APPENDIX A

WATER RESOURCES AND GEOCHEMISTRY

Table A-1
Spring Site Number Correlation

JBR Seep and Spring Number[1]	Baker Seep and Spring Number[2]	This Document Number	Type
Long Canyon			
32-43-24-313	001	001	Perennial
32-44-19-331	002A	002A	Perennial
32-44-30-12	003	003	Perennial
32-44-30-214	004	004	Perennial
32-44-30-24	005	005	Perennial
32-44-32-141	006	006	Perennial
Licking Creek Canyon			
32-44-30-44	008	008	Perennial
Little Cottonwood Canyon			
32-43-34-41	010	010	Perennial
32-43-34-23	011	011	Ephemeral
32-43-34-24	012	012	Ephemeral
32-43-35-34	014	014	Perennial
Small Tributary North of Little Cottonwood Canyon			
32-43-35-23	016	016	Perennial
Large Tributary North of Little Cottonwood Canyon			
32-43-35-21a	017A	017A	Perennial
32-43-35-21b	017B	017B	Perennial
32-43-35-22a	018A	018A	Perennial
32-43-35-22b	018B	018B	Perennial
31-43-1-12	020	020	Ephemeral
Galena Canyon			
31-43-14-142	023	023	Perennial
31-43-24-21	025	025	Perennial
Cow Canyon			
31-43-3-34	026	026	Perennial
31-43-3-323	027	027	Perennial
31-43-3-32		31-43-3-32	Ephemeral
31-43-11-31		29	Perennial
Duck Creek Canyon			
31-43-16-22		31-43-16-22	Dry
31-43-15-11		31-43-15-11	Dry
31-43-15-12	032		Perennial
31-43-15-122		33	Perennial
Scott Canyon			
31-43-11-34		31-43-11-34	Ephemeral
31-43-11-43a		31-43-11-43a	Ephemeral
31-43-11-43b		31-43-11-43b	Ephemeral
31-43-11-433	036	036	Ephemeral
Butte Canyon			
31-43-15-43	037	037	Perennial
31-43-15-34	119	119	Ephemeral
31-43-14-31	120	120	Ephemeral
Iron Canyon			
31-43-22-23	038	038	Ephemeral
31-43-22-243	040	040	Perennial
31-43-22-42	042	042	Perennial

Table A-1
Spring Site Number Correlation

JBR Seep and Spring Number[1]	Baker Seep and Spring Number[2]	This Document Number	Type
Philadephia Canyon			
31-43-27-44	045	045	Perennial
Main Willow Creek Channel			
32-43-32-41a	046A	046A	Perennial
31-43-5-11	048	048	Perennial
31-43-5-234	051A	051A	Perennial
31-43-4-33	052	052	Perennial
Rocky Canyon			
31-43-6-14	053	053	Perennial
31-43-6-31		31-43-6-31	No Fall Survey
31-43-6-33		31-43-6-33	No Fall Survey
31-43-6-341		31-43-6-341	No Fall Survey
31-43-18-12	057	057	Perennial
31-43-18-11		31-43-18-11	No Fall Survey
31-42-12-34		31-42-12-34	No Fall Survey
Timber Canyon			
31-42-1-413		31-42-1-413	No Fall Survey
31-42-1-32a		31-42-1-32a	No Fall Survey
31-42-1-32b	061B	061B	Perennial
Mill Canyon			
32-42-26-133	062	062	Perennial
Trenton Canyon			
32-42-25-242	063	063	Perennial
32-42-25-243	064	064	Perennial
32-42-25-21	067	067	Perennial
32-42-24-44	068	068	Perennial
32-42-24-14	070	070	Perennial
32-42-24-41	071	071	Perennial
32-42-24-31a	073A	073A	Perennial
32-42-23-342		32-42-23-342	No Fall Survey
32-42-23-34a	075A	075A	Perennial
32-42-23-34b		32-42-23-34b	No Fall Survey
Big Cottonwood Creek			
32-43-27-333		32-43-27-333	No Fall Survey
32-43-34-111	079	079	Ephemeral
32-43-33-212a	080A	080A	Perennial
32-43-29-224a	081A	081A	Perennial
32-43-20-244		32-43-20-244	No Fall Survey
32-43-30-434	086	086	Perennial
32-43-30-233	087	087	Perennial
Trout Creek			
32-43-34-211	090	090	Perennial
32-43-27-43	091	091	Perennial
32-43-27-411	092	092	Perennial
32-43-27-32		32-43-27-32	No Fall Survey
32-43-21-444	095	095	Perennial
32-43-22-32	096	096	Perennial
32-43-21-214		32-43-21-214	No Fall Survey

Table A-1
Spring Site Number Correlation

JBR Seep and Spring Number[1]	Baker Seep and Spring Number[2]	This Document Number	Type
32-43-21-221	099	099	Perennial
32-43-21-122		32-43-21-122	No Fall Survey
32-43-16-414	102	102	Perennial
32-43-16-314		32-43-16-314	No Fall Survey
32-43-16-311	104	104	Perennial
32-43-17-42	106	106	Perennial
32-43-27-222	107	107	Perennial
32-43-27-21	108	108	Perennial
Dewitt Mine Area Tributary			
32-43-23-13	110	110	Perennial
32-43-23-133	111	111	Perennial
32-43-23-11	112	112	Perennial
32-43-22-221	114	114	Perennial
32-43-22-11	115	115	Perennial

[1] Source: JBR 1996d,g

[2] Source: Baker 1997a, 2000c

Table A-2
Stream Flow Monitoring Site Number Correlation

JBR Stream Flow Site Number[1]	Baker Stream Flow Site Number[2]	This Document Number	
Long Canyon			
32-44-19-331	002B	002B	
32-44-32-41	007	007	
Licking Creek Canyon			
32-44-30-11	009	009	
Little Cottonwood Canyon			
32-43-34-42	013	013	
Large Tributary North of Little Cottonwood Canyon			
32-43-35-22c	019	019	
Confluence of Main Fork and West Tributary			
31-43-1-23 (Main)	021A	021A	
31-43-1-23 (West)	021B	021B	
31-44-8-13	022	022	
Galena Canyon			
31-43-24-11	024	024	
Butte Canyon			
31-43-14-41	044	044	
Iron Canyon			
31-43-23-13	039	039	
31-43-22-421	041	041	
31-43-23-21	043	043	
Main Willow Creek Channel			
32-43-32-41b	046B	046B	
32-43-32-43	047	047	
31-43-5-34	049	049	
31-43-8-33	050	050	
31-43-5-234	051B	051B	
Rocky Canyon			
31-43-18-11	058B	058B	
Trenton Canyon			
32-42-25-14	065	065	
32-42-25-11a	066A	066A	
32-42-25-11b	066B	066B	
32-42-24-43a	069A	069A	
32-42-24-43b	069B	069B	
32-42-24-322	072	072	
32-42-24-31b	073B	073B	
32-42-22-42	077	077	
32-42-23-341	076	076	
Big Cottonwood Creek			
32-43-33-212b	080B	080B	
32-43-33-212c	080C	080C	
32-43-29-224b	081B	081B	
32-43-20-213	083	083	
32-43-17-311	084	084	

Table A-2
Stream Flow Monitoring Site Number Correlation

JBR Stream Flow Site Number[1]	Baker Stream Flow Site Number[2]	This Document Number	
32-43-18-322	085	085	
32-43-18-423	088	088	
32-43-18-424	089	089	
Trout Creek			
32-43-27-12a	094A	094A	
32-43-27-12b	094B	094B	
32-43-21-22a	097A	097A	
32-43-21-22b	097B	097B	
32-43-16-44	100	100	
32-43-16-31	105	105	
32-43-16-323	122	122	
32-43-27-124	109	109	
Dewitt Mine Area Tributary			
32-43-22-21	113	113	
32-43-22-111	116	116	
Reese River			
Reese River	117	117	
Reese River	118	118	

[1] Source: JBR 1996d,g

[2] Source: Baker 1997a, 2000c

Table A-3
Summary of Laboratory Rock Core Tests for Bedrock Assemblage

Hydrostratigraphic Unit	Sample ID	Total Porosity (%) [1]	Bulk Density (g/cm3) [1]	Hydraulic Conductivity (ft/day) [2]	Hydraulic Conductivity (cm/sec) [2]	Orientation [3]
Pumpernickel Group	Ppl1	0.1	2.68	$1.3x10^{-4}$	$4.6x10^{-8}$	H
	Ppl2	0.7	2.65	$6.6x10^{-5}$	$2.3x10^{-8}$	H
	Ppl1	0.2	2.68	$2.5x10^{-5}$	$8.7x10^{-9}$	V
	Ppl2	0.4	2.67	$3.6x10^{-5}$	$1.3x10^{-8}$	V
Edna Mountain Unit	Pem1	3.2	2.67	$8.2x10^{-5}$	$2.9x10^{-8}$	H
	Pem4	0.9	2.75	$3.8x10^{-5}$	$1.4x10^{-8}$	H
	Pem1	2.6	2.67	$3.8x10^{-5}$	$1.4x10^{-8}$	V
	Pem4	0.4	2.75	$7.7x10^{-5}$	$2.7x10^{-8}$	V
Antler Peak Unit	AP2(H1)	0.7	2.69	$1.5x10^{-4}$	$5.3x10^{-8}$	H
	AP2(H1)	0.4	2.69	$1.0x10^{-4}$	$3.7x10^{-8}$	H
	AP2(V1)	0.4	2.70	$1.2x10^{-4}$	$4.3x10^{-8}$	V
	AP2(V1)	1.0	2.68	$2.5x10^{-5}$	$8.7x10^{-9}$	V
Battle Unit	Pbl1	4.6	2.52	$1.4x10^{-4}$	$5.0x10^{-8}$	H
	Pbl2	0.9	2.64	$4.9x10^{-5}$	$1.7x10^{-8}$	H
	Pbl1	0.2	2.65	$2.5x10^{-5}$	$8.7x10^{-9}$	V
	Pbl2	0.9	2.64	$4.7x10^{-5}$	$1.6x10^{-8}$	V
	Pbm2	2.2	2.66	$7.7x10^{-5}$	$2.7x10^{-8}$	H
	Pbm2	3.2	2.65	$3.3x10^{-5}$	$1.2x10^{-8}$	V
	Pbu1	7.3	2.78	$4.4x10^{-4}$	$1.5x10^{-7}$	H
	Pbu1	5.3	2.62	$1.1x10^{-4}$	$3.9x10^{-8}$	V
Harmony Unit	Ch2	15.8	2.24	$1.8x10^{-4}$	$6.5x10^{-8}$	H
	Ch4	1.5	2.58	$3.3x10^{-5}$	$1.2x10^{-8}$	H
	Ch2	17.0	2.23	$5.9x10^{-5}$	$1.9x10^{-8}$	V
	Ch4	1.6	2.58	$1.4x10^{-5}$	$4.8x10^{-9}$	V
Scott Canyon Unit	Dsc1	1.0	2.63	$1.1x10^{-5}$	$3.9x10^{-9}$	H
	Dsc5	0.9	2.66	$6.3x10^{-5}$	$2.2x10^{-8}$	H
	Dsc1	1.0	2.64	$2.5x10^{-5}$	$8.7x10^{-9}$	V
	Dsc5	4.0	2.58	$3.0x10^{-5}$	$1.1x10^{-8}$	V
Granodiorite	Tgd1	4.8	2.49	$3.1x10^{-4}$	$1.1x10^{-7}$	H
	Tgd2	4.2	2.50	$1.1x10^{-4}$	$3.8x10^{-8}$	H
	Tgd1	5.5	2.47	$2.6x10^{-4}$	$8.3x10^{-8}$	V
	Tgd2	5.5	2.48	$2.0x10^{-5}$	$6.9x10^{-8}$	V

Source: Baker Consultants, Inc. 1997a.

[1]Method: American Petroleum Institute Rp-40

[2]Method: American Society for Testing and Materials D4525

[3]H = Horizontal Core; V = Vertical Core

ft/day = feet per day

cm/sec = centimeters per second

Table A-4
Estimated Incremental Increase in Long-term Sulfate Concentration in Ground Water Beneath Waste Rock Facilities
(Proposed Action)

	North Fortitude Waste Rock Facility	Phoenix Pit Waste Rock Facility	Reona Pit Waste Rock Facility	North Midas Waste Rock Facility	South Midas Waste Rock Facility	Natomas Waste Rock Facility		Box Waste Rock Facility	Minnie Waste Rock Facility
	Copper Canyon Groundwater Drainage	Copper Canyon Groundwater Drainage	Copper Canyon Groundwater Drainage	Copper Canyon Groundwater Drainage	Copper Canyon Groundwater Drainage	Copper Canyon Groundwater Drainage	Willow Canyon Groundwater Drainage	Cow Canyon Groundwater Drainage	Copper Canyon Groundwater Drainage
Steady-State Groundwater Flow (gpm):	**77**	**80**	**95**	**95**	**5**	**160**	**300**	**3**	**5**
Model Year[1]									
30[2]	0	0	0	0	0	0	0	0	0
60[2]	0	1	0	0	0	0	0	0	0
90[2]	0	600	0	0	0	0	0	0	0
130[2]	0	500	0	0	0	0	0	0	0
130-1,000	6000	2,000	30	90	3,000	1	4	2,000	900
1,000-5,000	40	50	40	60	2,000	200	70	6,000	100
5,000-10,000	30	50	20	20	300	40	20	1,000	50
10,000-20,000	30	50	20	20	300	40	20	900	50

Table A-4 (Continued)

	Butte Waste Rock Facility	Iron Canyon North Waste Rock Facility	Iron Canyon South Waste Rock Facility	Iron Canyon Pit Waste Rock Facility	East Iron Pit Waste Rock Facility	Philadelphia Waste Rock Facility	
	Philadelphia Canyon Groundwater Drainage	Philadelphia Canyon Groundwater Drainage	Philadelphia Canyon Groundwater Drainage	Philadelphia Canyon Groundwater Drainage	Philadelphia Canyon Groundwater Drainage	Philadelphia Canyon Groundwater Drainage	Copper Canyon Groundwater Drainage
Steady-State Groundwater Flow (gpm):	2	3	10	20	10	46	2
Model Year[1]							
30[2]	0	0	0	0	0	0	0
60[2]	0	1	0	0	0	0	0
90[2]	0	1	0	0	0	0	0
130[2]	0	3	0	0	0	0	0
130-1,000	5,000	4,000	1,000	100	2,000	1,000	8,000
1,000-5,000	300	500	600	100	300	500	1,000
5,000-10,000	200	500	300	40	100	200	500
10,000-20,000	200	500	300	30	100	200	400

Source: Exponent 2000a.

Note: All concentrations as milligrams/liter.

[1]Mining ends in model year 28.

[2]Estimated concentrations are at these times. All others are estimated average concentrations over the time interval.

Table A-5
Estimated Incremental Increase in Long-term Sulfate Concentration in Ground Water Beneath Waste Rock Facilities
(No Action Alternative)

	North Fortitude Waste Rock Facility	Upper Fortitude Waste Rock Facility	Main Fortitude Waste Rock Facility	NE Extension Waste Rock Facility	Philadelphia Canyon Cu Leach Waste Rock Facility[1]	Tomboy/ Minnie Waste Rock Facility	Natomas Waste Rock Facility	Bonanza Waste Rock Facility	South Forty Waste Rock Facility
	Copper Canyon Groundwater Drainage	Copper Canyon Groundwater Drainage	Copper Canyon Groundwater Drainage	Copper Canyon Groundwater Drainage	Copper Canyon Groundwater Drainage	Copper Canyon Groundwater Drainage	Copper Canyon Groundwater Drainage	Copper Canyon Groundwater Drainage	Copper Canyon Groundwater Drainage
Steady-State Groundwater Flow (gpm):	**70**	**0[2]**	**90**	**0[3]**	**5**	**2**	**90**	**6**	**8**
Model Year[4]									
30[5]	0	--[2]	10	--[3]	10	0	0	0	0
60[5]	80	--[2]	50	--[3]	200	0	0	0	0
90[5]	500	--[2]	700	--[3]	80	3	0	0	0
130[5]	2,000	--[2]	3,000	--[3]	900	500	0	0	0
130–1,000	600	--[2]	1,000	--[3]	2,000	7,000	1,000	1,000	1,000
1,000–5,000	80	--[2]	200	--[3]	100	400	70	40	50
5,000–10,000	70	--[2]	200	--[3]	100	300	20	20	40
10,000–20,000	70	--[2]	100	--[3]	100	300	20	20	30

Table A-5 (Continued)

	Tomboy/Minnie Waste Rock Facility	Upper Fortitude Waste Rock Facility	NE Extension Waste Rock Facility	Philadelphia Canyon Cu Leach Waste Rock Facility	Iron Canyon East Waste Rock Facility[a]	Tomboy/ Minnie Waste Rock Facility
	Cow Canyon Groundwater Drainage	Philadelphia Canyon Groundwater Drainage	Philadelphia Canyon Groundwater Drainage	Philadelphia Canyon Groundwater Drainage	Philadelphia Canyon Groundwater Drainage	Philadelphia Canyon Groundwater Drainage
Steady-State Groundwater Flow (gpm):	**2**	**4**	**6**	**25**	**2**	**0[6]**
Model Year[4]						
30[5]	50	2,000	3,000	80	0	--[6]
60[5]	2,000	7,000	7,000	700	0	--[6]
90[5]	2,000	30,000	10,000	1,000	0	--[6]
130[5]	10,000	50,000	30,000	6,000	0	--[6]
130–1,000	20,000	7,000	7,000	4,000	10,000	--[6]
1,000–5,000	2,000	1,000	900	500	700	--[6]
5,000–10,000	1,000	1,000	900	500	600	--[6]
10,000–20,000	1,000	1,000	800	500	500	--[6]

Source: Exponent 2000a

Note: All concentrations as milligrams/liter.

[1]Includes adjacent South Fortitude and West Copper Facilities.

[2]Estimated flow beneath this area is below the resolution of the groundwater model; load was added to Upper Fortitude waste rock facility in Philadelphia Canyon groundwater drainage.

[3]Estimated flow beneath this area is below the resolution of the groundwater model; load was added to NE Extension waste rock facility in Philadelphia Canyon groundwater drainage.

[4]Mining ends in model year 28.

[5]Estimated concentrations are at these times. All others are estimated average concentrations over the time interval.

[6]Estimated flow beneath this area is below the resolution of the groundwater model; load was added to Tomboy/Minnie waste rock facility in Box Canyon groundwater drainage.

APPENDIX B

VEGETATION AND RANGE DATA

Table B-1
Plant Community Data

Parameter	Vegetation Community								Total or Weighted Average
	BSMSG	MSG	SBG	BSRRG	MB	LSG	BGS	D	
General									
Acreage in project area	2,302	965	3,980	0	35	4	424	2,783	10,493
Percent of project area	21.9	9.2	37.9	0.0	0.3	0.04	4.0	26.5	100
Elevation range (feet amsl)	5,000 - 7,500	5,000 - 6,500	4,500 - 5,700	4,500 - 6,500	4,800 – 6,500	>6,500	<4,700	4,500 - 6,500	
Cover and Composition									
Percent grass cover	1.08	0	0	0	0	0	0	0.54	0.42
Percent forb cover	1.45	0.16	1.10	0	0	1.72	0	3.97	1.60
Percent shrub cover	23.45	28.57	16.75	31.68	51.17	7.29	24.22	3.47	18.95
Percent total foliar cover	25.98	28.73	17.85	31.68	51.17	9.01	24.22	7.98	20.98
Bare ground exposure	37.50	22.33	54.50	41.00	13.50	8.50	48.50	56.00	43.81
Percent grass composition	4.16	0	0	0	0	0	0	6.70	2.69
Percent forb composition	5.58	0.57	6.16	0	0	19.09	0	49.75	14.57
Percent shrub composition	90.25	99.43	93.81	99.98	99.99	80.91	100.0	43.48	82.72
Production and Carrying Capacity									
Total production (lbs/acre)	921.1	1342.2	714.2	3368.1	4158.8	498.8	972.2	448.8	936.8
Palatable production (lbs/acre)	62.5	96.5	36.6	16.0	186.7	44.1	11.2	4.0	47.2
AUMs / Acre	0.060	0.092	0.035	0.015	0.178	0.042	0.011	0.004	0.043
Acres / AUM	16.8	10.9	28.7	65.6	5.6	23.8	93.6	263.7	23.1
AUMs within the community	137.1	88.7	138.9	0.0	6.2	0.2	4.5	10.6	386.1

BSMSG = Black Sagebrush - Mountain Sagebrush / Grassland.
MSG = Mountain Sagebrush / Grassland.
SBG = Shadscale Budsage / Grassland.
BSRRG = Big Sagebrush - Rubber Rabbitbrush / Grassland.
MB = Mixed Brush.
LSG = Low Sagebrush / Grassland.
BGS = Black Greasewood / Shadscale.
D = Disturbed Area.
AUM – Animal Unit Month.

Table B-2
Vegetation Production

Species	Dry Weight Production (lbs/acre) by Species by Plant Community							
	BSMSG	**MSG**	**SBG**	**BSRRG**	**MB**	**LSG**	**BGS**	**D**
Grasses								
Bluebunch Wheatgrass	31.9							
Bottlebrush Squirreltail	7.5	59.3	3.0	16.6		6.6	2.1	8.6
Cheatgrass	7.3	197.6	51.2	76.0	167.4	1.8	14.1	127.0
Crested Wheatgrass								57.5
Great Basin Wildrye				1.6	82.6			
Pine Bluegrass	14.1		6.8					
Sandberg Bluegrass	16.3	2.4	8.8			47.0		
Grass Subtotal	76.9	259.2	69.7	94.2	250.0	55.3	16.2	193.1
Forbs								
Bitterroot						2.7		
Deflexed Buckwheat								2.7
Desert Alyssum			0.1	2.4	5.0			
Desert Dandelion						1.3		
Desert Globemallow		6.2	14.7	7.7			11.4	
Diffuse Groundsmoke								2.7
Douglas Duskey Maiden	0.6							
Douglas Pincushion						0.8		4.9
Filaree (red stem)		1.3						
Freckled Milkvetch				17.9				
Hood's Phlox	2.5					0.6		
Large-fruit Bisquitroot						4.8		
Lava Aster	5.3							
Long-leaf Phlox						3.4		
Perf-leaf Peppergrass			9.0	14.8			0.6	
Poverty Weed				19.5				
Prickly Lettuce								2.7
Pursh's Milkvetch	2.5					0.6		0.6
Rayless Daisy	10.6		0.9					
Tansy Mustard							0.4	
Virginia Peppergrass							43.3	
White-stem Blazing Star							3.2	7.0
Forb Subtotal	21.4	7.4	24.6	62.2	5.0	14.0	58.8	20.4
Shrubs								
Basin Big Sagebrush				1529.2	2123.2			
Bitterbrush					456.1			
Black Greasewood				354.3			430.5	
Black Sagebrush	606.9							7.4
Budsage			192.6				17.1	
Desert Peach					1324.5			
Great Basin Buckwheat	19.7							
Green Rabbitbrush	19.7			20.2				
Low Sagebrush						401.9		
Matted Buckwheat	18.3					18.5		

Table B-2 (Continued)

Species	Dry Weight Production (lbs/acre) by Species by Plant Community							
	BSMSG	**MSG**	**SBG**	**BSRRG**	**MB**	**LSG**	**BGS**	**D**
Mountain Big Sagebrush	145.1	1009.5						
Rubber Rabbitbrush		66.1		1308.2		4.8		228.0
Shadscale			427.3				238.5	
Spiny Horsebrush							70.0	
Sulphur Buckwheat	13.3					4.4		
Torrey Seablite							141.3	
Shrub Subtotal	822.9	1075.6	619.9	3211.7	3903.8	429.6	897.2	235.3
OVERALL TOTAL	921.1	1342.2	714.2	3368.1	4158.8	498.8	972.2	448.8

BSMSG = Black Sagebrush - Mountain Sagebrush / Grassland.
MSG = Mountain Sagebrush / Grassland.
SBG = Shadscale Budsage / Grassland.
BSRRG = Big Sagebrush - Rubber Rabbitbrush / Grassland.
MB = Mixed Brush.
LSG = Low Sagebrush / Grassland.
BGS = Black Greasewood / Shadscale.
D = Disturbed Area.

Table B-3
Project Area Palatable Forage/Carrying Capacity

Species	Palatibility[1]	Dry Weight Palatable Forage (lbs/acre) by Species by Plant Community							
		BSMSG	MSG	SBG	BSRRG	MB	LSG	GSS	D[7]
Grasses									
Bluebunch Wheatgrass	60[4]	9.6							
Bottlebrush Squirreltail	25	1.9	14.8	0.8	4.2		1.6	0.5	0.2
Cheatgrass	15	1.1	29.6	7.7	11.4	25.1	0.3	2.1	1.9
Crested Wheatgrass	60[4]								1.7
Great Basin Wildrye	5				0.1	4.1			
Pine Blugrass	65[3,4]	4.6		2.2					
Sandberg Bluegrass	65[4]	5.3	0.8	2.8			15.3		
Grass Subtotal		22.4	45.2	13.5	15.6	29.2	17.2	2.6	3.8
Forbs									
Deflexed Buckwheat	5[3]								0.0
Desert Dandelion	60						0.8		
Desert Globemallow	5[3]		0.3	0.7	0.4			0.6	
Diffuse Groundsmoke	35								0.1
Filaree (red stem)	40		0.5						
Large-fruit Bisquitroot	15[3]						0.7		
Prickly Lettuce	5[3]								0.0
Forb Subtotal		0.0	0.8	0.7	0.4	0.0	1.5	0.6	0.1
Shrubs									
Bitterbrush	20[5]					91.2			
Black Sagebrush	5[6]	30.3							0.0
Budsage	5[5]			9.6				0.9	
Desert Peach	5[3,5]					66.2			
Great Basin Buckwheat	5[3]	1.0							
Low Sagebrush	5[3,5]						20.1		
Matted Buckwheat	5[2]	0.9					0.9		
Mountain Big Sagebrush	5[5]	7.3	50.5						
Shadscale	3[2]			12.8				7.2	
Sulphur Buckwheat	5[3]	0.7					4.4		

Table B-3 (Continued)

Species	Palatibility[1]	Dry Weight Palatable Forage (lbs/acre) by Species by Plant Community							
		BSMSG	MSG	SBG	BSRRG	MB	LSG	GSS	D[7]
Shrub Subtotal		40.2	50.5	22.4	0.0	157.4	25.4	8.0	0.0
OVERALL TOTAL		62.5	96.5	36.6	16.0	186.7	44.1	11.2	4.0
Carrying Capacity									
Animal Unit Months/Acre		0.060	0.092	0.035	0.015	0.178	0.042	0.011	0.004
Acres/Animal Unit Month		16.80	10.88	28.65	65.56	5.62	23.83	93.62	263.7

BSMSG = Black Sagebrush - Mountain Sagebrush/Grassland.
MSG = Mountain Sagebrush / Grassland.
SBG = Shadscale Budsage / Grassland.
BSRRG = Big Sagebrush - Rubber Rabbitbrush / Grassland.
MB = Mixed Brush.
LSG = Low Sagebrush / Grassland.
BGS = Black Greasewood / Shadscale.
D = Disturbed Area.

[1]Average palatability for cattle and sheep based on U.S. Forest Service 1937a,b. According to U.S. Forest Service 1937a, palatability is defined as " degree to which the herbage…is grazed when a range is properly utilized under the best practicable range management." Only species with greater than zero "0" palatability are represented on this table.
[2] U.S. Forest Service 1937a indicates these to be 20 percent palatable, however, more recent research/evidence indicates that these values are less than 5 percent.
[3] Palatability value assumed based on similar species listed in U.S. Forest Service 1937a,b.
[4]Given the "Improve" management approach for the Copper Canyon Allotment, allowable utilization is reduced 50 percent.
[5] Although U.S. Forest Service 1937a indicates these to be somewhat more palatable, more recent research / evidence indicates somewhat lower value.
[6] Although U.S. Forest Service 1937a indicates black sagebrush to have 0 palatability, more recent research / evidence indicates an approximate 5 percent value.
[7]Sampling occurred within vegetated areas. However, it is assumed that only 10 percent of the mapped disturbed area is actually vegetated.

APPENDIX C

DRAFT EIS PUBLIC COMMENTS AND RESPONSES

Draft EIS Public Comments

Letter Number	Respondent
Federal Agencies	
1	U.S. Environmental Protection Agency
2	U.S. Geological Survey
3	U.S. Fish and Wildlife Service
State of Nevada	
4	Division of Wildlife
5	Division of Water Resources
6	Division of Minerals
7	Bureau of Health Protection Services
8	Office of Historic Preservation
9	Division of Environmental Protection
Local Agencies	
10	Lander County Board of Commissioners
Organizations and Individuals	
11	Western Shoshone Defense Project
12	Badger/Chiara Ranches
13	Great Basin Mine Watch
14	Mineral Policy Center
15	Sierra Club
16	Sheryl Robards