

# Memorandum

**Date:** October 5, 2009

**Re:** La Sal Vegetation Survey

Denison Mines (USA) Corp. is planning to expand it's operations at the La Sal Mine Complex, located near the town of La Sal, Utah in San Juan County. Although the mines are existing, Denison will be adding additional development rock material to the development rock pile at the Pandora Mine and will add ventilation holes throughout the area. In addition, exploration drilling will be conducted in the future to determine areas where ore is present for future mining activities. Although the mines are existing facilities, a vegetation survey in the surrounding area was completed in an effort to determine establish reclamation objectives in the future.

On September 25<sup>th</sup>, 2009 Danny Flannery, Mine Compliance Technician for Denison Mines completed a vegetation survey at the La Sal Mine complex. This survey was completed per the State of Utah Mined Land Reclamation Act, Title 40-8, Utah Code Annotated 1953, General Rules and Rules of Practice and Procedures Section 106.7 – Existing vegetative communities to establish re-vegetation success. This survey was also completed to meet US Bureau of Land Management reclamation requirements. The objectives of the vegetation resources assessment were to survey and document vegetation communities in the Study Area and establish vegetation reference areas.

A consistent circular hoop was used as a perimeter for survey areas at 22 locations on the edges of the existing mine sites. Ground cover percentage was determined based on visual observation of existing vegetation, litter, rock, and bare ground for each spot. The results are provided as follows:

**Rim Mine Vegetation Survey**

	<b>GPS N</b>	<b>GPS W</b>	<b>Elevation (ft)</b>	<b>Vegetation (%)</b>	<b>Litter (%)</b>	<b>Rock (%)</b>	<b>Bare Ground (%)</b>
VG-1	38 18.462	109 13.181	6898	35	0	5	60
VG-2	38 18.439	109 13.177	6940	55	0	20	25
VG-3	38 18.405	109 13.199	6937	70	0	10	20
VG-4	38 18.390	109 13.185	6931	30	40	25	5
VG-5	38 18.400	109 13.208	6934	50	15	0	35
VG-6	38 18.844	109 13.098	7181	50	5	5	40
VG-7	38 18.774	109 13.009	7183	55	10	15	20



	GPS N	GPS W	Elevation (ft)	Vegetation (%)	Litter (%)	Rock (%)	Bare Ground (%)
VG-8	38 18.734	109 13.035	7150	40	10	5	45
VG-9	38 18.580	109 13.974	6991	25	5	5	65
VG-10	38 18.552	109 13.999	6968	40	15	0	45
VG-11	38 18.518	109 14.059	6951	5	5	5	85
VG-12	38 18.542	109 14.215	6967	35	10	5	50
VG-13	38 19.076	109 14.805	7056	55	15	10	20
VG-14	38 19.042	109 14.697	7049	35	35	5	25
VG-15	38 19.073	109 14.620	7071	15	30	10	45
VG-16	38 19.103	109 15.064	7094	5	20	0	75
VG-17	38 19.128	109 15.100	7104	45	5	5	45
VG-18	38 18.990	109 15.210	7050	35	10	5	50
VG-19	38 19.093	109 15.224	7090	40	10	10	40
VG-20	38 19.067	109 15.331	7064	15	30	5	50
VG-21	38 18.914	109 13.757	7193	25	10	5	60
VG-22	38 19.067	109 15.331	7064	15	30	5	50
			<b>Average</b>	<b>35</b>	<b>14</b>	<b>7</b>	<b>43</b>

The vegetation groups vary widely in the survey area and should be used for reclamation of each mine site or vent hole area appropriate relative to where the surveys were conducted; however, an average of 35 percent of ground cover was vegetation, 14 percent was litter, 7 percent was rock, and 43 percent was bare ground.

Photographic documentation is enclosed as Attachment A, and geographic mapping of the location of sample areas is provided over a base US National Resource Conservation Service Soil Map in Attachment B.



**ATTACHMENT A**  
**PHOTOGRAPHIC DOCUMENTATION**



Vegetation Survey La Sal Mines

Taken Sept 25th, 2009.

Taken at the  
Base of the  
Pandora  
Waste Rock.

N38 18.462  
W109 13.181  
6898 ft

Veg 35%

Litter 0%

Rock 5%

Bare Ground  
60%



Base Of  
Pandora WR

N38 18.439  
W109 13.177  
6940 ft

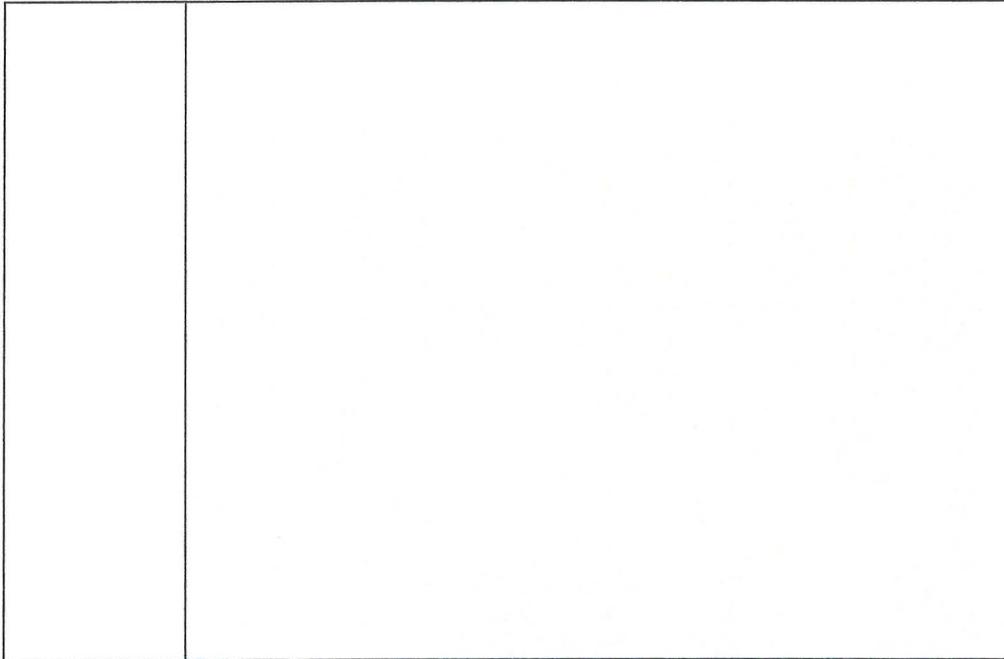
V 55%

L 0%

R 20%

BG 25%





Base of  
Pandora WR  
N38 18.405  
W109 13.199  
6937 ft  
V 75%  
L 0%  
R 10%  
BG 20%



Pandora WR

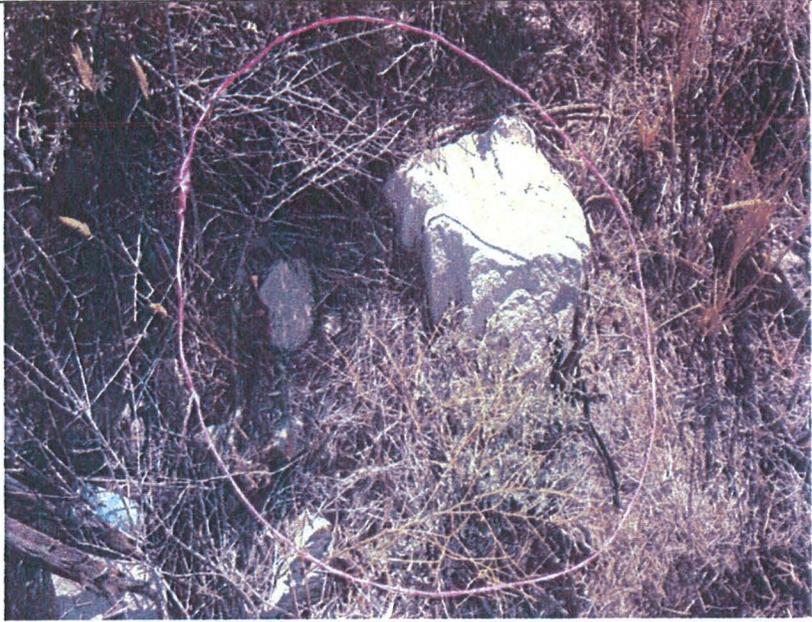
N38 18.390  
W109 13.185  
6931 ft

V 30 %

L 40 %

R 25 %

BG 5 %



Taken 60 ft  
West of Silt  
Fence

N38 18.400  
W109 13.208  
6934 ft

V 50 %

L 15 %

R 0 %

BG 35 %



Taken NW  
side of  
Snowball Site

N38 18.844  
W109 13.098  
7181 ft

V 50%

L 5%

R 5%

BG 40%



N side  
Snowball  
Waste Rock

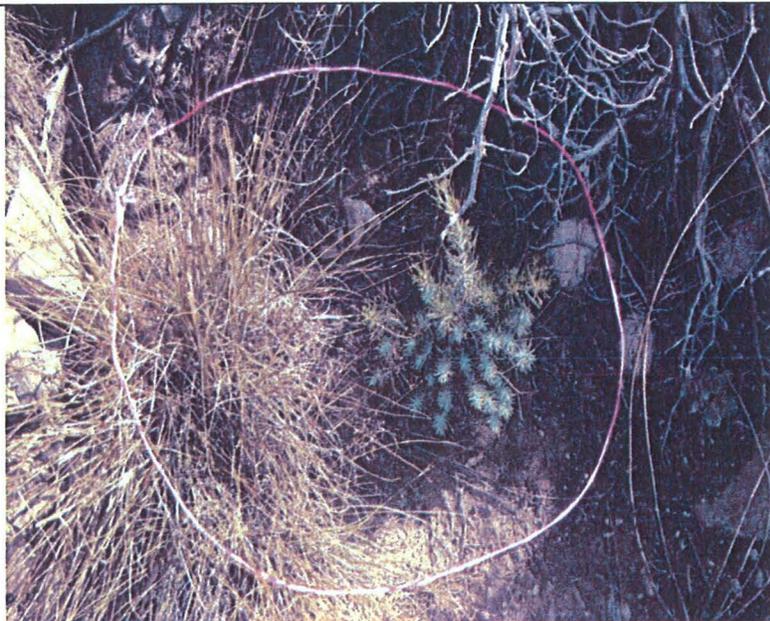
N38 18.774  
W109 13.009  
7183 ft

V 55%

L 10 %

R 15 %

BG 20%



South side  
base of  
Snowball WR

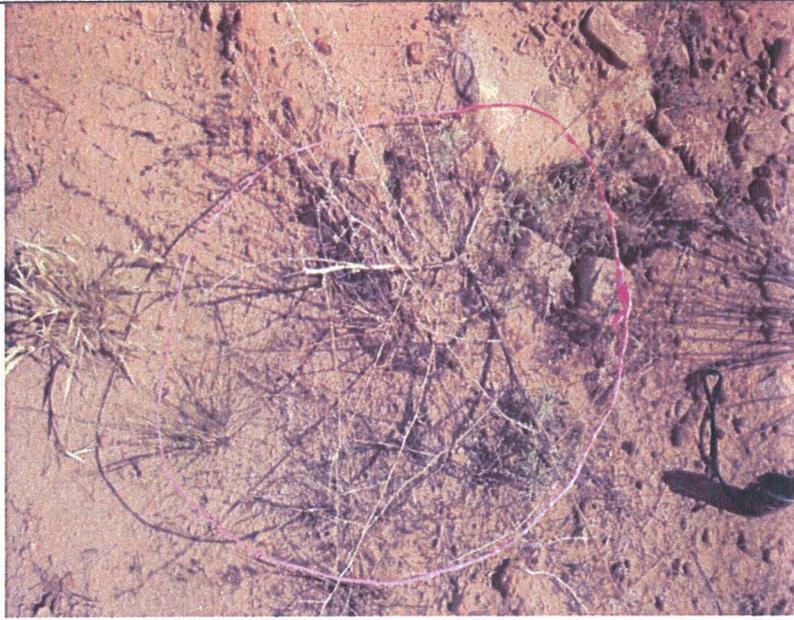
N38 18.734  
W109 13.035  
7150 ft

V 40%

L 10%

R 5%

BG 45%



NE side of La  
Sal Site

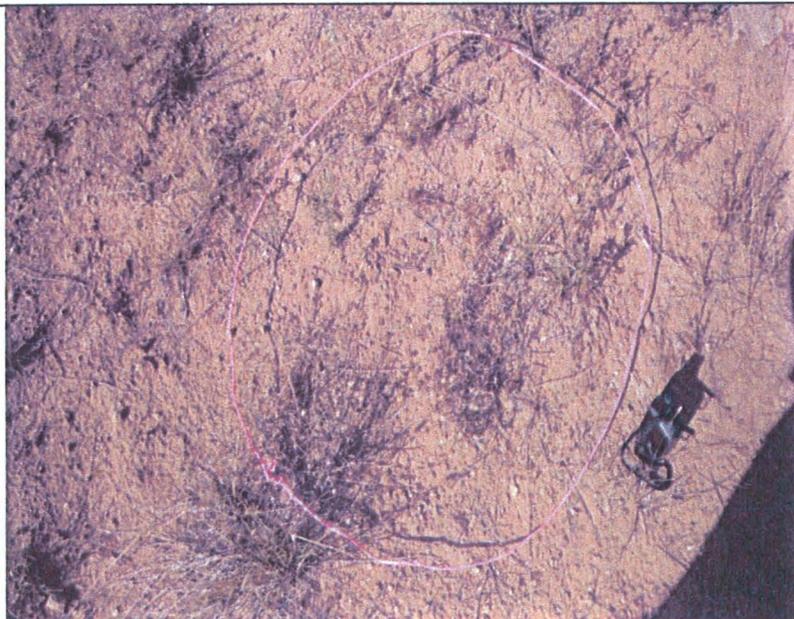
N38 18.580  
W109 13.974  
6991 ft

V 25%

L 5%

R 5%

BG 65%



E side La Sal  
Site

N38 18.552  
W109 13.999  
6968 ft

V 40%

L 15%

R 0%

BG 45%



E side La Sal  
Site

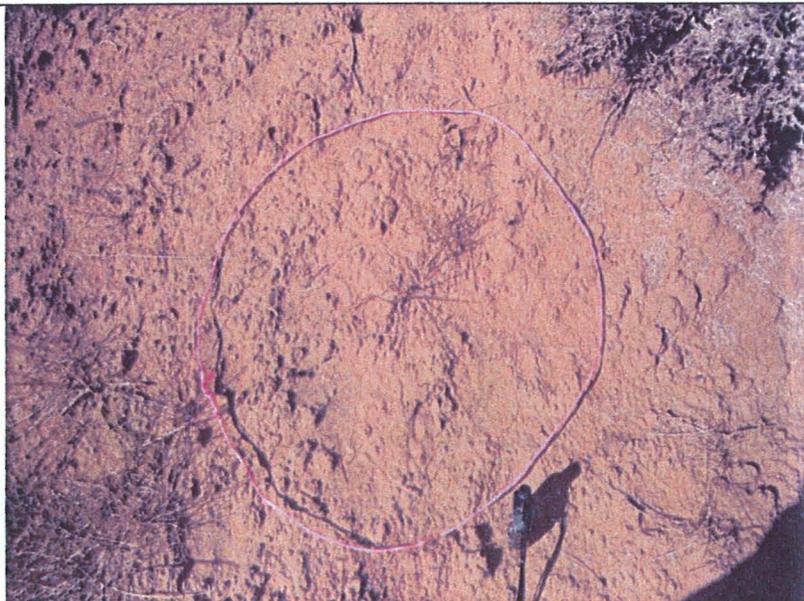
N38 18.518  
W109 14.059  
6951 ft

V 5%

L 5%

R 5%

BG 85%



S side La Sal  
Yard

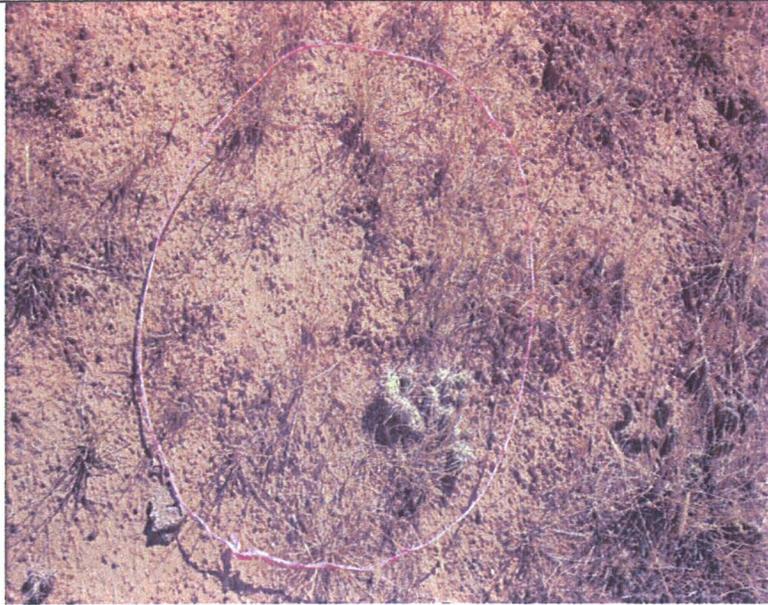
N38 18.542  
W109 14.215  
6967 ft

V 35%

L 10%

R 5%

BG 50%



Between  
Beaver Mine  
Site and  
Developmental  
Rock Pile.

N38 19.076  
W109 14.805  
7056 ft

V 55%

L 15%

R 10%

BG 20%



S Beaver  
Developmental  
Rock Pile

N38 19.042  
W109 14.697  
7049 ft

V 35%  
L 35%  
R 5%  
BG 25%



SE side  
Developmental  
Rock

N38 19.073  
W109 14.620  
7071 ft

V 15%  
L 30%  
R 10%  
BG 45%



NE side  
Beaver Site

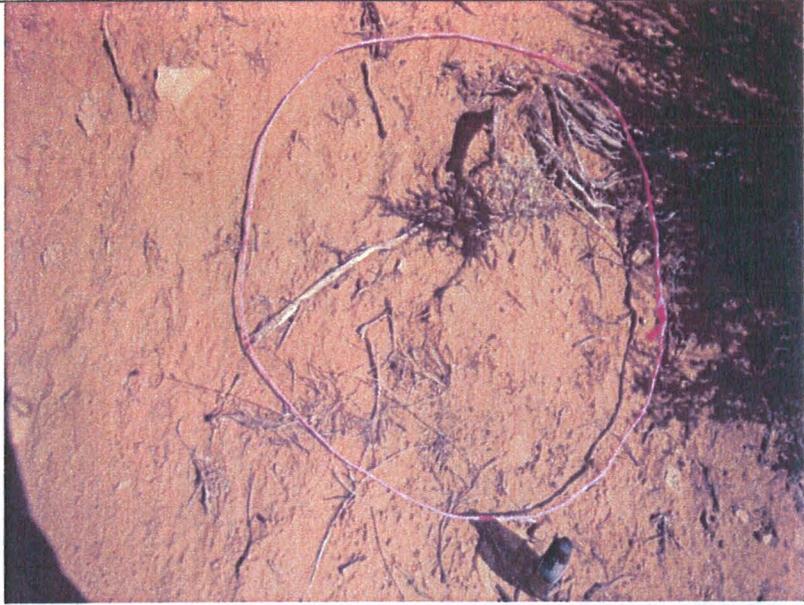
N38 19.103  
W109 15.064  
7094ft

V 5%

L 20%

R 0%

BG 75%



N side  
Beaver Site

N38 19.128  
W109 15.100  
7104 ft

V 45%

L 5%

R 5%

BG 45%



SW of Beaver  
WR

N38 18.990  
W109 15.210  
7050 ft

V 35%

L 10%

R 5%

BG 50%



S of Beaver  
Site

N38 19.093  
W109 15.224  
7090 ft

V 40%

L 10%

R 10%

BG 40%



Near Beaver  
Vent #1800

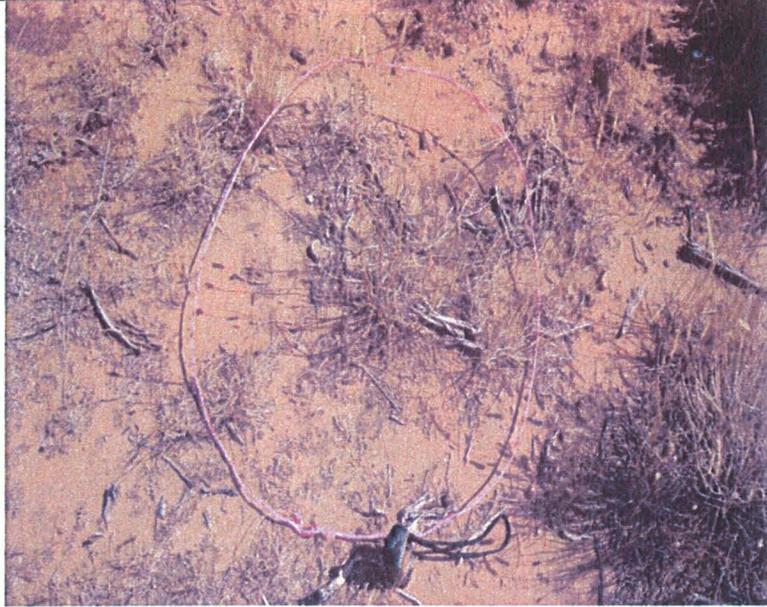
N38 19.067  
W109 15.331  
7064 ft

V 15%

L 30%

R 5%

BG 50%



Outside  
disturbed  
area near  
Pandora vent  
#7

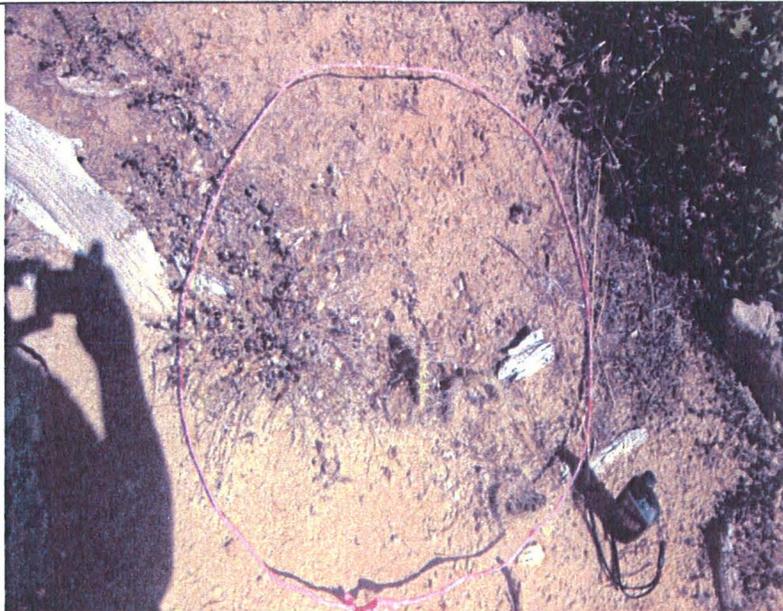
N38 18.914  
W109 13.757  
7193 ft

V 25%

L 10%

R 5%

BG 60%



Outside  
disturbed  
area near  
Pandora vent  
#5

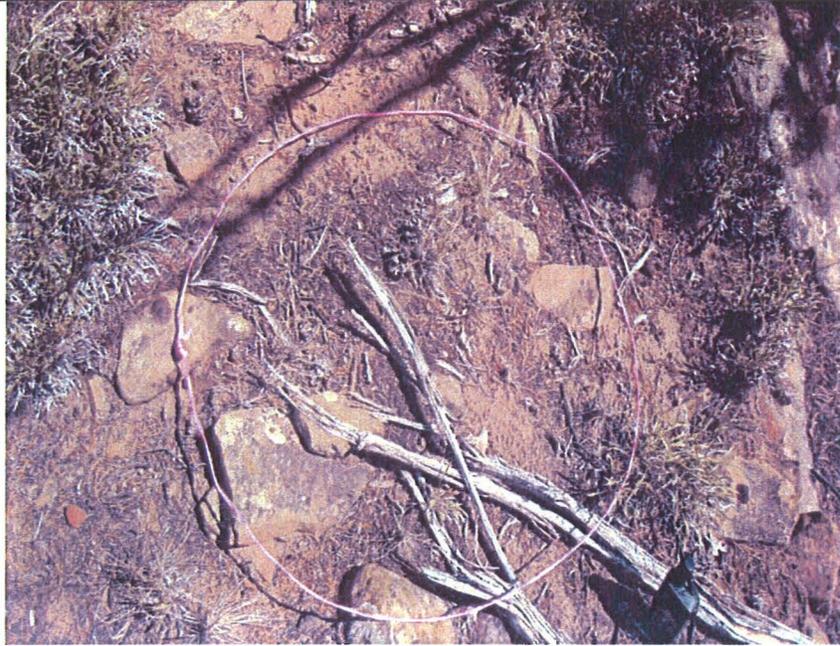
N38 19.125  
W109 13.090  
7376 ft

V 10%

L 35%

R 40%

BG 15%



**ATTACHMENT B  
GEOGRAPHIC MAPPING OF SAMPLE LOCATIONS**

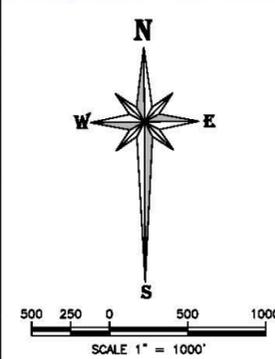
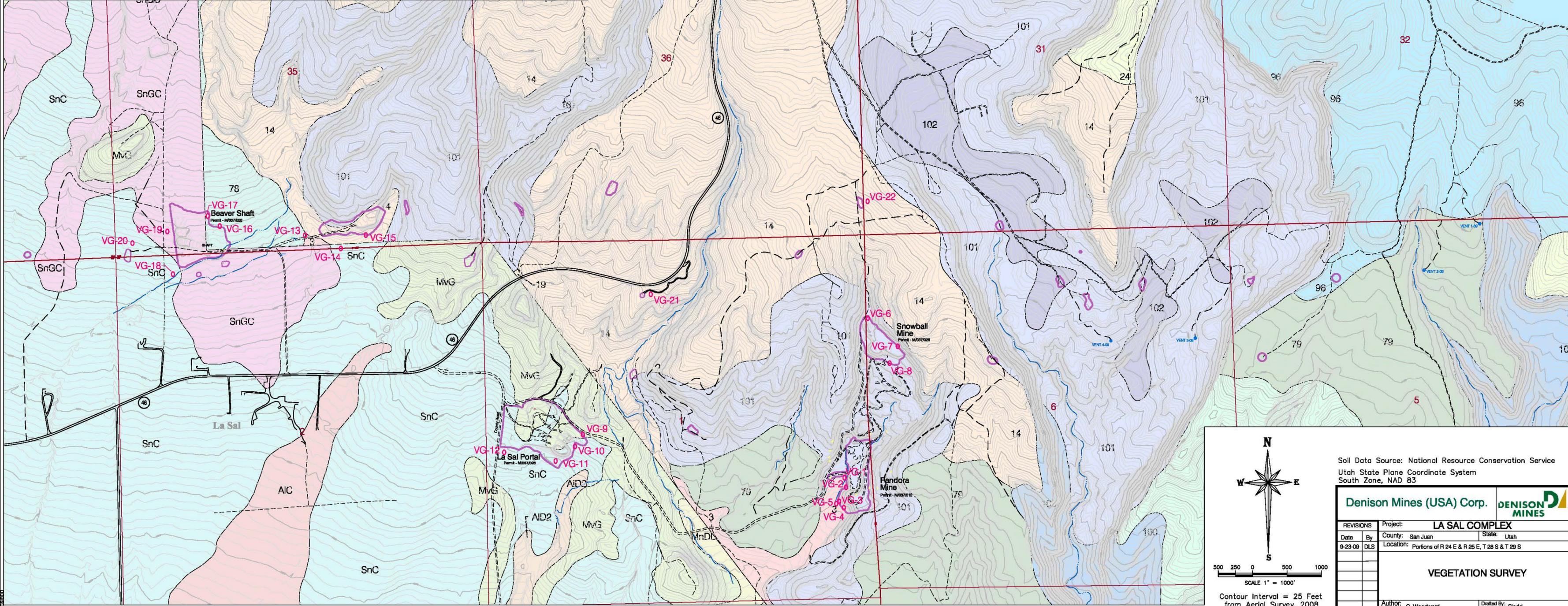


- 3 Bamum loam, 0 to 3 percent slopes
- 14 Bond-Rizno fine sandy loams, 3 to 15 percent slopes
- 19 Cahona fine sandy loam, 2 to 8 percent slopes
- 24 Falcon fine sandy loam, 8 to 15 percent slopes
- 74 Rock outcrop-Rizno complex, 3 to 15 percent slopes
- 78 Sedillo very stony fine sandy loam, 3 to 15 percent slopes
- 79 Shalako-Anasazi-Rock outcrop complex, 3 to 15 percent slopes
- 96 Tukuhnik loam, 3 to 10 percent slopes
- 100 Ustic Torriorthents-Ustollic Calciorrhids complex, 10 to 60 percent slopes
- 101 Ustic Torriorthents-Ustollic Haplargids complex, 10 to 60 percent slopes
- 102 Waas very fine sandy loam, 2 to 8 percent slopes

**SOILS LEGEND**

- AIC Ackmen loam, 0 to 6 percent slopes
- AID2 Ackmen loam, 0 to 10 percent slopes, moderately eroded
- MnDL Monticello very fine sandy loam, low rainfall, 2 to 10 percent slopes
- MVG Montvale very rocky very fine sandy loam, 2 to 25 percent slopes
- SnC Scorup very fine sandy loam, 2 to 6 percent slopes
- SnGC Scorup cobbly very fine sandy loam, 2 to 25 percent slopes

- o VG-22 Vegetation Survey
- Disturbed Area
- - - Existing Access Roads



Soil Data Source: National Resource Conservation Service  
 Utah State Plane Coordinate System  
 South Zone, NAD 83

<b>Denison Mines (USA) Corp.</b>		<b>DENISON MINES</b>	
<b>Project: LA SAL COMPLEX</b>			
Date	By	County: San Juan	State: Utah
9-23-09	DLS	Location: Portions of R 24 E & R 25 E, T 28 S & T 29 S	
<b>VEGETATION SURVEY</b>			
Author: C. Woodward		Drafted By: Sledid	

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