

MEMORANDUM

MAJUBA

HILL

To: Personal File

Date: October 1, 1975

From: David LeCount Evans

Re: Notes to explain  
and support maps  
and sections; Mary  
Myler Property;  
September 1975.

A. CONCERNING:

1. Cost of program: \$78,000 or less if an indicated failure.
2. A tonnage "target" of 1,282,500.
3. Values, where exposed, are: tin-1.31%, copper 1.30% and silver 1.64 ounces per ton.
4. Gross value of above amounts to \$ 117.86 per ton on today's prices.
5. Involved is a prospect, close to old production.

B. IN GENERAL:

1. In file is our detailed analysis, ie: MAJUBA HILL PROPERTY (Property description, Analysis and Proposed Development) May 1966. We refer to the 1966 study for Location, History of Property, Pre-Mine Finders Geology, Interpretation and 1966 Recommendations.
2. California Time (later Petrominerals) efforts of 1969-1971 tested structural projections without any real success; indicating that the copper and tin areas could not be joined together. California Time did not proceed with the planned exploration and development of the tin where exposed in Tunnel 2.
3. Mine Finders-Bethlehem's program was to explore for porphyry-copper possibilities. Eleven diamond drill holes, with depths up to 3300 feet, indicated a wide-spread existence of very low grade copper with some associated molybdenite, and strong alteration, in a complex of rhyolite intrusives. However, the \$750,000 + effort failed to pinpoint any economic possibilities. Drill holes 10 and 11 were drilled to test the Majuba Fault for more high-grade centers; this 'memo' considers 10 and 11 "token" drilling. Without a porphyry-type ore body, the program was closed down in April 1974.

4. Failure to prove another Bingham Canyon or Henderson must not be held against the property. Obvious outcrops of oxidized brecciation on Mary Myler patented ground remain partially to completely untested, as illustrated on maps and sections.

5. Suggested exploration and development is limited to Mary Myler properties. Inclusion of adjoining Gilmet claims, at this time, is neither necessary nor advised.

C. SEPTEMBER 1975 MAPS AND SECTIONS:

1. Mine Finders Drilling;  
1973-1974; 400 Scale.

Map shows the position of Myler claims with respect to recent drilling. Note that less than 30% of coreing was on Myler ground.

Apparent, too, is the position of the two Myler brecciated areas, well within property lines. Majuba claims I, J, and K control the Tunnel 3 portal, which is beyond the limit of the sheet.

2. Mineralized structure; Mary Myler Property; 100  
scales consist of nine exhibits; namely:

Plan Maps as follows:

Surface, Tunnel 2-Stopes,  
Tunnel 2, and Tunnel 3;

Sections as follows:

Section I-I', a true section  
through the copper breccia;

Sections 75-1, 75-2, 75-3 and  
75-4, (a) exploring the possibilities  
of the Tin-area breccia and (b) showing  
the recommended diamond drilling.

D. COPPER BODY:

1. Production: 27,000 tons of ore have been shipped with average value of 5.1% copper, 0.15% tin and 1.9 ounces per ton silver. Possible ore remaining is estimated at 35,000 tons with average grade of 2.9% copper and low tin and silver bi-values.
2. Plan maps suggest an original "circle within a circle" of ore (shown in green) which has been shifted and distorted by the Majuba Fault system.

Section I-I' supports the "circle within a circle" suggestion, with mineralization doming over in two units, above the Tunnel 2 level, the one beneath and more or less parallel to the other.

3. Freeport's 1941 D.D.H. #8, drilled into the area of projection at a minus 45 degrees, encountered copper-dominant mineralization which has always been difficult to add to the picture. Its position on plan map and section provides a third segment-possibility in a series of domed units of brecciation. Additional doming (marked by "?") might also be a reasonable expectancy

The upper two units with good level and diamond drill control are very well established; the lower two remain a matter of conjecture until drilled.

#### E. TIN BODY:

1. Production: Recorded have been 350 tons of high-grade, cassiterite-bearing ore, assaying 3.4% tin, concentrated and sold to the Metals Reserve Corporation in 1942. Similar ore carries 1.9% copper and 4.8 ounces of silver.

Total Production (ore of record or mined and moved to surface), we estimate at 972 tons. The 972 would be from 2217 tons, representing all workings in the tin-bearing section, at and above the Tunnel 2 level.

Weighted on the basis of tons and assay value per block, the grade of total production would be as follows:

Tin:	2.86%	good sample control
Copper:	1.90%	some samples
Silver	4.8 Oz	some samples

Considering the above, higher grade represents 44% of the explored mass.

The 56% of lower grade, on the basis of very adequate sample coverage averages:

Tin	0.09%
Copper	0.83%
Silver	1.64 ounces/ton.

From the above, the entire mass has an assay average of 1.31% tin, 1.30% copper and 3.03 ounces of silver.

Employing current metal prices of \$3.33/pound for tin, \$0.63/pound for copper and \$4.92/ounce-silver, the gross value of ores sampled at and above the Tunnel 2 level would be \$ 117.86 per ton.

## 2. Indicated Structure and Distribution:

With reference to the 100 scale Surface map, the zone of brecciation, colored brown, lies 470 feet and directly above, the zone in Tunnel 2.

Pattern with N45°E trend (at right angles to the copper trend) consists of an outer zone of oxidized brecciation, with an isolated zone, more or less at the center. Short axis of the exposure is 200 feet and the long axis about 300 feet. Actual brecciation does not cover the entire area; brecciated units exhibit thicknesses of from 20 to 40 feet.

Considering the three cross sections, 75-2, 75-3, and 75-4, the 'central zone of brecciation, suggests a zone within a zone pattern, similar to the arrangement for section I-I', in the copper body. Believing the structure to be another pipe, continuation to some depth would be an expectancy.

In view, therefore, of this indicated strength of structure, and considering the coincidence between the surface position and the development on Tunnel 2, the exposed surface pattern has been projected to the Tunnel 2-Stopes and Tunnel 2 plan maps. Estimates of 'target' tonnage have been made only down to the intercept of the breccia zone and the Majuba fault.

## 3. Size of Target:

By using the standard procedure of measuring the area of brecciation per section and determining the volume by using the distance between sections ( and reasonable beyond end sections ), and converting the total cubic feet, using a factor of 11 Ft<sup>3</sup> per ton, to short tons, the size of target amounts to 1,282,500 short tons.

Any successful development from Tunnel 3, on the footwall side of the Majuba Fault, would add considerably to the total.

## F. EXPLORATION POSSIBILITIES:

1966 and prior proposals were influenced by the then-unestablished premise that copper and tin deposits were on the same structural control. California Time's negative efforts with 307 crosscut from Tunnel 3, and 224 and 225 drifts on Tunnel 2 eliminated that possibility.

Copper and tin areas are now considered separate structural problems, each of breccia-pipe origin, and each a matter of separate exploration.

#### 1. Copper Body:

With reference to the 100 scale, Tunnel 3 Plan map, obvious is the interpretation for the 0.32% copper zone indicated by Freeport's D.D.H. 8.

The projection could be further explored by drilling from Tunnel 3, but is not recommended at this time.

#### 2. Tin Body:

Two exploration approaches exist, ie: (1) crosscutting and drifting to verify the projection, shown west of the tin area on Tunnel 2, as was proposed in 1966, or (2) diamond drilling from the surface as shown on sections 75-2, 75-3 and 75-4.

This memorandum favors the latter.

Freeport and others encountered structural complexities in the Majuba Fault area. It is believed that regularity of mineralized structure will only be assured by getting away from the post-mineral Majuba fault zone. To initially penetrate the elliptical zone and to crosscut at regular intervals would require some 300 feet which, at \$30 per foot, represents \$9,000. Such with cleanup, retracking, and locally widening 800 feet of Tunnel 2 would bring the total to \$15,000. The program would establish only about 25% of the elliptical outline at only the Tunnel 2 level. To complete the full ellipse and to test above and below the level would require more drifting and/or diamond drilling.

### G. SURFACE DRILLING:

#### 1. Plan:

Considering sections 75-2, 75-3 and 75-4, purposes would be to block out structure to an average depth from surface of about 550 feet.

With two holes per section, holes would crosscut structure, with vertical distance between upper and lower holes between 200 and 300 feet.

Such a program has been discussed with the E. J. Lee Longyear Company. Other drillers will be solicited for estimates. Data, listed under 'Factors', are the product of exploratory talks with Longyear.

2. Factors:

- (a) Mobilization-demobilization @ \$850.
- (b) NX or BX (1 7/8" and 1 7/16" cores) recommended; \$14/foot for vertical holes; add another 15% for inclined drilling.
- (c) Double shift drilling; estimate about 26 to 27 feet of penetration per 8 hours.
- (d) Core boxes for 10 feet of core; cost per box @ \$1.40
- (e) Water truck provided at \$15/day.
- (f) Mud program cannot be estimated; 15% contingency factor should handle this charge.
- (g) assuming 53 feet per day, the 3650 feet of total hole represents 69 days; which with transferring from station to station might approach 72 days.

3. Cost Estimate for 3650 feet

(a) Mobilization-Demobilization	\$ 850.00
(b) Drilling; 3650 @ \$15.68	57,232.00
(c) Core Boxes; 365 @ \$1.40	511.00
(d) Water truck: 72 @ \$15	1,080.00
(e) Core splitting 34 days @ \$30	1,020.00
(f) Assaying	3,000.00
(g) Supervision	4,000.00
(h) 15% contingency factor	<u>10,154.00</u>
<u>Total Estimate</u>	77,847.00
	78,000.000 (rounded)

RECAPITULATION:

1. Suggested size and grade might not measure up to the needs of a major mining company seeking an economic property, but it could be of interest to the medium-sized operator.
2. Continuing small exploratory programs have added to structural understanding. The two brecciated areas continue to be obvious and adaptable to shifts in the structural approach.
3. The position of the brecciated pattern immediately above the tin development of Tunnel 2 is a positive relationship and the pattern is expected to continue to depth. 4% tin samples taken from the surface by the writer in 1941 also suggests continuity.
4. Confirmation of the target tonnage by a \$78,000 program would represent a per ton cost of \$0.06.
5. The suggested program consists of 3650 feet of drilling. Should the first section drilled indicate a 'bust', the program could then be stopped, after an expenditure of less than \$27,000.
6. Copper structure development from Tunnel 3 is not included. Successful tin-breccia development would then justify a copper program.

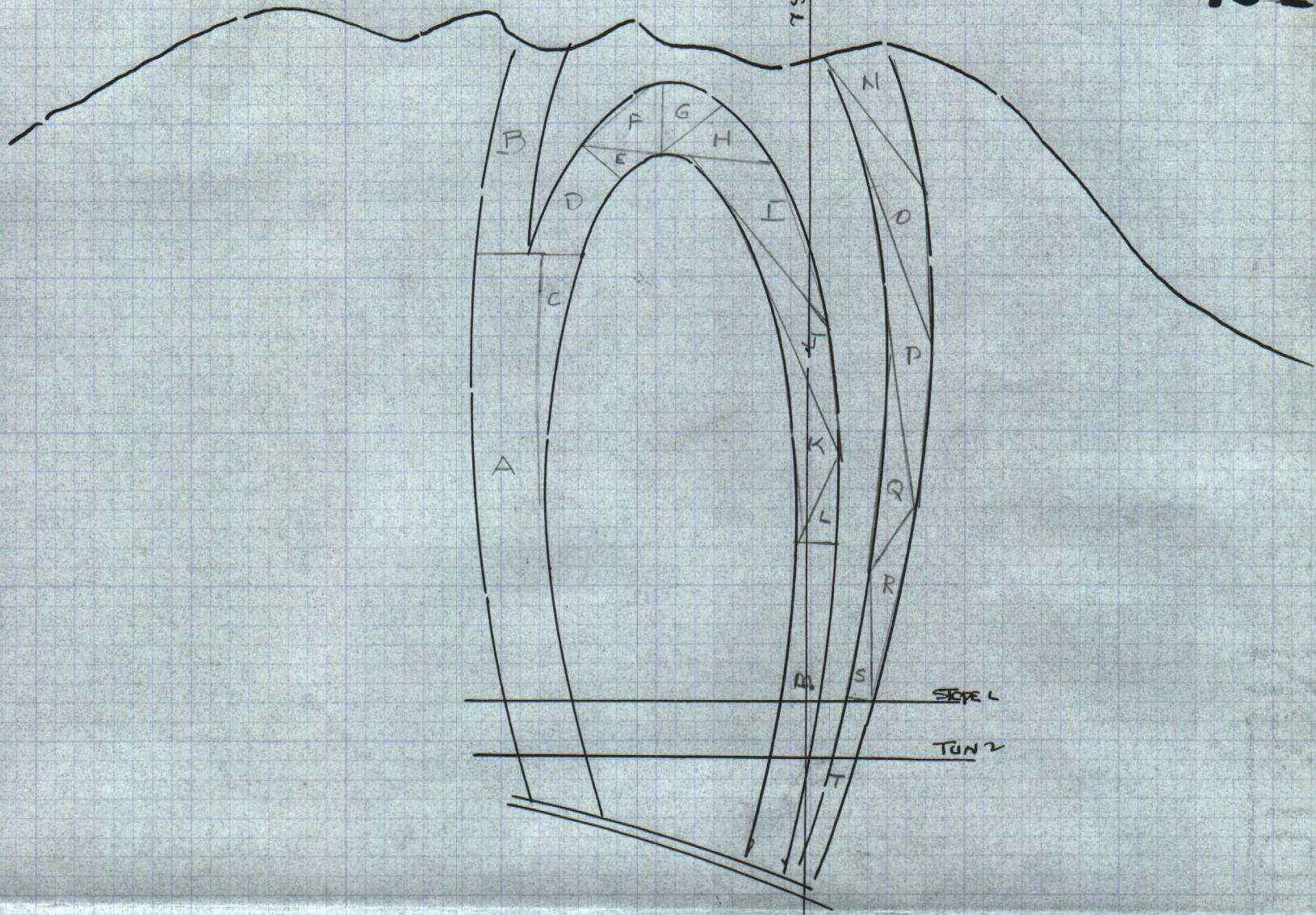
DAVID LE COUNT EVANS, CONSULTING GEOLOGIST



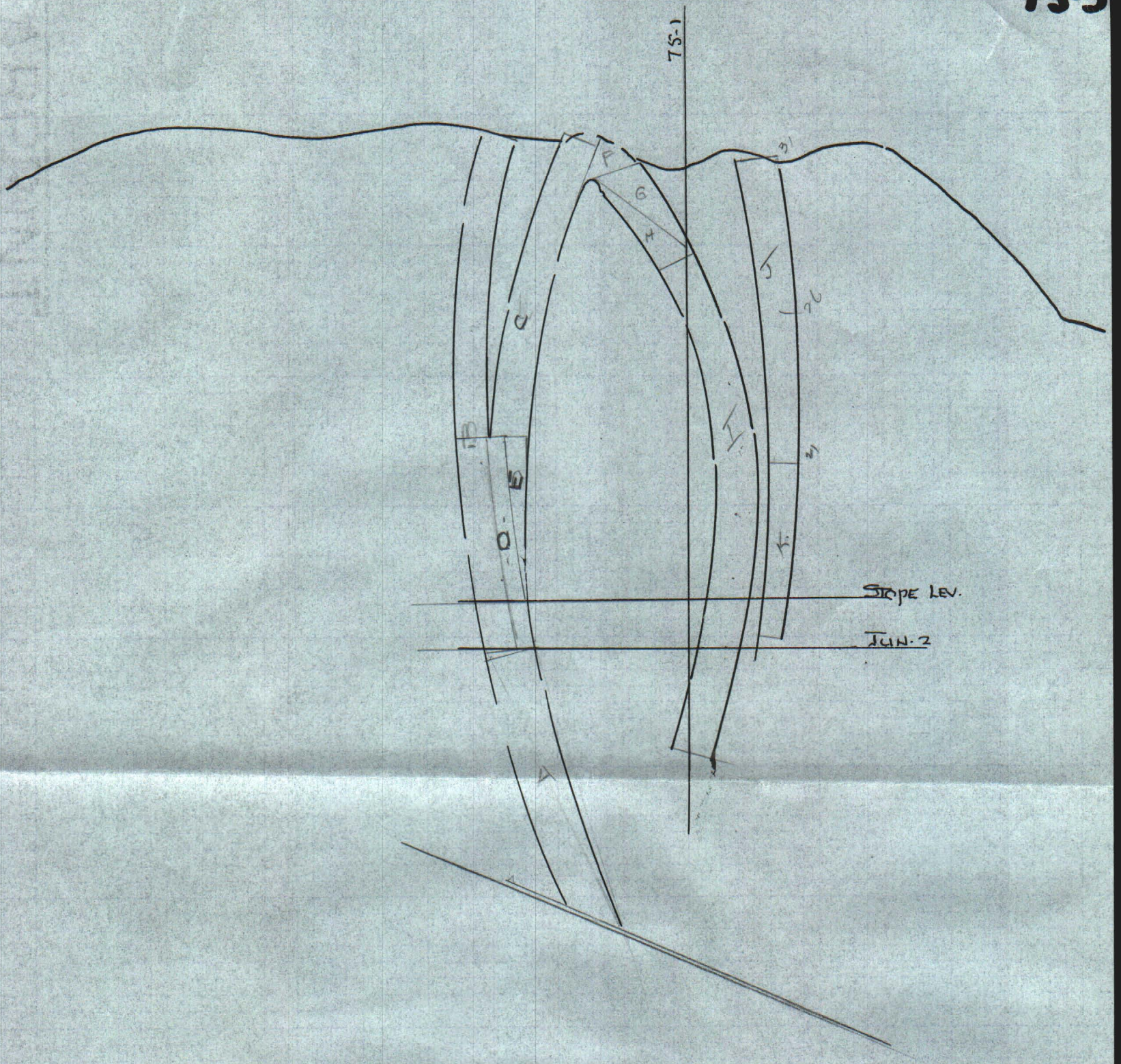
David LeCount Evans

Reno, Nevada  
October 1, 1975

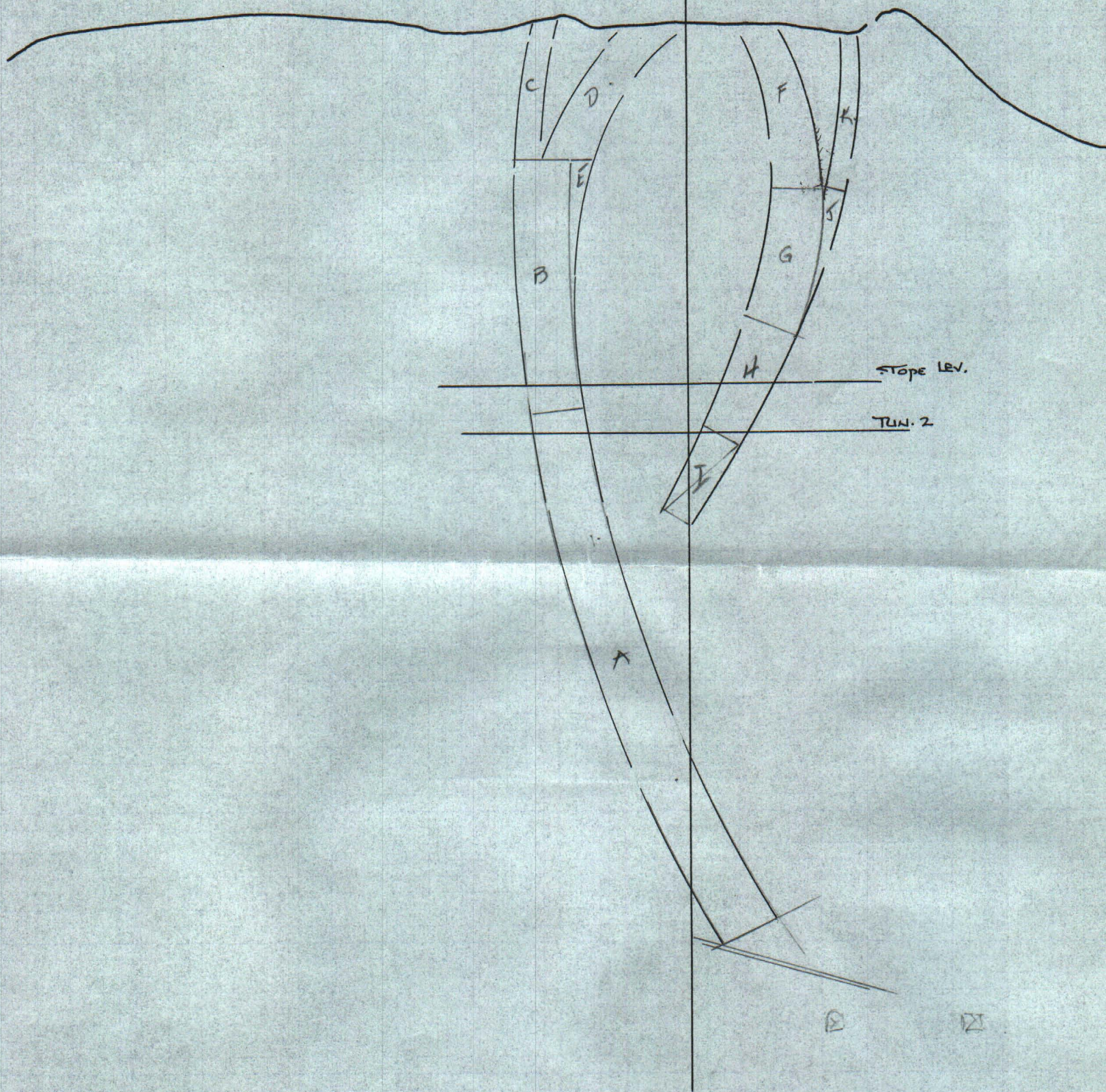
75-1

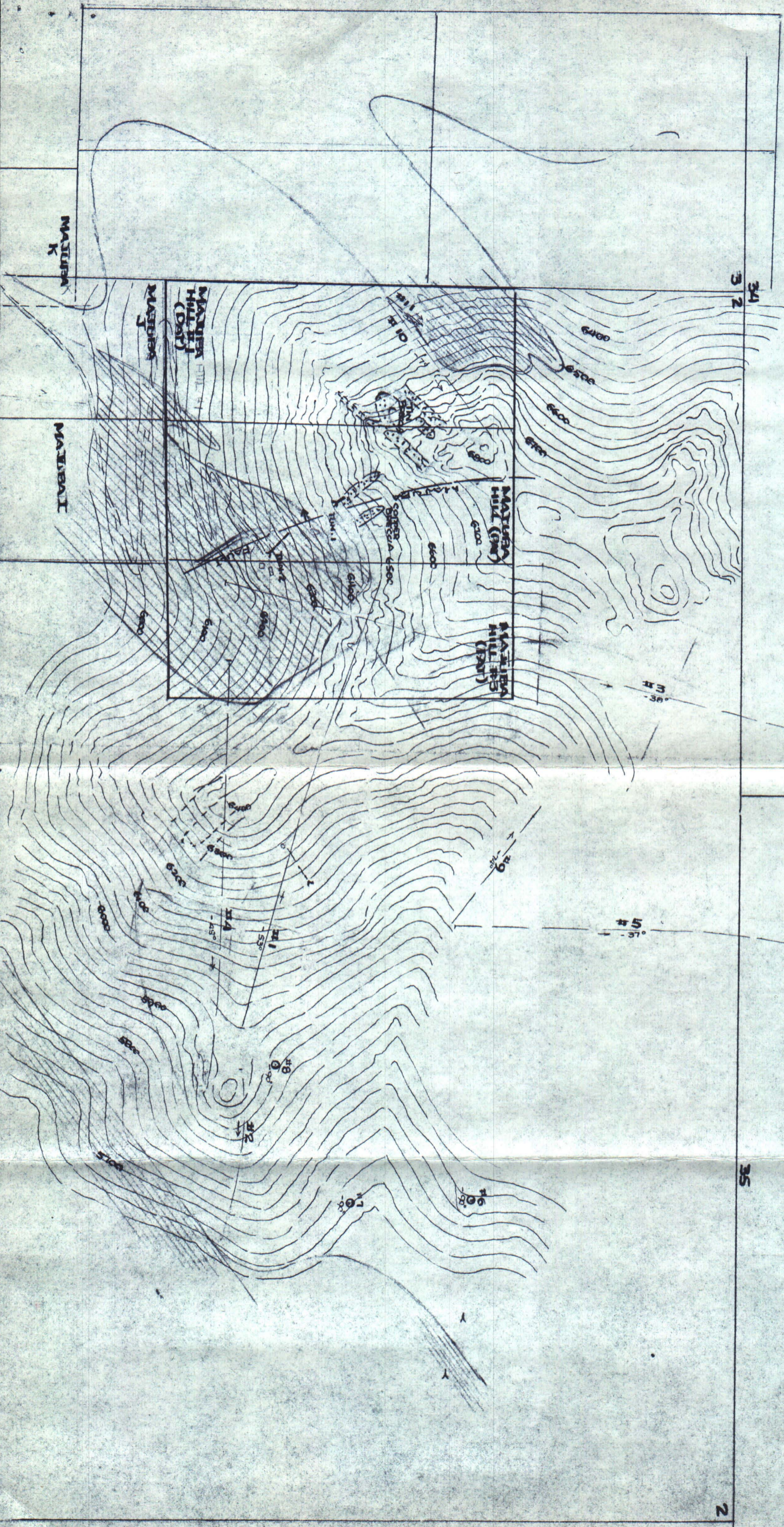






75-1





**MAJUBA HILL.**  
 ANTELOPE DISTRICT  
 PERSHING CO., NEVADA.

**MINE FINDERS'  
 DRILLING: 1973-1974  
 MYLER STRUCTURES**

1 IN. = 400 FT.

35

2

TS-2

A	360 X 42	15120
B	135 X 32	4320
C	70 X 25	1750
D	70 X 32	2240
E	25 X 18	450
F	33 X 37	1221
G	22 X 40	880
H	35 X 25	875
I	70 X 40	2800
J	90 X 25	2250
K	80 X 30	2400
L	30 X 20	600
M	215 X 25	5375
N	55 X 35	1925
O	100 X 30	3000
P	110 X 25	2750
Q	80 X 23	1840
R	65 X 20	1300
S	40 X 15	600
T	125 X 15	1875
		<u>53571</u>

TS/3

A	220 X 37	- 8140
B	400 X 25	10000
C	220 X 30	6900
D	170 X 13	2210
E	60 X 15	900
F	20 X 25	500
G	50 X 30	1500
H	40 X 25	1000
I	385 X 30	11550
J	230 X 26	5980
K	140 X 20	2800
		<u>51480</u>

TS-4

(A)	435 X 42.5	18,490
B	195 X 40	7,800
C	105 X 18	1,890
D	110 X 37	4,070
E	<del>125 X 34</del> 50 X 15	750
F	125 X 34	4,250
G	110 X 42	4,620
H	90 X 35	3,150
I	50 X 40	2,000
J	40 X 15	600
K	170 X 15	1,800
		<u>40,420</u>

TIN-STEP-UNIT.

ESTIMATE OF TONNAGE  
MOVED-FROM OPENINGS

1. TIN 2 - 40x7x7	1960	178
2. STONE WEST 30x20x15	9000	818
3. RAISE TO STOPS 7x7x30	1470	134
4. FREEPORT RAISE 50x6x6		163
5. LOWER DRIFT FR. RAISE 30x6x5	900	82
6. UPPER DRIFT FR. RAISE 19x6x5	570	52
7. GREENAN-STOP 15x30x15	6750	612
		<del>35</del>
		1277 TONS
		2217

OF ORE  
GRADE

See next page

### ORE GRADE -

GREENAN STOPE 350

STOPE-WEST.

- 400.

116

516

516

TUN. 2

79

UPPER DR.  
FROM RAISE

27

10x6x5

972 =  $\frac{44\%}{56\%}$

### GRADE - WEIGHTED

350 x 3.4 1190

400 x 2.16 864

126 x 3.27 379

79 x 3.60 284

27 x 2.50 67

972 x 2.86% 2784

44% x 2.86 125.84

56% x 0.09 5.04

1.3084% Avg. Sn

44% x 1.9 83.6

56% x 0.83 46.48  
1.3008% Avg Cu.

44% x 4.8 211.2

56 x 1.64 91.84  
3.0304% Avg Ag.

# GROSS VALUES

1.31% Sn =	26# =	86.58
1.30% Cu =	26# =	16.38
3.03% Ag =		<u>14.90</u>

\$ 117.86/Ton

NOTE: IN 2-WORKING  
DEVELOPED -  
Less

18,000 TONS	-	<u>Don't</u>
<u>2217</u>		<u>Put this</u>
15,783		<u>IN</u>

## DIAMOND DRILLING -

Bob Capella -

- Footage / Ton  $\frac{9600 \text{ Total}}{700 \text{ Max depth}} \times 10\% - 15\%$

Drilling on 2 or 1 shift  $\frac{1 \text{ FT}}{\text{min}} - \text{NX } 1\frac{7}{8}$

Boxes? - take exp. on hole  $\frac{1 \text{ FT}}{\text{min}} - \text{NX } 1\frac{7}{8}$

cut?  $\frac{1 \text{ FT}}{\text{min}} - \text{NX } 1\frac{7}{8}$

- N+D - 2 1/2 in for Bit - 26-27.

$\frac{1 \text{ FT}}{\text{min}} - \text{NX } 1\frac{7}{8}$

10 boxes -

- Trucking  
 $\frac{450}{15 \text{ days}}$   
 + mud.

- MATUBA HILL -  
TIN-BRECCIA -  
EST. of TONS -

SURFACE-TO INTERCEPT  
WITH MATUBA FAULT  
HANGING-WALL-SIDE

<u>SECTION</u>	<u>FT<sup>2</sup></u>	<u>AVG</u> <u>FT</u>	<u>INTERVAL</u>	<u>FT<sup>3</sup></u>	<u>TONS*</u>
		26785 53571	50	1,339,250	
75-2	53571				
		52,525	100	5,252,500	
75-3	51480				
		50,450	100	5,045,000	
75-4	49420				
		24710	100	2,471,000	
				<u>14,107,750</u>	<u>1,282,523</u>

\* Factor of 11 FT<sup>3</sup>/T

- GRADE ? -

- A - WHERE PENETRATED -

Estimating 1/3 @ High grade  
2/3 @ Low Grade

① HIGH GRADE -  
Samples -

sn	cu	Aq.
2.5	1.9	4.80
3.4		
2.16		
3.27		
3.60		
6.50		
3.64		2.99 (with the 6.50)

Sn = 1.06%	= 21.24	= 70.6
cu = 1.199%	= 37.8	14.99
Aq. = 2.69%	=	17.23
		<u>\$ 98.82</u>
Sn @ 3.33		
cu @ 0.63		9.022
Aq 4.92		

② Proportions

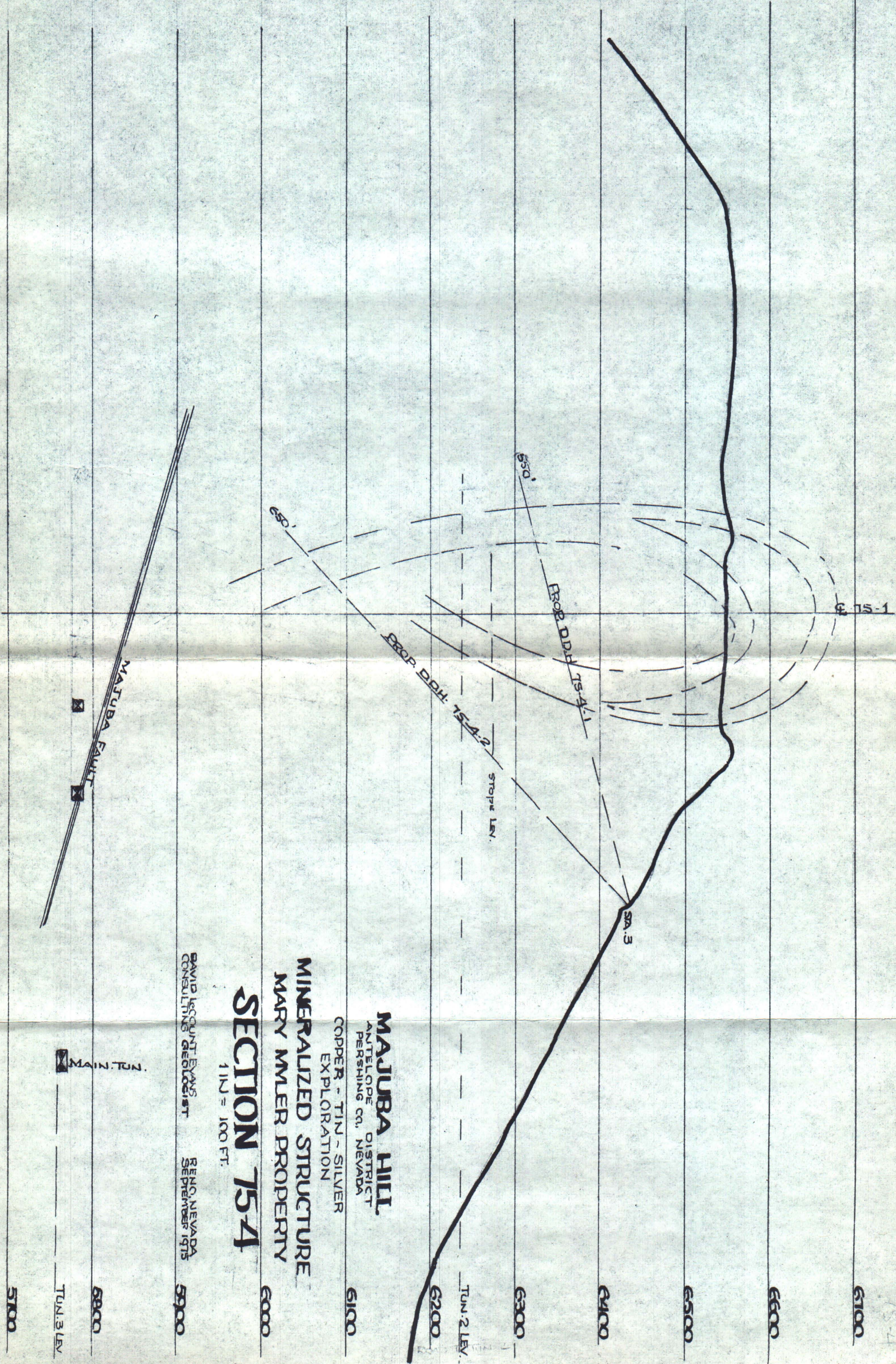
sn	cu	Aq	using
0.09	3.8	1.4	0.09 3.8 1.4
0.09	0.69	0.5	0.09 0.69 0.5
0.06	0.15	1.4	0.06 0.15 1.4
0.03		4.19	
0.62	0.51	2.83*	0.10 0.22 0.83
0.09	0.25	3.68	0.09 0.25 3.68
0.06	0.20	0.76	0.06 0.20 0.76
0.15	0.50	2.90	0.15 0.50 2.90
			<u>0.09 0.83 1.64</u>

\* Raise Sample  
0.30 - 0.10 0.22 0.83

30-45 0.54 0.71 8.73  
0.45 0.25 0.38 3.47



75-4



**MAJUBA HILL**  
 ANTELOPE DISTRICT  
 PERSHING CO., NEVADA  
 COPPER - TIN - SILVER  
 EXPLORATION  
 MINERALIZED STRUCTURE  
 MARY MLER PROPERTY

**SECTION 75-4**

1 IN. = 100 FT.

DAVID LEGGONTE EYANS  
 CONSULTING GEOLOGIST  
 RENO, NEVADA  
 SEPTEMBER 1975

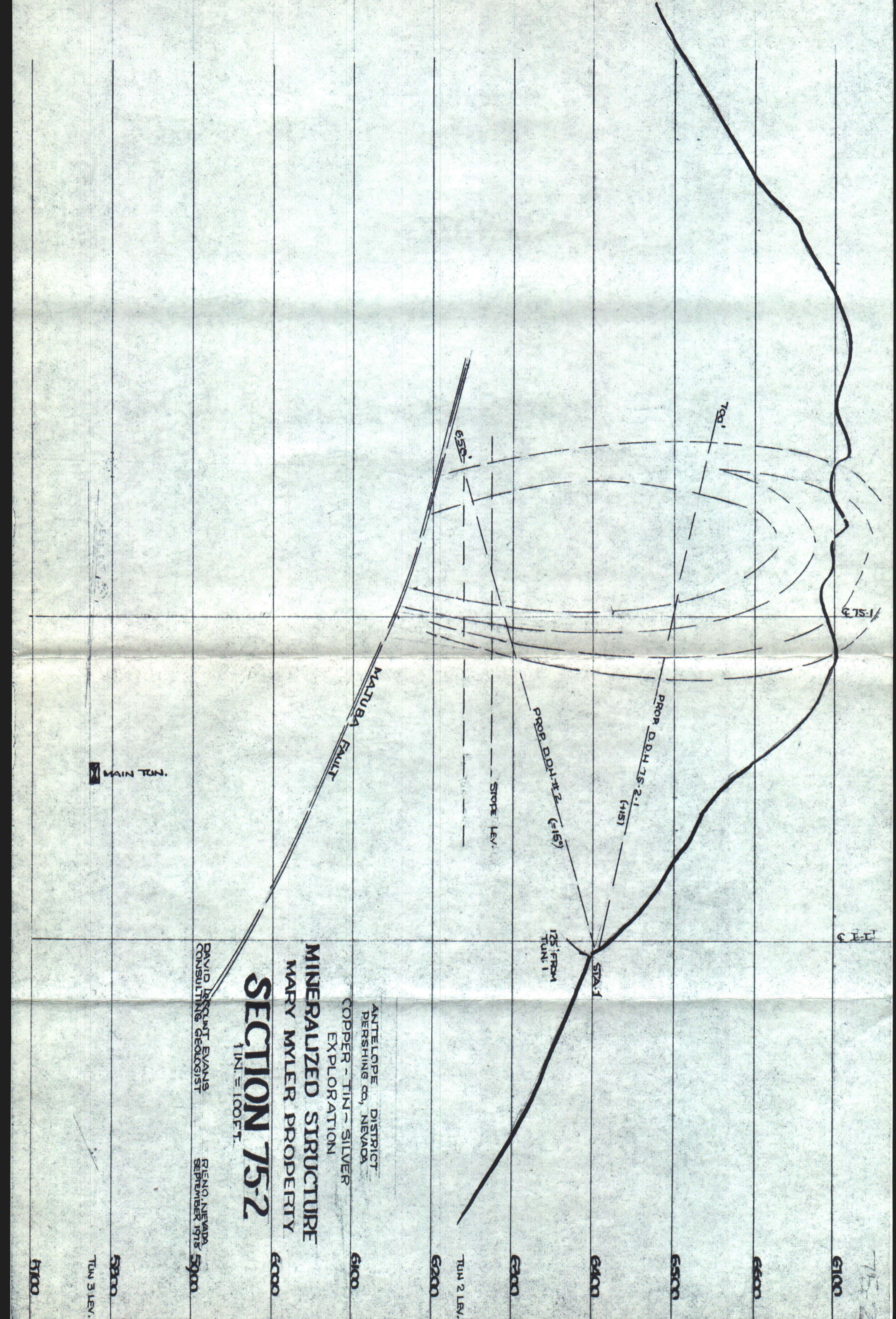
6100  
 6000  
 5900  
 5800  
 5700

6100  
 6000  
 5900  
 5800  
 5700

TUN. 2 LEV.  
 6200  
 6300  
 6400  
 6500

TUN. 3 LEV.  
 5800  
 5900  
 6000





ANTELOPE DISTRICT  
 PERSHING CO., NEVADA  
 COPPER - TIN - SILVER  
 EXPLORATION  
 MINERALIZED STRUCTURE  
 MARY WYLER PROPERTY  
**SECTION 75-2**  
 1 IN. = 100 FT.

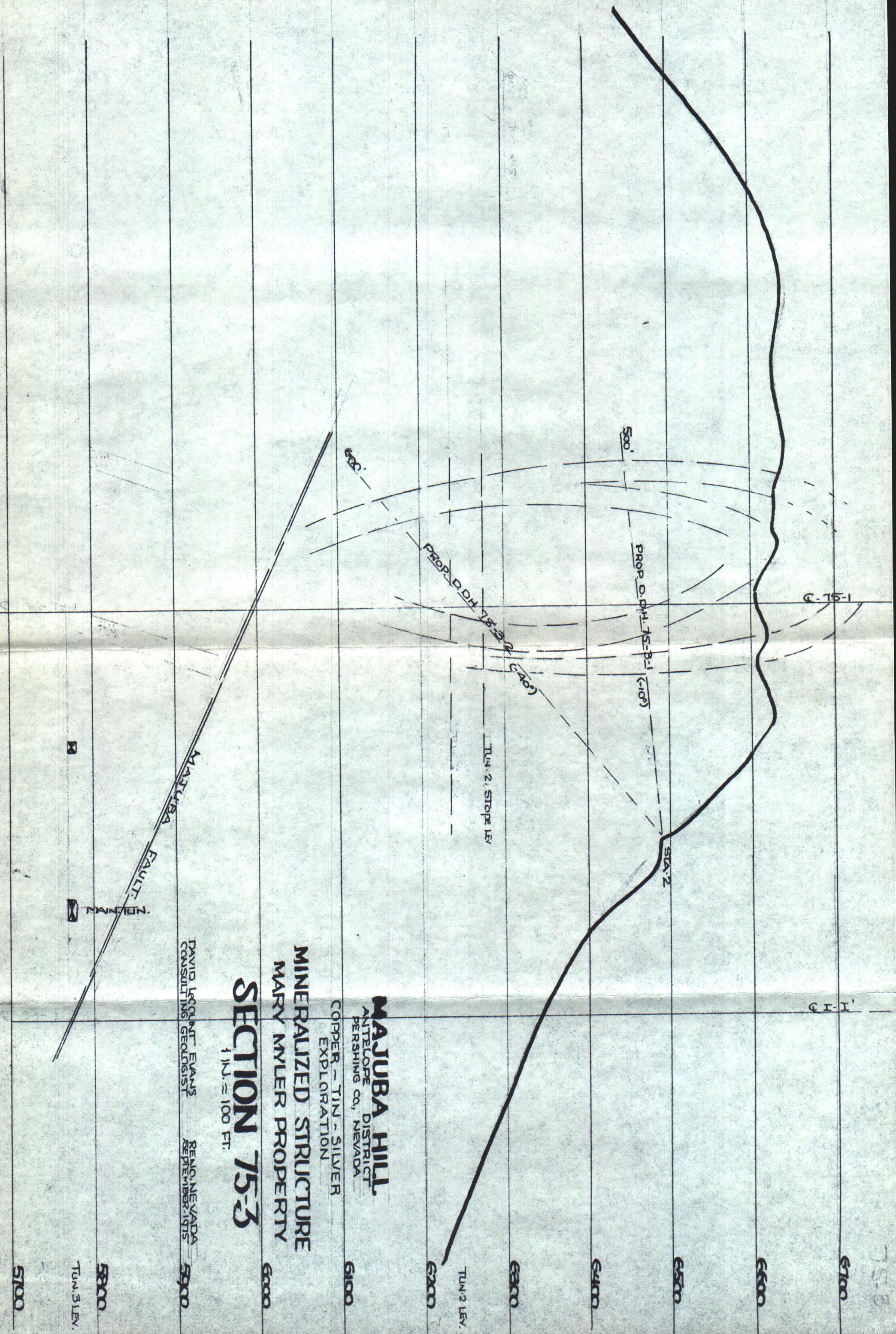
DAVID BASKIN EVANS  
 CONSULTING GEOLOGIST  
 RENO, NEVADA  
 SEPTEMBER 1975

MAIN TUN.

75-2

6100  
 6000  
 5900  
 5800  
 5700  
 TUN 3 LEV.  
 5700  
 5800  
 5900  
 6000  
 6100  
 6200  
 6300  
 6400  
 6500  
 6600  
 6700

75-3



**MAJUBA HILL**  
 ANTELOPE DISTRICT  
 PERSHING CO., NEVADA

COPPER - TIN - SILVER  
 EXPLORATION

MINERALIZED STRUCTURE  
 MARY MYLER PROPERTY

**SECTION 75-3**  
 1 IN. = 100 FT.

DAVID LECOUNT EVANS  
 CONSULTING GEOLOGIST

RENO, NEVADA  
 SEPTEMBER, 1975

5100

5200

5300

TUN. 3 LEV.

5400

5500

5600

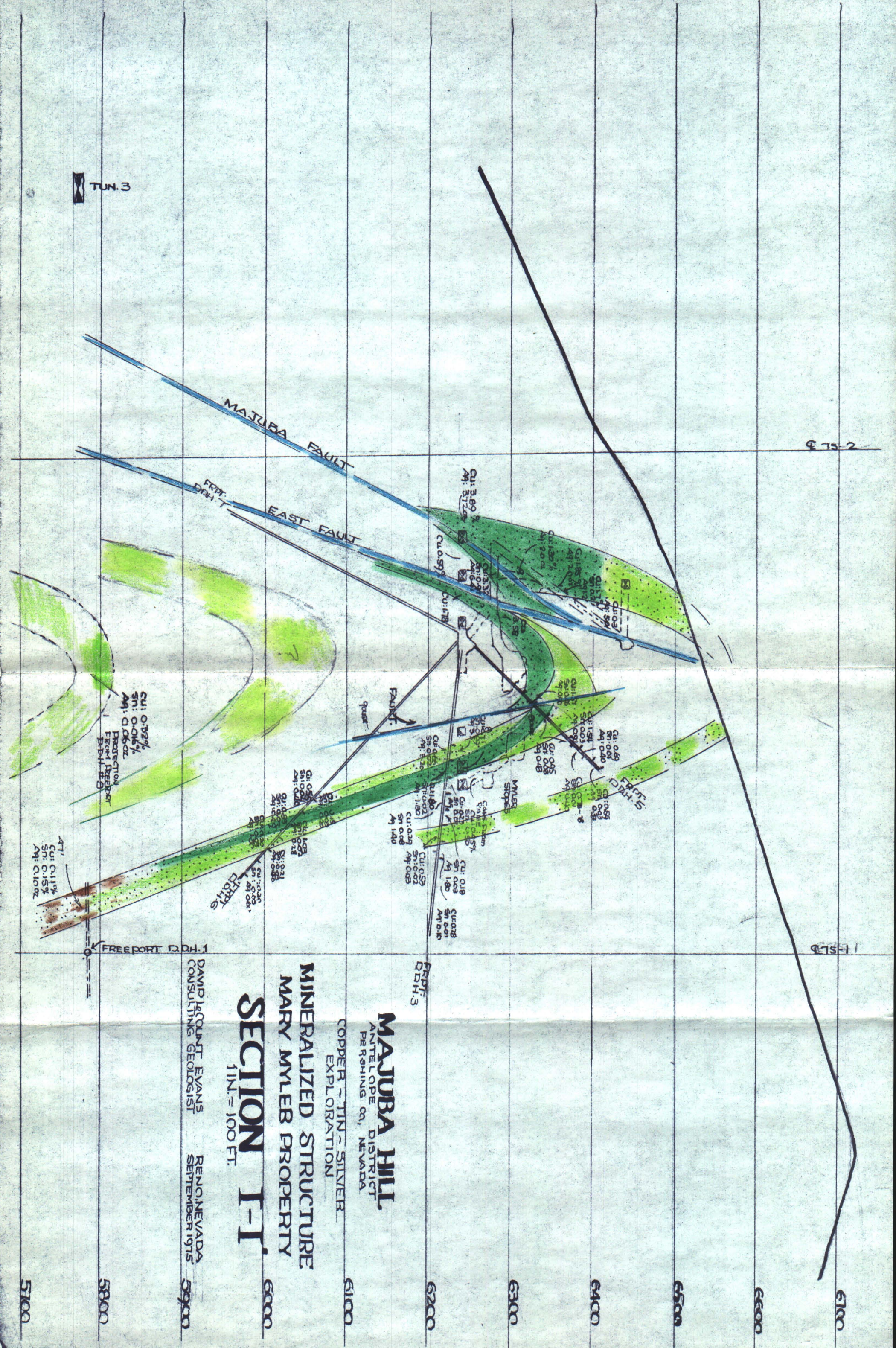
6600

6700

TUN. 3

R 75-2

R 75-1



**MAJUBA HILL,**  
 ANTELOPE DISTRICT  
 PERMING CO., NEVADA  
 COPPER - TIN - SILVER  
 EXPLORATION  
 MINERALIZED STRUCTURE  
 MARY MYLER PROPERTY  
**SECTION I-I**  
 1 IN. = 100 FT.

DAVID LEQUANT EVANS  
 CONSULTING GEOLOGIST  
 RENO, NEVADA  
 SEPTEMBER 1975

5100 5800 5900 6000 6100



MAJUBA HILL #1  
PATENTED

MAJUBA HILL  
PATENTED

MAJUBA HILL #3  
PATENTED

2,161,000 E

2,162,000

526,000 N

M.F. D.D.H. #1  
-32°

M.F. D.D.H. #2  
-32°

M.F. D.D.H. #3

M.F. D.D.H. #1  
-53°

MAJUBA FAULT

TIN  
AREA  
EMERGIA

COPPER  
BODY  
DRECVIA

AT SURFACE  
1942, TWO  
4 1/2 SH SAMPLES  
(SEE POINT)

TUN-1  
6435'

MAJUBA HILL  
ANTELOPE DISTRICT  
PERSHING CO., NEVADA  
COPPER-TIN-SILVER  
EXPLORATION  
MINERALIZED STRUCTURE  
MARY MAYER PROPERTY  
SURFACE

1 IN. = 100 FT.

DAVID L. COUNT EVANS  
CONSULTING GEOLOGIST

RENO, NEVADA  
SEPTEMBER, 1973

PROP. STA. #3

PROP. STA. #2

PROP. STA. #1

T5-4

T5-3

T5-2

TUN-2  
6235'

T5-4

T5-3

T5-2

T5-1

6800

6100

6600

6300

6400

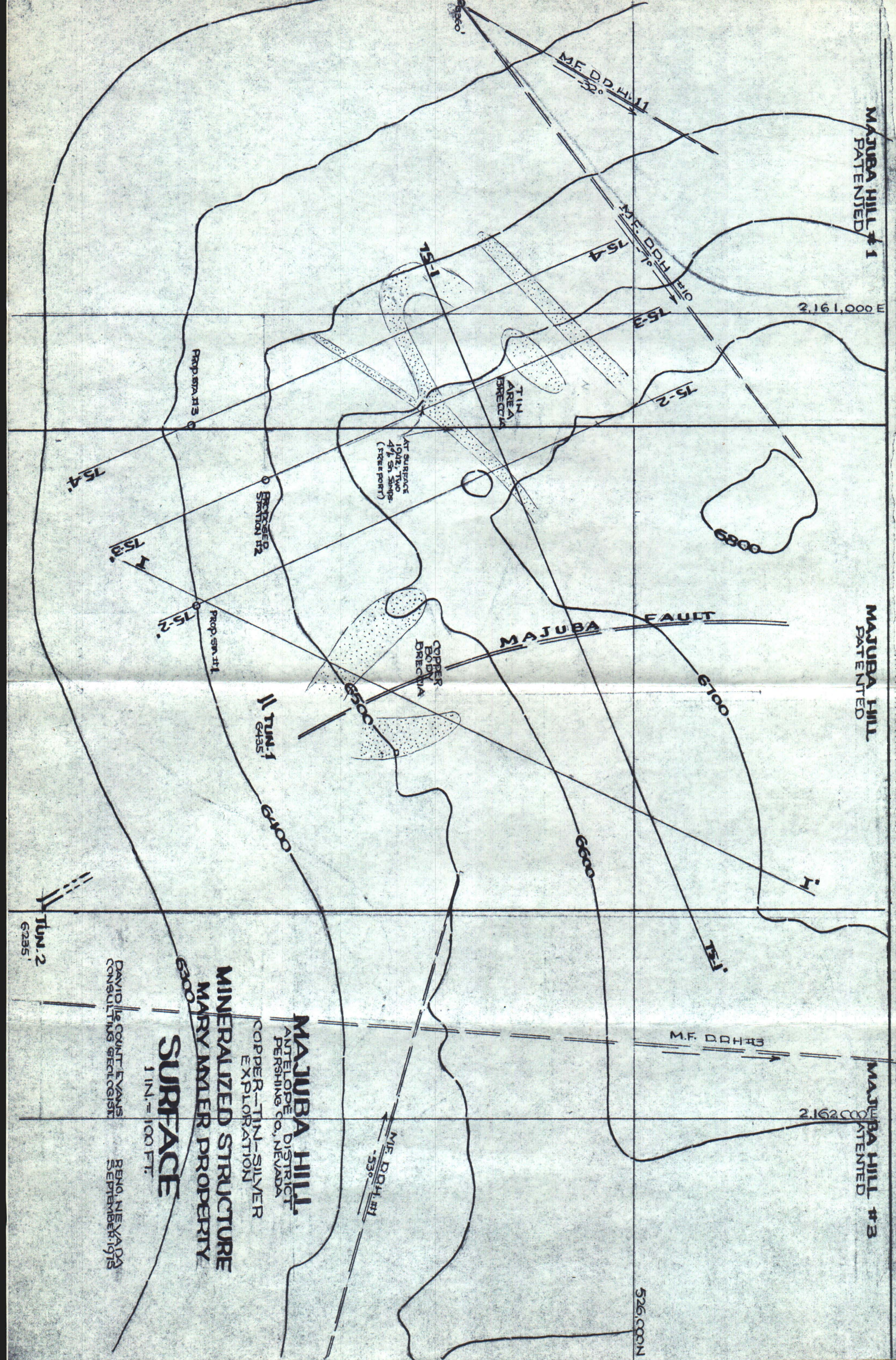
6100

6500

6500

6500

6200



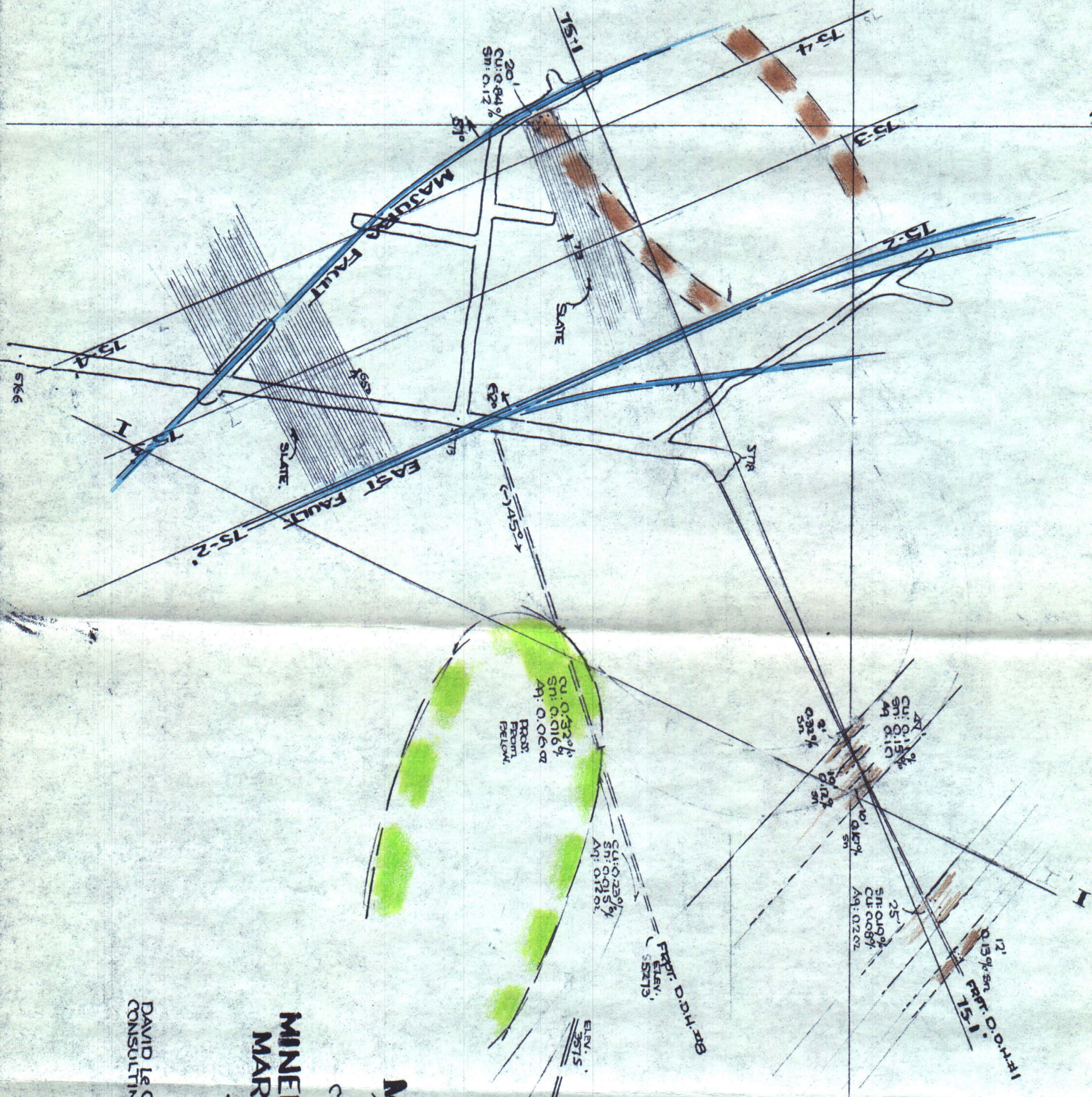




2,161,000 E

2,162,000 E

526,000 N



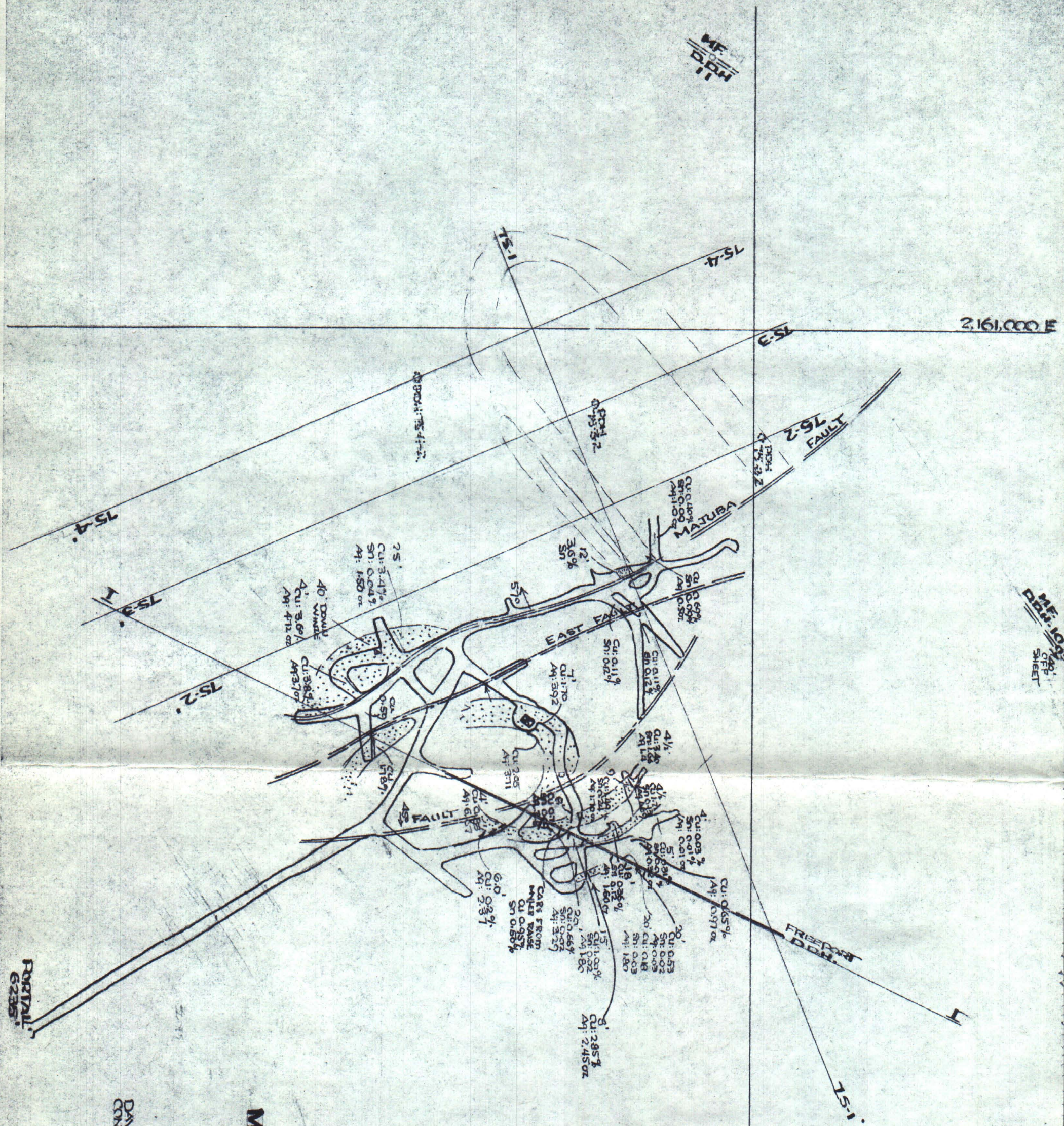
**MAJUBA HILL**  
 ANTELOPE DISTRICT  
 PERSHING CO., NEVADA  
 COPPER-TIN-SILVER  
 EXPLORATION  
 MINERALIZED STRUCTURE  
 MARY MLER PROPERTY  
**TUNNEL 3**  
 1 IN = 100 FT.

DAVID LE COUNT EVANS  
 CONSULTING GEOLOGIST

RENO, NEVADA  
 SEPTEMBER-1975

5766

1210



DMF 107  
APP  
SHEET

**MAJUBA HILL**  
 ANTELOPE DISTRICT  
 PERSHING CO., NEVADA  
 COPPER-TIN - SILVER  
 MINERALIZED STRUCTURE  
 MARY MYLER PROPERTY  
**TUNNEL 2**  
 1 IN. = 100 FT.

DAVID LE COUNT EVANS  
 CONSULTING GEOLOGIST

RENO, NEVADA  
 SEPTEMBER 1975

15100

526000N