4790028

(176)
Item 31

4 Homewood Place
Menlo Park, California

May 12, 1954

Subject: DMEA 3273 (Tungsten)
Y. Z. Mining Company
North Tem Piute mine
Lincoln County, Nevada

Mr. A. C. Johnson
U. S. Bureau of Mines
P. O. Box 1551
Reno, Nevada

Dear Mr. Johnson:

The enclosed report and sketch map are the geologist's contribution to the report of examination of the North Tem Piute mine, Lincoln County, Nevada, DMEA 3273 (Tungsten), made jointly with Mr. Holmes. The comments under "EXPLORATION" and "CONCLUSIONS" can be included with those of Mr. Holmes if you desire.

The geologic conditions at the North Tem Piute mine are favorable for the discovery of a large tonnage of tungsten ore. Diamond drilling and trenching done by the Bureau of Mines, the development work done by the applicants, and the exploration done on the adjoining property by the Lincoln Mines Company, all indicate the probability of finding additional tungsten ore by the proposed exploration. It is recommended that the Government participate in an exploration program at the North Tem Piute mine.

Sincerely,

Harold K. Stager
Geologist
Mineral Deposits Branch

Enclosures

HKS:jk

cc: Stager

Geologist's Contribution

Report of Examination by Field Team
Region III

IMEA-3273 (Tungsten)

Y. Z. Mining Company

North Tem Piute Mine

Lincoln County, Nevada

H. K. Stager

U. S. Geological Survey

May 12, 1954

GEOLOGY

The North Tem Piute mine of the Y. Z. Mining Company is underlain by Upper Paleozoic limestone, hornfels, and quartzite that have been folded, faulted, and intruded by two small granite stocks. The geology and ore deposits of this and the adjoining Lincoln Mines property have been studied and explored in considerable detail by the U. S. Geological Survey and the U. S. Bureau of Mines.[1]

[1] Wyant, D. G., and Lemmon, D. M., 1951, Tungsten deposits in the Tem Piute district, Lincoln County, Nevada: U. S. Geol. Survey open file report.

[2] Binyon, E. O., Holmes, G. H., Jr., and Johnson, A. C., 1950, U. S. Bureau of Mines Report of Investigations No. 4626.

A scheelite-bearing garnet tactite band, about 800 feet long and from 20 to 100 feet thick occurs between limestone and the southern granite stock in the vicinity of the main workings of the North Tem Piute mine. The tactite is a product of contact metamorphism of the limestone. The layer of tactite strikes northwest and dips from 45° to 85° SW, away from the intrusive. The contact between tactite and limestone is sharply defined, and is well exposed on the surface and in the underground mine workings. Overlaying the tactite at the south end of the band is a dense gray limestone and at the north end is a white platy hornfels. The platy hornfels forms a band about 80 feet thick; it is in turn overlain by a second limestone bed that is about 350 feet thick.

Faulting has offset many of the sedimentary beds on the property. Minor fractures in the tactite appear to have been important controls in the formation of the scheelite bodies and in places these fractures contain rich seams of scheelite.

ORE DEPOSITS

The deposits occur in tactite, formed by contact metamorphism of impure limestones, into which tungsten, molybdenum, zinc, and fluorine-bearing solutions have been introduced. The ore minerals are scheelite, molybdenite, powellite, sphalerite, and fluorite.

Scheelite is widespread in the surface exposures of tactite, but the mineable ore bodies are confined to the hanging wall side of the tactite lens, in contact with the overlying limestone and hornfels. Sampling and core drilling by the Bureau of Mines show 4 ore bodies in a strike distance of about 850 feet. These ore bodies have strike lengths ranging from 95 to 280 feet, widths ranging from 3 to 20 feet, and grades ranging from 0.4 percent to 0.65 percent WO_3. Local enrichments contain up to several percent WO_3 but are too erratic in distribution to be mined separately. The tactite between the bodies averages about 0.2 percent WO_3. Most of the scheelite in the ore occurs as small disseminated crystals scattered throughout the tactite groundmass, but rich seams of scheelite have been noted along fractures cutting the tactite and adjacent rocks.

Other minerals, in addition to the scheelite, contained in the tactite are garnet, quartz, epidote, calcite, fluorite, molybdenite, powellite, pyrite, pyrrhotite, and sphalerite. The fluorite,

sphalerite, molybdenite, and powellite are present in recoverable quantities and are extracted in the milling process.

The North Tem Piute mine has produced about 2,000 tons of ore that averaged about 0.5 percent WO_3. Most of the ore has come from the Rae Ella claim.

ORE RESERVES

Ore reserves for the North Tem Piute mine were calculated by D. M. Lemmon of the Geological Survey in 1944, based on sampling, trenching, and drilling done by the Bureau of Mines. About 80,800 tons of indicated ore, containing about 35,600 units of WO_3, was calculated for the 4 ore bodies shown in figure 2. These ore bodies were projected to the depth of the deepest known ore that was cut by drill hole No. 9, about 250 feet down dip from the outcrop. An additional 430 tons of ore per foot of depth was inferred to a depth of several hundred feet below the indicated ore. No measured ore was calculated. The following table gives the tonnage of indicated and inferred ore for the North Tem Piute mine as calculated by Lemmon.

INDICATED ORE							INFERRED ORE
Block No.	Width feet	Length feet	Inclined depth feet	Tons	Grade Percent	Units WO_3	Per foot of depth below 6,570 elev.
1	8	100	192	15,300	0.40	6,100	96
2	4.3	260	234	26,200	0.41	10,500	134
3	13.2	95	240	30,000	0.43	13,000	150
4	4	100	230	9,300	0.65	6,000	50
				80,800	0.44	35,600	430

A value of 10 cubic feet per ton was used in calculating the tonnage.

About 1,000 tons of these reserves have been mined from ore bodies 3 and 4 since the calculations were made.

EXPLORATION

The applicant originally proposed to spend $150,325 in exploring the North Tem Piute property. Exploration was to consist of a 480-foot adit to intersect the ore zone about 190 feet below the outcrop, followed by 1,030 feet of drifting on this level, a winze to a new level about 110 feet lower, with another 1,030 feet of drifting on the second level, plus raises to connect with existing near surface workings some 100 feet above the proposed adit level, and 900 feet of core drilling.

After discussing the proposed exploration plan with the field team the applicant eliminated the drilling, raises, winze, lower level drifting, and limited the drifting on the first adit level to 520 feet. The 480 feet of crosscutting remains as originally proposed except for a slight change in elevation to permit eventual joining of this level with existing workings of the Lincoln mine. The 520 feet of drifting on this level will permit the exploration of the ore zone about 400 feet northward from the adit to the property line, in the ground between Bureau of Mines diamond drill holes No. 9 and 10, about 110 feet beneath the present workings and along the down dip extensions of ore bodies 3 and 4. It will also permit about 120 feet of exploratory drifting southward under ore body 2 (see fig. 2). The program has been set up on an overall unit cost basis of $42 per foot, or a total cost of $42,000. If this program is

successful the applicant intends to ask for additional Government participation to permit exploration of the ore zone to the southeastward.

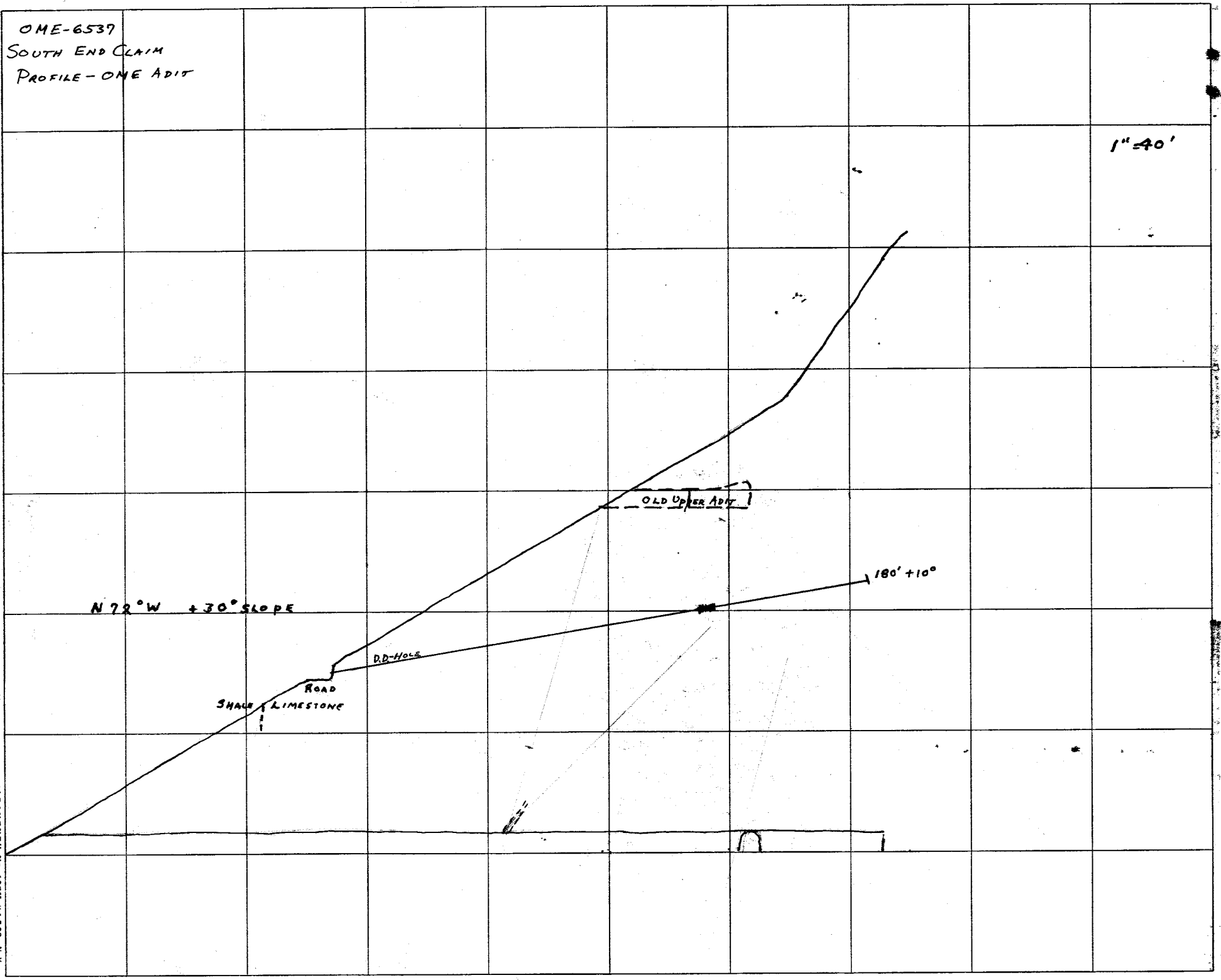
Geologic conditions are favorable for the downward extensions of the ore zones that crop out at the surface or are outlined in the mine workings. The level proposed for exploration has already been successfully explored on the adjoining property of the Lincoln Mines, and has been tested by two diamond drill holes drilled by the Bureau of Mines on the Tem Piute property. The proposed exploration is based on sound geologic interpretations and is planned to obtain the greatest amount of information and test the most favorable ground in a practical and efficient manner.

CONCLUSIONS AND RECOMMENDATIONS

The discovery of mineable tungsten ore bodies by the proposed exploration program appears certain. Extension of these ore bodies southward and downward from the proposed exploration is geologically probable. It is recommended that the Government participate in an exploration program at the North Tem Piute mine.

OME-6537
SOUTH END CLAIM
PROFILE - OME ADIT

1" = 40'



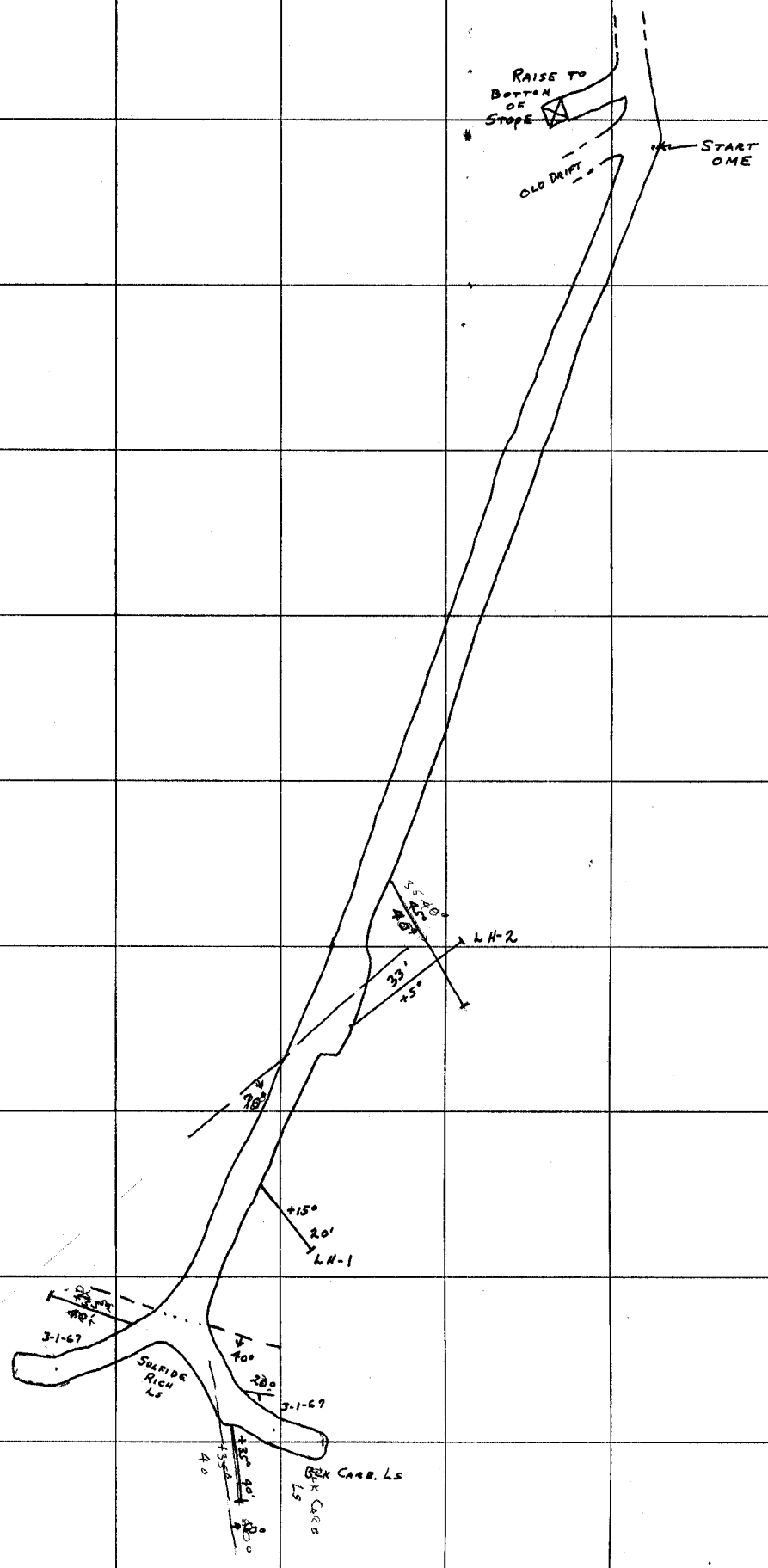
"ALBANENE" REG. U.S. PAT. OFF.
NO. 195M K&E CO., N.Y.

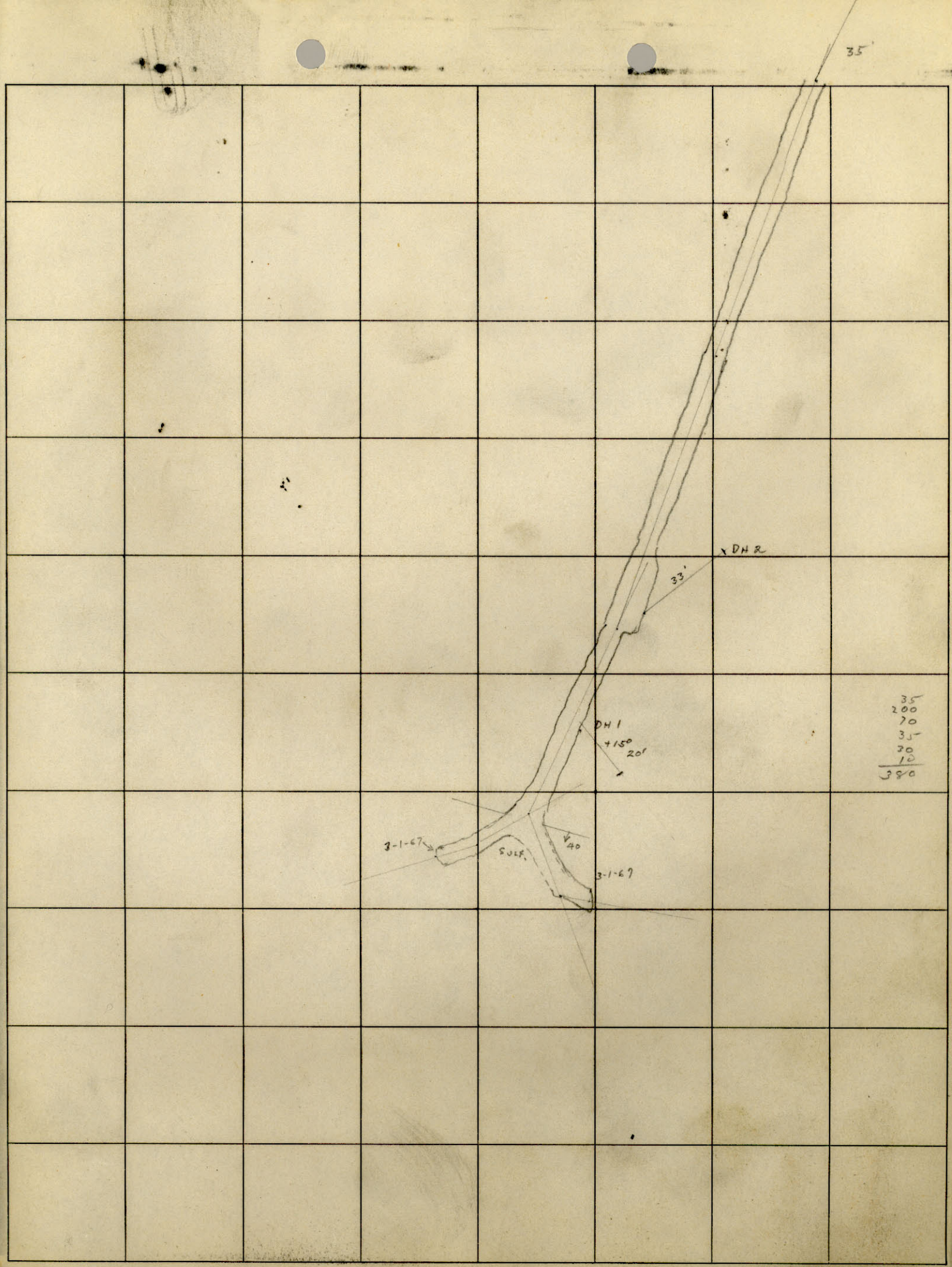
OME-6537
TEMPIUTE MINE

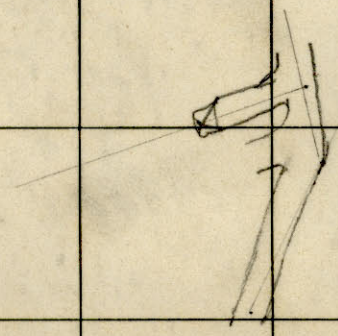
N MN

-17½

1"=40'



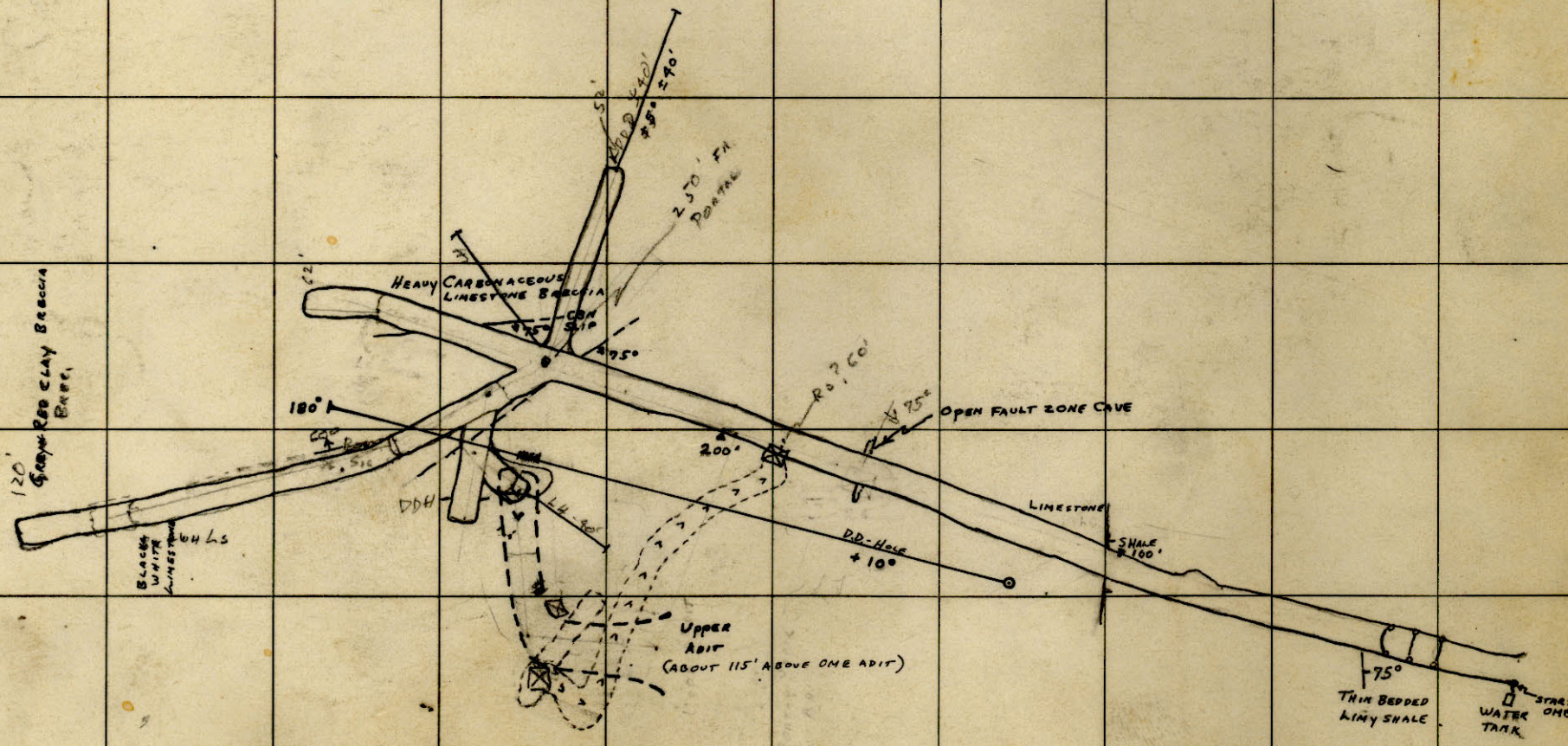


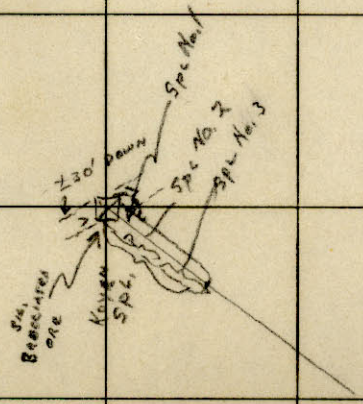


OME-6539

South End Claim

OME Adit





P. M. CRISMON, Pres.

CRISMON & NICHOLS

ASSAYERS AND CHEMISTS

229-231 SOUTH WEST TEMPLE STREET

SALT LAKE CITY, UTAH 84110

P. O. Box 1708

PHONE 363-7417

REPORT OF ASSAY

August 28, 1968

eological Survey, Dept. of Interior, Office of Minerals Exploration, H.K.Stage

AVE ASSAYED YOUR three SAMPLES AND FIND them TO CONTAIN AS FOLLOWS:

DESCRIPTION	NO.	OZS. GOLD PER TON	OZS. SILVER PER TON	PER CENT LEAD	PER CENT COPPER	PER CENT ZINC	PER CENT INSOL.	PER CENT IRON	PER CENT	VALUE OF GOLD PER TON
	T-1	0.02	15.60	None		None				70¢
	T-2	0.01	12.80	None		None				35¢
	T-3	0.01	6.00	None		None				35¢

ARKS:

CRISMON & NICHOLS

By

HARGES $ 18.00

P. M. CRISMON, PRES.

CRISMON & NICHOLS

ASSAYERS AND CHEMISTS

229-231 SOUTH WEST TEMPLE STREET

SALT LAKE CITY, UTAH 84110

: 363-7417

P. O. Box 1708

REPORT OF ASSAY

April 22, 1970

. Dept. of Interior - Geological Survey - Office of Minerals Exploration-
H. K. Stager

HAVE ASSAYED YOUR five SAMPLES AND FIND them TO CONTAIN AS FOLLOWS:

DESCRIPTION	NO.	OZS. GOLD PER TON	OZS. SILVER PER TON	PER CENT LEAD	PER CENT COPPER	PER CENT ZINC	PER CENT INSOL.	PER CENT IRON	PER CENT	VALUE OF GOLD PER TON
s	T-1	0.01	9.70	0.30		0.30				~~$.50~~
Concentrate	T-2	0.01	303.60	2.05		1.20				~~$.50~~
-"-	T-3	Trace	109.60	1.30		0.50				
Concentrate	T-4	Trace	660.20	15.95		6.90				
[illegible]	T-5	Trace	13.90	Trace		Trace				

MARKS:

CHARGES $ 40.00

CRISMON & NICHOLS

By [signature]

	Lead	Copper	Zinc	Silver	Gold
Ore 10½T	1.4	TR	4.9	25.79	.015
Conc. 6½T	2.45	.20	4.7	182.79	.01
7T	8.8	.30	13.35	421.64	.007
5T	9.0	.40	7.65	600.88	.02
4½T	4.8	.30	6.5	299.65	.01
4½T	2.4	.10	1.75	132.80	.005
3½T	5.6	.20	1.675	286.45	.015
4T	4.6	.30	2.70	395.98	.0225
~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~
3T	4.4	.40	2.90	410.90	.01
38T	5	.3	5	330	.01

Tempiute USBM Reports — Gen. Resources

1968 — No Prod.

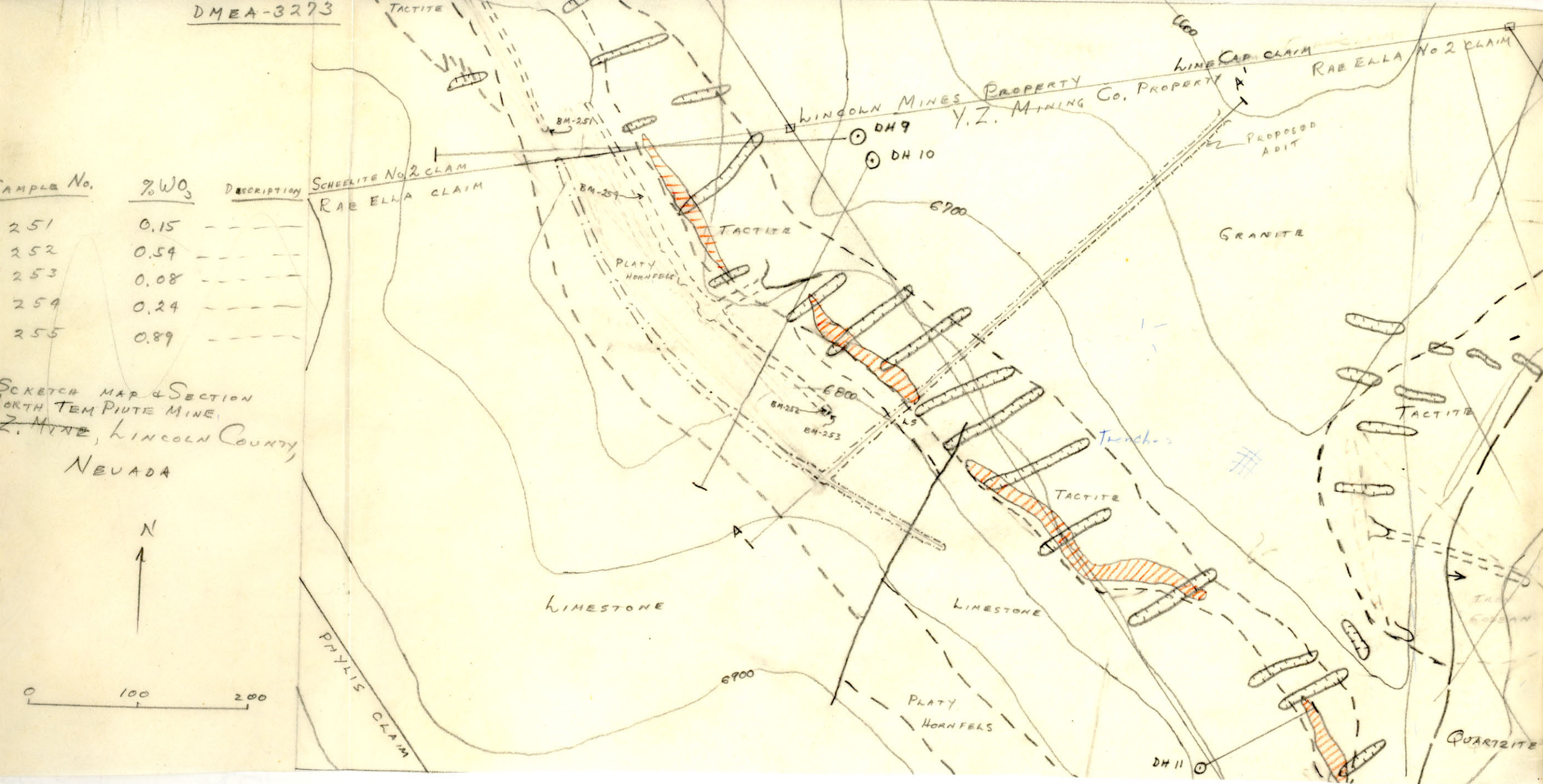
1969 — 1,680 tons Ag Concs.
" 24 " Ag Smelter

	Crude	Concs.
Ag	4,341 Ozs.	6,132 Ozs
Cu	67 lbs	92
Pb	1,816 lbs	1,996
Zn	3,470 lbs	1,678

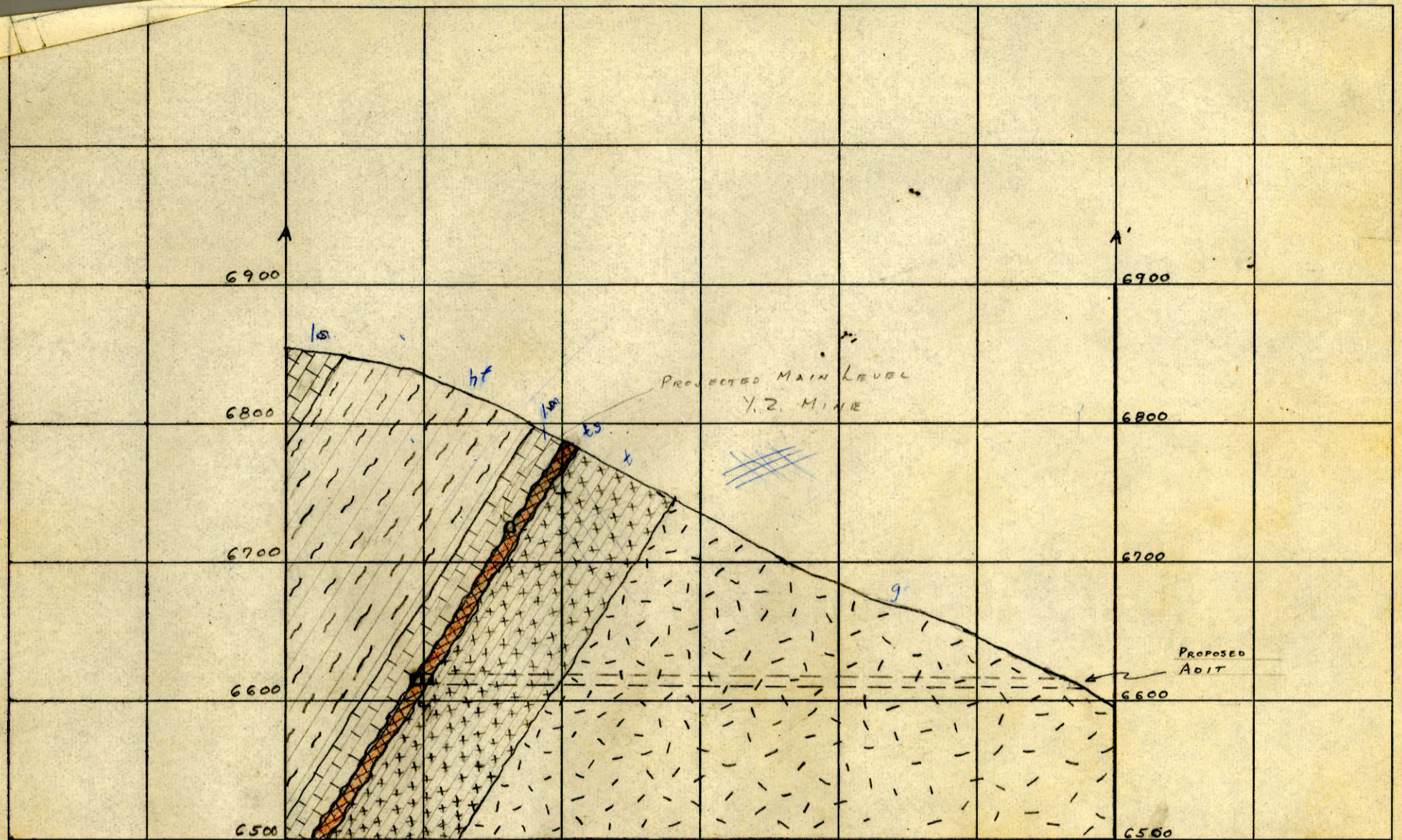
DMEA-3293

Sample No.	% WO_3	Description
251	0.15	
252	0.54	
253	0.08	
254	0.24	
255	0.89	

Sketch Map & Section
North Tem Piute Mine
~~Z. Mine~~, Lincoln County,
Nevada



MAIN PORTAL - NORTH TEMPIUTE MINE

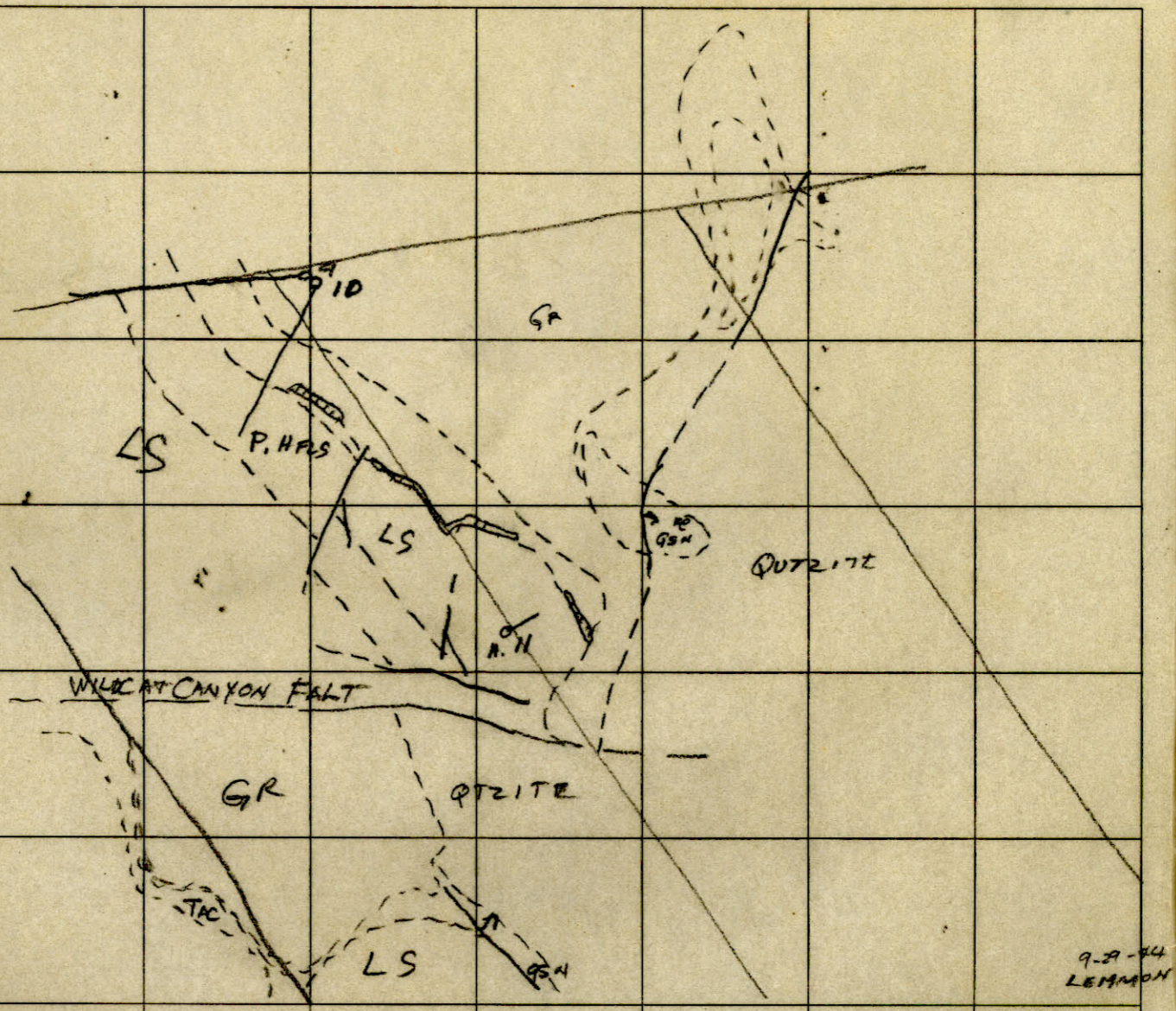


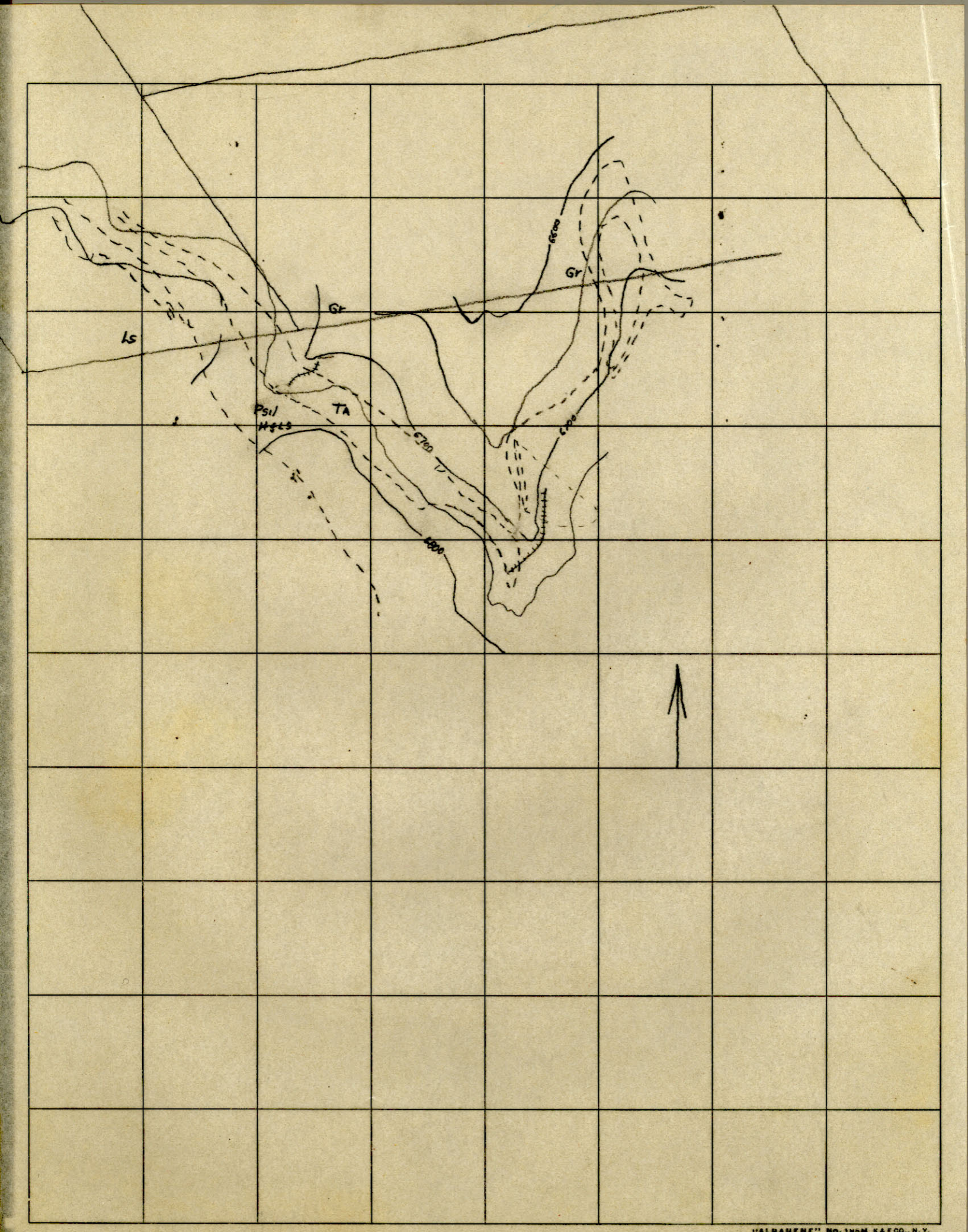
SECTION A-A'

q quartzite

TRACING PAPER 195M K & E CO., N. Y. 41057

Attach 21 (176)





N

LIME CAP

6500

SCHEELITE No 2

6600

6700

TBC

7

9

10

GR

LS

PHYLLS

6900

7000

QTZ ITE

11

RAE ELLA No 2

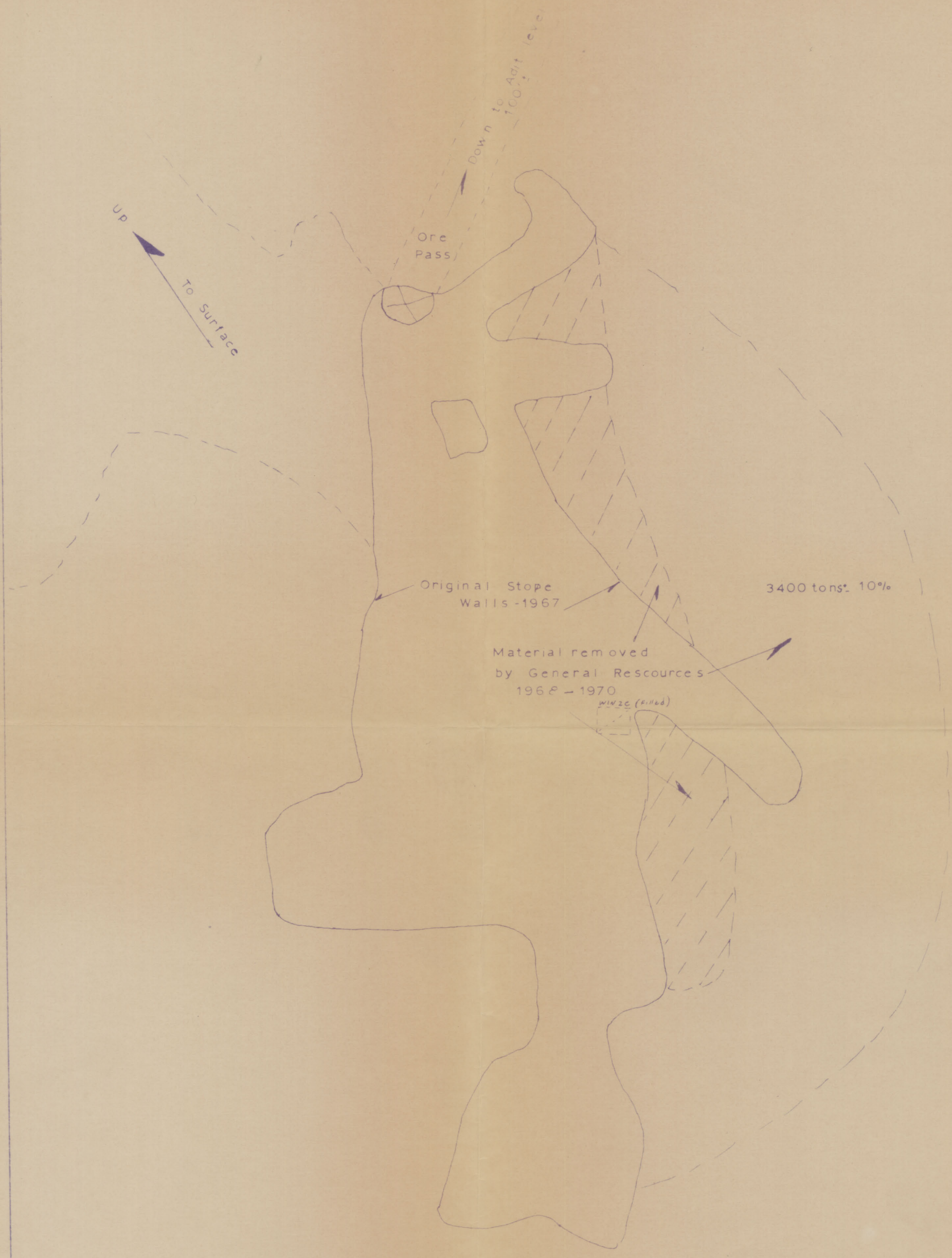
7100

RAE ELLA

0 200 400

0 200 400

4790 0028



TEMPIUTE MINING COMPANY

STOPE AREA

1" = 10 ft

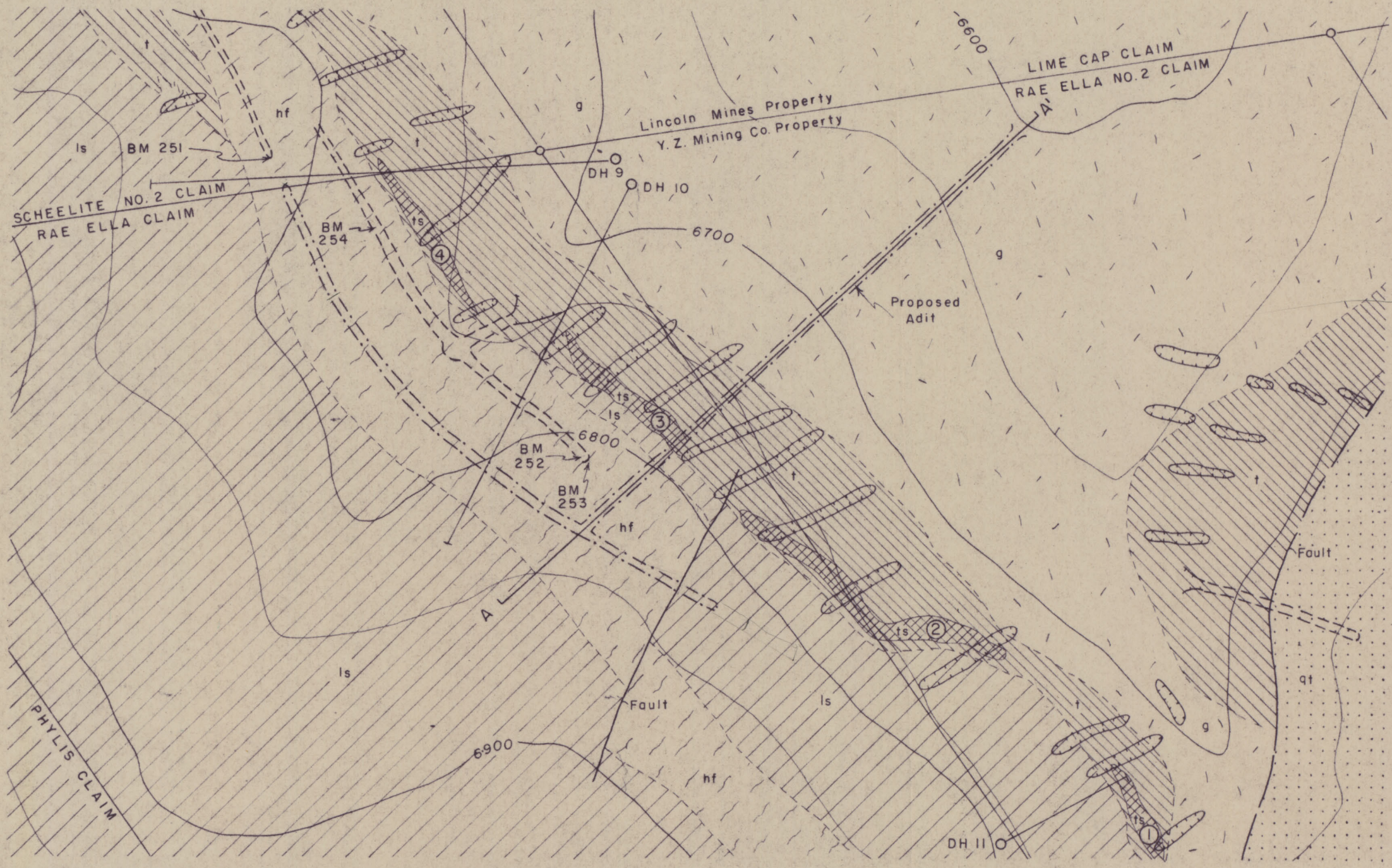
By Phil Hulse

AUGUST 1971

4790 0028

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

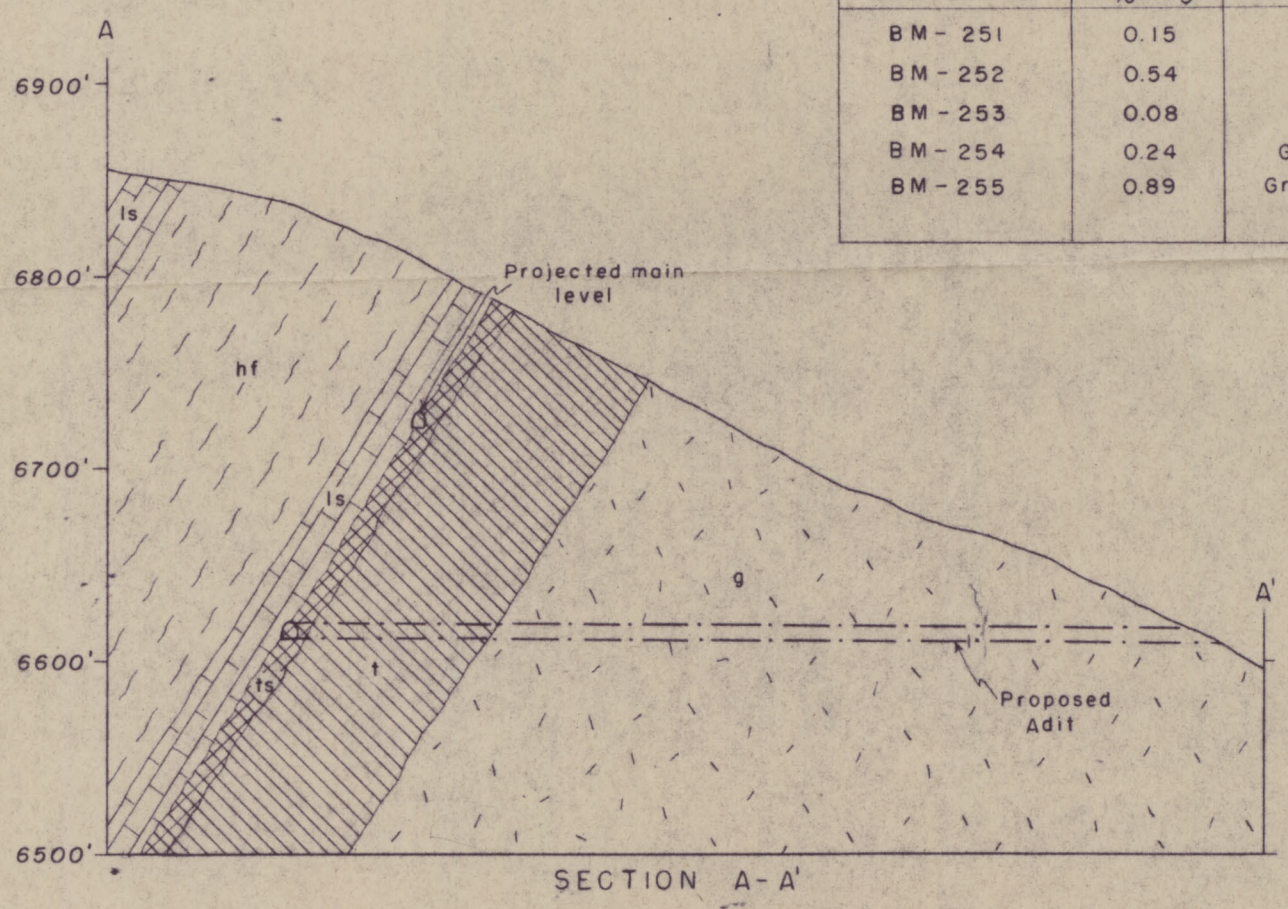
DMEA 3273
(TUNGSTEN)



Modified from Company and U.S. Bureau of Mines Maps

SKETCH MAP

SAMPLE NO.	% WO_3	DESCRIPTION
BM - 251	0.15	Chip - 5.0'
BM - 252	0.54	Car sample
BM - 253	0.08	Chip - 4.0' face
BM - 254	0.24	Grab - raise muckpile
BM - 255	0.89	Grab - 500 ton stockpile (remaining ore)



SECTION A-A'

EXPLANATION

- g — Granite
- ls — Limestone
- hf — Platy hornfels
- qt — Quartzite
- t — Tactite
- ts — Scheelite bearing tactite (+ 0.2 % WO_3)
- Contact, approximately located
- Trench
- Underground workings
- ② Reserve Block No.

N

NORTH TEM PIUTE MINE, LINCOLN COUNTY, NEVADA

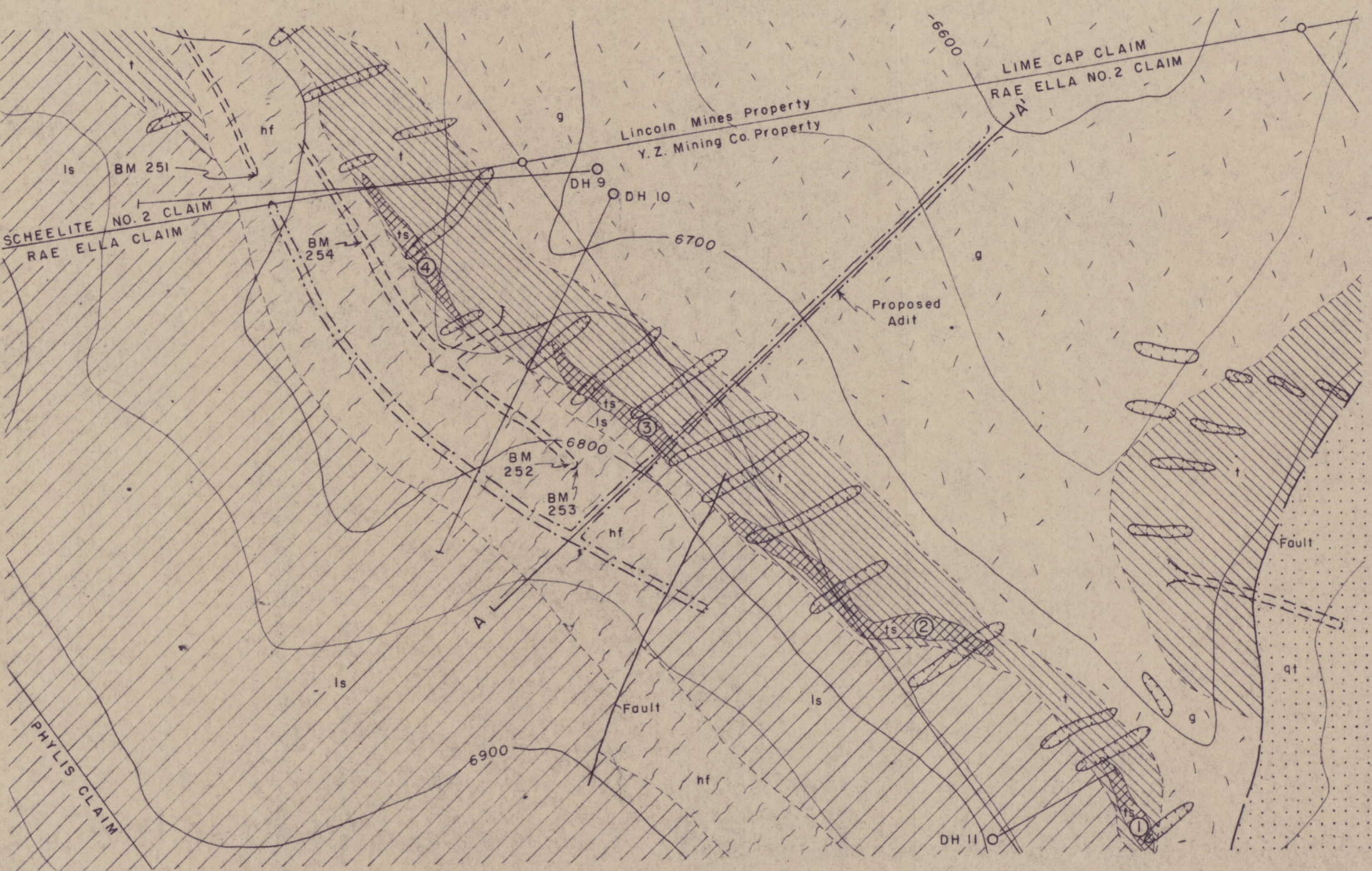
100 0 100 200 FEET

FIGURE 2

4790 0028

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DMEA 3273
(TUNGSTEN)



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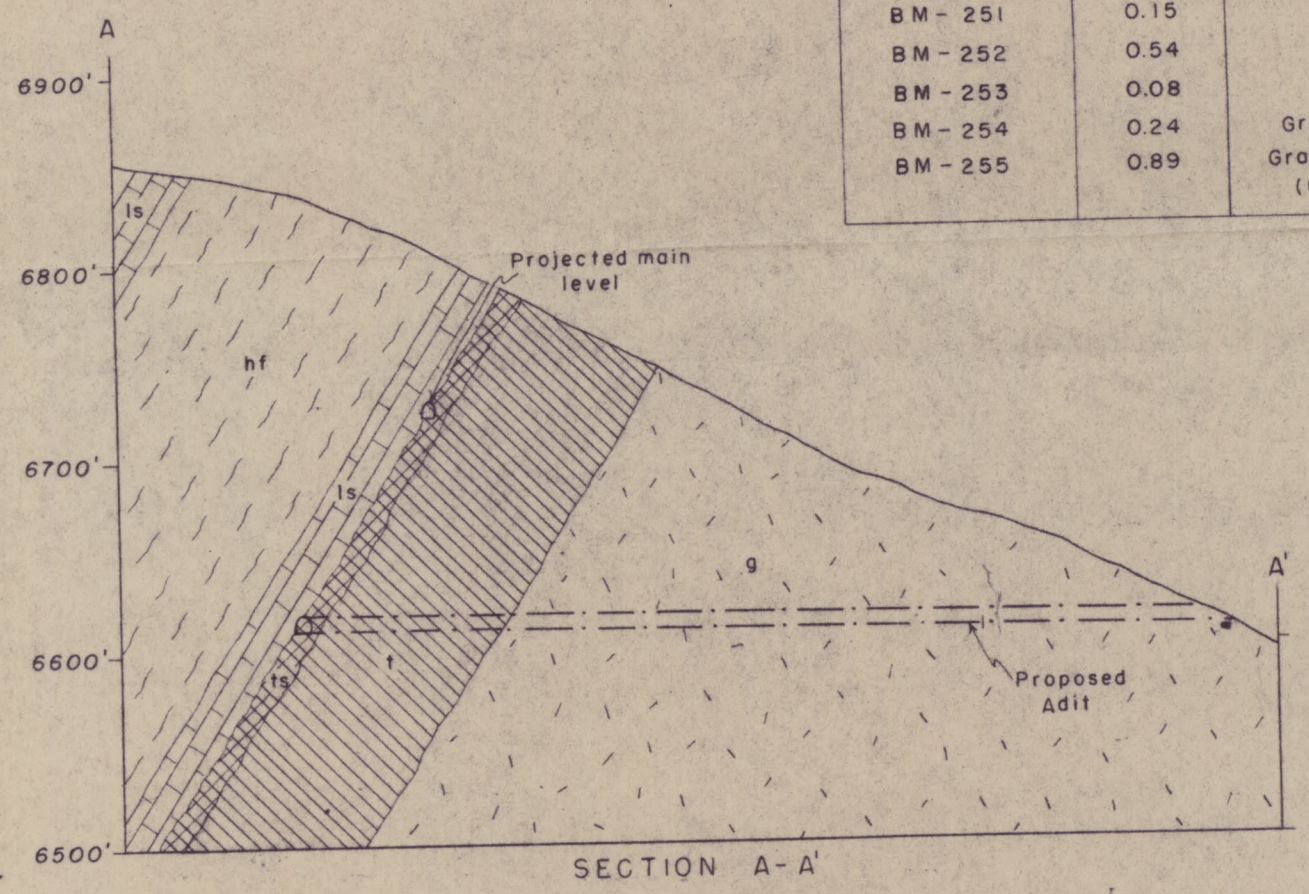

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NORTH TEM PIUTE MINE, LINCOLN COUNTY, NEVADA

100 0 100 200 FEET

FIGURE 2

4790 0028