	Cortez Joint Venture
70	Crescent	V02049		6/16/1926	VST	Spring	24	28N	49E	0.103	Stock	Cortez Joint Venture
71	Crescent	V02093		6/9/1927	VST	Spring	14	27N	49E	0	Stock	Tsakopoulos, Angelo K.
72	Crescent	V02094		6/9/1927	VST	Stream	13	27N	49E	0	Stock	Tsakopoulos, Angelo K.
73	Crescent	V07574		2/23/1996	VST	Spring	16	29N	46E	0.016	Stock	Julian Tomera Ranches, Inc.
74	Crescent	V09005		2/10/1998	VST	Spring	32	28N	48E	0	Stock	Cortez Joint Venture
75	Crescent	V09006		2/10/1998	VST	Spring	32	28N	48E	0	Stock	Cortez Joint Venture
76	Crescent	V09007		2/10/1998	VST	Spring	32	28N	48E	0	Stock	Cortez Joint Venture
77	Crescent	V09008		2/10/1998	VST	Spring	28	28N	48E	0	Stock	Cortez Joint Venture
78	Crescent	V09009		2/10/1998	VST	Spring	28	28N	48E	0	Stock	Cortez Joint Venture
79	Crescent	V09010		2/10/1998	VST	Spring	28	28N	48E	0	Stock	Cortez Joint Venture
80	Crescent	V09040		11/24/1998	VST	Stream	5	28N	47E	0	Irrigation	Wintle, Grace
81	Crescent	V09042		11/24/1998	VST	Stream	13	28N	48E	0	Irrigation	Cortez Joint Venture
82	Crescent	V09043		11/24/1998	VST	Stream	7	28N	49E	0	Irrigation	Cortez Joint Venture
83	Crescent	V09044		11/24/1998	VST	Stream	27	28N	48E	0	Irrigation	Cortez Joint Venture
84	Grass	V01940		9/23/1925	VST	Spring	3	25N	48E	0	Stock	Connolly, Thomas
85	Grass	V01943		9/23/1925	VST	Spring	27	26N	47E	0.025	Stock	Cortez Joint Venture
86	Grass	V01944		9/23/1925	VST	Spring	22	26N	47E	0.025	Stock	Cortez Joint Venture
87	Grass	V01947		9/23/1925	VST	Spring	34	26N	47E	0.025	Stock	Cortez Joint Venture
88	Grass	V09249		3/27/2000	VST	Spring	11	25N	48E	0.059	Stock	Penola, Edna
89	Grass	V09580		1/27/2006	VST	Spring	33	26N	47E	0.05	Stock	Filippini Trust

[1] See **Figure 3.2-9**.
[2] CER=Certificate
PER=Permit
VST=Vested Right

Source: Geomega 2006f.

APPENDIX C

WILDLIFE

Table C-1
Wildlife Species Observed During 2000 and 2005 Baseline Surveys

Common Name/Scientific Name	Within Project Area	Outside Project Area	Comments
BIRD SPECIES			
Turkey vulture *Cathartes aura*	x		Overflying the area, 2005.
Golden eagle *Aquila chrysaetos*	x	x	Individuals and a nest on cliffs observed just outside of the study area in March 2000. Two adults over Copper Canyon in May 2005.
Red-tailed hawk *Buteo jamaicensis*	x		Multiple sightings over Copper Canyon in May 2005.
American kestrel *Falco sparverius*	x		March and June 2000 surveys.
Sharp-shinned hawk *Accipiter striatus*	x		March 2000 surveys.
Common nighthawk *Chordeiles minor*	x		2000 surveys.
Chukar *Alectoris chukar*	x		2005 surveys.
Mourning dove *Zenaida macroura*	x		Observed at several locations usually near water sources, 2000 and 2005.
Common poorwill *Phalaenoptilus nuttallii*	x		Observed during 2000 surveys. Heard calling in Copper Canyon in May and June 2005.
Northern pygmy owl *Glaucidium gnoma*	x		Possible calls heard in northern Toiyabe Range, May 2005.
Burrowing owl *Athene cunicularia*	x	x	Northwest Crescent Valley 2000. Active nest along roadside east of Toiyabe Range, May and June 2005.
Long-eared owl *Asio otis*	x		March 2000 surveys.
Short-eared owl *Asio flammeus*	x		March 2000 surveys.
Greater sage-grouse *Centrocercus urophasianus*		x	Complex in Grass Valley, southeastern foothills of the Cortez Mountains between Horse Canyon and Willow Creek. Two leks known to exist east of the study area in Horse Canyon 2000.
Northern (red-shafted) flicker *Colaptes auratus*	x		In piñon-junipers in higher parts of the study area, 2000 and 2005.
Hairy woodpecker *Picoides villosus*	x		Male in piñon-juniper forest on east side of northern Toiyabe Range, 2005.
Gray flycatcher *Empidonax wrightii*	x		In piñon-junipers in higher parts of the study area during 2000 and 2005 surveys.
Juniper titmouse *Baeolophus ridgway*	x		2000 surveys.
Horned lark *Eremophila alpestris*	x		2000 and 2005 surveys.
Pinyon jay *Gymnorhinus cyanocephalus*	x		In piñon-junipers in higher parts of the study area during 2000 and 2005 surveys.
Scrub jay *Aphelocoma coerulescens*	x		Documented in riparian areas during 2000 surveys. In piñon-junipers in higher parts of the study area 2005.

Table C-1 (Continued)

Common Name/Scientific Name	Within Project Area	Outside Project Area	Comments
Clark's nutcracker *Nucifraga columbiana*	x		In higher parts of the study area, 2005.
Black-billed magpie *Pica pica*	x		Probable family group in lower Copper Canyon, 2005.
Common raven *Corvus corax*	x		Multiple observations during the 2000 surveys. Throughout area, at least 2 nests found on outcrops in northern Toiyabe Range, 2005.
Bushtit *Psaltriparus minimus*	x		In piñon-junipers in higher parts of the study area 2000 and 2005.
Rock wren *Salpinctes obsoletus*	x		2000 and 2005 surveys.
Blue-gray gnatcatcher *Polioptila caerulea*	x		In piñon-junipers in higher parts of the study area during 2000 and 2005 surveys.
Sage thrasher *Oreoscoptes montanus*	x		2005 surveys.
American robin *Turdus migratorius*	x		In piñon-juniper habitats and riparian areas during 2000 and 2005 surveys.
Plumbeous vireo *Vireo plumbeus*	x		In piñon-junipers in higher parts of the study area, 2005.
Black-throated gray warbler *Dendroica nigrescens*	x		In piñon-junipers in higher parts of the study area during 2000 and 2005 surveys.
Yellow warbler *Dendroica petechia*	x		2000 surveys.
Broad-tailed hummingbirds *Selasphorus platycercus*	x		2000 surveys.
Black-headed grosbeak *Pheucticus ludovicianus*	x		In piñon-junipers in higher parts of the study area, 2005.
Lazuli bunting *Passerina amoena*	x		Common in riparian habitats, 2005.
Spotted towhee *Pipilo maculatus*	x		Recorded in riparian and brushy habitats in 2000 and 2005.
Western tanager *Piranga lodoviciana*	x		2005 surveys.
Lark sparrow *Chondestes grammacus*	x		Open areas and ridges during 2000 and 2005 surveys.
Brewer's blackbird *Euphagus cyanocephalus*	x		2000 surveys.
Black-throated sparrow *Amphispiza bilineata*	x		Observed in 2000 surveys. In Crescent Valley, just west of northern Toiyabe Range, 2005.
Chipping sparrow *Spizella passerina*	x		In piñon-junipers in higher parts of the study area during 2000 and 2005 surveys.
Brewer's sparrow *Spizella breweri*	x		2000 and 2005 surveys.
Western meadowlark *Sturnella neglecta*	x		2000 and 2005 surveys.
Mountain chickadees *Poecile gambeli*	x		2000 surveys.

Table C-1 (Continued)

Common Name/Scientific Name	Within Project Area	Outside Project Area	Comments
Ruby-crowned kinglet *Regulus calendula*	x		2000 surveys.
Mountain bluebird *Sialia currucoides*	x		2000 surveys.
Pine siskin *Carduelis pinus*	x		Copper Canyon, 2005.
Western tanager *Piranga ludoviciana*	x		2000 surveys.
Cassin's finch *Carpodacus cassinii*	x		Piñon-juniper forest higher in northern Toiyabe Range, June 2005. In piñon-juniper habitats above Cortez Canyon during 2000 surveys.
House finch *Carpodacus mexicanus*	x		2005 surveys.
MAMMALS			
Townsend's big-eared bat *Corynorhinus townsendii*	x	x	Adit in central Copper Canyon using an AnaBat bat detector, May 2005.
Little brown myotis *Myotis lucifugus*	x	x	Adit and pond in central Copper Canyon using an AnaBat bat detector, May 2005.
Long-eared myotis *Myotis evotis*	x	x	Pond in central Copper Canyon using an AnaBat bat detector, May 2005.
Big brown bat *Eptesicus fuscus*	x		Adit and pond in central Copper Canyon using an AnaBat bat detector, May 2005.
Pallid bat *Antrozous pallidus*		x	Mist netting surveys east of the project area in mine workings in September 2004.
Western pipistrelle *Pipestrelles hesperus*		x	AnaBat bat detectors east of the project area in mine workings in September 2004.
California myotis *Myotis californicus*		x	AnaBat bat detectors east of the project area in mine workings in September 2004.
Hoary bat *Lasiurus cinereus*		x	AnaBat bat detectors east of the project area in mine workings in September 2004.
Coyote *Canis latrans*	x		Documented during the 2000 surveys. Tracks in area, heard howling east of northern Toiyabe Range 2005.
Grey or kit fox *Vulpes macrotis* or *Urocyon cinereoargenteus*	x		Tracks found during the 2000 surveys.
Mule deer *Odocoileus hemionus*	x		Multiple observations throughout the study area 2000 and 2005.
Antelope *Antilocapra americana*		x	One in Crescent Valley approximately 2 miles northwest of survey area, 2005. Multiple sightings near the study area in 2000.
Packrat *Neotoma* sp.	x		Near Cortez townsite in 2000. In northern Toiyabe Range, 2005.
Least chipmunk *Tamias minimus*	x		Documented during the 2000 surveys. In piñon-juniper habitats in northern Toiyabe Range, May and June 2005.
Townsend's ground squirrel *Spermophilus townsendii*	x		2005 surveys.

Table C-1 (Continued)

Richardson's ground squirrel *Ammospermophilus richarsonii*	x		In northern Toiyabe Range, 2005.
Black-tailed jackrabbit *Lepus californicus*	x		2005 surveys.
Mountain cottontail *Sylvilagus nuttali*	x		In northern Toiyabe Range, 2000 and 2005.
Wild/feral horse *Equus caballus*	x		Groups of 5 and 8 horses observed in northern Toiyabe Range, and tracks throughout the northern part of the range, 2005.
REPTILES			
Western fence lizard *Sceloporus occidentalis*	x		2000 and 2005 surveys.
Western whiptails *Cnemidophorus tigris*	x		2000 survey.
Collard lizard *Crotaphytus collaris*	x		2000 survey.
Collard lizard *Crotaphytus collarisi*	x		One individual in piñon-juniper forest in upper Copper Canyon, 2005.
Gopher Snake *Pituophis melanoleucus*.	x		One individual in higher northern Toiyabe Range, 2005.
INVERTEBRATES			
Springsnails *Pyrgulopsis* spp.		x	Northeast of the project boundary in Fourmile Canyon, 2000.

Sources: BLM 2000a, 2002f, 2004e; JBR 2000b, 2004, 2005c; NNHP 2005; USFWS 2002, 2006.

Table C-2
Special Status Species Identified for the Cortez Hills Expansion Project

Common Name/ Scientific Name	Status[1]	Range Habitat Requirements	Potential for Occurrence on or Near the Project Area	Eliminated From Detailed Analysis
BIRDS				
Western least bittern *Ixobrychus exilis hesperis*	BLM	Range: Throughout Nevada, as a rare migrant and breeding species. Habitat: Requires dense emergent vegetation within wetlands and marshes. Nests over water in dense emergent vegetation.	None.	Yes. No potentially suitable nesting habitat occurs within or near the study area. The closest habitat occurs along the Humboldt River (approximately 30 miles north of the project boundary). Occurrence within the project area would be limited to migrating individuals.
Northern goshawk *Accipiter gentilis*	BLM	Range: Throughout Nevada. Habitat: Generally occupies montane forests in spring and summer, with some altitudinal migration into foothills and valleys in the winter. Montane and foothill aspen groves are the species' preferred nesting sites in Nevada, generally near perennial streams.	Low. No suitable nesting habitat occurs within or near the permit area. However, suitable habitat could occur within the study area.	No.
Bald eagle *Haliaeetus leucocephalus*	FT	Range: Throughout Nevada. Habitat: Nests in close association with water; winters where abundant food is available, generally feeding near large bodies of water with appropriate roosting trees nearby.	Low. No suitable nesting or roosting habitat occurs within the study area. However, suitable upland foraging habitat occurs within the study area.	No.
Golden eagle *Aquila chrysaetos*	BLM	Range: Throughout Nevada and the West. Habitat: Occupies a variety of habitats. Nest on cliffs or rock outcrops, less commonly in trees, usually in isolated undisturbed areas.	High. Nest sites have been documented within the study area. This species also has been observed within the project boundary.	No.
Ferruginous hawk *Buteo regalis*	BLM	Range: Primarily in eastern and central Nevada. Habitat: Edge of piñon-juniper habitat at interface with low shrub grasslands.	Moderate. No nest sites have been documented within 2 miles of the project boundary. However, potential nesting and foraging habitat occurs within the study area.	No.

Table C-2 (Continued)

Common Name/ Scientific Name	Status[1]	Range Habitat Requirements	Potential for Occurrence on or Near the Project Area	Eliminated From Detailed Analysis
Swainson's hawk *Buteo swainsonii*	BLM	Range: Throughout Nevada and the west. Habitat: Open habitats, including agricultural areas. Generally nests in trees overlooking these habitats, particularly in cottonwoods overlooking pasture and agricultural lands.	Low. No suitable nest trees occur within the project boundary. However, suitable habitat could occur within the study area.	No.
Prairie falcon *Falco mexicanus*	BLM	Range: Throughout Nevada and the west. Habitat: Nests primarily on ledges and outcrops in steep cliff-faces bordered by desert valleys and agricultural areas.	High. Prairie falcons have been documented within project boundary. Suitable nesting and foraging habitat occurs within the study area.	No.
Greater sage-grouse *Centrocercus urophasianus*	BLM	Range: Throughout Nevada where sagebrush occurs. Habitat: The species occurs in healthy sagebrush habitats. Leks are located in open areas. Nesting is within sagebrush habitats near leks. Chicks are raised in moist meadows within sagebrush communities.	High. Potential sagebrush habitat occurs within the study area. Although sage-grouse have not been identified within the project boundary, sage-grouse are known to occur within the study area.	No.
Mountain quail *Oreortyx pictus*	BLM	Range: Western Nevada and the Sierras and has been reported from the Toiyabe Range in central Nevada. Habitat: Frequents areas of dense vegetation on steep mountain slopes and dense shrub vegetation along mountain streams.	Low. This species is known to occur within the mountain ranges of the study area.	No.
Snowy plover *Charadrius alexandrinus*	BLM	Range: Much of the Great Basin portion of Nevada. Habitat: The species selects barren salt pans or dry mudflats for nesting, usually at playas in the valley bottoms.	None.	Yes. No potentially suitable nesting habitat occurs within or near the study area. The closest habitat occurs along the Humboldt River (approximately 30 miles north of the project boundary). Occurrence within the project area would be limited to migrating individuals.
Long-billed curlew *Numenius americanus*	BLM	Range: Throughout Nevada's Great Basin. Habitat: Open habitats, including grassy areas close to marshes and open dry areas including alkali lakes and playas.	None.	Yes. No suitable nesting or foraging habitat occurs within the study area. Occurrence within the project area would be limited to migrating individuals.

Table C-2 (Continued)

Common Name/ Scientific Name	Status[1]	Range Habitat Requirements	Potential for Occurrence on or Near the Project Area	Eliminated From Detailed Analysis
Yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC	Range: Primarily the eastern U.S. with isolated occurrences in suitable habitat in the western states. Habitat: In the west, the yellow-billed cuckoo nests in dense and extensive riverine riparian habitat along larger streams and rivers, usually with extensive cottonwood groves.	None.	Yes. No suitable nesting or foraging habitat occurs within the study area. Occurrence within the project area would be limited to migrating individuals.
Short-eared owl *Asio flammeus*	BLM	Range: Common summer and sometimes winter resident throughout the Great Basin in Nevada. Habitat: Open grassland, meadow, and wetland habitats. Requires low shrub cover and riverside vegetation for hunting over open grassland.	High. One individual was observed within the project boundary. Although no nesting has been documented within the project boundary, suitable nesting habitat occurs within the study area.	No.
Long-eared owl *Asio otis*	BLM	Range: The long-eared owl is widespread throughout Nevada. Habitat: High elevation wetlands, juniper woodlands, and coniferous forests. The species nests and hunts within dense riparian habitat, often with a deciduous tree component.	High. One individual was observed within the permit area. Although no nesting has been documented within the permit area, suitable nesting habitat occurs within the study area.	No.
Western burrowing owl *Athene cunicularia hypugaea*	BLM	Range: Throughout Nevada and the West. Habitat: The owls select open areas with low vegetation in grassland, shrubland, and agricultural areas. The owls often select cut banks or berms along roads and field and cut banks along washes. Nest sites include abandoned burrows of prairies dogs, ground squirrels, foxes, and badgers.	High. Occupied nests were observed near a dirt road within the study area.	No.
Flammulated owl *Otus flammeolus*	BLM	Range: The Sierra Nevada, Utah, Arizona, New Mexico, Colorado, and isolated mountain ranges in the Nevada portion of the Great Basin. Habitat: Mature ponderosa and Jeffrey pine forest with large trees. Nests in snags of large dead trees.	None.	Yes. No suitable nesting or foraging habitat occurs within the study area. Occurrence within the project area would be limited to migrating individuals.

Table C-2 (Continued)

Common Name/ Scientific Name	Status[1]	Range Habitat Requirements	Potential for Occurrence on or Near the Project Area	Eliminated From Detailed Analysis
Lewis's woodpecker *Melanerpes lewis*	BLM	Range: Throughout the Great Basin and the West. Habitat: Requires areas of trees interspersed with open areas. Primary breeding habitat is open ponderosa and Jeffrey pine forests, but also occurs in logged or burned coniferous forests, and in open mountain mahogany, aspen, and cottonwood groves.	None.	Yes. No suitable nesting or foraging habitat occurs within the study area. Occurrence within the project area would be limited to migrating individuals.
Red-naped sapsucker *Sphyrapicus nuchalis*	BLM	Range: A common permanent resident throughout the Great Basin in Nevada and elsewhere in the West. Habitat: Prefers deciduous trees, nesting in groves of aspen in the mountains and in cottonwoods along streams.	None.	Yes. No suitable nesting or foraging habitat occurs within the study area. Occurrence within the project area would be limited to migrating individuals.
Pinyon jay *Gymnorhinus cyanocephalus*	BLM	Range: A common and abundant year-round resident species throughout the Great Basin. Habitat: The species is closely associated with piñon-juniper habitats but also in association with other pines such as Jeffrey pine.	High. This species has been commonly observed within the study area.	No.
Crissal thrasher *Toxostoma crissale*	BLM	Range: Southern Nevada, southern California, southern Arizona. Habitat: Joshua trees and catclaw mesquite chapparal.	None.	Yes. No suitable nesting or foraging habitat occurs within the study area. The study area is outside of the geographical range of this species.
LeConte's thrasher *Toxostoma lecontei*	BLM	Range: Southern Nevada, southern California, and southern Arizona. Habitat: Hottest and lowest deserts, often in open creosote and desert shrub habitats, occasionally catclaw mesquite chapparal.	None.	Yes. No suitable nesting or foraging habitat occurs within the study area. The study area is outside of the geographical range of this species.
Loggerhead shrike *Lanius ludovicianus*	BLM	Range: Throughout the west and U.S. Habitat: The shrike is a common, but not abundant, summer resident of the Great Basin. It frequents open county in the valleys and foothills of the Great Basin, using a variety of shrub and grassland habitats, perching conspicuously on shrubs and fences, and nesting in dense shrubs.	Moderate. Potential habitat within the vicinity of the project area. Although no documented occurrences were reported during the surveys, potential nesting habitat occurs within the study area.	No.

Table C-2 (Continued)

Common Name/ Scientific Name	Status[1]	Range Habitat Requirements	Potential for Occurrence on or Near the Project Area	Eliminated From Detailed Analysis
Gray vireo *Vireo vicinior*	BLM	Range: South and southeast central Nevada, southern Utah, and Arizona. Habitat: Dry brush slopes and piñon-juniper in mountain foothills.	None.	Yes. The study area is outside of the geographical range of this species.
Lucy's warbler *Vermivora luciae*	BLM	Range: Southern Nevada, southern California, southern Arizona, and southern Utah. Habitat: Riparian habitats along streams.	None.	Yes. No suitable nesting or foraging habitat occurs within the study area. The study area is outside of the geographical range of this species.
Vesper sparrow *Pooecetes gramineus*	BLM	Range: Throughout the Great Basin. Habitat: The vesper sparrow is a ground-nesting bird that frequents open ground habitat with low shrubs and sparse grass cover in low sagebrush grasslands.	Moderate. Suitable nesting habitat occurs within the study area.	No.
Black rosy finch *Leucosticte atrata*	BLM	Range: Throughout the Great Basin and the west. Habitat: Breeding habitat is open meadows and tundra above tree-line in the western mountains.	None.	Yes. No suitable nesting or foraging habitat occurs within the study area. Also, the study area is outside of the elevational range of this species.
Juniper titmouse *Baeolophus ridgwayi*	BLM	Range: Throughout the Great Basin. Habitat: A common year-round resident in piñon/juniper woodlands.	High. This species was observed within the project area. Although no nesting has been documented within the permit area, suitable nesting habitat occurs within the study area.	No.
Yellow-breasted chat *Icteria virens*	BLM	Range: Throughout the Great Basin and the west. Habitat: Nests and forages in dense riparian thickets in the valleys or along the foothills of mountain ranges.	None.	Yes. No suitable nesting or foraging habitat occurs within the study area.
MAMMALS				
Pallid bat *Antrozous pallidus*	BLM	Range: Widespread throughout much of the west. Habitat: Arid deserts and grasslands, often near rocky outcrops and water. Less abundant in evergreen and mixed conifer woodland. Usually roosts in rock crevice or building, less often in caves, tree hollows, mines, etc.	Moderate. The species has been observed east of the study area. Abandoned mine shafts and adits within or near the study area contain suitable habitat for the species.	No.

Table C-2 (Continued)

Common Name/ Scientific Name	Status[1]	Range Habitat Requirements	Potential for Occurrence on or Near the Project Area	Eliminated From Detailed Analysis
Big brown bat *Eptesicus fuscus*	BLM	Range: Widespread throughout the U.S. Habitat: Various wooded and semi-open habitats, including cities. Summer roosts generally are in buildings; also hollow trees, rock crevices, tunnels, and cliff swallow nests. Maternity colonies form in attics, barns, tree cavities, rock crevices, caves.	High. Small numbers of vocalizations from big brown bats were recorded in the study area.	No.
Townsend's big-eared bat *Corynorhinus townsendii*	BLM	Range: Most of Nevada and the west. Habitat: Maternity and hibernation colonies typically are in caves and mine tunnels. Prefers relatively cold places for hibernation, often near entrances and in well-ventilated areas. Forages over a wide variety of habitats from coniferous forests to sagebrush to grasslands.	High. The species has been observed within the study area.	No.
Silver-haired bat *Lasionycteris noctivagans*	BLM	Range: Throughout much of the western U.S. Habitat: Primarily in forested areas, but does forage over meadows and in riparian zones along streams. Maternity roosts occur almost exclusively in trees. Hibernates in trees, rock crevices, buildings, mines, and caves.	Low. The genus has not been recorded at the site during bat surveys. The site lacks suitable roosting habitat but contains potential habitat for hibernation.	No.
Small-footed myotis *Myotis ciliolabrum*	BLM	Range: Most of Nevada and the west. Habitat: Roosts in caves, tunnels, mines, buildings, and rock crevices. Primarily uses grassland and desert scrub habitats.	Moderate. This species has been observed near the study area. Abandoned mine shafts and adits within or near the study area contain suitable habitat for the species.	No.
Long-eared myotis *Myotis evotis*	BLM	Range: Widespread over the western U.S. Apparently occurs regularly in low numbers throughout the range. Habitat: Roosts in a wide variety of situations—caves, tunnels, and under tree bark. Primarily uses coniferous forest habitats, but does occur over shrublands.	High. The species has been recorded within the project area.	No.

Table C-2 (Continued)

Common Name/ Scientific Name	Status[1]	Range Habitat Requirements	Potential for Occurrence on or Near the Project Area	Eliminated From Detailed Analysis
Fringed myotis *Myotis thysanodes*	BLM	Range: Throughout Nevada and the west. Thought to normally occur in low numbers throughout range. Habitat: Uses a variety of habitats, forests, shrublands, and agricultural land. Roosts in a variety of habitats, caves, tunnels, mines, and trees.	Low. The species has not been recorded at the site, but previous bat surveys recorded several unidentified myotis calls. Also, suitable habitat exits within the project area.	No.
Long-legged myotis *Myotis volans*	BLM	Range: Widespread distribution in western North America; considered locally abundant. Habitat: Primarily in montane coniferous forests, seasonally in riparian and desert habitats. Roosts in exfoliating tree bark, tree snags, and rock crevices. Hibernates in tunnels and mines.	Low. The species has not been recorded at the site, but previous bat surveys recorded several unidentified myotis calls. Also, suitable habitat exits within the project area.	No.
Spotted bat *Euderrna maculatum*	BLM	Range: Widespread throughout Nevada Habitat: Roosts in cliff crevices but can be found in a variety of habitats and elevations including sagebrush, piñon-juniper woodlands, coniferous forests, riparian areas, and urban habitats.	Low. This species has not been recorded at the site during bat surveys but is thought to occur in the area. Suitable habitat for this species does occur within the project area.	No.
Western pipistrelle *Pipistrellus hesperus*	BLM	Range: Throughout Nevada. Habitat: Deserts and lowlands, desert mountain ranges, desert scrub flats, and rocky canyons. Day and night roosts include rock crevices, under rocks, burrows, and sometimes buildings or mines. May hibernate in caves, mines, or rock crevices.	Moderate. Vocalizations were recorded just east of the project area.	No.
Little brown bat *Myotis lucifugus*	BLM	Range: Found primarily in the northern portions of Nevada. Habitat: Associated primarily with coniferous forests near lakes and streams. Roost sites include hollow trees, rock outcrops, buildings, and occasionally in mines and caves. Hibernates in mines and caves.	Moderate. Vocalizations were recorded just east of the project area.	No.

Table C-2 (Continued)

Common Name/ Scientific Name	Status[1]	Range Habitat Requirements	Potential for Occurrence on or Near the Project Area	Eliminated From Detailed Analysis
California myotis *Myotis californicus*	BLM	Range: Throughout Nevada. Habitat: Occurs in a variety of habitats from Lower Sonoran desert scrub to forests. This species typically roosts singly or in small groups. Roost sites include mines, caves, buildings, rock crevices, hollow trees, and under exfoliating bark.	Moderate. Vocalizations were recorded just east of the project area.	
Yuma Myotis *Myotis yumanensis*	BLM	Range: Found primarily in the southern and western half of Nevada. Habitat: occurs in a wide variety of habitats, including sagebrush, salt desert scrub, agriculture, playa, and riparian habitats. Roost sites include buildings, trees, mines, caves, bridges, and rock crevices.	Low. The species has not been recorded at the site, but previous bat surveys recorded several unidentified myotis calls. Also, suitable habitat exits within the project area.	
Pygmy rabbit *Brachylagus idahoensis*	BLM	Range: Throughout the range of sagebrush in the intermountain West. Habitat: Consists of dense Great Basin sagebrush with a dense understory and having soils suitable for burrowing. The rabbit's burrows are distinctive and typically are placed at the base of sagebrush.	Moderate. Suitable habitat for the species occurs in areas of tall, dense sagebrush associated with the study area. No pygmy rabbit or pygmy rabbit signs have been observed.	No.
FISH				
Lahontan cutthroat trout *Oncorhynchus henshawi*	FT	Range: Western Lahontan basin (Truckee, Carson, and Walker river basins), northwestern Lahontan basin (Quinn River, Black Rock Desert, and Coyote Lake basins), and the Humboldt River basin. Habitat: Rivers and streams in the above drainages.	None.	Yes. No aquatic habitat occurs within the disturbance area.

Table C-2 (Continued)

Common Name/ Scientific Name	Status[1]	Range Habitat Requirements	Potential for Occurrence on or Near the Project Area	Eliminated From Detailed Analysis
Fish Creek Springs tui chub *Gila bicolor euchila*	BLM	Range: The tui chub species occur widely in a variety of aquatic habitats throughout Nevada, California, and Oregon. It occurs as distinctive forms (as many subspecies) in most isolated or partially isolated drainage systems in these three states. The subspecies populations are endemic to their isolated waters. The subspecies *euchila* is known from near Fish Springs in the Little Smoky Valley, and also may occur in Newark Valley, to the north of Little Smoky Valley. Habitat: Spring-fed small streams in the valleys identified above.	None.	Yes. No aquatic habitat occurs within the disturbance area. The valleys in which the subspecies occurs are not within the project area.
Big Smoky Valley tui chub *Gila bicolor* ssp.	BLM	Range: This subspecies of the tui chub is known from the Big Smoky Valley, between the Toiyabe and Toquima mountain ranges in central Nevada. Habitat: Spring-fed small streams in the above valley.	None.	Yes. No aquatic habitat occurs within the disturbance area. The project area is not included in the valley in which the subspecies occurs.
Big Smoky Valley speckled dace *Rhinichthys osculus lariversi*	BLM	Range: The speckled dace species occur widely in a variety of aquatic habitats throughout the west, occurring in most major western drainages. It occurs as distinctive forms (as many subspecies) in most isolated or partially isolated drainage systems in the Great Basin. The subspecies populations generally are endemic to their isolated waters. The subspecies *lariversi* is known from the Big Smoky Valley, between the Toiyabe and Toquima mountain ranges in central Nevada. Habitat: Perennial streams in the above valley.	None.	Yes. No aquatic habitat occurs within the disturbance area. The valley in which the subspecies occurs is 50 miles west of Eureka.

Table C-2 (Continued)

Common Name/ Scientific Name	Status[1]	Range Habitat Requirements	Potential for Occurrence on or Near the Project Area	Eliminated From Detailed Analysis
AMPHIBIANS				
Spotted frog *Rana luteiventris*	FC	Range: Within Nevada, Upper, North Fork, and South Fork of the Humboldt River, Reese River, Pine Creek (in northern Eureka County), Rock Creek (in Elko County), and southern Big Smoky Valley. Habitat: Aquatic habitats, ponds, and sloughs in the above drainages.	None.	Yes. No potential habitat within the vicinity of the project area.
INVERTEBRATES				
Elongate Cain Spring pyrg *Pyrgulopsis augusta*	BLM	Range: Reese River Valley on the west side of the Toiyabe Range in central Nevada. Habitat: This freshwater snail occurs in spring pools in the Reese River Valley.	None.	Yes. Springsnail baseline surveys have been conducted in the Cortez area. One site documented snails, but none in the study area.
Large-gland carico pyrg *Pyrgulopsis basiglans*	BLM	Range: Middle Humboldt River Valley, northern Lander County, Nevada. Habitat: This freshwater snail occurs in aquatic habitats within the above drainage.	None.	Yes. Two historic sites occur approximately 12 miles west of the project area in the Carico Lake Valley, but no documented occurrences within the study area (NNHP 2005).
Ovate Cain Spring pyrg *Pyrgulopsis pictilis*	BLM	Range: Reese River Valley on the west side of the Toiyabe Range in central Nevada. Habitat: This freshwater snail occurs in spring pools in the Reese River Valley.	None.	Yes. Springsnail baseline surveys have been conducted in the Cortez area. One site documented snails, but none in the study area.
Pyrgulopsis sp.	BLM	Spring or outflow areas with aquatic plant growth.	Yes.	No. Springsnails collected in Fourmile Canyon at a site approximately 4 miles east of the study area during baseline surveys.
Big Smoky wood nymph *Cercyonis oetus alkalorum*	BLM	Range: Known only from the Big Smoky Valley, between the Toiyabe and Toquima ranges in central Nevada. Habitat: Grassy alkaline flats.	None.	Yes. The study area is outside of the geographical range of this species.

[1]Status:
FT - Federally threatened species.
FC - Federal candidate species.
BLM - BLM sensitive species.

Source: Altenbach et al. 2002; AOU 1983; BLM 2000a, 2002f, 2004e; JBR 2000b, 2004, 2005c; NDOW 2005b; NNHP 2005; USFWS 2002, 2006.

APPENDIX D

CULTURAL RESOURCES AND NATIVE AMERICAN TRADITIONAL VALUES

APPENDIX D.1 – CULTURAL RESOURCES

Table D-1
NRHP-Eligible Sites within the Cortez Hills Expansion Project APE

BLM Number CrNV-	Eligibility Recommendations	Proposed Action	Grass Valley Heap Leach Alternative	Crescent Valley Waste Rock Alternative	Cortez Hills Complex Underground Mine Alternative	Site Type	BLM Report Number[1]
62-141	Eligible	X	X	X		Lime kiln and stone ruin	6-46(P) 6-2494(P)
62-464	Eligible					Cortez townsite	6-1122-1(P)
62-516	Eligible (P and H)					Large prehistoric site; Shoshone Wells townsite	6-2131(P) 6-2369(P)
62-637	Eligible (P only)					Prehistoric site with a small historic component	6-2556(P)/1-2523(P)
62-650	Eligible (H only)					Adit, structure ruins, and debris	6-1368(P)
62-4734	Eligible (H only)	X	X			Mule trail	6-1381(P) 6-2131(P) 6-2556-1(P)/1-2523-1(P)
62-6454	Eligible	X	X			Woodpiles	6-1368(P)
62-6456	Eligible	X	X	X		Woodpile	6-1368(P)
62-6610	Eligible	X	X	X		Well and pump station, habitations, debris	6-1381(P)
62-6628	Eligible	X	X	X		Small lithic and tool scatter, piñon pole	6-2369-1(P) 6-1381(P)
62-6630	Eligible	X	X	X		Large lithic and tool scatter	6-2153(P) 6-1381(P)
62-6631	Eligible	X	X	X		Large lithic and tool scatter	6-2153(P)
62-8401	Eligible (P and H)	X	X	X		Small prehistoric lithic scatter; historic rock alignment, possible hearth, and debris; possible ethnohistoric	6-2369-4(P) 6-1753(P)
62-8402	Eligible	X	X	X		Residential features, storage feature, spring improvement	6-1753(P)
62-8403	Eligible (P only)	X	X	X		Prehistoric lithic and tool scatter; debris scatter	6-1753(P)
62-8404	Eligible (P only)	X	X	X		Prehistoric lithic and tool scatter, and a ceramic brownware fragment; historic debris	6-2369-4(P) 6-1753(P)
62-8407	Eligible	X	X	X		Residential features and adit	6-1753(P)
62-8409	Eligible (P and H)	X	X	X		Prehistoric lithic and tool scatter; historic structures and debris	6-2369-4(P) 6-1753(P)
62-8410	Eligible	X	X	X		Residential features, trails, and a prospect	6-1753(P)
62-8411	Eligible (P and H)	X	X	X		Prehistoric lithic and tool scatter; residential features and debris	6-1753(P)
62-8413	Eligible	X	X	X		Mine complex and structure	6-1753(P)
62-8414	Eligible	X	X	X		Prospect and residential feature	6-1753(P)
62-8417	Eligible	X	X	X		Charcoal platform	6-1753(P)
62-8903	Eligible	X		X		Residential features	6-1911(P)/1-2007(P)
62-8905	Eligible	X		X		Oven feature, possible residential feature	6-1911(P)/1-2007(P)
62-8906	Eligible	X	X	X		Charcoal platform	6-1911(P)/1-2007(P)
62-8907	Eligible	X	X	X		Hearth feature, debris, and trail	6-1911(P)/1-2007(P)
62-8911	Eligible	X	X	X		Fireplace and prospects	6-1911(P)/1-2007(P)

Table D-1 (Continued)

BLM Number CrNV-	Eligibility Recommendations	Proposed Action	Grass Valley Heap Leach Alternative	Crescent Valley Waste Rock Alternative	Cortez Hills Complex Underground Mine Alternative	Site Type	BLM Report Number[1]
62-8916	Eligible (P and H)	X	X	X		Possible historic or prehistoric grave; Historic debris and a mine claim	6-2369(P) 6-1911(P)/1-2007(P)
62-8917	Eligible	X	X	X		Woodpile, prospects, cairn, debris	6-2369-1(P)
62-8918	Eligible	X	X	X		Prospects and dugout, possible blacksmith feature	6-1911(P)/1-2007(P)
62-8921	Eligible	X	X	X		Residential feature and fireplace	6-1911(P)/1-2007(P)
62-8922	Eligible	X	X	X		Residential feature	6-1911(P)/1-2007(P)
62-8925	Eligible	X	X	X		Charcoal platform	6-1911(P)/1-2007(P)
62-8930	Eligible	X	X			Charcoal platform	6-1911(P)/1-2007(P)
62-8931	Eligible	X	X	X		Charcoal platform, residential feature, and debris	6-1911(P)/1-2007(P)
62-8933	Eligible	X	X			Charcoal platform	6-1911(P)/1-2007(P)
62-8934	Eligible	X	X	X		Debris scatter	6-1911(P)/1-2007(P)
62-8944	Eligible (P only)	X	X	X		Lithic and tool scatter, groundstone, and possible lithic prospect; historic debris	6-2369(P) 6-1911(P)/1-2007(P)
62-8945	Eligible	X	X	X		Prehistoric lithic and tool scatter; possible ethnohistoric charcoal feature, groundstone	6-2369(P) 6-1911(P)/1-2007(P)
62-8946/8948	Eligible	X	X	X		Prehistoric lithic and tool scatter	6-2369(P) 6-1911(P)/1-2007(P)
62-8951	Eligible (P only)					Prehistoric lithic and tool scatter, groundstone, small historic debris	6-2369(P) 6-1911(P)/1-2007(P)
62-8955	Eligible	X	X	X		Residential feature with groundstone, possible ethnohistoric site	6-1911(P)/1-2007(P)
62-8963	Eligible	X	X	X		Residential features and debris	6-1911(P)/1-2007(P)
62-8964	Eligible (P only)	X	X	X		Possible prehistoric grave and hearth, groundstone; historic debris	6-2369(P) 6-1911(P)/1-2007(P)
62-8968	Eligible	X	X	X		Prehistoric lithic and tool scatter; possible ethnohistoric component	6-1911(P)/1-2007(P)
62-8970	Eligible	X	X	X		Charcoal platforms	6-1911(P)/1-2007(P)
62-8971	Eligible	X	X	X		Charcoal platform with a watch station	6-2508(P) 6-1911(P)/1-2007(P)
62-8972	Eligible	X	X	X		Charcoal platform	6-1911(P)/1-2007(P)
62-8973	Eligible (H only)	X	X			Prehistoric lithic scatter; historic debris (possibly charcoal related)	6-1911(P)/1-2007(P)
62-8974	Eligible					Charcoal platform	6-1911(P)/1-2007(P)
62-8975	Eligible			X		Charcoal platform	6-1911(P)/1-2007(P)
62-8976	Eligible	X		X		Charcoal platform, residential feature, trails	6-1911(P)/1-2007(P)
62-8977/12-12465	Eligible (H only)			X		Garrison Mine complex, Arctic Mine complex, residential	6-1911(P)/1-2007(P)
62-9454	Eligible (P only)	X	X	X		Prehistoric lithic and tool scatter, groundstone, small historic debris	6-2153(P)
62-9457	Eligible	X	X	X		Possible residential feature and debris	6-2153(P)
62-9458	Eligible	X	X	X		Debris scatter	6-2153(P)
62-9459	Eligible	X	X	X		Possible residential feature and debris	6-2153(P)

Table D-1 (Continued)

BLM Number CrNV-	Eligibility Recommendations	Proposed Action	Grass Valley Heap Leach Alternative	Crescent Valley Waste Rock Alternative	Cortez Hills Complex Underground Mine Alternative	Site Type	BLM Report Number[1]
62-9462	Eligible	X	X	X		Prehistoric lithic and tool scatter, Shoshone brownware ceramics	6-2153(P)
62-9463	Eligible	X	X	X		Possible ethnohistoric feature with groundstone; historic residential feature, debris scatters, and roads	6-2153(P) 6-2369(P)
62-9465	Eligible					Residential feature and debris	6-2153(P)
62-9467	Eligible	X		X		Prehistoric lithic and tool scatter	6-2369-1(P) 6-2153(P)
62-9468	Eligible	X	X			Prehistoric lithic and tool scatter	6-2369-1(P) 6-2153(P)
62-9471	Eligible	X	X			Debris scatter, pinyon pole, charcoal feature with bone	6-2369-1(P)6-2153(P)
62-9657	Eligible	X	X	X	X	Prehistoric lithic and tool scatter	6-2556(P)/1-2523(P) 6-2131(P)
62-9697	Eligible (P only)	X	X			Prehistoric rock shelter and flake scatter; historic debris	6-2131(P)
62-9701	Eligible	X	X	X		Roads and debris	6-2369(P) 6-2131(P)
62-9703	Eligible	X	X	X		Buried pipeline ("Wenban's") and road	6-2494(P)
62-9704	Eligible	X	X	X		Telephone line	6-2369(P) 6-2494(P)
62-9705/12-13687	Eligible		X			Utility line and road for pipeline system, telephone line	6-2131(P) 6-2494(P)
62-9706	Eligible					Habitations and debris	6-2556(P)/1-2523(P) 6-2131(P)
62-9756	Eligible (P and H)	X	X	X		Large lithic scatter; large historic scatter with habitation features	6-2369(P) 6-2131(P)
62-10653	Eligible	X	X			Woodpiles and rock structure	6-2369-2(P)
62-10673	Eligible		X			Woodpile	6-2369-3(P)
62-10674	Eligible		X			Woodpile	6-2369-3(P)
62-10675	Eligible		X			Woodpile	6-2369-3(P)
62-10676	Eligible		X			Woodpile	6-2369-3(P)
62-10677	Eligible		X			Woodpile	6-2369-3(P)
62-10702	Eligible	X	X	X		Road	6-2369(P)
62-10703	Eligible (P and H)	X				Large lithic and tool scatter, shell bead, possible stone circle; historic Chinese cemetery with disinterred gravesites	6-2369(P)
62-10705	Eligible	X	X	X		Possible graves	6-2369(P)
62-10706	Eligible	X		X		Road (old SR 21) with debris	6-2369(P)
62-10708	Eligible	X	X	X		Small lithic and tool scatter	6-2369(P)
62-10709	Eligible	X	X	X		Unknown linear features, possibly road, ditch, or pipeline	6-2369(P)
62-10715	Eligible	X	X	X		Roads and debris	6-2369(P)
62-10717	Eligible	X	X			Woodpile	6-2369(P)
62-10718	Eligible	X	X			Historic residential features, oven, and debris	6-2369(P)

Table D-1 (Continued)

BLM Number CrNV-	Eligibility Recommendations	Proposed Action	Grass Valley Heap Leach Alternative	Crescent Valley Waste Rock Alternative	Cortez Hills Complex Underground Mine Alternative	Site Type	BLM Report Number[1]
62-10719	Eligible	X	X			Woodpile	6-2369(P)
62-10720	Eligible	X	X			Woodpile	6-2369(P)
62-10723	Eligible	X	X	X		Road	6-2369(P)
62-10726	Eligible	X	X	X		Large historic debris scatters; residential feature; possible industrial feature	6-2556(P)/1-2523(P) 6-2369(P)
62-11630	Eligible	X		X		Well and debris	6-2494(P)
62-11635	Eligible	X	X	X		Residential features and debris	6-2494(P)
62-11646	Eligible	X	X	X		Buried pipeline and road	6-2494(P)
62-11647	Eligible	X	X	X		Buried pipeline and road	6-2494(P)
62-11653	Eligible					Small lithic scatter	6-2494(P)
62-11654	Eligible					Residential feature and debris	6-2494(P)
62-11655	Eligible	X	X	X		Possible brick manufacturing location	6-2494(P)
62-11659	Eligible	X	X	X		Transmission line for well and pipeline system	6-2494(P)
62-11664	Eligible					Well and pump station	6-2494(P)
62-11666	Eligible (P only)					Prehistoric lithic and tool scatter; historic debris	6-2494(P)
62-11669	Eligible (P only)					Very large lithic, tool, and ceramics scatter; historic debris	6-2494(P)
62-11671	Eligible	X	X	X		Residential features and debris	6-2494(P)
62-11687	Eligible	X	X	X		Residential feature and debris	6-2494(P)
62-11689	Eligible	X	X	X		Prehistoric lithic and tool scatter; historic debris and possible residential feature	6-2556(P)/1-2523(P) 6-2494(P)
62-11710	Eligible (Pending)					Charcoal platforms and debris	6-2556(P)/1-2523(P)
62-11713	Eligible (Pending)					Prospects and tools	6-2556(P)/1-2523(P)
62-11715	Eligible (Pending)					Woodpile	6-2556(P)/1-2523(P)
62-11716	Eligible (Pending)					Mine complex, structures, residential features, and debris	6-2556(P)/1-2523(P)
62-11717	Eligible (Pending)					Woodpile	6-2556(P)/1-2523(P)
62-11720	Eligible (Pending)					Woodpiles	6-2556(P)/1-2523(P)
62-11740	Eligible (P only, pending)					Large prehistoric site; small historic component	6-2556(P)/1-2523(P)
62-11769	Eligible (Pending)	X	X	X		Residential feature and debris	6-2556(P)/1-2523(P)
62-13400	Eligible (Pending)	X	X	X		Habitation and debris	6-2556-1(P)/1-2523-1(P)
62-13402	Eligible (H only, pending)	X	X			Habitations and debris, lithic scatter	6-2556-1(P)/1-2523-1(P)
62-13403	Eligible (P only, pending)	X	X			Lithic scatter, debris scatter	6-2556-1(P)/1-2523-1(P)
62-13410	Eligible (Pending)	X	X			Habitation and debris	6-2556-1(P)/1-2523-1(P)
12-10581	Eligible (H only)					Prehistoric lithic and tool scatter; historic debris and possible residential feature	1-1560(P) 1-1621(P)/6-1507-1(P)
12-12445	Eligible	X	X	X		Residential feature	6-1911(P)/1-2007(P)
12-12447	Eligible	X	X	X		Charcoal platforms	6-1911(P)/1-2007(P)
12-12448	Eligible	X	X	X		Charcoal platform with residential features	6-1911(P)/1-2007(P)

Table D-1 (Continued)

BLM Number CrNV-	Eligibility Recommendations	Proposed Action	Grass Valley Heap Leach Alternative	Crescent Valley Waste Rock Alternative	Cortez Hills Complex Underground Mine Alternative	Site Type	BLM Report Number[1]
12-12449	Eligible					Charcoal platform with a residential feature	6-1911(P)/1-2007(P)
12-12460	Eligible					Charcoal platform	6-1911(P)/1-2007(P)
12-12461	Eligible	X	X	X		Charcoal platform	6-1911(P)/1-2007(P)
12-12462	Eligible		X			Charcoal platform	6-1911(P)/1-2007(P)
12-12463	Eligible		X			Charcoal platform with a possible residential area	6-1911(P)/1-2007(P)
12-12464	Eligible					Charcoal platform	6-1911(P)/1-2007(P)
12-13690	Eligible (Pending)					Residential feature and debris	6-2556(P)/1-2523(P)
12-13691	Eligible (Pending)					Mule trail	6-2556(P)/1-2523(P)

[1] Full citations of BLM survey reports are identified in **Table D-2**.

Source: Summit 2007a.

Table D-2
BLM Survey Report Citations

BLM Report Number(s)	Report Title	Report Date	Region
6-46(P)	Site Form CrNV-62-141 (Lime Kiln)	1976	Cortez Canyon
6-1122-1	A Cultural Resources Inventory of a Corridor Reroute for Sierra Pacific Power Company Tonkin Springs Transmission Line Project In Lander and Eureka Counties, Nevada: Addendum to CR6-1122	June 8, 1988	Western Cortez Mountains and Crescent Valley
6-1368(P)	A Cultural Resources Inventory Of 5676.9 Acres In Eureka And Lander Counties, Nevada	July 7, 1991	Crescent Valley
1-1560(P)	A Cultural Resource Inventory Of A 155 AC Parcel In Eureka County, Nevada	April 21, 1992	Cortez Pediment (Mill Canyon, Cortez Mountains)
6-1368(P) Addendum 2	A Cultural Resources Inventory For The Gold Acres Pipeline Project In Crescent Valley, Lander County, Nevada BLM Report CR6-1368(P) Addendum 2	April 28, 1992	Shoshone Mountain Range
6-1381(P)	A Class II Sample Survey for the Cortez Cumulative Effects Study Area, Lander and Eureka Counties, Nevada	1992	All of Cortez
6-1507-1(P)/1-1621(P)	An Archaeological Investigation And Evaluation Of 2194 Acres In The Mill Canyon Area, Eureka and Lander Counties, Nevada	July 29, 1992	Mill Canyon
6-1753(P)	A Cultural Resources Inventory Of A 750 AC Parcel For Cortez Gold Mines' South Cortez Mine Area In Lander County, Nevada	January 25, 1995	Cortez Mountains (Western Edge)
6-1911(P)/1-2007(P)	Cultural Resources Inventory Of 1,375 AC For Cortez Gold Mines Area 2 In Eureka And Lander Counties, Nevada	June 5, 1996	Cortez Pediment
6-2153(P)	A Class III Cultural Resources Inventory of 550 Acres for Cortez Gold Mines, Lander County, Nevada	1999	Cortez Pediment
6-2131(P)	A Class III Cultural Resources Inventory of the Sierra Pacific Resources Falcon Project 345kV Transmission Line	2002	Grass Valley Cortez Pediment Crescent Valley
6-2369(P)	Cultural Resources Inventory of 570 Acres For Cortez Gold Mines Pediment Project In Lander County, Nevada	April 2003	Cortez Pediment
6-2369-1	Revisitation and Reassessment of Eighteen Archaeological Sites within the Cortez Gold Mines Pediment Project Area of Potential Effect	June 2003; August 2003	Cortez Pediment
6-2369-2(P)	A Class III Inventory Of A 30 Acre Parcel For Cortez Gold Mines Pediment Project Lander County, Nevada	July 2003; August 2003 (Final)	Cortez Mountains

Table D-2 (Continued)

BLM Report Number(s)	Report Title	Report Date	Region
6-2369-3(P)	A Class III Inventory Of Two Additional Parcels For Cortez Gold Mines Pediment Project Lander County, Nevada	April 16, 2004; April 29, 2004 (Final)	Cortez Pediment
6-2369-4(P)	Revisit and Reassessment of Three Archaeological Sites within the Cortez Gold Mines Proposed Pediment Project Area of Potential Effect	July 21, 2004; August 4, 2004 (Final)	Cortez Pediment
6-2494(P)	Letter Report Regarding Cortez Gold, Geotechnical Test Area Cultural Resource Survey	2004	Cortez Pediment
6-2508	Letter Report Regarding monitoring of several exploration drill pads and wells for Cortez Gold Mines (CGM)	March 25, 2005	Cortez Pediment
6-2556(P)/1-2523(P)	Letter Report Regarding Survey summary and site number request for a Class III inventory of six parcels comprising an addition to Cortez Gold Mines Cortez Hills Expansion Project	In review	Cortez Pediment
6-2556-1(P)/1-2523-1(P)	A Class III Inventory of Five Parcels for the Cortez Hills Expansion Project, Lander County, Nevada	In review	Crescent Valley

Source: Summit 2007a.

APPENDIX D.2 – NATIVE AMERICAN TRADITIONAL VALUES

UNITED STATES TREATY WITH THE WESTERN SHOSHONI, 1863

October 1, 1863, 18 Statutes at Large 689

Treaty of Peace and Friendship made at Ruby Valley, in the Territory of Nevada, this first day of October, A.D. one thousand eight hundred and sixty-three, between the United States of America, represented by the undersigned commissioners, and the Western Bands of the Shoshonee Nation of Indians, represented by their Chiefs and Principal Men and warriors, as follows:

ARTICLE 1

Peace and friendship shall be hereafter established and maintained between the Western Bands of the Shoshonee nation and the people and government of the United States; and the said bands stipulate and agree that hostilities and all depredations upon the emigrant trains,the mail and telegraph lines, and upon the citizens of the United States within their country, shall cease.

ARTICLE 2

The several routes of travel through the Shoshonee country, now or hereafter used by white men, shall be forever free, and unobstructed by the said bands, for the use of the government of the United States, and of all emigrants and travellers under its authority and protection,without molestation or injury from them. And if depredations are at any time committed by bad men of their nation, the offenders shall be immediately taken and delivered up to the proper officers of the United States, to be punished as their offences shall deserve; and the safety of all travellers passing peaceably over either of said routes is hereby guarantied by said bands.

Military posts may be established by the President of the United states along said routes or elsewhere in their country; and station houses may be erected and occupied at such points as may be necessary for the comfort and convenience of travellers or for mail or telegraph companies.

ARTICLE 3

The telegraph and overland stage lines having been established and operated by companies under the authority of the United States through a part of the Shoshonee country, it is expressly agreed that the same may be continued without hindrance, molestation, or injury from the people of said bands, and that their property and the lives and property of passengers in the stages and of the employes of the respective companies, shall be protected by them. And further, it being understood that provision has been made by the government of the United States for the construction of a railway from the plains west to the Pacific ocean, it is stipulated by the said bands that the said railway or its branches may be located, constructed, and operated, and without molestation from them, through any portion of country claimed or occupied by them.

ARTICLE 4

It is further agreed by the parties hereto, that the shoshonee country may be explored and prospected for gold and silver, or other minerals; and when mines are discovered, they may be worked, and mining and agricultural settlements formed, and ranches established whenever they may be required. Mills may be erected and timber taken for their use, as also for building and other purposes in any part of the country claimed by said bands.

ARTICLE 5

It is understood that the boundaries of the country claimed and occupied by said bands are defined and described by them as follows:

On the north by Wong-goga-da Mountains and Shoshonee River Valley;on the west by Su-non-to-yah Mountains or Smith Creek Mountains; on the south by Wi-co-bah and the Colorado Desert; on the east by Po-ho-no-be Valley or Steptoe Valley and Great Salt Lake Valley.

ARTICLE 6

The said bands agree that whenever the President of the United states shall deem it expedient for them to abandon the roaming life,which, they now lead, and become herdsmen or agriculturalists, he is hereby authorized to make such reservations for their use as he may deem necessary within the country above described; and they do also hereby agree to remove their camps to such reservations as he may indicate, and to reside and remain therein.

ARTICLE 7

The United States, being aware of the inconvenience resulting to the Indians in consequence of the driving away and destruction of game along the routes travelled by white men, and by the formation of agricultural and mining settlements, are willing to fairly compensate them for the same; therefore, and in consideration of the preceding stipulations, and of their faithful observance by the said bands, the United States promise and agree to pay to the said bands of the Shoshonee nation parties hereto, annually for the term of twenty years,the sum of five thousand dollars in such articles, including cattle for herding or other purposes, as the President of the United States shall deem suitable for their wants and condition, either as hunters or herdsmen. And the said bands hereby acknowledge the reception of the said stipulated annuities as a full compensation and equivalent for the loss of game and the rights and privileges hereby conceded.

ARTICLE 8

The said bands hereby acknowledge that they have received from said commissioners provisions and clothing amounting to five thousand dollars as presents at the conclusion of this treaty.

Done at Ruby Valley the day and year above written.

James W. Nye
James Duane Doty
Te-moak, his x mark
Mo-ho-a
Kirk-weedgwa, his x mark
To-nag, his x mark
To-so-wee-so-op, his x mark
Sow-er-e-gah, his x mark
Po-on-go-sah, his x mark
Par-a-woat-ze, his x mark
Ga-ha-dier, his x mark
Ko-ro-kout-ze, his x mark
Pon-ge-mah, his x mark
Buck, his x mark

Witnesses:

J. B. Moore, lieutenant-colonel Third Infantry California Volunteers
Jacob T. Lockhart, Indian agent Nevada Territory
Henry Butterfield, interpreter

Ratified June 26, 1866
Proclaimed Oct. 21, 1869

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Battle Mountain Field Office
50 Bastian Road
Battle Mountain, Nevada 89820
http://www.nv.blm.gov

TAKE PRIDE IN AMERICA

In Reply Refer To:
8110
BLM 6-2397
(NV063)

OCT 2 0 2003

Steve Schoen
Cortez Gold Mines
Star Route HC66-50
Beowawe, NV 89821-9708

Dear Steve:

Enclosed is your copy of the final new Cortez Programmatic Agreement. If you have any questions, please give me a call at 775-635-4063.

Sincerely,

Roberta L. McGonagle
Lead Resource Management Specialist
Nonrenewable Resources

Enc. (1)
Programmatic Agreement

PROGRAMMATIC AGREEMENT AMONG THE BUREAU OF LAND MANAGEMENT, BATTLE MOUNTAIN AND ELKO FIELD OFFICES, THE NEVADA STATE HISTORIC PRESERVATION OFFICE AND CORTEZ JOINT VENTURE dba CORTEZ GOLD MINES REGARDING THE TREATMENT OF HISTORIC PROPERTIES DURING CORTEZ GOLD MINES MINERAL EXPLORATION AND DEVELOPMENT IN EUREKA AND LANDER COUNTIES, NEVADA

This PROGRAMMATIC AGREEMENT ("Agreement"), effective as of date of SHPO signature, ("Effective Date"), is by and among the Battle Mountain and the Elko Field Offices of the Bureau of Land Management (collectively, the "BLM"), the Nevada State Historic Preservation Office ("SHPO"), consulting parties, and Cortez Joint Venture dba Cortez Gold Mines ("Cortez"), concurring party. The BLM is the lead Federal agency for all activities under this Agreement.

RECITALS

WHEREAS, the BLM has determined that the development of mining and exploration projects by Cortez may have an effect upon properties eligible for inclusion in the National Register of Historic Places, and has consulted with SHPO pursuant to Section VI.B.1.b., c. & d. of the State Protocol Agreement dated June 4, 1999 between the Nevada State Office of the Bureau of Land Management, and the SHPO ("Protocol");

WHEREAS, the Battle Mountain Field Office of the Bureau of Land Management, Cortez, SHPO and the Advisory Council on Historic Preservation (the "Council") are parties to that certain Programmatic Agreement effective May 8, 1992 ("Original PA"), regarding the treatment of historic properties during Cortez mineral exploration and development;

WHEREAS, the Battle Mountain Field Office of the Bureau of Land Management, the Council, Cortez and SHPO desire to terminate the Original PA and the BLM, Cortez, and SHPO desire to enter into this Agreement;

WHEREAS, Cortez is the operator of projects in the area of interest defined in Section B hereof ("Area of Interest"), has participated in this consultation and has been invited to be a concurring party to this Agreement;

WHEREAS, Tribes with ancestral ties to the Area of Interest have been consulted regarding this Agreement, are invited to concur in this Agreement, and will be contacted and consulted, as appropriate, regarding any Undertaking proposed by Cortez under this Agreement;

WHEREAS, Cortez has previously filed plans of operations under 43 C.F.R. §3809.11 to conduct mineral exploration and extraction activities in the Area of Interest that are multi-year in scope;

WHEREAS, effects on historic properties in the Area of Interest cannot be fully determined and the Parties desire to enter into this Agreement to set forth procedures to be followed to comply with the requirements of Section 106 of the National Historic Preservation Act ("Section 106") for Cortez Undertakings in the Area of Interest; and

WHEREAS, this Agreement is intended to cover all aspects of compliance with Section 106 associated with Cortez Undertakings in the Area of Interest.

AGREEMENT

NOW THEREFORE, the parties agree that cultural resource issues involved with the development of mining projects in the Area of Interest shall be addressed in accordance with the following in satisfaction of the BLM's Section 106 responsibilities. Capitalized terms used herein and not defined herein have the meanings given them in 36 C.F.R. § 800.2 (1986) or in the definitions set forth in Appendix B, attached hereto.

A. PURPOSE AND INTENT.

The purpose of this Agreement is to establish procedures for use by the BLM, SHPO and Cortez regarding compliance with Section 106 for Undertakings proposed and developed by Cortez in the Area of Interest, however this agreement does not apply to projects conducted solely on private land. This Agreement defines general and specific measures that will be undertaken by the BLM, SHPO and Cortez to ensure that the BLM's objectives and responsibilities under the NHPA will be fulfilled.

B. AREA OF INTEREST.

The Area of Interest consists of lands administered by the BLM in Lander and Eureka Counties as set forth in Appendix A.

C. IDENTIFICATION AND INVOLVEMENT OF INTERESTED PARTIES.

The BLM (i) has identified interested parties pursuant to 36 C.F.R. §800.1 (1986), (ii) will notify them, as appropriate, of Undertakings proposed under this Agreement, and (iii) will involve such interested parties, as appropriate, in consultation pursuant to Section 106 for each such Undertaking.

D. STIPULATIONS. The BLM shall ensure that the following stipulations are followed:

1. ***Development of Historic Context for Area of Interest.*** As soon as practicable after the Effective Date of this Agreement, Cortez will complete, or cause to be

completed, a general Historic Context for the Area of Interest. Evaluation of project-specific proposals submitted prior to completion of a Historic Context may proceed concurrently with development of the Historic Context. For the avoidance of doubt, project-specific cultural resource evaluation and project approvals may proceed prior to completion of the Historic Context provided that cultural resources that cannot be evaluated without the Historic Context will be treated as if eligible and avoided or mitigated.

2. ***SHPO Involvement.*** Determination of whether an Undertaking proposed hereunder requires SHPO involvement shall be governed by the Protocol, provided that either the BLM or Cortez may request SHPO involvement at any time, whether or not such involvement is required by the Protocol. By way of example only, routine environmental assessments and preliminary exploration under an exploration plan of operations generally do not require SHPO involvement while close-spaced drilling under exploration plans of operations and mining plans of operation may require SHPO involvement.

3. ***Designation of APEs.*** The BLM shall designate specific APEs associated with Undertakings under this Agreement, unless consultation with SHPO is required under the Protocol, in which case BLM shall consult with SHPO before designating any such APE. Cortez may propose Undertaking-specific APEs for the convenience of the BLM and SHPO, but final determination of an APE shall be made by the BLM.

4. ***Procedures for Compliance with 36 C.F.R. Part 800.***

   a. ***Identification.*** Except as specified in Section 4.a.i(c), or at the request of the BLM or Cortez, identification efforts generally do not require SHPO involvement.

      i. *Preparation of Class III Inventories.* Areas of proposed disturbance in an APE designated by the BLM hereunder shall be inventoried at the Class III level. Such Class III Inventories shall be conducted in accordance with the following:

         (a) Recordation of Cultural Resources. Contractor(s) will record all newly identified Cultural Resources, and update previously recorded sites as directed by the BLM, all according to the Protocol.

         (b) Collection of Artifacts. Artifacts will only be collected when authorized by the BLM Authorized Officer.

         (c) Cultural Resources Extending Outside of Surveyed Area. Cultural Resources extending outside the survey area will be recorded unless the BLM and SHPO agree that an

alternative approach is sufficient for an Eligibility determination.

(d) Linear Sites. Linear Sites will be recorded in accordance with Appendix D of the Protocol. Linear Sites will be recorded outside of the survey area only to the extent necessary to determine Eligibility.

b. ***Resolving Eligibility.*** Eligibility determinations are made by the BLM, unless consultation with SHPO is required under the Protocol, in which case BLM shall consult with SHPO before making any such Eligibility determination. Where Cultural Resources have been identified pursuant to identification efforts, the BLM shall ensure that the following procedures are followed:

i. National Register Criteria. The BLM shall apply the National Register Criteria to identified Cultural Resources and determine whether such Cultural Resources are Eligible. The BLM may require that the Contractor conducting the Class III Inventory make initial recommendations regarding Eligibility, but determinations of Eligibility will be made by the BLM in consultation with SHPO when required under the Protocol. If SHPO and the BLM cannot reach agreement regarding Eligibility, the BLM shall seek a formal determination of Eligibility from the Keeper in accordance with 36 C.F.R. § 800.4(b)(4) [1986]. The Keeper's determination will be binding on BLM and SHPO.

ii. Properties of Cultural or Religious Importance to Indian Tribes. The BLM shall apply the National Register Criteria to properties which may be of cultural or religious importance to an Indian tribe and, with the SHPO's concurrence, determine whether such properties are Eligible. If SHPO and the BLM cannot reach agreement regarding Eligibility, the BLM shall seek a formal determination of Eligibility from the Keeper in accordance with 36 C.F.R. § 800.4(b)(4)(1986). The Keeper's determination will be binding on BLM and SHPO.

iii. Historic Districts. If a proposed Undertaking is in a previously defined Historic District, all Historic Properties in the Historic District will be evaluated and classified as either contributing or noncontributing to the Eligibility of the Historic District.

iv. Test Excavation. Information gathered by the Class III Inventory may be inadequate for determining Eligibility. In such cases, the BLM may, after obtaining SHPO's concurrence, authorize an evaluation plan (which may include subsurface testing) under

ARPA. In developing a subsurface evaluation plan, the BLM shall ensure that any testing is limited to defining the nature, density and distribution of materials of the Cultural Resources in order to provide the minimum data necessary to make final evaluations of Eligibility and to devise appropriate treatment options.

v. Resources Outside of APE. Cultural Resources located completely outside of an APE do not require evaluation under this Agreement.

vi. Determination Made Prior to Activity. The BLM shall ensure that Cultural Resources identified in an APE are evaluated for Eligibility prior to initiation of activities that may have an Adverse Effect on such resources.

vii. Notice of Determination. The BLM will inform Cortez of Eligibility determinations within 20 days of such determination.

c. ***Effects and Treatment.*** Where Historic Properties have been identified pursuant to a Class III Inventory, the BLM shall ensure that the following procedures are followed in determining Effects on Historic Properties and treatment of Adverse Effects, if any.

i. Determination of Effects.

(a) The BLM shall determine the nature of Effects that a proposed Undertaking will have on Historic Properties identified in an APE.

(b) If the BLM finds that the Undertaking will have no Effect on Historic Properties, the BLM may issue a Notice to Proceed (as defined in Section D.7).

(c) If the BLM finds that an Undertaking will have a potential Adverse Effect, the BLM will determine whether standard avoidance measures, monitoring or other measures contained in the Protocol could be reasonably implemented to reduce a potential Adverse Effect to a "no Effect" determination or a determination that any Effect of the Undertaking would be less than an Adverse Effect. If such measures are successful in reducing potential Adverse Effects to a "no Effect" determination or a determination that any Effect of the Undertaking would be less than an Adverse Effect, the BLM may issue a Notice to Proceed.

(d) If avoidance and monitoring procedures contained in the Protocol are not appropriate or effective, the BLM will

consult with SHPO on appropriate treatment or mitigation of such Adverse Effect. If the BLM and SHPO determine that appropriate treatment or mitigation of Adverse Effects has been completed, the BLM may issue a Notice to Proceed.

(e) If no Adverse Effect is found, the BLM may issue a Notice to Proceed.

ii. Treatment Plans and Other Mitigation. Recognizing that avoidance may not be reasonably practicable, the BLM, in consultation with SHPO and Cortez, shall develop an appropriate treatment plan designed to lessen or mitigate project-related Adverse Effects to Historic Properties. For properties Eligible under National Register criteria A. through C., other forms of mitigation may be considered in the treatment plan in lieu of, or in addition to, data recovery (e.g. oral history, historic markers, exhibits, interpretive brochures, publications, etc.).

(a) Data Recovery. When data recovery is the preferred treatment option for an Historic Property, the BLM shall ensure that the Contractor develops a treatment plan based on an appropriate research design and that the treatment plan is submitted to SHPO for a 30 day review and comment period. Data recovery plans shall be consistent with the standards in the Department of Interior's Formal Standards for Final Report of Data Recovery Programs (42 FR 5377-79) (the "Data Recovery Standards").

(b) Implementation. Upon completion of consultation with SHPO and Cortez on a treatment plan, the BLM shall ensure that the treatment plan is implemented within the timelines set forth in the treatment plan.

d. ***Records; Curation.***

i. Records and Curation. The BLM shall ensure that all records and material resulting from identification and treatment are curated in accordance with 36 C.F.R. §79 in a BLM approved facility in Nevada, and that all material to be returned to their owners will be maintained in accordance with 36 C.F.R. § 79 until analysis is complete and the materials are returned. Unless otherwise negotiated, all materials must be curated or returned to their owners when the final report is accepted by the BLM.

ii. Reports. The BLM shall ensure that all final archaeological reports resulting from actions pursuant to this Agreement will be provided to SHPO and Cortez. The BLM shall ensure that all such reports conform to contemporary professional standards and the Data Recovery Standards. Precise Historic Property location data may be provided in a separate appendix if the BLM determines pursuant to Section 304 of the NHPA that release of such data could jeopardize Historic Properties.

e. ***Discovery Situations.*** Cultural Resources, not previously identified, which are discovered while conducting activities pursuant to an Exploration or Mining Plan shall be handled as follows:

i. Discovery Situations. If a Cultural Resource is discovered during an Undertaking, mining-related activities within a 100 meter buffer zone (the "Avoidance Boundaries") surrounding the discovered Cultural Resource will cease immediately and Cortez shall notify the BLM Authorized Officer within 24 hours (the "Discovery Notice"). The Cortez officials that are authorized to stop work are listed in Appendix D attached hereto. Within 48 hours of delivery of the Discovery Notice, a BLM Authorized Officer will visit the discovery site to determine whether proceeding with activities in the buffer zone will harm the discovered Cultural Resource or whether the buffer zone may be safely reduced to allow activity outside of such reduced buffer zone without harm to the discovered Cultural Resource.

ii. Consultation with SHPO. Within 48 hours of delivery of the Discovery Notice, the BLM shall notify SHPO of the discovery (the "SHPO Notice"). SHPO shall give its comments to the BLM within 2 working days of receipt of the SHPO Notice. If the BLM has not received SHPO comments within 2 working days of the SHPO Notice, the BLM shall presume SHPO concurrence with any BLM recommendation in the SHPO Notice or that SHPO has declined to participate in any consultation regarding the discovery, and the BLM may make a decision regarding the discovered Cultural Resource without further SHPO consultation.

iii. BLM Notice to Cortez. Within 4 working days of delivery of the SHPO Notice, or 6 working days of delivery of the Discovery Notice, whichever comes first, the BLM shall notify Cortez of the BLM's decision whether to (i) allow mining related activities to proceed without mitigation, (ii) require mitigation of the discovery or (iii) allow mining related activities to proceed during mitigation of the discovery (the "Mitigation Decision Notice").

iv. Mitigation. The BLM will have 7 working days from delivery of a Mitigation Decision Notice requiring mitigation to consult with Cortez and SHPO and decide the nature and extent of mitigating measures required. The BLM shall notify Cortez and SHPO of the BLM's decision regarding mitigation within 10 days of delivery of a Mitigation Decision Notice and will ensure that any required mitigating measures are implemented.

v. Human Remains. Human remains and associated artifacts may be discovered during project development or during controlled archaeological excavations. Discovery of such items will be handled in accordance with the following procedures.

(a) Federal Lands. If human remains, funerary objects, or items of cultural patrimony or sacred objects are discovered on federal lands, Cortez and the Contractor(s) will comply with the discovery and notification requirements of the Native American Graves Protection and Repatriation Act of 1979, 25 U.S.C. §3001 et. seq. ("NAGPRA"), and its implementing regulations. Such resources discovered on federal lands will be secured by Cortez until such time as the BLM has secured the area or has taken custody of such resources, up to 48 hours. Cortez shall maintain the Avoidance Boundaries set forth in Section D.4.e.i.

(b) Private Lands. Human remains and associated funerary objects found on private or state lands will be handled according to the provisions of applicable Nevada law (NRS 383). Cortez will notify the relevant county coroner or sheriff, the SHPO and the BLM of any such discovery.

5. *Other Considerations*

a. ***Third Party Contractors.*** Cortez shall bear the reasonable expense of Contractors to perform Section 106 compliance under this Agreement. Such costs may include pre-field planning, fieldwork, post-fieldwork analysis, research, report preparation, interim and summary report preparation, and costs associated with the curation of artifacts. The BLM shall ensure that historic, architectural and archaeological work conducted by Contractors pursuant to this Agreement is carried out by, or under the direct supervision of, persons meeting the Secretary of Interior's Professional Qualification Standards (48 FR 44738-39) and BLM Guidelines.

b. ***Inclusion of Stipulations in Plans.*** The requirements under Section D.4.e regarding discoveries will be included in construction, operations and

maintenance plans. Cortez will brief field personnel and any Contractor hired by Cortez regarding these requirements.

c. ***Exemption of Modifications to Exploration or Mining Plans.*** Modifications to approved Exploration Plans and Mining Plans are categorically exempt from the Section 106 Process under Appendix C of the Protocol, provided that any such modification does not involve additional surface disturbance or have an Effect on Historic Properties.

6. ***Reports and Monitoring***

a. ***Reports and Time Frames.*** The BLM shall ensure that reports are completed in a timely manner and conform to the BLM Guidelines and the Data Recovery Standards.

i. Contractors' draft final reports of identification, evaluation, treatment or other mitigative activities shall be submitted to the BLM within the time frames specified in the BLM Guidelines unless otherwise agreed in writing.

ii. Unless otherwise agreed in writing, the BLM, SHPO, Cortez and Contractors shall adhere to the timelines set forth herein.

iii. Within 20 days of receipt of the draft final report from the Contractor, the BLM shall review and comment for revision. The BLM shall submit all final reports to SHPO.

iv. If SHPO's concurrence is required under the Protocol, SHPO shall review and comment on the final reports within 30 days of such submission by the BLM. If SHPO does not respond within 30 days, the BLM shall be entitled to presume SHPO concurrence with the BLM's findings and recommendations as detailed in the final report, and may proceed with the Undertaking.

v. If consultation with SHPO is not required under the Protocol, the BLM may proceed.

vi. The BLM shall provide SHPO with a copy of any reports prepared under this Agreement.

b. ***Monitoring.*** The BLM and SHPO may monitor actions carried out pursuant to this Agreement in accordance with the Protocol.

i. BLM may require an appropriate monitor in any areas identified as sensitive by BLM, in consultation with SHPO, during project

activities in those areas. Treatment Plans will contain monitoring plans as needed.

7. *Notices to Proceed.* The BLM will issue to Cortez a notice that it may proceed with an activity (a "Notice to Proceed") under any one of the following conditions:

   a. The proposed disturbance area in an APE has been inventoried and the BLM has determined that there are no Historic Properties in such inventoried area;

   b. Evaluation of the Eligibility of identified Cultural Resources has been conducted and the BLM, and SHPO, if required under the Protocol, has determined that the Cultural Resources are not Eligible;

   c. The BLM determines that a project activity will not have an Effect on Historic Properties, or when Historic Properties are avoided pursuant to Section D.4.c. and measures set forth in the Protocol;

   d. The BLM determines that any Effect on an Historic Property will not be an Adverse Effect or may be effectively avoided or mitigated according to standard procedures in the Protocol; or

   e. Treatment options for Historic Properties affected by the activity have been approved by the BLM after consultation with SHPO; provided that if a treatment option selected requires fieldwork, the BLM may authorize Cortez to proceed with specific mining activities that would affect Historic Properties after:

      i. The fieldwork phase of the treatment option has been completed;

      ii. The BLM has accepted a summary description of the fieldwork performed and a reporting schedule for that work; and

      iii. Cortez has posted a surety acceptable to the BLM as set forth in Section D.8 below for post-fieldwork costs of the treatment plan.

8. *Surety Bonds*

   a. ***Bond Amount.*** Cortez will post a surety bond with the BLM in an amount sufficient to cover reasonable curation and post-fieldwork costs associated with implementing a treatment plan or other mitigative activities.

b. *Forfeiture.* The bond posted shall be subject to forfeiture if post-fieldwork tasks are not completed within time periods established by the treatment plan, provided, however, that the BLM and Cortez may agree at any time to extend any such time periods. The BLM may not deny a reasonable request by Cortez for extension of such time periods. The BLM shall notify Cortez that the bond is subject to forfeiture and shall allow Cortez 45 days to take corrective action before the BLM acts to forfeit the bond.

c. *Release.* The bond shall be released in whole or part as specified curation and post-fieldwork tasks are completed and accepted by the BLM.

E. NATIVE AMERICAN CONSULTATION.

1. *Identification of Interested Indian Tribes.* The BLM has identified Indian tribes that may attach religious or cultural significance to areas in the Area of Interest. Such tribes are listed on Appendix C hereto and have been (i) given an opportunity to participate in consultation regarding this Agreement and (ii) invited to concur in this Agreement. Such tribes will be consulted, as appropriate, regarding any Undertaking proposed by Cortez under this Agreement.

2. *Consultation.* In connection with evaluation of Undertakings proposed under this Agreement, the BLM will identify and evaluate properties in the Area of Interest to which Native Americans may attach religious or cultural significance through consultation with the Indian tribes listed on Appendix C. Cortez may provide for a Contractor to assist the BLM in gathering data and identifying and evaluating such areas. The BLM will formally consult with tribal governments, as needed, in accordance with Executive Order 13175 on Consultation and Coordination with Indian Tribal Governments, dated November 6, 2000 (65 FR 67249) and Memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951). Identification, evaluation and treatment efforts will be consistent with the BLM Manual 8160 and the BLM Handbook 8160-1, each as issued by the BLM.

3. *Confidentiality.* Information gathered through consultation considered confidential or proprietary by an Indian tribe or tribes may be held confidential to the extent allowed by Federal law.

F. DISPUTE RESOLUTION.

1. *Disputes Between the BLM and SHPO.* Any disputes or objections arising during identification, evaluation, or discovery situations that cannot be resolved between the BLM and SHPO shall be referred to the Council for comment.

a. To facilitate this process, the BLM will provide the Council with copies of relevant information on the dispute. In addition, consultation with the

Council shall be by the most expeditious means available, including telephone, e-mail, or fax.

b. Council comments will be considered by the BLM in its decision-making, and the BLM will notify the Council, SHPO and Cortez of its resolution of the dispute.

c. Except as set forth in this Section F.1.c., Cortez may continue all previously approved actions under any Mining Plan or Exploration Plan. The BLM shall notify Cortez in writing of any suspension of activity required by law pending dispute resolution under this Section F.1.

2. ***Disputes Between Cortez and the BLM.*** Cortez and the BLM shall endeavor to resolve all disputes between or among them by consultation and negotiation. Any disputes or objections arising under this Agreement between the BLM and Cortez shall be referred to SHPO for comment.

3. ***No Waiver.*** Nothing in this Agreement, including the provisions of this Section F, shall waive or otherwise limit any administrative or judicial remedy or right of review available under applicable law or regulation.

G. AMENDMENT.

No amendment, modification or change to this Agreement shall be enforceable unless executed by the BLM, SHPO and Cortez.

H. TERM AND TERMINATION.

This Agreement shall be effective as of the Effective Date and will automatically terminate on the tenth anniversary thereof, unless each of the BLM, SHPO and Cortez agree to extend the term hereof. Any of Cortez, SHPO or the BLM may terminate this Agreement by providing 30 days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination.

I. SECTION 106 COMPLIANCE.

Implementation of this Agreement evidences that the BLM has satisfied its Section 106 responsibilities for all actions associated with Cortez's mining exploration and development projects in the Area of Interest.

J. PARTIES IN INTEREST; NO THIRD PARTY BENEFICIARY.

The obligations of Cortez created by this Agreement are enforceable only by the BLM against Cortez. This Agreement creates no independent right or private right of action by any person or entity to enforce any obligation hereunder against Cortez.

K. TERMINATION OF ORIGINAL PA.

Upon execution of this Agreement, the Original PA will be terminated and of no further force or effect, and this Agreement supercedes the Original PA in its entirety.

IN WITNESS WHEREOF, the parties have executed this Agreement on the dates set forth below, to be effective as of the Effective Date.

CONSULTING PARTIES

BUREAU OF LAND MANAGEMENT, BATTLE MOUNTAIN FIELD OFFICE

By: Gerald M. Smith Date: 6-18-04
Name: Gerald M. Smith
Title: Field Manager

BUREAU OF LAND MANAGEMENT, ELKO FIELD OFFICE

By: Helen M. Hankins Date: 6-23-04
Name: Helen M. Hankins
Title: Field Manager

NEVADA STATE HISTORIC PRESERVATION OFFICER

By: Alice M. Baldrica Date: 9/28/05
Name: Alice M Baldrica, Deputy
Title: State Historic Preservation Officer

CONCURRING PARTIES

CORTEZ GOLD MINES

By: J. Peter Neslans Date: 9 · 2 · 04
Name: J. PETER NESLANS
Title: MINE GENERAL MANAGER

TE-MOAK TRIBE OF THE WESTERN SHOSHONE

By:_____ Date:_____
Name:_____
Title: Tribal Chair

YOMBA SHOSHONE TRIBE

By._____ Date:_____
Name:_____
Title: Tribal Chair

DUCKWATER SHOSHONE TRIBE

By:_____ Date:_____
Name:_____
Title: Tribal Chair

ELY SHOSHONE TRIBE

By:_____ Date:_____
Name:_____
Title: Tribal Chair

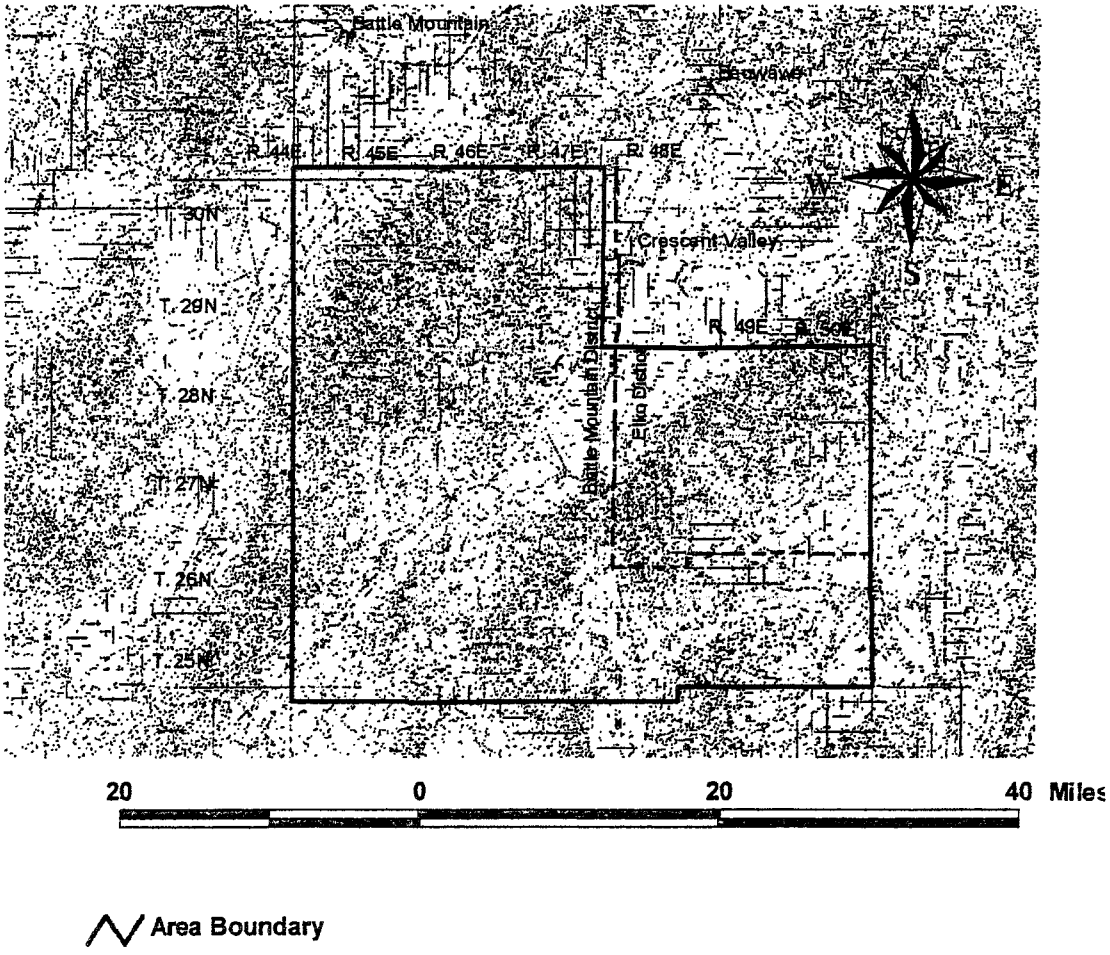
SHOSHONE-PAIUTE TRIBES OF DUCK VALLEY

By:_____ Date:_____
Name:_____
Title: Tribal Chair

APPENDIX A

Township 25N, Ranges 44E, 45E, 46E, 47E, 48E, 49E, and 50E; Township 26N, Ranges 44E, 45E, 46E, 47E, 48E, 49E, and 50E; Township 27N, Ranges 44E, 45E, 46E, 47E, 48E, 49E, and 50E; Township 28N, Ranges 44E, 45E, 46E, 47E, 48E, 49E, and 50E; Township 29N, Ranges 44E, 45E, 46E, and 47E; and Township 30N, Ranges 44E, 45E, 46E, and 47E.

Map of area covered by this programmatic agreement:



APPENDIX B

AGREEMENT-SPECIFIC DEFINITIONS

A. DEFINITIONS.

Adverse Effect. As defined in 36 C.F.R. § 800.9(b) (1986).

Agreement. As defined in the introductory paragraph.

APE. An "Area of Potential Effect" as set forth in 36 C.F.R. § 800.2 (1986) (attached as Appendix A).

Area of Interest. As defined in the Recitals and more particularly described in Appendix A.

ARPA. The Archeological Resources Protection Act of 1979, 16 U.S.C. § 470aa et. seq.

Avoidance. Preventing a potential Adverse Effect on an Historic Property from occurring by partial or complete relocation of a proposed land use as set forth in the Protocol.

Avoidance Boundaries. As defined in Section D.4.e.i

BLM. As defined in the introductory paragraph.

BLM Authorized Officer. For purposes of Cortez obligations to give notice to the BLM, an Authorized Officer, as used herein, shall mean the Field Manager, the Assistant Field Manager, the Cultural Resources Specialist or the Archeologist at either the Battle Mountain or Elko BLM Field Offices.

BLM Guidelines. The Nevada BLM Cultural Resources Inventory General Guidelines (4th edition, January 1990).

BLM Manual. The BLM Manual, 8100 Series, issued by the BLM.

Class I Survey. A professionally conducted review of published historic and archeological material about a geographic area compiled pursuant to the BLM Guidelines.

Class III Inventory. A professionally conducted continuous intensive survey pursuant to the BLM Guidelines.

Concurring Parties. As defined in the introductory paragraph and Stipulation I.E.1.

Contractor. The BLM's third party contractor, or any other third party contractor engaged by the BLM or Cortez to perform Section 106 compliance work hereunder.

Cortez. As defined in the introductory paragraph.

Council. As defined in the Recitals.

Cultural Resource. A definite location of human activity, occupation, or use identifiable through field inventory, historical documentation or oral evidence. The term includes archeological, historic, or architectural sites, structures, or places with important public or scientific uses, and may include definite locations (sites or places) of traditional cultural or religious importance to specified social and/or cultural groups. Cultural Resources are concrete, material places and things that are located, classified, ranked and managed through a system of identification and protection set forth in the BLM Manual. A Cultural Resource may or may not be Eligible for the National Register.

Data Recovery Standards. As defined in Section D.4.c.ii.a.

Discovery Notice. As defined in Section D.4.e.i.

Effect. As defined in 36 C.F.R. § 800.9(a) (1986).

Effective Date. As defined in the introductory paragraph.

Eligible or Eligibility. A determination that a Cultural Resource meets the National Register Criteria.

Exploration Plan. A plan of operations submitted to the BLM under 43 C.F.R. § 3809.400 *et seq.* for exploration activity that involves more than 5 acres of surface disturbance.

Historic Context. An organizing structure for interpreting history gleaned from a Class I Survey that organizes information about Historic Properties that share a common theme, common geographic area, and a common time period.

Historic District. A district listed in the National Register.

Historic Property. As defined in 36 C.F.R. § 800.2(e) (1986). For the purposes of this Agreement, "Historic Property" shall include unevaluated Cultural Resources and Cultural Resources properties eligible for listing in the National Register.

Indian tribe(s). An Indian tribe as defined in 36 C.F.R. § 800.2. (1986)

Keeper. The Keeper of the National Register of Historic Places, as defined in 36 CFR 60.3(f).

Linear Site. A Cultural Resource with linear features, such as an irrigation ditch or road.

Mining Plan. A plan of operations submitted to the BLM under 43 C.F.R. § 3809.400 *et seq.* for mining activity.

Mitigation Decision Notice. As defined in Section D.4.e.iii.

NAGPRA. The Native American Graves Protection and Repatriation Act of 1979, 25 U.S.C. § 3001 *et seq.*

National Register. As defined in 36 C.F.R. §800.2(k) (1986).

National Register Criteria. As defined in 36 C.F.R. 800.2(1) (1986).

NHPA. The National Historic Preservation Act, 16 U.S.C. §470 et seq.

Notice to Proceed. As defined in Section D.7.

Original PA. As defined in the recital.

Party or Parties. As defined in the introductory paragraph.

Protocol. As defined in the Recitals.

Secretary. As defined in 36 C.F.R. 800.2(m). (1986)

Secretary's Standards. The Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (48 FR 44716-37).

Section 106. Section 106 of the NHPA, codified as 16 U.S.C. 470f.

SHPO. As defined in the introductory paragraph.

Undertaking. As defined in 36 C.F.R. §800.2(o). (1986)

APPENDIX C

NOTIFIED TRIBES

Te-Moak Tribe of the Western Shoshone
Yomba Shoshone Tribe
Duckwater Shoshone Tribe
Ely Shoshone Tribe
Shoshone-Paiute Tribes of Duck Valley

APPENDIX E

NOISE MEASUREMENTS

Table E-1
Cortez Hills Expansion Project
Noise Measurement Results
Location #1: Rocky Pass Vicinity[1]

Date	Start Time	Elapsed Time	Measured Noise Levels (dBA)						Notes
			Minimum	Maximum	L_{10}[2]	L_{50}[2]	L_{90}[2]	L_{eq}	
5/12/03	18:41:54	10:14.2	29.2	58.7	NA	NA	NA	40.7	Birds, breeze in sage
5/12/03	18:55:09	05:16.5	29.1	51.0	NA	NA	NA	37.3	Birds
5/13/03	17:38:31	25:01.5	29.2	63.4	50.4	37.6	29.7	46.4	Few birds, one straight (tank) truck, most variation wind driven
5/14/03	13:11:12	10:35.2	29.3	49.2	32.3	29.7	29.4	31.5	"Dead quiet," a few flying insects, an occasional bird
5/14/03	13:28:28	05:01.2	30.1	82.1	63.7	44.6	32.3	65.6	One high altitude flyover, two mid-low flybys, one late mid-low flyby in valley to west
5/14/03	13:34:39	30:03.0	29.7	69.6	55.4	38.4	30.4	51.9	One high altitude flyover, three pair high altitude flyovers with one return, birds

[1] Approximately 0.2 to 0.3 mile east of Rocky Pass Road, just north of Rocky Pass.

[2] L_{10} = Sound level exceeded 10 percent of the time during a given period; often represents a short-term noise event associated with passing vehicles or airplanes flying over.

L_{50} = Sound level exceeded 50 percent of the time during a given period; the median sound level.

L_{90} = Sound level exceeded 90 percent of the time during a given period; sometimes used as an approximation for background noise.

Table E-2
Cortez Hills Expansion Project
Noise Measurement Results
Location #2: Dean Ranch Headquarters Yard[1]

Date	Start Time	Elapsed Time	Measured Noise Levels (dBA)						Notes
			Minimum	Maximum	L_{10}	L_{50}	L_{90}	L_{eq}	
5/13-14/03	20:40:00	13:26:41	28.2	69.7	41.0	30.6	28.3	39.0	Overnight measurement
5/14/03	11:14:33	23:05.5	29.1	62.9	43.6	34.5	30.7	43.2	Bird, dogs at 50 dBA, 2 dump trucks at 62 dBA

[1] 100 feet west of main house.

Table E-3
Cortez Hills Expansion Project
Noise Measurement Results
Location #3: Horse Canyon Haul Road Vicinity[1]

Date	Start Time	Elapsed Time	Measured Noise Levels (dBA)						Notes
			Minimum	Maximum	L_{10}	L_{50}	L_{90}	L_{eq}	
5/13/03	14:30:38	03:33.0	34.1	63.7	59.2	49.0	38.2	54.5	Military fighter flyover - valley to west
5/13/03	14:35:52	22:07.5	29.9	44.0	37.8	33.3	31.0	34.8	Light breeze, birds, drilling activity higher on mountain
5/13/03	14:58:54	05:03.7	31.1	41.3	35.9	33.8	32.0	34.3	Light breeze
5/13/03	15:26:14	21:28.0	29.3	53.8	35.9	30.2	29.7	33.5	Occasional light breeze through trees

[1] 0.3 mile above haul road; 230 degrees to “flag stick.”

Table E-4
Cortez Hills Expansion Project
Noise Measurement Results
Location #4: South-southeast of Existing Pipeline Pit[1]

Date	Start Time	Elapsed Time	Measured Noise Levels (dBA)						Notes
			Minimum	Maximum	L_{10}	L_{50}	L_{90}	L_{eq}	
5/13/03	16:21:51	00:28.0	42.2	57.7	56.1	52.2	43.6	52.8	Mine trucks, early blast siren (note very brief elapsed time)
5/13/03	16:26:27	27:02.2	34.5	69.8	47.1	41.6	38.4	45.1	Haul trucks and beepers, sirens, blasting

[1] 160 degrees from existing Pipeline Pit; 0.1 mile west of Rocky Pass Road.

Table E-5
Cortez Hills Expansion Project
Noise Measurement Results
Location #5: Existing Cortez Tailings Facility[1]

Date	Start Time	Elapsed Time	Measured Noise Levels (dBA)						Notes
			Minimum	Maximum	L_{10}	L_{50}	L_{90}	L_{eq}	
5/13/03	18:46:46	21:44.2	30.7	54.7	48.6	42.7	36.6	45.0	Wind (7 to 13 mph) a major factor, sound pressure level (SPL) at 30 dBA
5/14/03	15:46:19	12:24.2	29.3	39.3	31.7	29.5	29.3	30.3	Very high altitude airline flyover (first 2 minutes)
5/14/03	15:58:58	02:01.5	30.9	42.0	39.0	36.1	32.0	36.6	Very high altitude airline flyover

[1] Approximately 1.0 mile east of Cortez Canyon Road.

Table E-6
Cortez Hills Expansion Project
Noise Measurement Results
Location #6: Fenceline North of Existing Pipeline Tailings Facility

Date	Start Time	Elapsed Time	Measured Noise Levels (dBA)						Notes
			Minimum	Maximum	L_{10}	L_{50}	L_{90}	L_{eq}	
5/14/03	12:43:15	05:34.5	41.6	55.4	50.8	47.3	43.5	48.1	

Table E-7
Cortez Hills Expansion Project
Noise Measurement Results
Location #7: CGM's Headquarters Parking Lot[1]

Date	Start Time	Elapsed Time	Measured Noise Levels (dBA)						Notes
			Minimum	Maximum	L_{10}	L_{50}	L_{90}	L_{eq}	
5/14/03	14:36:57	40:01.7	50.5	75.4	59.3	55.4	53.0	57.3	General plant noise and equipment noise

[1] Straight south of security building.