DESERT SCHEELITE SYNDICATE

(A Prospectus)

A DESCRIPTION OF THE MINING CLAIMS AND THE SCHEELITE DEPOSIT THEREIN

The desert Scheelite group consists of 5 lode claims, located on a well-kept county gravel road approximately 24 miles northeast of Mina, Nevada. An ample all-purpose water supply is available, by drilling, near the mine-site. Power can be purchased from Mineral County and lined in from Mina, or generated by diesel plant at the mine. The elevation at the claims is roughly 6,200 feet, but the area is largely snow-free during the winter months.

The Scheelite occurs in a series of flat-dipping metamorphosed sedimentary beds, the alteration being to tactite and marbleized limestone. Mineralization follows the joint and bedding planes of the sedimentary beds. The intrusive contact is with granodiorite the extent of which is not clearly defined, - with respect to the deposit, - as there is no evidence of it in the mineralized area. The lie of the deposit, its gentle dip, and the mild sloping nature of the area, - acting to reduce stripping to a minimum, - combine to make open-pit mining operations entirely practicable.

The deposit shows positive indications of being exceptionally extensive. Its exposed dimensions are 600 feet in length, 80 feet in width, and shafts sunk to depths of 60 feet are still in tactite. All the visible evidence points to considerably larger dimensions than those set forth above, particularly as to depth. While it is difficult to estimate actual depth, the deposit occurs in the well-known "Luning" formation which has a depth, or thickness, of 800 feet to 2,500 feet (Refer to Geological Survey Professional Paper 216, dated 1949, which is a study of the structural geology of the Hawthorne and Tonopah quadrangles, Nevada).

Tungsten values are not yet known, as to an average for the entire deposit, but numerous assays secured on ore samples taken from many places along the exposed length and width of the deposit, on surface and from shafts, over a period of several years (see assay map) and test-mining recently conducted toward what may be the easterly end of the deposit (see engineering report), might pre-suppose an average of 0.26% WO3 to 0.40% WO3, - at least near the surface, - or, dollar-wise, of 16.90 to 26.00 per ton. However, ore samples taken from the site of the test-mining, subsequent to the last round of blasting, assayed 5.16% WO3 and 5.76% WO3, for dollar values of 335.40 and 374.40 per ton. Assays run at the same time from ore samples taken from an exposure several hundred feet away went 1.2% WO3. It should be stressed at this point that higher average values ought to be expected at depth, when the bedding planes are exposed.

OWNERSHIP OF THE CLAIMS

Robert C. Armstrong, 3400 Sigg Drive, Reno, Nevada, manager and one of three trustees of Desert Scheelite Syndicate, holds the claims under an agreement of lease and option dated December 24, 1953. Under the terms of this agreement he makes a monthly minimum royalty payment to the lessors in the amount of 500.00 until approximately December 1, 1953. At that time he exercises his option to abandon the lease and option, or to purchase the claims outright at a cash price of 60,000.00, or to purchase them at a credit price of 100,000.00 payable on a 10% royalty basis with a minimum guaranteed monthly royalty payment of 500.00. The purchase agreement is unilateral, giving to the purchaser the right to abandon the said purchase agreement

California Exploration Company

15744 E. ARROW HIGHWAY
POST OFFICE BOX 57
AZUSA • CALIFORNIA
PHONE FLEETWOOD 7-1288

A. F. SIMPSON Left the attached
4/19/54

at any time, without penalty.

DEVELOPMENT WORK UNDERTAKEN TO DATE BY THE LESSEE

In February, 1953, the lessee mined 650 tons of ore from a shovel cut lying toward what may be the easterly end of the deposit. The ore was trucked to a custom mill at Sodaville, Nevada, and there processed. This operation was in the nature of test-mining, to gain a broader knowledge of the nature of the ore, its mining and milling characteristics, the most efficient mining and milling techniques, and average ore values.

Milling operations revealed that the ore is easily handled, that a good separation and concentration can be made. No foreign elements were present in the concentrates in sufficient quantities to invoke penalties.

No mining problems were encountered. It was necessary only to strip off a relatively shallow barren limestone capping or overburden, and this was accomplished by bulldozing. The removal of an occasional small "Horse" of barren limestone in the ore body itself was quickly and easily accomplished as a part of the regular mining techniques employed.

While test-mining was under way in the shovel cut, another section of the ore body, lying approximately 400 feet west and 200 feet north of the shovel cut, was exposed by bulldozing over a distance of 50 feet, and it was from this exposure that the ore sample assaying 1.2% WO_3 was taken. A lamp study of the new exposure indicated higher scheelite content there than in the shovel cut.

PLANNED DEVELOPMENT, MINING AND MILLING OPERATIONS

The nature and condition of the scheelite deposit under discussion are believed by the trustees of the syndicate to be such as to warrant a full development program.

A careful study of the ore, during the test-mining period, resulted in the knowledge that it can be upgraded ahead of milling to approximately 0.60% WO_3, in a plant specifically designed to serve that purpose.

The trustees' plan, then, is: (A) to block out a sufficient tonnage of ore by a diamond drilling program which is confined to the known dimensions of the deposit to warrant the construction of at least a 250-ton upgrading plant and a 100-ton mill. A 4,000-foot diamond drilling program has been mapped out; (B) to design and construct the upgrading plant and mill, as, if and when the diamond drilling program is brought to a successful conclusion, along such lines as will permit of sizeable expansion later at minimum cost.

Costs covering the above described two-phased plan are estimated as follows: (1) blocking out ore, and other preparatory work ahead of mining, 40,000.00; (2) power and water installations, 52,000.00; (3) upgrading plant and mill design and construction, 168,000.00; (4) initial mining and milling operating fund, 40,000.00. GRAND TOTAL, 300,000.00.

ESTIMATED INCOME STATEMENT		PER TON	PER ANNUM (**)
Sales Realization (@60.00 per unit)		21.60 (*)	648,000.00
Operating Costs			
(A) Stripping and mining $2\frac{1}{2}$ tons of ore	6.25		
(B) Upgrading ($2\frac{1}{2}$ tons) and milling (1 ton)	3.50	9.75	292,500.00
Gross Profit		11.85	355,500.00
General and Administrative Costs			
(A) Royalty to lessors	2.16		
(B) Administrative, and indirect costs (County, State and payroll taxes, insurance, legal services, etc.)	1.20	3.36	100,800.00
Net Operating Profit		8.49	254,700.00
Depreciation (10-year, on power, water and mill installations, 220,000.00)		.73	22,000.00
Net Profit before Federal Taxes		7.76	232,700.00
Provision for Federal Income Taxes (***)		2.33	70,014.40
Net Profit After Federal Taxes, But Before Depletion		5.43	162,685.60

(*) This recovery is based on a mill extraction of 60%, a figure which can safely be anticipated from a simple gravity concentration plant. If, however, the developement program discloses ore of adequate tonnage and grade to warrant augmenting gravity concentration by a flotation process, a recovery up to 95% might not be too much to expect. While this additional recovery of 35% would be much more costly in terms of each unit recovered (than recovery by simple gravity concentration), it is conceivable that it might increase the dollar value per ton a net of 10%, or $2.16, for a total of $14.01 Gross Profit per ton.

(**) Based on a 100-ton per day mill, operating 300 days per year, processing 30,000 tons of ore.

(***) After adjusting for deduction of percentage depletion; computed on the basis of the 1952 schedule. The break-down is as follows:

Sales Realization	648,000.00
Royalty (10%)	64,800.00
	583,200.00
Depletion (15%)	87,480.00
Net Profit before Federal Taxes	232,700.00
Depletion	87,480.00
Surtax Net Income	145,220.00
Tax rate (52%): Gross Taxes	75,514.40
Exemption	5,500.00
Net Taxes	70,014.40

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* A 300-day operation estimate can well be revised upward

* As daily production is increased, earnings will increase

* If mine-run ore values increase, and it is entirely possible they will, earnings will increase

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TUNGSTEN MARKET FUTURES

In certain quarters, fortunately limited, there appears to be a fear that current policies employed by our federal government in connection with the imports of tungsten will lead to a depressed market subsequent to the expiration of the tungsten stockpiling and guaranteed price

commitment, and that consequently any interim expansion of operational activities should be confined to those deposits which are sufficiently high grade to assure profitable operations under any save disastrous market conditions.

So evenly does argument on future tungsten markets seem to be divided between "pro" and "con", it were probably meaningless to take a stand in this prospectus on the one side or on the other. Instead, the more practical attitude would appear to be that which dictated the immediate execution of plans to develop and mine the deposit now under discussion in such a way, - during the interim period, - as to assure a return of monies invested, plus a satisfactory profit, and thus be in a favorable position to take as it came any tungsten market condition which might exist after the expiration of the commitment.

That it is entirely feasible to proceed under this line of reasoning should be clearly indicated by the following considerations:

(A)	Stockpiling and guaranteed price commitment, January 1, 1954 to June 1, 1958 (Length of time)	$4\frac{1}{2}$ years
(B)	Length of time required to accomplish developement work, mill, power and water installations, provided only enough ore tonnage is blocked out to cover mining and milling operations until June 1, 1958, on a 100-to-200-ton mill basis	1 year (*)
(C)	Length of operating time under the price commitment	$3\frac{1}{2}$ years
(D)	Net profit and depreciation recovery in a $3\frac{1}{2}$-year operating period, 100-ton mill	650,039.60
(E)	Total Investment	300,000.00
(F)	Net recovery over investment, $3\frac{1}{2}$-year operating period.	350,039.60 (**)

(*) Since the deposit is presumed to be bedded, and massive as to length, width and depth, sufficient tonnage for a $3\frac{1}{2}$-year operation, on either a 100-ton or 200-ton mill basis, can be blocked out by diamond drilling in a matter of weeks.

(**) For probable additional net recovery over investment, during the $3\frac{1}{2}$-year operating period, refer to single asterisk (*) note near the bottom of page 3, and the three single asterisk (*)(*)(*) notes at the bottom of page 4.

THE ARGUMENT FOR A 200-TON MILL, OR LARGER

An additional 40% investment, or a total investment of 420,000.00,

would provide development work ahead of mining, water, power and mill installations, and initial mining and milling operating funds, on a 200-ton per day operational basis. A 200-ton per day operation would double Sales Realization while increasing over-all costs only fractionally. Thus, instead of a net recovery over investment of 350,039.60, during the $3\frac{1}{2}$-year operating period, there would be a net recovery over investment of 969,637.20, as shown by the following Estimated Income Statement:

ESTIMATED INCOME STATEMENT		PER TON	PER ANNUM (**)
Sales Realization (@ 60.00 per unit)		21.60 (*)	1,296,000.00
Operating Costs			
(A) Stripping and mining $2\frac{1}{2}$ tons of ore	6.25		
(B) Upgrading ($2\frac{1}{2}$ tons) and milling (1 ton)	2.45	8.70	522,000.00
Gross Profit		12.90	774,000.00
General and Administrative Costs			
(A) Royalty to Lessors	2.16		
(B) Administrative, and indirect costs (County, State and payroll taxes, insurance, legal services, etc.)	.86	3.02	181,200.00
Net Operating Profit		9.88	592,800.00
Depreciation (10-year, on power, water and mill installations, 308,000.00)		.513	30,800.00
Net Profit Before Federal Taxes		9.367	562,000.00
Provision for Federal Income Taxes (***)		3.263	195,760.80
Net Profit after Federal Taxes, but before Depletion		6.104	366,239.20

(*) This recovery is based on a mill extraction of 60%, a figure which can safely be anticipated from a simple gravity concentration plant. If, however, the development program discloses ore of adequate tonnage and grade to warrant

augmenting gravity concentration by a flotation process, a recovery up to 95% might not be too much to expect. While the additional recovery of 35% is much more costly in terms of each unit recovered (than recovery by simple gravity concentration), it is conceivable that it might increase the dollar value per ton a net of 10%, or 2.16, for a total of 14.01 Gross Profit Per Ton.

(**) Based on a 200-ton per day mill, operating 300 days per year, processing 60,000 tons of ore.

(***) After adjusting for deduction of percentage depletion; computed on the basis of the 1952 schedule. The break-down is as follows:

Sales Realization	1,296,000.00
Royalty (10%)	129,600.00
	1,166,400.00
Depletion (15%)	174,960.00
Net Profit before Federal Taxes	562,000.00
Depletion	174,960.00
Surtax Net Income	387,040.00
Tax Rate (52%):- Gross Taxes	201,260.80
Exemption	5,500.00
Net Taxes	195,760.80

---

* A 300-day operation estimate can well be revised upward

* As daily production is increased, earnings will increase

* If mine-run ore values increase, and it is entirely possible they will, earnings will increase

400

AUG 3 1953

Mr. Robert C. Armstrong
3400 Sierra Drive
Reno, Nevada

Re: Docket No. UMM 3033 - Tungsten
Robert C. Armstrong
Desert Scheelite Mine
Mineral County, Nevada

Dear Mr. Armstrong:

Reference is made to your letter of July 7, 1953, enclosing letter of the same date to you from Mr. Albert Silver. Both of these letters object to our July 1, 1953, letter which advised you that our denial of the referenced application was made after careful consideration of all the information contained therein and other data available.

We then inferred from Mr. Silver's letter to you of June 22, 1953, which you had sent to us, that you had some additional information concerning the mineralization of the deposit, and therefore we stated that Defense Minerals Exploration Administration was willing to review its decision when warranted by the submission of additional pertinent information. However, contrary to our understanding of his letter of June 22, Mr. Silver's subsequent letter of July 7 states that there is nothing further to offer. Furthermore, your letter also states that the original application is complete and that it would be inappropriate to file a revised application, but you still urge us to arrange a field examination.

In order that we may determine whether there is justification for requesting a field examination, it will be appreciated if you will supplement your application by providing us with further information about the past production from the property. Your application of April 30, 1953, states in answer to item 4(b) that "There are no available production records of past operations", but your letter under reply states that you "are in possession of every fact known previously to all persons examining the property, or working on it, mining and milling, shafts, cross-cuts, exposures, possible tonnages, theoretical values, assays." We chiefly need certified copies of the settlement sheets for all ore shipments made in the name of Desert Scheelite Co., as well as the names of any lessees who made shipments in their own names and the mills to which they shipped. We would also be glad to have an opportunity to consider in its entirety the report covering the metallurgical work summarized for your application by your consulting engineer.

Sincerely yours,

C. O. Mittendorf

CC: DOCKET
FIELD TEAM, REG. 3
CODE 400
ADM. READ. FILE
~~XXXXXXXXXXXXXX~~
OPER. COMMITTEE

cc: D. H. LEMMON, USGS
E. W. GEEHAN, USBM Director

7/31/53
WMartin/AEKane/ls

FILE COPY
SURNAME:

Martin
Boone
Hoffmann

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

Renewal

Mr. Robert C. Armstrong
3400 Sigg Drive
Reno, Nevada

Re: Docket No. DMEA 3033 - Tungsten
Robert C. Armstrong
Desert Scheelite Mine
Mineral County, Nevada

Dear Mr. Armstrong:

Reference is made to your letter of July 7, 1953, enclosing letter of the same date to you from Mr. Albert Silver. Both of these letters object to our July 1, 1953, letter which advised you that our denial of the referenced application was made after careful consideration of all the information contained therein and other data available.

We then inferred from Mr. Silver's letter to you of June 22, 1953, which you had also sent to us, that you had some additional information concerning the mineralization of the deposit, and therefore we stated that Defense Minerals Exploration Administration was willing to review its decision when warranted by the submission of additional pertinent information. However, contrary to our understanding of his letter of June 22, Mr. Silver's subsequent letter of July 7 states that there is nothing further to offer. Furthermore, your letter also states that the original application is complete and that it would be inappropriate to file a revised application, but you still urge us to arrange a field examination.

We operate under DMEA Order-1, copy of which is enclosed for your information. In accordance with Section 4 of that order, our field examinations are made to determine whether the application accurately describes the relative exploration project and is justified by the detailed substantiating data set forth in the application form. We often defer making such examinations pending compliance with our requests for additional information, reports, or maps. As you will therefore readily appreciate, without further information than that contained in your application, we would not now be justified in requesting a field examination of your property.

Sincerely yours,

Administrator

cc: Docket
Field Team, Reg. 3
Code 400
Adm. Read. File
D. M. Lemmon, USGS
R. W. Geehan, USBM
Oper. Committee
Enclosure

WSMartin/AEKane/ls
7/21/53

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

Revised

Mr. Robert C. Armstrong
3400 Sigg Drive
Reno, Nevada

Re: Docket No. DMEA 3033 - Tungsten
Robert C. Armstrong
Desert Scheelite Mine
Mineral County, Nevada

Dear Mr. Armstrong:

Reference is made to your letter of July 7, 1953, enclosing letter of the same date to you from Mr. Albert Silver. Both of these letters object to our July 1, 1953, letter which advised you that our denial of the referenced application was made after careful consideration of all the information contained therein and other data available.

We then inferred from Mr. Silver's letter to you of June 22, 1953, which you had also sent to us, that you had some additional information concerning the mineralization of the deposit, and therefore we stated that Defense Minerals Exploration Administration was willing to review its decision when warranted by the submission of additional pertinent information. However, contrary to our understanding of his letter of June 22, Mr. Silver's subsequent letter of July 7 states that there is nothing further to offer. Furthermore, your letter also states that the original application is complete and that it would be inappropriate to file a revised application, but you still urge us to arrange a field examination.

We operate under DMEA Order-1, copy of which is enclosed for your information. In accordance with Section 4 of that order, our field examinations are made to determine whether the application accurately describes the relative exploration project and is justified by the detailed substantiating data set forth in the application form. We often defer making such examinations pending compliance with our requests for additional information, reports, or maps. As you will therefore readily appreciate, without further information than that contained in your application, we would not now be justified in requesting a field examination of your property.

Sincerely yours,

Administrator

Enclosure

400

JUL 1 1953

Mr. Robert C. Armstrong
3400 Sigg Drive
Reno, Nevada

Re: Docket No. DMEA 3033 - Tungsten
Robert C. Armstrong
Desert Scheelite Mine
Mineral County, Nevada

Dear Mr. Armstrong:

This will acknowledge your letter of June 24, 1953, requesting this Administration to reconsider its denial of the referenced application for exploration assistance and transmitting a letter from Albert Silver, Consulting Engineer, discussing the denial.

The denial of the referenced application was made after careful consideration not only of the information contained in your application but also of other data available to us in Washington. However, the Defense Minerals Exploration Administration is always willing to review its decisions when warranted by the submission of additional pertinent information. In Mr. Silver's letter of June 22, 1953, to you he stated: "***except that we now have more favorable information to offer. *As you know our more recent exploratory work has disclosed high grade ore in favorable locations in the deposit so that new opinions concerning the ore grade could well be revised upwards." From this we infer that you have some additional information concerning the mineralization of the deposit.

The subject denial was made without prejudice to the property. Any new and significant data that might materially alter our conclusions could of course be furnished to this Administration at any time. Such information should be accompanied by a revised application on Form MF-103 and refer to the present docket.

We again wish to thank you for your interest in the Defense Minerals Program and for bringing this property to our attention. Please be assured that a revised application containing the necessary information will be given prompt consideration.

Sincerely yours,

C. O. Mittendorf

Administrator

FARutledge:foc 6-30-53
cc: Docket
Code 400
FT. Reg. 3
Adm. Reading File
Oper. Comm.
Mr. Geehan, USBM
Mr. Lemmon, USGS

JUN 2 1953

Mr. Robert C. Armstrong
3400 Sigg Drive
Reno, Nevada

Re: Docket No. DMEA 3033 - Tungsten
Robert C. Armstrong
Desert Scheelite Mine
Mineral County, Nevada

Dear Mr. Armstrong:

Your application for aid for an exploration project and other data available to us in Washington concerning the referenced property have been reviewed.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding materials of acceptable grade in quantities that will significantly improve the mineral supply position for the National Defense Program.

Careful study of all our information, although noting tungsten mineralization on your lease, indicates to us that the probability of disclosing minable ore reserves by your proposed program is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

We wish to thank you for your interest in the Defense Minerals Program and for bringing your property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

FARutledge:foc
5-19-53
cc: Docket
Code 400
Adm. Reading File
FT. Reg. III
R. W. Gechan, USBM
D. M. Lemmon, USGS

400

May 28, 1953

Memorandum

To: W. S. Martin, Acting Chief, Iron and Ferro-Alloys Division

From: Robert W. Geehan, Assistant Chief, Ferrous Metals and Alloys Branch

Subject: DMEA 3033 - Tungsten, Robert C. Armstrong, Desert Sheelite Mine, Mineral County, Nevada

The applicant proposes to explore the Desert Scheelite deposit by diamond drilling, with a total cost of about $36,000.

The deposit is probably too low-grade to work on an "average ore". However, there may be a chance for a profitable operation by selective mining. Several firms maintain regular production on tungsten ores containing 0.3 to 0.35 percent WO_3.

It is recommended that the application be referred to the Field Team for clarification of the following points:

1. Is selective mining practical.

2. If only small ore-shoots can be worked, would diamond drilling be a satisfactory method of exploration.

3. Are the samples listed in the report by Albert Silver from better than average locations, or are they representative samples that could be used for estimating the grade of ore.

4. If the Field Team recommends exploration the method and the location of drill holes or other workings will be needed.

5. There appears to be a difference of opinion regarding the dip of the beds of tactite.

Copy retained 600

W. S. Martin

Robert W. Geehan

May 19, 1953

MEMORANDUM

TO: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of exploration project in the amount of $36,150.00
Docket No. DMEA 3033 - Tungsten
Robert C. Armstrong
Desert Scheelite Mine
Mineral County, Nevada

The denial of the subject application by this Division is based on the following information:

1. The applicant proposed to spend a total of $36,150.00 to do 4,000 feet of diamond drilling at the Desert Scheelite mine, Pilot Range, Mineral County, Nevada. The exploration program was poorly laid out as the drill holes were located to be drilled both north and south. The holes bearing north would have been drilled down the dip according to the sections by P. C. Bateman and M. P. Erickson, U. S. Geological Survey.

2. The workings and geology on this property were described in an unpublished report (1943) by P. C. Bateman, U. S. Geological Survey. The scheelite, in the main, is disseminated throughout the tactite in small grains that fluoresce yellow indicating considerable molybdenum. Concentrations of scheelite also occur along fracture planes, a few square feet in area, but such ore shoots are not of sufficient size for selective mining.

3. On the basis of analyses (3 selected samples) and careful examination of all exposures by ultraviolet light, Bateman estimated the average grade to be 0.16 percent WO_3.

The applicant reported 16 sample analyses ranging from 0.12 to 1.53 percent WO_3. These samples were taken over short intervals and are not likely to be representative of the deposit as a whole. The applicant, however, estimated the ore would average 0.4 percent WO_3.

The applicant also stated that 650 tons were mined in February 1953 that contained 0.266 percent WO_3.

It is more likely that the ore body will average under 0.25 percent WO_3.

4. The Commodity Division of the U. S. Geological Survey recommends referral to the Field Team only if the Government is interested in deposits of this low grade.

5. The deposit is too low grade to warrant further investigation by the Government at this time.

W. D. Martin, Acting Chief
Iron and Ferro-Alloys Division

FARutledge/ls
5/29/53

cc: Docket
Adm. Read. File
Code 400
Operating Committee

IN REPLY REFER TO:

G-MD-DML

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

May 18, 1953

Memorandum

To: W. S. Martin, DMEA

From: D. M. Lemmon, USGS

Subject: Exploration Application $36,150 DMEA-3033
Robert C. Armstrong Tungsten
Desert Scheelite mine
Pilot Range, Mineral County,
Nevada

The applicant proposes to explore the Desert Scheelite deposit by 4,000 feet of core drilling at an overall cost of about $9 per foot.

The Desert Scheelite deposit is on a pediment half a mile east of the base of the Pilot Range. It was mapped in 1943 by P. C. Bateman, whose unpublished report for the Geological Survey is the source of the following summary.

Tactite, in a large tabular body 50 feet wide and 700 feet long with a steep north dip, is exposed along the bottom of a shallow draw. Thinner less continuous tactite beds are found 100 to 200 feet north of the main mass. The tactite is largely confined to a few limestone beds, but it also occurs in fractures that cut across the limestone.

Scheelite is evenly distributed through the tactite in small grains that fluoresce yellow. Richer streaks, only a few square feet in area, are occasionally found along fracture planes, but they do not form shoots of sufficient size for selective mining.

Bateman took 3 selected samples (see attached geologic map) that assayed 0.324, 0.168, and 0.054 percent WO_3. Assays were by the Bishop Assay and Engineering Office at Bishop, California. On the basis of these samples and careful examination of all exposures in ultraviolet light, Bateman estimated the average grade to be 0.16 percent WO_3. The outcrop shows about 6,000 tons of tactite per foot of depth, and tactite extends deeper than a 50-foot shaft. The depth to which mineralization extends is unknown.

The application contains a report by Albert Silver, consulting engineer, with an assay map, but no geologic map. Silver cut 16 samples and took one dump sample; his report does not identify the assayer. Half of Mr. Silver's samples represent widths of 14 to

22 inches and the remaining 8 range from 36 to 84 inches. It appears that these samples represent selected parts of the tactite, not the whole mass. If 2 abnormally high samples are disregarded, the arithmetical unweighted average of the remaining 15 is 0.34 percent, with a range of 0.12 to 0.60 percent. It is stated that 650 tons were mined in February 1953 and shipped (destination not specified), and that the control samples, assayed by Union Assay Office, Inc. of Salt Lake City, averaged 0.266 percent WO_3.

Conclusion

The average content of WO_3 in the large tactite mass appears to be about 0.15 to 0.25 percent. Thin layers may average 0.35 to 0.4 percent, but it is not clearly demonstrated that they can be mined selectively. The scheelite contains considerable molybdenum which may be detrimental to the value of concentrates.

Recommendation

If DMEA decides that it wants to initiate exploration of deposits of this low grade at the present time, I suggest that the proposal be referred to the Field Team for consideration. I have not seen the applicant's map showing location of proposed drill holes, but infer from his description that drilling is to be done from both sides of the outcrop. The geologic map suggests that drilling should be from the north.

D. M. Lemmon

Attachment

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

400

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 12 1953

Not to be filled in by applicant

Docket No. DMEA-3033
Metal or Mineral
Date Received 5/12/53
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address:

Robert C. Armstrong
3400 Sigg Drive
Reno, Nevada

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized. Individual

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract

This matter is fully explained in an accompanying exhibit titled, DMEA Application - Supplementary Data.

(*b*) State any mine name by which the property is known. Desert Scheelite

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Interest in the land consists of an agreement of lease and option dated Dec. 24, 1952

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property. See exhibits accompanying this application

(*e*) If you own the land, describe any liens or encumbrances on it No liens or encumbrances on the property.

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. A complete description is given under 3a in the accompanying exhibit titled, DMEA Application - Supplementary Data.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes. See accompanying exhibit.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. " "

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you. See Accompanying exhibit "Report on Desert Scheelite Property"

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. Explained under 4d in accompanying exhibit.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

This matter is also explained under 4e in accompanying exhibit titled, DMEA Application-Supplementary Data.

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5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore Tungsten (In Scheelite)

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc. See accompanying exhibit-Report on Desert Scheelite Property.

(*c*) The work will start within 90 days and be completed within 4 months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. See accompanying exhibit.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.). See exhibit titled, DMEA Application-Supplementary Data

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants. See accompanying exhibit.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. These to be furnished by the Diamond-Drilling Contractor

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be. None

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project. None

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project. None

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes. See accompanying exhibit

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above. See accompanying exhibit

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)? Yes

(*b*) How do you propose to furnish your share of the costs?

[X] Money [ ] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated April 30, 1953.

Robert C. Armstrong
(Applicant)

By

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

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(3) Applicant's Property Rights :

(a) The property consists of five unpatented lode mining claims situated in the Shoshone Mining District, Mineral County, Nevada, as follows : (See Map with attached Report)

DESERT SHEELITE LODE described as follows to wit :

Commencing at Cor. No. 1 marked S.E. c D.S., whence the S.W. Cor. Sec. 31, T 6 N, R 38 E, M.D.M. bears S 62° 10' E, 33,977 ft. Thence S 79° 08' W 750 ft. to the south side center 1430 ft. to Cor. No. 2, Marked S.W. c D.S. Thence N 10° 52' W, 600 ft. to Cor. No. 3, marked N.W.c D.S. Thence N 79° 08' E 680 ft. to the north side center and 1430 ft. to Cor. No. 4 an undesirable place for a post. Thence S 10° 52' E 54 ft. to a post marked W. c No. 4 D.S. and 600 ft. to Cor. No. 1, the place of beginning.

Originally located 1st day of July, 1931 and recorded on the 21st day of August, 1931 in Book 9, Page 156 in the office of the Recorder of Mineral County, Nevada.
Amended Location made Jan. 20, 1953 and filed for record February 2, 1953. Recorded in Book 14 of Mining Locations, Page 456-457, Records of Mineral County, Nevada.

DESERT SHEELITE No. 1 LODE described as follows to wit :

Commencing at Cor. No. 1, marked N.E. Cor. D.S. No. 1, Identical with the N.W. Cor. No. 3, Desert Scheelite Claim of this survey. Thence S 10° 52' W. 600 ft. to a point on the east side line, identical with the S.W. Cor. No. 2, Desert Sheelite, 1200 ft. to another point on the side line identical with the S.W. Cor. No. 3, Desert Sheelite No. 2 and 1500 ft. to Cor. No. 2, Marked S.E.c D.S. No. 1. Thence S 79° 08' W. 600 ft. to Cor. No. 3, marked S.W.c D.S. No. 1. Thence N. 10° 52' W. 750 ft. to the west side center and 1500 ft. to Cor. No. 4, marked N.W. Cor. D.S. No. 1. Thence N 79° 08' E. 600 ft. to Cor. No. 1, the place of beginning.

Originally located on the 10th day of August, 1931 and recorded on the 21st day of August, 1931 in Book 9, Page 156 in the office of the Recorder of Mineral County, Nevada.
Amended Location made January 23, 1953 and filed for record Feb. 2, 1953. Recorded in Book 14 of Mining Locations Page 457-458, Records of Mineral County, Nevada.

DESERT SHEELITE No. 2 LODE described as follows to wit :

Commencing at Cor. No. 1, marked N.E.c D.S. No. 2, thence S 10° 52' E. 83 ft. to Cor. No. 2, Desert Sheelite No. 3 and 600 ft. to Cor. No. 2, marked S.E.c D.S. No. 2. Thence S. 79° 08' W. 680 ft. to south side center and 1430 ft. to Cor. No. 3, marked S.W. c D.S.No. 2, Thence N. 10° 52' W. 600 ft. to Cor. No. 4, marked N.W.c D.S. No. 2. Thence N. 79° 08' E. 680 ft. to north side center and 1430 ft. to Cor. No. 1, the place of beginning. Cor. No. 1 is identical with Cor. No. 1 Desert Sheelite Lode, wjence the S. W. Cor. Sec. 31, T 6 N, R 38 E, M. D. M. bears S 62° 10' E, 33,977 ft.

Originally located on the 11th day of October, 1936 and recorded on the 3rd day of November, 1936 in Boook 10, Page 289 in the office of the Recorder of Mineral County, Nevada.
Amended Location made January 23, 1953 and filed for record February 2, 1953. Recorded in Book 14 of Mining Locations, Page 458-459, Records of Mineral County, Nevada.

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(3) (a) Continued :

DESERT SHEELITE No. 3 LODE described as follows to wit :

Commencing at Cor. No. 1, marked S.W.c D.S. No. 3. Thence N. 10° 52' W. 83 ft. to Cor. No. 2, Desert Sheelite Lode of this survey and 600 ft. to Cor. No. 2, whence a post marked W.C. D.S. No. 3 bears N. 10° 52' W. 29 ft. Thence from Cor. 2 N. 86° 37' E. 750 ft. to the north side center and 1500 ft. to Cor. No. 3, marked N. E.c D. S. No 3. Thence S 10° 52' W. 600 ft. to Cor. No. 4, marked S.E. Cor. D.S. No. 3. Thence S 86° 37' W. 750 ft. to the south side center and 1500 ft. to Cor. No. 1, the place of beginning.

Originally located on the 1st day of Septemver, 1940 and redorded on the 11th day of October, 1940 in Book 11, Page 500 in the office of the Recorder of Mineral County, Nevada. Amended location made January 21, 1953 and filed for record February 2, 1953 and recorded in Book 14 of Mining Locations, page 459-460, Records of Mineral County, Nevada.

DESERT SHEELITE No. 4 LODE described as follows to wit :

Commencing at Cor. No. 1, marked S.W.c D.S. No. 4, identical with the S.E. Cor. No. 4 Desert Sheelite No. 3 Lode of this survey. Thence N. 10° 52' E. 600 ft. to Cor. No. 2, marked N.W.c D.S. No.4, identical with the N.E. Cor. No. 3 of the Desert Sheelite No. 3 Lode. Thence N. 82° 12' E. 750 ft. to the north side center and 1500 ft. to Cor. No. 3, marked N.E.c D.S. No. 4. Thence S 10° 52' E. 600 ft. to Cor. No.4, marked S.E.c D.S. No. 4. Thence S. 82° 12' W. 750 ft. to the south side center and 1500 ft. to Cor. No. 1, the place of beginning.

Originally located September 1, 1940 and recorded on the 11th day of October, 1940 in Book 11, page 500 in the office of the Recorder of Mineral County.
Amended Location made Jan. 21, 1953 and filed for record February 2, 1953, Recorded in Book 14 of Mining Locations page 460, Records of Mineral County, Nevada.

(d)

Lease and Option Agreement, Quit Claim Deeds and Escrow Instructions, all in the form of true copies, are in the exhibits accompanying this application.

(f)

A complete description of the Desert Sheelite property is given under (3) a.

(4) Physical Description :
(a) There are no mining or exploration operations going on at present. Mining and Exploration operations, prior to the date of this application, are explained in the accompanying exhibit, titled, " Report on Desert Scheelite Property".

(b) There are no available production records of past operations. A considerable part of the ore and ore materials mined from the 50 ft. shaft and shaft workings on the West End Line of the Desert Sheelite claim was hauled away for milling. This would probably total less than 1,000 tons and from the assays of existing faces probably averaged 0.4% WO_3. From the upper and lower shovel

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(4) (b) Continued :

cuts and stripping of parts of the tactite outcrop there was probably mined and shipped for milling, by former operators, as much as 6,000 tons. From later experiences this ore is judged to have averaged about 0.3% WO_3. Operations in February, 1953, in the lower shovel cut, by the applicant, resulted in the shipping of 650 tons of ore assaying, according to applicants controls, 0.266% WO_3.

In addition to the above the applicant also did a considerable amount of exploratory work with a bull-dozer. This work augmented considerably the existing opinions concerning the length and width of the ore occurrence.

All of the workings are accessible.

(c) Information requested under this sub-heading has been taken up in the accompanying exhibit, titled, "Report on Desert Scheelite Property". Accompanying this " Report on Desert Scheelite Property " and as a part of the Report there are Maps as follows :

(1) Map of the Desert Scheelite Group of Claims, by C. A. Liddell.

(2) Assay Map of Desert Scheelite Property.

(3) Sections A-A and B-B.

(4) Map showing proposed drill holes.

(d) The property is favorably located with respect to accessibility. It is situated twenty four miles by a good dirt road from Mina, Nevada. Mina is the shipping and supply and residence point nearest the property. It is the terminus of the Mazon to Mina branch of the S.P. Railroad.

(e) Manpower is available from various mining camps in Mineral, Nye and adjacent counties, and such towns as Hawthorne, Yerington, Fallon, Fernley, Carson City and Reno. Materials, supplies and equipment, although not available on the property, are readily obtainable from nearby supply points.

A proven water supply is available within a distance of three miles of the property which can be counted on to yield up to one-half c.f.s.

For the proposed exploration program gasoline or diesel engine power will have to be used. The nearest commercial electric power source is Sodaville, which is probably a power line distance of 14 miles from the property.

(5) (b)
The information requested here is given in the accompanying " Report on Desert Scheelite Property " and the proposed drilling program is illustrated on a Map which accompanies this report.

(d) The Applicant, Robert C. Armstrong, has had upwards of ten years of dredge and hydraulic placer mining experience in Alaska. The operations will be supervised by Albert Silver who is a graduate mining engineer with 40 years of actual experience in the fields of mining and metallurgy. Over half of this experience was obtained in mining districts in the general area of Nye, Mineral and Esmeralda Counties. The Desert Scheelite property is in Mineral County.

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(6) Estimate of Costs :

(a) Independent contracts.

It is proposed that all of the diamond drilling program, to the point of Engineering supervision, be conducted under independent contract. It is further proposed that this work comprise a total of 4000 ft. of actual drilling. Bull-dozer work will consist only of access road work and cleaning up operations incident to setting up the drill and starting the holes ; a lump sum is estimated for this part of the project. Bids submitted to date, on the basis of an actual on the ground study by reputable drilling contractors, indicate the actual cost of drilling to be $ 5.75 per foot regardless of size, BX, AX or EX, plus an additional charge of $ 1.50 per foot of casing, where required, and $ 1.50 additional per foot for drilling cement. It is not possible to state accurately what this extra work might amount to - it is assumed here, that it will add 15% to the flat drilling costs, or $ 3,450.00. Therefore, the contract price for diamond drilling works out as follows :

4000 ft. of diamond drilling @ $ 5.75 per ft.	$ 23,000.00
Extras as per the above assumption	3,450.00
Total for Drilling	$ 26,450.00
Add preparation of ground for drilling	1,500.00
Grand Total	$ 27,950.00

(b) Labpr, Supervision, consultants.

Labor and the supervision of the physical aspects of the diamond drilling program, inclusive of the preparation of the sludge and core samples, keeping the log records and plotting same, will be included in the independent diamond drilling contract. However, one or possibly more engineering and geological consultants will be employed but not to exceed $ 650.00 per month for this type of technical service. Over a four months period this would total $ 2,700.00.

(g) Miscellaneous.

The only items under this heading, not considered in the foregoing, are the analytical work on the sludge and core samples, including shipping costs, which is estimated, on the basis of 4000 ft. of drilling, to cost $ 3,800.00 and office work at $ 300.00 for the entire project, making a grand total of $ 4,100.00.

(h) Contingencies.

Under this heading are placed items which will undoubtedly occur but of a nature which cannot be readily anticipated ; some provision must be made for them. Under this heading would come the travel and other expenses of engineering and other consultants, analytical work not ordinarily contemplated, communications expense, etc. For these contingencies an allowance of $ 350.00 per month is made or a total of $ 1,400,00 for the entire project.

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RESUME' OF ITEM 6

(6)

(a) 4000 ft. of drilling @ $ 5.75 per ft.	$ 23,000.00	
Extras for Casing & Cement	3,450.00	
Ground preparations	1,500.00	$ 27,950.00
(b) Engineering and Geological consultants,		2,700.00
(g) Analytical work	$ 3,000.00	
Bagging & Shipping	800.00	
Office work	300.00	4,100.00
(h) Contingencies		1,400.00
Grand Total		$ 36,150.00

Respectfully submitted,

Robert C. Armstrong

Robert C. Armstrong, Applicant.

Reno, Nevada
April 30, 1953

DMEA APPLICATION

ROBERT C ARMSTRONG

3400 Sigg Drive
Reno, Nevada

April 30, 1953

EXHIBITS REQUESTED

UNDER HEADING 3 (d)

(1) Agreement of Lease and Option.

(2) Owner's Quit Claim Deed

(3) Lessee's Quit Claim Deed

(4) First National Bank of Nevada, Escrow Instructions.

(5) First National Bank of Nevada, Supplementary Escrow Instructions.

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AGREEMENT OF LEASE AND OPTION

THIS AGREEMENT, made and entered into this 24th day of December, 1952, between CHARLES W. TAYLOR of the City of Hawthorne, State of Nevada, FRANKLIN S. THOMPSON, of the City of Alhambra, State of California, by Charles W. Taylor, as his attorney-in-fact thereunto duly authorized, and L. J. CORNELIUS, of the Town of Mina, State of Nevada, parties of the first part, hereinafter called the Lessors, and ROBERT C. ARMSTRONG, of the City of Reno, State of Nevada, party of the second part, hereinafter called the Lessee,-

W I T N E S S E T H:

RECITALS:

1. First parties are the owners of that certain contiguous group of possessory lode mining claims, commonly known and described as DESERT SCHEELITE, DESERT SCHEELITE NO. 1, DESERT SCHEELITE NO. 2., DESERT SCHEELITE NO. 3 and DESERT SCHEELITE NO. 4, situate at Pilot Mountain, Shoshone Mining District, County of Mineral, State of Nevada, and appearing of record in the office of the Recorder of said County and State, to which records reference is hereby made for a more particular description thereof; together with the improvements thereon or appurtenant thereto, if any.

2. Said mining claims are owned in common by first parties, Lessors, in the following proportionate interests, namely:

Charles W. Taylor. . . An undivided one-half interest therein;

Franklin S. Thompson . . . An undivided one-fourth interest therein; and

L. J. Cornelius . . . An undivided one-fourth interest therein.

3. Negotiations have been pending between the parties hereto, looking to the granting to said lessee of a lease and option upon all of the afore-described mining properties and premises, upon the particular terms and conditions hereinafter set forth.

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NOW, THEREFORE, for and in consideration of the sum of One Dollar ($1.00), lawful money of the United States of America, paid by the Lessee to the Lessors, receipt whereof is hereby acknowledged, and other valuable considerations hereinafter mentioned, and of the faithful performance by the Lessee of the terms, covenants and conditions hereinafter contained, it is agreed between the parties as follows:

1. Lessee shall have, and is hereby granted, the sole and exclusive right and privilege of entering in and upon the afore-described premises for the purpose of examining, sampling, prospecting, exploring and mining the same in order to determine the value thereof as mineral-bearing ground; and conditioned upon payment by the Lessee to the Lessors of the sum of Five Hundred Dollars ($500.00) on or before March 1, 1953, with like payments of $500.00 each on or before the first day of each and every month thereafter to and including the first day of August, 1953, Lessee shall have the right to remain in the sole and exclusive possession thereof and to mine, extract and mill, treat, concentrate, process or ship and sell any and all ores, metals, minerals or other deposits as may be found within the exterior boundaries of said premises, up to and including the 31st day of August, 1953. Any and all such monthly payments so made by the Lessee to the Lessors shall be applied on and be in part payment of the respective option purchase prices for said properties and premises mentioned in the next succeeding paragraph, and all such preliminary prospecting, exploratory work and mining by said Lessee during said testing period shall be done and performed in good and miner-like fashion.

2. Conjunctively with such right of possession during said testing period, and for the same consideration hereinabove expressed, Lessee shall have and is hereby granted:

(a) The sole and exclusive right and option to purchase the afore-described properties and premises at and for

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an agreed purchase price of Sixty Thousand Dollars ($60,000.00), to be paid to the Lessors in lawful money of the United States on or before the 31st day of August, 1953; or,

(b) In the alternative, and at the election of the Lessee, for the same consideration hereinabove expressed and by virtue of these presents, TO HAVE AND TO HOLD a Lease and Leasehold Estate in and upon said property and premises for a term contemporaneous with an alternative, sole and exclusive option right and privilege to said Lessee to purchase said property and premises at and for an agreed purchase price of One Hundred Thousand Dollars ($100,000.00), to be paid out of production royalties in manner following, that is to say:

A flat royalty of ten per cent (10%) upon the gross milling or reduction returns on all ores, concentrates, mineral-bearing rock, earth or other deposits mined, milled, treated or shipped and sold from the demised premises by virtue of this agreement; Provided, However, that commencing as of March 1, 1953, and thereafter on or before the first day of each and every month until said alternative option purchase price of $100,000.00 shall have been paid in full, Lessee shall pay to the Lessors a minimum monthly royalty of Five Hundred Dollars ($500.00) so long as Lessee shall remain in possession of the demised premises.

All royalty or other payments made by the Lessee to the Lessors pursuant to this agreement shall be credited on the next ensuing minimum monthly royalty payment, and shall be applied on and be in part payment

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of said alternative option purchase price, conditioned, however, that production royalty payments made by the Lessee to the Lessors shall not be cumulative or credited against future minimum monthly royalty payments.

Unless said leasehold estate and option privilege shall have been sooner surrendered by the Lessee, or terminated by the Lessors for failure of the Lessee to fully perform the covenants hereof, said alternative option purchase price of $100,000.00 shall be paid in full on or before November 1, 1969; provided, however, that Lessee shall have the right of acceleration and to conclude purchase of the demised premises at any time during the life of said agreement.

3. It is the intentiom of the parties that the rights and privileges granted to the Lessee under paragraphs 1 and 2 hereof, with particular reference to said alternative options, shall be deemed to run contemporaneously until August 31, 1953, and that due payment by the Lessee to the Lessors of the sum of $500.00 per month on or before March 1, 1953 to and including August 1, 1953 shall operate to protect both of said alternative option rights and privileges; Provided, However, that on or before August 25, 1953 Lessee shall give written notice to the Lessors, either personally or by registered mail to the Lessors' address as hereinafter noted, of Lessee's election as between said alternative options, on the one hand, or of Lessee's intention to terminate this agreement and surrender possession of said premises, on the other. This agreement shall not, in any event, either before or after Lessee's exercise of one or the other of said option rights and privileges, be construed as a binding agreement of purchase on the part of said Lessee, and excepting only as to the afore-mentioned notice of election, may be terminated and abandoned by the Lessee at any time during the life hereof and the premises thereupon surrendered to

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the Lessors without further notice.

4. All of the purchase money payments so to be made by the Lessee to the Lessors shall be made to First National Bank of Nevada, Second and Virginia Streets, Reno, Nevada, for the account of C. W. Taylor as Trustee for said Lessors. All ores, metals, concentrates or other mineral substances mined and extracted from the demised premises shall be treated or shipped with reasonable diligence, and all mill or other reduction returns thereon shall be made to First National Bank of Nevada, Second and Virginia Streets, Reno, Nevada, and by said banking house distributed: ten per cent (10%) to said C. W. Taylor, as Trustee for said Lessors, and ninety per cent (90%) to the Lessee. A duplicate original copy of this agreement shall be furnished to said banking house for purposes of reference in making said distributions, and in complying with the escrow instructions to said banking house which are hereinafter mentioned in relation to said alternative options.

Lessee shall be chargeable with and pay any and all loss or expense resulting from any shipment which may prove to be not of payable grade.

5. Upon execution and delivery of this agreement Lessors shall make, execute and acknowledge a good and sufficient quitclaim deed conveying to said Lessee all of said Lessors' right, title, estate and interest in and to the aforedescribed premises, which said instrument of conveyance shall be thereupon deposited in escrow with First National Bank of Nevada, Second and Virginia Streets, Reno, Nevada, and by said Banking House held in escrow under an appropriate letter of instructions in accordance with the terms hereof, and be delivered to the Lessee upon full payment of the purchase price under either of said alternative options, or surrendered to the Lessors upon failure by the Lessee to comply with the terms thereof. Conjunctively with the execution and deposit in escrow of said conveyance by the Lessors, said Lessee shall likewise

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execute and place in escrow a quitclaim deed releasing and convey- all of his right, claim, demand and interest in the demised premises to the Lessors, with instructions to said escrow holder to deliver said quitclaim deed to the Lessors for default in payment by the Lessee.

6. Lessee shall keep separate and accurate records of all ores and mineral bearing substances mined and treated or shipped and sold from the demised premises, which shall be open to inspection by the Lessors at all reasonable times; and on or before the 10th day of each and every month Lessee shall furnish Lessors with a statement of all ores mined and treated, or shipped and sold, during the preceding month, together with copies of all such mill and other reduction returns on ores and concentrates as may be received by the Lessee.

7. All of the operations of the Lessee shall be conducted in miner-like fashion, and in manner necessary to good and economical mining, so as to mine, treat and recover the maximum values from the ores, concentrates or other mineral deposits mined and extracted from the afore-described properties and premises, with due regard to the safety, preservation and development thereof as a workable mine.

8. Lessee shall timber all workings at all points where proper in accordance with good mining practice, and shall at all times keep all drifts, shafts and other workings upon said premises accessible and clear of loose rock and rubbish. In said and all other respects Lessee's operations shall be so conducted as to fully comply with the laws of the State of Nevada in every respect, and with all present or future rules, regulations and requirements promulgated pursuant to the Federal Standard Labor Practices Act.

9. Lessors have completed and duly recorded proof of statutory annual labor performed upon said mining premises for the current

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assessment year (1953) ending at noon on July 1, 1953. Thenceforward, during the life of this agreement, Lessee shall perform all such annual labor or assessment work on said premises as may be required to hold and protect the same as valid and subsisting mining claims, commencing with the next ensuing assessment year ending July 1, 1954 (unless performance thereof as to any such year or years shall be exempted by Federal law), and shall complete such annual labor requirements and file verified proof thereof with the Recorder of Mineral County, Nevada, in manner prescribed by law, on or before the 1st day of June during each of said years. Lessee shall thereupon mail written notice of such filing, together with a true copy of such verified proof, or a true copy of any notice of intention to hold which may be filed by the Lessee pursuant to Federal law exempting such annual labor, to the Lessors at their postoffice address as hereinafter noted.

10. Lessee shall promptly pay all such state and county taxes as may be levied upon said mining premises or the improvements thereon, and shall pay Lessee's proportion of all bullion, Severance or other like taxes as may be assessed upon the output therefrom during the life of this agreement.

11. Lessee shall carry Nevada Industrial Insurance for any and all persons employed upon, in or about the mining, milling or other operations upon the demised premises, including said Lessee.

12. Lessee shall promptly pay for any and all labor performed and materials or supplies furnished in connection with his operations upon said premises, and shall immediately post and thereafter maintain and keep posted conspicuously upon said premises, during the life of this agreement, notices to the effect that first parties, Lessors, shall not be liable for any of the obligations of said Lessee for labor supplied or materials or supplies furnished to said Lessee, and shall take all such steps as may be required by law to free said Lessors from liability in that behalf, and to keep said premises free and clear from liens, attachments or other encumbrances.

Robert C. Armstrong
3400 Sigg Drive
Reno, Nevada

13. Lessee shall furnish, at his own sole cost and expense, all such mining or milling machinery, appliances, equipment, supplies, tools and buildings as Lessee may deem necessary to the effective operation of said mining premises; provided, however, that said second party, Lessee, shall retain title and ownership of all such improvements (excepting mine timbers, mine track, air pipe and like installations beneath the surface) as may be placed or installed upon the demised premises by the Lessee, and shall have the right to remove the same within ninety (90) days from and after the expiration or sooner determination of this agreement, without purchase, it being expressly agreed that none of said improvements (excepting only as hereinabove noted) shall be deemed fixed to the realty or become fixtures thereof.

14. It is expressly agreed between the parties that the term of the lease hereby granted to the Lessee shall be contemporaneous with the particular option right and privilege which Lessee may hereafter elect to exercise, as hereinabove provided, and that any default by the Lessee in payment of the stipulated minimum monthly or other royalties so reserved to the Lessor, as and when due, shall forfeit and determine all of Lessee's option rights and privileges, as well also Lessee's lease right and leasehold estate in and to the demised premises.

15. Lessee may assign this agreement, and any interest, privilege, claim or demand hereunder, without the consent of the Lessors.

16. At all times during the life of this agreement Lessors shall have free access to the demised premises for the purposes of inspection, sampling and survey, and Lessee shall furnish the Lessors with copies of all surveys or underground maps, and of all assay certificates and like records prepared for or by the Lessee, and shall in said and all other respects facilitate inspection, sampling and the acquisition of reliable information on/the demised premises by the Lessors.

Robert C. Armstrong
3400 Sigg Drive
Reno, Nevada

17. Any and all written notices required hereunder, or permitted to be given by either of the parties to the other and others, shall be addressed:

(a) For the Lessors, to:

Charles W. Taylor,
P. O. Box 777-1,
Hawthorne, Nevada.

(b) For the Lessee, to:

Robert C. Armstrong,
3400 Sigg Drive,
Reno, Nevada.

18. For violation by the Lessee of any of the option or lease covenants hereinabove reserved to be kept and performed by the Lessee, or upon failure by the Lessee to make said stipulated payments of purchase price or royalty payments, as and when due, or to timely elect as between said alternative options, the term of this lease and of the alternative option rights and privileges herein granted shall expire, terminate and be of no further force or effect, and any and all installments or payments theretofore made by the Lessee, including any and all payments on account of royalties, shall be deemed as and be forfeited to the first parties, Lessors, as liquidated damages and rentals for the use and occupancy of said premises, and for the rights and privileges enjoyed by said Lessee, under this lease and option; and it shall be thereupon lawful for the Lessors, their agents, attorneys or representatives, to enter upon and take possession of said demised premises, without demand or notice.

19. This agreement, and each and every clause and covenant thereof, shall extend to and be binding upon the heirs, executors, administrators and assigns of the parties hereto.

IN WITNESS WHEREOF, First parties C. W. Taylor and L. J. Cornelius have hereunto signed their names, and First party Franklin S. Thompson has caused his name to be signed hereto by C. W. Taylor, as his attorney-in-fact, and Second party, Lessee, has hereunto

Robert C. Armstrong
5400 Sigg Drive
Reno, Nevada

signed his name; all on the day and year in this agreement first above written.

C. W. Taylor
C. W. TAYLOR

Franklin S. Fay Thompson
FRANKLIN S. THOMPSON

By C. W. Taylor
C. W. TAYLOR, as his attorney-in-fact thereunto duly authorized.

L. J. Cornelius
L. J. CORNELIUS
First parties, Lessors

Robert C. Armstrong
ROBERT C. ARMSTRONG
Second Party, Lessee

Robert C. Armstrong
3400 Sigg Drive
Reno, Nevada.

QUITCLAIM DEED

THIS INDENTURE, made this ___ day of December, 1952, by and between C. W. TAYLOR, L. J. CORNELIUS and FRANKLIN S. THOMPSON, by C. W. Taylor as his Attorney-in-fact, First Parties, and ROBERT C. ARMSTRONG, Second Party, -

W I T N E S S E T H:

That said parties of the first part, for and in consideration of the sum of Ten Dollars ($10.00), lawful money of the United States of America, receipt whereof is hereby acknowledged, and other good and valuable consideration, have remised, released and forever quitclaimed, and by these presents do sell, remise, release and forever quitclaim, unto said party of the second part, and to his heirs and assigns forever, the following described mining properties and premises, to-wit:

> That certain contiguous group of possessory lode mining claims, commonly known and described as DESERT SCHEELITE, DESERT SCHEELITE NO. 1, DESERT SCHEELITE NO. 2, DESERT SCHEELITE NO. 3 and DESERT SCHEELITE NO. 4, situate at Pilot Mountain, Shoshone Mining District, County of Mineral, State of Nevada, and appearing of record in the office of the Recorder of said County and State, to which records reference is hereby made for a more particular description thereof; together with the improvements thereon or appurtenant thereto, if any.

TOGETHER WITH all dips, spurs and angles, and also all the metals, ores, mineral-bearing quartz, rock and earth therein, and all the rights, privileges and franchises thereto incident; and also all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining, and the rents, issues and profits thereof; and also all the estate, right, title, interest, property, possession, claim and demand whatsoever, as well in law as in equity, of said parties of the first part, of, in or to the premises, and every part and parcel thereof, with the appurtenances, together with any and all water rights thereon or appurtenant thereto, and together with all after-acquired title.

Robert C. Armstrong
3400 Sigg Drive
Reno, Nevada.

TO HAVE AND TO HOLD, all and singular the aforedescribed properties and premises, together with the appurtenances and privileges thereto incident, unto said second party, and to his heirs, executors, administrators and assigns forever.

IN WITNESS WHEREOF, first parties have hereunto signed their names on the day and year in this indenture first above written.

_____
C. W. TAYLOR

_____
L. J. CORNELIUS

_____
FRANKLIN S. THOMPSON

By

_____
C. W. TAYLOR
As his Attorney-in-Fact.

STATE OF NEVADA)
: ss.
County of Mineral)

On this ____ day of December, 1952, personally appeared before me, a Notary Public in and for said State and County, C. W. TAYLOR, to me known to be the person described in and who executed the within and foregoing instrument, and acknowledged to me, that he signed the same freely and voluntarily, for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal of Office, on the day and year in this Certificate first above written.

_____
Notary Public in and for said
State and County.

My Commission Expires:

_____

Robert C. Armstrong
3400 Sigg Drive
Reno, Nevada.

STATE OF NEVADA)
: ss.
County of Mineral)

On this____ day of December, 1952, personally appeared before me, a Notary Public in and for said State and County, L. J. CORNELIUS, to me known to be the person described in and who executed the within and foregoing instrument, and acknowledged to me, that he signed the same freely and voluntarily, for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal of Office, on the day and year in this Certificate first above written.

_____
Notary Public in and for said State and County.

My Commission Expires:

_____

STATE OF NEVADA)
: ss.
County of Mineral)

On this ____day of December, 1952, personally appeared before me, a Notary Public in and for said State and County, C. W. TAYLOR, Known to me to be the person whose name is subscribed to the within instrument as the Attorney-in-fact, FRANKLIN S. THOMPSON, and acknowledged to me that he subscribed the name of said Franklin S. Thompson thereto as principal, and his own name as Attorney-in-fact, freely and voluntarily and for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal of Office, on the day and year in this Certificate first above written.

_____
Notary Public in and for said State and County.

My Commission Expires:

_____

Robert C. Armstrong
3400 Sigg Drive
Reno, Nevada.

LESSEE'S QUITCLAIM DEED

THIS INDENTURE, made the ___ day of December, 1952, between ROBERT C. ARMSTRONG, First Party, and C. W. TAYLOR, L. J. CORNELIUS and FRANKLIN S. THOMPSON, parties of the second part, -

W I T N E S S E T H:

That the said party of the first part, in consideration of the sum of One Dollar ($1.00), lawful money of the United States of America, to him in hand paid by the said parties of the second part, receipt whereof is hereby acknowledged, does hereby release and forever QUITCLAIM unto the said parties of the second part, and to their heirs and assigns, all rights, titles, privileges, and possession conferred upon or vested in the party of the first part by the terms of that certain Agreement of Lease and Option made and entered into on the ___day of December, 1952, by and between the parties hereto, in relation to the mining premises and properties particularly described in said Agreement as DESERT SCHEELITE, DESERT SCHEELITE NO. 1, DESERT SCHEELITE NO. 2, DESERT SCHEELITE NO. 3 and DESERT SCHEELITE NO. 4, possessory lode mining claims, situate at Pilot Mountain, Shoshone Mining District, County of Mineral, State of Nevada.

TOGETHER with the tenements, hereditaments, and appurtenances thereunto belonging or appertaining, and the reversion and reversions, remainder and remainders, rents, issues, and profits thereof.

TO HAVE AND TO HOLD the said premises, together with the appurtenances, unto the said parties of the second part, and to their heirs and assigns forever.

IN WITNESS WHEREOF, the party of the first part has hereunto signed his name on the day and year in this indenture first above written.

ROBERT C. ARMSTRONG

Robert C. Armstrong
3400 Sigg Drive
Reno, Nevada.

STATE OF NEVADA)
: ss.
County of Washoe)

On this____day of December, 1952, personally appeared before me, the undersigned, a Notary Public in and for said state and county, ROBERT C. ARMSTRONG, known to me to be the person described in the within instrument, and acknowledged to me that he signed the same freely and voluntarily and for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal of Office, the day and year in this certificate first above written.

_____
Notary Public in and for said State and County.

My Commission expires:

_____

Trust Department

First National Bank of Nevada

Escrow No. 1991

(ESCROW OFFICER)

ESCROW INSTRUCTIONS

December 29, 1952

To Main Office Branch,

First National Bank of Nevada, Reno, Nevada

Gentlemen:

In consideration of your acting as escrow holder herein, it is agreed that you shall in no case or event be liable for the failure of any of the conditions of this escrow or damage caused by the exercise of your discretion in any particular manner, or for any other reason, except gross negligence or willful misconduct with reference to the said escrow, and you shall not be liable or responsible for your failure to ascertain the terms or conditions, or to comply with any of the provisions of, any agreement, contract or other document filed herewith or referred to herein, nor shall you be liable or responsible for forgeries or false personations.

In consideration of your acting as Escrow Holder and accepting any payments made in connection with any of the documents in the escrow referred to above, the undersigned Purchaser(s) agree(s) that the escrow holder shall, in no case or event, be liable for any representations made between Purchaser(s) and Seller(s); or for the validity of deeds, bills of sale, or other instruments conveying title to property; or for the sufficiency or validity of such documents to establish ownership when and if delivered, and that the Escrow Holder's responsibility is limited to the delivery of the documents received in the escrow without any warranty or guaranty of any nature, whatsoever, in connection with such documents, and these instructions shall be binding unto the successors, heirs, executors, administrators or assigns of the undersigned.

It is further agreed that if any controversy arises between the parties hereto or with any third person, you shall not be required to determine the same or take any action in the premises, but you may await the settlement of any such controversy by final appropriate legal proceedings or otherwise as you may require, notwithstanding anything in the following instructions to the contrary, and in such event you shall not be liable for interest or damage.

IT IS UNDERSTOOD that the fee agreed upon for your services hereunder shall be considered compensation for your ordinary services as contemplated by these instructions, and in the event that the conditions of this escrow are not promptly fulfilled or that you render any service hereunder not provided for in the following instructions, or that there is any assignment of any interest in the subject matter of this escrow or modification hereof, or that any controversy arises hereunder or that you are made a party to, or intervene in, any litigation pertaining to this escrow or the subject matter thereof, you shall be reasonably compensated for such extraordinary services and reimbursed for all costs and expenses occasioned by such default, delay, controversy or litigation and you shall have the right to retain all documents and/or other thing of value at any time held by you hereunder until such compensation, fees, costs and expenses shall be paid, the undersigned hereby jointly and severally promising to pay such sums upon demand.

The undersigned herewith deposits with you in escrow the following documents:

1.- Quitclaim Deed bearing date December ___, 1952, from C. W. TAYLOR, L. J. CORNELIUS and FRANKLIN S. THOMPSON, as grantors, to ROBERT C. ARMSTRONG, as grantee, conveying certain mining properties and premises comprising the "Desert Scheelite" group of mining claims therein described and all situate in Mineral County, Nevada (hereinafter designated as "Lessors' Deed").

2.-Lessee's Quitclaim Deed (of re-conveyance) from ROBERT C. ARMSTRONG, as grantor, to C. W. TAYLOR, L. J. CORNELIUS AND FRANKLIN S. THOMPSON, as grantees, (hereinafter designated as "Lessee's Deed.")

3.- A full, true and correct copy of an Agreement of Lease & Option, dated December___, 1952, between C. W. TAYLOR, L. J. CORNELIUS AND FRANKLIN S. THOMPSON, as First Parties (Lessors) and ROBERT C. ARMSTRONG, AS Second Party (Lessee), which is furnished you solely for purposes of reference and guidance in connection with the specific instructions hereinafter mentioned:

(A). Upon payments made to you for the account of C. W. Taylor, as Trustee for C. W. Taylor, L. J. Cornelius and Franklin S. Thompson, by or in behalf of

Robert C. Armstrong, 3400 Sigg Drive, Reno, Nevada.

TRU-250R 5-52

Robert C. Armstrong, or his assigns, of an installment payment of Five Hundred Dollars ($500.00) on or before March 1, 1953, followed by like installment payments of $500.00 on or before the 1st day of each and every month to and including the 1st day of August, 1953, and of the further sum of Fifty Seven Thousand Dollars ($57,000.00) on or before August 31, 1953 (aggregating an agreed purchase price of $60,000.00 in all);

OR

(B). In the alternative, upon payments made to you for the account of said C. W. Taylor, as said Trustee, by or in behalf of said Robert C. Armstrong, or his assigns, of the afore-mentioned installment payments of $500.00 each on or before the first days of each and every month from March 1, 1953 to August 1, 1953, as mentioned in the next preceding paragraph, and thence forward of minimum production royalty payments of not less than $500.00 on or before the first day of each and every month, commencing September 1, 1953 and continuing thereafter until the further and additional sum of Ninety Seven Thousand Dollars ($97,000.00) (aggregating an alternative agreed purchase price of $100,000.00 in all) shall have been paid in full by November 1, 1969, -

Then, and upon consummation of either of said alternative methods of payment, you will deliver said Lessors' Deed and said Lessee's Deed to said ROBERT C. ARMSTRONG.

(C). Said grantee, Robert C. Armstrong, or his assigns, shall have the right to anticipate and accelerate payment of the agreed purchase price under either of said alternative methods of payment.

(D). Upon failure of said Robert C. Armstrong, or his assigns, to make or cause to be made each and every monthly installment or minimum production royalty payments, so stipulated to be made under one or the other of said alternative methods of payment, at or before their several and respective due dates, you will surrender said Lessors' Deed and said Lessee's Deed to said C. W. Taylor, L. J. Cornelius and Franklin S. Thompson, or to either or any or them, or to the order of either or any of them, upon demand.

(E). Revenue stamps on said Lessors' Deed in the amount required by United States law as of the date of delivery shall be affixed prior to such delivery and charged to the grantors therein named. Lessee's Deed being merely a deed of re-conveyance will not require any revenue stamps.

4.- Your registration fee for the escrow services herein requested will be paid by ROBERT C. ARMSTRONG, and your subsequent fees on all moneys collected by you hereunder will be deducted therefrom and

charged to the account of said C. W. TAYLOR, Trustee.

5.- Please execute your Acceptance and return one copy of these instructions to:

C. W. Taylor,
P. O. Box 777-1
Hawthorne, Nevada

C. W. Taylor
C. W. Taylor

L. J. Cornelius
L. J. Cornelius

Franklin S. Thompson
Franklin S. Thompson

By C. W. Taylor
C. W. Taylor
As his attorney-in-fact

APPROVED:

Robert C. Armstrong
Robert C. Armstrong

ACCEPTANCE OF ESCROW

The within escrow is hereby accepted.

Agreed fees for said escrow shall be as follows:

1. $_____ registration fee; and

2. _____ of one (1) per cent of all moneys collected hereunder, with a minimum charge of One Dollar ($1.00) on each and every installment or royalty payment made on account thereof.

Dated: Reno, Nevada, ____ day of _____, 195__.

FIRST NATIONAL BANK OF NEVADA

By_____
Vice President and Trust Officer.

Robert C. Armstrong, 3400 Sigg Drive, Reno, Nevada.

Reno, Nevada, December 29, 1952.

To: Main Office.
First National Bank of Nevada,
Reno, Nevada.

Supplementary Escrow Instruction.

With reference to the within and foregoing Escrow Instructions of December 29, 1952, and to the copy of Agreement of Lease & Option thereto attached for your guidance, your attention is directed to paragraph 4, page 5 of said Agreement relative to the distribution of mill or other returns from ores, concentrates or mineral substances deriving from the optioned premises.

In that connection, and as required by said paragraph 4, you are further instructed to distribute all such production returns as follows:

Ten per cent (10%) thereof to C. W. Taylor, as Trustee for the Lessors; and

Ninety per cent (90%) thereof to the account of Robert C. Armstrong, Lessee, in your Banking House;

And to credit all such royalties so distributed to said C. W. Taylor, Trustee, as payments on account of the agreed purchase price under either of the alternative option rights mentioned in paragraphs A and B of your original Escrow Instructions herein and in paragraph 2 (a) and (b) of said Agreement.

C. W. Taylor
C. W. Taylor

L. J. Cornelius
L. J. Cornelius

Franklin S. Thompson
Franklin S. Thompson

By C. W. Taylor
C. W. Taylor
As his Attorney-in-fact.
LESSORS

Robert C. Armstrong
Robert C. Armstrong
LESSEE

Accepted this ____ day of December, 1952.

FIRST NATIONAL BANK OF NEVADA

By _____
Vice President & Trust Officer

Robert C. Armstrong, 3400 Sigg Drive, Reno, Nevada.

REPORT ON
DESERT SCHEELITE PROPERTY
SHOSHONE MINING DISTRICT
MINERAL COUNTY, NEVADA

by

ALBERT SILVER

for

ROBERT C. ARMSTRONG

Reno, Nevada

March 25, 1953

REPORT ON DESERT SCHEELITE PROPERTY

Shoshone Mining District, Mineral County, Nevada
by
ALBERT SILVER
for
ROBERT C. ARMSTRONG

Location of Property

The property is located approximately 24 miles North of Mina, Nevada, on the East Slope of the Pilot Range. The property can be reached by a good dirt road which takes off of Highway 95 about ½ mile North of Mina.

Description of Property

The property consists of 5 claims, held by possessory title, and delineated on the attached map. Although the area in which the claims are located is unsurveyed a tie was made to the nearest section corner some seven miles distant, in order to have the exact location of the property with respect to a legal subdivision. The claims have all been surveyed by Charles A. Liddell, a Deputy Mineral Surveyor, amended locations made in accordance therewith and proper recordations made with the Mineral County Recorder at Hawthorne, Nevada. There are no conflicts as to title.

Introductory Remarks

This report was made at the request of Mr. Robert C. Armstrong, of Reno, Nevada, who holds a lease and option to purchase the Desert Scheelite property from its owners, Charles W. Taylor of Hawthorne, Nevada, et al. The writer first made a reconnaisance examination of the district in 1942. This examination included the Gun Metal, approximately 1 mile North of the Desert Scheelite, the Garnet, Desert Scheelite, Eunice-Marvel and other properties in the district. A more thorough examination of these properties was made in 1943, particularly the Gun Metal and the Desert Scheelite. Visits were made by the writer to the latter property from time to time up to the present. Some of the data in this report was obtained from excerpts of these earlier reports and brought up to date by a description of recent exploratory mining operations. It is quite obvious that development work to date is not sufficient to permit of an economic appraisal of the ore potential and it is the purpose of the present operator of the property to plan and carry out a program to that end.

Notes on Geology and Ore Occurrences

The ore occurrences are of the usual tactite type, or at least the mineralization is undoubtedly related to the tactite zone, resulting from the metamorphic activities of a granitic (probably granodiorite) intrusion on the sedimentary beds - in this case flat dipping beds of limestone, from thinly interbedded layers to a massive blocky condition. The exposures of ore at the surface appear to follow along lines of shearing in the limestone beds with mineralization making out into the crushed areas along the joint and bedding planes of the limestone. Therex are two such shear zones, of undetermined widths, which dip steeply to the North and, on the East portion of the property, the outcrop of tactite is approximately 600 feet in length and striking S. 80° E. There is some evidence in the East shovel cut (sometimes referred to as the lower shovel cut) that the ore, generally, will occur as a flat dipping bedded deposit. The shearings, apparently along joint planes in the lime beds, appear to merge into flat dipping bedded situations at the bottom of the cut. The outcrops cover widths up to 80' and it is believed that further work will increase this

figure.

It is very helpful in evaluating the potential of a scheelite ore deposit of this type to have a knowledge of the position of the granitic intrusion in its relationship with the sedimentaries. There is a limited exposure of granodiorite in the gulch about 60' to the Southeast of the lower shovel cut which is shown on an attached map. The exposure is insufficient to tell much about its structural characteristics - it appears to strike in a Northeasterly direction, diagonally across the gulch and to have a dip to the Northwest of about 65°. It is more apt to be the exposure of a domed shape body. The actual contact between the granodiorite and the limestone is not exposed as it is hidden in the wash by detrital matter. One of the objectives of the drilling program should be to spot this contact at several strategic points - it is for this reason that diamond drilling is being recommended as a preliminary step in the development program. It might be added here that a search over the entire property and in a deeper gulch to the North failed to disclose any other exposures of granitic rocks ; a 60' shaft to the North of the granodiorite outcrop fails to disclose any of it although the extreme degree of metamorphism here might indicate its proximity. It would not be safe to conjecture on this subject for the reason that so little of the elements which influence the ore deposition are exposed. In the underground workings of the Gun Metal Mine, about 1 mile North of the Desert Scheelite property the granitic contact is steep, dipping about 70° to the North and the mineralization working out into the lime beds along the bedding planes. On the South side of the intrusive, in the Gun Metal, the limestone is interbedded with sills of granite. Either one or both of these could be the case at the Desert Scheelite and an extensive deposit indicated as the exposure of tactite is more extensive here.

In the Desert Scheelite property there is disclosed a continuous tactite outcrop for a distance of 600', striking almost West. For this distance the outcrop follows the North side of a gulch (also the locale of a lower road) and disappears West of the Upper Shovel cut where the gulch splits, or appears to split, into two branches with a dome of talus material between them. There is no evidence disclosed as to the dip of the tactite zone or how far it extends normal to the intrusive body but it is expected that the dip would be relatively flat and to the Northwest. Along the outcrop and in the faces of the two shovel cuts displacements of the tactite body are npted which appear to break its continuity. These are minor faults in a vertical plane normal to the strike and displace faulted segments of the exposed bed for a short distance, a vertical drop of about 6' to 8' setting tactite opposite blocky limestone. These faults are minor and would probably not influence mining to any great extent. Open Cut mining, to the maximum degree possible, is desirable and for this reason it would be an obvious plan to learn something of the habits of the tactite beds ; whether a vertical exposure can be shovel mined to an assay wall to the North and then continued at this determined width along the strike to the West. It seems to be fairly safe to assume a reasonable width,which would support this type of mining, can be established normal to the strike and then continued westward on the strike - gaining backs as the mining progressed. The grade pf ore mined in this practically non-selective manner, above the level of the present shovel cut might be of a low order and require upgrading, although further development is the only way to determine this. It is a fact that the face has improved as it has advanced to the North, particularly on the bottom and on the East side of the cut.

An exposure of scheelite ore, about 560' to the West of the upper shovel cut, was explored by a 50' shaft and workings to the North consisting of a short drift, a small stoped area on the drift level and short laterals North and East. A minable width of ore is disclosed here and the presence of ore at a distance of 560' from the

Desert Scheelite Report

next exposure to the East is worthy of note when it is considered that the exposure to the East has a continuous length of 600'. There is no apparent connection between the ore body in this shaft and the outcrop at the upper shovel cut. Efforts to find this connection by bull-dozer operations failed to get through the detrital matter. There is some evidence that the occurrence at this shaft is influenced by a local cross fracture and there is probably no connection between it and the larger body to the East.

Workings

The development work on this property is very small and fails to disclose its possibilities as a tungsten producer. The 50' shaft in the Western portion of the property has been mentioned previously. In former years two 60' shafts were put down in the search of copper ore - the shafts are entirely in tactite and the material on the dumps show some scheelite, although outside the apparent productive zone. In recent years limited power shovel mining exposed ore in the lower and upper shovel cuts ; the faces of these cuts show about a 50' advance from the starting point and apparently mostly in low grade ore. Aside from a small tonnage of low grade material which was cast aside as waste the material mined in the cuts was hauled to a mill and milled. there are no records disclosing the grade of ore milled. Sampling in the pits would indicate a grade of about 0.4% WO_3. A short tunnel to the East of the lower shovel cut, although showing fair scheelite values on the West side and face near the bottom, was stopped short of a mineralized fracture zone directly ahead. A shallow North-South trench, 60' long, North and West of the lower cut shows scheelite throughout its length and assays up to 0.58% WO_3 have been obtained from a segment 20' in length where one of the major East-West shears cuts through. At the time of the writer's first visit to the property a shallow shaft near the North face of the upper shovel cut was available for sampling but has since been covered up by subsequent shovel mining. The shaft dump, consisting of better than average grade ore was hauled away to a mill by a recent lessee.

There has never been a well thought out plan of development. The work of the property owners was largely aimed at exposing ore at many points for display purposes and the efforts of the two groups of lessees were conducted, more or less, on a wishful thinking basis by a direct approach with power shovels without any preliminary development. Needless to say these former operations met with little success although contributing, in a degree, to the knowledge concerning the property.

Sampling

Many samples were taken by the writer along the outcrop, in the West shaft workings and in the shovel cuts ; the results are shown on the accompanying map. In the course of recent exploratory mining operations samples were taken which more or less confirmed the previous sampling. Without some reasonable semblance of a pattern of the ore occurrences it would not be fair to state definite ore values or tonnages. On the whole the superficial sampling indicate values of the order of o.4% WO_3 although it is encouraging to note much higher values in many places, up to 7.0% WO_3. As to the extent of the ore occurrences it would be mere guessing to comment on it with so many factors unknown. As previously stated it would be helpful, in this regard, if we knew more about the igneous-sedimentary contact ; more should be known about the tactite zone with which the scheelite mineralization is related.

Metallurgy

Equal in importance to a knowledge of the ore occurrences and values is the knowledge of the metallurgical behavior of the ore. Many low grade ores are not always amenable to economic treatment. In this

Desert Scheelite Report

case we have the results of flotation tests on carefully taken composite samples from the West shaft and the lower shovel cut and an actual gravity concentration milling test made on 650 tons of ore mined from the lower shovel cut. On a composite head which assayed 0.260% WO_3 a recovery of approximately 95% was made by flotation in a concentrate assaying 14.66% WO_3. There was every evidence to indicate that a closer control of reagents would result in a better grade of concentrate ; no doubt further control, on this line, plus an acid treatment of the product would result in a shipping grade of concentrate. The results of the 650 ton gravity concentration mill test on an average head of 0.266% WO_3 showed that a recovery of 65% was made with the production of a concentrate assaying 72% WO_3, after a slight roast and processing in a Dings Magnetic Separator. Tests on the shovel cut material aimed at upgrading the ore, if this is found necessary, are contemplated. The presence of heavily garnetized tactite which is of a very low order in scheelite would probably impair the usefulness of Heavy Media Separation. However, the character of the ore occurrences, as we have been able to observe them up to the present stage of development, would respond to a simple process of coarse crushing ; washing and screening ; sorting ore from the oversize ; screening the undersize on a 10 mesh screen ; saving the plus 10 mesh for ore and jigging the minus 10 mesh product to save a hutch product as ore and discarding the fines to waste. What makes this possible is the fact that the ore in the tactite is quite friable and the greater part of it would be found in the intermediate sizes and fines after relatively coarse crushing. The sporadic high grade in the limestone, which would crush blocky and coarse, except for the scheelite which would shell off the cleavage faces, would be recovered by sorting off of the coarse waste belt.

Water is available for milling and domestic purposes. There are no close by commercial power connections - the nearest is at Sodaville, perhaps a 14 mile airline distance. At present Diesel power is used at a nearby plant.

Recent Mining Operations

Recent mining operations were of an exploratory nature to learn what could be expected from power shovel mining in the lower cut. It was hoped that this might point the way to a sustained mining operation and, incidentally, open the possibility of obtaining a reasonable milling arrangement at a local milling plant. The mining operation suffered from more dilution of low grade material than was contemplated and very little of the lower one third of the face got into the shipments. A total of 650 tons was mined and milled on a trial basis. Control samples assayed by Union Assay Office, Inc. of Salt Lake City averaged 0.266% WO_3. The advance to the North in the lower cut, approximately normal to the major axis of the tactite body, shows a considerable improvement in grade, particularly on the East side of the shovel cut. For example, after drilling and blasting down what appeared to be low grade blocky limestone, after the shipment had been completed, the face and muck pile were lamped and quite a few pieces of what appeared to be high grade showed up. Specimens were taken to confirm the lamping and assays by Gardiner in Bishop, California showed 5.120% WO_3 and 5.760% WO_3 on the two types of material sent out from this area for study. These are unusual assays for this property and particularly in that area of the property. This sort of thing encourages the hope that better average grades can be expected than was generally anticipated at the outset.

In addition to the mining in the lower shovel cut some bull-dozing was done along the strike of the ore zone to the West. A considerable area of promising material was exposed. A sample taken of the more friable tactite, which has heretofore proven to be the best grade ore in the tactite, to confirm the lamping over a considerable

Desert Scheelite Report

width, yielded an assay return of 1.200 % WO_3. This was not a cut sample but like the two assays referred to above it was assayed for the purpose of evaluating lamp observations on a certain type of ore material.

Some diamond drilling of a limited nature is being planned for the face of the lower cut ; probably in the neighborhood of 500', in an endeavor to show up the possibility of sufficient ore to warrant the installation of an upgrading plant, if such a plant is indicated. In the absence of information to the contrary it would appear that a plant of this nature is necessary to conserve ore mined in the lower grade areas. This drilling will be designed to indicate the extent of the ore in a direction normal to the general strike, at a down angle of 10° to 15°, and laterally by angle holes to show what can be expected along the strike - these angle holes will be on the same plane of 10° to 15° from the horizontal.

CONCLUSIONS AND RECOMMENDATIONS

(1) It is plainly evident that the Desert Scheelite property warrants a comprehensive plan of development.

(2) Without any knowledge of the position of the granite, or granodiorite, floor it would be impossible to make a statement of ore potential with any worthwhile degree of accuracy. We have indications of considerable thickness, width and length of a tactite formation with which the ore is related and, of course, we have ore determinations of mineable grades and widths.

(3) From the center of the gulch, immediately South of the tactite outcrop, to the possible North limit of the ore zone, as we now see it, appears to be upwards of 100' and there are indications that it extends to a South limit some distance to the granodiorite wall now concealed under a dome of talus material immediately South of the gulch. The East-West distance along the major axis is upwards of 600'. The pattern of the intrusive body is not known - no evidence of it anywhere in the areas mines - it could be in the nature of sills, at depths not reached by any of the mining done to date, emanating perhaps along the bedding planes of the limestone from the rim of the intrusive, probably tox the South and East of the exposed ore areas or it could come in as a flat dipping floor. The only occurrence of an intrusive body is at a remote distance from the ore areas as now exposed and it is very limited as noted on the accompanying sketch.

(4) In the writers opinion the recommended approach to the development problem is, primarily, by diamond drilling. First by two exploratory holes along Sectio A-A , directed North and South respectively, at an angle of 30° from the horizontal. The hole to the North would explore the tactite zone to a depth of 130' below the outcrop and would cross under the road, on the hog-back, at a depth of 190' below the road ; the hole at this point would be 250' deep. The maximum probable depth to which this hole might be drilled would be 400'. Drilling, of course, would be stopped when and as the intrusive floor might be reached except to make sufficient additional advance to be sure that it is not a thin sill. The hole to the South would explore the tactite zone under the dome of talus material and possibly pick up the intrusive body as a comparatively shallow depth. It is hoped that the information in the drilling of these two holes will be sufficient to lay out the final drilling program. It is contemplated that 4000' pf drilling will suffice to explore the Eastern area of the Desert Scheelite property.

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(4) Continued

The tentative preliminary plan of drilling in the region of Section B-B (Lower Shovel Cut) will also provide additional information toward this end.

(5) If 4,000' of drilling (from 12 to 15 holes) is accomplished the actual cost of drilling will be about $ 25,000.00. The assaying, mapping, engineering and administrative costs will total about $ 5,000.00. In other words, the entire program involving 4000' of drilling will cost about $ 30,000.00.

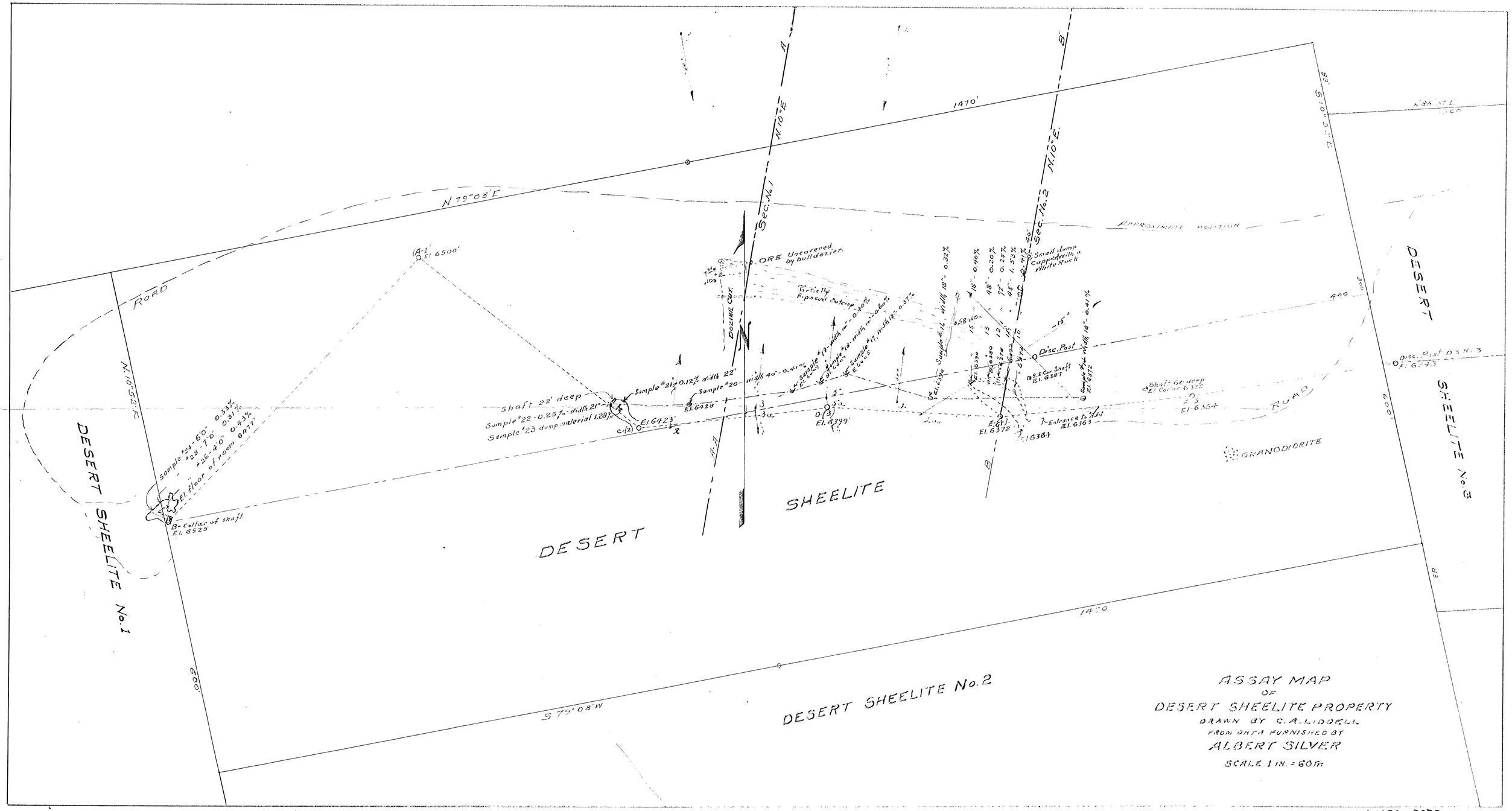
(6) It is possible that some of the drilling will have to be done from the North side of the hog-back to gain reasonable depth under the tactite outcrop immediately north of the gulch road. There is no way of getting at this more directly because of the dome of talus material immediately South of the gulch road. Perhaps two such holes would suffice and they would be of the order of 500' each. The exploratory holes previously drilled from the gulch in a South direction would probably indicate where and how deep these two holes should be drilled.

Respectively submitted,

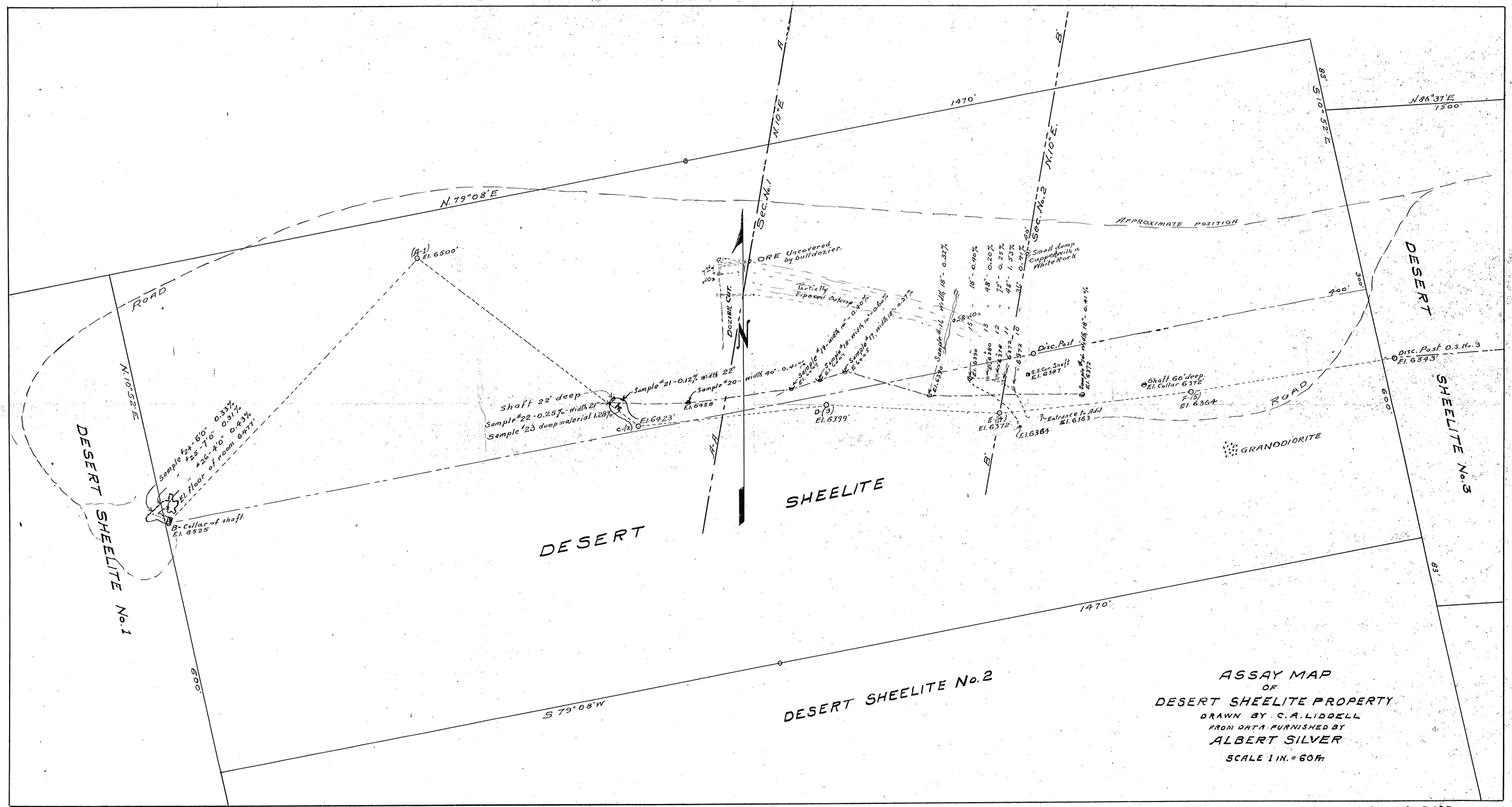
Albert Silver

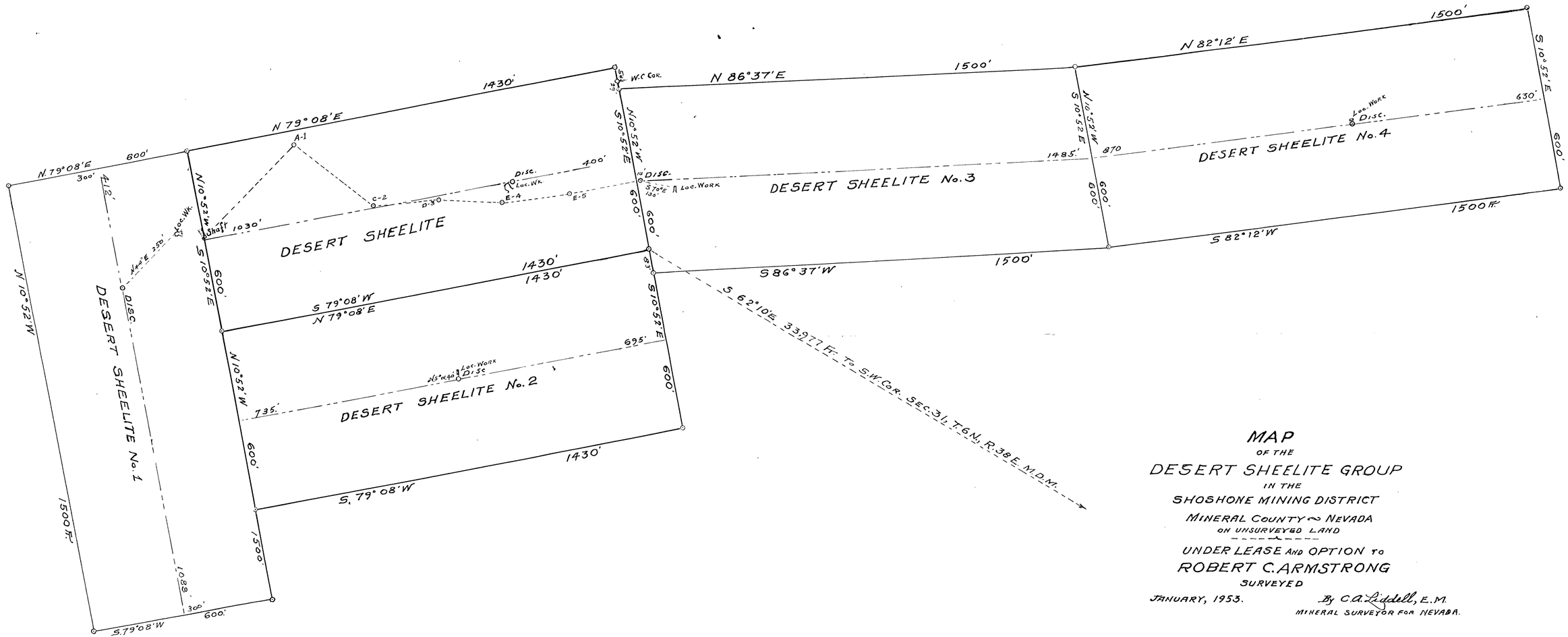
Albert Silver,
Registered Professional Mining &
Metallurgical Engineer.

Reno, Nevada
March 25, 1953


ASSAY MAP
OF
DESERT SHEELITE PROPERTY
DRAWN BY C.A. LIDDELL
FROM DATA FURNISHED BY
ALBERT SILVER
SCALE 1 IN. = 60 ft.
DESERT SHEELITE No. 1
DESERT SHEELITE No. 2
DESERT SHEELITE No. 3
DESERT SHEELITE
ROAD
N 79° 08' E
S 79° 08' W
N. 10° E.
N. 10° 32' E.
1470'
600'
400'
APPROXIMATE POSITION
Sec. No. 1
Sec. No. 2
A
B
(A-1) El. 6500'
ORE Uncovered by bulldozer.
Partially Exposed Outcrop
DOZER CUT
Small dump Capped with a White Rock
Disc. Post
Disc. Post D.S.N. 3 El. 6543'
Shaft 22' deep
Sample #21 - 0.12% width 22"
Sample #20 - width 40" - 0.41%
Sample #22 - 0.25% - Width 21"
Sample #23 dump material 1.28%
El. 6428'
El. 6423'
c-(2)
Sample #19 - width 18" - 0.37%
Sample #18 - width 18" - 0.60%
Sample #17, width 18" - 0.37%
Sample #16, width 18" - 0.41%
Sample #15, width 18" - 0.32%
Sample #14, width 18" - 0.40%
Sample #13 - 0.20%
Sample #12 - 0.25%
Sample #11 - 1.53%
Sample #10 - 0.41%
Sample #9 - 0.58%
Sample #8 - 0.41%
Sample #7
Sample #6
Sample #5
Sample #4 - 60" 0.33%
Sample #3 - 70" 0.31%
Sample #2 - 40" 0.43%
El. floor of room 8477'
B - Collar of shaft El. 6525'
El. 6399'
D-(3)
E-(1)
El. 6372'
E.-(1)
El. 6367
Entrance to Adit El. 6363
S.E. Cor. Shaft El. 6387
Sample #4 El. 6372
Shaft 66' deep El. Collar 6375
El. 6364
GRANODIORITE

DMEA - 3033


ASSAY MAP
OF
DESERT SHEELITE PROPERTY
DRAWN BY C.A. LIDDELL
FROM DATA FURNISHED BY
ALBERT SILVER
SCALE 1 IN. = 60 ft.
DESERT SHEELITE No. 1
DESERT SHEELITE No. 2
DESERT SHEELITE No. 3
DESERT SHEELITE
ROAD
N. 79° 08' E
S 79° 08' W
N. 10° E.
S 10° 52' E
N 86° 37' E
1500'
1470'
600'
400'
300'
83'
APPROXIMATE POSITION
Sec. No. 1
Sec. No. 2
ORE Uncovered by bulldozer.
Partially Exposed Outcrop
DOZIER CUT
Small dump capped with a White Rock
(A-1) El. 6500'
Shaft 22' deep
Sample #21 - 0.12% width 22"
Sample #20 - width 40" - 0.41%
Sample #22 - 0.25% - Width 21"
Sample #23 dump material 1.28%
El. 6428
El. 6423'
C-(2)
D-(3) El. 6399'
Sample #24 - 60" 0.33%
#25 - 70" 0.31%
#26 - 40" 0.43%
" " El. floor of room 6477'
B - Collar of shaft El. 6525
Disc. Post
S.E. Cor. Shaft El. 6387
Shaft 60' deep. El. Collar 6372'
F-(5) El. 6364
Disc. Post D.S. No. 3 El. 6343'
Entrance to Adit El. 6363
E-(4) El. 6372
El. 6364
GRANODIORITE
DMEA - 3033



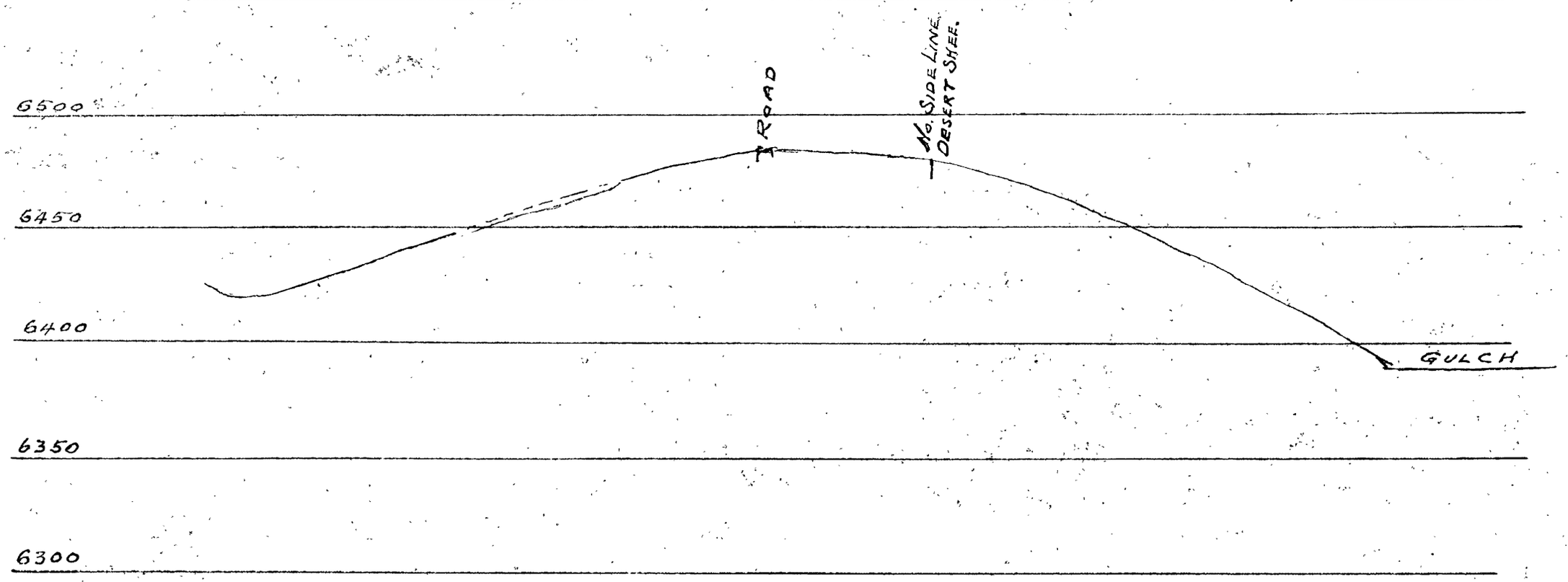
MAP
OF THE
DESERT SHEELITE GROUP
IN THE
SHOSHONE MINING DISTRICT
MINERAL COUNTY ~ NEVADA
ON UNSURVEYED LAND

UNDER LEASE AND OPTION TO
ROBERT C. ARMSTRONG
SURVEYED
JANUARY, 1953.

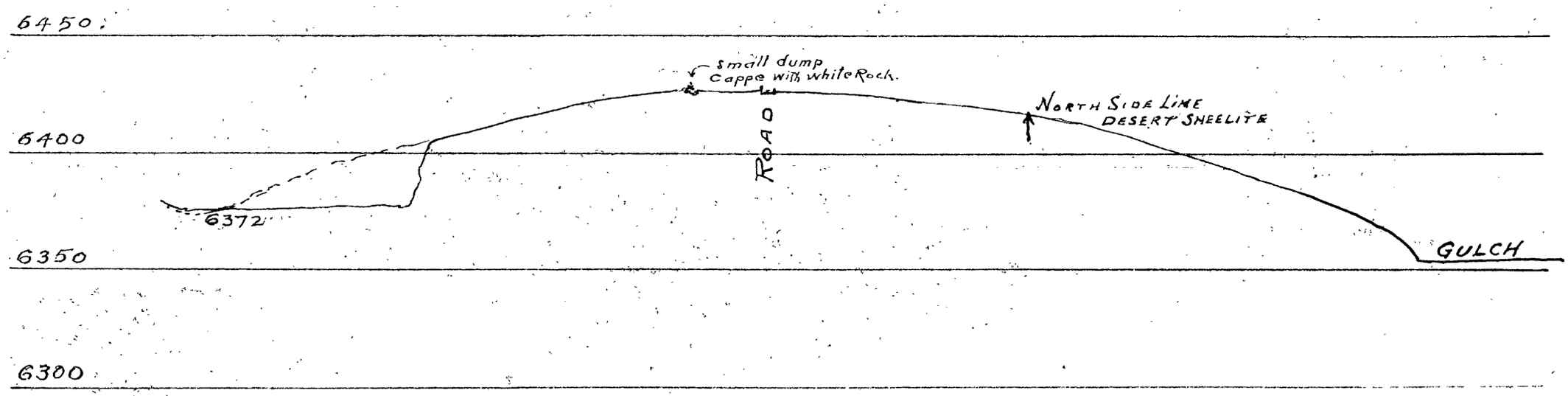
By C.A. Liddell, E.M.
MINERAL SURVEYOR FOR NEVADA.

SCALE 1 IN. = 200 ft.

DMEA-3033



SECTION A-A
LOOKING N 80°-W
SCALE 1 IN. = 60 ft.



SECTION B-B
LOOKING N 80° W.
SCALE 1 IN. = 60 ft.

C.A. Liddell FEB.-1953.

DMEA-3033