

1070 0019

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Item 48

Room 208, 222 So. West Temple  
Salt Lake City 1, Utah  
14 February 1952

Memorandum

To: A. C. Johnson  
From: R. M. Smith  
Subject: DWA 2137, Schafer Mine, White Pine County, Nevada - Revised Application, Jan. 10, 1952.

The Schafer Mine was revisited briefly on January 9, 1951, subsequent to a DWA examination and report which recommended that the application be denied on the grounds that the proposed exploration was not well planned.

As a result of the denial, the applicant has revised his exploratory program and has submitted a new application. In accordance with your request, I reviewed this application and have prepared new illustrations showing the location of the proposed work.

The applicant's engineers state (letter January 10, 1951 to G. P. Williams) that recent investigations have revealed a gray-white limestone interbedded with the blue limestone of the Schafer mine. They believe this gray limestone to be favorable to scheelite deposition. I can confirm the fact that the new Houston tunnel is being driven in a massive gray limestone unit, but cannot predict that this unit will contain larger ore bodies than other units in this area.

The applicant has now proposed to explore the downward extension of the Schafer and Spadpatch veins from the Houston Tunnel level by 1,165 feet of diamond drilling and 650 feet of drifting and crosscutting. He has



14 February 1952

shown the locations of the proposed work on a map of the Schafer Mine, January, 1952. This program appears to be sound, but it is suggested that it be modified and divided into two projects:

Project No. 1. From a drill station cut at 340 feet in the Houston Tunnel (figs. 2 and 3), drill three horizontal diamond drill holes, each 200 feet long, one east, one N.  $45^{\circ}$  E., and one S.  $45^{\circ}$  E. to cut the Spudpatch vein; and also drill two horizontal holes each 100 feet long, one west and one N.  $45^{\circ}$  W. to test the gray limestone west of the tunnel. If no ore is encountered in any of the holes, the program should be terminated.

Project No. 2. In the event that tungsten ore is cut in any of the drill holes, a crosscut should be driven from the Houston Tunnel to the point or points where ore was cut, and drifts should be driven along the showings. Provision should be made for drifting as much as 600 feet on promising showings.

Any additional core drilling done from these drifts should be the subject of a separate exploratory program.

cc: E. H. Bailey

A. C. Johnson



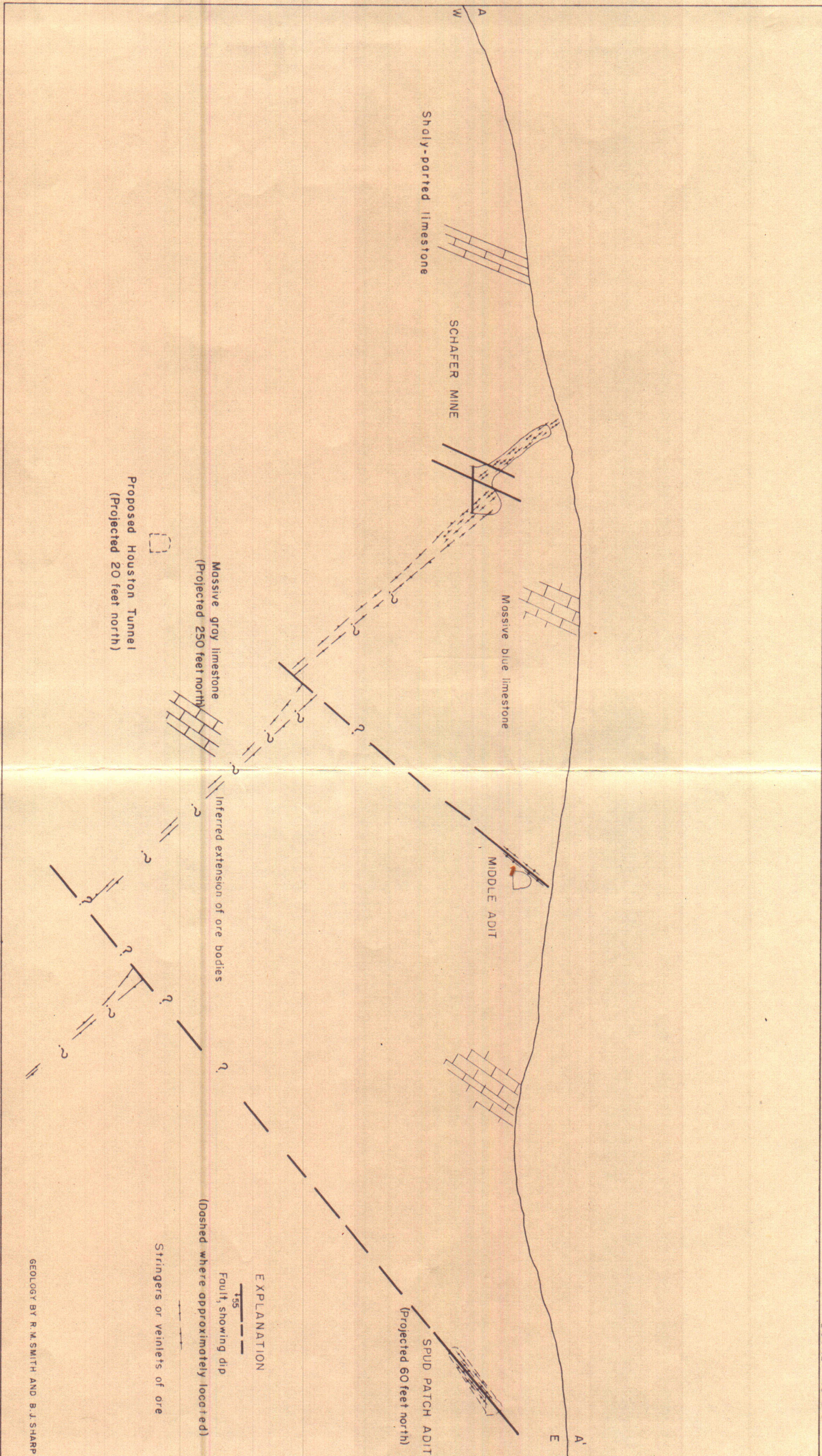
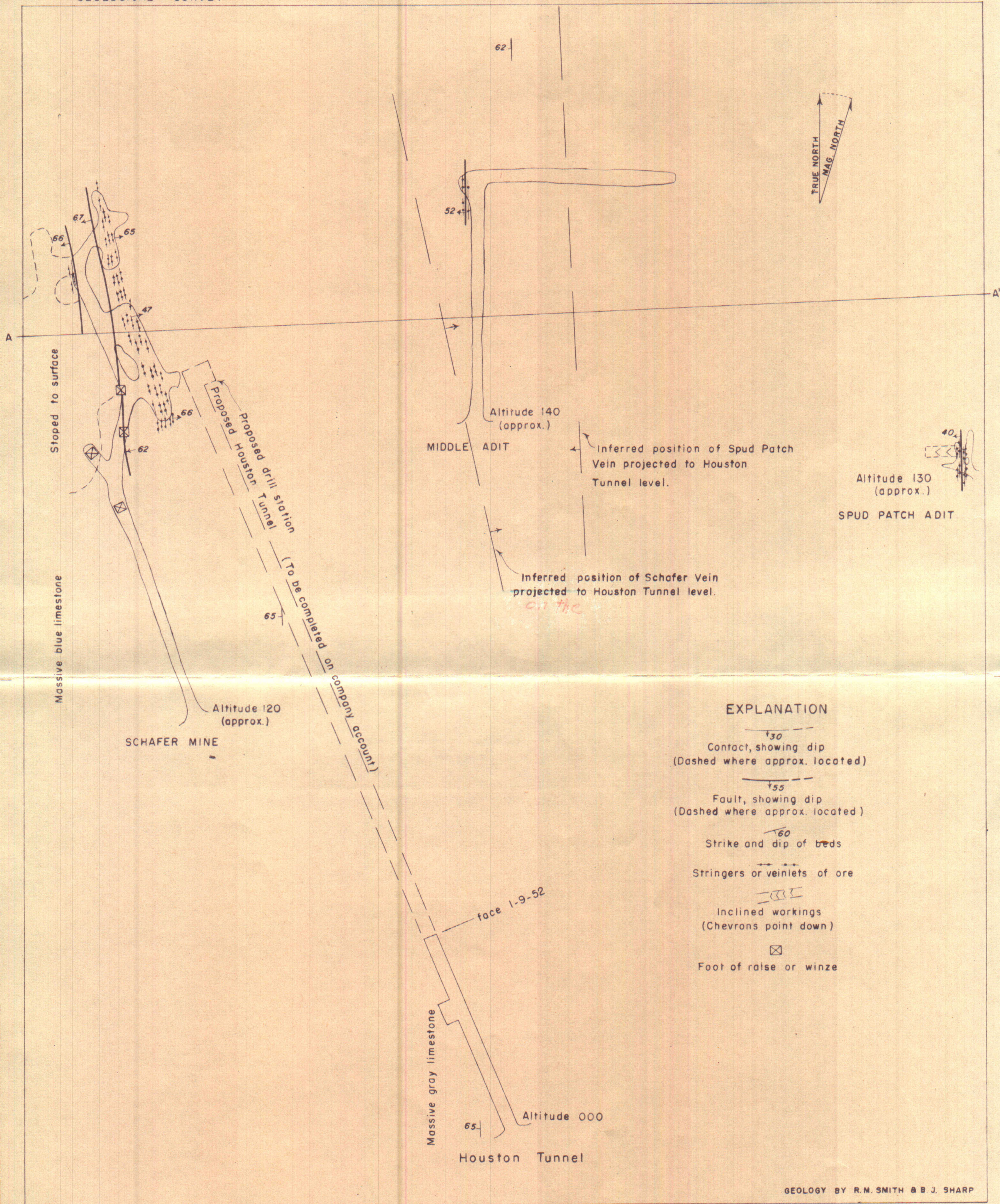


FIG. 3

SECTION ALONG LINE A-A'  
SCHAFFER MINE, CHERRY CREEK MINING DISTRICT  
WHITE PINE COUNTY, NEVADA





EXPLANATION

- Contact, showing dip  
(Dashed where approx. located)
- Fault, showing dip  
(Dashed where approx. located)
- Strike and dip of beds
- Stringers or veinlets of ore
- Inclined workings  
(Chevrons point down)
- Foot of raise or winze

FIG. 2

GEOLOGIC SKETCH MAP OF SCHAFFER MINE  
CHERRY CREEK MINING DISTRICT  
WHITE PINE COUNTY, NEVADA

0 40 80 FEET  
Scale

GEOLOGY BY R. M. SMITH & B. J. SHARP



DMA Docket 2137, Tungsten, Schafer Mine, Cherry Creek

Mining District, White Pine County, Nevada

### GEOLOGY

The rocks in the area are limestone and shaly limestone of probable Cambrian  $\checkmark$  age which are steeply tilted. They are cut by west-dipping

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$\checkmark$  Klepper, M. R., Tungsten deposits of the Cherry Creek District, White Pine County, Nevada: Strategic Minerals Investigations, Supplementary Report, pp. 9-10, 1943.

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bedding faults and by an east dipping calcite stringer zone. The principal ore deposit is associated with the stringer zone.

The limestone in the mine area is massive and is commonly mottled blue-black; a thin bed of limestone containing shaly partings crops out about 100 feet west of the portal.

The sedimentary rocks strike north and dip  $40^{\circ}$ - $65^{\circ}$  W. They are cut by bedding faults of small displacement and by a shear zone that strikes north and dips  $45^{\circ}$ - $70^{\circ}$  E. The bedding faults commonly contain quartz and calcite veins in a highly leached zone as much as 10 feet wide. The shear zone is filled with narrow calcite stringers and a few quartz stringers in a zone about 8 feet wide. This zone contains most of the ore.

### ORE DEPOSITS

The only known ore body on the property is now being mined in the Schafer mine (figs. 2 and 3). The ore occurs in a zone of parallel calcite stringers which strike north and dip  $45^{\circ}$ - $70^{\circ}$  E. The zone is exposed for 90 feet along the strike, and is as much as 8 feet wide; it has been mined from the surface 50 feet down dip to the existing level. The rake of the ore shoot is not known.



The ore mineral is scheelite which, at the Schafer mine, is associated with the calcite stringers. Production has been about 1600 tons of ore averaging 0.81 percent  $WO_3$ . The stringer zone is cut by bedding faults that also contain scheelite. The width of the stringer zone is greater at fault intersections, and irregular masses of coarsely crystalline calcite containing small amounts of scheelite occur in the drag area near the faults. In addition to scheelite, a little stibnite and oxidized silver minerals are reported to occur in the area.

At the Spud-patch adit (figs. 2 and 3), scheelite is associated with quartz veins in a leached zone that follows a bedding fault. The zone is as much as 10 feet wide. Scheelite masses weighing 3 to 6 pounds have been sorted from the broken ore but the average grade of the material is too low to mine. Surface exposures above this adit contain only traces of scheelite.

#### ORE RESERVES

There is no blocked out ore at the Schafer mine. The indicated reserves immediately below the existing workings, in the triangular block 90 feet long, 4 feet wide, and extending 30 feet down the dip, are 450 tons that may average 0.5 percent  $WO_3$ .

Judging from the experience of miners in the district, it is inferred that the ore shoot in the Schafer mine may continue to considerably greater depths although it is likely to be lenticular and erratically mineralized. The inferred reserves in the block extending 100 feet below the present level and containing the downward extension of the ore shoot are, in addition to the indicated reserves, 2000 tons containing 0.5 percent  $WO_3$ .



Showings at other workings on the property do not appear promising, and no material of commercial grade is now exposed in them.

#### PROPOSED EXPLORATION

The applicant has proposed that the downward continuation of the ore shoot in the Schafer mine be explored as follows: (1), drill two 100-foot diamond drill holes within the ore shoot to determine the downward extent of the ore, (2), drive a 400-foot crosscut to intersect the vein at a depth of 100 feet below the existing level, then (3), drift 400 feet along the vein. He has also proposed to drift 100 feet north on the Spud-patch vein from the existing adit. He has estimated the cost of the proposed work to be \$31,313. The Coordinating Committee referred the application to the field for examination, and asked that particular attention be given to the applicants proposals.

The examining engineers and geologists believe that diamond drilling will not be a satisfactory method of exploring this deposit, because the distribution of scheelite is extremely erratic and the holes may miss even a large ore shoot. Holes drilled down dip of the vein might not yield significant information. They also believe that the proposed crosscut is a less effective, and a more costly method of exploring the vein at depth, than a winze on the vein. The continuity and grade of ore down the dip should be determined before extensive work, such as the proposed crosscut, is risked.

Exploration on the Spud-patch vein could best be planned after its intersection with the more productive Schafer vein has been exposed. The showings in the adit do not warrant further investigation at this time.



Accordingly, it was suggested to the applicant that a winze, sunk from the existing workings, would be a more practical method of exploring the ore shoot at depth. The applicant believes his original proposal to be preferable to the one suggested, and has advised the Field Team (phone Dec. 11, 1951, Williams to A. C. Johnson) that he does not wish to change his program.

#### SUMMARY AND CONCLUSIONS

The tungsten deposit at the Schafer Mine is in a calcite stringer zone which cuts limestone of Cambrian age. The ore shoot is exposed for 90 feet along the strike and is as much as 8 feet wide; it has been mined down dip for about 50 feet. Production to date has been 1600 tons of scheelite ore averaging 0.81 percent  $WO_3$ .

The stringer zone is displaced by pre-mineral bedding faults that also contain scheelite, but the material is too low in grade to be mined.

It is concluded that the ore shoot in the Schafer Mine may continue to considerably greater depths although it is likely to be lenticular and erratically mineralized. Indicated ore reserves immediately below the existing level are estimated to be 450 tons averaging 0.5 percent  $WO_3$ ; inferred reserves in the block containing the downward extension of the ore shoot and extending 100 feet below the existing level are estimated to be 2,000 tons averaging 0.5 percent  $WO_3$ .

The examining engineers and geologists believe that exploration of the Schafer mine may be justified, although the diamond drilling proposed by the applicant is not good exploration practice and the crosscut is too costly.



It was suggested to the applicant that a 100-foot winze would be a more practical method of exploring the deposit at depth. The applicant does not, however, wish to change his original program.

As the applicant's proposed exploratory program is believed to be unsuited to the exploration of the Schafer mine ore bodies, it is recommended that the application be denied.



DMA Docket 2137, Tungsten, Schafer Mine, Cherry Creek

Mining District, White Pine County, Nevada

GEOLOGY

*See Revised Report*

The rocks in the area are limestone of probable Cambrian <sup>1/</sup> age which

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<sup>1/</sup> Klepper, M. R., Tungsten Deposits of the Cherry Creek District, White Pine County, Nevada: Strategic Minerals Investigations, Supplementary Report, pp. 9-10, 1943.

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are steeply tilted. They are cut by west-dipping bedding faults and by an east dipping calcite stringer zone. The principal ore deposit is associated with the stringer zone.

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ORE DEPOSITS

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At the Spud-patch adit (figs. 2 and 3), scheelite is associated with quartz veins in leached zones that follow bedding faults. The zones are as much as 10 feet wide. Scheelite masses weighing 3 to 6 pounds have been sorted from the broken ore but the average grade of the material is too low to mine. Surface exposures above this adit are weakly mineralized.

#### ORE RESERVES

Except for indicated reserves of about 500 tons below the Schafer mine workings, there is no blocked out ore.

Judging from the history of the district, it is inferred that the ore shoot in the Schafer mine may continue to greater depths although it is likely to be lenticular and erratically mineralized. The inferred reserves in the block extending 100 feet below the present level and containing the downward extension of the ore shoot, are 2000 tons containing 0.5 percent  $WO_3$ . No reserves are inferred for other workings on the property.

#### PROPOSED EXPLORATION

The applicant has proposed that the downward continuation of the ore shoot in the Schafer mine be explored by two 100-foot diamond drill holes



started within the ore shoot, by a 400-foot crosscut, and by a drift 400 feet long at a depth of 100 feet below the existing level. He has also proposed to drift 100 feet north on the Spud-patch vein from the existing adit. He has estimated the cost of the proposed work to be \$31,313. The Coordinating Committee referred the application to the field for examination and asked that particular attention be given to the applicants proposals.

The examining engineers and geologists believe that diamond drilling will not be<sup>a</sup>/satisfactory method of exploring this deposit, because the distribution of scheelite is extremely erratic. They also believe that the proposed crosscut is a less effective, and a more costly method of exploring the vein at depth, than a winze on the vein. In addition, they believe that exploration on the Spud-patch vein could best be planned after its intersection with the Schafer vein has been exposed.

Accordingly, it was suggested to the applicant that a winze, sunk from the existing workings, would be a more practical method of exploring the ore shoot at depth.

The applicant believes his original proposal to be superior to the one suggested and has advised the Field Team (phone Dec. 11, 1951, Williams to A. C. Johnson) that he does not wish to change his program.

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The stringer zone is displaced by premineral bedding faults that also contain scheelite, but have an average grade too low to mine.

It is concluded that the ore shoot in the Schafer Mine may continue to greater depths although it is likely to be lenticular and erratically mineralized. Indicated ore reserves immediately below the existing level are estimated to be 500 tons averaging 0.5 percent  $WO_3$ ; inferred reserves in the block containing the downward extension of the ore shoot on its rake, and extending 100 feet below the existing level are estimated to be 2,000 tons averaging 0.5 percent  $WO_3$ . No reserves are inferred for other workings on the property.

The applicant has proposed to explore the Schafer ore shoot at depth by diamond drilling along the dip of the vein, by a 400-foot crosscut, and by a drift 400 feet long at a depth of 100 feet below the existing adit level. He has also proposed to drift 100 feet north on the Spud-patch vein.

The examining engineers and geologists believe that exploration at the Schafer mine is justified, although the diamond drilling proposed by the applicant does not conform to good practice and the crosscut is too costly. It was suggested to the applicant that a 100-foot winze would be a more practical method of exploring the deposit at depth. The applicant does not, however, wish to change his program from the one he originally proposed.

As the proposed exploration is believed to be unsuited to the conditions, it is recommended that the application be denied.



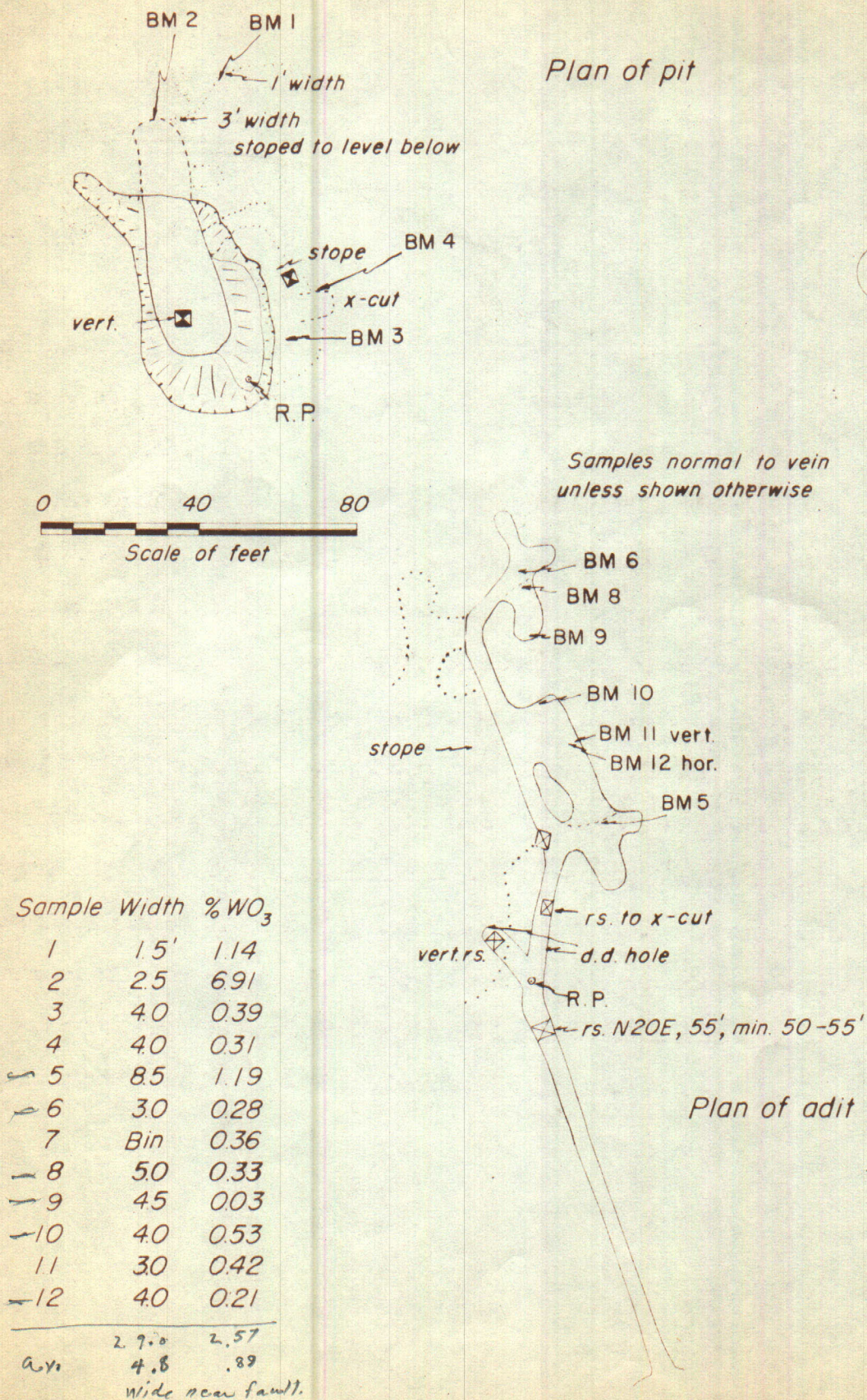


Figure 1- Assay map, Schafer tungsten mine, White Pine County, Nevada



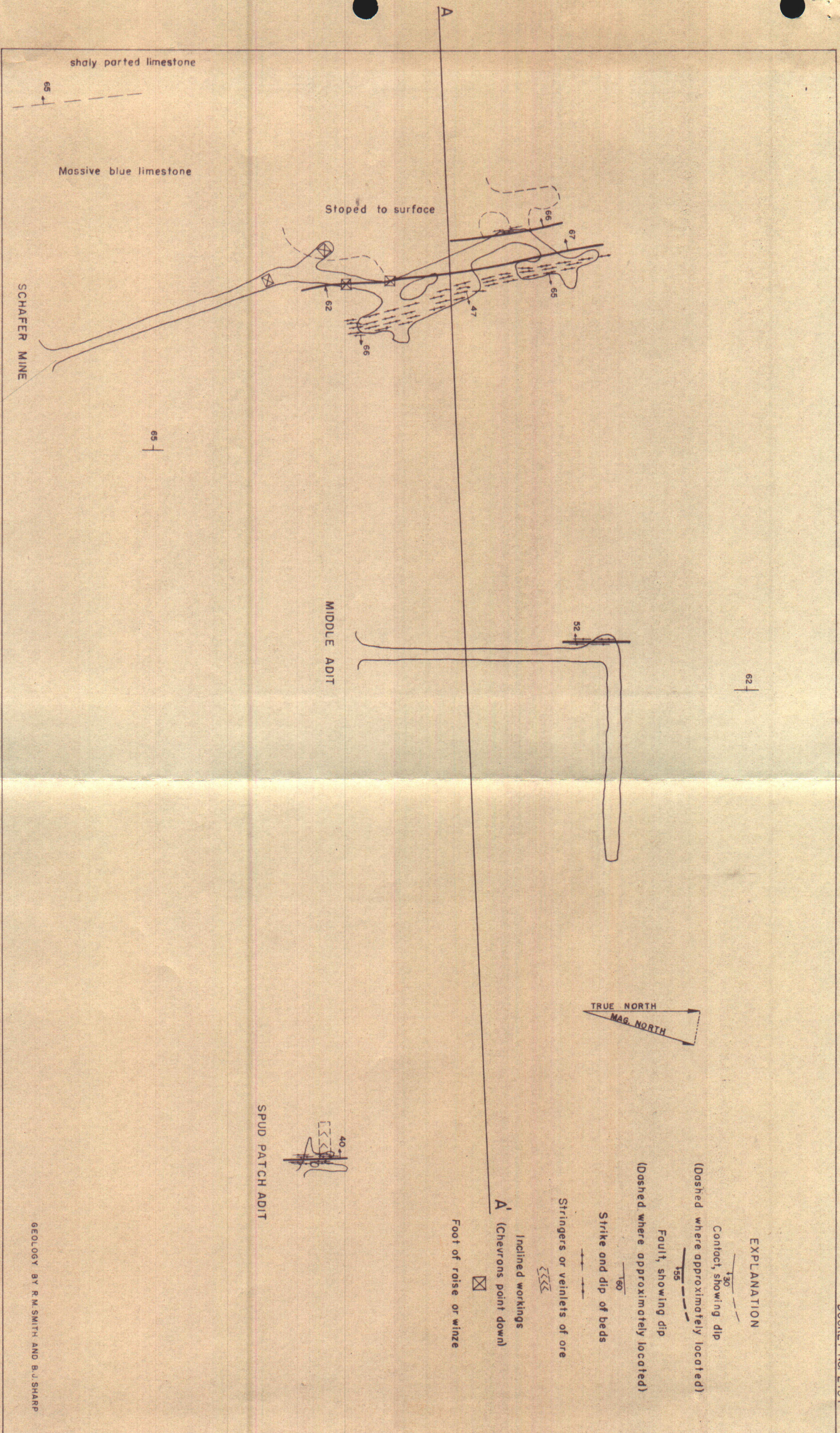


FIG. 2

GEOLOGIC SKETCH MAP OF SCHAFER MINE  
CHERRY CREEK MINING DISTRICT  
WHITE PINE COUNTY, NEVADA



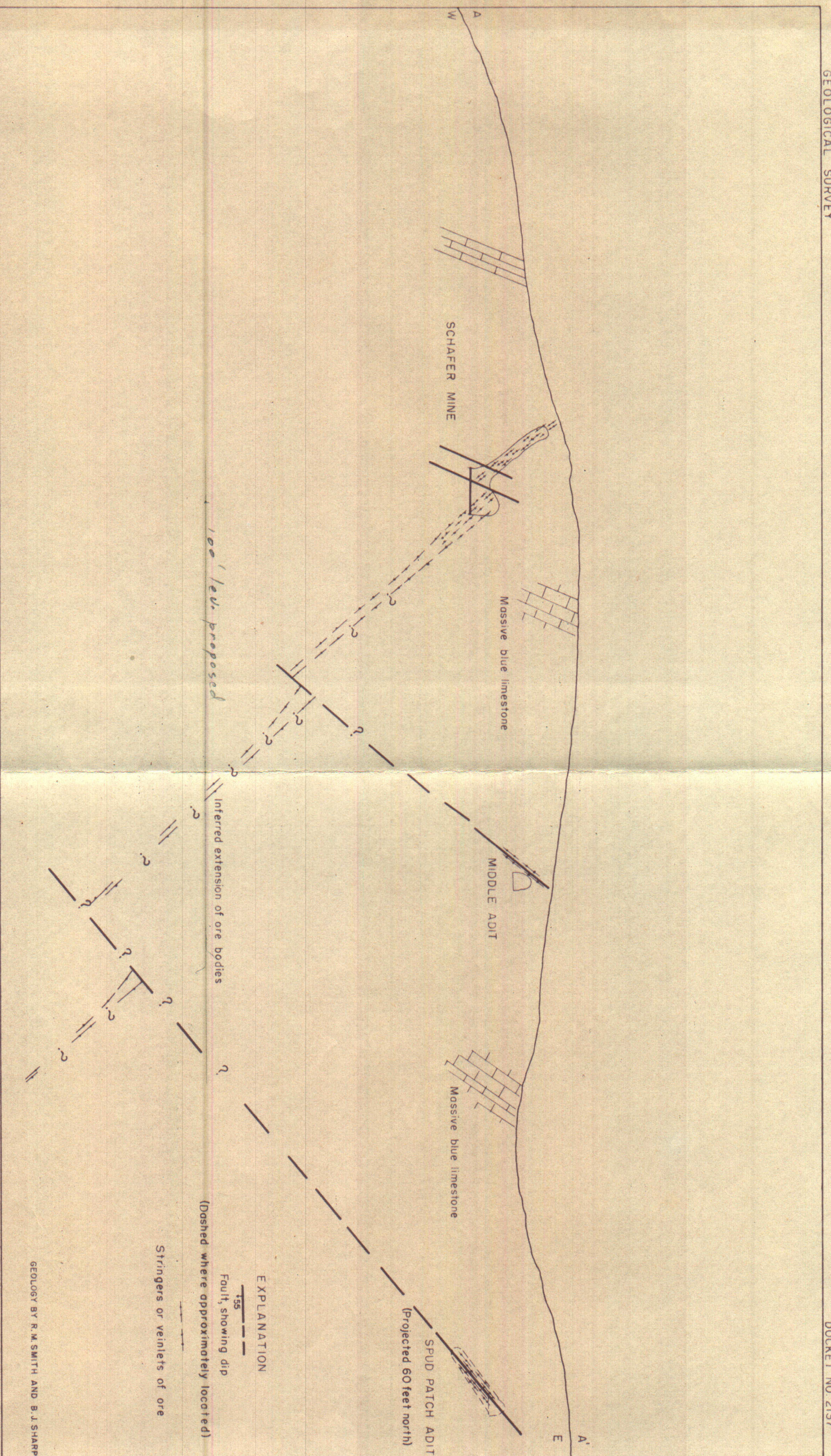


FIG. 3

SECTION ALONG LINE A-A'

SCHAFER MINE, CHERRY CREEK MINING DISTRICT

WHITE PINE COUNTY, NEVADA



1070 0019

325  
Item 4/8

Room 208, 222 So. West Temple  
Salt Lake City 1, Utah  
21 August 1952

Memorandum

To: E. H. Bailey

From: R. M. Smith

Subject: DMEA-2137, IDN-E-281 (tungsten) Schafer Mine, White Pine County, Nevada.

An inspection of the Schafer Mine was made August 15, 1952, and a geologic map (fig. 4) of the workings was prepared to supplement the final report by L. F. Muller, U. S. Bureau of Mines, dated July 22, 1952.

An examination of the core from the three diamond drill holes (which were drilled on government contract) was also made, and concur with the conclusions of the engineer—that no ore was encountered in any of the holes. Small amounts of scheelite occur in calcite stringers, but in such small specks that positive identification by ultraviolet light is not, in every case, possible. This probably accounts for minor discrepancies in the reports by the Bureau of Mines and the operator.

cc: A. C. Johnson  
R. J. Roberts



Room 208, 222 So. West Temple  
Salt Lake City 1, Utah  
14 February 1952

Memorandum

To: A. C. Johnson  
From: R. M. Smith  
Subject: ENR 2137, Schafer Mine, White Pine County, Nevada - Revised Application, Jan. 10, 1952.

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A. C. Johnson

14 February 1952

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Project No. 1. From a drill station cut at 340 feet in the Houston Tunnel (figs. 2 and 3), drill three horizontal diamond drill holes, each 200 feet long, one east, one N.  $45^{\circ}$  E., and one E.  $45^{\circ}$  E. to cut the Spudpatch vein; and also drill two horizontal holes each 100 feet long, one west and one N.  $45^{\circ}$  W. to test the gray limestone west of the tunnel. If no ore is encountered in any of the holes, the program should be terminated.

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A. C. Johnson



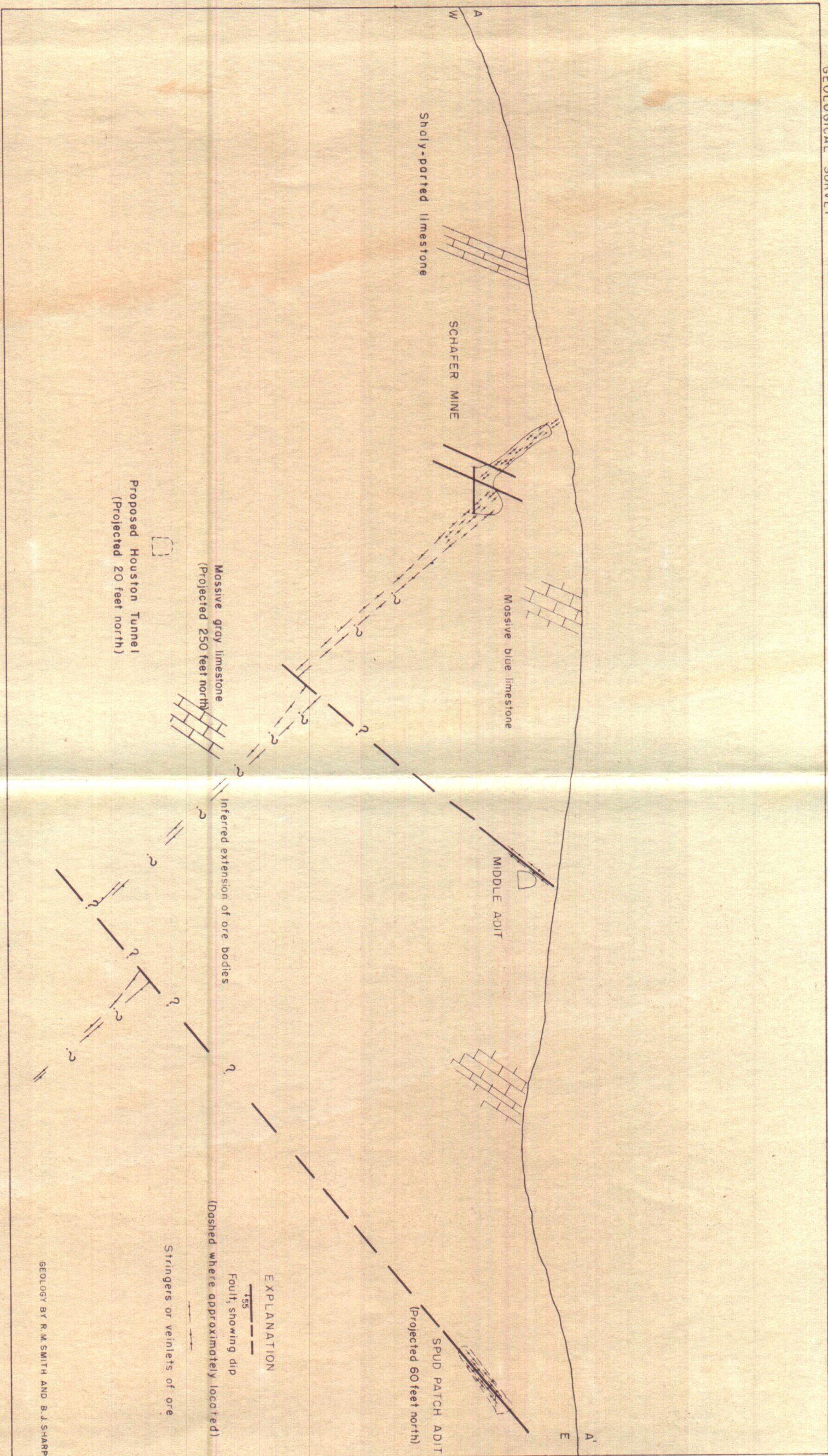


FIG. 3

SECTION ALONG LINE A-A'  
SCHAFER MINE, CHERRY CREEK MINING DISTRICT  
WHITE PINE COUNTY, NEVADA



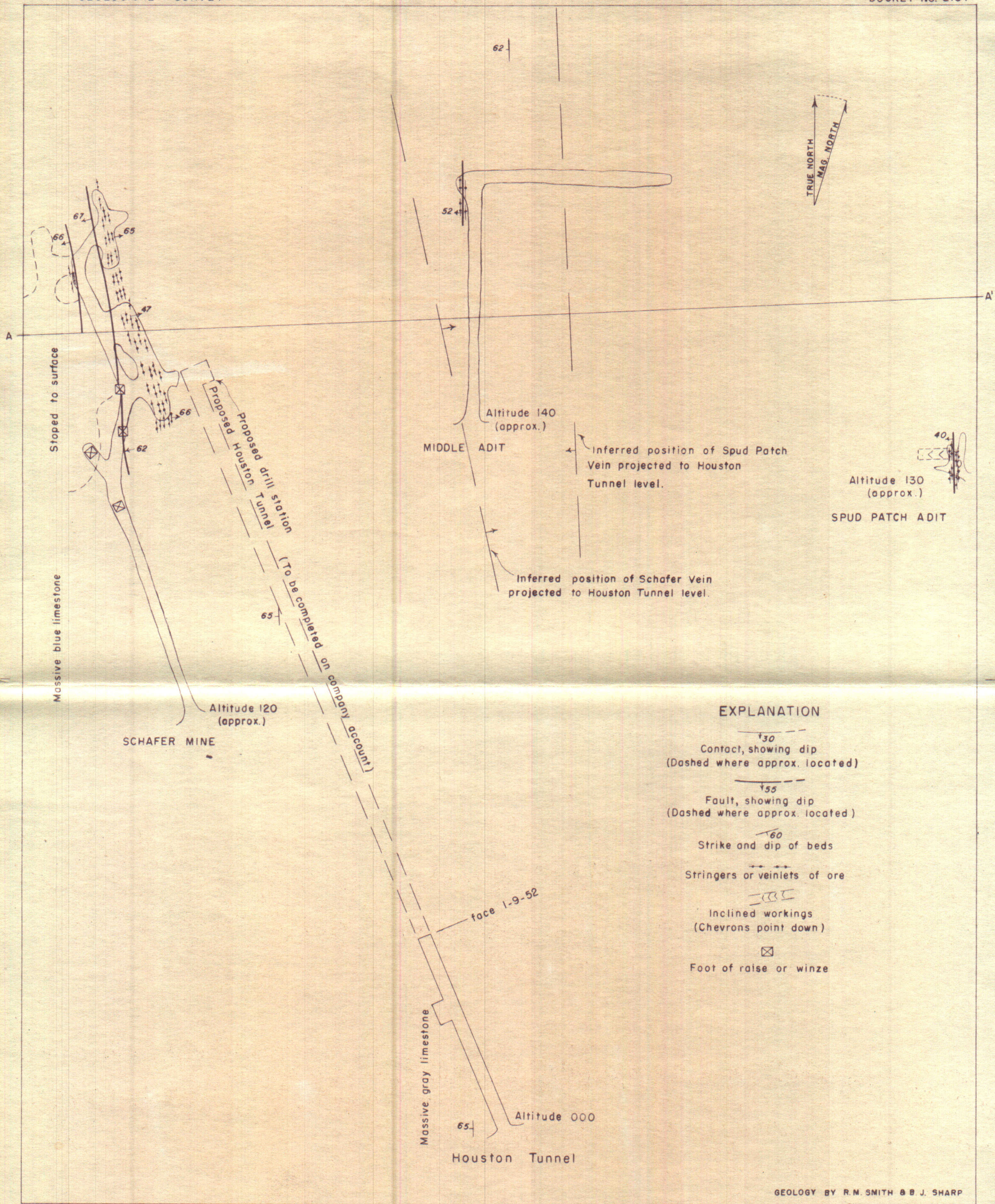


FIG. 2

GEOLOGIC SKETCH MAP OF SCHAFER MINE  
CHERRY CREEK MINING DISTRICT  
WHITE PINE COUNTY, NEVADA

0 40 80 FEET  
Scale

GEOLOGY BY R.M. SMITH & J. SHARP



January 10, 1952

(325)

Item 48

From: D. E. Anderson and S. L. Bida  
Mining Engineers  
Boise, Idaho

To: Baltimore Camas Mines, Inc.  
601 Eastman Bldg.  
Boise, Idaho

Attention: G. P. Williams, Pres.

Subject: Supplementary report on geology and proposed development of the SCHAFFER MINE.

1. Remapping and further geologic study regarding factors controlling ore deposition at the SCHAFFER has been carried out during the past six weeks and certain conclusions made which have led to recommendation of the development program presently underway at this property.

2. From our own observations as well as from recent discussion with Bureau of Mines geologists we conclude that certain limestone beds are more adaptable for tungsten ore replacement than others and set out to determine whether or not more favorable beds than those so far mined might be present on this property. Along this line we have found that there does exist, to the east and dipping under the present upper level (and extending eastward beyond the "Spud Patch" vein) a soft, gray-white limestone bed of a highly replaceable type. The "Spud Patch" and several less pronounced west dipping veins to the west of the "Spud Patch" all occur in this lime bed, while the SCHAFFER vein where the recent mining was done occurs in the calcitic sections of a hard, blue lime which overlies the softer, more replaceable bed. Further, this SCHAFFER vein dips eastward (opposite to all other ore structures), and its downward projection would contact the favorable, white lime formation some sixty feet (dip distance) below the present upper level. Thus, it is our opinion that in all probability the major ore bodies of the property will be found in the softer, underlying formation below this point of contact and also will, below this contact, assume the west dip common to the other veins of the area.

3. The new "Houston" heading shown on accompanying maps has at this writing been advanced 120 feet northward and a 10 x 12 x 7 underground room has been cut to accommodate a 400 gallon water storage tank and provide tool storage. This heading is designed to enter the ore zone some 340 feet from the portal and will give 121 feet of vertical backs below the old upper level. This new drift is cross-cutting the formation at a slight angle (from footwall toward hanging wall) and at a 340 foot length will be some 50 feet east of the contact and opposite the ore shot exposed above. Thus, if this ore shoot has changed dip as assumed, we will need only to cross-cut a short distance west to enter the ore body, or should the east dip continue as above we will in all probability cut the ore body in the main drift.



Further, from this position all other veins exposed east of The SCHAFER vein can readily be explored both by core drilling and cross-cutting from this level and thence developed at a depth sufficient to allow sustained mining from any ore shoots thus encountered.

Respectfully,

s/ D. E. Anderson  
D. E. Anderson

s/ S. L. Bida  
S. L. Bida



Baltimore Camas Mines, Inc.  
601 Eastman Bldg.  
Boise, Idaho

1. (a) The real property involved in this project is the SCHAFFER Mine consisting of the following unpatented lode mining claims: HAPPY; HAPPY No. 1; EAST AND WEST FISHER; SOUTH SHOESTRING; WEST SHOESTRING. These claims, all adjoining, are located as follows: T. 24 N., R. 62 E., in the Cherry Creek Mining District of White Pine County, Nevada.

(b) Copy of purchase contract and transfer agreement was submitted previously and is on file under DMA Docket No. 2137.

(c) Exploration will be specifically on HAPPY and HAPPY No. 1 claims.

There are no loans or encumbrances against the property and six (6) signed copies of Landlord's Subordination Agreement are on file under DMA Docket No. 2137.

2. (a) Tungsten (Scheelite)

(b) Complete engineering reports and maps were previously submitted and are on file under DMA Docket No. 2137. A short supplementary report and geologic plan and cross-section detailing new and proposed new development is included with this application.

3. (a) This company is presently driving a new heading (called the "Houston" Tunnel) as indicated on the attached map, this heading to be extended a distance of 340 feet on this company's own initiative, this distance having been calculated to place the drift face in the vicinity of the ore shoot already opened up on the SCHAFFER vein in the upper level. From this new Houston Tunnel the following additional exploration is proposed: (1) From stations on either side of the main haulage at 340 foot station core drill holes as follows: Due west, 65 feet, flat; N40 W, 90 feet, flat; N80E, 300 feet, flat; N11E, 210 feet, flat: (2) Extend main Houston (lower level) drift 100 feet northward: (3) Cross-cut 50 feet west from the 340 foot station to blue limestone contact: (4) Cross-cut 320 feet east from 425 foot station in main Houston haulage to cross-cut "Spud Patch" vein and all intermediate veins: (5) Drift 200 feet on "Spud Patch" vein in direction dictated by drilling and cross-cutting: (6) Carry out an additional 500 feet of core drilling from and to vantage points indicated by the foregoing exploration.

Extension of main drift to proceed simultaneously with core drilling, then west cross-cut will be driven while core drilling proceeds to east.

Total cost of project will be \$27,424.16

(b) This project can be commenced immediately after approval and completed within three and one half months after that date.



Baltimore Camas Mines, Inc.  
601 Eastman Bldg.  
Boise, Idaho

4. See attached maps—Plan and Cross-section
5. 1—12 x 14 compressor building (wood)  
1—10 x 12 tool house and workshop (wood)  
1—10 x 12 slusher house (wood)  
1—40 ton mine ore bin at upper level
6. No additional major facilities required for this project.
7. (a) None

|     |                                  |        |           |
|-----|----------------------------------|--------|-----------|
| (b) | 1340 ft. 16# rail @ 150.00/ton   | 402.00 |           |
|     | 670 ft. 3" air pipe @ 0.40/ft.   | 268.00 |           |
|     | 670 ft. 1" water pipe @ 0.20 ft. | 134.00 |           |
|     | 670 ft. vent tube @ 1.00/ft.     | 670.00 |           |
|     | <u>Total</u>                     |        | \$1474.00 |

| (c) | <u>Item</u>  | <u>Unit cost</u> | <u>Monthly Rent</u> | <u>Total</u> |
|-----|--|------------------|---------------------|--------------|
|     | 1—315 cu. ft. I. R. compressor with 115 hp Buda Diesel power unit and 600 ft. air hose | \$9,000.00       | 150.00              | \$575.00     |
|     | 2—Lyners, G. D. & Cleveland with column and air bar 750                                | 1,500.00         | 25.00               | 87.50        |
|     | 1—Sullivan Mucker—3 mos.   | 2,400.00         | 40.00               | 120.00       |
|     | 1—Chev. tank truck, 400 gal.   | 950.00           | 16.00               | 56.00        |
|     | 1—60 hp gas dragline slusher with cable and 2 buckets                                  | 900.00           | 15.00               | 52.50        |
|     | 1—4 wheel drive Dodge truck  | 600.00           | 10.00               | 35.00        |
|     | 1—1950 Chevrolet pickup  | 1,500.00         | 25.00               | 87.50        |
|     | Hoses, cars, shop equip.   | 900.00           | 15.00               | 52.50        |
|     | <u>Total rental or depreciation</u>  |                  |                     | \$1,066.00   |

8. The following estimates of labor costs are based on actual cost of the drift now being driven by this company.

Headings will be driven on a two shift per day basis (25 days per month).



Baltimore Canas Mines, Inc.  
601 Eastman Bldg.  
Boise, Idaho

Day shift as follows:

|                                       |              |         |
|---------------------------------------|--------------|---------|
| 2 miners @ 13.80                      | 27.60        |         |
| 1 slusher operator @ 13.80            | 13.80        |         |
| 1 rpr. and water haul man<br>at 13.00 | 13.00        |         |
| 1 foreman @ 14.00                     | <u>14.00</u> |         |
| Total day shift labor                 |              | \$68.40 |

Night shift as follows:

|                            |              |         |
|----------------------------|--------------|---------|
| 2 miners @ 13.80           | 27.60        |         |
| 1 slusher operator @ 13.80 | 13.80        |         |
| 1 foreman @ 14.00          | <u>14.00</u> |         |
| Total night shift labor    |              | \$55.40 |

Total labor cost both shifts \$123.80

Headings will advance at a rate of 8 ft. per  
day with total of 670 ft. to be completed in 82  
days or total project in  $3\frac{1}{2}$  months.

|   |                 |
|---|-----------------|
| 82 days @ 123.80/day                    | \$10,151.60     |
| Add 10% for comp., o.t., soc. sec, etc. | <u>1,015.16</u> |

Total labor cost for project \$11,166.76

9. Cost of expendable materials estimated as follows:

| <u>Item</u>  | <u>Per foot cost</u> | <u>Total (670 ft.)</u> |
|--|----------------------|------------------------|
| Powder   | 3.12                 |                        |
| Caps   | 0.20                 |                        |
| Fuse   | 0.40                 |                        |
| Bits   | 0.25                 |                        |
| Steel  | 0.50                 |                        |
| Fuel and lubricants                                  | 3.00                 |                        |
| Machinery upkeep and rpr.                            | 0.75                 |                        |
| Misc.  | <u>0.50</u>          |                        |
|  | 6.72                 | \$5,842.40             |
| Engineering (part time) $3\frac{1}{2}$ mos. @ 250.00 |                      | 875.00                 |
| Accounting, $3\frac{1}{2}$ mos. @ 150.00/mo.         |                      | 525.00                 |
| Assaying—50 samples @ 3.00                           |                      | 150.00                 |
| Core drilling (contract basis)                       |                      |                        |
| 1165 ft. @ 5.00/ft.                                  | \$5,825.00           |                        |
| Cut two drill stations                               | <u>500.00</u>        | 6,325.00               |
| Total drilling                                       |                      |                        |
| Total all items                                      |                      | <u>\$13,717.40</u>     |



Baltimore Camas Mines, Inc.  
601 Eastman Bldg.  
Boise, Idaho

10. (a) \$6,856.04 which represents 25% of the total cost and of which \$1,066.00 will be paid by equipment rentals or depreciation.

(b) Yes

11. The foregoing project is designed to tap the scheelite ore bodies at upwards of 120 feet vertical depth below the present exposures and to thoroughly explore the favorable limestone bed in which the new heading is being driven. This company mined more than 250 units of WO<sub>3</sub> from the upper level (a shallow adit) during November and the ore zone is shown to be continuing downward strongly from that level and projecting toward the favorable lime bed into which the exploration is now being directed.



1070 0019

325

Item 48

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
OSCAR L. CHAPMAN, SECRETARY

DEFENSE MINERALS ADMINISTRATION

FINAL REPORT

SCRAPER MINE, CONTRACT ID#-E281

White Pine County, Nev.

L. F. Muller, Mining Engineer  
U. S. Bureau of Mines

July 22, 1952



## FINAL REPORT

SCHAFFER MINE, CONTRACT IDA-2281  
White Pine County, Nev.

The Schaffer mine, Contract Ida-2281, was inspected on July 8, 1952 by an engineer of the Bureau of Mines.

Stage I of the contract, consisting of 810 feet of core drilling, has been completed. Core was inspected and only traces of scheelite were observed; at 283 feet in hole 1, and at 282 feet and 295 feet in hole 3. These traces occurred in zones having thin calcite stringers, which association closely resembled that of the ore mined from the upper level stopes. It might be assumed that the zones cut are the downward extensions of the upper ore bearing material.

Although these findings by core drilling are not conclusive, the fact that mere traces of mineral were contacted seems to indicate either the zone (1) is not strongly mineralized, or (2) was mineralized in an area not intersected by drill holes.

Contract exhibit "A", Stage II, states: "(1) Drive, if ore is found in D.D. Hole No. 1 in the Spud Patch and Silver veins, approximately 500 feet of crosscut following the hole to the ore and then drift 100 feet on each vein. If ore is intersected only in the Silver vein, then crosscut only to that vein, a distance of approximately 150 feet, and drift 100 feet on the vein.

"If no ore is found in either hole No. 1 or No. 3 but is found in hole No. 2, drive along the hole for approximately 210 feet to the ore and then drift for 100 feet on the ore.



"If ore is found only in hole No. 3 in one or both of the veins, crosscut to the ore and then drift for 100 feet on the one or both ore exposures."

Since no ore was encountered in any of the three holes, it is recommended that Stage II of Contract Idm-E281 be abandoned, and the exploration program on the Schafer mine terminated.

The operators, in a conversation with Mr. A. C. Johnson, Chief, Mining Division, indicated that they wished to abandon the contract. However, at the time of last inspection, July 8, they wished to hold the contract in abeyance until further non-contract work by the operators, to consist of either crosscutting along hole No. 2 or core drilling to the north of hole No. 2, could be completed. It is recommended that no delay in concluding this contract be allowed.

All production from this property for 10 years hence is subject to royalty payments to the Government, so termination at this time will not endanger repayment. Stage II was to follow up the core drilling of Stage I by crosscuts and drifts if ore was found by drilling. Any further Government participation exploration would require new application with a program influenced by any significant discovery made by the operators on a non-contract basis.

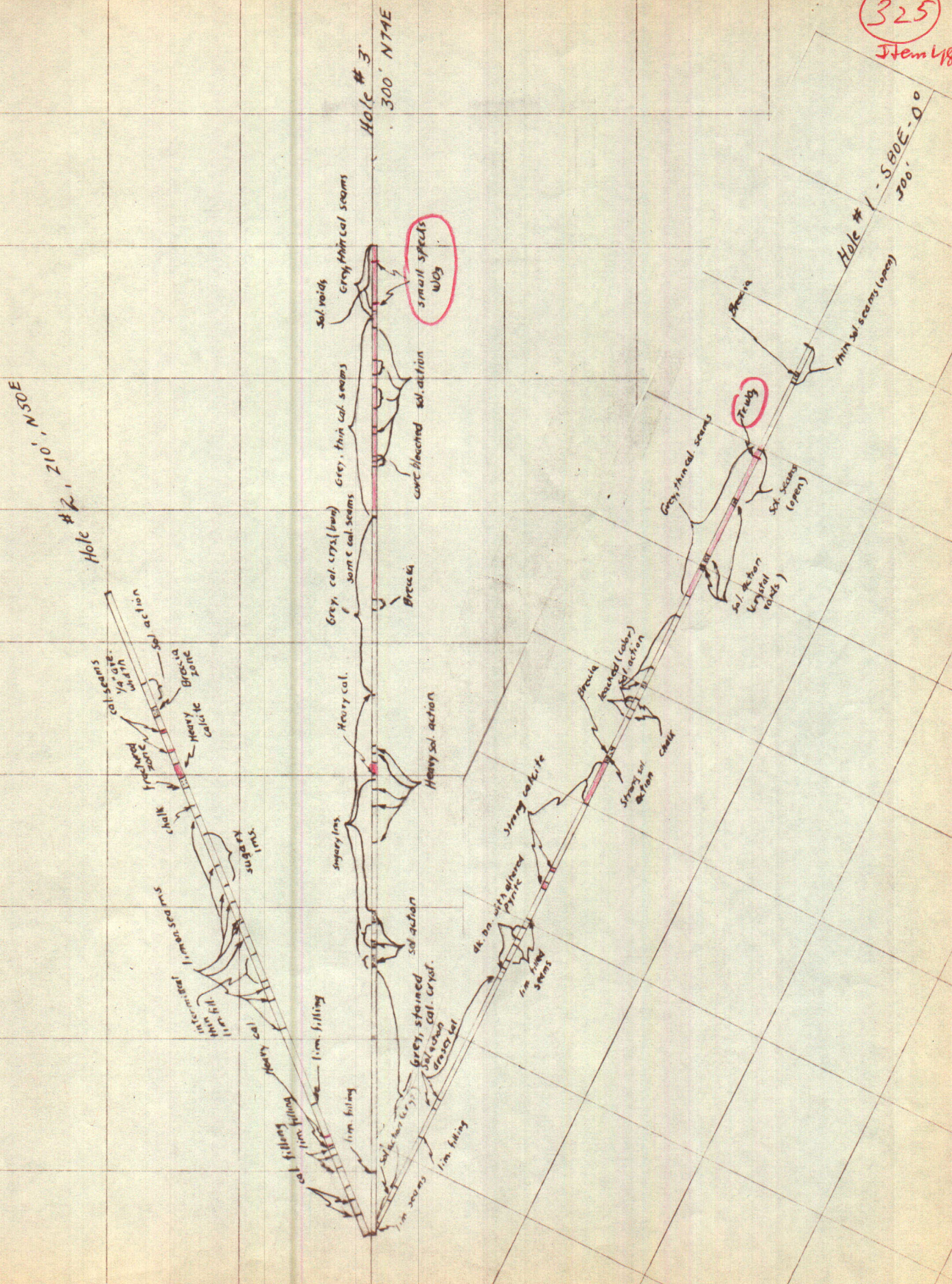
A review of costs as reported on MF-104 forms for the months of May and June show that Stage I, 810 feet of core drilling, was completed at a cost of \$4,683.64, or \$5.78 per foot overall. Estimated costs of this stage were \$6,509.75, or \$8.04 per foot overall.

No permanent installations were made or equipment purchased for which a resale value could be established.



USBM.

Item 48





1070 0019

BALTIMORE CARAS MINES, INC.  
ELY, NEVADA

July 11, 1952

325

From: S. L. Bida, E.M.  
Baltimore Caras Mines, Inc.  
Ely, Nevada

To: A. C. Johnson, Chief  
Mining Division, Region III  
U. S. Bureau of Mines  
Reno, Nevada

Subject: Progress report on Schafer core drilling contract - Idm-E 281.

1. Preparation, cutting drill station in east stub drift of Houston adit, for core drilling was commenced in late April. Negotiations to contract 810 feet of core drilling were begun and Nichols and Thompson Core Drilling Co. of Boise, Idaho began the work on May 18, 1952. A total of 275 feet on hole No. 1 was drilled by the end of the month.
2. Direction and inclination of the hole core shown in accompanying log and formation was white limestone from 0 to 160 feet when the blue limestone contact was encountered. Weak tungsten mineralization was found at 92 feet to 104 feet, at 155 feet to 160 feet and at 175 feet to 177 feet. Core recovery was good except where vugs or cavities were encountered and no unusual difficulties occurred.

Drilling will continue on a two shift basis until contract requirements are complete. It is estimated that this stage will be completed prior to mid-June.

Respectfully,

*S. L. Bida*  
S. L. Bida

SLE/rm

encl.



July 11, 1952

(325)

From: S. L. Bida, E.M.  
Baltimore Camas Mines, Inc.  
Ely, Nevada

To: A. C. Johnson, Chief  
Mining Division, Region III  
Bureau of Mines  
Reno, Nevada

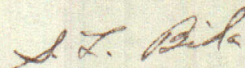
Subject: Final progress report on core drilling at Schafer Mine -Contract Idm.-E 281.

1. The Schafer core drilling contract was completed on June 14, 1952 with completion of 3 holes aggregating 810 feet of drilling. Complete maps and drill logs are submitted with this enclosure. Drilling was carried out on a two shift basis and the final 534 feet was completed during June with no difficulties encountered by the drillers. Core recovery was satisfactory other than in spots where vugs were encountered.
2. Overall results of this drilling was as follows: (a) No commercial ore was encountered in any of the holes. All core was lamped and traces of tungsten were detected on at least two veins with the most pronounced showing on the first major vein zone crossed in each hole; (b) A definite vein structure corresponding closely in strike and located in about the correct position to be the downward projection of the vein in the upper level was established by cross-cutting the formation with the 3 holes; (c) A second major break and some minor breaks were cut farther east but mineralization was notably weaker than on the first (west) vein; (d) The contact between white (west) and blue (easterly) limestone was cut in all 3 holes and the irregularity of this contact indicates either pre-vein faulting across the structure or the structure flattening. Veins appear to follow a fairly regular strike (northerly-southerly). No major cross-break (east-west) indicative of a mineralizer was encountered.



3. Since no commercial ore bodies were encountered by this core drilling, the obvious conclusion must be that the source of the upper level ore bodies lies farther northward and that any downward continuation of these ore bodies would also lie in that direction. Thus, the only avenues of further exploration via the Houston Level would be extension of the stub drift N-E along the line of D. D. hole #2 to the point where the first major vein was encountered thru drift northward along this vein, or (and) probably more expeditious) to probe the northward extension of this same vein with two additional drift holes.

Respectfully,



S. L. Bida

SLB/rm

encl.



1070 0019

SHAFTER MINE. CHERRY CREEK, NEVADA

325

DIAMOND DRILL CONTRACT - TUNGSTEN

D. Hole Shafter No. 1  
 Location 40 ft. W 49° E of Sta 340  
 Direction S 77° E Dip Flat Distance 300 ft.

| DRILL DIST. | DRILL LENGTH | CORE LENGTH | REMARKS | FORMATION                 | DESCRIPTION                                      | REMARKS  |
|-------------|--------------|-------------|---------|---------------------------|--|--|
| 0-4         | 4'           | 2.67        |         | Calcareous grey Limestone | Mottled SP Brown                                 | Blocky   |
| 4-6         | 2'           | 1.5         |         | "                         | "  | "  |
| 6-11        | 5            | 4.65        |         | "                         | "  | "  |
| 11-11.5     | 0.5          | .5          |         | Gouge                     | Red Brown  |  |
| 11.5-16.5   | 5.           | 4.75        |         | Calcareous Grey Limestone | Gray Mottled                                     | Blocky   |
| 16.5-22     | 5            | 4.1         |         | "                         | "  | "  |
| 22-27       | 5            | 4.9         |         | "                         | "  | "  |
| 27-31       | 4            | 3.9         |         | "                         | "  | Slight altered @ 28 ft.<br>Water course @ 28 ft. |
| 31-36       | 5            | 5           |         | "                         | "  | Blocky   |
| 36-41       | 5            | 4.7         |         | "                         | "  | "  |
| 41-46       | 4            | 3.9         |         | "                         | "  | "  |
| 46-51       | 5            | 4.9         |         | "                         | "  | " vugs   |
| 51-56       | 4            | 3.5         |         | "                         | "  | "  |
| 56-61       | 5            | 4.9         |         | "                         | "  | "  |
| 61-66       | 5            | 4.9         |         | "                         | "  | "  |
| 66-71       | 5            | 4.9         |         | "                         | "  | "  |
| 71-76       | 5            | 5           |         | "                         | "  | "  |
| 76-80       | 4            | 3.9         |         | "                         | "  | "  |
| 80-85       | 5            | 5           |         | "                         | "  | "  |
| 85-90       | 5            | 4.95        |         | "                         | "  | Slight alteration-vugs                           |
| 90-95       | 5            | 4.6         |         | "                         | Altered FS St. @ (92-97) TR (NO <sub>3</sub> )   |  |
| 95-98       | 3            | 1.8         |         | "                         | " Lighter colored (97-104) TR (NO <sub>3</sub> ) |  |
| 98-104      | 6            | 4.7         |         | "                         | " " color  | TR (NO <sub>3</sub> )                            |



| CONTINUED-   |               |                |         |                           |                              |  |
|--------------|---------------|----------------|---------|---------------------------|------------------------------|--|
| DRILL<br>NO. | DEPTH<br>FOOT | DEPTH<br>METER | REMARKS | FORMATION                 | DESCRIPTION                  | REMARKS                                  |
| 104-109      | 5             | 4.8            |         | Calcutt Gray<br>Limestone | Gray LS                      | Blocky                                   |
| 109-114      | 5             | 4.7            |         | "                         | Blocky                       | Alt. Kern (109-109.3)                    |
| 114-115      | 1             | .9             |         | "                         | "                            | " (114.2)                                |
| 115-120      | 5             | 4.9            |         | "                         | "                            |  |
| 120-125.5    | 5.5           | 5.25           |         | "                         |                              | (124-125.25) white calcitic<br>limestone |
| 125.5-131    | 5.5           | 4.9            |         | "                         | "                            | Massive                                  |
| 131-136      | 5             | 5              |         | "                         | "                            | "  |
| 136-141      | 5             | 4.9            |         | "                         | "                            | "  |
| 141-146      | 5             | 4.7            |         | "                         | "                            | " incl. white LS<br>(143-146)            |
| 146-150      | 4             | 3.3            |         | "                         | "                            | "  |
| 150-155      | 5             | 4.75           |         | "                         | "                            | " with calcitic stringers                |
| 155-160      | 5             | 2.1            |         | "                         | Broken                       | (50%) TR                                 |
| 160-165      | 5             | 2.25           |         | Gray blue<br>Limestone    | Contact 160                  | Breccia to 165                           |
| 165-167      | 2             | 1.8            |         | Gray blue<br>Massive LS   | Blocky                       |  |
| 167-171      | 4             | 2.75           |         | "                         | "                            | Broken                                   |
| 171-175      | 4             | 2              |         | "                         | Altered                      | Clear change to GR. BL.<br>171.5         |
| 175-177      | 2             | 1.5            |         | Light Gray<br>Limestone   | Uniform color                | Broken (50%) TR                          |
| 177-180.8    | 3.3           | 2.9            |         | "                         | Fine grained                 |  |
| 180.8-186    | 5.4           | 5.1            |         | "                         | "                            | Iron stain                               |
| 186-191.5    | 5.5           | 5.0            |         | Gray blue<br>Limestone    | Light Alt. area<br>188-191.5 | Reamed Limestone<br>(187-188)            |
| 191.5-196    | 5.0           | 4.5            |         | "                         | Massive                      | Few flat Calcitic<br>stringers           |
| 196-201      | 5.0           | 5.5            |         | "                         | "                            | Blocky                                   |
| 201-206      | 5.0           | 5.0            |         | "                         | "                            | "  |
| 206-211      | 5.0           | 5.0            |         | "                         | "                            | "  |
| 211-216      | 5.0           | 5.0            |         | "                         | "                            | "  |
| 216-221      | 5.0           | 5.0            |         | "                         | "                            | "  |
| 221-226      | 5.0           | 5.0            |         | "                         | "                            | "  |



Continued-

| DRILL DIST. | DRILL<br>LENGTH | CORE<br>LENGTH | %<br>R.C. | FORMATION              | DESCRIPTION | REMARKS                          |
|-------------|-----------------|----------------|-----------|------------------------|-------------|----------------------------------|
| 226-230.5   | 4.5             | 4.0            |           | Gray blue<br>Limestone | Massive     | Blocky slightly more<br>calcitic |
| 230.5-235.5 | 5.              | 5.4            |           | "                      | Blocky      |                                  |
| 235.5-240.5 | 5               | 5              |           | "                      | "           |                                  |
| 240.5-246   | 5.5             | 4.9            |           | "                      | "           |                                  |
| 246-248     | 2.0             | 1.2            |           | "                      | "           |                                  |
| 248-249     | 1.0             | 1.25           |           | "                      | "           |                                  |
| 249-254     | 5.0             | 5.0            |           | "                      | "           |                                  |
| 254-259     | 5.0             | 5.0            |           | "                      | "           |                                  |
| 259-263     | 4.0             | 4.0            |           | "                      | "           | Bedding very evident             |
| 263-268.5   | 5.5             | 5.0            |           | "                      | "           |                                  |
| 268.5-273.5 | 5.              | 5.0            |           | "                      | "           |                                  |
| 273.5-278.5 | 5.0             | 5.0            |           | "                      | "           | June 1st, 1952                   |
| 278.5-283.5 | 5.0             | 4.9            |           | "                      | "           |                                  |
| 283.5-288.5 | 5.0             | 5.1            |           | "                      | "           | Braccioia (280-292)              |
| 288.5-293.5 | 5.0             | 5.1            |           | "                      | "           | Slightly Broken                  |
| 293.5-298.5 | 5.0             | 5.0            |           | "                      | "           | " "                              |
| 298.5-300   | 1.5             | 1.5            |           | "                      | "           | Vugs No. Alt.                    |



1070 009

SHAFTER MINE. CHERRY CREEK, NEVADA

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Item 48

DIAMOND DRILL CONTRACT - TUNGSTEN

D.D. Hole Shafter No. 2

Location - 46ft. N 49° E of Sta. 340 in Huston Level

Direction N 49° E Dip Flat Distance 210 ft.

| DRILL DIST. | DRILL LENGTH | CORE LENGTH | X REC. | FORMATION                | DESCRIPTION   | REMARKS                                      |
|-------------|--------------|-------------|--------|--------------------------|---------------|--|
|             |              |             |        | Calclitic Gr. Limestone  | Blocky        |  |
| 0-4         | 4.           | 1.9         |        |                          |               |  |
| 4-8         | 4            | 2.0         |        | "                        | "             |  |
| 8-11        | 3            | 2.4         |        | "                        | "             |  |
| 11-15       | 4            | 3.9         |        | "                        | "             |  |
| 15-17.5     | 2.5          | 2.5         |        | "                        | "             |  |
| 17.5-22.5   | 5.0          | 2.5         |        | "                        | "             |  |
| 22.5-25     | 2.5          | 2.2         |        | "                        | "             |  |
| 25-28.5     | 3.5          | 3.2         |        | "                        | "             | 28-28.5 Slightly Mineralized                 |
| 28.5-33.5   | 5.0          | 4.3         |        | "                        | "             | red  |
| 33.5-37     | 3.5          | 3.5         |        | "                        | "             |  |
| 37-40       | 3.0          | 2.4         |        | "                        | "             |  |
| 40-45       | 5.0          | 4.9         |        | "                        | "             |  |
| 45-50       | 5.0          | 5.0         |        | "                        | "             |  |
| 50-56       | 6.0          | 6.0         |        | "                        | "             |  |
| 56-60       | 4.0          | 4.2         |        | "                        | "             |  |
| 60-70.5     | 10.5         | 10.5        |        | "                        | "             |  |
| 70.5-81.0   | 10.5         | 10.5        |        | "                        | "             | (77.5-78.5) MIN. TR(WO <sub>3</sub> )        |
| 81-81.5     | .5           | .5          |        | "                        | "             | Slight Mineral to 81                         |
| 81.5-92     | 10.5         | 7.0         |        | "                        | "             | Mineralized (82.5-85) TR (WO <sub>3</sub> )  |
| 92-102      | 10.0         | 10.0        |        | "                        | "             | Altered 102-105 TR(WO <sub>3</sub> )         |
| 102-109     | 7.0          | 4.0         |        | "                        | "             |  |
| 109-114     | 5.0          | 3.0         |        | "                        | "             | Altered TR (WO <sub>3</sub> )                |
| 114-117.5   | 3.5          | 3.3         |        | Grey Calclitic Limestone | Altered white | TR (WO <sub>3</sub> ) Broken Gouge (114-115) |



- 2 -  
Continued-

| DRILL DIST. | DRILL LENGTH | CORE LENGTH | 1<br>SEC. | FORMATION                     | DESCRIPTION       | REMARKS                          |
|-------------|--------------|-------------|-----------|-------------------------------|-------------------|----------------------------------|
| 117.5-121   | 3.5          | 3.1         |           | Grey Calcitic Limestone       | Altered white     | TR (203) Broken                  |
| 121-125     | 4.0          | 4.0         |           | "                             | Slight Alteration | (121-121.5) Brown ss             |
| 125-131     | 6.0          | 4.5         |           | "                             | " "               | Broken 130-131                   |
| 131-135     | 4.0          | 2.8         |           | "                             | Blocky            |                                  |
| 135-137     | 3.0          | 2.0         |           | "                             | Slight Alt.       | Blocky                           |
| 137-140     | 3.0          | 3.1         |           | "                             | Blocky            |                                  |
| 140-149     | 9.0          | 8.3         |           | "                             | "                 | Broken Slight Min. 147-148       |
| 149-159     | 10.0         | 9.3         |           | "                             | Slight Alt.       | Contact -Grey BL.Ls. 158         |
| 159-166     | 6.0          | 5.3         |           | Grey Blue Limestone (161-163) | "                 | (161-163) With grey blue section |
| 166-170     | 5.0          | 4.0         |           | Grey Calcitic Limestone       | Slight Alt.       |                                  |
| 170-176     | 1.0          | .3          |           | "                             | Altered           |                                  |
| 176-179     | 3.0          | 1.3         |           | "                             | "                 | Water course (178-179)           |
| 179-181     | 2.0          | 1.0         |           | "                             | "                 | " " Broken                       |
| 181-188     | 7.0          | 7.0         |           | "                             | Blocky            | Vugs                             |
| 188-193     | 5.0          | 4.0         |           | Grey Calcitic Limestone       | Altered pink      | Vein (188-191) TR (203)          |
| 193-199     | 6.0          | 5.0         |           | "                             | Blocky            | Alt.                             |
| 199-205     | 6.0          | 6.0         |           | "                             | "                 | Contact 192 Alt. Section         |
| 205-210     | 5.0          | 5.0         |           | Grey Blue Limestone           | "                 | TR (203) (201.5-203)             |

END HOLE 210



1070-0019

SHAFTER MINE. CHERRY CREEK, NEVADA

325

Item 48

DIAMOND DRILL CONTRACT - TUNGSTEN

D.D. Hole Shafer No. 3  
 Location 46 ft. N 49° E of STA 340 in Huston Level  
 Direction N 75 E Dip Flat Distance 300 ft.

| DRILL DIST. | DRILL LENGTH | CORE LENGTH | % REC. | FORMATION               | DESCRIPTION      | REMARKS                                  |
|-------------|--------------|-------------|--------|-------------------------|------------------|--|
| 0-5         | 5            | 1.9         |        | Gray Calcitic Limestone | Blocky           |  |
| 5-10        | 5            | 5           |        | "                       | "                |  |
| 10-15       | 5            | 5           |        | "                       | "                |  |
| 15-18.5     | 3.5          | 3           |        | "                       | "                |  |
| 18.5-19     | .5           | .5          |        | Gouge Section           |                  | Vein                                     |
| 19-21.5     | 2.5          | 2.5         |        | Gray Calcitic Limestone | Blocky           |  |
| 21.5-25     | 3.5          | 2.9         |        | "                       | "                |  |
| 25-30       | 5.0          | 5.0         |        | "                       | "                |  |
| 30-35       | 5.0          | 3.9         |        | "                       | "                |  |
| 35-38       | 1.0          | 1.0         |        | "                       | "                |  |
| 38-38.5     | 2.5          | 2.5         |        | "                       | "                |  |
| 38.5-39.5   | 1.0          | 1.0         |        | "                       | "                |  |
| 39.5-44.8   | 5.3          | 5.3         |        | "                       | "                |  |
| 44.8-55     | 10.2         | 9.5         |        | "                       | Slightly Altered | (44.8-49) Min TR(WO <sub>3</sub> )       |
| 55-65       | 10.0         | 9.0         |        | "                       | "                | Blocky                                   |
| 65-70       | 5.0          | 4.8         |        | "                       | "                | "  |
| 70-75       | 5.0          | 3.8         |        | "                       | "                | Increasing Alteration                    |
| 75-80       | 5.0          | 3.1         |        | "                       | "                |  |
| 80-85       | 5.0          | 5.0         |        | "                       | Altered          | Vein Zone (81-84) TR (WO <sub>3</sub> )  |
| 85-95       | 10.0         | 10.0        |        | "                       | "                | Vugs                                     |
| 95-105      | 10.0         | 10.0        |        | "                       | "                | Vein (97-105) TR (WO <sub>3</sub> ) plus |
| 105-113     | 8.0          | 3.0         |        | "                       | "                | Altered                                  |



| DEPTH FT.   | DRILL LENGTH | CORE LENGTH | % REC. | FORMATION                                | DESCRIPTION                 | REMARKS                                |
|-------------|--------------|-------------|--------|--|-----------------------------|--|
|             |              |             |        | Grey Calcitic Limestone                  | Altered                     |  |
| 113-118     | 5.0          | 5.0         |        | "  | Blocky                      | Slight Alteration                      |
| 118-123     | 5.0          | 4.8         |        | "  | "                           | " "                                    |
| 123-128.5   | 5.5          | 5.3         |        | "  | "                           | " "                                    |
| 128.5-133.5 | 5.0          | 5.0         |        | "  | "                           | " "                                    |
| 133.5-140   | 6.5          | 6.5         |        | Calcitic Gr. to Grey BL.LS.              | "                           | Contact @ 137 Ft. 141-142              |
| 140-145     | 5.0          | 4.9         |        | Grey BL Limestone                        | "                           | Breccia Recemented LS                  |
| 145-149     | 4.0          | 2.1         |        | " "                                      |                             |  |
| 149-153     | 4.0          | 3.5         |        | " "                                      |                             | Contact 152                            |
| 153-161     | 8.0          | 6.9         |        | Calcitic Grey Limestone                  | "                           |  |
| 161-165     | 4.0          | 4.0         |        | " "                                      | "                           | Contact (163-163.5)                    |
| 165-170     | 5.0          | 5.0         |        | Grey Blue Limestone                      | "                           |  |
| 170-175     | 5.0          | 4.9         |        | " "                                      | "                           |  |
| 175-185     | 10.0         | 10.5        |        | " "                                      | "                           |  |
| 185-186     | 1.0          | .7          |        | " "                                      | "                           |  |
| 186-186.5   | .5           | .2          |        | " "                                      | "                           |  |
| 186.5-188   | 1.5          | 1.3         |        | " "                                      | "                           |  |
| 188-190     | 2.0          | 1.3         |        | " "                                      | "                           |  |
| 190-190.4   | .4           | .4          |        | " "                                      | "                           |  |
| 190.4-193   | 2.6          | 2.1         |        | " "                                      | Slightly Calcitic (191-192) |  |
| 193-200     | 7.0          | 4.4         |        | " "                                      | Blocky                      |  |
| 200-210     | 10.0         | 10.0        |        | " "                                      | "                           |  |
| 210-220     | 10.0         | 10.0        |        | " "                                      | "                           |  |
| 220-230     | 10.0         | 10.0        |        | " "                                      | "                           |  |
| 230-240.5   | 10.5         | 9.9         |        | " "                                      | "                           | (231 to 240.5) Altered Slightly        |
| 240.5-250.5 | 10.0         | 9.8         |        | Gr. BL. LS. Unaltered (240.5-242.5)      | " (249-251)                 |  |
| 250.5-260   | 9.5          | 9.5         |        | Gr. BL. LS. FE Stain Grey Blue Limestone | Alt. pink Blocky            | Breccia (251-258) TR(WO <sub>3</sub> ) |
| 260-270     | 10.0         | 8.5         |        | " "                                      | "                           |  |
| 270-280     | 10.0         | 9.4         |        | " "                                      | "                           |  |



Continued-

| DRILL DIST. | DRILL<br>LENGTH | CORE<br>LENGTH | %<br>REC. | FORMATION            | DESCRIPTION                                      | REMARKS                       |
|-------------|-----------------|----------------|-----------|----------------------|--|-------------------------------|
| 280-290     | 10.0            | 9.9            |           | Gr. Bl.<br>Limestone | Blocky   | Broken Vugs 281-289           |
| 290-300     | 10.0            | 5.5            |           | "                    | SL Altered<br>Broken to<br>end Iner<br>Calclitic | Slight Alterations<br>291-292 |



DMA Docket 2137, Tungsten, Schafer Mine, Cherry Creek  
Mining District, White Pine County, Nevada

GEOLOGY

The rocks in the area are limestone and shaly limestone of probable Cambrian  $\frac{1}{2}$  age which are steeply tilted. They are cut by west-dipping

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$\frac{1}{2}$  Klepper, M. R., Tungsten deposits of the Cherry Creek District, White Pine County, Nevada: Strategic Minerals Investigations, Supplementary Report, pp. 9-10, 1943.

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bedding faults and by an east dipping calcite stringer zone. The principal ore deposit is associated with the stringer zone.

The limestone in the mine area is massive and is commonly mottled blue-black; a thin bed of limestone containing shaly partings crops out about 100 feet west of the portal.

The sedimentary rocks strike north and dip  $40^{\circ}$ - $65^{\circ}$  W. They are cut by bedding faults of small displacement and by a shear zone that strikes north and dips  $45^{\circ}$ - $70^{\circ}$  E. The bedding faults commonly contain quartz and calcite veins in a highly leached zone as much as 10 feet wide. The shear zone is filled with narrow calcite stringers and a few quartz stringers in a zone about 8 feet wide. This zone contains most of the ore.

ORE DEPOSITS

The only known ore body on the property is now being mined in the Schafer mine (figs. 2 and 3). The ore occurs in a zone of parallel calcite stringers which strike north and dip  $45^{\circ}$ - $70^{\circ}$  E. The zone is exposed for 90 feet along the strike, and is as much as 8 feet wide; it has been mined from the surface 50 feet down dip to the existing level. The rake of the ore shoot is not known.



The ore mineral is scheelite which, at the Schafer mine, is associated with the calcite stringers. Production has been about 1600 tons of ore averaging 0.81 percent  $WO_3$ . The stringer zone is cut by bedding faults that also contain scheelite. The width of the stringer zone is greater at fault intersections, and irregular masses of coarsely crystalline calcite containing small amounts of scheelite occur in the drag area near the faults. In addition to scheelite, a little stibnite and oxidized silver minerals are reported to occur in the area.

At the Spud-patch adit (figs. 2 and 3), scheelite is associated with quartz veins in a leached zone that follows a bedding fault. The zone is as much as 10 feet wide. Scheelite masses weighing 3 to 6 pounds have been sorted from the broken ore but the average grade of the material is too low to mine. Surface exposures above this adit contain only traces of scheelite.

#### ORE RESERVES

There is no blocked out ore at the Schafer mine. The indicated reserves immediately below the existing workings, in the triangular block 90 feet long, 4 feet wide, and extending 30 feet down the dip, are 450 tons that may average 0.5 percent  $WO_3$ .

Judging from the experience of miners in the district, it is inferred that the ore shoot in the Schafer mine may continue to considerably greater depths although it is likely to be lenticular and erratically mineralized. The inferred reserves in the block extending 100 feet below the present level and containing the downward extension of the ore shoot are, in addition to the indicated reserves, 2000 tons containing 0.5 percent  $WO_3$ .



Showings at other workings on the property do not appear promising, and no material of commercial grade is now exposed in them.

#### PROPOSED EXPLORATION

The applicant has proposed that the downward continuation of the ore shoot in the Schafer mine be explored as follows: (1), drill two 100-foot diamond drill holes within the ore shoot to determine the downward extent of the ore, (2), drive a 400-foot crosscut to intersect the vein at a depth of 100 feet below the existing level, then (3), drift 400 feet along the vein. He has also proposed to drift 100 feet north on the Spud-patch vein from the existing adit. He has estimated the cost of the proposed work to be \$31,313. The Coordinating Committee referred the application to the field for examination, and asked that particular attention be given to the applicants' proposals.

The examining engineers and geologists believe that diamond drilling will not be a satisfactory method of exploring this deposit, because the distribution of scheelite is extremely erratic and the holes may miss even a large ore shoot. Holes drilled down dip of the vein might not yield significant information. They also believe that the proposed crosscut is a less effective, and a more costly method of exploring the vein at depth, than a winze on the vein. The continuity and grade of ore down the dip should be determined before extensive work, such as the proposed crosscut, is risked.

Exploration on the Spud-patch vein could best be planned after its intersection with the more productive Schafer vein has been exposed. The showings in the adit do not warrant further investigation at this time.



Accordingly, it was suggested to the applicant that a winze, sunk from the existing workings, would be a more practical method of exploring the ore shoot at depth. The applicant believes his original proposal to be preferable to the one suggested, and has advised the Field Team (phone Dec. 11, 1951, Williams to A. C. Johnson) that he does not wish to change his program.

#### SUMMARY AND CONCLUSIONS

The tungsten deposit at the Schafer Mine is in a calcite stringer zone which cuts limestone of Cambrian age. The ore shoot is exposed for 90 feet along the strike and is as much as 8 feet wide; it has been mined down dip for about 50 feet. Production to date has been 1600 tons of scheelite ore averaging 0.81 percent  $WO_3$ .

The stringer zone is displaced by pre-mineral bedding faults that also contain scheelite, but the material is too low in grade to be mined.

It is concluded that the ore shoot in the Schafer Mine may continue to considerably greater depths although it is likely to be lenticular and erratically mineralized. Indicated ore reserves immediately below the existing level are estimated to be 450 tons averaging 0.5 percent  $WO_3$ ; inferred reserves in the block containing the downward extension of the ore shoot and extending 100 feet below the existing level are estimated to be 2,000 tons averaging 0.5 percent  $WO_3$ .

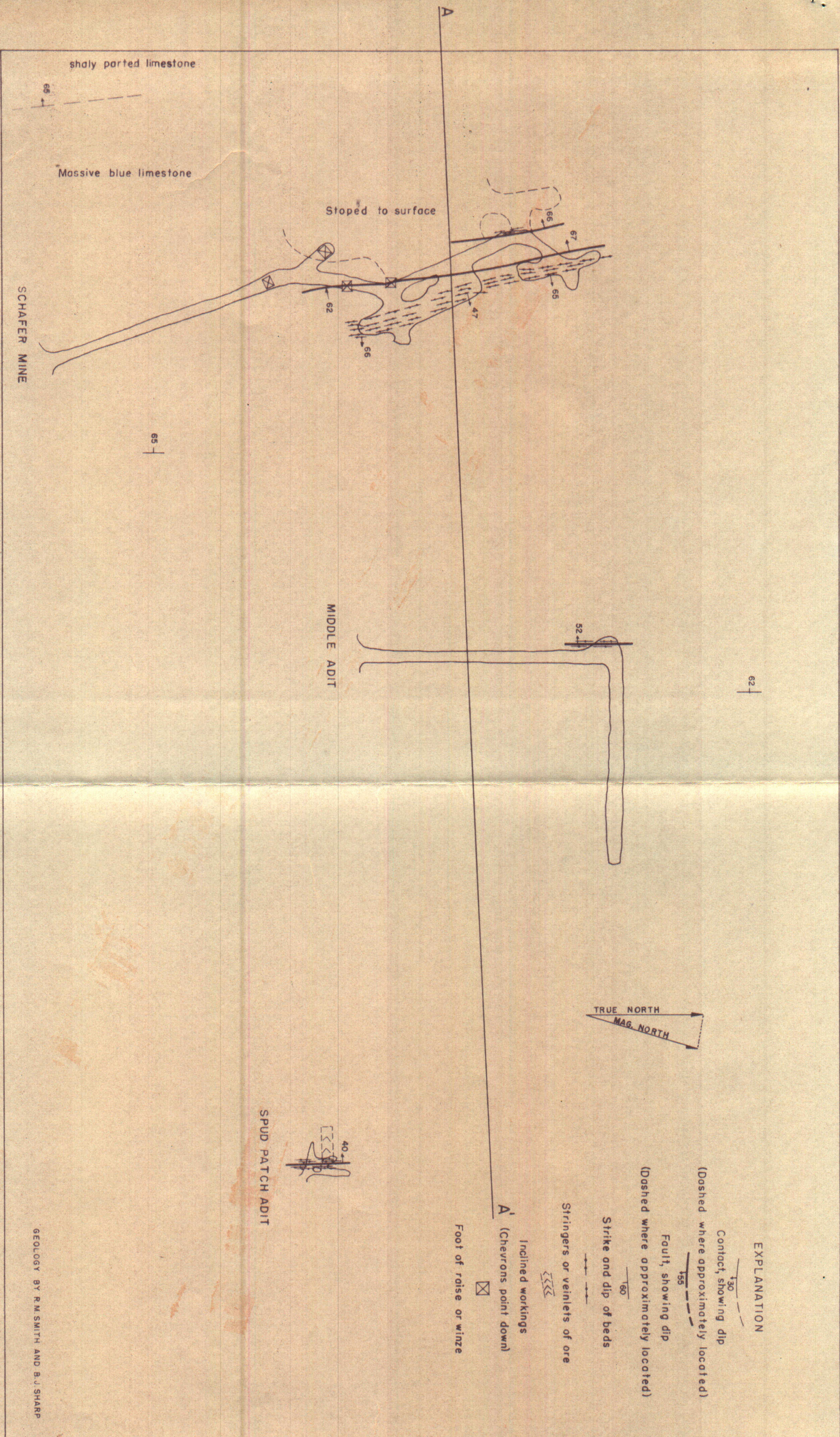
The examining engineers and geologists believe that exploration of the Schafer mine may be justified, although the diamond drilling proposed by the applicant is not good exploration practice and the crosscut is too costly.



It was suggested to the applicant that a 100-foot winze would be a more practical method of exploring the deposit at depth. The applicant does not, however, wish to change his original program.

As the applicant's proposed exploratory program is believed to be unsuited to the exploration of the Schafer mine ore bodies, it is recommended that the application be denied.







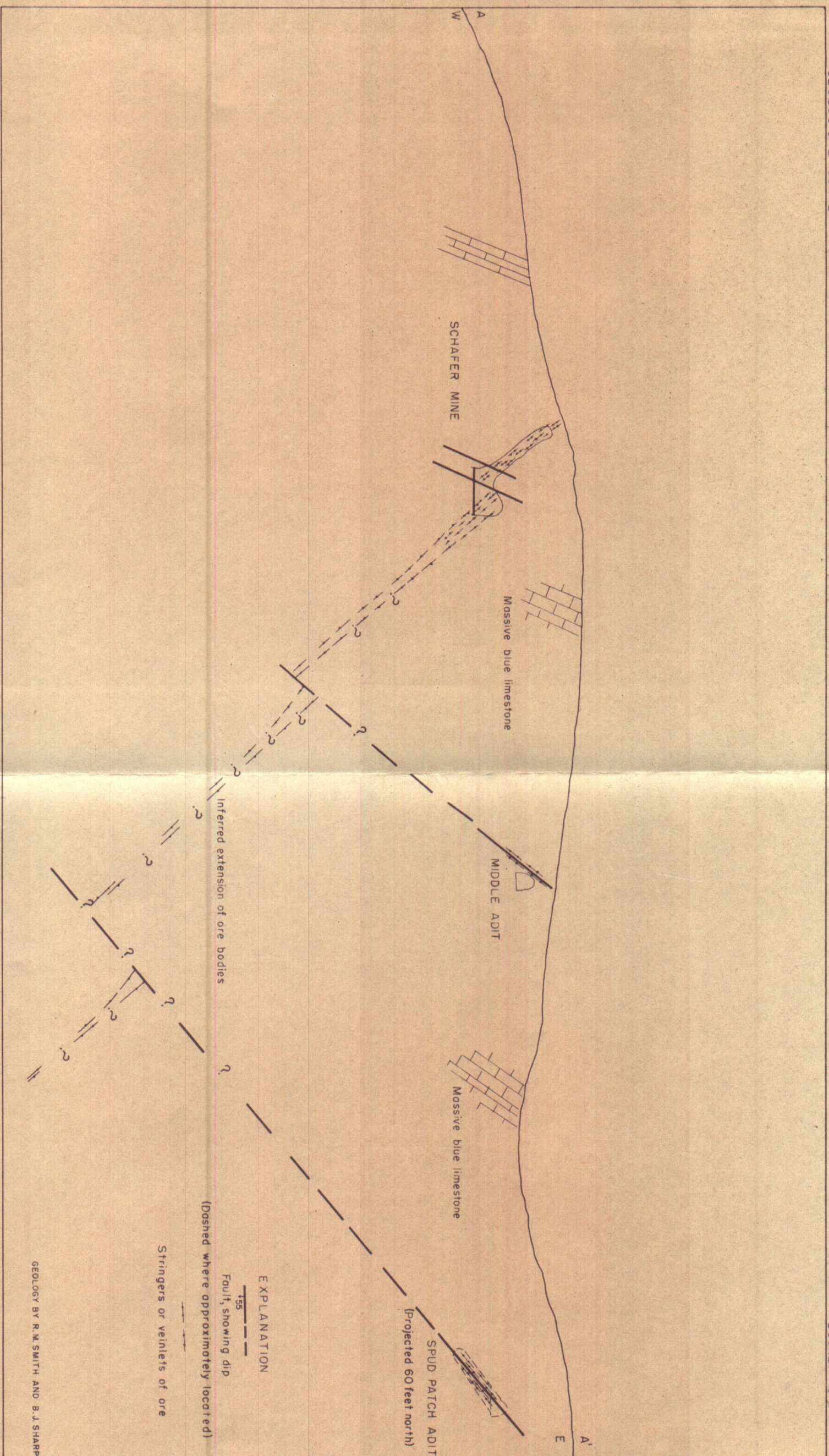


FIG. 3

SECTION ALONG LINE A-A'  
SCHAFER MINE, CHERRY CREEK MINING DISTRICT  
WHITE PINE COUNTY, NEVADA



325  
Hemmy

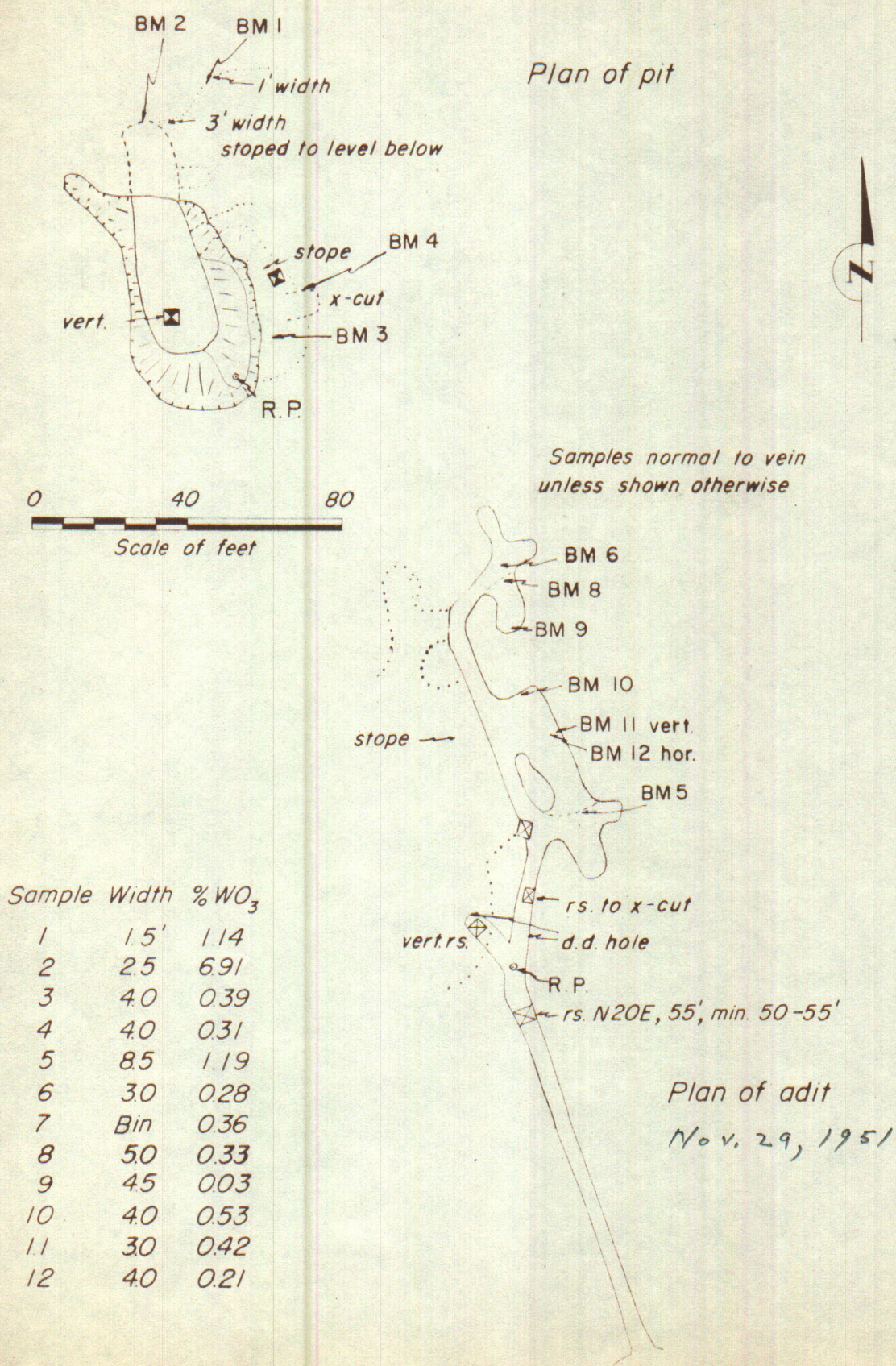
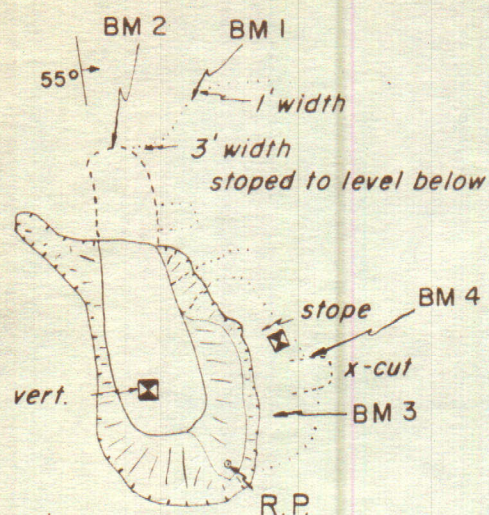
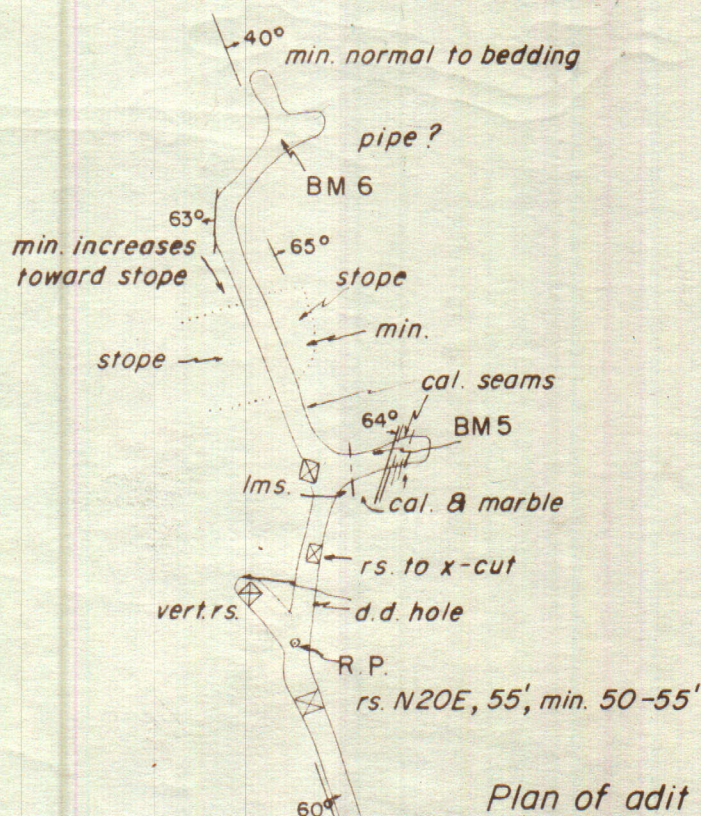


Figure 1 - Assay map, Schafer tungsten mine, White Pine County, Nevada



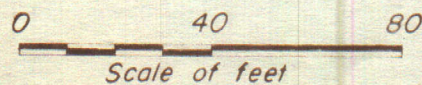


Plan of pit



Plan of adit

| Sample | Width | % $WO_3$ |
|--------|-------|----------|
| 1      | 1.5'  | 1.14     |
| 2      | 2.5   | 6.91     |
| 3      | 4.0   | 0.39     |
| 4      | 4.0   | 0.31     |
| 5      | 8.5   | 1.19     |
| 6      | 3.0   | 0.28     |
| 7      | Bin   | 0.36     |



See map of  
later date  
(Nov. 29, 1951)

Figure 1 - Assay map, Schafer tungsten mine, White Pine County, Nevada



325

Item 48

1070 0019

A

Coal sho 4'

Fe Nov. 29/51 RML

36" coal. str. on fault little coal at

SCHAFER MINE  
CHERRY CREEK MINING DISTRICT  
White Pine Co. Nev.

1" = 40'

Spud Patch

leached fault zone  
5 to 10' wide + qtz + carb.  
sh. Schellite spuds in qtz,  
zone 70' long, 10' wide mined  
30' down dip

N 75 E  
335'

shaly part of ls

mottled blue mass ls.

2' mottled ls + calcite blocks + cement

stepped to surf.

steeper  
above  
20' normal  
dip

150' level  
to portal  
-23°

110' VERT



A  
W

100-200

SCHAFER MINE

massive blues -

middle Tunnel

dip of beds

massive blues -

SPUDPATCH VEIN

Fig. 3

SECTION Along line A-A'  
SCHAFER TUNGSTEN MINE  
WHITE PINE COUNTY, Nevada

0 40 80 Feet

1070 0019



Room 208, 222 So. West Temple  
Salt Lake City 1, Utah  
14 February 1952

Memorandum

To: A. C. Johnson  
From: E. M. Smith  
Subject: DWA 2137, Schafer Mine, White Pine County, Nevada - Revised Application, Jan. 10, 1952.

The Schafer Mine was revisited briefly on January 9, 1951, subsequent to a DWA examination and report which recommended that the application be denied on the grounds that the proposed exploration was not well planned.

As a result of the denial, the applicant has revised his exploratory program and has submitted a new application. In accordance with your request, I reviewed this application and have prepared new illustrations showing the location of the proposed work.

The applicant's engineers state (letter January 10, 1951 to G. F. Williams) that recent investigations have revealed a gray-white limestone interbedded with the blue limestone of the Schafer mine. They believe this gray limestone to be favorable to scheelite deposition. I can confirm the fact that the new Houston tunnel is being driven in a massive gray limestone unit, but cannot predict that this unit will contain larger ore bodies than other units in this area.

The applicant has now proposed to explore the downward extension of the Schafer and Spedpatch veins from the Houston Tunnel level by 1,165 feet of diamond drilling and 650 feet of drifting and crosscutting. He has



A. C. Johnson

14 February 1952

shown the locations of the proposed work on a map of the Schafer Mine, January, 1952. This program appears to be sound, but it is suggested that it be modified and divided into two projects:

Project No. 1. From a drill station out at 340 feet in the Houston Tunnel (figs. 2 and 3), drill three horizontal diamond drill holes, each 200 feet long, one east, one N.  $45^{\circ}$  E., and one S.  $45^{\circ}$  E. to cut the Spudpatch vein; and also drill two horizontal holes each 100 feet long, one west and one N.  $45^{\circ}$  W. to test the gray limestone west of the tunnel. If no ore is encountered in any of the holes, the program should be terminated.

Project No. 2. In the event that tungsten ore is cut in any of the drill holes, a crosscut should be driven from the Houston Tunnel to the point or points where ore was cut, and drifts should be driven along the showings. Provision should be made for drifting as much as 600 feet on promising showings.

Any additional core drilling done from these drifts should be the subject of a separate exploratory program.

cc: E. H. Bailey

A. C. Johnson



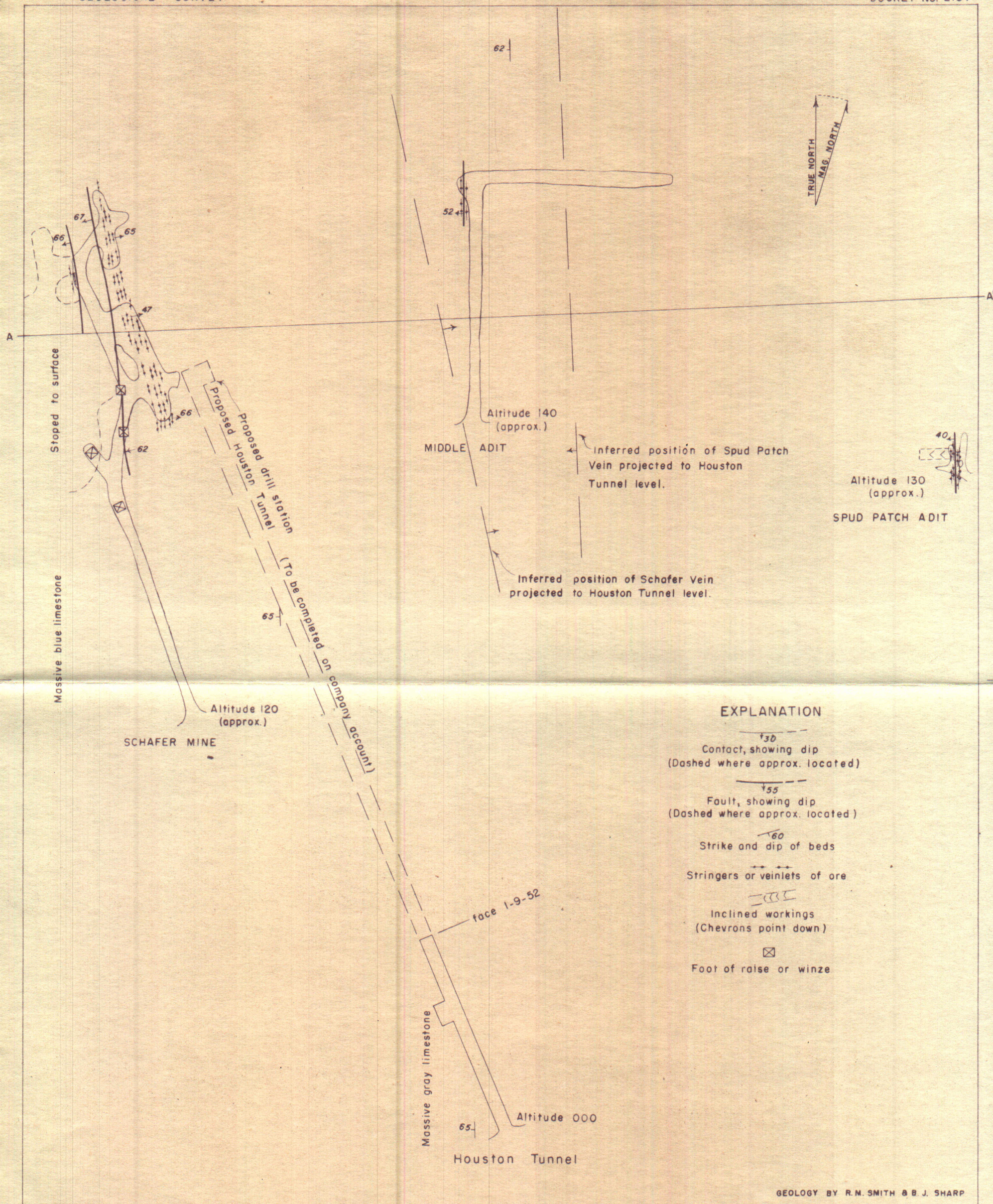


FIG. 2

GEOLOGIC SKETCH MAP OF SCHAFFER MINE  
CHERRY CREEK MINING DISTRICT  
WHITE PINE COUNTY, NEVADA



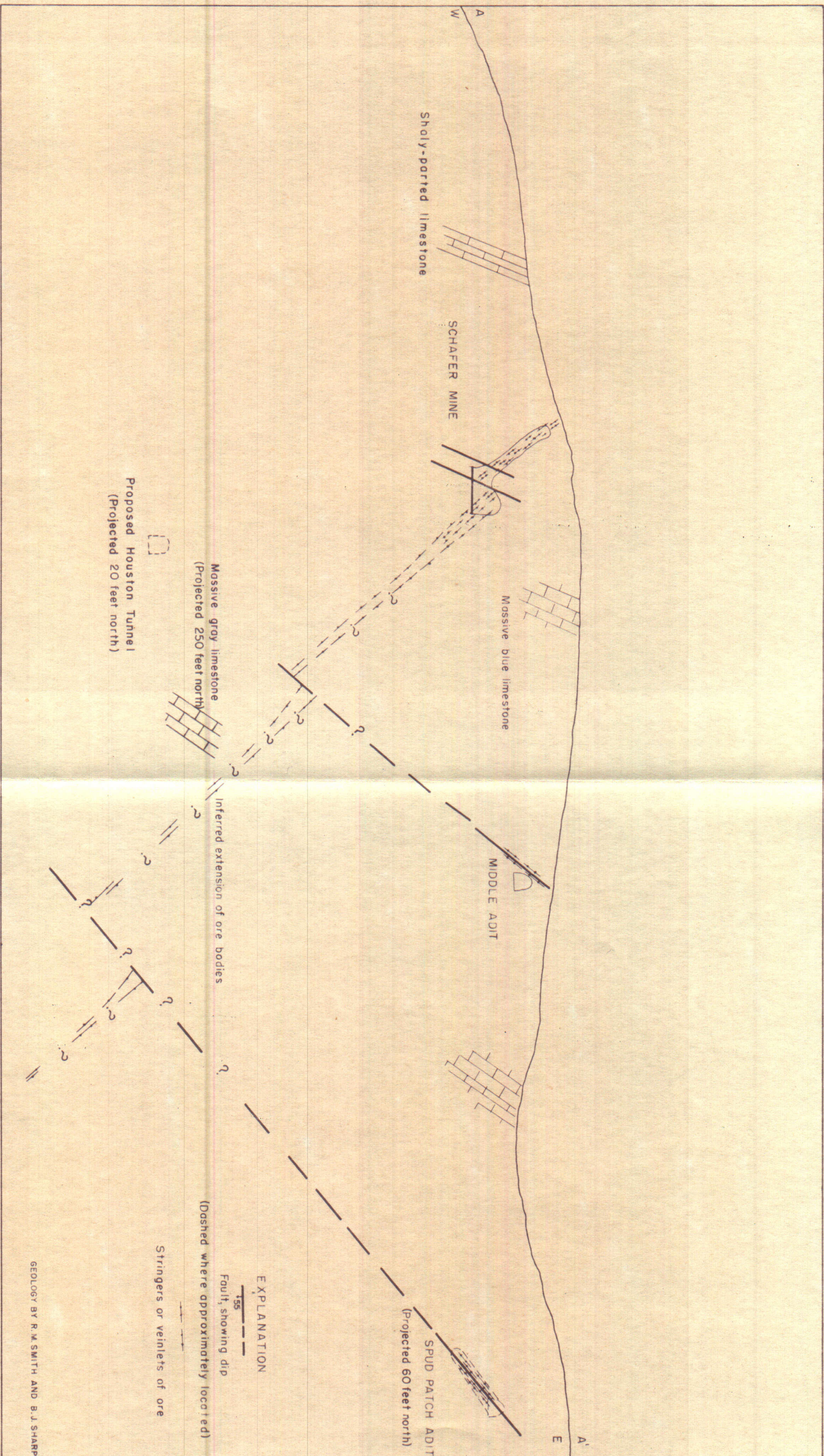


FIG. 3

SECTION ALONG LINE A-A'

SCHAFER MINE, CHERRY CREEK MINING DISTRICT

WHITE PINE COUNTY, NEVADA

0 40 80 FEET

Scale

GEOLOGY BY R. M. SMITH AND B. J. SHARP







MADE IN U.S.A. LITHOGRAPHED

| Schaper<br>DD No. 3 |   |  |  |  |
|---------------------|---|--|--|--|
| 49 1/2 core         | 10' - 1/2" carb @ 35°   |  |  | 0-50 lite gray massive ls  |
| 50                  | 47' - 3' carb @ 45°<br>78 - little leaching<br>82 - little leaching (pores)                               |  |  | 50-105 - lite gray<br>mottled with brown or<br>secondary calcite blebs     |
| 50' core            |   |  |  |  |
| 105                 | 97-98 1/2 - calcite + inclusions<br>@ 45°   |  |  | 105-123 - tan (oxidized) ls  |
| 50' core            | 128 - 1" carb @ 90° + @ 45°<br>130 - little leaching<br>131 - " "<br>141-142 - calcite @ 75° + inclusions |  |  | 123-138 - lite gray ls<br>138-163 - dark gray ls<br>163-165 - lite gray ls |
| 164                 |   |  |  | 165-218 - dark gray ls   |
| 50'                 | } few 1/8" leached seams<br>193 few specs CaWO4 in 1/8" calcite seams<br>200 " " " " " "                  |  |  |  |
| 218                 | 218 1/2 - 1" carb @ 60° - frozen<br>221 - 1" " @ 45° - frozen   |  |  | 218-279 - dark gray mass,  |
| 50'                 | 244-261 - leaching - core<br>in pores   |  |  |  |
| 279                 | 267-268 - recemented breccia<br>278 - few 1/8" carb @ 45°   |  |  | 279-300 - dark gray  |
| 21' core            | 271-273 - breccia - recemented - 45°<br>281-289 - local leaching  |  |  |  |
| 300                 | END   |  |  |  |



1070 0019

SALT LAKE BLUES LITHOMERPHOS

FORM 1006

|                       |     |   |  |  |   |  |
|-----------------------|-----|---|--|--|---|--|
| Schafer<br>D.D. No. 1 |     |   |  |  |   |  |
| 0.00                  |     |   |  |  |   |  |
| 50' core              |     | few $\frac{1}{4}$ " irreg carb<br>seams @ 45°-10°                           |  |  | 0-54½ - lite gray ls - mass.<br>mottled with secondary<br>calcite blebs |  |
| 54½                   |     |   |  |  |   |  |
| 50' core              |     |   |  |  | 54½-107 - lite gray ls mottled with<br>secondary calcite blebs          |  |
| 107                   |     | 86 - little leaching  |  |  |   |  |
|                       |     |   |  |  | 107-160 - lite gray ls - massive  |  |
|                       |     | 126-127 - calcite   |  |  |   |  |
|                       |     | 148-150 few frozen carb. stms.<br>152-157 - calcite @ 20° + inclusions      |  |  | 160-161 - breccia - dark gray   |  |
| 161                   |     | few carb seams<br>30° to 70°  |  |  | 160-164 - little breccia - recemented<br>165-169 dark gray ls           |  |
| 50' Box               |     | 179-181 - leaching<br>186-188   |  |  | 169-216 - lite gray - grading to<br>dk. gray (@ 190)                    |  |
| 216                   |     | 230 - little leaching - recementing<br>232 - 1" carb @ 45° - frozen         |  |  | 202 - little recemented breccia<br>216-265.5 dark gray ls               |  |
| 50' Box               |     |   |  |  |   |  |
| 265.5                 |     |   |  |  |   |  |
|                       |     |   |  |  | 265.5-300 dark gray ls.   |  |
| 35.0' of<br>core      |     | 289-292 - breccia - recemented<br>292- 1/4" carb @ 35°<br>298- 1/4" " @ 45° |  |  |   |  |
| 300                   | end |   |  |  |   |  |







EXPLORATION PROJECT CONTRACT  
BALTIMORE CAMAS MINES, INC.  
THE SCHAFER MINE  
DOCKET NO. DMEA-2137X

EXHIBIT "A"

Statement of the Work

Stage I<sup>1/</sup>

Time Schedule: 0 - 1½ months.

1. Drill by contract a maximum of three near-horizontal EX diamond drill holes, aggregating not more than 810 feet, from a prepared drill station in the Huston adit, to explore at depth the Silver and Spud Patch veins to the east (see attached map). The holes are to be drilled approximately as follows:

Hole No. 1 -- N 85° E, 300 feet maximum

Hole No. 2 -- N 41° E, 210 feet maximum

Hole No. 3 -- N 70° E, 300 feet maximum

Stage II<sup>1/</sup>

Stage II will be undertaken only with the approval of the Government after completion of Stage I to the satisfaction of the Government. The approval will be dependent upon the results of Stage I.

Time Schedule: 1½ - 4 months.

1. Drive, if ore is found in D. D. Hole No. 1 in the Spud Patch and Silver veins, approximately 300 feet of crosscut following the hole to the ore and then drift 100 feet on each vein. If ore is intersected only in the Silver vein, then crosscut only to that vein, a distance of approximately 150 feet, and drift 100 feet on the vein.

If no ore is found in either hole No. 1 or No. 3 but is found in hole No. 2, drive along the hole for approximately 210 feet to the ore and then drift for 100 feet on the ore.

If ore is found only in hole No. 3 in one or both of the veins, crosscut to the ore and then drift for 100 feet on the one or both ore exposures.

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<sup>1/</sup> As indicated in section 4 of the contract, all subcontracts are subject to approval by the Government in writing.



The maximum crosscutting and drifting will be approximately 500 feet. The crosscut and drifts are to be approximately 5' x 7' in the clear.

Estimated Costs of the Project

Fixtures and improvements

Stage II

|  |               |          |
|--|---------------|----------|
| 1000'--Mine rail 16#, 2.7 tons @<br>\$150.00/ton | \$405.00      |          |
| Splice bars, bolts, spikes                       | 70.00         |          |
| 500'--3" pipe for air line @ \$0.40/ft.          | 200.00        |          |
| 500'--1" pipe for water line @ \$0.20/ft         | 100.00        |          |
| 250--Mine ties @ \$0.60 each                     | <u>150.00</u> | \$925.00 |

Operating equipment

To be purchased:

Stage II

|                            |        |
|----------------------------|--------|
| 500'--Ventube @ \$1.00/ft. | 500.00 |
|----------------------------|--------|

To be rented:

None

To be furnished by Operator

Stage I

|   |        |
|---|--------|
| 1--Compressor, 315 cfm., Diesel-driven<br>with 600' of air hose, for diamond drilling,<br>valued at \$9,000.00, depreciation @ \$150.00/<br>mo., 1.5 months | 225.00 |
| 1--Chevrolet tank truck valued @ \$950.00,<br>depreciation @ \$16.00/mo., 1.5 months  | 24.00  |
| 1--Dodge truck, 4-wheel drive, valued at<br>\$600.00, depreciation @ \$10.00/mo., 1.5<br>months   | 15.00  |



1--Chevrolet pickup, 1950, valued @  
\$1,500.00, depreciation @ \$25.00/mo.,  
1.5 months \$ 37.50

Shop equipment valued @ \$900.00, depre-  
ciation @ \$15.00/mo., 1.5 months 22.50 \$324.00

### Stage II

1--Compressor, 315 cfm., Diesel-driven  
with 600' of air hose, for crosscutting  
and drifting, valued at \$9,000.00, de-  
preciation @ \$150.00/mo., 2.5 months 375.00

1--Chevrolet tank truck valued @ \$950.00,  
depreciation @ \$16.00/mo., 2.5 months 40.00

1--Dodge truck, 4-wheel drive, valued at  
\$600.00, depreciation @ \$10.00/mo., 2.5  
months 25.00

1--Chevrolet pickup, 1950, valued at  
\$1,500.00, depreciation @ \$25.00/mo., 2.5  
months 62.50

Shop equipment valued @ \$900.00, deprecia-  
tion @ \$15.00/mo., 2.5 months 37.50

1--G-D Leyner with column and bar, valued  
at \$750.00, depreciation @ \$12.50/mo.,  
2.5 months 30.25

1--Sullivan mucking machine valued @ \$2400.00,  
depreciation @ \$40.00/mo., 2.5 months \$100.00 670.25

### Labor and supervision

#### Stage I

1--Engineer-foreman<sup>2/</sup> @ \$400.00/mo.,  
1.5 months 600.00

<sup>2/</sup> The engineer-foreman shall direct the operation and shall be re-  
sponsible for securing representative samples of the deposit, where  
warranted, and their subsequent handling. He also shall prepare  
and keep up to date the mine and geologic maps ordinarily necessary  
for an exploration operation. If his time is divided between the  
exploration project and another activity, then his salary is to be  
divided in the same proportion between the former and the latter.



|  |              |          |
|--|--------------|----------|
| 1--Bookkeeper @ \$150.00/mo., 1.5 months | \$225.00     |          |
| OAB, Social Security, etc., 10%          | <u>82.50</u> | \$907.50 |

Stage II

|  |          |  |
|--|----------|--|
| Contract labor for 500 feet of drifts and crosscut @ \$12.00/ft. maximum <u>3/</u> | 6,000.00 |  |
|--|----------|--|

|  |          |  |
|--|----------|--|
| 1--Engineer-foreman <u>4/</u> @ \$400.00/mo., 2.5 months | 1,000.00 |  |
|--|----------|--|

|  |        |  |
|--|--------|--|
| 1--Bookkeeper @ \$150.00/mo., 2.5 months | 375.00 |  |
|--|--------|--|

|                                 |               |          |
|---------------------------------|---------------|----------|
| OAB, Social Security, etc., 10% | <u>737.50</u> | 8,112.50 |
|---------------------------------|---------------|----------|

Rehabilitation and Repairs 5/

Stage I

|  |        |  |
|--|--------|--|
| Repair of compressor and trucks @ \$100.00/mo., 1.5 months | 150.00 |  |
|--|--------|--|

Stage II

|  |        |  |
|--|--------|--|
| Repair of all equipment @ \$150.00/Mo., 2.5 months | 375.00 |  |
|--|--------|--|

Materials and Supplies

Stage I

|   |        |  |
|---|--------|--|
| Fuel and lubricants @ \$12.00/day, 33 days (two shifts daily) | 396.00 |  |
|---|--------|--|

|            |              |        |
|------------|--------------|--------|
| Core boxes | <u>50.00</u> | 446.00 |
|------------|--------------|--------|

3/ Includes all labor costs for breaking, mucking, tramming, and placing of pipe and track.

4/ See footnote 2.

5/ The repair and maintenance items are to be charged against the project only as incurred and spent while the equipment is working on the project.



Stage II

|   |               |            |
|---|---------------|------------|
| Fuel and lubricants @ \$12.00/day, 55 days (two shifts daily) | \$660.00      |            |
| Powder, 125 boxes @ \$10.00 each                              | 1,250.00      |            |
| Blasting caps, 30 boxes @ \$2.50 each                         | \$75.00       |            |
| Fuse, 25,000 feet @ \$15.00/1000                              | 375.00        |            |
| Drill bits, 2,750 @ \$21.00/100                               | 577.50        |            |
| Drill steel   | <u>250.00</u> | \$3,187.50 |

Contract Work

|                                       |          |
|---------------------------------------|----------|
| 810' of diamond drilling @ \$5.00/ft. | 4,050.00 |
|---------------------------------------|----------|

Miscellaneous

|                          |               |               |
|--------------------------|---------------|---------------|
| Assays, 50 @ \$3.00 each | 150.00        |               |
| Contingencies            | <u>482.25</u> | <u>632.25</u> |

|                |                    |
|----------------|--------------------|
| Total Estimate | <u>\$20,280.00</u> |
|----------------|--------------------|

|  |                    |
|--|--------------------|
| Government participation, 75% of the above | <u>\$15,210.00</u> |
|--|--------------------|

No additional building, installations, fixtures, equipment or improvements to be purchased, rented, repaired or rehabilitated, except as listed above, are to be allowed as costs under this contract.

Underground maps showing the monthly progress of the exploration with assays of samples taken concurrently with the advance when in mineralized ground are to be included in the progress report required under section 12 of the project contract. In case such maps are not submitted, the Government at its discretion may have the necessary work performed and charge the same to the contract.

"The exploration work shall be carried on, as far as practicable, with equipment, materials, crews, and supervision separate and distinct from any other operations of the Operator, to avoid confusion of costs under the contract with any other costs. To the extent economically advisable, equipment (such as compressor and shovel), incidental labor, and supervision used in other operations may be used for

Drilling \$500  
X drilling \$21,322.6

500) 20,280.00 - 810  
      4050.00  
      16130.00  
      1500.00  
      1130.00  
      1000.00  
      130.00  
          3



exploration, and the direct costs arising out of such use prorated, but the basis of such proration shall be at all times subject to the approval of the Government, and the costs involved in such proration will be disallowed by the Government to the extent that it is dissatisfied therewith."



DMA Docket 2137, Tungsten, Schafer Mine, Cherry Creek  
Mining District, White Pine County, Nevada

GEOLOGY

The rocks in the area are limestone and shaly limestone of probable Cambrian  $\checkmark$  age which are steeply tilted. They are cut by west-dipping

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$\checkmark$  Klepper, M. R., Tungsten deposits of the Cherry Creek District, White Pine County, Nevada: Strategic Minerals Investigations, Supplementary Report, pp. 9-10, 1943.

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bedding faults and by an east dipping calcite stringer zone. The principal ore deposit is associated with the stringer zone.

The limestone in the mine area is massive and is commonly mottled blue-black; a thin bed of limestone containing shaly partings crops out about 100 feet west of the portal.

The sedimentary rocks strike north and dip  $40^{\circ}$ - $65^{\circ}$  W. They are cut by bedding faults of small displacement and by a shear zone that strikes north and dips  $45^{\circ}$ - $70^{\circ}$  E. The bedding faults commonly contain quartz and calcite veins in a highly leached zone as much as 10 feet wide. The shear zone is filled with narrow calcite stringers and a few quartz stringers in a zone about 8 feet wide. This zone contains most of the ore.

ORE DEPOSITS

The only known ore body on the property is now being mined in the Schafer mine (figs. 2 and 3). The ore occurs in a zone of parallel calcite stringers which strike north and dip  $45^{\circ}$ - $70^{\circ}$  E. The zone is exposed for 90 feet along the strike, and is as much as 8 feet wide; it has been mined from the surface 50 feet down dip to the existing level. The rake of the ore shoot is not known.



The ore mineral is scheelite which, at the Schafer mine, is associated with the calcite stringers. Production has been about 1600 tons of ore averaging 0.81 percent  $WO_3$ . The stringer zone is cut by bedding faults that also contain scheelite. The width of the stringer zone is greater at fault intersections, and irregular masses of coarsely crystalline calcite containing small amounts of scheelite occur in the drag area near the faults. In addition to scheelite, a little stibnite and oxidized silver minerals are reported to occur in the area.

At the Spud-patch adit (figs. 2 and 3), scheelite is associated with quartz veins in a leached zone that follows a bedding fault. The zone is as much as 10 feet wide. Scheelite masses weighing 3 to 6 pounds have been sorted from the broken ore but the average grade of the material is too low to mine. Surface exposures above this adit contain only traces of scheelite.

#### ORE RESERVES

There is no blocked out ore at the Schafer mine. The indicated reserves immediately below the existing workings, in the triangular block 90 feet long, 4 feet wide, and extending 30 feet down the dip, are 450 tons that may average 0.5 percent  $WO_3$ .

Judging from the experience of miners in the district, it is inferred that the ore shoot in the Schafer mine may continue to considerably greater depths although it is likely to be lenticular and erratically mineralized. The inferred reserves in the block extending 100 feet below the present level and containing the downward extension of the ore shoot are, in addition to the indicated reserves, 2000 tons containing 0.5 percent  $WO_3$ .



Showings at other workings on the property do not appear promising, and no material of commercial grade is now exposed in them.

#### PROPOSED EXPLORATION

The applicant has proposed that the downward continuation of the ore shoot in the Schafer mine be explored as follows: (1), drill two 100-foot diamond drill holes within the ore shoot to determine the downward extent of the ore, (2), drive a 400-foot crosscut to intersect the vein at a depth of 100 feet below the existing level, then (3), drift 400 feet along the vein. He has also proposed to drift 100 feet north on the Spud-patch vein from the existing adit. He has estimated the cost of the proposed work to be \$31,313. The Coordinating Committee referred the application to the field for examination, and asked that particular attention be given to the applicants proposals.

The examining engineers and geologists believe that diamond drilling will not be a satisfactory method of exploring this deposit, because the distribution of scheelite is extremely erratic and the holes may miss even a large ore shoot. Holes drilled down dip of the vein might not yield significant information. They also believe that the proposed crosscut is a less effective, and a more costly method of exploring the vein at depth, than a winze on the vein. The continuity and grade of ore down the dip should be determined before extensive work, such as the proposed crosscut, is risked.

Exploration on the Spud-patch vein could best be planned after its intersection with the more productive Schafer vein has been exposed. The showings in the adit do not warrant further investigation at this time.



Accordingly, it was suggested to the applicant that a winze, sunk from the existing workings, would be a more practical method of exploring the ore shoot at depth. The applicant believes his original proposal to be preferable to the one suggested, and has advised the Field Team (phone Dec. 11, 1951, Williams to A. C. Johnson) that he does not wish to change his program.

#### SUMMARY AND CONCLUSIONS

The tungsten deposit at the Schafer Mine is in a calcite stringer zone which cuts limestone of Cambrian age. The ore shoot is exposed for 90 feet along the strike and is as much as 8 feet wide; it has been mined down dip for about 50 feet. Production to date has been 1600 tons of scheelite ore averaging 0.81 percent  $WO_3$ .

The stringer zone is displaced by pre-mineral bedding faults that also contain scheelite, but the material is too low in grade to be mined.

It is concluded that the ore shoot in the Schafer Mine may continue to considerably greater depths although it is likely to be lenticular and erratically mineralized. Indicated ore reserves immediately below the existing level are estimated to be 450 tons averaging 0.5 percent  $WO_3$ ; inferred reserves in the block containing the downward extension of the ore shoot and extending 100 feet below the existing level are estimated to be 2,000 tons averaging 0.5 percent  $WO_3$ .

The examining engineers and geologists believe that exploration of the Schafer mine may be justified, although the diamond drilling proposed by the applicant is not good exploration practice and the crosscut is too costly.



It was suggested to the applicant that a 100-foot winze would be a more practical method of exploring the deposit at depth. The applicant does not, however, wish to change his original program.

As the applicant's proposed exploratory program is believed to be unsuited to the exploration of the Schafer mine ore bodies, it is recommended that the application be denied.



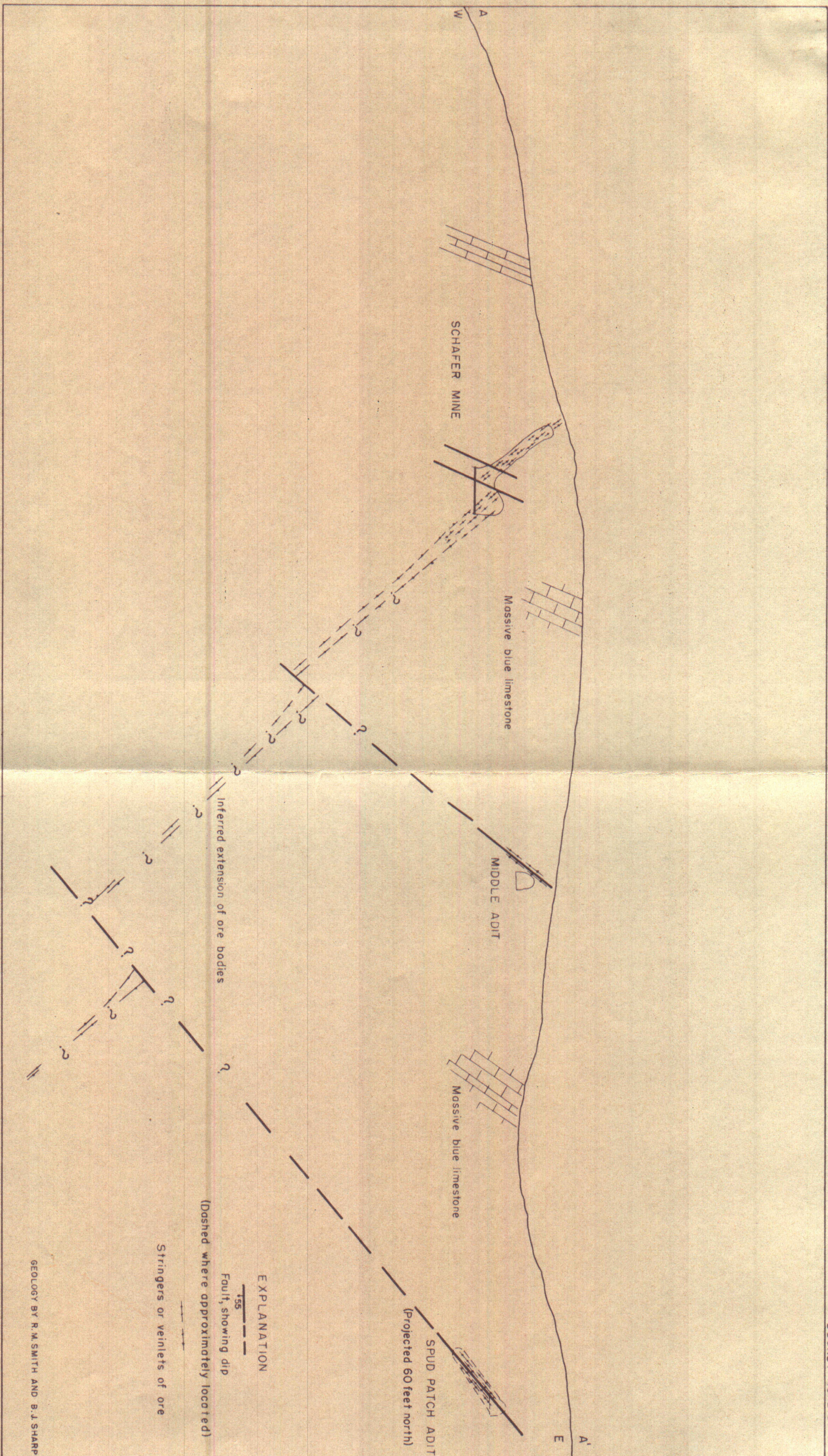


FIG. 3

SECTION ALONG LINE A-A'

SCHAFER MINE, CHERRY CREEK MINING DISTRICT  
WHITE PINE COUNTY, NEVADA

0 40 80 FEET  
Scale



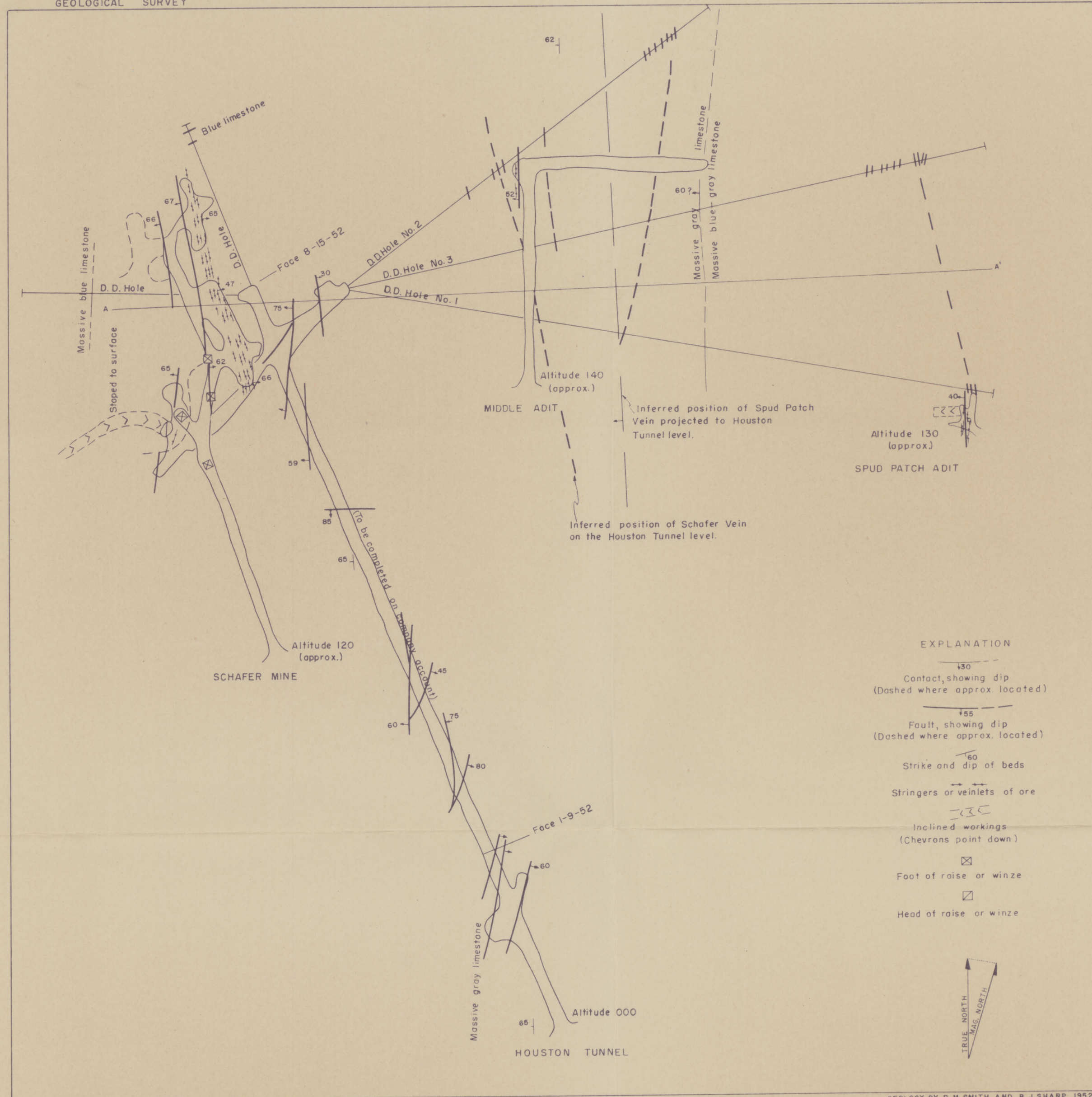
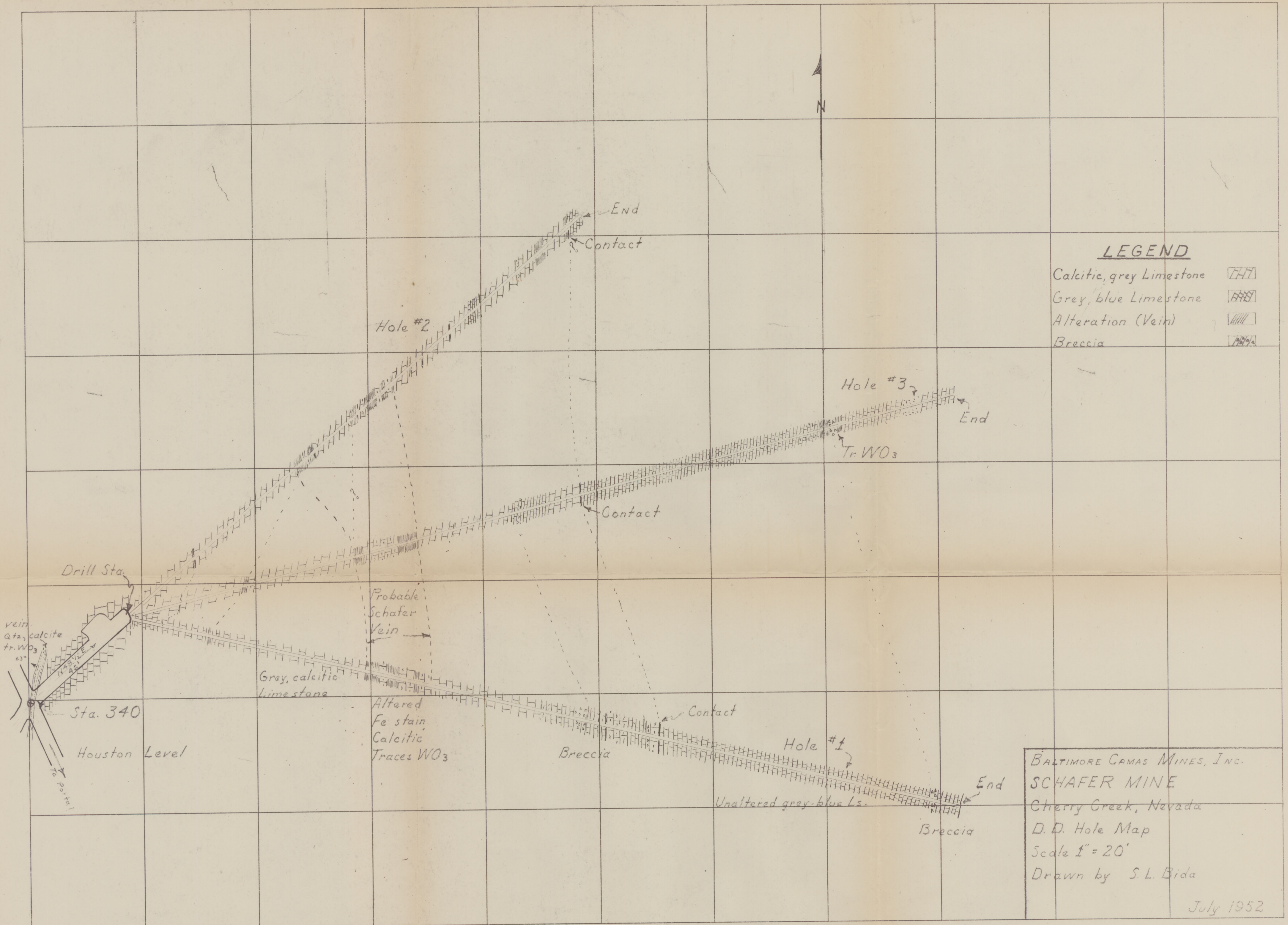


FIG. 4

GEOLOGIC SKETCH MAP OF SCHAFER MINE  
CHERRY CREEK MINING DISTRICT  
WHITE PINE COUNTY, NEVADA

GEOLOGY BY R. M. SMITH AND B. J. SHARP 1952





LEGEND

- Calcitic, grey Limestone [diagonal lines]
- Grey, blue Limestone [cross-hatch]
- Alteration (Vein) [vertical lines]
- Breccia [stippled]

BALTIMORE CAMAS MINES, INC.  
SCHAFER MINE  
Cherry Creek, Nevada  
D. D. Hole Map  
Scale 1" = 20'  
Drawn by S. L. Bida

July 1952