

3890 0116

**PARNASSE COMPANY, INC.**

**MINING EXPLORATION AND DEVELOPMENT**

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AUSTIN PROPERTY:

Lander Co., Nevada

Tom Frank/ January 1974

AUSTIN PROPERTY  
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Abstract

1. The Austin property lies within a well-jointed and sheeted quartz monzonite stock that has been subjected to vein type mineralization of Au, Ag, and zinc, over a known, but not minimum, horizontal extent of 3500 feet by 2000 feet, and a minimum depth of approximately 300 feet. Because of some deeper holes and reports of old mining ventures, the lateral as well as vertical limits of mineralization could possibly be extended, producing an ore zone much larger than presently drilled.
2. Based on figures supplied by Laguna Resources, ore bodies from 74,000,000 to 115,000,000 tons with respective grades of .0068 Au oz/T, 0.588 Ag oz/T, 0.346% Zn, and .0058 Au oz/T, 0.545 Ag oz/T, 0.353% Zn have been "tentatively blocked out." Based on these results, Laguna concludes that an open pit operation, at today's prices, and the unique cultural and geologic situation at Austin, make a 40,000 tpd ore body economic.

(Abstract)

3. The limited evidence that suggests a vertical zonation of mineralization and alteration plus a probable lateral mineral zoning may indicate a much larger vein-type porphyry deposit at some unknown depth.

Recommendations

Based on the results of the check analysis now being run of samples taken, the following work program is proposed.

- I. Negotiations with Laguna Resources for acquisition of the property. Due to the time element involved this phase should be initiated immediately!
- II. In conjunction with Phase I a complete land-status study should be conducted.
- III. If Phase I is accepted by Parnasse management, all drill core and cuttings should be re-assayed by Parnasse before the final negotiations are completed.
- IV. Metallurgical test work should be roughly initiated by our laboratories in France or by local concerns in Colorado. This phase should also be completed before the final negotiations are completed.
- V. After final negotiations are successfully completed, the following program is suggested:

(Recommendations)

1. Continue preliminary drilling of the main surface target zone on centers of a minimum 100 foot. The centers can be decreased if geologic studies indicate.
2. After the central zone has been drilled, continued drilling on 300 foot centers may expand lateral limits of the potential ore body.  
(Depth on Phases 1 and 2 must be determined after more study; however, an estimate would be approximately 450 feet.)
3. In conjunction with Phases 1 and 2, a detailed surface geologic and geochemical study should be initiated to help locate favorable areas to drill the projected deep-sulfide target.
4. Re-open selected tunnels and shafts for bulk metallurgical testing and geologic studies.
5. Initiate a deep drilling program to test the sulfide ore zone.

Metallurgical Testing

Brief inquiries were made into the cost of rough metallurgical testing of cuttings from the Austin Property as requested by P.D. Darcy. Following are the results.

1. Closest labs available are in Golden, Colorado.

Burt Mariacher  
Colo. School of Mines - Research Institute  
P.O. Box 112  
Golden, Colorado 80401  
Phone: 279-2581

(Metallurgical Testing)

Sample	50-300 lbs.
Cost	approximately \$2000.00
Time	4 weeks

2. Nevada - limited facilities with poor results.

Not recommended.

## Austin, Nevada Project

### Location

The Austin property is located in the Reese River Mining District, Lander County, Nevada, U.S.A. at approximately 39° 30' N. Lat. and 117° W. Long. (R44E, T19N)

The property is 240 miles east of Reno and is situated directly north of the town of Austin.

### Ownership

The property is owned by Laguna Resources, Ltd., who control 88 patented mining claims and 72 lode claims. In addition, they are negotiating for additional claims around the perimeter of their property.

Laguna Resources, Ltd.  
Suite 527  
470 Granville St.  
Vancouver 1, British Columbia

### Scope and Purpose

The property was presented to the Reno Office on January 21, 1974 by Laguna's geologist, Mr. D.B. Rovig, of Elko, Nevada. During our initial discussion, Mr. Rovig stated that his associate was presently in Paris, discussing the property with Penarroja representatives. This information was relayed to Scottsdale, and a visit to the property was scheduled for January 23, 1974.

(Scope and Purpose)

The purpose of the visit was to perform a preliminary exam of Laguna's data and property and to determine if their target met Parnasse requirements.

Cultural features and Climate and Topography

The target zone is located on the western slope of the Toiyabe Mountain Range. The elevation in this area varies from approximately 6600 feet at the town of Austin, and only a few of the workings have portals above 7000 feet. The collar of the Lander shaft, the highest of the main workings, is 7237 feet above sea level.

The climate is semi-arid, with a precipitation of 12 to 15 inches annually, mostly as snow in the winter months. Wells and shafts commonly encounter water at depths of 100 feet or less throughout the area.

Other features of the area include:

1. a paved highway to the property
2. power line
3. little or no vegetation cover
4. little or no overburden
5. freight service
6. telephone service
7. favorable state tax laws

## History

The Austin mines were discovered in 1862 and produced from \$20 million to \$65 million in silver prior to 1900, when the camp was abandoned because of a change in ore from oxide to sulfide. Other than a brief period in the 1940's when two tunnels were driven, no work has been done on the property until Laguna acquired Austin in 1973.

## Geology

Regionally, the Austin area is underlain by a pluton of igneous rock of the average composition of quartz monzonite. On the margins of the pluton, the igneous rocks cut impure carbonaceous quartzite. Residual patches of a formerly extensive cover of volcanic strata with associated tuffaceous and sedimentary beds rest on the older rocks, and in the valleys, alluvium forms a thin veneer.

The intrusive in the Austin area is intricately and extensively jointed and demonstrates some sheeting phenomena in the area of major vein development. The attitudes of the major joints are diverse, but NW strikes predominate, with 45° N dips; spacings of the joints are inches to a few feet. The area has also experienced extensive left lateral faulting, with displacements of inches to 200 feet.

Quartz is the principal gangue mineral observed, although the carbonate minerals calcite, rhodochrosite, and ankerite are locally abundant. Sericite is common in the



(Geology)

altered zones adjacent to veins and in gouge. Tourmaline and rutite are reported to occur "locally in wall rocks." Sulfides observed include: chalcopryite, pyrite, galena, sphalerite, arsenopyrite, and tetrahedrite; reported are: stibnite, proustite, and minor covellite and chalcocite.

Shallow Orebody (0 to approx. 300 feet)

The shallow ore zone has been tested to a certain degree by the program reported later in this report. To date an ore body from from  $74 \times 10^6$  tons (averaging .0068 oz/T Au, 0.588 oz/ton Ag and 0.346% zinc) to  $115 \times 10^6$  tons (.0058 oz Au/T, 0.545 oz/T Ag and 0.353% Zinc) has been somewhat delineated. However, additional drilling must yet be completed before a proven ore zone can be considered.

The ore is totally within the oxide zone and consists of: 1. gold in unknown association 2. silver as chlorides and horn silver as well as varying amounts of argentiferous tetrahedrite; ruby silver, and argentite 3. zinc as oxides and sphalerite. Assays for lead and other elements have not been completed.

Deep Ore Target (unknown depth)

The following criteria may indicate a deep vein-type porphyry copper ore body below the oxide zone;

1. Reports that the old workings were abandoned because of sulfide ores at depth.

(Deep Ore Target)

2. Presence of sulfides (chalcopyrite, pyrite, galena, sphalerite) in veins associated with silicification and quartz sericite alteration.
3. Increase in alteration with depth in drill hole N-4. At surface, the quartz monzonite is unaltered except adjacent to veins where silicification, coupled with propylitic and quartz sericite alteration exist. Near the bottom of the hole, a more pervasive propylitic alteration exists and potassic alteration is associated with the veins.
4. The area is located in an aeromagnetic low.
5. The target is in a favorable host rock; quartz monzonite, which appears to be possibly intruded.
6. The possible precious metal and Pb-Zn halo above the suspected deep ore zone.
7. Possible Cret. age of the intrusive.

This deep ore zone is hypothetical; however, coupled with the shallow ore zone, it is a very favorable target.

Work by Laguna

Laguna Resources, Ltd., carried out a drilling program which consisted of six diamond core holes and 40 percussion holes, during the fall of 1973. The diamond drill holes ranged from 276 feet to 624 feet deep with a total footage of 2,578 feet; three holes were vertical and 3 were

Work by Laguna

at a -65°. The core was split and assayed for Au, Ag, and Zn on 10 foot intervals.

The 40 percussion holes were drilled from 35 feet to 305 feet for a total of 9,495 feet. Samples were taken at 5 foot intervals and assayed for Ag, Au, and Zn.

All samples of core and percussion drilling are available for Parnasse to sample or re-assay.

Results

Following is a tabulation of the drill results as obtained from Laguna:

NX CORE - DIAMOND DRILL

<u>Hole #</u>	<u>Depth</u>	<u>Au/oz</u>	<u>Ag/oz</u>	<u>Zn%</u>
N1	411	.0154	.386	.581
N2	450	.0136	.493	.897
N3	390	.0094	.505	.624
N4	Assayed 300 (not reported TD 624)	.0021	.374	.480
N5	Assayed 310 (not reported TD 426)	.0139	.485	.616
N6	276	.0049	.954	.513

(Results)

<u>Hole #</u>	<u>Depth</u>	<u>Au/oz</u>	<u>Ag/oz</u>	<u>Zn%</u>
P 1	175	.0172	1.133	.261
2	205	.0122	.402	.401
3	205	.0093	.400	.280
4	200	.0259	.652	.276
5	175	.0197	.989	.320
6	195	.0096	.302	.401
7	205	.0161	1.394	.450
8	150	.0187	.599	.651
9	205	.0091	.538	.188
10	145	.0030	.660	.205
11	135	.0127	.731	.144
12	35	.0169	.763	.490
13	205	.0039	.331	.203
14	200	.0065	.343	.297
15	205	.0043	.314	.235
16	NOT REPORTED			
17	205	.0040	.389	.108
18	105	.0077	.352	.557
19	305	.0036	.526	.227
20	225	.0012	.590	.457
21	230	.0020	.271	.444
22	170	.0002	.502	.534
23	285	.0039	1.040	.722
24	305	.0052	.621	.987
25	300	.0023	.312	.196

(Results)

<u>Hole #</u>	<u>Depth</u>	<u>Au/oz</u>	<u>Ag/oz</u>	<u>Zn%</u>
26	305	.0078	1.071	.236
27	305	.0004	.363	.217
28	305	.0035	.785	.480
29	305	.0027	.425	.231
30	305	.0005	.534	.258
31	305	.0015	.500	.230
32	300	.0001	.507	.191
33	300	.0006	.285	.240
34	300	.0005	.363	.243
35	300	.0005	.275	.237
36	190	.0023	.884	.190
37	300	.0006	.440	.250
38	300	.0007	.413	.257
39	300	.0007	.476	.247
40	300	.0010	.581	.401

Reserve Calculations - Laguna

	<u>Method</u>	<u>Au/oz</u>	<u>Ag/oz</u>	<u>Zn%</u>	<u>Tons</u>
I.	Triangle Method, no projection	.0068	.588	.346	74,000,000
II.	X-sections with 200 ft. horizontal extension	.0058	.545	.353	95,000,000
III.	Same as II with a 50 foot vertical extension	.0058	.545	.353	115,000,000

(Reserve Calculations - Laguna)

It should also be mentioned that about 800,000 tons of old dumps exist, containing about 2.5 oz/T Ag and 0.015 oz/T Au.

Ore Value - Laguna

	<u>Assay</u>	<u>Recovery</u>	<u>Price</u>	<u>Gross Value</u>	<u>Net Value</u>
Gold	.0058 oz/T	70%	\$115/oz	\$0.67	\$0.47
Silver	0.545 oz/T	60%	\$325/oz	\$1.77	\$1.06
Zinc	0.353%	70%	\$0.20/lb.	<u>\$2.26</u>	<u>\$0.99</u>
			Total	\$4.70	\$2.52

Operational Costs

Laguna indicated that because of minimal site preparation and little actual stripping costs, they have received bids of 22¢ to 33¢ per ton mining and haulage rates.

	<u>cost/ton</u>
Mining	\$0.30
Concentration	\$1.00
Freight	\$0.05
Reclamation + Environmental cost plus G + A	<u>\$0.15</u>
Total Cost	\$1.50/T

Potential Profit and Payout - Laguna

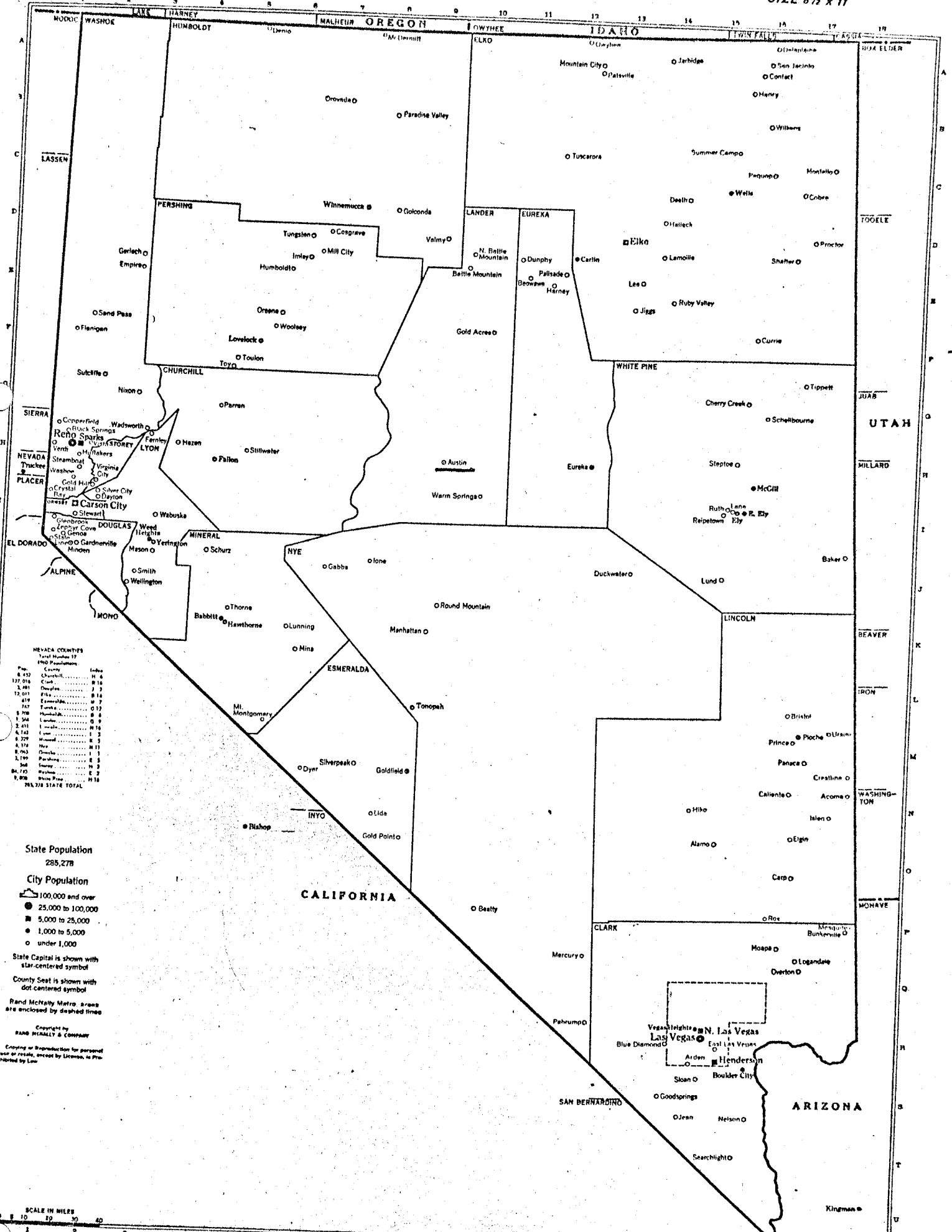
\$1.02 per ton at 40,000 tpd for 360 days equals

\$14,688,000 per year.

With \$72,000,000 for plant construction, the recovery  
period would be 5 years.

# RAND McNALLY STATE COUNTY-CITY MAP

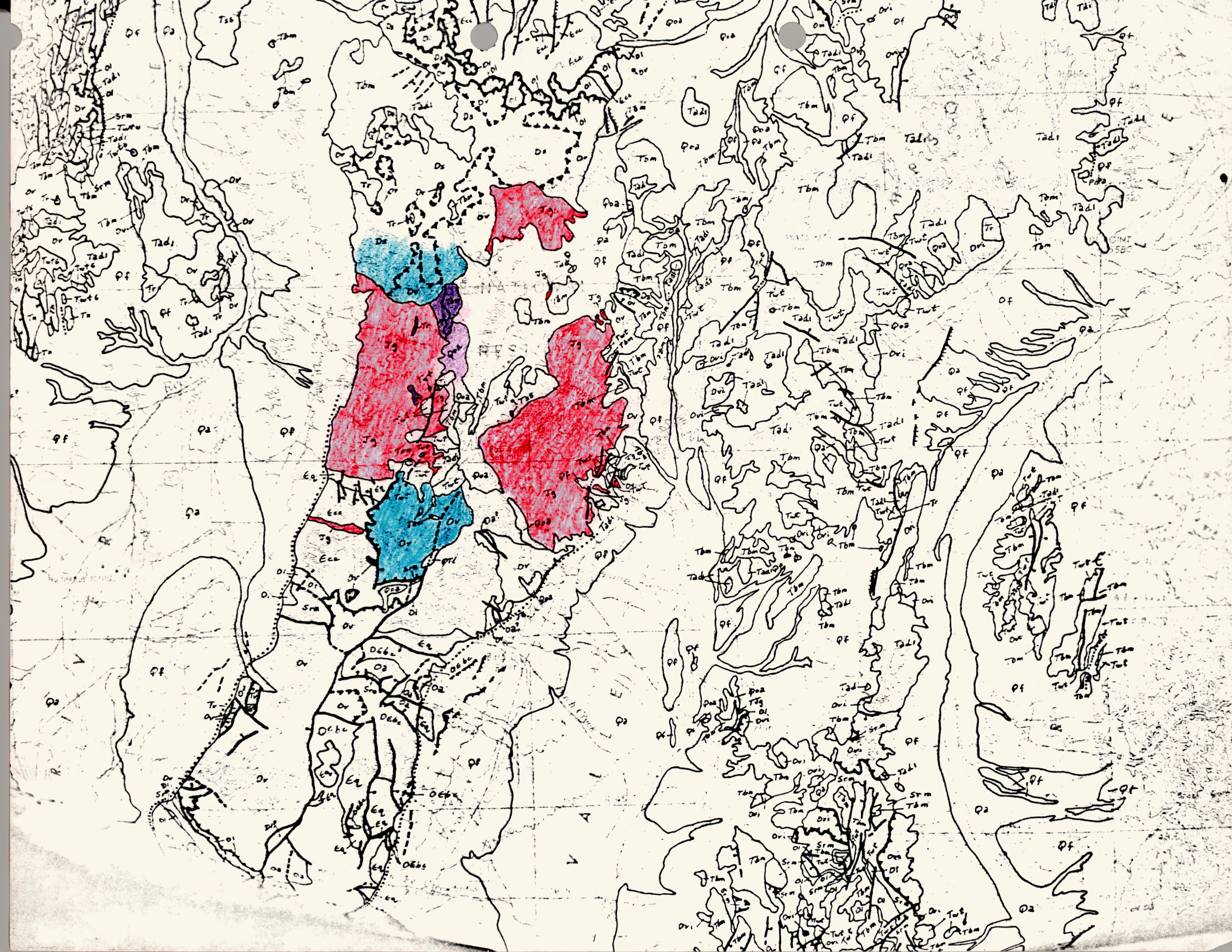
NEVADA  
SIZE 8 1/2 x 11















# APPROX. DRILL HOLE LOCATION

Scale: Each Square  
400' x 400'

