Docket's Copy

Release
5/13/53
Rubin

SURGRASE MINING COMPANY
DOCKET NO. DMEA-3809
CONTRACT NO. Idm-2674

AMENDMENT NO. 1

Contract Idm-2674 (Docket No. DMEA-3809), dated January 8, 1953, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and Surgrase Mining Company, is amended as follows:

The location of diamond drill hole No. 2 is changed from that shown on Map No. 1 of Exhibit "A" of the contract to approximately the intersection of the 185 South and 1853 East coordinates at a collar elevation of approximately 3163 feet. The hole is to bear North 37 deg. West at an inclination of minus 45 deg. and is to be drilled to an estimated depth of 880 feet.

This amendment shall not be construed to increase the estimated total cost of the project, the amount of the Government's contribution, or any item of allowable cost which is expressly designated "allowable maximum."

Dated March 18, 1953.

UNITED STATES OF AMERICA

By N. G. Miller
N. G. Miller, Executive Officer
DMEA Field Team, Region III

SURGRASE MINING COMPANY

By J. W. Hoefling
J. W. Hoefling, President

AMENDMENT NO. 1

Docket No. [redacted]

Mineral [redacted]

Exploration Project Contract [redacted]

Date of Contract [redacted]

Date of Amendment [redacted]

Operator [redacted]

JUSTIFICATION

Since submitting its request for exploration assistance, the company has reached the lower level of the for workings and a geologic study reveals that a fault intersected (the fault) displaces the vein system and could possibly place DH No. 2 if drilled as originally intended and shown on Exh. 1, of Exhibit "A." If the location, direction, inclination and depth of the hole is changed as provided for in the amendment the objective to virtually the same and the same system will be cut at the same horizon. The new hole also will explore a completely unknown southerly area between the Spanish-Mountain and Fourmile veins in which blind mineralized veins might be found.

Mr. Benjamin Cherna, Bureau of Mines, engineer on the project, has recently visited the lower level of the for workings and reports that the vein has reversed its dip slightly, and that drilling in the lower levels section of the vein which could be very difficult to encounter by a diamond drill hole from the original location of DH No. 2. Mr. Cherna recommends changing the location of DH No. 2 as proposed by the Operator and provided by Amendment No. 1.

H. C. Miller, Executive Officer
DMEA Field Team, Region III

MF-200 (A)
(February 1952)

DOCKET NO. DMEA 2809

COMMODITY Tungsten

Docket Copy
IDM-E 474

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

EXPLORATION PROJECT CONTRACT[1]
(Short Form)

IT IS AGREED this 8th day of January, 1953, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] Surgease Mining Company, a corporation duly organized and existing under and by virtue of the laws of the State of California, 214 30th Street, Sacramento, California

hereinafter called the "Operator," as follows:

ARTICLE 1. *Authority for contract.*—This agreement is entered into under the authority of the Defense Production Act of 1950, as amended, pursuant to DMEA Order 1 entitled "Government Aid in Defense Exploration Projects."

ARTICLE 2. *Operator's property rights.*—With respect to that certain land situated in the State of California, County of San Bernardino, described as ~~Annex~~ Three patented mining claims known as Waverly, Par, and Platiron, more particularly identified in Annex I attached hereto and made a part hereof.

the Operator represents and undertakes:[4]

(*a*) That the Operator is the owner, in possession and entitled to possession, and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached:

(*b*) ~~That the Operator is also in possession and entitled to possession, and the Owner's Consent to Lien is attached.~~
The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof.

ARTICLE 3. *Exploration project.*—The Operator, within thirty (30) days from the date of this contract shall commence work on a project of exploration for[5] tungsten

in or upon the described land; and shall bring the project to completion within a period of five (5) months from the date of this contract. The work to be performed is more fully described in Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, are made a part of this contract. The Government will contribute to the cost of this work as hereafter provided. The work shall be performed by the Operator or by independent contractor or contractors efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmen's compensation and employers' liability insurance, with suitable and adequate equipment, materials, and labor, to bring the project to completion within the time fixed. The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

ARTICLE 4. *Costs of the project.*—The agreed, estimated costs of performing the work, expressed in terms of units of work to be performed (per foot of drifting, per foot of drilling, per cubic yard of material to be moved, etc.) are set forth in Exhibit "A," attached hereto. The Government will pay 75 percent of these agreed, estimated costs, as they accrue, for units of work actually performed that conform with the description or specifications for the work set forth in this contract, in an aggregate total amount not in excess of $25,050.00 which is 75 percent of $33,400.00 the agreed, estimated total cost of the project in which the Government will participate: *Provided,* That until the Operator's final report and final accounting have been rendered to the Government and any final check or auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten (10) percent of the maximum total which the Government might have been called upon to pay under the terms of the contract. The Government may, as it sees fit, make payments direct to the Operator's independent contractors, if any, for the account of the Operator, rather than to the Operator.

ARTICLE 5. *Reports, accounts, audits.*—(*a*) *Progress reports.* The Operator shall provide the Government with monthly reports of units of work performed under the contract, in quintuplicate (five copies), upon forms provided by the Government. These progress reports shall be certified by the Operator, and shall constitute both the Operator's invoice of units of work performed on the project during the period covered by the report and his voucher for repayment by the Government, unless the Government requires the use of a standard voucher form with invoice attached. Progress reports shall include surface and/or underground engineering-geological maps or sketches showing the progress of the exploration, with assay-reports on samples taken concurrently with the advance in mineralized ground.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] State name, address, and nature of organization if any.
[3] Give legal description or enough to identify the property, particularly excluding any land or interest therein to which the Government's lien is not to attach or the production from which is not to be subject to the Government's percentage royalty.
[4] Strike out the provision not applicable.
[5] Name of mineral or minerals.

(*b*) *Final report.*—Upon completion of the exploration work or termination of the contract the Operator shall provide the Government with an adequate geological and engineering report, in quintuplicate (five copies), including an estimate of ore reserves resulting from the exploration work.

(*c*) *Compliance with requirements.*—If, in the opinion of the Government, any of the Operator's reports are insufficient or incomplete, the Government may procure the making or completion of such reports and attachments as an expense of the exploration work; and the Government may withhold approval and payment of any vouchers depending upon insufficient or incomplete reports.

(*d*) *Accounts and audits.*—The Operator shall keep suitable records and accounts of the units of work performed, which the Government may inspect and audit at any time. The Government may at any time require a check of the work performed and an audit of the Operator's records and accounts, by a certified public accountant or otherwise, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract. Upon the completion of the project or termination of the contract the Operator shall render a final account and statement of work performed to accompany his final report.

ARTICLE 6. *Repayment by Operator.*—(*a*) If, at any time, the Government considers that a discovery or a development from which production may be made has resulted from the exploration work, the Government, at any time not later than 6 months after the Operator has rendered the required final report and final account, may so certify in writing to the Operator. The certification shall describe broadly or indicate the nature of the discovery or development. In the event of such certification, any minerals mined or produced from the land described in Article 2 within 10 years from the date of this contract, including any mined or produced before the certification, shall be subject to a percentage royalty which the Operator or his successor in interest shall pay to the Government, upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, until the total amount contributed by the Government, without interest, is fully repaid, or said 10 years have elapsed, whichever occurs first, as follows:

(1) One and one-half (1½) percent of any such net amounts not in excess of eight dollars ($8.00) per ton.

(2) One and one-half (1½) percent of any such net amounts, plus one-half (½) percent of such net amounts for each additional full fifty cents ($0.50) by which such net amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such net amounts.

(For instance: The percentage royalty on a net amount of five dollars ($5.00) per ton, would be one and one-half (1½) percent; on a net amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(*b*) As here used, "net smelter returns," "net concentrator returns," and "other net amounts realized from the sale or other disposition," mean gross revenue from sales, or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be the gross income from mining operations for percentage depletion purposes in income-tax determination.

(*c*) To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(*d*) This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

ARTICLE 7. *Assignment, transfer, or loss of Operator's interest.*—Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder. The Operator shall not make any voluntary nor permit any involuntary transfer or conveyance of the Operator's rights in the land described in Article 2, without making suitable provision for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof; *Provided,* that mere failure by the Operator to maintain the Operator's rights in the land, without any consideration running to the Operator other than relief from the cost of maintaining such rights (as by surrender of a leasehold, failure to perform assessment work, or failure to exercise an option), coupled with complete abandonment by the Operator of all interest in or operations on the land for a period of 10 years from the date of this contract, shall not constitute such a transfer or conveyance. Should the Operator make or permit any transfer or conveyance in violation of this provision, the Operator shall be and remain liable for payment to the Government of the same amounts, at the same times, as would have been paid under the terms of the percentage royalty on production. If for any reason the net smelter returns, net concentrator returns, or other net amounts realized from the sale or other disposition of such production are not available as a means of measuring the amount of the Operator's liability, the amount thereof shall be estimated as well as may be, and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or by his successor shall be final and binding upon the Operator.

ARTICLE 8. *Termination and completion.*—The Government may, at any time, by written notice to the Operator, terminate this contract: (*a*) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (*b*) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (*c*) if, in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worth while discovery and in the opinion of the Government further operations are not justified.

ARTICLE 9. *Changes and added provisions* _____

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

Surcease Mining Company
(Operator)

By [redacted] Pres.

By C. O. Mitchell
Administrator, Defense Minerals Exploration Administration

I, J. B. Gee, certify that I am the secretary of the corporation named as Operator herein; that J. W. Hoefling President who signed this contract on behalf of the Operator, was then of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

J B Gee [CORPORATE SEAL]

RECEIVED
DEPARTMENT OF INTERIOR
BUREAU OF MINES
REGION III

U. S. GOVERNMENT PRINTING OFFICE 16—66329-1

EXPLORATION PROJECT CONTRACT
SURCEASE MINING COMPANY
DOCKET NO. DMEA-2809

EXHIBIT "A"

Description of the Work

The project consists of drilling a maximum of 5,000 feet of diamond drill holes to explore for tungsten ore on the lands identified in Annex I of this contract. It is estimated that approximately eight (8) holes will be drilled, four (4) being each about 450 feet in depth, and four (4) being each about 800 feet in depth. Reaming and casing or cementing may be done where necessary.

The project shall be started by drilling one or more of the four shorter holes at approximately the locations with the approximate directions and inclinations indicated on Map No. 1 attached hereto and made a part hereof. No project holes shall be drilled to intersect the "Spanish" vein structure within approximately 100 feet of each other, or within approximately 50 feet of any boundary of lands not included in the project.

The Operator shall obtain written approval from the DMEA Field Team prior to drilling each of the four longer holes for the approximate coordinates, elevation, direction and inclination at collar and estimated depth of that hole. The DMEA Field Team will approve such longer holes only if one or more of the shorter holes shall reveal significant mineralization, and attach each such approval to this contract.

Estimated Costs of the Project

5,000 feet of diamond drilling @ $5.75 per foot 1/	$28,750.00

1/ This covers all costs whatsoever including the cost of diamond drill hole site preparation, hauling water, providing core boxes, geological logging of holes, assaying of cores, and general supervision.

Mobilization @ $250.00 2/	$ 250.00	
Demobilization @ $200.00 2/	200.00	
600 ft. of reaming and casing or cementing at depths between 400 and 800 ft. @ $3.75/ft.	2,250.00	
600 ft. of reaming and casing or cementing at depths between 0 and 400 ft. @ $3.25/ft.	1,950.00	
Estimated Total Cost of Project		$33,400.00
Government Participation @ 75%		$25,050.00

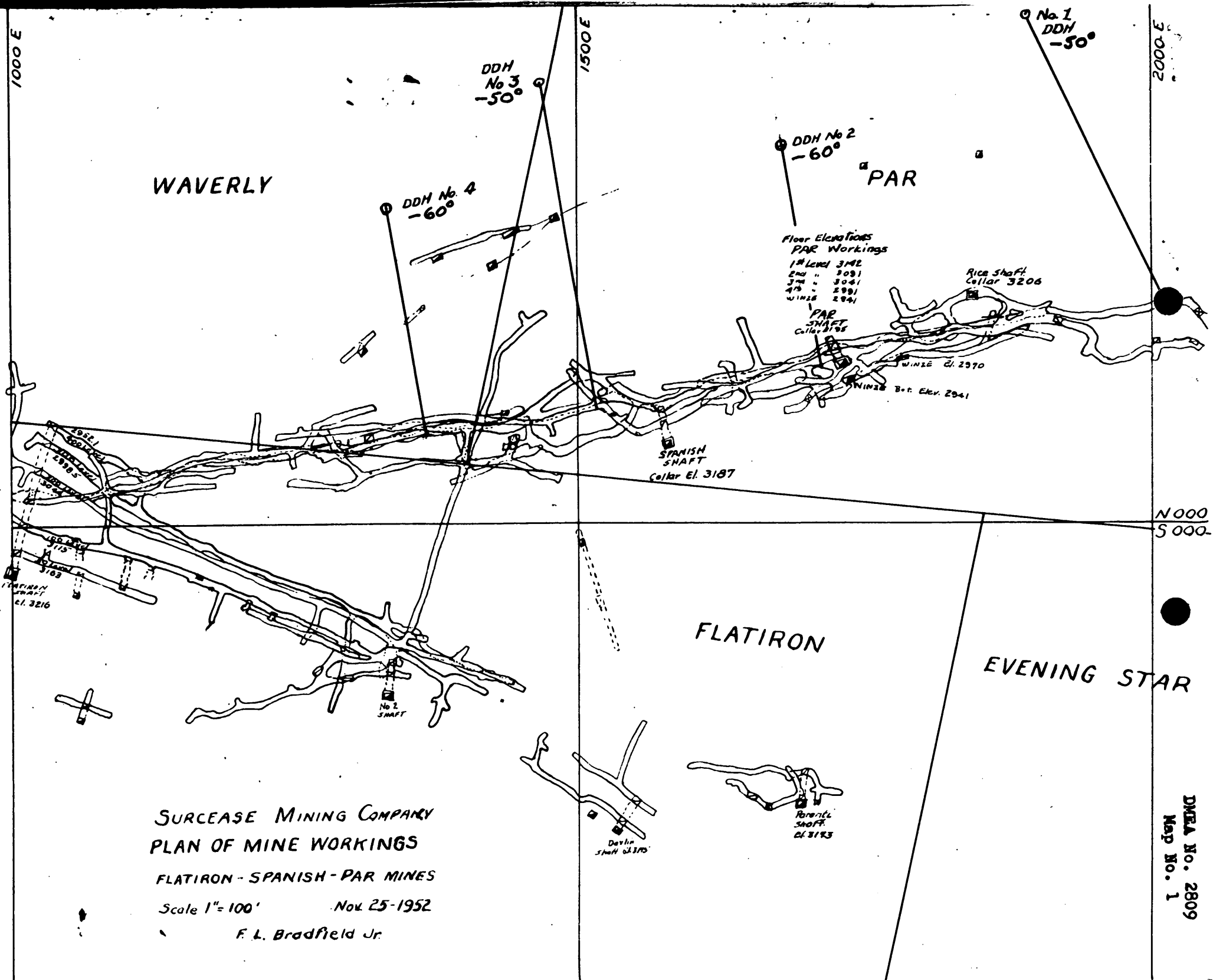
2/ Mobilization and demobilization shall each be considered one unit of work.

EXPLORATION PROJECT CONTRACT
SURCEASE MINING COMPANY
DOCKET NO. DMEA-2809

ANNEX I

WAVERLY, PAR, and FLATIRON patented mining claims are with other claims unnamed herein, covered by Mineral Survey 4708, (Independence Serial 0273). The patent was issued by the United States of America on January 18, 1916, to Atolia Mining Co., Patent No. 508238, recorded February 11, 1916, in Book "K" Patents, Page 34, Records of San Bernardino County, California. (also recorded February 25, 1916, in Book 18, Patents, Page 293, Records of Kern County, California)

These claims were purchased from the Atolia Mining Co. by J. W. Hoefling, A. M. Hoefling, and P. M. Hoefling (doing business as Hoefling Brothers) who duly transferred all their right, title and interest therein to the Operator.



DMEA No. 2809
Map No. 1

12/15/52

DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. DMEA-2809

DO NOT DETACH THIS SLIP

Action on this document is recorded and controlled in Reports and Records Branch. Any movement of this document between divisions or offices of DMA or movement outside DMA must be reported to the Reports and Records Branch. Actions taken that affect status of the case must also be reported.

This document has been recorded as

EXPLORATION ASSISTANCE

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

Routing Slip

COPIES to USBM, USGS AND REG. III

To: Code 400 Rm 3538 Date 12/15/52

To: Open Com Date 1-7-53

To: _____ Date _____

To: _____ Date _____

To: _____ Date _____

To: _____ Date _____

To: _____ Date _____

To: _____ Date _____

To: _____ Date _____

To: _____ Date _____

To: _____ Date _____

To: _____ Date _____

To: _____ Date _____

To: _____ Date _____

To: _____ Date _____

DO NOT DETACH

CONTROLLED DOCUMENT

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
1201 N. Division St.
Spokane 2, Washington
April 21, 1954

2809 (?)

Surcease Mining Company
214 - 30th Street
Sacramento, California

Gentlemen:

The Government, through the Defense Minerals Exploration Administration, owns some surplus equipment which we understand is stored at your warehouse at Randsburg, California. This equipment originally was owned by the Government and the Cosumnes Gold Dredging Company, San Francisco, California; however, Cosumnes has relinquished its equity and title now rests with the Government.

Since the Government is desirous of closing the books in this matter we would appreciate an offer from you for whatever this equipment is worth to you in the event you have use for it. The equipment is as follows:

10 steel casing, 22" OD x 11/32" x 3' long
10 steel couplings, 1" x 6" x 5', 10-11/16" bent
1 drive shoe
1 drive cap
1 fabricated steel pulling head
2 #15 Vulcan pipe tongs
2 25-ton hydraulic jacks

By DMEA Field Team, Region II

Wing G. Agnew, Acting Exec. Officer
(U. S. Bureau of Mines)

Thor H. Kiilsgaard, Acting Member
(U. S. Geological Survey)

cc: DMEA, Wash. (2)
USGS (2)
Certifying Officer

(Re: Docket No. DMEA 2265(monazite)
Cosumnes Gold Dredging Co.
Contract Idm-E351

OPERATIONS ADDRESS:
P. O. Box 27
RED MOUNTAIN, CALIF.
Phone—Randsburg 5661

K. MALONE, Manager
D. A. MOYER, Asst. Manager

SURCEASE MINING COMPANY

ATOLIA SCHEELITE PROPERTIES

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 23 1953

BUSINESS OFFICE:
214-30th Street
SACRAMENTO 16, CALIF.
Phone—GIlbert 3-8593

J. W. HOEFLING, President
J. B. GEE, Secretary

Sacramento, Calif.
December 21, 1953

Defense Minerals Exploration Administration
Department of the Interior
Washington 25, DC

Re: Docket No. DMEA 2809
Tungsten, Atolia Mines
San Bernardino County, Calif.
Contract No. Idm-E474

Attention Mr. C. O. Mittendorf, Administrator

We have yours of Dec. 15 stating that file is being closed on this contract without need of Certification Of Discovery and consequent lien on subject property, as results were so obviously unproductive. Our usual records should adequately serve under requirements under Article 5 (d) calling for retention of such records for at least three years.

Not finding any new ore under this project was, of course, a mutual disappointment. But it was a "good bet" to try for it against the indications.

We wish also to express our appreciation of the simple and practical nature of this form of government-participation exploration. Some further studies are under way for possible use of it again on other of our many prospects should we be able to reduce one to sufficiently favorable odds and specific attack.

Very truly yours,

SURCEASE MINING CO.

by J. W. Hoefling

JWH: jbg

FILE COPY
SURNAME:
800

Talbert

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

NOV 16 1953

Mr. George Mayer
DMEA Auditor
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Idm-E474, DMEA-2809
Sunrease Mining Company
San Bernardino County, Calif.

Dear Mr. Mayer:

By letter dated August 7, 1953 the Executive Officer, DMEA Field Team, Region III, forwarded both the Field Team's and the Operator's final reports on the referenced Exploration Project Contract.

These reports indicate that the exploratory work was discontinued on April 18, 1953 with the completion of 2220.7 feet of diamond drilling. Furthermore, a final MF-104, covering the month of April, 1953 was paid by Voucher No. SF-DMEA-43, dated June 1, 1953. However, your Monthly Work Reports have never listed this contract as being programmed for audit or review.

Since this project is covered by a Short Form Contract (agreed unit cost basis), a Report of Review will suffice. Therefore, it will be appreciated if you will take immediate steps to review the records and issue a Report of Review so that the project may be formally closed.

If this cannot be done, please advise the reasons.

Sincerely yours,

(Signed) E. D. Talbert

E. D. Talbert, Acting Chief
Contract Administration
and Audit Division

EDTalbert/wb
November 16, 1953

Copy to: Docket
Admr. Reading File
Mr. Martin
Mr. Chambers

R.C.G.
11-16-53

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 11 1953

1012 Flood Bldg.
870 Market St.
San Francisco 2, Calif.

August 7, 1953

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA, Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Final Report
Docket DMEA-2809 (Tungsten)
Surcease Mining Company
Atolia Mines, San Bernardino County, Calif.
Contract Idm-E474

Attached are four copies of the final report on subject project, dated July 30, 1953, by Benjamin H. Sheahan, Mining Engineer, U. S. Bureau of Mines, and Jacques F. Robertson, Geologist, U. S. Geological Survey.

Also attached are four copies of the Operator's final report on the project.

H. C. Miller
Executive Officer, DMEA Field Team
Region III

Attachments 2

Copies to: E. H. Bailey, USGS
A. C. Johnson, Reno
F. Horton
Geo. Mavor

Reviewed by
DMEA OPERATING COMMITTEE
8-17-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

Final Report

Idm-E474

DMEA-2809, Atolia Tungsten Mines

San Bernardino County, California

Benjamin H. Sheahan, Mining Engineer
U. S. Bureau of Mines

Jacques F. Robertson, Geologist
U. S. Geological Survey

July 30, 1953

Reviewed by
DMEA OPERATING COMMITTEE
8-17-53
(date)

FINAL REPORT

Docket No.: DMEA-2809 (Tungsten July 30, 1953

Name and address of operator: Surcease Mining Co.,
214 - 30th Street,
Sacramento, Calif.

Name and location of property: Atolia Tungsten Mines
sec. 20, T. 30 S., R. 41 E., M.D.B.&M.,
San Bernardino County, California

Contract No.: Idm-E474

SUMMARY

The project consisted of exploratory core drilling from the surface along the Spanish Par Vein System in the eastern portion of the Atolia Tungsten District (see attached map).

Four diamond drill holes were completed with a combined footage of 2220.7 feet. No tungsten ore was found by the four completed holes and consequently deeper drilling outlined by the contract was not authorized.

The work was conducted efficiently, and the operator's monthly reports were well prepared.

The exploration contract work was inspected while drilling operations were being conducted as described by the following interim reports:

Interim Report - Feb. 11, 1953 by F. J. Wiebelt, Mining Engineer, U. S. Bureau of Mines.
" " - March 18, 1953) by B. H. Sheahan, Mining
" " - April 20, 1953) Engineer, U. S. Bureau of Mines.
" Examination - May 6, 1953 by B. H. Sheahan (Included with final report).

Interim Examination - April 24, 1953, Memorandum by E. M. MacKevett, and J. F. Robertson, geologists, U.S.G.S. to H. C. Miller, Executive Officer, DMEA Field Team, Region III.

The exploratory work was started on February 7, 1953 and was discontinued on April 18, 1953. Total expenditures amounted to $13,219.02

CONCLUSIONS

1. No ore was found by the four completed diamond drill holes.

2. The operator was not in favor of drilling additional shallow holes to further explore the property.

3. Many narrow veinlets were found in quartz monzonite; but none were of sufficient width or contained sufficient scheelite to constitute ore.

RECOMMENDATIONS

No additional exploration work is warranted under the conditions stipulated in the exploration contract. Additional exploration work would require a large amount of drilling to explore the property.

DMEA should certify that the project was not successful and that the Government is not entitled to royalties from production.

Production is not economically feasible.

DESCRIPTION OF WORK COMPLETED

Four diamond drill holes were completed on the contract. Total footage amounted to 2220.7 feet. All holes were drilled from the surface.

Hole No.	Depth, Feet	Inclination	Bearing	Collar Coordinates Latitude	Collar Coordinates Departure	Collar Elevation
M-1	505	-47° to -55°	S30° E.	N. 432	E 1872	3,190
M-2	625.7	-45° to -50°	N27° W.	S. 165	E 1893	2,162
M-3	592	-50°	S10° E.	N. 378.7	E 1421.3	3,194.5
M-4	498	-60°	S10° E.	N. 273	E 1332	3,199.2

Core drilling was started at hole M-1 on February 7, 1953 and the final hole, M-2, was completed on April 18, 1953. The drilling was done by the R. S. McClintock Drilling Company, a diamond drill contractor of Globe, Arizona. The average footage drilled per day amounted to approximately 45 feet. The work was mostly done on a two shift per day basis and was conducted six days per week. Total lost time amounted to approximately twelve days. The holes were started NX size, cased and cemented where necessary and were completed AX size. Operating conditions were good. Core recovery averaged approximately 80 percent. The work was efficiently supervised and engineered by the company.

Amendment No. 1 to the contract allowed the operator to change the surface location of Diamond Drill hole No. 2 from the north side of the vein system to the south side.

DESCRIPTION OF GEOLOGY[1]

No ore was encountered by the four completed holes. The scheelite mineralization was too low grade or to narrow to constitute ore as indicated by assays.

A map compiled by the engineer from company maps and interim examinations show the stoped portion of the vein system and its relation with the completed drill holes. From the surface to the 4th level, the vein system has been almost completely exploited in this vicinity.

The geologist's contribution to this joint report describes the GEOLOGY in detail.

1/ B. H. Sheahan, Mining Engineer, U. S. Bureau of Mines.

ASSAY DATA (By operator)

Hole M-1:	Depth/feet	%, WO_3	Remarks
	46 - 56	0.04	Sludge
	56 - 61	0.03	"
	76 - 81	0.03	"
	81 - 86	0.04	"
	91 - 96	0.04	"
	96 - 101	0.04	"
	101 - 106	0.03	"
	116 - 126	0.02	"
	131 - 141	0.03	"
	280 - 285	0.04	"
	285 - 290	0.04	"
	380 - 385	0.02	"
	483 - 488	0.02	"
Hole M-1:			
	57.50 - 58.85	0.07	Core
	58.85 - 59.20	0.06	"
	86.6 - 86.7	0.07	"
	89.0 - 95.0	0.14	"
	203.0 - 205.5	0.09	"
Hole M-2:	337 - 340	0.19	Core
	546.7 - 546.8	0.12	"
Hole M-2:	95 - 100	0.07	Sludge
	100 - 105	0.04	"
	225 - 230	0.03	"
	230 - 235	0.03	"
	280 - 285	0.03	"
	320 - 325	0.03	"
	325 - 330	0.04	"
	335 - 340	0.08	"
	420 - 425	0.18	"
	435 - 440	0.04	"
	440 - 445	0.06	"
	445 - 450	0.03	"
	515 - 520	0.04	"
	535 - 540	0.03	"
	540 - 545	0.03	"
	545 - 550	0.12	"
	550 - 555	0.09	"
	565 - 570	0.18	"
	585 - 590	0.26	"

Hole M-3:	Depth/feet	%,WO_3	Remarks
	32 - 40	0.08	Sludge
	65 - 70	0.03	"
	195 - 200	0.06	"
	365 - 370	0.03	"
	410 - 415	0.01	"
	485 - 490	0.05	"
	490 - 495	0.08	"
	495 - 500	0.07	"
	550 - 555	0.07	"
Hole M-4:	40 - 45	0.09	"
	45 - 50	0.03	"
	65 - 70	0.05	"
	90 - 95	0.04	"
	100 - 105	0.04	"
	440 - 445	0.04	"
	475 - 480	0.05	"
Hole M-4:	41.00 - 41.15	0.06	Core
	41.15 - 41.19	5.12	"
	46.00 - 46.05	4.81	"
	65.50 - 65.65	0.07	"
	94.80 - 95.00	2.65	"
	442.70 - 443.05	0.03	"

CHECK SAMPLES

The following check samples were taken from core and analyzed by the U. S. Bureau of Mines, Hydrometallurgical and Ore-Dressing Branch, Reno, Nevada:

Hole M-1:	Sample No.	Depth/feet	%,WO_3	Remarks
	S-206	131.5 - 132.0	*0.02	
	S-207	204.0 - 204.6	0.02	
	S-208	203.0 - 203.6	*0.02	0.6' quartz
	S-209	203.6 - 204.0	0.02	quartz
	S-210	205.0 - 205.6	0.03	0.5' quartz
	S-211	381.5 - 381.8	0.03	
	S-212	379.5 - 380.0	0.02	quartz with pyrite
	S-213	380.0 - 380.5	*0.02	do
	S-214	380.5 - 380.9	*0.02	do

Hole M-2: (Core)

Sample No.	Depth/feet	%, MO_3	Remarks
S-204	480.7 - 481.0	*0.02	Silicified monzonite
S-205	587 - 587.3	*0.02	Quartz veinlet
S-215	516.4 - 516.65	*0.02	do
S-216	535.6 - 535.8	0.02	do
S-217	587.0 - 587.6	*0.02	0.20 quartz
S-218	535.8 - 536.2	*0.02	Quartz
S-219	546.7 - 546.8	*0.02	do

Hole M-3: (Core)

S-220	492.2 - 492.5	0.02	
S-221	489.0 - 489.05	0.03	0.05' quartz
S-222	519.8 - 519.85	0.04	
S-223	197.0 - 199.3	*0.02	0.30' quartz
S-224	271.2 - 271.4	*0.02	
S-225	494.0 - 494.4	0.07	Quartz
S-226	503.4 - 503.5	0.05	Quartz

Hole M-4: (Core)

S-227	94.8 - 95.0	1.08

Note: *0.02 indicates less than 0.02%

ORE RESERVES

No ore reserves can be inferred from the exploratory diamond drilling.

EXPENDITURES

Total approved	$33,400.00
Total cost of project	13,219.02
Government's share of cost	9,914.26
Value of production during operations and Government royalty	None
Government's share unexpended	15,135.98

EFFICIENCY OF OPERATIONS - COMPETENCY OF OPERATOR

The work was done efficiently. The operator's monthly reports, engineering and supervision were excellent. The objective of every

hole was reached although results were discouraging.

No equipment was purchased under the exploration contract.

Geologist's Contribution

Final Report

DMEA 2809, Idm-E474, Atolia Tungsten Mines, San Bernardino Co., California

(Surcease Mining Company)

Jacques F. Robertson
U. S. Geological Survey

July 9, 1953

Reviewed by
DMEA OPERATING COMMITTEE

_____
(date)

Introduction

The Atolia tungsten mines of the Surcease Mining Company were visited by J. F. Robertson and E. M. MacKevett of the U. S. Geological Survey on April 14, 1953, and again by J. F. Robertson on June 11 and 12, in connection with the final report on the DMEA diamond drilling program under contract number Idm-E474. The surface area in which the drilling was done, as well as the underlying workings of the Flatiron, Spanish, and Par mines, was visited in company with Mr. F. L. Bradfield, company engineer. Drill cores of the four diamond drill holes were inspected and company logs were briefly checked and found reliable. Underground and surface maps belonging to the company were studied and the geology of the scheelite deposits was discussed.

The sections accompanying this report were compiled from the Surcease Company's surface and underground mine maps and logs of the drill cores.

Geology

The Atolia tungsten mines are in the Atolia quartz-monzonite batholith at the southeast edge of the Randsburg mining district. The deposits of tungsten occur as scheelite lenses and stringers within quartz and carbonate-filled veins and fractures that trend mainly N. 70° - 80° E., but are discontinuous and erratic. The veins dip steeply and outline a zone roughly 500 feet wide and at least two miles long. The DMEA diamond drilling program at Atolia was designed to explore the downward extension of the veins below known ore bodies in the Flatiron, Spanish, and Par mines, near the eastern end of the zone. The following discussion is confined essentially to the area of the drilling program.

Tungsten-bearing veins occur in medium-grained, light gray quartz-monzonite that has weak foliation, shown by the planar arrangement of mafic minerals. The foliation is not apparent on casual examination of the rock underground, but is well shown in the drill cores. The planes of foliation make 20° - 30° angles with the centerlines of the drill cores, and the drill holes dip from -45° to -60°; these facts suggest that foliation dips steeply.

Fresh quartz monzonite, like that from the deep workings of the Union mine near the west end of the property, contains orthoclase, plagioclase, and quartz in approximately equal proportions, and equal amounts of hornblende and black biotite. The ratio of white to dark minerals is 5 to 1. Phenocrysts of quartz and orthoclase, half an

inch or larger, occur sparsely. Honey-yellow crystals of the accessory mineral, sphene, as large as 3 mm. in size, are abundant.

In and immediately adjacent to the veins and fractures, the quartz monzonite is considerably altered. The mafic minerals appear to be altered to chlorite and epidote with a few remnants of biotite and possibly hornblende. Chlorite imparts a dark grayish-green color to the rock, and forms slickensides along planes of movement. The feldspars are extensively altered to albite, according to the Surcease Company geologist. Clay minerals and added quartz are evident.

Encountered in the drill holes are bands of fine grained greenish material from an inch to a few feet thick in the quartz monzonite, that resemble remnants of chlorite schist, but probably are zones of intensely sheared and mylonitized quartz monzonite. The microscopic groundmass contains scattered irregular-shaped quartz grains up to 4 mm. in size, and some disseminated fine grained pyrite.

In general, the veins in the Flatiron and Spanish - Par mines strike N. 70° E. and dip steeply, and are referred to as "the Spanish Vein system." As can be seen in the crosssections, the dips in places become reversed. The veins are irregular and discontinuous in detail, coalescing or feathering out along the strike and down dip. They range from an inch or two to several feet thick, but pinch and swell irregularly. Quartz monzonite breccias cemented with vein minerals together with slickensides and striated rock surfaces are evidence that most of the veins originated as faults or fractures.

Gangue minerals in the veins are quartz, of two distinct textures, calcite, dolomite, and pyrite. One type of quartz, that appears to have formed at an early stage, is very fine grained and grayish-white in color. The later quartz occurs in well-formed, colorless to white prismatic crystals that have grown from the walls of cavities or fractures. Calcite is abundant and forms easily recognizable crystals. Pyrite is sparse.

The tungsten ore mineral scheelite occurs sporadically in the veins as pure white blebs and stringers. At a few places rich scheelite lenses up to 2-3 feet wide and tens of feet long have been found. The scheelite is closely associated with the fine grained quartz, at many places being considerably admixed with it. Except for well-developed cleavage faces, the scheelite is difficult to distinguish megascopically from quartz; the miners depend on ultraviolet lamps to segregate the scheelite from the gangue minerals.

A set of diagonal cross faults interrupt and slightly displace segments of the Spanish vein system. These faults strike mainly N. 60° - 70° W. and dip generally 50° - 60° NE. Dips steepen to 80° or flatten to 30° locally, producing pronounced rolls. Principal displacements appear to be due to reverse or right-lateral strike-slip movements. With one important exception, these cross faults are not mineralized, suggesting that practically all of them were formed after the main period of scheelite mineralization.

The one exception is the Flatiron fault, which is highly mineralized in a shear zone 2 to 6 feet wide. Most of the production of scheelite in the Flatiron mine is from this mineralized cross fault.

Other important cross faults are the Spanish and the Par. The dip of the Spanish fault appears to steepen with depth, whereas the dip of the Flatiron fault becomes more gentle. The Par is a relatively flat fault that branches off from the Spanish fault underground at about the second level of the Par mine.

Controls for the scheelite mineralization are not obvious. Geologist D. L. Gardner and engineer F. L. Bradfield of the Surcease Mining Company have postulated that local changes in dip of the veins, especially abrupt flattenings or reversals, have had considerable influence on ore deposition. Lemmon and Dorr, 1/ suggested that the sites of ore deposition are the places where the veins swell and widen out, as well as near intersections of the veins with cross faults. Another possibility, offered by Hulin, 2/ is that scheelite was deposited where ore solutions stagnated because of structurally blocked or blind fissures.

1/ Lemmon, D. M. and Dorr, J. V. 2d, 1940, Tungsten deposits of the Atolia district, San Bernardino and Kern Counties, California: U. S. Geological Survey Bull. 922-H, p. 222.

2/ Hulin, C. D., 1925, Geology and ore deposits of the Randsburg quadrangle, California: Calif. State Min. Bureau, Bull. 95, pp. 76-77.

Some significance may be attached to the fact, as shown on maps and sections of the mine, that near, but on the footwall side of, all the N.W. cross faults the veins are barren or weakly mineralized. The veins are more strongly mineralized on the hanging wall sides, and at some distance from the faults on the footwall sides.

The scheelite ore shoots, when they are encountered underground, should be critically studied with respect to these various hypotheses.

Appraisal of the Diamond Drilling Program

The four holes diamond drilled under the DMEA exploration program were well placed, although all the cores were practically barren. The holes were spaced 150 to 250 feet apart and were designed to transect the Spanish vein system about 100 feet below the lowest mine workings, with the objective of finding downward continuations of the ore zone. Failure of the diamond drilling program to find significant scheelite mineralization is probably due to the erratic distribution of relatively small, lenticular ore shoots rather than to the absence of ore. The drill holes could conceivably have missed scheelite lenses by several inches. Only closely spaced drilling at 25 to 50 foot intervals can fairly test the vein system.

Diamond drilling long holes as a means of exploring a pattern of scheelite deposits as erratic as those at Atolia does not seem justified. Underground exploration by extending workings of developed ore shoots or mineralized veins, accompanied possibly by short drill holes, would be more practical. Such an exploration program should include careful study of the structural controls surrounding the scheelite deposits.

Cross sections in the plane of the drill holes, drawn with data from the mine maps and drill holes, do not give much significant information, but do indicate continuity of vein and fault structures at depth. The projection of faults from the mine workings to the lower portions of the drill holes are a matter of conjecture, but the mineralized Spanish Vein system appears to continue downward.

Specks or traces of scheelite were encountered in quartz and calcite veinlets in 3 of the 4 holes drilled. Assays for tungsten were made from core samples and sludge taken from drill holes M-1 and M-2. Sludge samples assayed were taken from intervals where quartz-carbonate veinlets are prominent or quartz monzonite is moderate to intensely altered, whether scheelite was megascopically detected or not. Most of the sludges ran less than 0.04% WO_3, but near the bottom of DDH M-2 the following values were obtained:

Interval	% WO_3
545 - 550	0.08
550 - 555	0.09
565 - 570	0.18
585 - 590	0.26

In the above intervals scheelite was observed in the core only at 546.7 feet.

Core samples gave the following results:

DDH M-1

Interval	Core (ft.) Recovery	% WO_3	Remarks
57.5-58.85	.35	0.07	Qtz. frags. and altered quartz monzonite.
58.85-59.2	.35	0.06	Qtz. vein with specks of WO_3. Sludge from 56-61 assayed 0.03% WO_3.
86.6-86.7	0.1	0.07	Vein qtz., no visible WO_3.
89 -95	1.2	0.14	Intensely altered QM, vein qtz., specks of WO_3.
204.5-205	0.5	0.09	2 spots of WO_3, qtz. vein. Sludge from 200-205 assayed 0.03% WO_3.

DDH M-2

337.8-340	0.4	0.19	Vein qtz. with calcite seams, altered QM no visible WO_3. Sludge from 335-340 assayed 0.08% WO_3.
546.7-546.8	0.1	0.12	Qtz. vein with calcite, specks of WO_3. Sludge from 545-550 assayed 0.02% WO_3.

The assay values given above do not represent ore, and none of the mineralized portions can be classed as significant. Further drilling, therefore, under the terms of the DMEA contract is not warranted. Neither should a certificate of discovery be issued for the findings under this contract.

FINAL REPORT

1. DMEA Docket No. 2809 (Tungsten)
Contract No. Idm - E474
Surcease Mining Company, Box 27, Red Mountain, California
"Atolia Tungsten District"

2. Summary:

Four surface diamond drill holes were put in on the Spanish Par Vein System in the eastern portion of the Atolia Tungsten District. These hit at distances ranging from 200 to 250 ft. below the lowest workings and at elevations ranging from 2750 to 2800 ft. Plans and sections are attached hereto.

Conclusions:

None of the holes cut ore in the main vein zones in the explored horizons. Quartz with abundant pyrite and calcite veins were cut with small "significant amounts" of scheelite in the core or sludge which indicates that mineralization extends to this elevation. The geological setting for the known mined ore body was clarified as summarized beyond. The veins encountered near the collar of DD No. 1 in the hanging wall of the system will probably carry ore at some place along this strike. Good, although narrow, scheelite was cut by DD M-4 close to the surface near a known ore bearer. The blind vein cut between the Par and the Parenti will also probably carry ore at some locality, possibly closer to the northwest Par fault vein.

The Williams vein was confirmed as a very strong hanging wall quartz vein with, however, only spotty occurences of scheelite. It could easily carry ore at deeper horizons, possibly closer to the Par northwest fault.

Development is inconclusive and incomplete. The veins are inadequately explored. It is impossible to discard the area as of no value but no ore estimate can be made from the results of the drilling.

Recommendations:

(1) Additional development is warranted by either diamond drilling or drifting.
(2) No ore can be estimated consequently no royalty can be assigned.
(3) Production is not feasible as no minable ore was cut.

3. The drill holes were put in between the indicated actual drilling dates as follows:

February	7 - 28, 1953	M-1	505.3	T.D.
March	5 - 31, 1953	M-3,	592.0	"
		M-4	498.2	"
April	3 - 18, 1953	M-2	625.7	"
	Total footage		2221.2	

4. A general plan and a longitudinal section of the four holes is attached as well as a section of each hole. A tabulation of the assays is given beyond.

The character of the quartz encountered was very similar to that from stopes above. The association of darkened albitized wall rocks and abundant pyrite continued to the explored horizon. Abundant calcite was found in veins, seams and stringers. Along certain zones and areas the monzonite was intensely to slightly altered and bleached. Dark hornblende with diorite zones were also encountered in the hanging wall. The presence of tungsten in the vein zones in small amounts indicates that this metal was deposited at the explored horizon. No large masses of tungsten were cut and no ore was found.

The drilling is believed to have clarified the structural setting for the Spanish-Par ore shoot. It is believed to be localized by the intersection zone of the Spanish-Rice System (N 70°E - 80°N) and the Par System (N 60° to 70°E 70-80° South). The latter is believed to be the chief control. East-West vertical tension fractures in this zone of intersection are favorable. Similar structural settings on adjacent veins should be explored.

The "blind vein" between the Par and the Parenti was found close to its predicted location and the content of 0.19% WO_3 from the 0.15 foot of quartz recovered indicates that it is an ore bearer. It apparently belongs to the Par system.

Possibilities are believed to exist in the area for two major unfound ore bodies:

(1) At the intersection of the Par Northeast System with the Skylark. A 2nd Flatiron may exist here. The explored portion of the Skylark in Atolia ground is too high and too far south to lie in the intersectional area. Peterson and Martin are now drifting on the Par towards this intersection but may be too high.

(2) The Devlin and Parenti are the footwall structures, which will intersect the Par south dip veins at depth. Major ore could very easily be encountered near this intersection.

Assays:

All core was lamped. Veins and quartz were split and lamped. Those with visible tungsten were sent for assay. Sludges from vein zones or from stretches of poor core recovery were marked for assay.

Assay results are at hand from following locations:

D.D. M-1 - Sludge:

46 - 56	0.04%
56-61	0.03
76-81	0.03
81-86	0.04
91-96	0.04
96-101	0.04
101-106	0.03
116-126	0.02
131-141	0.03
280-285	0.04
285-290	0.04
380-385	0.02
483-488	0.02

D.D. M-1 - Core:

57.5-58.85	(S-1)	0.07
58.85-59.2	(S-2)	0.06
86.6-86.7	(S-3)	0.07
89.0-95.0	(S-4)	0.14
203.0-205.5	(S-5)	0.09

D.D. M-2 - Core:

337-340	0.19%	"significant"
546.7-546.8	0.12%	

D.D. M-2 - Sludge:

95-100	0.07
100-105	0.04
225-230	0.03
230-235	0.03
280-285	0.03
320-325	0.03
325-330	0.04
335-340	0.08
420-425	0.18% strongly altered & bleached
435-440	0.04
440-445	0.06
445-450	0.03
515-520	0.04
535-540	0.03
540-545	0.03
545-550	0.12
550-555	0.09
565-570	0.18
585-590	0.26

D.D. M-3 - Sludge:

32-40	0.08%
65-70	0.03
195-200	0.06
365-370	0.03
410-415	0.01
485-490	0.05
490-495	0.08
495-500	0.07
550-555	0.07

D.D. M-4 - Sludge:

40-45	0.09%
45-50	0.03
65-70	0.05
90-95	0.04
100-105	0.04
440-445	0.04
475-480	0.05

D.D. M-4 - Core:

41.0-41.15	0.06%
41.15-41.19	5.12
46.0-46.05	4.81
65.5-65.65	0.07
94.8-95.0	2.65
442.7-443.05	0.03

The good core assays in this hole are from extremely thin veins and are too narrow to mine (see footage table above). It is possible that these veins widen somewhere along their strike.

5. Expenditures:

(a)	Total approved	$33,400.00
(b)	Government share (75%)	25,050.00
(c)	Total cost of project	13,219.02*
(d)	Government share of cost (75%)	9,914.26
(e)	Government share unexpended	15,135.74
(f)	There was no production from the area under exploration and no royalties are due the government.	

*Includes contract cost only. Does not include local supervision, water and miscellaneous items.

6. The efficiency of operations is considered excellent. Some unsatisfactory work was obtained from one contract crew. The driller responsible for the difficulty was replaced and no further trouble was experienced.

7. No equipment was purchased for the exploration contract. Surcease Mining Company made available any necessary equipment for use by the contractors and absorbed all such incidental and supervisory expense without charge to the project.

Incomplete
Lacks maps

DEPARTMENT OF THE INTERIOR
Bureau of Mines Administration
RECEIVED
FEB 2 1953

FINAL REPORT

1. DMEA Docket No. 2809 (Tungsten)
Contract No. Idm - E474
Surcease Mining Company, Box 27, Red Mountain, California
"Atolia Tungsten District"

2. Summary:

Four surface diamond drill holes were put in on the Spanish Par Vein System in the eastern portion of the Atolia Tungsten District. These hit at distances ranging from 200 to 250 ft. below the lowest workings and at elevations ranging from 2750 to 2800 ft. Plans and sections are attached hereto.

Conclusions:

None of the holes cut ore in the main vein zones in the explored horizons. Quartz with abundant pyrite and calcite veins were cut with small "significant amounts" of scheelite in the core or sludge which indicates that mineralization extends to this elevation. The geological setting for the known mined ore body was clarified as summarized beyond. The veins encountered near the collar of DD No. 1 in the hanging wall of the system will probably carry ore at some place along this strike. Good, although narrow, scheelite was cut by DD M-4 close to the surface near a known ore bearer. The blind vein cut between the Par and the Parenti will also probably carry ore at some locality, possibly closer to the northwest Par fault vein.

The Williams vein was confirmed as a very strong hanging wall quartz vein with, however, only spotty occurences of scheelite. It could easily carry ore at deeper horizons, possibly closer to the Par northwest fault.

Development is inconclusive and incomplete. The veins are inadequately explored. It is impossible to discard the area as of no value but no ore estimate can be made from the results of the drilling.

Recommendations:

(1) Additional development is warranted by either diamond drilling or drifting.
(2) No ore can be estimated consequently no royalty can be assigned.
(3) Production is not feasible as no minable ore was cut.

The drill holes were put in between the indicated actual drilling dates as follows:

February	7 - 28, 1953	N-1	505.3	T.D.
March	5 - 31, 1953	N-3,	592.0	"
		N-4	498.2	"
April	3 - 18, 1953	N-2	625.7	"
	Total footage		2221.2	

4. A general plan and a longitudinal section of the four holes is attached as well as a section of each hole. A tabulation of the assays is given beyond.

The character of the quartz encountered was very similar to that from stopes above. The association of darkened albitized wall rocks and abundant pyrite continued to the explored horizon. Abundant calcite was found in veins, seams and stringers. Along certain zones and areas the monzonite was intensely to slightly altered and bleached. Dark hornblende with diorite zones were also encountered in the hanging wall. The presence of tungsten in the vein zones in small amounts indicates that this metal was deposited at the explored horizon. No large masses of tungsten were cut and no ore was found.

The drilling is believed to have clarified the structural setting for the Spanish-Par ore shoot. It is believed to be localized by the intersection zone of the Spanish-Rice System (N 70°E - 80°N) and the Par System (N 60° to 70°E 70-80° South). The latter is believed to be the chief control. East-West vertical tension fractures in this zone of intersection are favorable. Similar structural settings on adjacent veins should be explored.

The "blind vein" between the Par and the Parenti was found close to its predicted location and the content of 0.19% WO_3 from the 0.15 foot of quartz recovered indicates that it is an ore bearer. It apparently belongs to the Par system.

Possibilities are believed to exist in the area for two major unfound ore bodies:

(1) At the intersection of the Par Northeast System with the Skylark. A 2nd Flatiron may exist here. The explored portion of the Skylark in Atolia ground is too high and too far south to lie in the intersectional area. Peterson and Martin are now drifting on the Par towards this intersection but may be too high.

(2) The Devlin and Parenti are the footwall structures, which will intersect the Par south dip veins at depth. Major ore could very easily be encountered near this intersection.

Assays:

All core was lamped. Veins and quartz were split and lamped. Those with visible tungsten were sent for assay. Sludges from vein zones or from stretches of poor core recovery were marked for assay.

Assay results are at hand from following locations:

D.D. M-1 - Sludge:

46 - 56	0.04%
56-61	0.03
76-81	0.03
81-86	0.04
91-96	0.04
96-101	0.04
101-106	0.03
116-126	0.02
131-141	0.03
280-285	0.04
285-290	0.04
380-385	0.02
483-488	0.02

D.D. M-1 - Core:

57.5-58.85	(S-1)	0.07
58.85-59.2	(S-2)	0.06
86.6-86.7	(S-3)	0.07
89.0-95.0	(S-4)	0.14
203.0-205.5	(S-5)	0.09

D.D. M-2 - Core:

337-340	0.19%	"significant"
546.7-546.8	0.12%	

D.D. M-2 - Sludge:

95-100	0.07
100-105	0.04
225-230	0.03
230-235	0.03
280-285	0.03
320-325	0.03
325-330	0.04
335-340	0.08
420-425	0.18% strongly altered & bleached
435-440	0.04
440-445	0.06
445-450	0.03
515-520	0.04
535-540	0.03
540-545	0.03
545-550	0.12
550-555	0.09
565-570	0.18
585-590	0.26

D.D. M-3 - Sludge:

32-40	0.08%
65-70	0.03
195-200	0.06
365-370	0.03
410-415	0.01
485-490	0.05
490-495	0.08
495-500	0.07
550-555	0.07

D.D. M-4 - Sludge:

40-45	0.09%
45-50	0.03
65-70	0.05
90-95	0.04
100-105	0.04
440-445	0.04
475-480	0.05

D.D. M-4 - Core:

41.0-41.15	0.06%
41.15-41.19	5.12
46.0-46.05	4.81
65.5-65.65	0.07
94.8-95.0	2.65
442.7-443.05	0.03

The good core assays in this hole are from extremely thin veins and are too narrow to mine (see footage table above). It is possible that these veins widen somewhere along their strike.

5. Expenditures:

(a)	Total approved	$33,400.00
(b)	Government share (75%)	25,050.00
(c)	Total cost of project	13,219.02*
(d)	Government share of cost (75%)	9,914.26
(e)	Government share unexpended	15,135.74
(f)	There was no production from the area under exploration and no royalties are due the government.	

*Includes contract cost only. Does not include local supervision, water and miscellaneous items.

6. The efficiency of operations is considered excellent. Some unsatisfactory work was obtained from one contract crew. The driller responsible for the difficulty was replaced and no further trouble was experienced.

7. No equipment was purchased for the exploration contract. Surcease Mining Company made available any necessary equipment for use by the contractors and absorbed all such incidental and supervisory expense without charge to the project.

Incomplete
Lacks maps.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 1 - 1963

FINAL REPORT

1. DMEA Docket No. 2809 (Tungsten)
Contract No. Idm - E474
Surcease Mining Company, Box 27, Red Mountain, California
"Atolia Tungsten District"

2. Summary:

Four surface diamond drill holes were put in on the Spanish Par Vein System in the eastern portion of the Atolia Tungsten District. These hit at distances ranging from 200 to 250 ft. below the lowest workings and at elevations ranging from 2750 to 2800 ft. Plans and sections are attached hereto.

Conclusions:

None of the holes cut ore in the main vein zones in the explored horizons. Quartz with abundant pyrite and calcite veins were cut with small "significant amounts" of scheelite in the core or sludge which indicates that mineralization extends to this elevation. The geological setting for the known mined ore body was clarified as summarized beyond. The veins encountered near the collar of DD No. 1 in the hanging wall of the system will probably carry ore at some place along this strike. Good, although narrow, scheelite was cut by DD M-4 close to the surface near a known ore bearer. The blind vein cut between the Par and the Parenti will also probably carry ore at some locality, possibly closer to the northwest Par fault vein.

The Williams vein was confirmed as a very strong hanging wall quartz vein with, however, only spotty occurences of scheelite. It could easily carry ore at deeper horizons, possibly closer to the Par northwest fault.

Development is inconclusive and incomplete. The veins are inadequately explored. It is impossible to discard the area as of no value but no ore estimate can be made from the results of the drilling.

Recommendations:

(1) Additional development is warranted by either diamond drilling or drifting.
(2) No ore can be estimated consequently no royalty can be assigned.
(3) Production is not feasible as no minable ore was cut.

3. The drill holes were put in between the indicated actual drilling dates as follows:

February	7 - 28, 1953	M-1	505.3	T.D.
March	5 - 31, 1953	M-3,	592.0	"
		M-4	498.2	"
April	3 - 18, 1953	M-2	625.7	"
	Total footage		2221.2	

4. A general plan and a longitudinal section of the four holes is attached as well as a section of each hole. A tabulation of the assays is given beyond.

The character of the quartz encountered was very similar to that from stopes above. The association of darkened albitized wall rocks and abundant pyrite continued to the explored horizon. Abundant calcite was found in veins, seams and stringers. Along certain zones and areas the monzonite was intensely to slightly altered and bleached. Dark hornblende with diorite zones were also encountered in the hanging wall. The presence of tungsten in the vein zones in small amounts indicates that this metal was deposited at the explored horizon. No large masses of tungsten were cut and no ore was found.

The drilling is believed to have clarified the structural setting for the Spanish-Par ore shoot. It is believed to be localized by the intersection zone of the Spanish-Rice System (N 70°E - 80°N) and the Par System (N 60° to 70°E 70-80° South). The latter is believed to be the chief control. East-West vertical tension fractures in this zone of intersection are favorable. Similar structural settings on adjacent veins should be explored.

The "blind vein" between the Par and the Parenti was found close to its predicted location and the content of 0.19% WO_3 from the 0.15 foot of quartz recovered indicates that it is an ore bearer. It apparently belongs to the Par system.

Possibilities are believed to exist in the area for two major unfound ore bodies:

(1) At the intersection of the Par Northeast System with the Skylark. A 2nd Flatiron may exist here. The explored portion of the Skylark in Atolia ground is too high and too far south to lie in the intersectional area. Peterson and Martin are now drifting on the Par towards this intersection but may be too high.

(2) The Devlin and Parenti are the footwall structures, which will intersect the Par south dip veins at depth. Major ore could very easily be encountered near this intersection.

Assays:

All core was lamped. Veins and quartz were split and lamped. Those with visible tungsten were sent for assay. Sludges from vein zones or from stretches of poor core recovery were marked for assay.

Assay results are at hand from following locations:

D.D. W-1 - Sludge:

46 - 56	0.04%
56-61	0.03
76-81	0.03
81-86	0.04
91-96	0.04
96-101	0.04
101-106	0.03
116-126	0.02
131-141	0.03
280-285	0.04
285-290	0.04
380-385	0.02
483-488	0.02

D.D. M-1 - Core:

57.5-58.85	(S-1)	0.07
58.85-59.2	(S-2)	0.06
86.6-86.7	(S-3)	0.07
89.0-95.0	(S-4)	0.14
203.0-205.5	(S-5)	0.09

D.D. M-2 - Core:

337-340	0.18%	"significant"
546.7-546.8	0.12%	

D.D. M-2 - Sludge:

95-100	0.07
100-105	0.04
225-230	0.03
230-235	0.03
280-285	0.03
320-325	0.03
325-330	0.04
335-340	0.08
420-425	0.18% strongly altered & bleached
435-440	0.04
440-445	0.06
445-450	0.03
515-520	0.04
535-540	0.03
540-545	0.03
545-550	0.12
550-555	0.09
565-570	0.18
585-590	0.26

D.D. M-3 - Sludge:

32-40	0.08%
65-70	0.03
195-200	0.06
365-370	0.03
410-415	0.01
485-490	0.05
490-495	0.08
495-500	0.07
550-555	0.07

D.D. M-4 - Sludge:

40-45	0.09%
45-50	0.03
65-70	0.05
90-95	0.04
100-105	0.04
440-445	0.04
475-480	0.05

D.D. M-4 - Core:

41.0-41.15	0.06%
41.15-41.19	5.12
46.0-46.05	4.81
65.5-65.65	0.07
94.8-95.0	2.65
442.7-443.05	0.03

The good core assays in this hole are from extremely thin veins and are too narrow to mine (see footage table above). It is possible that these veins widen somewhere along their strike.

5. Expenditures:

(a)	Total approved	$33,400.00
(b)	Government share (75%)	25,050.00
(c)	Total cost of project	13,219.02*
(d)	Government share of cost (75%)	9,914.26
(e)	Government share unexpended	15,135.74
(f)	There was no production from the area under exploration and no royalties are due the government.	

*Includes contract cost only. Does not include local supervision, water and miscellaneous items.

6. The efficiency of operations is considered excellent. Some unsatisfactory work was obtained from one contract crew. The driller responsible for the difficulty was replaced and no further trouble was experienced.

7. No equipment was purchased for the exploration contract. Surcease Mining Company made available any necessary equipment for use by the contractors and absorbed all such incidental and supervisory expense without charge to the project.

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

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

June 29, 1953

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA, Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-2809 (Tungsten)
Surcease Mining Company, Atolia Mines
San Bernardino County, California, Contract Idm-E474

Reference is made to your letter dated June 15, 1953, requesting information on the status of the subject contract.

As no mineralization of any consequence was found in the first group of diamond drill holes put down by the company, approval for drilling the four longer holes was not requested by the company.

Mr. Hoefling, President, Surcease Mining Company, called long distance on April 15, requesting permission to start work under Stage 2. Permission was withheld pending completion of a report by the Survey of an examination made at the mine on April 14. As a result of that examination, the examining geologist concluded that deeper drilling was not warranted and from a note in our files dated May 5, 1953, the company got in touch with Mr. Bailey and reported to him that all drilling had been stopped.

The Bureau of Mines and Geological Survey have been requested to prepare a final report on the project. The geologist planned to be at the mine on June 10, and I presume our engineer met him there, or made his examination shortly thereafter. Anyway, we should shortly have a final report on the work done under Stage 1.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Copy to: E. H. Bailey, USGS
A. C. Johnson, Reno

FILE COPY
SURNAME:

400 Rutledge
Martin
Chambers
Olsen
Gaskin
Selfridge
Hetherington

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

JUN 15 1953

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Docket No. DMEA 2809 - Tungsten
Surcease Mining Company
Atolia Mines
San Bernardino County, Calif.
Contract No. Idm-E474

Dear Mr. Miller:

Reference is made to the subject contract, completion date of which is June 8, 1953.

In reviewing this contract, we note that approval by the Government for drilling the four longer holes depends upon finding significant mineralization in one or more of the first four drill holes. It would be appreciated if you would inform us whether such approval has been granted.

It also is suggested, if additional time for completion of the contract is required, that you prepare an appropriate amendment.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Approved:

J. H. Hedges

Member, Bureau of Mines

A. R. Kinkel, Jr.

Member, Geological Survey

FARutledge:foc
6-9-53
cc: Docket
Code 400
FT. Reg. III
Adm. Reading File
Oper. Comm.
R. W. Geehan, USBM
D. M. Lemmon, USGS

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
MAY 4 1953

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

Date: April 29, 1953

Memorandum

To: Operating Committee, DMEA, Interior Bldg., Washington 25, D.C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA 2809

Contract Idm-E 474

Commodity Tungsten

Operator - Surcease Mining Co., P. O. Box 27
Red Mountain, California

Property - Atolia Mines, San Bernardino County,
California

By B. H. Sheahan, Mining Engineer

Dated April 20, 1953

H. C. Miller
H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

E. H. Bailey, USGS (With one copy of report)

George Mavor

INTERIM REPORT
(Third)

Docket No.: DMEA-2809 (tungsten) April 20, 1953

Name and address of operator: Surcease Mining Co.,
P. O. Box 27
Red Mountain, Calif.

Name and location of property: Atolia Mines, San Bernardino County, Calif.

Contract No.: Idm-E474

SUMMARY

Exploratory diamond drilling being conducted at the property was inspected on April 9, 1953 by an engineer of the U. S. Bureau of Mines. The engineer was accompanied by F. L. Bradfield, resident engineer. Mr. Kevin Malone, manager, was interviewed after the drilling and the 400 level of the Flatiron shaft was examined.

No ore has yet been found by the drilling, however only three holes M-1, M-3, and M-4 have been completed. Hole M-2 located on the south side of the vein has reached a depth of 265 feet. The operator expects to complete this hole before April 21 and he desires approval of additional drilling outlined by the contract. The operators tentative plan is to drill steeper and deeper holes at the previous diamond drill stations 1, 2, 3 and 4.

Total footage of drilling completed was 1,860 feet.

CONCLUSIONS

No ore has been found by the diamond drilling, however, it is possible that some scheelite mineralization will be found by hole M-2 which has not yet reached its objective.

There has not been sufficient drilling completed to evaluate the success of the exploration work.

RECOMMENDATIONS

For improvement of operations:

The operator and his staff are doing everything possible to successfully complete the contract.

Changes in project or target:

None required.

Amendments to contract:

The operator is requesting approval of the deeper drilling outlined by the contract.

WORK COMPLETED

On April 9, 1953 a total of 1,860 feet of core drilling was completed.

Hole No.	Depth	Inclination	Bearing	Collar Coordinates Latitude	Collar Coordinates Departure	Collar Elevation
M-1	505	-47° to -55°	S30°E	N432	E1872	3,190
M-2	265	-45°	N27°W	S165	E1893	3,162
M-3	592	-50°	S10°E	N378.7	E1421.3	3,194.5
M-4	498	-60°	S10°E	N273	E1332	3.199.2

PROGRESS

Core drilling progressed at a satisfactory rate during March and early April. Drilling conditions are good.

Amendment No. 1 authorized a change in location of the diamond drill hole M-2 from the north side of the vein to the south side of the vein.

The monthly reports submitted by the operator are well prepared. The exploratory drilling is done by independent contract for $5.75 per foot. The drilling contractor encountered trouble at Hole M-3, where drill rods were accidently stuck and seven days time lost. The hole was completed at a depth of 592 feet.

GEOLOGY

Hole M-1 was completed to a depth of 505 feet in quartz monzonite. Several veins were cut near the surface but scheelite values were less than 0.10% WO_3. The objective was reached but there was no ore.

Hole M-2 was drilled from the south side of the vein in quartz monzonite. The objective has not been reached. No ore was found to a depth of 265 feet.

Hole M-3 was drilled in quartz monzonite. A few barren veins were intersected. The hole was completed at a depth of 592 feet.

Hole M-4 was drilled in quartz monzonite. The objective was cut at 477 feet but no ore was found. Specks of scheelite were found at 443 feet. Core at 46 feet and 95 feet showed low grade scheelite mineralization in narrow quartz veins.

Mr. D. L. Gardner, consulting geologist employed by the operator, has carefully mapped mine workings and examined the exploratory work being conducted at the property.

CHECK SAMPLING

Ore produced from a small stope off the east end of the drift on the 400 level of the Flatiron shaft was sampled. The analyses will be included with the next interim report (sample No. S-189).

B. H. Sheahan

B. H. Sheahan
Mining Engineer

DEPARTMENT OF INTERIOR
BUREAU OF MINES
REGION III
RECEIVED

APR 23 AM 8:50

SAN FRANCISCO, CALIFORNIA

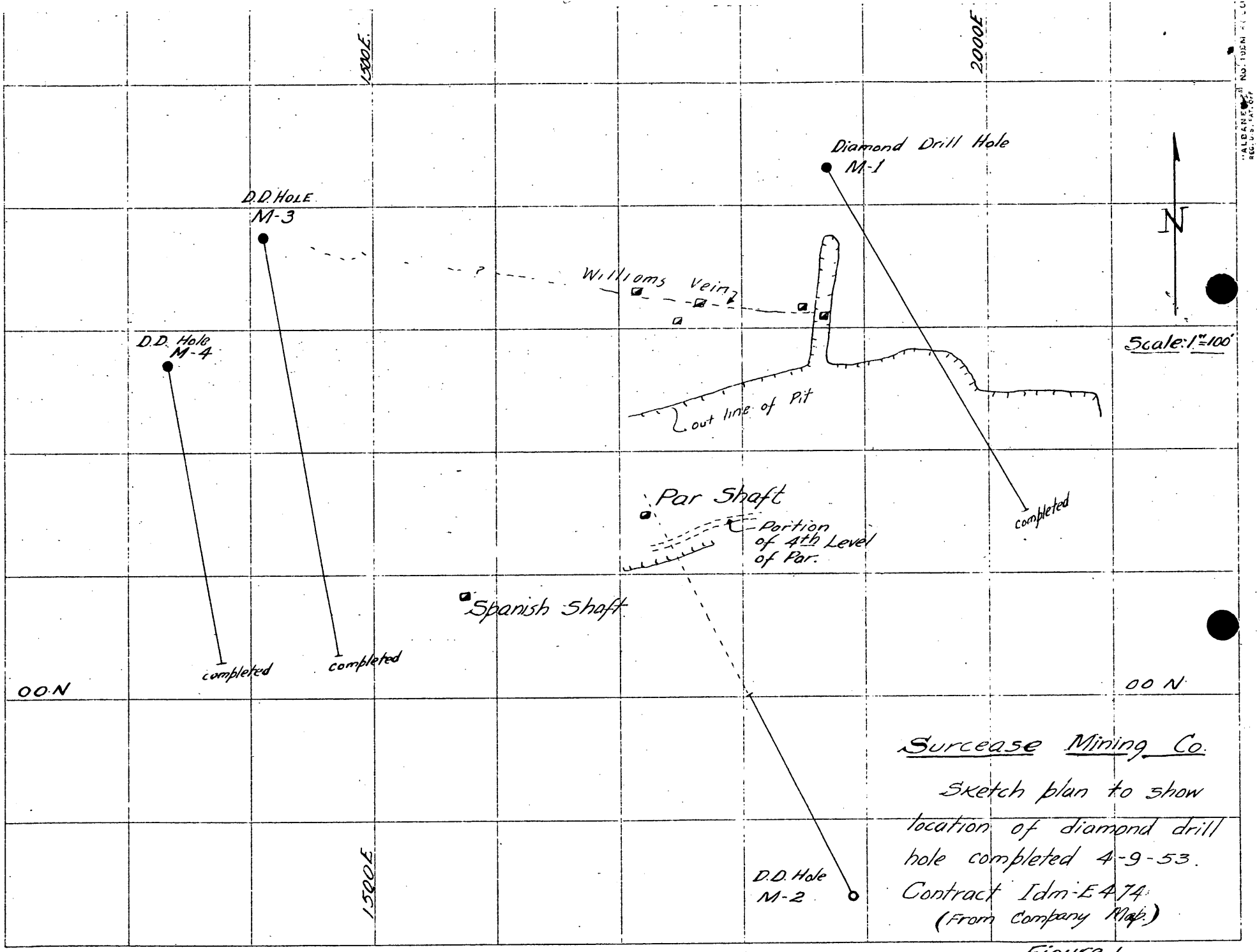

1500E.
2000E
Diamond Drill Hole
M-1
D.D. HOLE
M-3
Williams Vein
N
Scale: 1" = 100'
D.D. Hole
M-4
out line of Pit
Par Shaft
Portion of 4th Level of Par.
completed
Spanish Shaft
completed
completed
00 N
00 N
Surcease Mining Co.
Sketch plan to show location of diamond drill hole completed 4-9-53.
Contract Idm-E474
(From Company Map.)
1500E
D.D. Hole
M-2

Figure 1

Docket Copy

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

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

March 23, 1953

Memorandum

To: Operating Committee, DMEA, Interior Building, Washington 25, D. C.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
MAR 27 1953

From: Executive Officer, DMEA Field Team, Region III

Subject: Contract Idm-E474 - Docket DMEA-2809 (Tungsten)
Surcease Mining Company, Atolia Mines, San Bernardino County, California
Amendment No. 1

Attached are the original and two copies of Amendment No. 1, dated March 18, 1953, permitting change in the location of diamond drill hole No. 2.

A justification sheet is attached to each copy of the amendment.

Proper distribution has been made of the remaining copies.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: A. C. Johnson, Reno (With copy of amendment)
Finance Officer, Region III (With copy of amendment)
E. H. Bailey, USGS
George Mavor

RECEIVED
MAY 6 1953
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

Case 7/27

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 24 1953

Date: March 20, 1953

Memorandum

To: Operating Committee, DMEA, Interior Bldg., Washington 25, D.C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA 2809

Contract Idm-E 474

Commodity Tungsten

Operator - Surcease Mining Co.
P. O. Box 27
Red Mountain, Calif.

Property - Atolia Mines, San Bernardino County, Calif.

By Benjamin H. Sheahan, Mining Engineer

Dated March 18, 1953

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

E. H. Bailey, USGS (With one copy of report)

Geo. Mavor

INTERIM REPORT

(Second)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
MAR 24 1953

Docket No.: DMEA-2809 (tungsten) March 18, 1953

Name and address of operator: Surcease Mining Co.,
P. O. Box 27,
Red Mountain, Calif.

Name and location of property: Atolia Mines, San Bernardino County, Calif.

Contract No.: Idm-E474

SUMMARY

Exploratory diamond drilling was inspected by an engineer of the Bureau of Mines on March 10, 1953. The engineer was accompanied by Mr. Kevin Malone, manager of the property. The engineer conferred with F. L. Bradfield, company engineer on March 12, 1953 regarding the relocation of proposed diamond drill hole No. 2.

Core drilling was started February 7, 1953 at hole No. 1 by the R. S. McClintock Drilling Co. of Globe, Ariz. The hole was drilled to a depth of 505.3 feet in granodiorite. No ore was found, although two quartz veins were cut. At a depth of 203 feet, a two foot quartz vein assayed 0.09% WO_3.

Hole No. 3 was drilled to a depth of 372 feet where a cavity was cut; drill water was lost, and cementing was required. The diamond driller failed to remove all of the cement from the drill rods. The rods were stuck at a depth of 360 feet. The diamond driller planned to ream the hole if the bit could not be freed from the casing. Hole No. 3 had approached a favorable horizon.

The 4th level of the Par was recently opened and examined by the operator. The relocation of proposed diamond drill hole No. 2 was requested by the operator. The objective would remain practically the same, although at the second location, the hole would be drilled northerly instead of southerly. (See attached sketch).

CONCLUSIONS

No ore has been found, however the most favorable objectives for ore deposition have not yet been reached by the exploratory drilling.

RECOMMENDATIONS

For improvement of operations:

Operational troubles encountered by the diamond drill contractor should be avoided.

Changes in project or target:

The relocation of proposed hole No. 2 is recommended. There is practically no change to the project target.

Amendments to contract:

None are required.

WORK COMPLETED

On March 10, 1953, 877.3 feet of core drilling was completed.

Hole No. 1 (completed)

Coordinates of collar: N 432, E1872 Elevation: 3,190
Dip: -47° to -55° Bearing: S 30° E
Depth: 505.3 feet

Results and remarks: Hole reached objective but no ore was found. A 2-foot quartz vein was found at 203 feet.

Hole No. 2 (Proposed)

Coordinates of collar: S165, E1893 Elevation: 3,162
Dip: -45° Bearing: N 27° W
Depth: 550 feet

Results and remarks: Operator has requested to relocate hole to drill from the south side of the vein.

Hole No. 3 (Drilling)

Coordinates of collar: N378.7, E1421.3 Elevation: 3,194.5
Dip: -50° Bearing: S 10° E
Depth: 372 feet (3/10/53)

Results and remarks: Hole has not reached objective. Drill rods stuck at 362 feet. Driller plans to free rods, and ream if necessary.

PROGRESS

Core drilling advanced at a satisfactory rate during February 1953. Progress during March will depend upon drilling conditions at hole 3 and hole 2.

Operating conditions are good. Cavities in and near the veins are common in the district. Holes were started NX size, cased and completed with AX size bits. Core recovery was good.

The exploration work was efficiently managed and engineered, although the diamond driller had troubles which were in part possibly due to negligence.

The operators monthly reports are well prepared. Geologic maps, drill logs and information regarding the exploration work is well engineered.

No ore has been found to date. However, there has not been sufficient drilling completed to evaluate the success of the exploration work.

CHECK SAMPLES

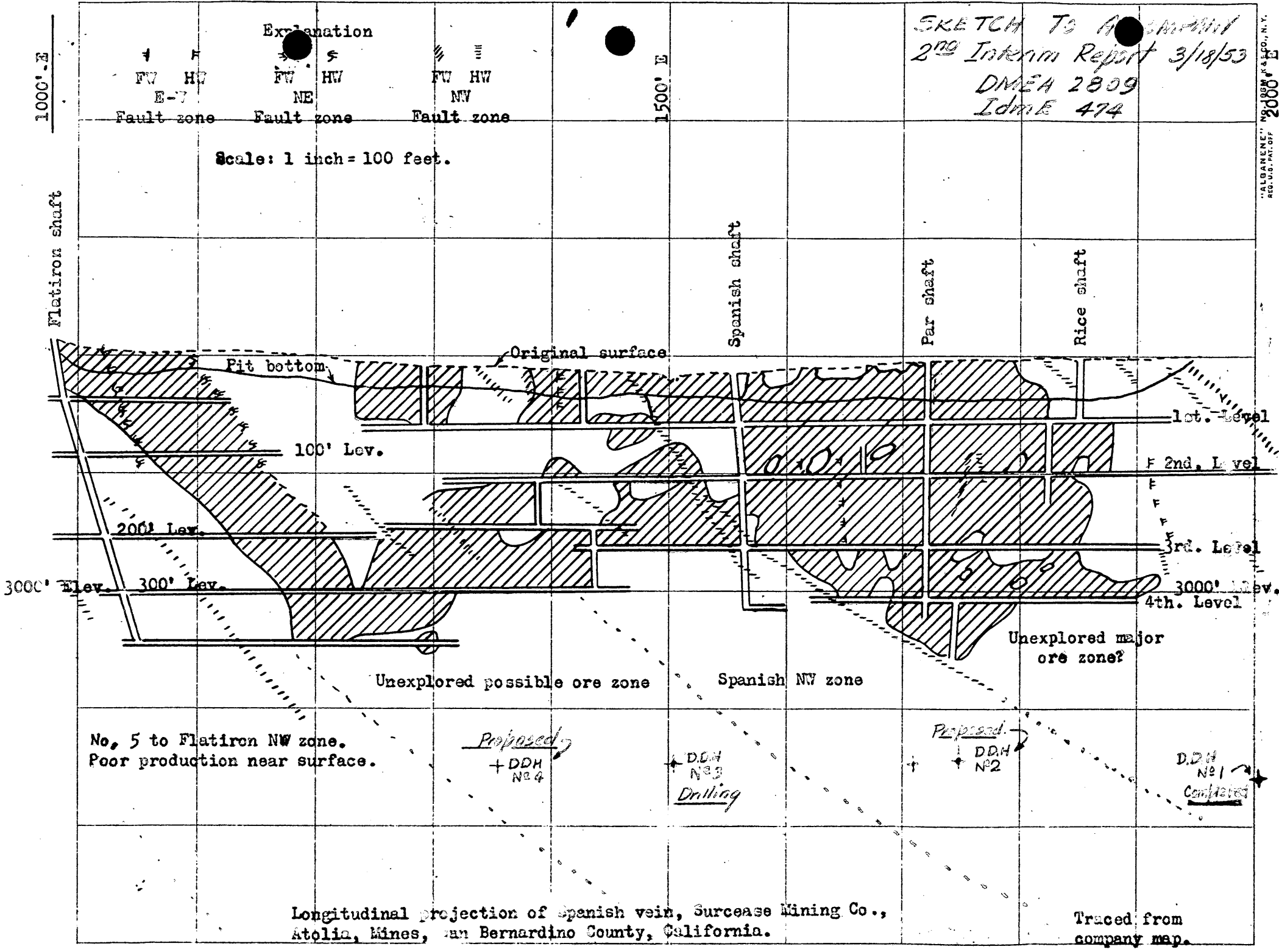
No check samples were taken as no ore was reported by the operator.

Benjamin H. Sheahan
Mining Engineer

DEPARTMENT OF INTERIOR
BUREAU OF MINES
REGION III
RECEIVED

1985 MAR 20 AM 8:39

SAN FRANCISCO, CALIFORNIA



Longitudinal projection of Spanish vein, Surcease Mining Co., Atolia, Mines, San Bernardino County, California.

Traced from company map.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 23 1953

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

March 19, 1953

Mr. J. W. Roefling, President
Sureease Mining Company
214 - 30th Street
Sacramento 16, California

Re: Docket DMEA-2609 (Tungsten)
Sureease Mining Company
Atolia Mines
San Bernardino County, Calif.
Contract Idm-2474

Dear Mr. Roefling:

In compliance with Mr. F. L. Bradfield's letter of March 13, addressed to A. C. Johnson, Chief, Mining Division, Reno, we have prepared Amendment No. 1 to subject contract, permitting change in the location of diamond drill hole No. 2.

If you are in accord with the amendment as we have drawn it up, will you kindly sign all of the six enclosed copies, returning the original and four carbon copies to this office, retaining the remaining copy marked "Operator's Copy" for your records.

Sincerely yours,

H. C. MILLER

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Enclosure

Copy to: DMEA, Washington, D. C.
E. H. Bailey, USGS
A. C. Johnson, Reno

HCMiller:mpp
Files
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 17 1953

Date: February 13, 1953

Memorandum

To: Operating Committee, DMEA, Interior Bldg., Washington 25, D.C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA 2809

Contract Idm-E 474

Commodity Tungsten

Operator - Surcease Mining Co.
Red Mountain, Calif.

Property - Atolia Mines
San Bernardino County, Calif.

By Frank J. Wiebelt, Mining Engineer

Dated February 11, 1953

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

E. H. Bailey, USGS (With one copy of report)

INTERIM REPORT

Docket No.: DMEA-2809 (Tungsten) February 11, 1953

Name and address of operator: Surcease Mining Co.,
Red Mountain, Calif.

Name and location of property: Atolia Mines, San Bernardino Co., Calif.

Contract No.: Idm-E474

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The mine was visited on Feb. 4 and 5, 1953.

The drill setup at site of Hole 1 has been completed and actual drilling should commence within a day or two or as soon as the swivel head for the drill arrives.

The examiner explained the accounting procedure and the necessary data to be included in the monthly progress and cost data.

The drilling will be done by R. S. McClintock of Globe, Ariz.

There are no recommendations to be made at this time.

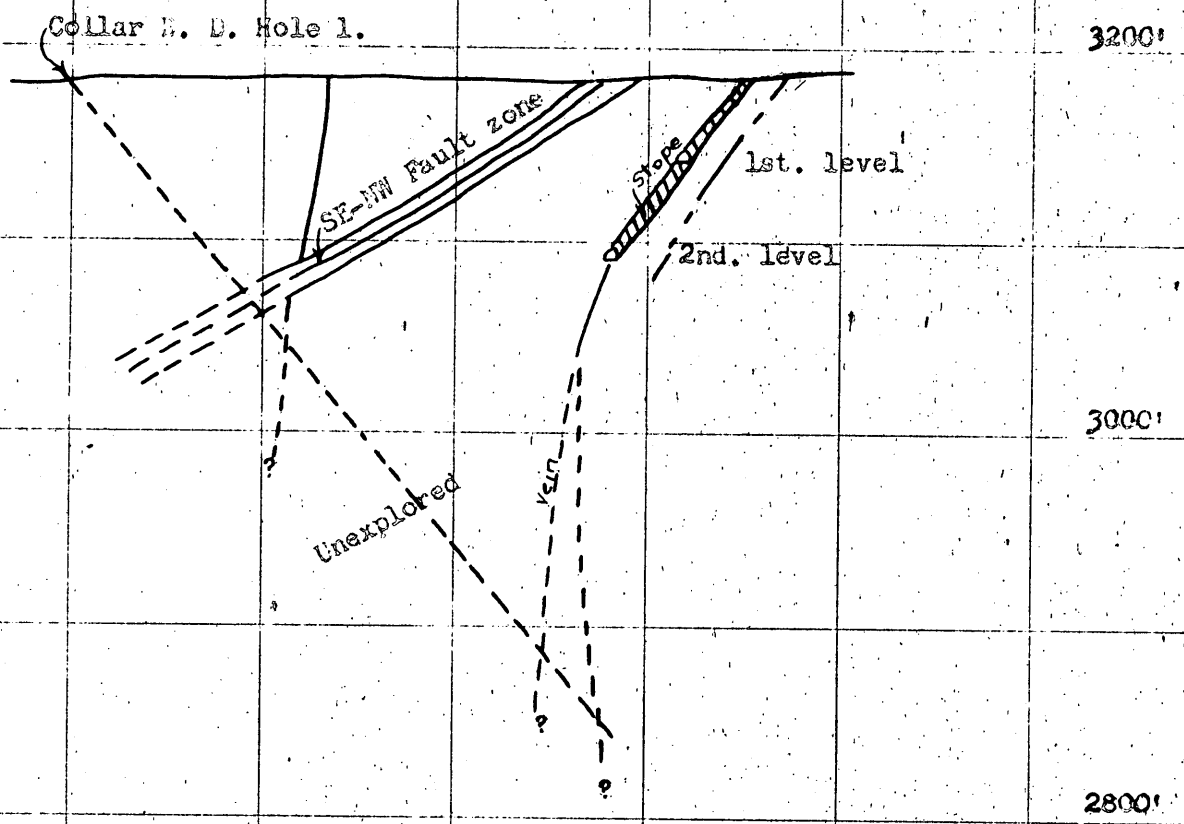
WORK COMPLETED

The company has installed a large water storage tank on the project site and water has been piped from this tank to drill hole No. 1 site. The driller has completed the drill setup at hole No. 1 and actual drilling operations await the arrival of the swivel head for the drill. The coordinates of the collar of hole No. 1 are N432, E1872 and its elevation is 3190 plus, or minus. It is intended to operate the drill one shift per day for a short period. A second drill shift will be added in the near future.

A longitudinal projection of the Spanish vein, covering area of proposed diamond drilling program and a cross section of proposed

diamond drill hole No. 1 is attached to this report.

Frank J. Wiebelt
Mining Engineer

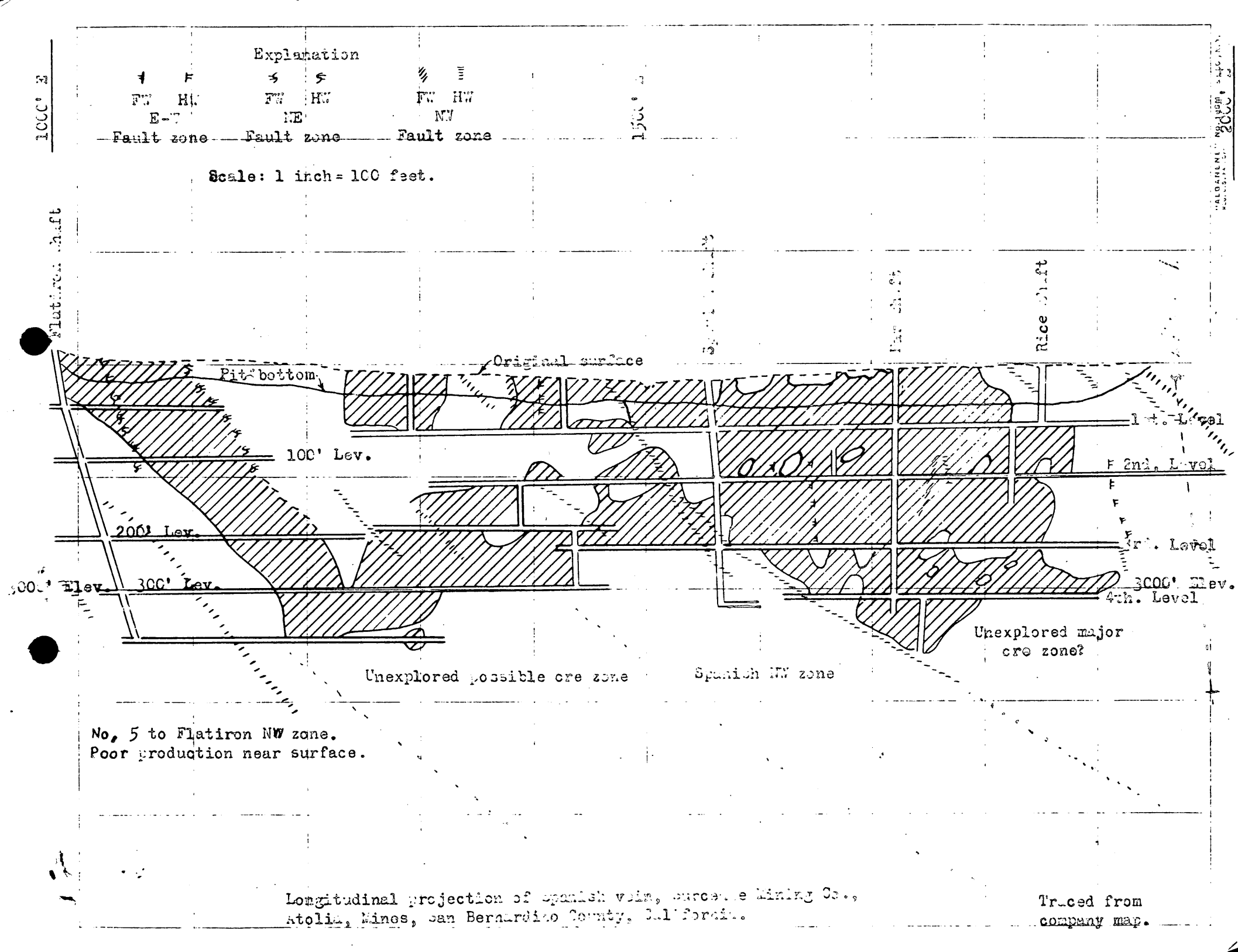


Coordinates of collar: N 432; E 1872
Elevation .. .. : 3190
Dip of hole: -50 degrees.
Bearing of hole: S 30° E.

Scale: 1 inch = 100 feet.

Traced from Surcease Mng. Co. map.

Vertical section through proposed diamond drill hole number one.



Longitudinal projection of Spanish vein, Surcease Mining Co., Atolia, Mines, San Bernardino County, California.

Traced from company map.

400

FILE COPY
SURNAME:

Martin

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

FEB 10 1953

SW.

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Docket No. DMEA 2809 -
Tungsten
Surcease Mining Company
Atolia Mines
San Bernardino County,
California
Contract No. Idm-E-474

Dear Mr. Miller:

We are enclosing an extra copy of the above-referenced contract for use of your field representatives in making their examinations and reports.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

Enclosure

S.N.
2-10-53

LScott
2/9/53

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

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

Office of
Executive Officer
DMEA Field Team
Region III

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 2 1953

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

January 27, 1953

Memorandum

To: Operating Committee, DMEA, Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Contract Idm-E474 - Docket DMEA-2809 - (Tungsten), Surcease Mining Company, Atolia Mines, San Bernardino County, California

Reference is made to Mr. Frank E. Johnson's letter of January 8, 1953, transmitting to this office the original and five copies of subject contract.

The contract has been executed on the part of the Operator and one copy retained by him. Proper distribution has been made of the Field Team's and Finance Officer's copies, and the original and two remaining copies are returned herewith.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: A. C. Johnson, Reno (with copy of contract)
Finance Officer, Region III (with copy of contract)
E. H. Bailey, USGS
George Mavor

cc
2/3/53

FILE COPY
SURNAME:

Martin
Selfridge
Hudson

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

JAN 8 1953

Mr. H. S. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco, California

Re: Docket No. DMEA 2809 -
Tungsten
Surcease Mining Company
Atolia Mines
San Bernardino County,
California

Dear Mr. Miller:

We are enclosing the original and five copies of the subject exploration contract signed by this office for the Government, together with Exhibit "A" (2 pages), Annex I (1 page), and one map (Map No. 1).

If the terms and conditions of this contract are satisfactory to you and the Operator, all six copies should be signed by a duly authorized official of the above-named company. The "Operator's Copy" is to be given to the Operator; the "Finance Officer's Copy" is to be sent to the Regional Finance Officer; the "Field Team's Copy" is to be retained by your office; and the remaining 3 copies are to be returned to this office.

If any part of this contract does not have either your approval or that of the Operator and cannot be amended within your delegated authority, then the original and all copies of the contract are to be returned to this office, together with the proposed changes for consideration.

Please note that the only major change made in the proposed contract is the omission of any allowance for payment for delays through fault of the property owner. Our

J.C. 1-8-53

experience indicates that while such delays may seem to the drilling contractor to be the fault of the Operator, unforeseeable difficulties can delay the most carefully planned and efficiently supervised operations. To compensate for the above omission, we have increased the demobilization allowance from $100.00 to $200.00. We have also put the reaming allowance on a unit basis to be used as needed instead of a contingent percentage basis as suggested by the Operator. The total cost which the project must not exceed remains unchanged at $33,400.00.

Sincerely yours,

Frank E. Johnson

(JHB)

Chairman, Operating Committee

Enclosures

Approved:

J. H. Hedges (JHB)

Member, Bureau of Mines

A. R. Kinkel, Jr. (JHB)

Member, Geological Survey

CC: DOCKET
ADMN. READ. FILE
FIELD TEAM, REG. 3
CODE 400
OP. COMMITTEE
D. M. LEMMON, USGS
R. W. GEEHAN, USBM

WSMartin/ls 1-6-53

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : Mr. J. L. Hofflund, Chief Counsel, DMEA DATE: Dec. 23, 1952

FROM : Iron and Ferro-Alloy Division, DMEA

SUBJECT: Contract for review and final preparation
Docket No. DMEA 2809 - Tungsten
Surcease Mining Company
Sacramento, California
Mining operations in the Atolia district
San Bernardino County, California

Attached is a rough draft of the subject contract, including Form MF-200(A), Exhibit "A" (2 pages), Annex I (1 page), and 6 copies of Map No. 1.

Please note that we have included the FLATIRON patented claim in the project on the basis of our finding that the proposed drilling will explore the possible downward extension of developed ore on that claim. We have also included assaying of cores among the costs which the Operator contemplates absorbing, although that item was not specifically mentioned in the subject application.

As the application advises, a more comprehensive drilling project was submitted on May 31, 1951, under Docket No. DMA 1636X, but was subsequently withdrawn. On June 18, 1951, Messrs. D. M. Lemmon and G. B. Holderer reported that a field examination was not needed.

G. C. Selfridge

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

Attachments

RECEIVED
DEC 23 1952
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

FILE COPY
SURNAME:

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

Mr. J. L. Hoffland, Chief Counsel, DMEA

Dec. 23, 1952

Martin
Selfridge

Iron and Ferro-Alloy Division, DMEA

Contract for review and final preparation
Docket No. DMEA 2809 - Tungsten
Surcease Mining Company
Sacramento, California
Mining operations in the Atolia district
San Bernardino County, California

Attached is a rough draft of the subject contract, including Form MF-200(A), Exhibit "A" (2 pages), Annex I (1 page), and 6 copies of Map No. 1.

Please note that we have included the FLATIRON patented claim in the project on the basis of our finding that the proposed drilling will explore the possible downward extension of developed ore on that claim. We have also included assaying of cores among the costs which the Operator contemplates absorbing, although that item was not specifically mentioned in the subject application.

As the application advises, a more comprehensive drilling project was submitted on May 31, 1951, under Docket No. DMA 1636X, but was subsequently withdrawn. On June 18, 1951, Messrs. D. M. Lemmon and G. B. Holderer reported that a field examination was not needed.

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

Attachments

WSMartin:ls

CC: Docket
Admn. Read. File
W.S.Martin
G.C.Selfridge

MF-200 (A)
(February 1952)

DOCKET NO. DMEA 2809

COMMODITY Tungsten

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

EXPLORATION PROJECT CONTRACT[1]
(Short Form)

IT IS AGREED this _____ day of _____, 195__, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] Surcease Mining Company, 214 30th Street, Sacramento, California, a ~~California~~ Corporation, Nev & Utah & Calif

hereinafter called the "Operator," as follows:

ARTICLE 1. *Authority for contract.*—This agreement is entered into under the authority of the Defense Production Act of 1950, as amended, pursuant to DMEA Order 1 entitled "Government Aid in Defense Exploration Projects."

ARTICLE 2. *Operator's property rights.*—With respect to that certain land situated in the State of California, County of San Bernardino, described as[3] ~~[illegible]~~ Three WAVERLY, PAR, and FLATIRON patented mining claims, more particularly identified in Annex I attached hereto and made a part hereof,

the Operator represents and undertakes:[4]

(*a*) That the Operator is the owner, in possession and entitled to possession, and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached: _____

~~(b) That the Operator is the owner, in possession and entitled to possession, and that the property is subject only to the following royalties, overrides, or other obligations as to each of which the subordination agreement of the holder is attached~~

The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof.

ARTICLE 3. *Exploration project.*—The Operator, within _____ days from the date of this contract shall commence work on a project of exploration for[5] _____

in or upon the described land; and shall bring the project to completion within a period of 5 months from the date of this contract. The work to be performed is more fully described in Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, are made a part of this contract. The Government will contribute to the cost of this work as hereafter provided. The work shall be performed by the Operator or by independent contractor or contractors efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmen's compensation and employers' liability insurance, with suitable and adequate equipment, materials, and labor, to bring the project to completion within the time fixed. The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

ARTICLE 4. *Costs of the project.*—The agreed, estimated costs of performing the work, expressed in terms of units of work to be performed (per foot of drifting, per foot of drilling, per cubic yard of material to be moved, etc.) are set forth in Exhibit "A," attached hereto. The Government will pay 75 percent of these agreed, estimated costs, as they accrue, for units of work actually performed that conform with the description or specifications for the work set forth in this contract, in an aggregate total amount not in excess of $25,050, which is 75 percent of $33,400, the agreed, estimated total cost of the project in which the Government will participate: *Provided,* That until the Operator's final report and final accounting have been rendered to the Government and any final check or auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten (10) percent of the maximum total which the Government might have been called upon to pay under the terms of the contract. The Government may, as it sees fit, make payments direct to the Operator's independent contractors, if any, for the account of the Operator, rather than to the Operator.

ARTICLE 5. *Reports, accounts, audits.*—(*a*) *Progress reports.* The Operator shall provide the Government with monthly reports of units of work performed under the contract, in quintuplicate (five copies), upon forms provided by the Government. These progress reports shall be certified by the Operator, and shall constitute both the Operator's invoice of units of work performed on the project during the period covered by the report and his voucher for repayment by the Government, unless the Government requires the use of a standard voucher form with invoice attached. Progress reports shall include surface and/or underground engineering-geological maps or sketches showing the progress of the exploration, with assay-reports on samples taken concurrently with the advance in mineralized ground.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] State name, address, and nature of organization if any.
[3] Give legal description or enough to identify the property, particularly excluding any land or interest therein to which the Government's lien is not to attach or the production from which is not to be subject to the Government's percentage royalty.
[4] Strike out the provision not applicable.
[5] Name of mineral or minerals.

(*b*) *Final report.*—Upon completion of the exploration work or termination of the contract the Operator shall provide the Government with an adequate geological and engineering report, in quintuplicate (five copies), including an estimate of ore reserves resulting from the exploration work.

(*c*) *Compliance with requirements.*—If, in the opinion of the Government, any of the Operator's reports are insufficient or incomplete, the Government may procure the making or completion of such reports and attachments as an expense of the exploration work; and the Government may withhold approval and payment of any vouchers depending upon insufficient or incomplete reports.

(*d*) *Accounts and audits.*—The Operator shall keep suitable records and accounts of the units of work performed, which the Government may inspect and audit at any time. The Government may at any time require a check of the work performed and an audit of the Operator's records and accounts, by a certified public accountant or otherwise, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract. Upon the completion of the project or termination of the contract the Operator shall render a final account and statement of work performed to accompany his final report.

ARTICLE 6. *Repayment by Operator.*—(*a*) If, at any time, the Government considers that a discovery or a development from which production may be made has resulted from the exploration work, the Government, at any time not later than 6 months after the Operator has rendered the required final report and final account, may so certify in writing to the Operator. The certification shall describe broadly or indicate the nature of the discovery or development. In the event of such certification, any minerals mined or produced from the land described in Article 2 within 10 years from the date of this contract, including any mined or produced before the certification, shall be subject to a percentage royalty which the Operator or his successor in interest shall pay to the Government, upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, until the total amount contributed by the Government, without interest, is fully repaid, or said 10 years have elapsed, whichever occurs first, as follows:

(1) One and one-half (1½) percent of any such net amounts not in excess of eight dollars ($8.00) per ton.

(2) One and one-half (1½) percent of any such net amounts, plus one-half (½) percent of such net amounts for each additional full fifty cents ($0.50) by which such net amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such net amounts.

(For instance: The percentage royalty on a net amount of five dollars ($5.00) per ton, would be one and one-half (1½) percent; on a net amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(*b*) As here used, "net smelter returns," "net concentrator returns," and "other net amounts realized from the sale or other disposition," mean gross revenue from sales, or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be the gross income from mining operations for percentage depletion purposes in income-tax determination.

(*c*) To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(*d*) This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

ARTICLE 7. *Assignment, transfer, or loss of Operator's interest.*—Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder. The Operator shall not make any voluntary nor permit any involuntary transfer or conveyance of the Operator's rights in the land described in Article 2, without making suitable provision for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof; *Provided*, that mere failure by the Operator to maintain the Operator's rights in the land, without any consideration running to the Operator other than relief from the cost of maintaining such rights (as by surrender of a leasehold, failure to perform assessment work, or failure to exercise an option), coupled with complete abandonment by the Operator of all interest in or operations on the land for a period of 10 years from the date of this contract, shall not constitute such a transfer or conveyance. Should the Operator make or permit any transfer or conveyance in violation of this provision, the Operator shall be and remain liable for payment to the Government of the same amounts, at the same times, as would have been paid under the terms of the percentage royalty on production. If for any reason the net smelter returns, net concentrator returns, or other net amounts realized from the sale or other disposition of such production are not available as a means of measuring the amount of the Operator's liability, the amount thereof shall be estimated as well as may be, and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or by his successor shall be final and binding upon the Operator.

ARTICLE 8. *Termination and completion.*—The Government may, at any time, by written notice to the Operator, terminate this contract: (*a*) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (*b*) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (*c*) if, in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worth while discovery and in the opinion of the Government further operations are not justified.

ARTICLE 9. *Changes and added provisions* _____

_____

_____

_____

_____

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

_____
(Operator)

By _____

By _____

I, _____, certify that I am the _____ secretary of the corporation named as Operator herein; that _____, who signed this contract on behalf of the Operator, was then _____ of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

_____ [CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—66329-1

Exploration Project Contract

Surcease Mining Company

Docket No. DMEA 2809

EXHIBIT "A"

Description of the Work

The project consists of drilling a maximum of 5,000 feet of diamond drill holes to explore for tungsten ore on the lands identified in Annex I of this contract. It is estimated that approximately 8 holes will be drilled, 4 being each about 450 feet in depth and 4 being each about 800 feet in depth. Reaming and coring may be done when necessary.

Mobilization and demobilization shall each be considered one unit of work. [redacted]

1. The project shall be started by drilling 1 or more of the 4 shorter holes ~~with~~ at approximately the locations, ~~strikes~~, with the appropriate directions and ~~dips~~ inclinations indicated on Map No. 1 attached hereto and made a part hereof. ~~provided that~~ No project holes shall be drilled to intersect the "Spanish" vein structure within approximately 100 feet of each other, or within approximately 50 feet of any boundary of lands not included in the project.

2. The Operator shall obtain from the ~~Government~~ DMEA Field Team prior to drilling each of the 4 longer holes written approval for the approximate coordinates, elevation, ~~strike~~ direction and ~~dip~~ inclination at collar and estimated depth of that hole. The ~~Government~~ DMEA Field Team will approve such longer holes only if ~~2~~ one or more of the shorter holes shall reveal significant

mineralization, and attach each such approval to this contract. ~~Each such approval by the Government shall be attached to and become a part of the contract for all purposes of the contract.~~

3. ~~The Operator contemplates~~ absorbing all incidental ~~costs of~~ diamond drill hole site preparation, hauling water, providing core boxes, geological logging of holes, assaying of cores, and general supervision ~~that confining Government participation to contractor's charges for drilling items and contingencies.~~

1/

Estimated Costs of the Project

5,000 feet of diamond drilling @ $5.75 per foot 1/	$28,750.00
Mobilization @ $250.00 2/	250.00
Demobilization @ $100.00 2/	100.00
600 feet of reaming and casing or cementing at depths between 0 and 400 feet @ $3.25 per foot [redacted]	1,950.00
600 feet of reaming and casing or cementing at depths between 400 and 800 feet @ $3.75 per foot [redacted]	2,250.00
[redacted]	
Estimated total cost of project	$33,400.00
Government participation @ 75%	$25,050.00

[redacted] , outside [redacted]

1/ this ~~includes~~ covers all costs whatsoever including the cost of

2/ copy (X)

Exploration Project Contract

Surcease Mining Company

Docket No. DMEA 2809

ANNEX I

WAVERLY, PAR, and FLATIRON patented mining claims, ~~which~~ are, with other claims unnamed herein, ~~are~~ covered by Mineral Survey 4708, (Independence Serial 0273). The patent was issued by the United States of America on January 18, 1916, to Atolia Mining Co., Patent No. 508238, recorded February 11, 1916, in Book "K" Patents, Page 34, Records of San Bernardino County, California, ~~and~~ (also recorded February 25, 1916, in Book 18, Patents, Page 293, Records of Kern County, California)

~~The Operator~~

These claims were purchased from the Atolia Mining Co. by J.W. Hoefling, A.M. Hoefling, and P.M. Hoefling (doing business as Hoefling Brothers) who duly transferred ~~assigned~~ all their right, title & interest thereunto the Operator.

IN REPLY REFER TO:

G-MD-CF

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

December 17, 1952

GCS
12/23/52

Memorandum

To: G. C. Selfridge

From: M. D. Crittenden

Subject: DMEA 2809 (Tungsten)
Surcease Mining Company
214 30th Street
Sacramento, California

The Property

The applicant is owner of two claims, the Waverley and the Par, in the Atolia district, Sec. 20, T. 30 S., R. 41 E., San Bernardino County, California.

The Proposal

The applicant proposes to do 5,000 feet of diamond drilling from the surface to test the downward extension of orebodies in the Spanish vein, that yielded more than 100,000 units of WO_3, from $18,800 tons of ore averaging 5.47 percent WO_3 down to a depth of about 200 feet. They propose to drill four holes, for which locations are already spotted, to cut the vein about 100 feet below the present deepest workings (250 foot level). Four more holes are contingent on the results of the first set.

The cost is estimated to be $33,400, exclusive of overhead, assaying, engineering, and incidentals, which the company proposes to bear.

Geology

The sheelite deposits of the Atolia district consist of steeply dipping veins cutting quartz-monzonite wall rock. In general, the veins are part of an east-striking shear zone. Individual veins strike N. 75° E. to S. 75° E., and dip 45° to 90°. The deepest workings in the area are in the Union Mine on the west end of the mineralized belt. In general, the deposits in this, the east, end of the district, have been shallow; the majority of the oreshoots have terminated at depths of less than 200 feet.

Copy retained 408

The exploration proposed was recommended in February 1943, by D. M. Lemmon, in connection with a proposed Bureau of Mines drilling project, but was not carried out at that time.

Recommendation

The proposed exploration appears reasonable, and the company should be capable of carrying it out efficiently. The downward extensions of the orebodies already mined appear to be worth testing, though relatively shallow mineralization appears to characterize this district. For this reason, it is reasonable to set the program up in two stages, so that additional work will not be wasted if the first four holes do not reveal significant mineralization. The cost of the first stage should not exceed $15,000.

Max D. Crittenden Jr

M. D. Crittenden

IN REPLY REFER TO:

G-MD-CF

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

December 17, 1952

Memorandum

To: G. C. Selfridge

From: M. D. Crittenden

Subject: DMEA 2809 (Tungsten)
Surcease Mining Company
214 30th Street
Sacramento, California

The Property

The applicant is owner of two claims, the Waverley and the Par, in the Atolia district, Sec. 20, T. 30 S., R. 41 E., San Bernardino County, California.

The Proposal

The applicant proposes to do 5,000 feet of diamond drilling from the surface to test the downward extension of orebodies in the Spanish veins, that yielded more than 100,000 units of WO_3, from $18,800 tons of ore averaging 5.47 percent WO_3 down to a depth of about 200 feet. They propose to drill four holes, for which locations are already spotted, to cut the vein about 100 feet below the present deepest workings (250 feet level). Four more holes are contingent on the results of the first set.

The cost is estimated to be $33,400, exclusive of overhead, assaying, engineering, and incidentals, which the company proposes to bear.

Geology

The sheelite deposits of the Atolia district consist of steeply dipping veins cutting quartz-monzonite wall rock. In general, the veins are part of an east-striking shear zone. Individual veins strike N. 75° E. to S. 75° E., and dip 45° to 90°. The deepest workings in the area are in the Union Mine on the west end of the mineralized belt. In general, the deposits in this, the east end of the district, have been shallow; the majority of the oreshoots have terminated at depths of less than 200 feet.

The exploration proposed was recommended in February 1943, by D. M. Lemmon, in connection with a proposed Bureau of Mines drilling project, but was not carried out at that time.

Recommendation

The proposed exploration appears reasonable, and the company should be capable of carrying it out efficiently. The downward extensions of the orebodies already mined appear to be worth testing, though relatively shallow mineralization appears to characterize this district. For this reason, it is reasonable to set the program up in two stages, so that additional work will not be wasted if the first four holes do not reveal significant mineralization. The cost of the first stage should not exceed $15,000.

M. D. Crittenden

IN REPLY REFER TO:

G-MD-CF

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

December 17, 1952

Memorandum

To: G. C. Selfridge

From: M. D. Crittenden

Subject: DMEA 2809 (Tungsten)
Surcease Mining Company
214 30th Street
Sacramento, California

The Property

The applicant is owner of two claims, the Waverley and the Par, in the Atolia district, Sec. 20, T. 30 S., R. 41 E., San Bernardino County, California.

The Proposal

The applicant proposes to do 5,000 feet of diamond drilling from the surface to test the downward extension of orebodies in the Spanish vein, that yielded more than 100,000 units of WO_3, from $18,800 tons of ore averaging 5.47 percent WO_3 down to a depth of about 200 feet. They propose to drill four holes, for which locations are already spotted, to cut the vein about 100 feet below the present deepest workings (250 foot level). Four more holes are contingent on the results of the first set.

The cost is estimated to be $33,400, exclusive of overhead, assaying, engineering, and incidentals, which the company proposes to bear.

Geology

The sheelite deposits of the Atolia district consist of steeply dipping veins cutting quartz-monzonite wall rock. In general, the veins are part of an east-striking shear zone. Individual veins strike N. 75° E. to S. 75° E., and dip 45° to 90°. The deepest workings in the area are in the Union Mine on the west end of the mineralized belt. In general, the deposits in this, the east end of the district, have been shallow; the majority of the oreshoots have terminated at depths of less than 200 feet.

The exploration proposed was recommended in February 1943, by D. M. Lemmon, in connection with a proposed Bureau of Mines drilling project, but was not carried out at that time.

Recommendation

The proposed exploration appears reasonable, and the company should be capable of carrying it out efficiently. The downward extensions of the orebodies already mined appear to be worth testing, though relatively shallow mineralization appears to characterize this district. For this reason, it is reasonable to set the program up in two stages, so that additional work will not be wasted if the first four holes do not reveal significant mineralization. The cost of the first stage should not exceed $15,000.

M. D. Crittenden

OPERATIONS ADDRESS:
P. O. Box 27
RED MOUNTAIN, CALIF.
Phone—Randsburg 5661

K. MALONE, Manager
D. A. MOYER, Asst. Manager

SURCEASE MINING COMPANY

ATOLIA SCHEELITE PROPERTIES

BUSINESS OFFICE:
214 - 30th Street
SACRAMENTO 16, CALIF.
Phone—GIlbert 3-8593

J. W. HOEFLING, President
J. B. GEE, Secretary

Sacramento, Calif.
December 10, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 15 1952

Defense Minerals Exploration Administration
Interior Building
Washington 25, DC

In accordance with DMEA Order #1, we wish to apply herewith for government participation in a Defense Mineral Exploration Project. Attached are the following in quadruplicate sets:

1. Duly executed application on Form MF-103.

2. Supporting data & information.
   (a) Supplement sheets (3) for extended information per Form MF-103 and keyed thereto.

   (b) 8½x11" Maps showing
   Proposed Drill Hole Locations
   Longitudinal Project "Spanish" Vein Structure
   Cross Section, Drill Holes 1 & 2 Objectives
   Cross Section, Drill Holes 3 & 4 Objectives
   11x24" Geologic Surface Map of Atolia Area to orient specific subject area of application.

Very truly yours,

SURCEASE MINING CO.

by J. W. Hoefling
President

JWH: jbg

COPY

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
Form Approved.
Bureau No. 42-R1035.2.

DEC 15 1952
15 BW.

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

Not to be filled in by applicant

Docket No. DMEA-2809
Metal or Mineral
Date Received 12/15/52
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:

Surcease Mining Co.
214-30th Street
Sacramento, Calif.

Corporation - California
J. W. Moefling, Pres., 214 30th St., Sacto
J. B. Gee, Sec-Treas., 214 30th St., Sacto
A. H. Moefling, Vice Pres., Rt 3., Oroville Cal.

(*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.

(*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

WAVERLY and PAR patented claims, Mineral Survey No. 4700, Sec. 20, TSHP 30 S, R 41 E, MDB&M, San Bernardino County, California

(*b*) State any mine name by which the property is known. Atolia Mines

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Owner

(*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.

(*e*) If you own the land, describe any liens or encumbrances on it None

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

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 Supplement Sheets

(*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.

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

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

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore Tungsten, i.e. 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. Diamond Drilling as per plans and maps attached.

(*c*) The work will start within 30 days and be completed within 3-4 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 Supplement

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 Supplement

(*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. None

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. None

(*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. None See supplement

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

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 Dec. 11, 1952

Surcease Mining Company
(Applicant)

By [signature]
President

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.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

Supplement to MF 103

4. Physical Description of Property.

(a) No current operations, other than small scale Leaser digging, on these particular claims. Mineralized structures and extensive old workings shown on accompanying maps. Accessibility to old workings on these two claims very limited but detail maps and records available. These claims part of 55 patented Lode Claims (former holdings of Atolia Mining Company) and substantial other lode and placer claims owned by Surcease Mining Co.,complete production facilities, including mill, also owned. Most underground operations carried on by block-leasing system.

(b) No material production currently from subject area. No known reserves but prospects. Purpose of project is to determine this.
Past production, converted to present $63 price: $6,426,000, 102,400 units WO3; from 18,801 tons of ore, 5.47% average grade, from limited subject area.

(c) Mineralization occurs in vein structure some 1½ miles in length, with subject claims covering east end. Prospects in depth indicated by good production as deep as 900 feet (west end of structure, Union Mine) and 262 feet maximum depth explored in immediate area, where mineralized strike length is 1200 feet. All geologic opinion is that there is no reason why extensions of former ore zones may not be found in depth. Ore zones in this structure can be extremely productive as indicated by past production, (b) above.
For broader aspect and information refer to data submitted on Form MF-100 (for Mine Serial Number), and specifically U. S. Geological Survey Bulletin 922-H, "Tungsten Deposits Of The Atolia District".
This application is a minor part of a much more comprehensive drilling project applied for May 31, 1951 (Docket No. DMA1636X) but later abandoned.

(d) Access to property good. U. S. Highway 395 passes through overall property and within 1/2 mile of subject claims, flat desert country. Shipping points 15 and 25 miles via paved highways. Company camp on property. Local supply and residence centers, 1500 population, in radius of 5 miles. Two hours to San Bernardino, 3 hours to Los Angeles.

(e) Adequate.

5. The Exploration Project.
(b) Surface Diamond Drilling on PAR & WAVERLY Claims. Eight holes are proposed. First four are definitely placeable at this time, with indicated footage of 1670. Balance of holes indicate another 1900 feet, or 3570 feet total. However, a total of 5000 feet is applies for to provide ample latitude in revising hole depths and positions as information is obtained during drilling.

5. (b) continued:

OBJECTIVE: To explore the "Spanish" vein structure at elevation 2850, in zones of known production. This horizon is approximately 100' below the deepest workings in the Par Mine. Holes 1 to 4 are to be drille d in line along the structure. Holes 5 to 8 will be drilled to elevation 2750 should the first four show favorable results.

Holes 1 and 3 have also been located to explore veins in the hanging wall of the principal structure. See cross sections.

Holes 1 to 4 are located as follows:

Hole No. 1: Bearing S 30° E	Dip -50° S		TD 435'
	Collar	Objective	
Co-ordinates	N 432	N 188	
	E 1893	E 2015	
Elevation	3183	2850	
Hole No. 2: Bearing S 10° E	Dip -60° S		TD 389'
	Collar	Objective	
Co-ordinates	N 327	N 135	
	E 1680	E 1713	
Elevation	3187	2850	
Hole No. 3: Bearing S 10° E	Dip -50° S		TD 445'
	Collar	Objective	
Co-ordinates	N 383	N 100	
	E 1446	E 1516	
Elevation	3193	2850	
Hole No. 4: Bearing S 10° E	Dip -60° S		TD 401'
	Collar	Objective	
Co-ordinates	N 273	N 77	
	E 1332	E 1363	
Elevation	3197	2850	

Total footage, 1st stage: 1670'

Holes 5 to 8: To be located from data obtained as drilling program proceeds.

(d) Experience and background of applicant.

Organization personnel core as a team dates back to 1933, under firm name of Hoefling Brothers till 1947; then incorporated as Surcease Mining Company. Originally produced gold (Surcease Mine, Butte County). During war produced zinc and tungsten, attaining rank of second in production of each in California. Was assisted in war production by $20,000 RFC Development Loan for zinc and $100,000 MRC Advance Against Production for tungsten (starting operations at Atolia in 1942). Both loans fully repaid, with

5. (d) continued

interest. Tungsten production continued after war, with average rate of 1000 units per month over 10 year period to date.

Subject project to be under direct supervision of K. Malone, Mine Manager. M.I.T. degree in Mining Engineering. Has been with Company since 1936, except for 3 years in Marine Corps (Captain) during war. Approximately 7 years in tungsten operations in Atolia, with top command there since 1949.

6. Estimate of costs:

To simplify and expedite matters, applicant proposes to absorb all incidental costs (cat work on set-ups, hauling water, core box and general supervision, geological logging, etc.) thus confining government participation to contractor's costs and contingencies. Contractor's costs, NX holes to start, then to BX, and bottom with AX if necessary, quoted as follows (Mitchell Diamond Drilling Co.):

Through overburden	6.55 per ft.	
BR to 200'	5.45	
200 - 400'	5.70	
400 - 600'	5.95	
600 - 800'	6.20	
Indicated ave.	5.75 @ 5,000 is	$28,750.00
Mobilization charge		250.00
De-mobilization		100.00
Reaming & Casing (or cement) if needed:		
0 - 400'	3.25 per ft.	
400- 800'	3.75 per ft.	
Delays thru fault of property owner at $5.10 per hour		
Allowance for above and other contingencies at 15% of $28,750		4,300.00
Total Authorization		$33,400.00
Government participation, @ 75%		$25,050.00
Applicant " @ 25%		$ 8,350.00

December 15, 1952

Mr. J. W. Hoefling, President
Surcease Mining Co.
214 30th Street
Sacramento, California

Subject: DMEA-2809
Re: Exploration Assistance
Atolia Mines

My dear Mr. Hoefling:

The receipt of your application dated December 11, 1952 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-2809 and referred to the Iron and Ferro-Alloys Division.

Kindly refer to DMEA-2809 in any future correspondence relating to your application.

Sincerely yours,

ROBERT E. ADAMS

Robert E. Adams, Chief
Operation's Control and
Statistics Division

25451

OPERATIONS ADDRESS:
P. O. Box 27
RED MOUNTAIN, CALIF.
Phone—Randsburg 5661

K. MALONE, Manager
D. A. MOYER, Asst. Manager

SURCEASE MINING COMPANY

ATOLIA SCHEELITE PROPERTIES

BUSINESS OFFICE:
214 - 30th Street
SACRAMENTO 16, CALIF.
Phone—GIlbert 3-8593

J. W. HOEFLING, President
J. B. GEE, Secretary

Sacramento, Calif.
December 10, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 15 1952
15 Ben.

Defense Minerals Exploration Administration
Interior Building
Washington 25, DC

In accordance with DMEA Order #1, we wish to apply herewith for government participation in a Defense Mineral Exploration Project. Attached are the following in quadruplicate sets:

1. Duly executed application on Form MF-103.

2. Supporting data & information.
   (a) Supplement sheets (3) for extended information per Form MF-103 and keyed thereto.

   (b) 8½x11" Maps showing
   Proposed Drill Hole Locations
   Longitudinal Project "Spanish" Vein Structure
   Cross Section, Drill Holes 1 & 2 Objectives
   Cross Section, Drill Holes 3 & 4 Objectives
   11x24" Geologic Surface Map of Atolia Area to orient specific subject area of application.

Very truly yours,

SURCEASE MINING CO.

by J. W. Hoefling
President

JWH: jbg

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 12 1952
15
GW.

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

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

Not to be filled in by applicant

Docket No. DMEa-2809
Metal or Mineral
Date Received 12/15/52
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: Corporation - California
Surcease Mining Co. J. W. Hoefling, Pres., 214 30th St., Sacto
214-30th Street J. B. Gee, Sec-Treas., 214 30th St., Sacto
Sacramento, Calif. A. M. Hoefling, Vice Pres., Rt 3., Oroville Cal.

(*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.

(*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
WAVERLY and PAR patented claims, Mineral Survey No. 4708, Sec. 20, TSHP 30 S, R 41 E, MDB&M, San Bernardino County, California

(*b*) State any mine name by which the property is known. Atolia Mines

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Owner

(*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.

(*e*) If you own the land, describe any liens or encumbrances on it None

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

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 Supplement Sheets

(*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.

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

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

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore Tungsten, i.e. 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. Diamond Drilling as per plans and maps attached.

(*c*) The work will start within 30 days and be completed within 3-4 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 Supplement

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 Supplement

(*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. None

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. None

(*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. None

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

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 Dec. 11, 1952

Surcease Mining Company
(Applicant)

By [signature]
President

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.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

Supplement to MF 103

4. Physical Description of Property.

(a) No current operations, other than small scale Leaser digging, on these particular claims. Mineralized structures and extensive old workings shown on accompanying maps. Accessibility to old workings on these two claims very limited but detail maps and records available. These claims part of 55 patented Lode Claims (former holdings of Atolia Mining Company) and substantial other lode and placer claims owned by Surcease Mining Co.,complete production facilities, including mill, also owned. Most underground operations carried on by block-leasing system.

(b) No material production currently from subject area. No known reserves but prospects. Purpose of project is to determine this.
Past production, converted to present $63 price: $6,426,000, 102,400 units WO3; from 18,801 tons of ore, 5.47% average grade, from limited subject area.

(c) Mineralization occurs in vein structure some 1½ miles in length, with subject claims covering east end. Prospects in depth indicated by good production as deep as 900 feet (west end of structure, Union Mine) and 262 feet maximum depth explored in immediate area, where mineralized strike length is 1200 feet. All geologic opinion is that there is no reason why extensions of former ore zones may not be found in depth. Ore zones in this structure can be extremely productive as indicated by past production, (b) above.
For broader aspect and information refer to data submitted on Form MF-100 (for Mine Serial Number), and specifically U. S. Geological Survey Bulletin 922-H, "Tungsten Deposits Of The Atolia District".
This application is a minor part of a much more comprehensive drilling project applied for May 31, 1951 (Docket No. DMA1636X) but later abandoned.

(d) Access to property good. U. S. Highway 395 passes through overall property and within 1/2 mile of subject claims, flat desert country. Shipping points 15 and 25 miles via paved highways. Company camp on property. Local supply and residence centers, 1500 population, in radius of 5 miles. Two hours to San Bernardino, 3 hours to Los Angeles.

(e) Adequate.

5. The Exploration Project.
(b) Surface Diamond Drilling on PAR & WAVERLY Claims. Eight holes are proposed. First four are definitely placeable at this time, with indicated footage of 1670. Balance of holes indicate another 1900 feet, or 3570 feet total. However, a total of 5000 feet is applies for to provide ample latitude in revising hole depths and positions as information is obtained during drilling.

Supplement to MF 109

4. Physical Description of Property.

(a) No current operations, other than small scale lessee digging, on these particular claims. Mineralized structures and extensive old workings shown on accompanying maps. Accessibility to old workings on these two claims very limited but detail maps and records available. These claims part of 55 patented lode claims (former holdings of Atolia Mining Company) and substantial other lode and placer claims owned by Surprise Mining Co., complete production facilities, including mill, also owned. Most underground operations carried on by block-leasing system.

(b) No material production currently from subject area. No known reserves but prospects. Purpose of project is to determine this.
Past production, converted to present 1963 price: $3,426,000, 102,400 units WO3; from 14,801 tons of ore, 3.47% average grade, from limited subject area.

(c) Mineralization occurs in vein structure zone 1½ miles in length, with subject claims covering east end. Prospects in depth indicated by good production as deep as 900 feet (west end of structure, Union Mine) and 262 feet maximum depth explored in immediate area, where mineralized strike length is 1200 feet. All geologic opinion is that there is no reason why extensions of former ore zones may not be found in depth. Ore zones in this structure can be extremely productive as indicated by past production, (b) above.
For broader aspect and information refer to data submitted on Form MF-100 (for Mine Serial Number), and specifically U. S. Geological Survey Bulletin 922-H, "Tungsten Deposits Of The Atolia District".
This application is a minor part of a much more comprehensive drilling project applied for May 31, 1951 (Docket No. DMA6564) but later abandoned.

(d) Access to property good. U. S. Highway 395 passes through overall property and within 1½ mile of subject claims, flat desert country. Shipping points 15 and 23 miles via paved highways. Company camp on property. Local supply and residence centers, 1500 population, in radius of 5 miles. Two hours to San Bernardino, 3 hours to Los Angeles.

(e) Adequate.

5. The Exploration Project.
(b) Surface Diamond Drilling on PAR & MAYNIX Claims. Eight holes are proposed. First four are definitely placeable at this time, with indicated footage of 1670. Balance of holes indicate another 1900 feet, or 3570 feet total. However, a total of 5000 feet is applied for to provide ample latitude in revising hole depths and positions as information is obtained during drilling.

5. (b) continued:

OBJECTIVE: To explore the "Spanish" vein structure at elevation 2850, in zones of known production. This horizon is approximately 100' below the deepest workings in the Par Mine. Holes 1 to 4 are to be drille d in line along the structure. Holes 5 to 8 will be drilled to elevation 2750 should the first four show favorable results.

Holes 1 and 3 have also been located to explore veins in the hanging wall of the principal structure. See cross sections.

Holes 1 to 4 are located as follows:

Hole No. 1: Bearing S 30° E		Dip -50° S	TD 435'
	Collar		Objective
Co-ordinates	N 432		N 188
	E 1893		E 2015
Elevation	3183		2850
Hole No. 2: Bearing S 10° E		Dip -60° S	TD 389'
	Collar		Objective
Co-ordinates	N 327		N 135
	E 1680		E 1713
Elevation	3187		2850
Hole No. 3: Bearing S 10° E		Dip -50° S	TD 445'
	Collar		Objective
Co-ordinates	N 383		N 100
	E 1446		E 1516
Elevation	3193		2850
Hole No. 4: Bearing S 10° E		Dip -60° S	TD 401'
	Collar		Objective
Co-ordinates	N 273		N 77
	E 1332		E 1363
Elevation	3197		2850

Total footage, 1st stage: 1670'

Holes 5 to 8: To be located from data obtained as drilling program proceeds.

(d) Experience and background of applicant.

Organization personnel core as a team dates back to 1933, under firm name of Hoefling Brothers till 1947; then incorporated as Surcease Mining Company. Originally produced gold (Surcease Mine, Butte County). During war produced zinc and tungsten, attaining rank of second in production of each in California. Was assisted in war production by $20,000 RFC Development Loan for zinc and $100,000 MRC Advance Against Production for tungsten (starting operations at Atolia in 1942). Both loans fully repaid, with

5. (b) continued:

OBJECTIVE: To explore the "Spanish" vein structure at elevation 2850, in zones of known production. This horizon is approximately 100' below the deepest workings in the Pay Mine. Holes 1 to 4 are to be drilled d in line along the structure. Holes 5 to 8 will be drilled to elevation 2750 should the first four show favorable results.

Holes 1 and 3 have also been located to explore veins in the hanging wall of the principal structure. See cross sections.

Holes 1 to 4 are located as follows:

Hole No. 1: Bearing S 30	E	Dip -50	S	TD 435'
	Collar		Objective	
Co-ordinates	N 425		N 185	
	E 1893		E 2015	
Elevation	3183		2850	
Hole No. 2: Bearing S 10	E	Dip -60	S	TD 385'
	Collar		Objective	
Co-ordinates	N 327		N 155	
	E 1680		E 1713	
Elevation	3187		2850	
Hole No. 3: Bearing S 10	E	Dip -50	S	TD 445'
	Collar		Objective	
Co-ordinates	N 383		N 100	
	E 1446		E 1516	
Elevation	3193		2850	
Hole No. 4: Bearing S 10	E	Dip -60	S	TD 401'
	Collar		Objective	
Co-ordinates	N 273		N 77	
	E 1332		E 1363	
Elevation	3197		2850	

Total footage, 1st stage: 1670'

Holes 5 to 8: To be located from data obtained as drilling program proceeds.

(d) Experience and background of applicant.

Organization personnel core as a team dates back to 1923, under firm name of Roofing Products till 1947; then incorporated as Sunrose Mining Company. Originally produced gold (Sunrose Mine, Butte County). During war produced zinc and tungsten, attaining rank of second in production of each in California. Was assisted in war production by $20,000 RFC Development Loan for zinc and $100,000 WPC Advance Against Production for tungsten (starting operations at Atolia in 1942). Both loans fully repaid, with

5. (d) continued

interest. Tungsten production continued after war, with average rate of 1000 units per month over 10 year period to date.

Subject project to be under direct supervision of K. Malone, Mine Manager. M.I.T. degree in Mining Engineering. Has been with Company since 1936, except for 3 years in Marine Corps (Captain) during war. Approximately 7 years in tungsten operations in Atolia, with top command there since 1949.

6. Estimate of costs:

To simplify and expedite matters, applicant proposes to absorb all incidental costs (cat work on set-ups, hauling water, core box and general supervision, geological logging, etc.) thus confining government participation to contractor's costs and contingencies. Contractor's costs, NX holes to start, then to BX, and bottom with AX if necessary, quoted as follows (Mitchell Diamond Drilling Co.):

Through overburden	6.55 per ft.	
BR to 200'	5.45	
200 - 400'	5.70	
400 - 600'	5.95	
600 - 800'	6.20	
Indicated ave.	5.75 @ 5,000 is	$28,750.00
Mobilization charge		250.00
De-mobilization		100.00
Reaming & Casing (or cement) if needed:		
0 - 400'	3.25 per ft.	
400- 800'	3.75 per ft.	
Delays thru fault of property owner at $5.10 per hour		
Allowance for above and other contingencies at 15% of $28,750		4,300.00
Total Authorization		$33,400.00
Government participation, @ 75%		$25,050.00
Applicant " @ 25%		$ 8,350.00

5. (d) continued

interest. Tungsten production continued after war, with average rate of 1000 units per month over 10 year period to date.

Subject project to be under direct supervision of K. Malone, Mine Manager. M.I.T. degree in Mining Engineering. Has been with Company since 1936, except for 3 years in Marine Corps (Captain) during war. Approximately 7 years in tungsten operations in Atolia, with top command there since 1946.

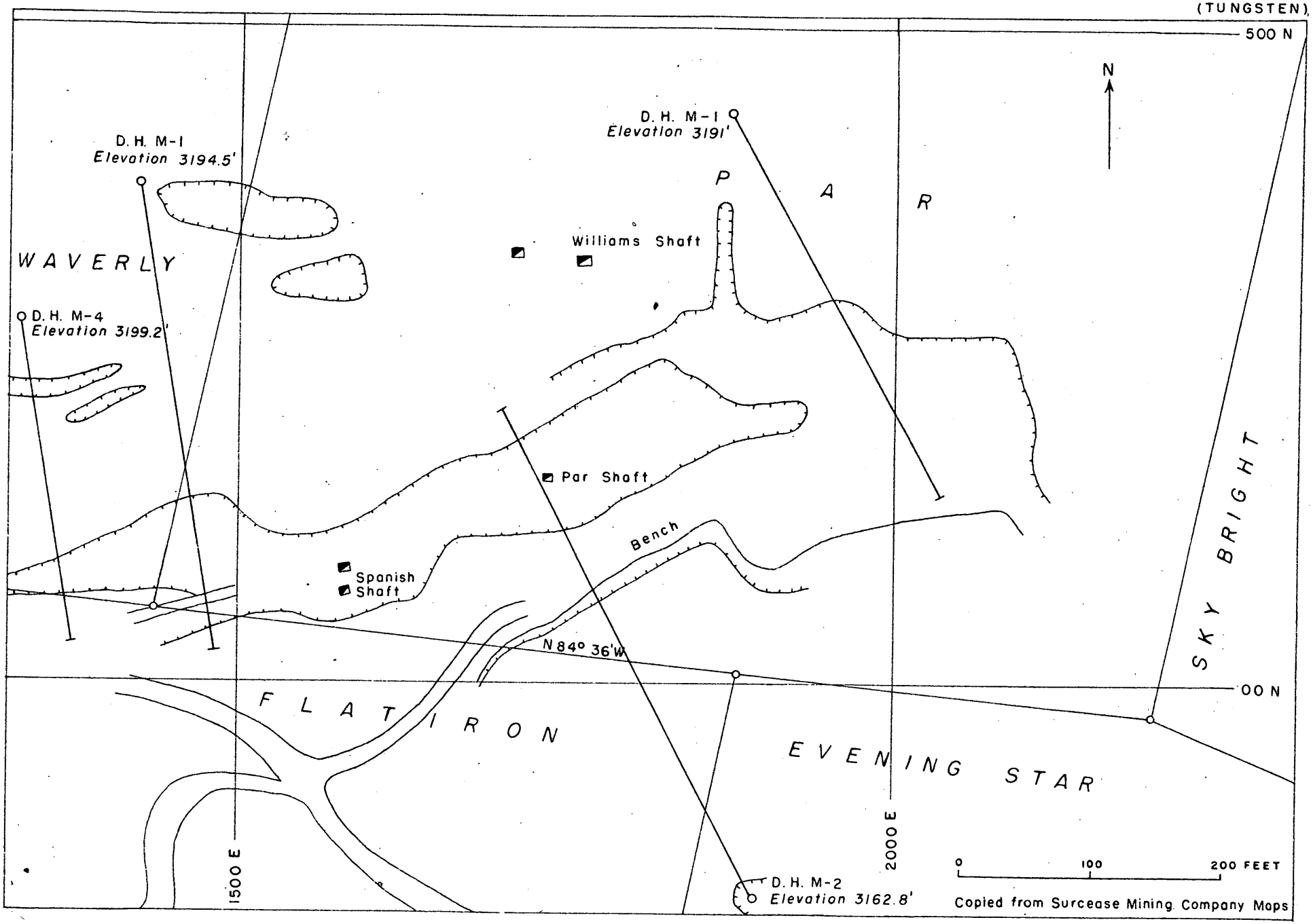
6. Estimate of costs:

To simplify and expedite matters, applicant proposes to absorb all incidental costs (cost work on net-type, hauling water, core box and general supervision, geological logging, etc.) thus confining government participation to contractor's costs and contingencies. Contractor's costs, XX holes to start, then to XX, and bottom with AX if necessary, quoted as follows (Mitchell Diamond Drilling Co.):

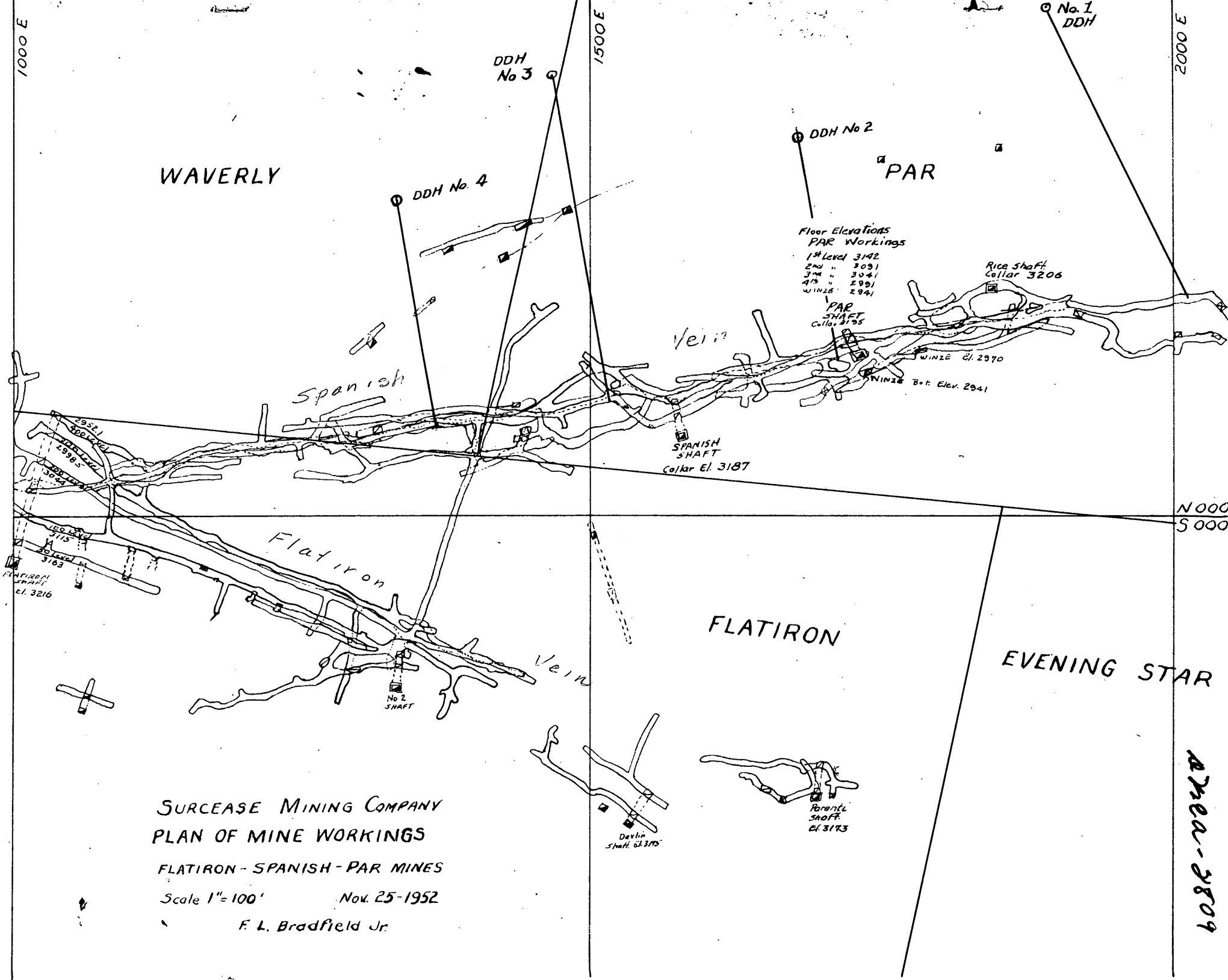
Through overburden	6.25 per ft.	
XX to 200'	5.45	
200 - 400'	5.70	
400 - 600'	5.95	
600 - 800'	6.20	
Indicated avg.	5.75 @ 5,000 ft	$28,750.00
Mobilization charge		250.00
De-mobilization		100.00
Casing & Casing (or cement) if needed:		
0 - 400'	2.25 per ft.	
400- 600'	3.75 per ft.	
Delays thru fault of property owner at $5.00 per hour		
Allowance for above and other contingencies at 15% of $28,750		4,320.00
Total Authorization		$33,400.00
Government participation, @ 75%		$25,050.00
Applicant " @ 25%		$ 8,350.00

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

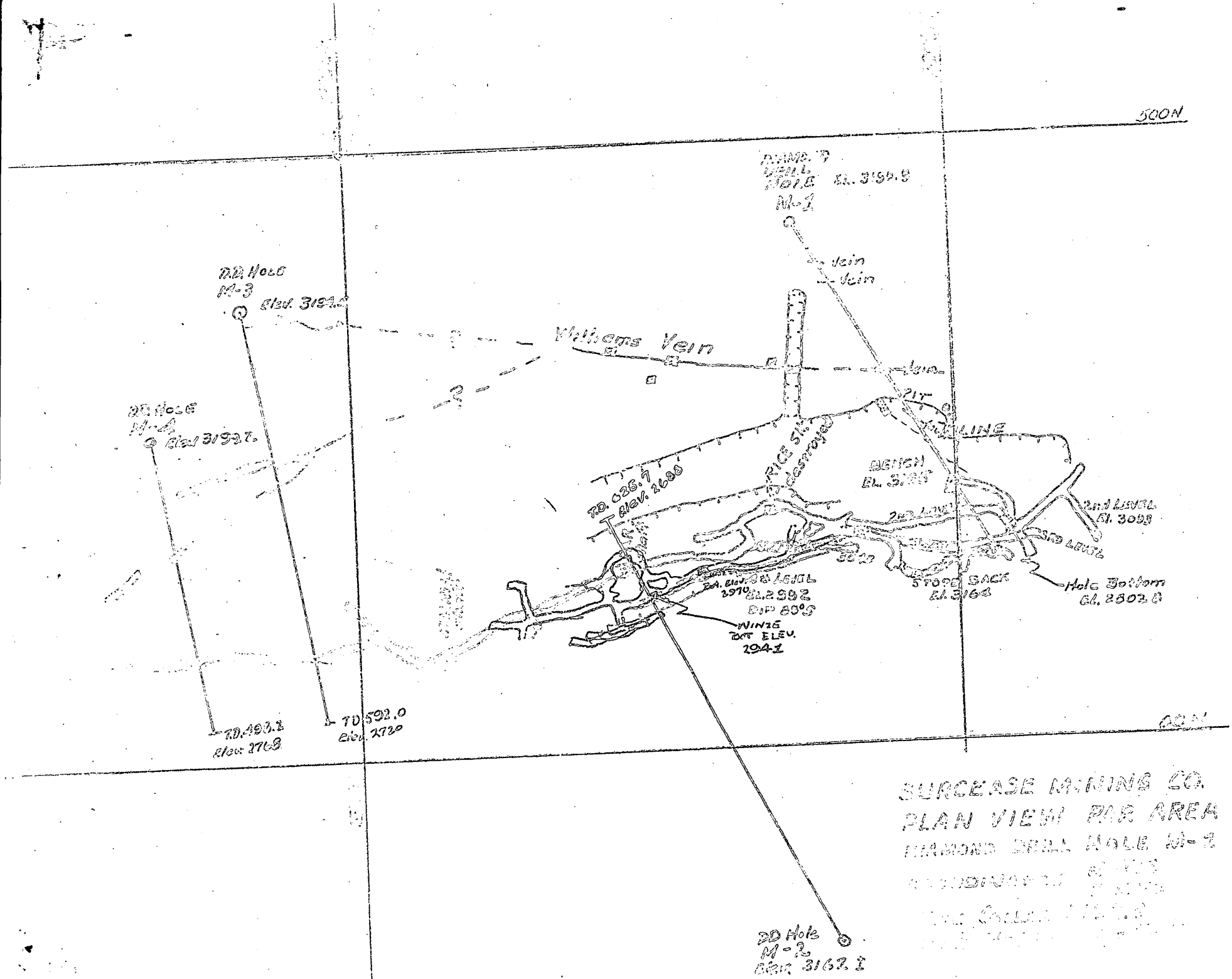
DMEA 2809
Idm E 474
(TUNGSTEN)



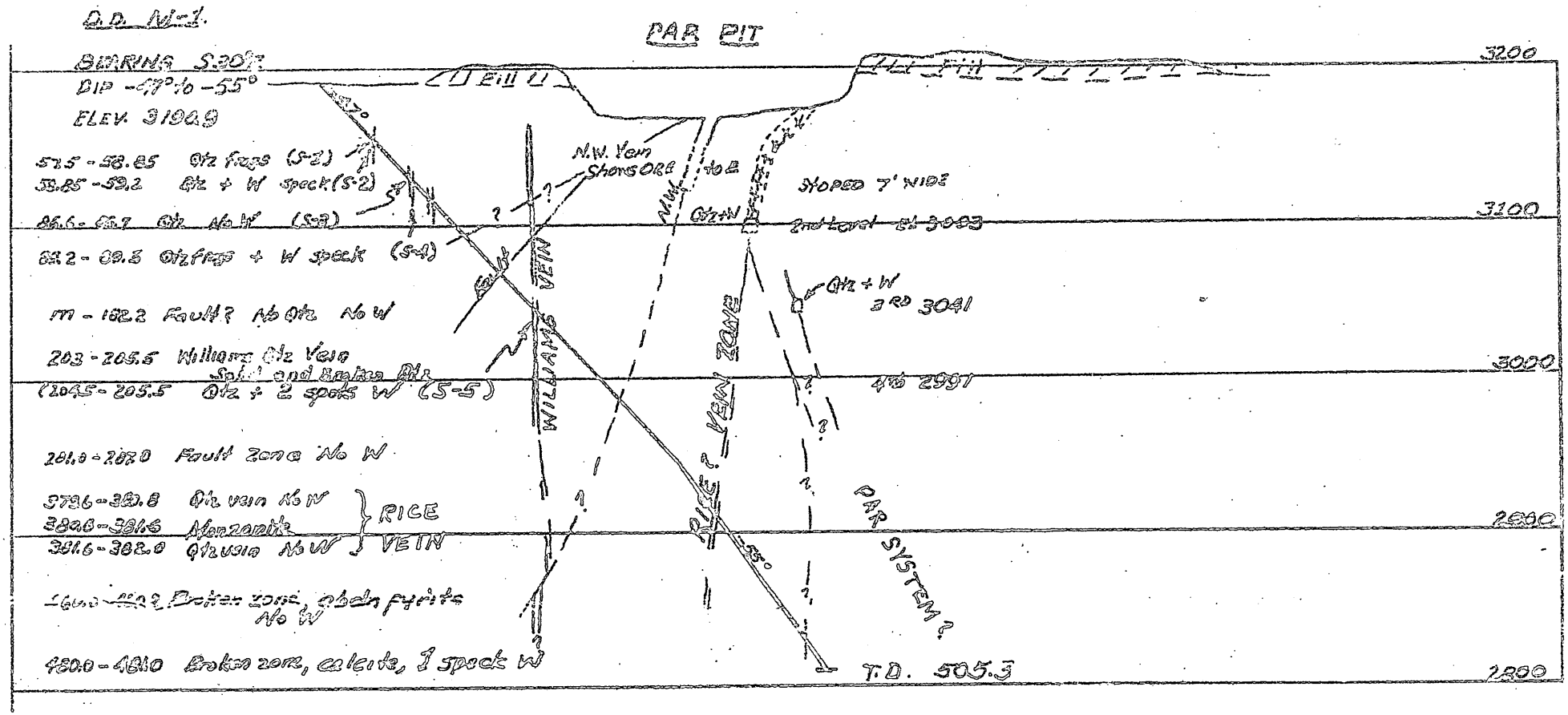
LOCATION MAP OF DIAMOND DRILL HOLES, ATOLIA TUNGSTEN MINES, SAN BERNARDINO COUNTY, CALIFORNIA


1000 E
1500 E
2000 E
N 000
S 000
WAVERLY
PAR
FLATIRON
EVENING STAR
DDH No 3
DDH No. 4
DDH No 2
No. 1 DDH
Floor Elevations
PAR Workings
1st Level 3142
2nd " 3091
3rd " 3041
4th " 2991
WINZE 2941
PAR SHAFT
Collar 3195
Rice Shaft
Collar 3206
WINZE El. 2970
WINZE Bot. Elev. 2941
Spanish Vein
SPANISH SHAFT
Collar El. 3187
Flatiron Vein
FLATIRON SHAFT
El. 3216
No 2 SHAFT
Devlin Shaft El. 3175
Porcupine Shaft
El. 3173
SURCEASE MINING COMPANY
PLAN OF MINE WORKINGS
FLATIRON - SPANISH - PAR MINES
Scale 1" = 100'
Nov. 25-1952
F. L. Bradfield Jr.

Area-3809



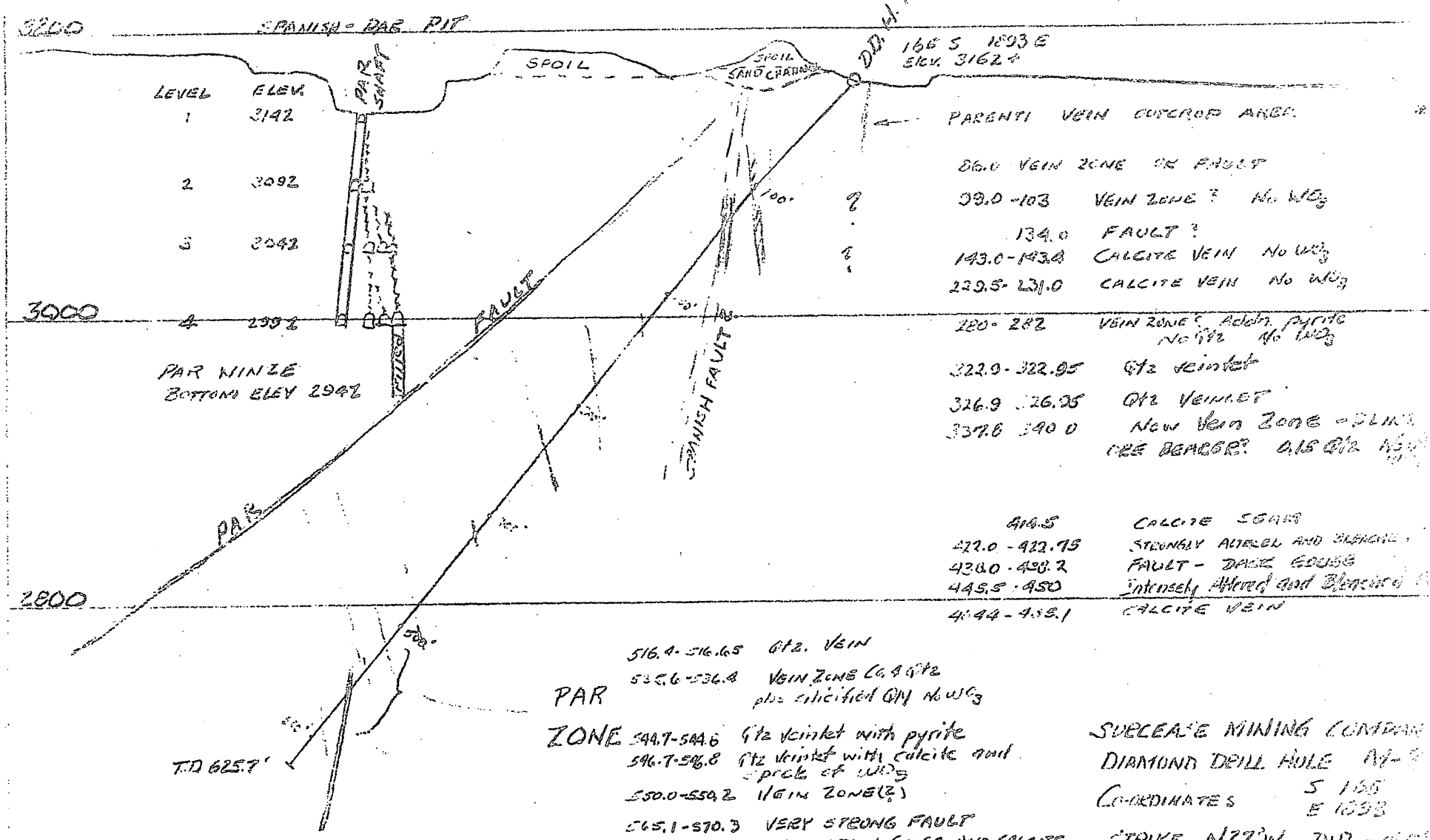
SURCEASE MINING CO.
PLAN VIEW PAR AREA
DIAMOND DRILL HOLE M-1
COORDINATES
[illegible]



SURCEASE MINING COMPANY
DIAMOND DRILL HOLE M - 1
COORDINATES N 432 E 1872
STRIKE S 30° E
DIP -47° to -55°
scale 1" = 100'
Date 3-5-53
Drawn By F.L.B.
Note: Abridged from 40 scale Mine Section

SECTION ALONG N27°W - LOOKING NE

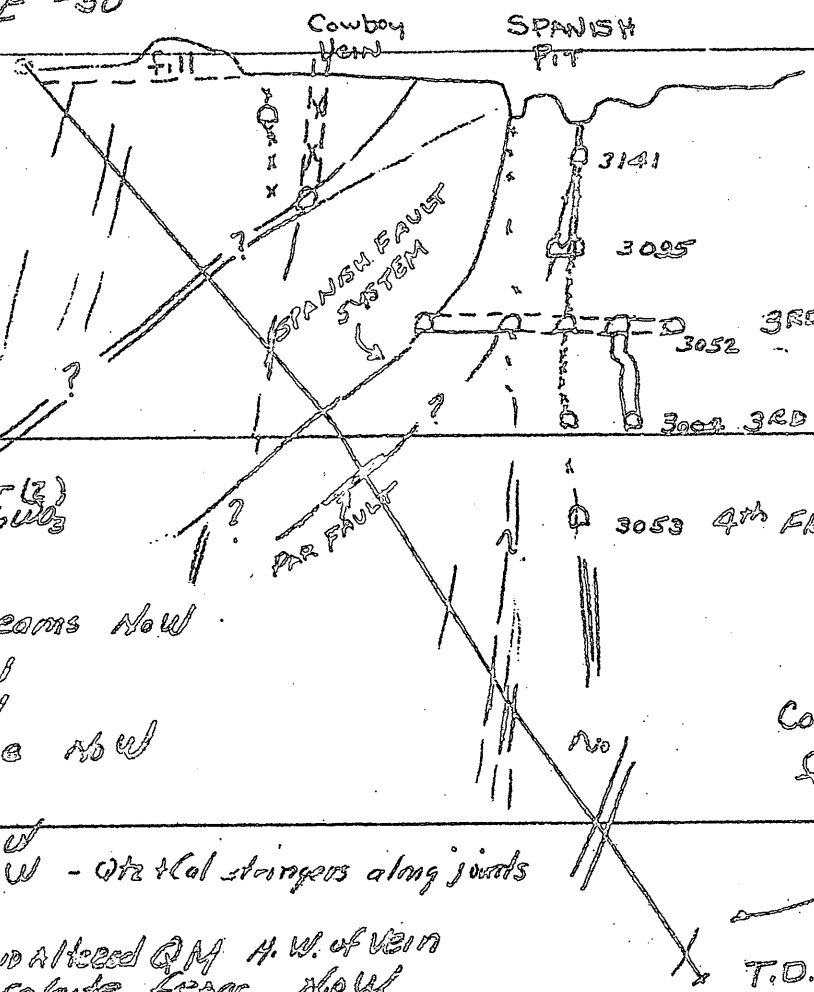
HOLE Nº 2



SECTION ALONG S 10° E, LOOKING EAST

D.D. M-3
S 10° E -50°

Elev. 3194.5



32.0 -32.7 Qtz + Calc No WO_3
66.2 - 66.5 do No WO_3
77.0 -78.0 do No WO_3

141.0 - 146.0 FAULT ?

197.2 -199.0 Cowboy Vein
0.25 Qtz No WO_3

236.0 - 237.0 FAULT

271.0 - 273.0 PAR FLAT FAULT (?)
0.2' greenish Qtz No WO_3
proj 280' ??

362.0 366.7 AH. QM plus Qtz seams No W

402.9 403.0 0.05' Qtz No W
414.2 - 414.25 Qtz No W
421.0 -421.2 Fracture Zone No W

Could be an unknown fault vein ?

488.0 -488.25 Qtz + Cal No W
489.9 - 489.0 do No W - Qtz + Cal stringers along joints

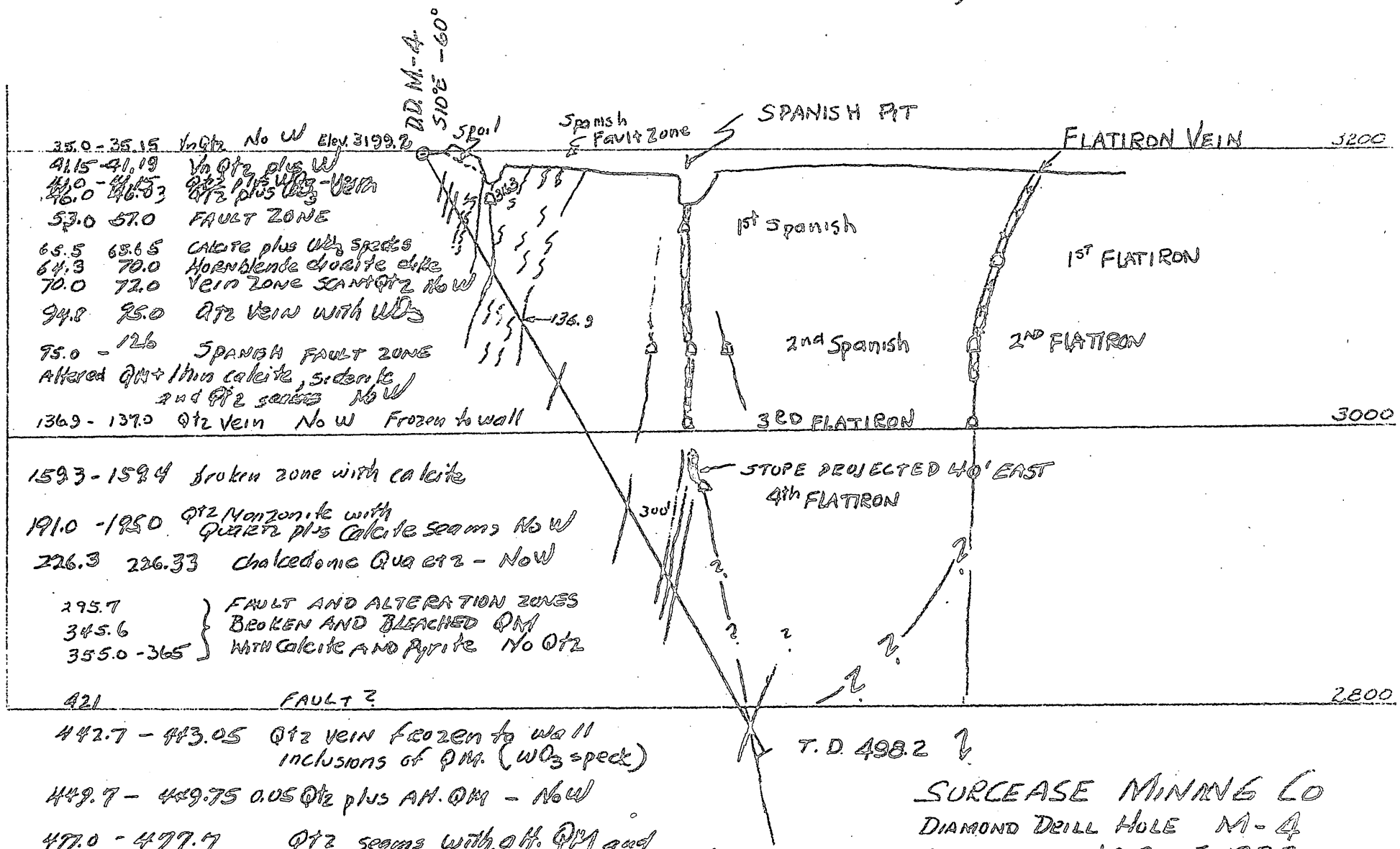
584.1 - 584.3 Qtz vein No W

SPANISH VEIN
495.0 -499.0 Fault and altered QM H.W. of vein
499.0 -499.4 Qtz plus calcite frags No W
503.3 - 505.5 Pink Qtz (0.1') No W

Holes Surveyed 300' AND 400'

SURCEASE MINING CO.
DIAMOND DRILL HOLE M-3
COORDINATES N 3782 E 1421
ELEV. 3194 STRIKE S 10° E DIP -50°
Scale 1" = 100' R.B. 4-6-52

SECTION ALONG S10°E, LOOKING EAST



35.0 - 35.15 Vn Qtz No W Elev. 3199.2

41.15 - 41.19 Vn Qtz plus W

41.0 - 41.53 Qtz plus WO_3 - Vein

46.0

53.0 57.0 FAULT ZONE

65.5 65.65 Calcite plus WO_3 specks

64.3 70.0 Hornblende diorite dike

70.0 72.0 Vein Zone SCANT Qtz No W

94.8 95.0 Qtz Vein with WO_3

95.0 - 126 SPANISH FAULT ZONE

Altered QM + thin calcite, siderite and Qtz seams No W

136.9 - 137.0 Qtz Vein No W Frozen to wall

159.3 - 159.4 Broken zone with calcite

191.0 - 195.0 Qtz Monzonite with Quartz plus Calcite seams No W

226.3 226.33 Chalcedonic Quartz - No W

295.7
345.6
355.0 - 365
} FAULT AND ALTERATION ZONES BROKEN AND BLEACHED QM WITH Calcite AND Pyrite No Qtz

421 FAULT ?

442.7 - 443.05 Qtz vein frozen to wall inclusions of QM. (WO_3 speck)

449.7 - 449.75 0.05 Qtz plus AH. QM - No W

477.0 - 477.7 Qtz seams with AH. QM and later calcite - Vein Zone - No W

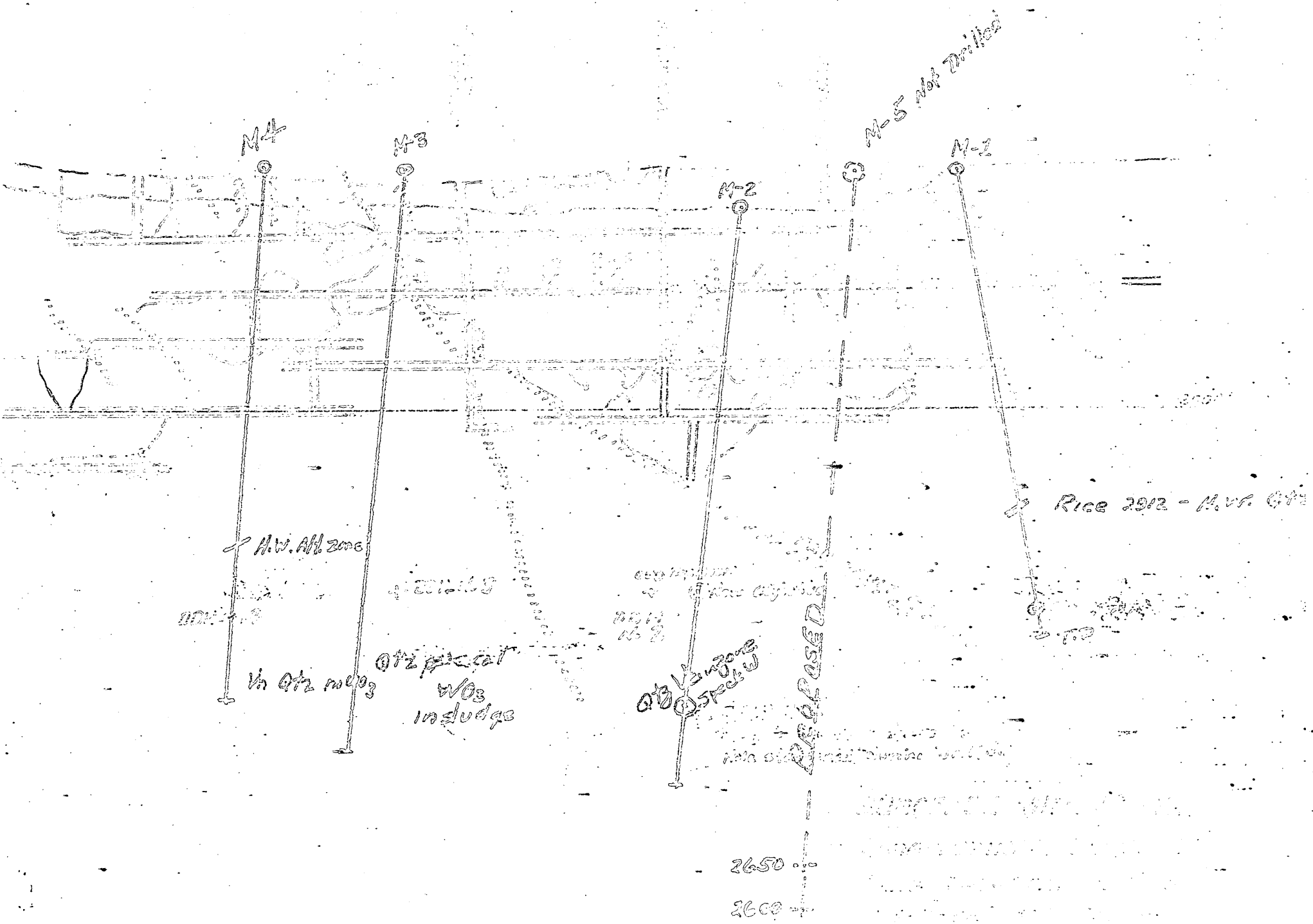
SURCEASE MINING CO

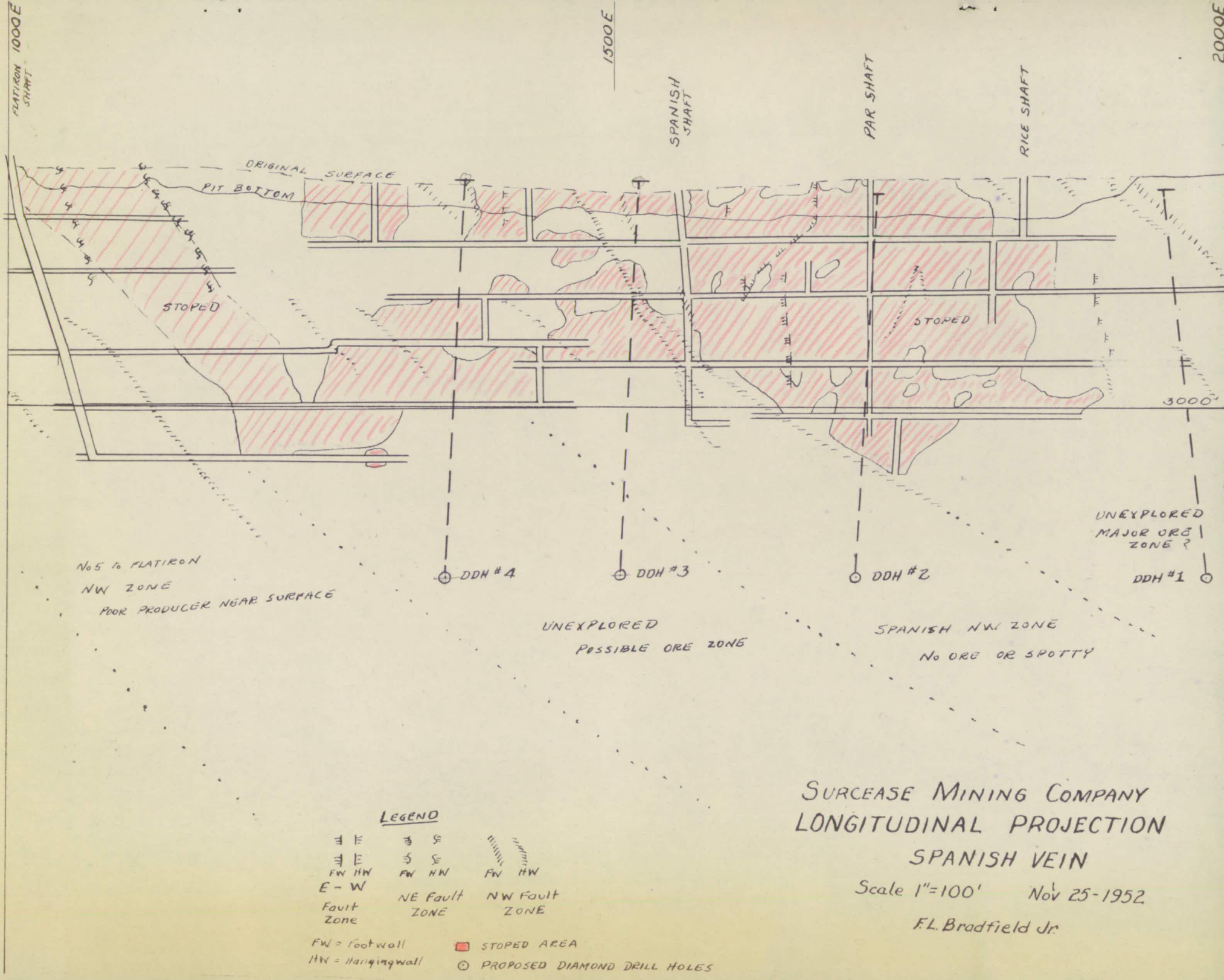
DIAMOND DRILL HOLE M-4

COORDINATES N 273 E 1332

BEARING S10°E DIP -60° ELEV. 3199.2

Scale 1" = 100' F.L.B. 4-6-53


M4
M-3
M-2
M-5 Not Drilled
M-1
H.W. Alt. Zone
Qtz pisolitic WO3 in sludge
Qtz WO3 Specks
Rice 2912 - H.W. Qtz
TD
2650
2600



SURCEASE MINING COMPANY
LONGITUDINAL PROJECTION
SPANISH VEIN

Scale 1"=100' Nov 25-1952

F.L. Bradfield Jr.

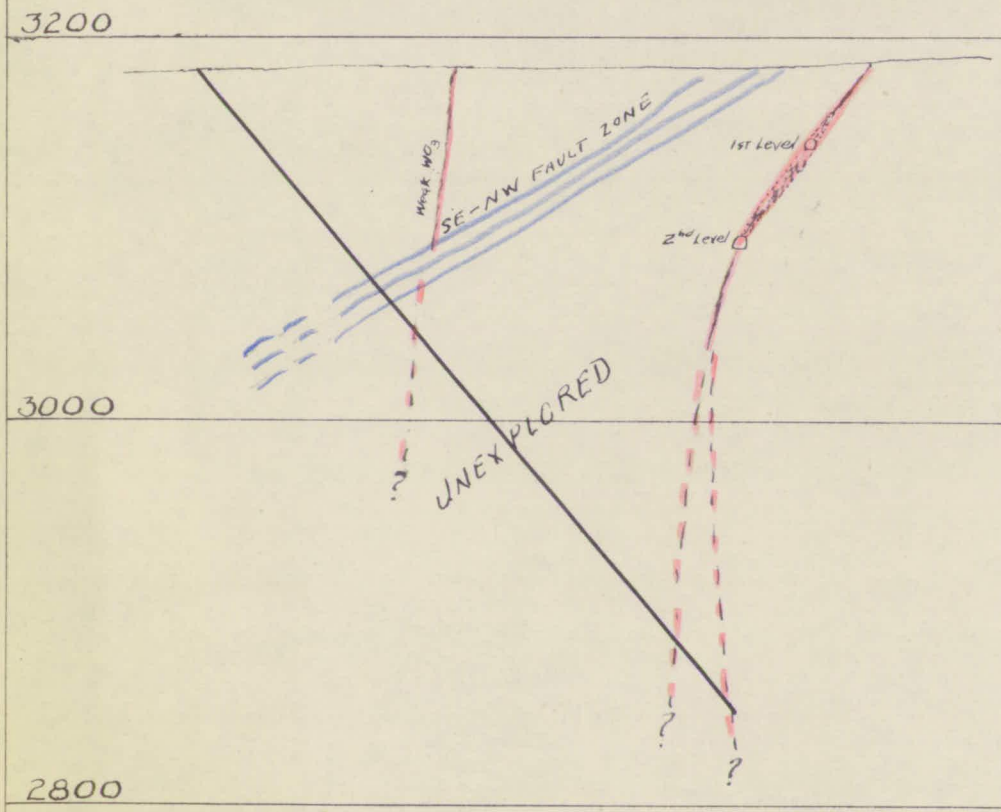
SURCEASE MINING COMPANY

CROSS SECTION

PROPOSED DIAMOND DRILL HOLE No 1

Scale 1" = 100' F.L Bradfield Dec 1, 1952

Bearing S30°E Dip -50° S



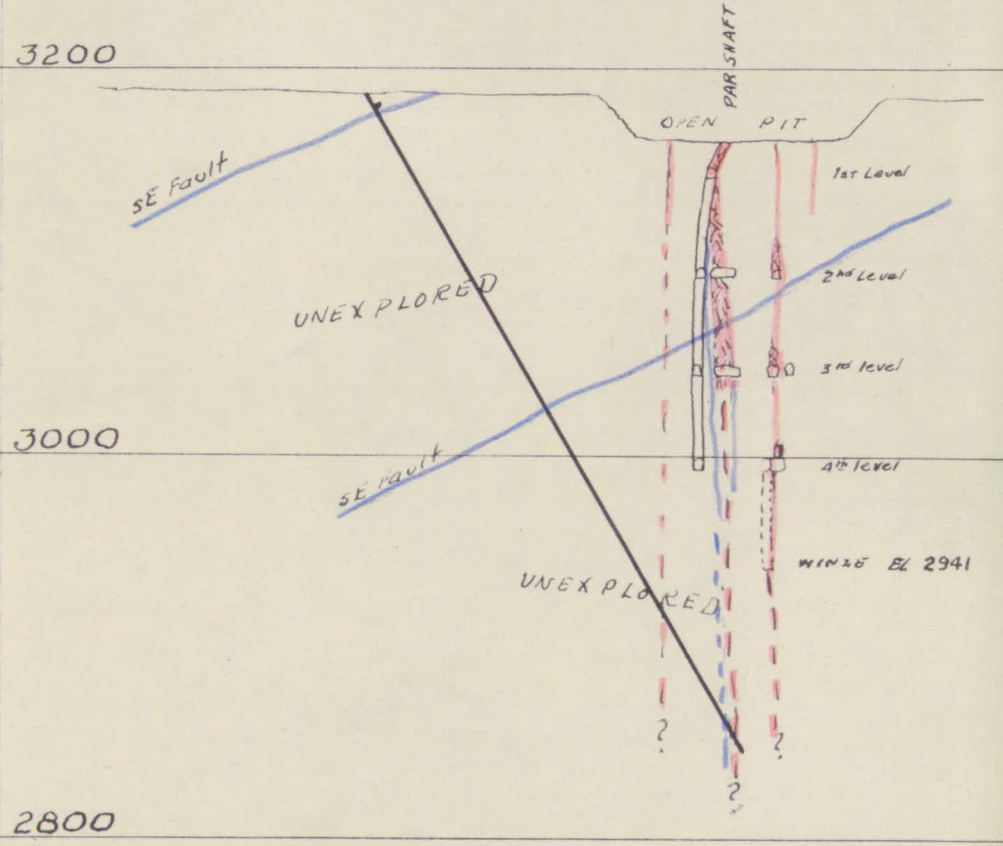
SURCEASE MINING COMPANY

CROSS SECTION

PROPOSED DIAMOND DRILL HOLE No. 2

Scale 1" = 100' F.L Bradfield Dec 1, 1952

Bearing S10°E Dip -60° S



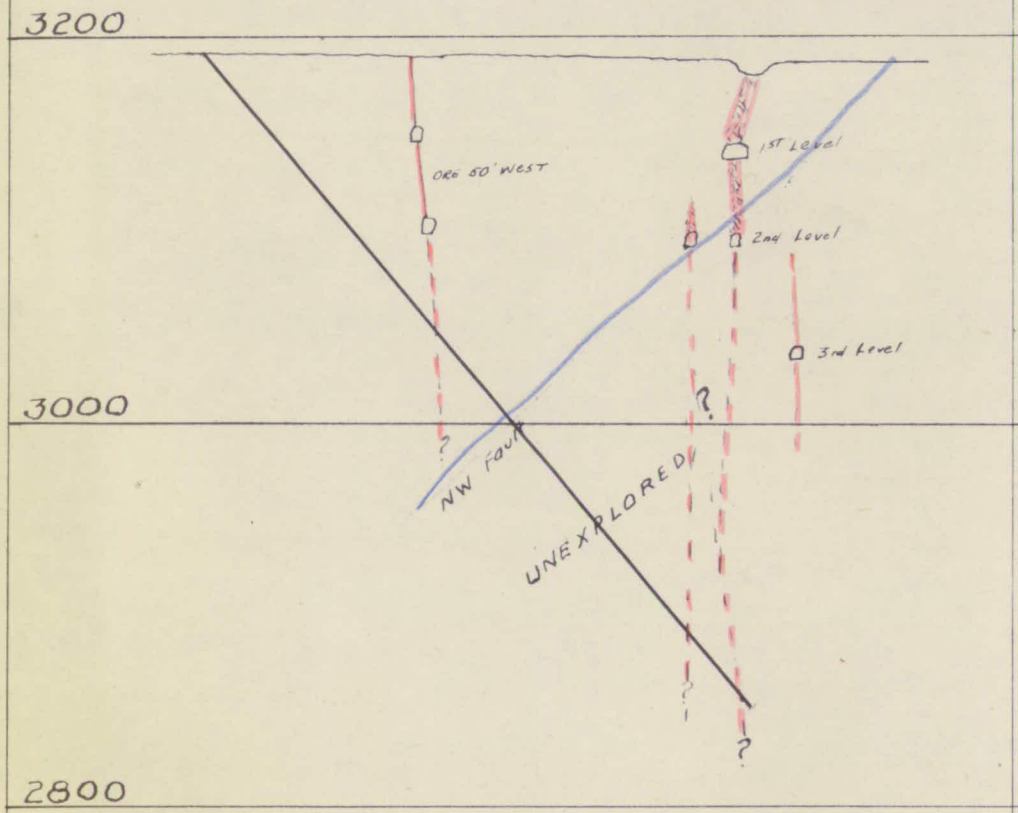
SURCEASE MINING COMPANY

CROSS SECTION

PROPOSED DIAMOND DRILL HOLE No. 3

Scale 1"=100' F.L. Bradfield Dec 1, 1952

Bearing S10°E Dip -50° S



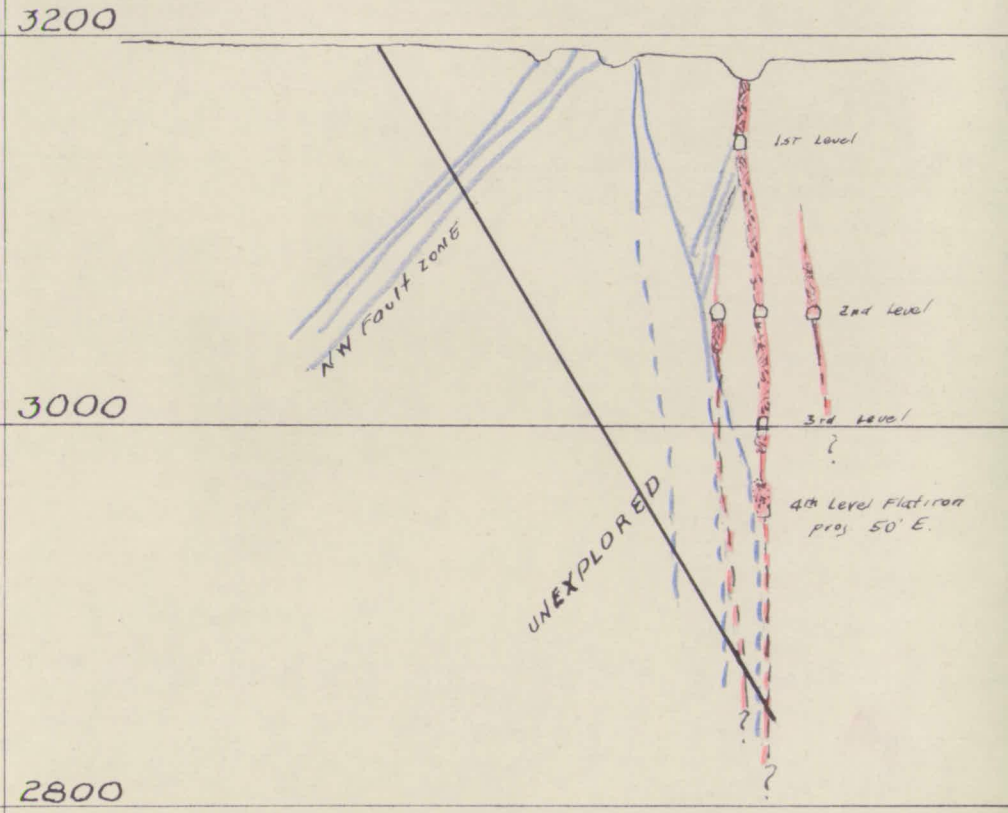
SURCEASE MINING COMPANY

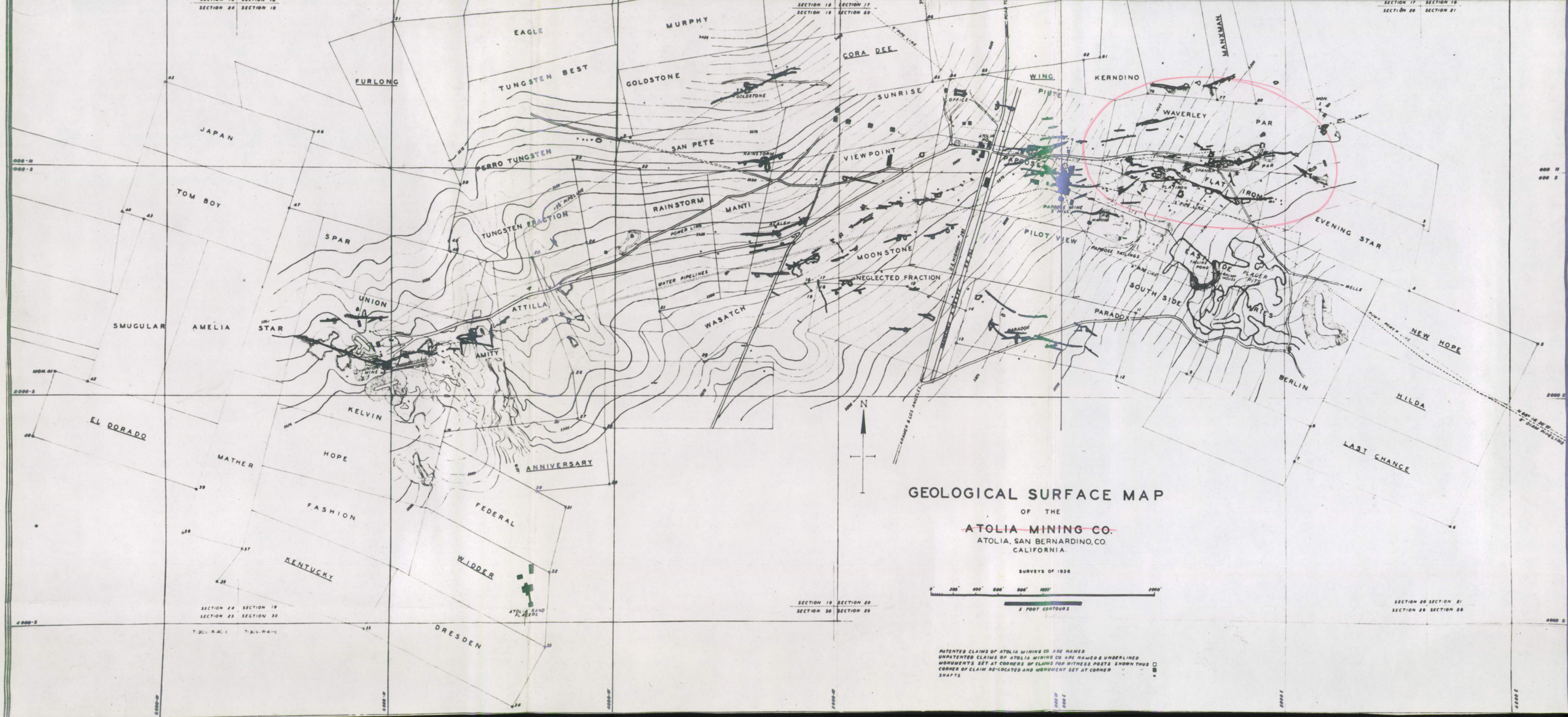
CROSS SECTION

PROPOSED DIAMOND DRILL HOLE No. 4

Scale 1"=100' F.L. Bradfield Dec 1, 1952

Bearing S10°E Dip -60° S




GEOLOGICAL SURFACE MAP
OF THE
ATOLIA MINING CO.
ATOLIA, SAN BERNARDINO, CO.
CALIFORNIA.
SURVEYS OF 1936
0' 200' 400' 600' 800' 1000' 2000'
2 FOOT CONTOURS
N
PATENTED CLAIMS OF ATOLIA MINING CO ARE NAMED
UNPATENTED CLAIMS OF ATOLIA MINING CO ARE NAMED & UNDERLINED
MONUMENTS SET AT CORNERS OF CLAIMS FOR WITNESS POSTS SHOWN THUS
CORNER OF CLAIM RE-LOCATED AND MONUMENT SET AT CORNER
SHAFTS
EAGLE
MURPHY
TUNGSTEN BEST
GOLDSTONE
CORA DEE
FURLONG
SUNRISE
WING
KERNDINO
MANXMAN
PIUTE
WAVERLEY
PAR
JAPAN
SAN PETE
VIEWPOINT
PARADOX
FERRO TUNGSTEN
FLAT IRON
TOM BOY
RAINSTORM
MANTI
TUNGSTEN FRACTION
SPAR
MOONSTONE
PILOT VIEW
EVENING STAR
NEGLECTED FRACTION
UNION
ATTILLA
WASATCH
SOUTH SIDE
SMUGULAR
AMELIA
STAR
AMITY
PARADOX
NEW HOPE
BERLIN
KELVIN
EL DORADO
ANNIVERSARY
MILDA
MATHER
HOPE
FASHION
FEDERAL
LAST CHANCE
KENTUCKY
WIDDER
DRESDEN
SECTION 24 SECTION 19
SECTION 25 SECTION 30
SECTION 19 SECTION 20
SECTION 30 SECTION 29
SECTION 20 SECTION 21
SECTION 29 SECTION 28

TELEGRAM
DEC 1
5 PM
1952
CALIF

VIA AIR MAIL
Special Delivery.

VIA AIR MAIL

VIA AIR MAIL
Special Delivery.

VIA AIR MAIL
Special Delivery.

VIA AIR MAIL
Special Delivery.

VIA AIR MAIL
Special Delivery.

~~DEFENSE MINERALS EXPLORATION ADMINISTRATION~~
~~INTERIOR BUILDING~~
~~WASHINGTON 25, D.C.~~

~~VIA AIR MAIL~~
Special Delivery.

1 map received 12/15/52

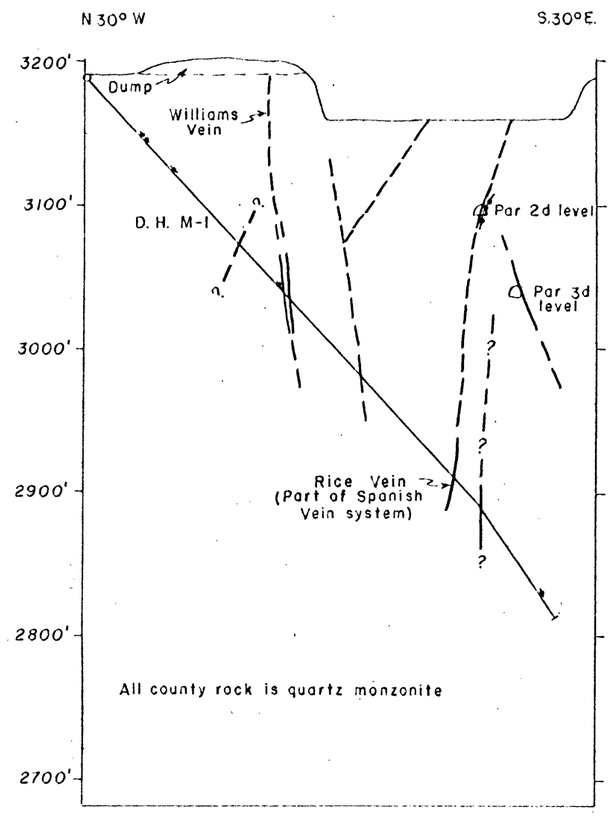
DMBA 2809

COLUMBIAN NATURAL CLASP NO. 110N

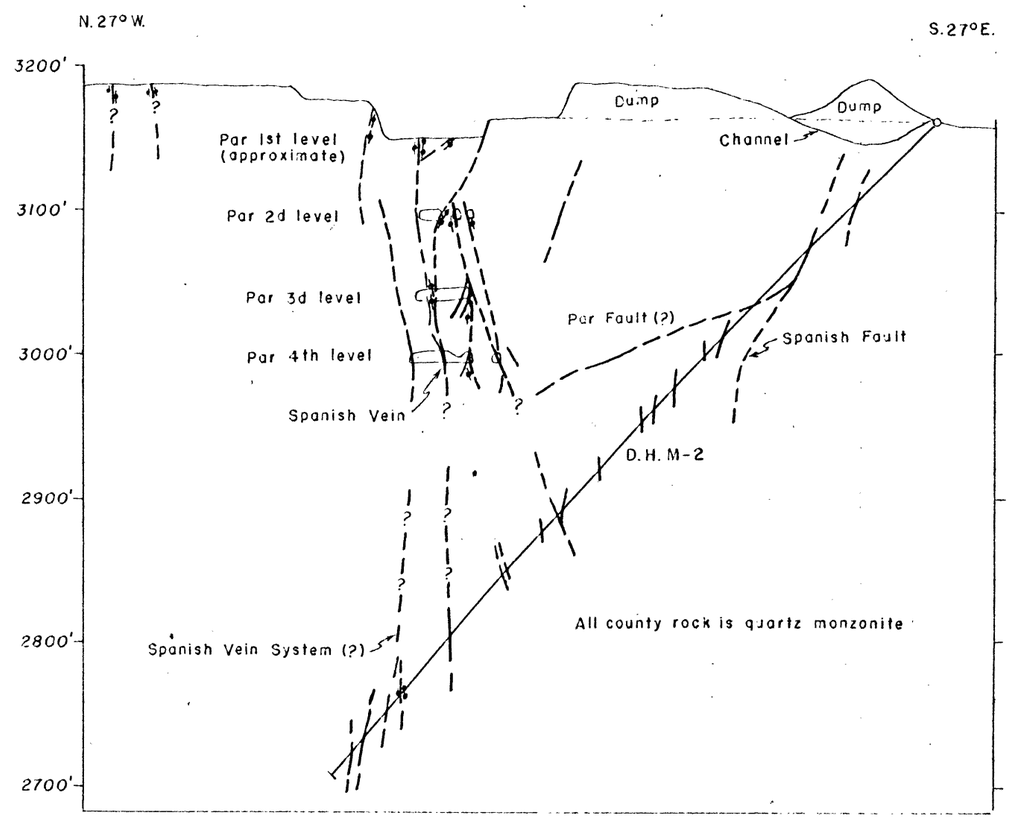
THE UNITED STATES ENVELOPE CO. SPRINGFIELD, MASS.
12 X 15½

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

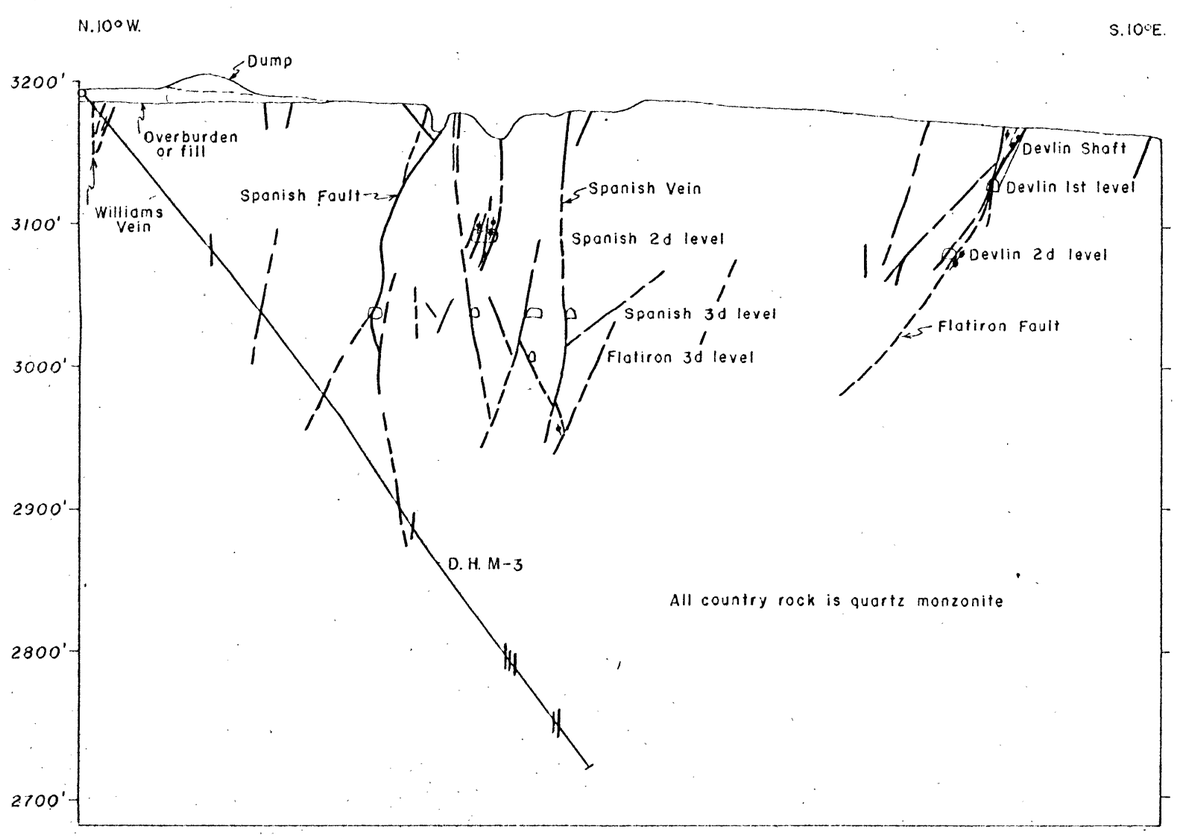
DMEA 2809
Idm E 474
(TUNGSTEN)



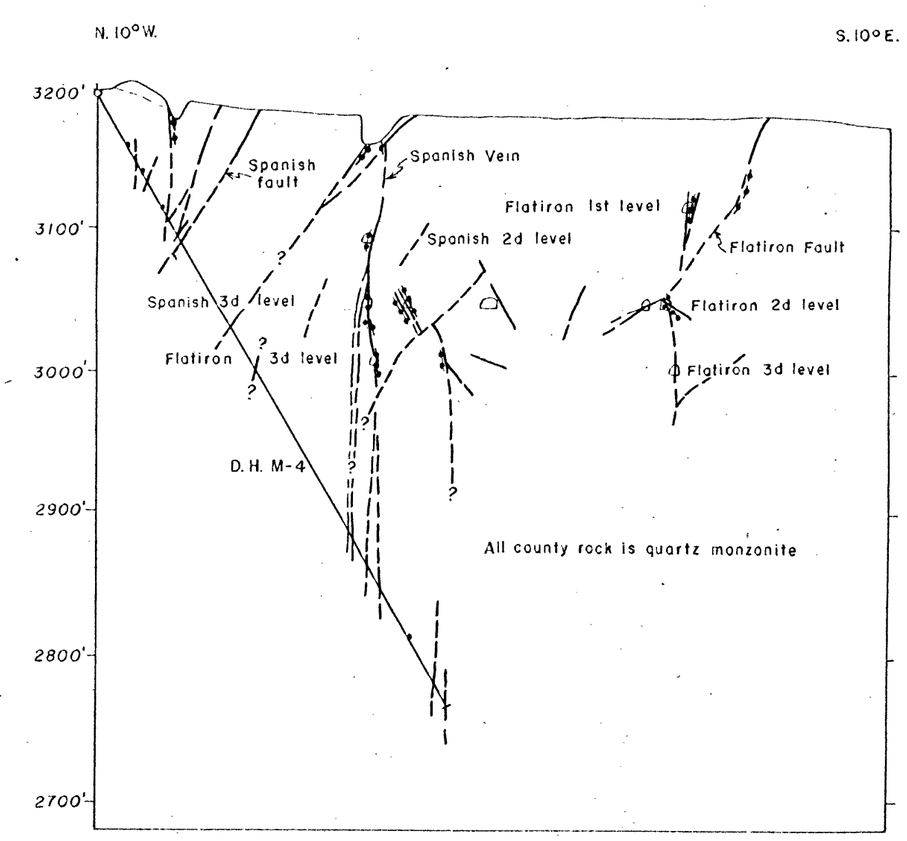
SECTION ALONG DIAMOND DRILL HOLE M-1



SECTION ALONG DIAMOND DRILL HOLE M-2



SECTION ALONG DIAMOND DRILL HOLE M-3

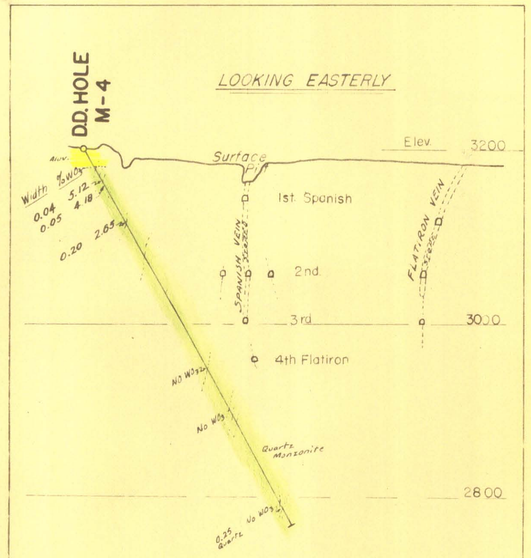


SECTION ALONG DIAMOND DRILL HOLE M-4

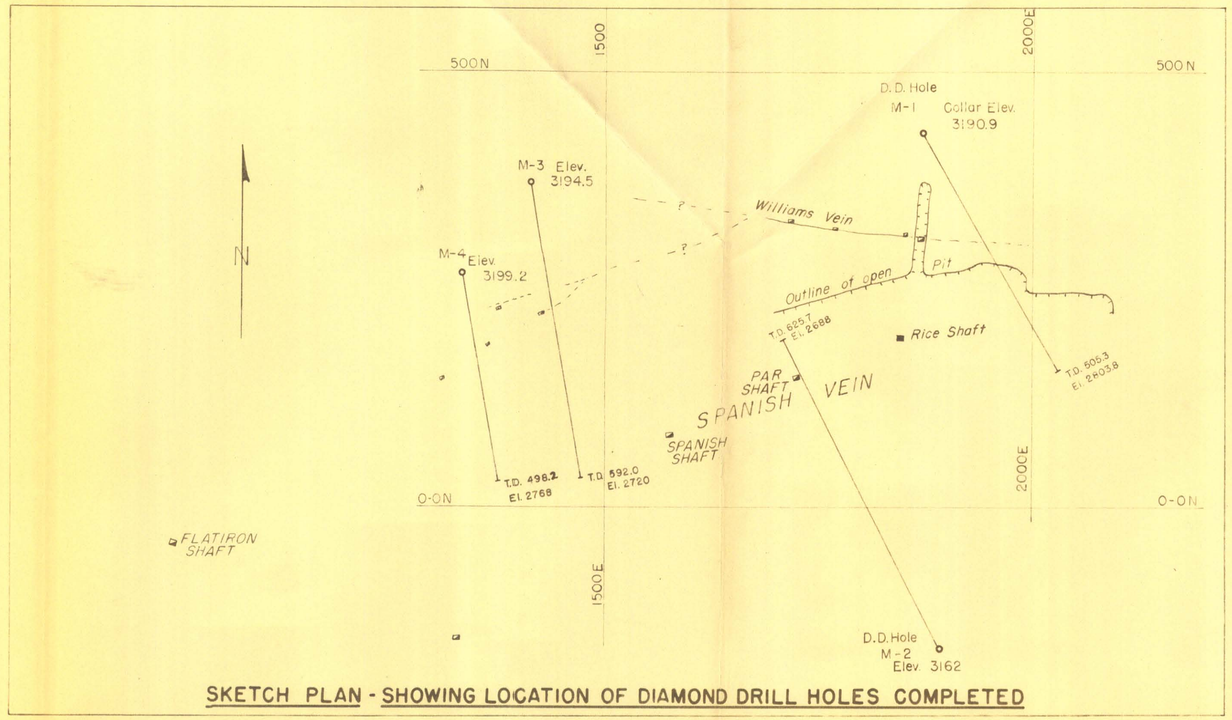
Underground data from Surcease Mining Company maps and drill hole logs
Sections compiled by J. F. Robertson, U.S.G.S., June 1953

GEOLOGIC SECTIONS ALONG DIAMOND DRILL HOLES, ATOLIA TUNGSTEN MINES, SAN BERNARDINO COUNTY, CALIFORNIA

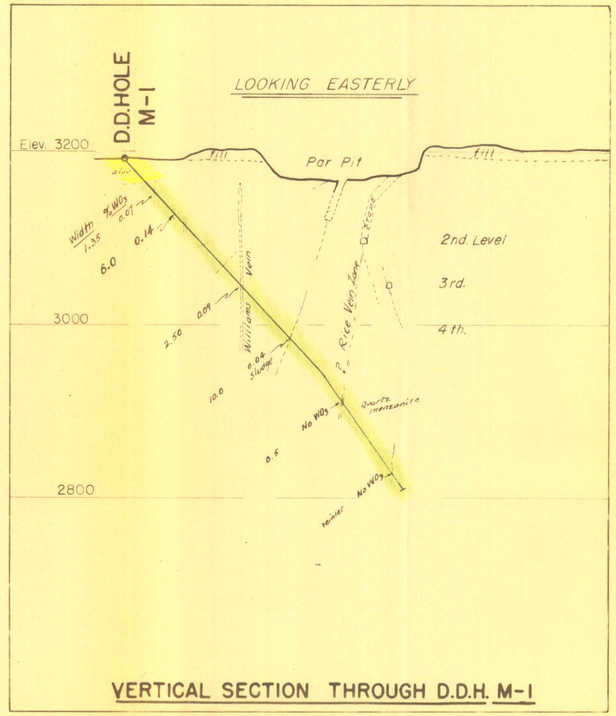
100 0 100 200 300 Feet



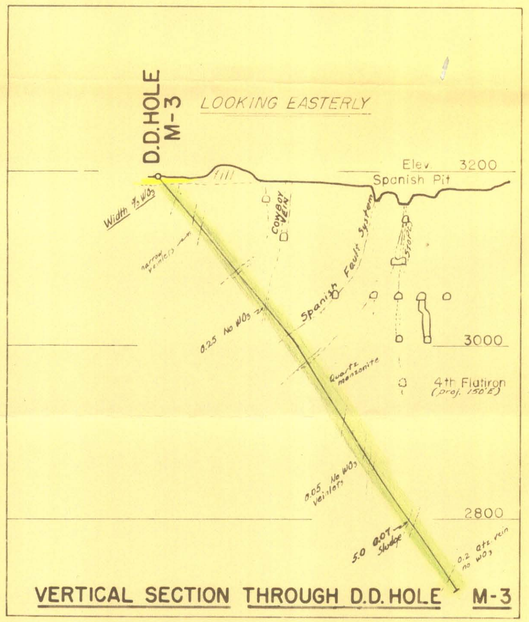
VERTICAL SECTION THROUGH D.D. HOLE M-4



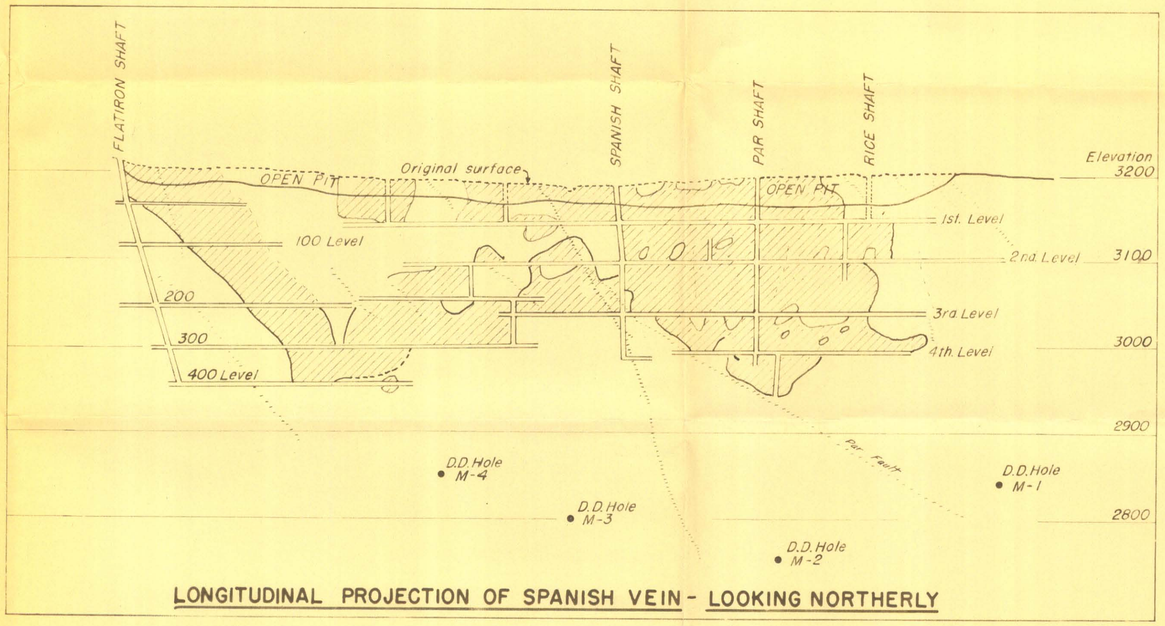
SKETCH PLAN - SHOWING LOCATION OF DIAMOND DRILL HOLES COMPLETED



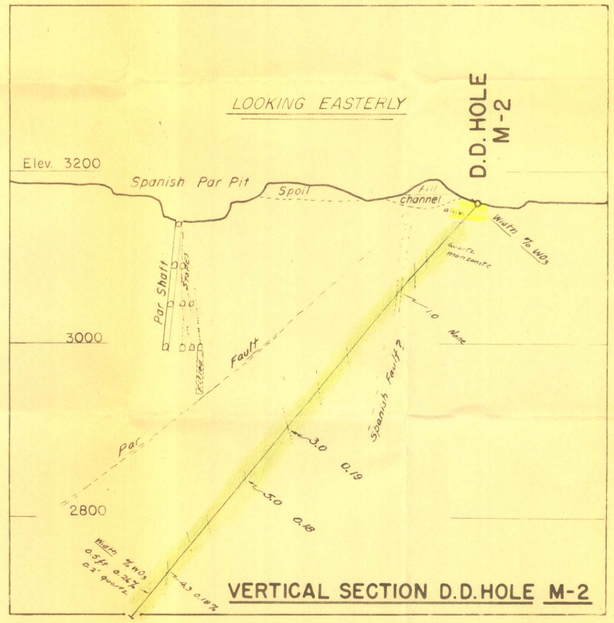
VERTICAL SECTION THROUGH D.D.H. M-1



VERTICAL SECTION THROUGH D.D. HOLE M-3



LONGITUDINAL PROJECTION OF SPANISH VEIN - LOOKING NORTHERLY



VERTICAL SECTION D.D. HOLE M-2

SURCEASE MINING COMPANY, D.M.E.A. 2809 (tungsten) - Atolia District, San Bernardino Co. California - Contract Idm-E 474

Compiled from Company maps. Scale: 1" = 100'

May 1953