DMEA Form 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE E-763 DMEA NO. 3448

Application (Denied
(Withdrawn
(After disposition, delete items not applicable)

Contract (Terminated - not Certified
(Cancelled
✓ (Terminated - Certified
(Royalty Agreement

This is the official contract file containing all official records of the project. The records contained in the files are checked and are arranged in this order:

Left Side

✓ Interim Royalty Audits
✓ Reports of Royalty Review
✓ Certification of Discovery
Certificate of Audit (Final)
Interim Audit(s)
Report of Review
✓ Termination Notice or Agreement
Recision Notice
✓ Assignment of Contract
✓ Contract Amendments (latest on top)
✓ Contract with all exhibits and annexes
✓ Owner's Consent to Lien
Subordination Agreement
✓ Leases and assignments of leases
✓ Application and attachments
(3) Envelope for maps

Right Side

✓ Project summary
✓ Work completed analysis
All other material is filed in chronological order with correspondence including the following reports as checked:

✓ Final Field Team Report (Tab)
✓ Operator's Final Report
(2R) ✓ Interim Reports
(2R) ✓ Operator's monthly reports and all attachments (latest on top)
✓ On-site Exam Report(s) (Tab)
(4) ✓ Settlement Sheets

When the volume of records is expected to warrant additional folders, or when convenience of reference warrants separate folders for certain records, they should be set up in this order:

Left Side

Folder No. 2: (In chron. order)
Interim Summary Reports by
W. O. Engineers

Folder No. 3: ~~Maps~~ Settlement Sheets (Use pocket folder or envelope. Fold maps with title block out and show reference to related document or correspondence.)

~~Folder No. 4: Settlement Sheets~~

Folder No. 5: Drill Logs

Right Side

✓ Operator's Semi-Annual Report for Certified Project, Field Team Interim Reports, Operator's Monthly Report with transmittal, narrative, maps, and Field Team review.

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OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF ROYALTY REVIEW

I have reviewed the files of the Washington office pertaining to Contract Idm-E763, Docket DMEA-3448 (tungsten), dated February 2, 1955, with

Black Pearl Mining Company
5702 North 12th Street
Phoenix, Arizona
and its assignee
Hillside Mining & Milling Company
Bagdad, Arizona

for the purpose of determining the amount of royalty payable to the U. S. Government on sales of minerals from property referred to as the Black Pearl Mine located in Yavapai County, Arizona, during the period November 1, 1960, through November 5, 1963.

A certification of discovery or development was issued on October 25, 1957, and, in accordance with Article 8 and Amendment No. 4 of the contract, royalty is payable on all minerals produced from the land described in Article 2 of the contract for a period of 13 years from the date of the contract or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first. An Audit Certificate dated January 13, 1958, indicated accepted costs under the exploration contract amounting to $59,068.80 with the Government's contribution on a 75 percent basis being $44,301.60.

The status of the project, the scope of review, and the reasons therefor are stated on page 2.

This review found no sales subject to the Government's royalty subsequent to the period covered by a prior Report of Royalty Review which found the sales subject to the Government's royalty through October 31, 1960, to be $180,666.21. The royalty account as of October 31, 1960, was:

Total Royalty Payable	$9,033.31
Total Royalty Paid	9,037.67
Overpayment of Royalty	$ 4.36

As of November 5, 1963, the royalty account of this project was found to be:

Total Royalty Payable	$9,033.31
Total Royalty Paid	9,037.67
Overpayment of Royalty	$ 4.36

November 18, 1963

E. D. Talbert, OME Auditor

STATUS OF PROJECT, SCOPE OF REVIEW AND REASONS THEREFOR

This contract provides that the Operator, as principal if the producer or as surety if not the producer, shall pay to the Government a percentage royalty on all minerals produced from the land thereunder. The land consists of 3 patented claims (Black Pearl Nos. 1, 2, and 7) in the NW quarter of sec. 18, T. 15 N., R. 7 W. At the time the contract was executed the Operator was in possession by virtue of an assignment from Edgar A. Scholz (the Operator's president), Irma R. Scholz (the Operator's secretary-treasurer), J. H. Cazier, and Dorothy L. Cazier, of an April 30, 1951, lease and option and an August 1954 amendment extending the lease and option to October 1, 1964, granted by the several owners. The lessors and assignors executed an Owner's Consent to Lien on February 16, 1955.

Exploration work under the contract was terminated effective August 1, 1956, under a June 11, 1957, agreement with the Operator-Assignee, which had acquired the original Operator's interest in the land under a sub-lease and assignment of option dated November 1, 1955. The Government consented to the assignment of the contract on December 12, 1955, without releasing the Operator-Assignor from any of the conditions of the contract.

Production during the exploration period and shortly thereafter resulted in sales of tungsten concentrates to the General Services Administration by the Operator-Assignor from April 1955 through July 1955 and by the Operator-Assignee from November 1955 to January 8, 1957. These sales, aggregating 56,547.5931 lbs. WO_3 with proceeds of $160,285.65, are covered by a February 17, 1958, Royalty Audit Certificate and Report. A $.47 overpayment of royalty by the Operator-Assignor and a $.01 underpayment by the Operator-Assignee is stated in the report.

By letter dated February 14, 1957, the Operator-Assignee advised that it was abandoning its sub-lease and option on the property. Upon conclusion of its operations the Operator-Assignee held in Bagdad a stockpile of 34,262 lbs. of tungsten concentrates. The sale to Fred H. Lenway and Company on March 24, 1960, of this stockpile containing 1,049.1578 S.T.U. WO_3 resulted in proceeds of $20,380.56, which are covered by a November 1, 1960, Report of Royalty Review. An overpayment of royalty of $3.90 on this transaction is stated in this report.

Inspections of the property and inquiries by DMEA and OME regional representatives disclosed no activities on the property from December 1956, when all equipment was removed and the shaft was bulkheaded at the collar, to April 8, 1960. In July 30, 1962, and November 5, 1963, replies to MME Form 63 inquiries addressed to the Operator-Assignee, its former general manager stated, over his signature as assistant general manager of Bagdad Copper Corporation, that: (1) no production from the property had occurred since April 8, 1960; (2) the Operator-Assignee was liquidated in December 1961; and (3) the property was returned to Messrs. Scholz and Cazier.

This review was made in lieu of an on-site audit of the Operator's accounts and records for the following reasons:

(1) The files indicate that all production has been reported and royalty thereon paid;

(2) The property has been inactive since 1956; and

(3) The administrative cost to the Government of an on-site royalty audit at this time would be excessive in relation to the amount of possible additional royalty which might be disclosed.

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF ROYALTY REVIEW

I have reviewed the files of the Office of Minerals Exploration, Washington, D. C., pertaining to Contract No. Idm-E763, Docket No. DMEA-3448 (Tungsten), dated February 2, 1955, with

Hillside Mining and Milling Company
Assignee of Black Pearl Mining Company
Bagdad, Arizona

for the purpose of determining the amount of royalty due the U. S. Government on sales of minerals from property referred to as Black Pearl Mine located in Yavapai County, Arizona, during the period December 1, 1957, through October 31, 1960.

A certification of discovery or development was issued on October 25, 1957, and, in accordance with Article 8 and Amendment No. 4 of the contract, royalty is payable on all minerals mined or produced from the land described in Article 2 of the contract for a period of 13 years from the date of the contract or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first. An Audit Report and Certificate dated January 13, 1958, indicated accepted costs under the exploration contract amounting to $59,068.80 with the Government's contribution, on a 75 percent basis, being $44,301.60.

The status of the project, the scope of review, and the reasons therefor are stated on page 2.

This review established the total sales of wolframite concentrates for the period to be $20,380.56. Royalty due the Government at rates specified in the contract is $1,019.03.

A prior Royalty Audit Report and Certificate found the sales subject to Government royalty through November 30, 1957, to be $160,285.65 which added to the sales for this subsequent period make a total of $180,666.21. The royalty account as of November 30, 1957, was:

Total Royalty Due	$8,014.28
Total Royalty Paid	8,014.74
Overpayment of Royalty	$ 0.46

At October 31, 1960, the royalty account of this project was found to be:

Total Royalty Due	$9,033.31
Total Royalty Paid	9,037.67
Overpayment of Royalty	$ 4.36

November 1, 1960

C. E. Fisher, OME Auditor

Idm-8763 Hillside Mining and Milling Company DMEA-3448

STATUS OF PROJECT, SCOPE OF REVIEW
AND REASONS THEREFOR

This property was not operated during the period covered by this review; however, the inventory of WO_3 on hand at the time of the prior royalty audit was sold during this period and royalty thereon was paid to the Government in April 1960.

My review included a recomputation of the final settlement statement of Fred H. Lenway and Company, Inc., purchasers of the concentrates, which consisted of 1,049.1578 STU WO_3 at $19.50/STU having a gross value of $20,458.58. Royalty at 5% was paid on this amount. The settlement statement indicated a deduction of $78.02, being ½ of weighing and sampling charges. This latter amount is deductible from gross proceeds in the computation of royalty due the Government. Thus, royalty was overpaid in the amount of $3.90 in connection with this sale, which added to the net overpayment of $0.46 shown by the prior royalty audit, makes a total overpayment of $4.36.

This review was made in lieu of an on-site audit of the Operator's accounts and records for the following reasons:

(1) Inspection reports by field representatives of the Government and other information in the Washington office files indicate that all production on which the Government would be entitled to royalty has been reported and proper royalty has been received, except as indicated above; and

(2) The administrative cost to the Government of an on-site royalty audit at this time would be excessive in relation to the amount of possible additional royalty which might be disclosed.

DEFENSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

FIRST ROYALTY AUDIT CERTIFICATE

I have examined the production records and sales documents pertaining to the sale of WO_3 for the period February 2, 1955 to November 30, 1957, by

Hillside Mining and Milling Company
Assignee Black Pearl Mining Company
Bagdad, Arizona

produced from Black Pearl Mine, located in Yavapai County, Arizona, on which royalties are due the U. S. Government under terms of Contract No. Idm-E763, Docket No. DMEA 3448, dated February 2, 1955, as amended.

My examination was made in accordance with generally accepted standards applicable in the circumstances.

The audit established the total sales of contained WO_3 in production, subject to DMEA royalties, to be $160,285.65. Royalty due the Government at 5% is $8,014.28. The royalty paid and the balance due are as follows: -

Total Royalties Due	$8,014.28
Total Royalties Paid	8,014.74
Royalties Overpaid	($ 0.46)

T. H. Brading, Auditor

February 17, 1958

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FIRST ROYALTY AUDIT REPORT

I. INTRODUCTION

On October 22 and 23, 1957, an audit was made of the production, sales and royalty accounts and records of

Hillside Mining and Milling Company
Assignee of Black Pearl Mining Company
Bagdad, Arizona

pertaining to the sale of tungsten trioxide during the period from February 2, 1955 to October 23, 1957, produced from Black Pearl Mine, located in Yavapai County, Arizona, on which royalties are due the United States Government under the terms of Contract Idm-F763, Docket No. DMFA 3448 (Tungsten), dated February 2, 1955, as amended.

No production records as such were maintained by Black Pearl Mining Company, which company maintained operations from February 2, 1955 to October 31, 1955. Basic production and sales data on the major portion of the production on which royalties were paid, were maintained in the Bagdad, Arizona, office of Hillside Mining and Milling Company.

Mr. T. M. Romslo, Mining Engineer, DMFA, Tucson, Arizona, accompanied the Auditor and assisted in the audit. Mr. R. C. Bogart, General Manager, and Edgar Kellis, Accountant, Hillside Mining and Milling Company, were consulted as necessary.

II. GENERAL INFORMATION

The exploration contract provides that the Government, within six months after receipt of an acceptable final report from the Operator, may certify that a discovery or development has resulted from the work. If certification is made, the Operator, as principal if the producer or as surety if not the producer, is obligated to pay a percentage royalty on all minerals produced from the land within 13 years from the date of the contract, or until the net amount contributed by the Government without interest is repaid, whichever occurs first.

The exploration work was completed on July 31, 1956, and the Operator's final report was received at Denver on May 2, 1957. Certification of Discovery or Development was issued October 25, 1957.

According to a final audit report and certificate dated January 13, 1958, by T. H. Breding, DMFA Auditor, the total accepted cost of exploration amounted to $59,068.80, with the Government's contribution on a 75 percent basis being $44,301.60.

This royalty audit was made simultaneously with the cost audit.

The first reported production subject to DMFA royalty occurred in April, 1955, and settlement sheets covering this production were submitted by Black Pearl Mining Company. Sales of tungsten concentrates produced were

made to Hillside Mining and Milling Company, which company disposed of the concentrates to General Services Administration. Last reported sale by Black Pearl Mining Company was in July, 1955. The first reported sale of tungsten concentrates by Hillside Mining and Milling Company was in December, 1955, and the last reported sale was January 8, 1957.

During the course of the audit one additional umpire settlement, which had not been reported, was found. Subsequently, copy of this settlement sheet was forwarded to the Executive Officer, DMEA Field Team, Region III, on November 14, 1957, and royalty due on that settlement sheet is included in this audit.

All royalty payments are based on sales of contained tungsten trioxide, the end product, to General Services Administration. Methods of prorating these sales were established by the Operator and approved by the Examining Engineer; Executive Officer, DMEA Field Team, Region III; and Chairman of the Operating Committee in Washington. All concerned agree that the basic method of proration and disposition of the product is such that the Government receives an equitable distribution of royalties due.

III. SCOPE OF AUDIT AND FINDINGS

A. Conference with Examining Engineer

A conference with Mining Engineer (T. M. Romslo) disclosed the following: -

(a) The Operator does stockpile ore, tailing, and middlings, and does commingle production subject to DMEA royalties.

It is the opinion of Mr. Romslo that in all instances the records are maintained in a manner and allocation of production is such that the Government's interest is fully protected.

(b) The sampling and assay controls in effect are considered adequate.

(c) The manner of disposing of production is considered as giving the Government its fair royalty returns.

(d) Examination indicated that the Operator properly reported production subject to DMEA royalty.

B. Audit of Settlement Sheets

A considerable amount of preaudit analysis was accomplished in the DMEA office, Region III, Denver, Colorado, prior to the field audit. During this preaudit analysis statements of royalties received, prepared from copies of General Services Administration Acceptance invoice together with detailed schedule attached which reflected the basis of determining the royalty due DMEA, were recomputed in detail.

These statements, which are filed as a part of my working papers, were reconciled for Black Pearl Mining and Milling Company with memorandum production sheets in the files of that company, and for Hillside Mining and Milling Company with production summaries and the values with DMEA royalty account in the General Ledger.

At the time of the on-site audit in Bagdad, Arizona, Mr. Robert C. Bogart, General Manager of Hillside Mining and Milling Company advised that while exploration adtivities were terminated July 31, 1956, mining operations were not terminated until October, 1956, and milling operations continued until December, 1956, at which time a total of 21,522 pounds of WO_3 were on hand. This figure was reconciled to the Production Summary prepared by Mr. Robert C. Bogart.

IV. CONCLUSIONS

The sales subject to DMEA royalties, which are based on pounds of tungsten trioxide contained in tungsten concentrates shipped to General Services Administration, San Francisco, California, and royalties due and paid are shown in Exhibit "A" attached.

The audit has confirmed the accuracy and propriety of royalty payments received by the Regional Finance Officer, applicable to sales of tungsten trioxide during the period February 2, 1955 to November 30, 1957. It also has determined that all indicated sales during such period have been accounted for properly.

At the conclusion of the audit the audit findings were discussed with Mr. Robert C. Bogart, General Manager, Hillside Mining and Milling Company, and on November 4, 1957, discussed with Mr. E. N. Harshman, Acting Executive Officer, DMEA Field Team, Region III.

February 17, 1958

T. H. Brading, Auditor

EXHIBIT "A"

HILLSIDE MINING AND MILLING COMPANY
ASSIGNEE BLACK PEARL MINING COMPANY

Contract No. Idm-E763

Docket No. DMEA 3448

SUMMARY SALES WO3

	POUNDS WO	PROCEEDS	ROYALTY AT 5% DUE	ROYALTY AT 5% PAID
Black Pearl Mining Company	1,851.0	$ 5,847.03	$ 292.35	$ 292.82
Hillside Mining & Milling Co.	54,696.5931	154,438.62	7,721.93	7,721.92
	56,547.5931	$160,285.65	$8,014.28	$8,014.74
Royalties Due				8,014.28
Royalties Overpaid				$ 0.46

	NET VALUE	ROYALTY RATE	ROYALTY DUE	ROYALTY PAID	DIFFERENCE
Black Pearl Mining Company August, 1955	$ 204.12	5%	$ 10.21	$ 10.68	($0.47)
Hillside Mining & Milling Co. June 22, 1956 GSA 9-1739	$19,900.41	5%	$995.02	$995.01	.01
Net Overpaid					($0.46)

( ) - Indicates Credit

DMEA
DEPARTMENT OF THE INTERIOR
OCT 30 1957
REGION III
DENVER, COLORADO

Check Sheet of Examining Engineer

Operator's Name Hillside Mining and Milling Company

Address Bagdad, Arizona

Exploration Contract No. Idm-E763 Docket No. DMEA-3448

		Check One Yes	Check One No
1. (a)	Does the Operator stockpile ore subject to royalty repayment?	x	
(b)	If so, is segregation and identification procedure adequate?	x	
2. (a)	Does Operator commingle production subject to DMEA royalties with exempt production?	x	
(b)	If so, do you consider the allocation of the commingled production equitable?	x	
3. (a)	Does the Operator stockpile mine or mill rejects (low grade ore, tailing, middlings, etc.) that may have potential value within the royalty payment period?	x	
(b)	If so, are adequate records maintained on such material to protect the Government's interest?	x	
4.	Do you consider the assay controls in effect are adequate?	x	
5.	Do you consider that the manner of disposing of production gives the Government its fair royalty returns?	x	
6.	Do your periodic examinations of operations indicate the Operator is properly reporting his production of ores subject to DMEA royalties?	x	
7.	Does the Operator buy from or sell to other Operators?	x	
8.	Comment on any item 2 (b) to 6 if answer is No.		

Mining & milling operations were terminated during October 1956 and December 1956, respectively.
Approx. 21,500 #WO3 on hand at shut down had been committed for delivery to GSA according to R. C. Bogart, General Manager

Date October 28, 1957

T. M. Romslo
Mining Engineer
T. M. Romslo

DEFENSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

DATE		COD
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AUDIT CERTIFICATE

I have examined the records and transactions of:

Hillside Mining and Milling Company
Assignee of Black Pearl Mining Company
Bagdad, Arizona

pertaining to Exploration Project Contract No. Idm-E763, Docket No. DMEA 3448, dated February 2, 1955, including Amendments Nos. 1 through 4, covering a project for the exploration of tungsten on property known as Black Pearl Mine, located in Yavapai County, Arizona, for the period March 8, 1955 to July 31, 1956, and the subsequent disposition of project property.

My examination was made in accordance with generally accepted standards applicable in the circumstances.

The audit disclosed the following facts in regard to the amount to be paid the contractor:

Total cost as billed by Contractor			$59,863.23
Less: Proceeds from disposition of property			254.25
Net Claimed Cost			$59,608.98
Exceptions: (See audit report for details)			
Prior to this audit	$689.07		
Less: Reinstatements	178.96	$510.11	
During this audit		30.07	540.18
Total Accepted Cost			$59,068.80

The contract calls for a 75 percent participation of exploration expenses by the United States Government. Therefore, payment to the contractor by the Government in the amount of Forty-four thousand, three hundred one and 60/100ths Dollars is valid and proper.

Amount payable to Operator	$44,301.60
Amount reimbursed	43,880.62
Balance due Operator	$ 420.98

This certificate is issued on the provision that the Regional Executive Officer, the Administrator, or other competent official has accepted or will accept the project as having otherwise met the terms of the contract.

January 13, 1958

T. H. Brading, Auditor

A U D I T R E P O R T

I. INTRODUCTION

On October 21, 22 and 23, 1957, a final audit (covering operations for the period March 8, 1955 to July 31, 1956) was made of the records and transactions pertaining to Exploration Project Contract No. Idm-E763, Docket No. DMEA 3448, dated February 2, 1955, including Amendments Nos. 1 through 4, with

Hillside Mining and Milling Company
Assignee of Black Pearl Mining Company
Bagdad, Arizona

covering a project for the exploration of tungsten on property known as the Black Pearl Mine located in Yavapai County, Arizona.

Mr. T. M. Romslo, Mining Engineer, Tucson office, DMEA, accompanied the auditor and assisted in the audit. Mr. J. H. Cazier, representing Black Pearl Mining Company, Mr. Robert C. Bogart, General Manager, and Mr. Edgar Kellis, Accountant, Hillside Mining Company, were consulted as required.

II. GENERAL INFORMATION ON RECORDS

Black Pearl Mining Company conducted the exploration operations for the period from March 8, 1955 to October 31, 1955, and Hillside Mining Company conducted the operations from November 1, 1955 to July 31, 1956.

The records of Black Pearl Mining Company were in custody of Mr. J. H. Cazier, Secretary-Treasurer, and the audit was conducted in his room at the Sahara Motor Hotel, Phoenix, Arizona. Records submitted by Mr. Cazier for examination consisted of monthly files, payrolls, sales invoices, and check register of Black Pearl Mining Company.

The Operator's Monthly Report and Voucher forms MF-104 were prepared by Mr. Cazier.

The records of Hillside Mining Company were maintained by Bagdad Mining Company as subsidiary accounts in the General Ledger of that company.

The Operator's Monthly Report and Voucher forms MF-104 were prepared for Hillside Mining Company by Mr. R. C. Bogart, General Manager.

III. SCOPE OF AUDIT AND FINDINGS

The audit was limited to ascertaining the accuracy, propriety and validity of the costs shown in the "Totals to Date" column of the Form MF-104, Operator's Monthly Report and Voucher, for the month of July, 1956, but including the subsequent settlement on December 31, 1957, of the Government's equity in certain project property. Since by letter dated September 21, 1955, addressed to Mr. J. H. Cazier, Secretary-Treasurer, Black Pearl Mining Company, the Executive Officer of the DMEA Field Team for Region III, waived the requirement for submission of supporting documents with the Monthly Forms MF-104, a complete and detailed audit and analysis of all costs was necessary.

dit disclosed some improper distribution of charges to the shown on the form MF-104. Therefore, the audit findings pre- are those resulting after correction of cost distribution.

"Items of sented

Independent Contracts

Invoice from Bagdad Copper Corporation, dated June 10, 1955, for rs of bulldozing time at $12.50 per hour, totaling $268.75, was exam- This charge is considered as reasonable and allowable under the terms he contract.

Fixed Unit Costs

Shaft Sinking

Proper and allowable charges for shaft sinking were found to be divided as follows:

Black Pearl Mining Company	68.5	feet @ $130.00/ft.	$ 8,905.00
Hillside Mining and Milling Company	81.5	feet @ $130.00/ft.	10,595.00
Total Allowable Cost	150	feet @ $130.00/ft.	$19,500.00

Verification of footage reported was made by checking examining engineer's monthly narrative reports.

Station and Skip Pocket

In his narrative report dated March 20, 1956, the examining engineer reported that the size of the station was in excess of minimum specifications of 9x9x20 feet. The cost as reported by Hillside Mining and Milling Company of $2,000.00 is considered as proper and allowable under the terms of the contract.

Drifting and Crosscutting

Charges under this category are broken down as follows:

Black Pearl Mining Company	194.5	feet @ $34.00/ft.	$ 6,613.00
Hillside Mining and Milling Company	521.5	feet @ $34.00/ft.	17,731.00
Total Allowable Cost	716	feet @ $34.00/ft.	$24,344.00

Footage reported was verified by checking the monthly narrative report of the examining engineer.

Timbering

All charges for timbering were verified by checking examining engineer's monthly narrative reports. The allowable charges are shown below:

Black Pearl Mining Company	196	feet @ $7.00/ft.	$ 1,372.00
Hillside Mining and Milling Company	478.5	feet @ $7.00/ft.	3,349.50
Total Allowable Cost	674.5	feet @ $7.00/ft.	$ 4,721.50

Raise

Total of 118 feet of raise reported by Hillside Mining and Milling Company was verified by checking examining engineer's monthly narrative report. Total proper and allowable charges under the contract were determined to be

118 feet @ $35.00/ft. $4,130.00

Sampling and Analysis

A charge of $5.00 per sample for sampling and assaying was an allowable charge under the terms of the contract. Charges were verified by checking examining engineer's monthly narrative report. An analysis of allowable cost follows:

Black Pearl Mining Company	39 samples @ $5.00 each	$195.00
Hillside Mining and Milling Company	87 samples @ $5.00 each	435.00
	126 samples @ $5.00 each	$630.00

(2) Labor and Supervision

Labor

Payroll records were examined in detail by T. M. Romslo, Mining Engineer. Costs as charged to project were verified by recomputation. Total proper and allowable charges under the contract were determined to be $719.63.

Supervision

Total allowable costs for supervision and technical services under the contract were $300.00, or 1/2 time for one month of supervisor, engineer at $600.00 per month. While no record of the time devoted to the project on the part of Messrs. Scholz and Cazier was maintained, it is the opinion of the examining engineer, which is concurred in by the Acting Executive Officer, DMEA Field Team, Region III, that the charge of $300.00 for technical and supervisory services is reasonable and proper.

(3) Operating Materials and Supplies

Fuel and Lubrication Supplies

Charge for fuel and lubrication represents the cost of one barrel, 52 gallons of gasoline, $19.84, which was prorated to the cost of the project. This amount is considered to be an allowable charge under terms of the contract.

Explosives

Invoice from Bagdad Copper Company, dated June 30, 1955, in the amount of $19.81 for the following listed supplies was submitted for examination:

2 boxes 1-1/8" gelemite	$16.70
50 #6 blasting caps	.96
200 ft. Black Sequoia fuse	2.15
Total	$19.81

Total of $19.81 is considered an allowable cost.

Steel

Invoice from Copper King Lease, dated June 10, 1955, in the amount of $20.00 for 1 piece Copco insert steel was examined. This amount is considered an allowable cost.

Track

Invoice from Copper King Lease, dated June 10, 1955, for 1,000 feet 16 pound used rail and fish plates in the amount of $50.00 was examined. This amount is considered an allowable cost.

Pipe

Invoice from Copper King Lease, dated June 10, 1955, for 70 feet 2" used black pipe in the amount of $20.00 was examined. This amount is considered an allowable cost.

Small Tools

Charges for small tools were verified by examination of suppliers' invoices, as detailed below: -

2	16" Rasps		$ 5.61
3	LH SP Shovels	$10.86	
2	LH RP Shovels	6.80	
		$17.66	
	Tax	.35	18.01
3	Picks with handles		9.70
2	24" Hacksaw blades		2.51
1	Square	2.98	
1	Rabbit plane	4.35	
1	Draw knife	2.55	
1	Wood chisel 2-3/8"	1.89	
		$11.77	
	Tax	.24	
	Postage	.69	12.70
1	Claw Hammer		1.52
2	N-11 Carpenter's half head, adz and handles	7.98	
	Tax	.16	8.14
	Total		$58.19

Total cost of $58.19 is considered reasonable and allowable.

(4) Operating Equipment

Purchase:

Charges for equipment purchases were verified by examination of invoices, as follows:

Copper King Lease, June 10, 1955	1 12" Pneumatic Saw	$200.00
Copper King Lease, Oct. 3, 1955	Blower with Sears Model 500 - 203015 - air cooled gasoline engine, David Bradley 6½ - 8¼ HP pulley, automatic clutch and belt	180.00
	Total	$380.00
	Less: Property disposition	$103.00
	Balance	$277.00

$277.00 is considered a proper and allowable cost.

Operating Equipment
Depreciation

Under the terms of the contract an amount of $200.00 for depreciation on company owned equipment was allowed. Details of this amount are shown below: -

	DESCRIPTION	VALUE	TIME USED	DEPRECIATION
1	315 Cu. Ft. Worthington Compressor	$6,000.00	1 Month	$100.00
1	R.I.T. Minneapolis-Moline tractor with Reese loader	2,800.00	" "	46.67
1	Jackhammer, hose and fittings	350.00	" "	5.83
1	1948 Dodge bus	700.00	" "	11.67
1	1947 Chevrolet dump truck	500.00	" "	8.33
1	1951 Ford pickup truck	500.00	" "	8.33
1	Transit, saw, drill and water truck	1,150.00	" "	19.17
	Total Allowable Cost			$200.00

(5) Initial Rehabilitation and Repairs

Charges under subject category not applicable to this contract.

(6) New Buildings, Improvements, etc.

Charges under this category were verified by examination of Operator's payrolls and suppliers' invoices, as detailed below:

JUNE, 1955

Labor	$187.00	
Insurance	16.14	
Payroll Taxes	6.26	
Total		$209.40

Hillside Lumber Company 7/31/55
2,293 Board Feet 8x8 and 6x8 Fir Timber 204.65

A. Louis Peterson 5/30/55

6	8x8x16	512 Board Feet		
6	1x2x16	96		
4	1x6x16	32		
10	6x6x16	480		
18	2x12x16	540		
		1660 Board Feet @ $75.00	$124.50	
		Tax	1.25	125.75

Bagdad Copper Company, invoices as dated: -

5/30/55	- Oxygen K 173 171		$ 3.00	
6/30/55	- 20# Washers		5.10	
6/15/55	- 1 Acetylene		9.51	
7/3/55	- 21 5/8x10 Machine Bolts	$ 4.22		
	- 24 5/8x9 " "	4.30		
	- 25 5/8x8 " "	4.18		
		$12.70		
	Tax	.25	12.95	
7/3/55	- 12 Regular Cement		16.03	
7/6/55	- 413 Pounds 3/16" Plate	$30.56		
	- 437 Pounds 8" Channel	35.83		
	- 21 5/8x8 Machine Bolts	3.61		
		$70.00		
	Tax	1.40	71.40	$117.99
Total Claimed June, 1955				$657.79
Less: Insurance and Payroll taxes transferred to proper accounts				22.40
Total Allowable Cost June, 1955				$635.39

AUGUST, 1955

Labor	$1049.76	
Insurance	90.59	
Payroll Taxes	35.17	
Total Labor Claimed		$1,175.52

Bagdad Copper Company, Invoices as dated: -

8/30/55	- 25# 3/8" Malleable Washers	$ 6.25		
	- 1 Oxygen	2.94		
	- 20# 3/4" Nuts	.84	10.03	
8/16/55	- 8 5/8x7½ Machine Bolts	1.12		
	- 22 5/8x7 " "	3.19		
	- 10# 5/8 W.I. Washers	2.50	6.81	
8/20/55	- 24' 1/4x8 Channel	9.66		
	- 10# 5/8 Malleable Washers	2.50		
	- 16 5/8x7 Machine Bolts	2.32		
	- 15 5/8x9 Machine Bolts	2.69		
	- 15 5/8x10 Machine Bolts	3.02	20.19	
7/20/55	- 534 Board Feet 8x8 and 6x8		44.50	
8/1/55	- 8x2¼ Channel		16.97	
			$98.50	
	Tax		1.97	100.47
A. Louis Peterson, 7/12/55				
	571' Native Timber @ 75¢		$42.83	
	Tax		.43	43.26
R. R. Liggett, Invoice 3698				
	2 2-15/16 Dodge Pillow Blocks			53.04
Total Claimed August, 1955				$1,372.29
Less: Insurance and Payroll taxes transferred to proper accounts				125.76
Total Allowable Cost August, 1955				$1,246.53

SUMMARY

Total cost June	(Head Frame)	$ 635.39
Total cost August	" "	1,246.53
Total Claimed Cost	" "	$1,881.92
Total allowed by Contract		1,500.00
Total Disallowed		$ 381.92

This disallowance of $381.92 is prorated between Labor and Materials, as follows:

Total Labor	$1,236.76	- 65.72% or	$ 251.00
Materials	645.16	- 34.28% or	130.92
Total	$1,881.92	- 100.00% or	$ 381.92

The Finance Officer had made a disallowance of $530.08 which included Payroll Taxes and Insurance as follows:

	P.R. TAXES	INSURANCE	TOTAL
June	$ 6.26	$16.14	$ 22.40
August	35.17	90.59	125.76
Total			$148.16

Total Disallowance by Finance Officer	$530.08
Disallowance, as above	381.92
Reinstated by Auditor	$148.16

The disallowance made by the Finance Officer was excessive in the amount of $148.16 due to error in accounting distribution made by the Operator and corrected by the Auditor, details of which are shown in prior tabulations. The excess of the disallowance is accordingly reinstated by the Auditor.

Total allowable cost per contract	$1,500.00
Less: Property Disposal	151.25
Total Allowable Cost	$1,348.75

(7) Miscellaneous
Trucking Charge

This item represents charge by R. J. Dickie for hauling lumber to project. Verification was made by examination of invoice from supplier dated June 30, 1955, as follows:

Delivery Timber	$15.00
3% Federal Tax	.45
2½% State Tax	.38
Total Allowable Cost	$15.83

Payroll Taxes and Insurance

Payroll Taxes

Examination of the files of Black Pearl Mining Company disclosed payroll tax rates as follows:

F.I.C.A.	2.00%
State Unemployment	1.35%
Total	3.35%

Payroll taxes claimed by Operator: -

Labor	3.35% of	$ 719.63	$ 24.11
Labor on Head Frame (June)	3.35% of	187.00	6.26
Labor on Head Frame (August)	3.35% of	1,049.76	35.17
Total Payroll Tax Claimed		$1,956.39	$ 65.54
Disallow payroll tax on labor disallowed (Head Frame) in August	3.35% of	251.00	8.41
Net Payroll Tax Allowable	3.35% of	$1,705.39	$ 57.13

Insurance

Examination of the files of the Operator disclosed that the rate on Liability Insurance was 8.63%.

Liability Insurance claimed by Operator: -

Labor	8.63% of	$ 719.63	$ 62.10
Labor on Head Frame (June)	8.63% of	187.00	16.14
Labor on Head Frame (August)	8.63% of	1,049.76	90.59
Total Insurance Claimed		$1,956.39	$168.83
Disallow liability insurance on labor disallowed on Head Frame in August	8.63% of	251.00	21.66
Net Liability Insurance Allowable	" of	$1,705.39	$147.17

Accounting

A total of $175.00, or $25.00 per month for seven months, was charged by Black Pearl Mining Company for accounting. Mr. Cazier explained that this represented a prorated portion of his salary of $1,000.00 per month, as he handled the major portion of the record keeping and prepared the monthly MF-104's. The charge is considered reasonable and proper under the terms of the contract.

Pickup Mileage

In September, 1955, the Operator included the following items on his MF-104: -

Use of bus and travel of crew
Total project labor $1,994.61
Total labor 6 months, or $2,389.26 average per month

$\frac{1994.61}{2389.26}$ = 83.48% of one month's use

Bus travels 997.5 miles per month

83.48% x 997.5 miles @ 9¢			$ 74.94
Telephone - June 6			2.80
Auto mileage - personal cars			
Trip to Phoenix	E. A. Scholz 7/14	- 250 miles	
Trip to Prescott	E. A. Scholz 8/18	- 140 "	
Trip to Mayer	J. H. Cazier 9/19	- 205 "	
		595 miles @ 7¢	41.65
Meals	E. A. Scholz 7/14 and 8/18		4.70
Meals	J. H. Cazier		4.10
Pickup	11 round trips to Bagdad 440 miles @ 7¢		30.80
Total			$158.99

This entire amount was disallowed by the Finance Officer, as the items included were not provided for by the terms of the contract.

During the course of the audit Mr. Cazier brought up the subject of this disallowance, particularly the $74.94 for transportation of the crew and $30.80 for pickup mileage. The Auditor agreed to discuss the matter with the Executive Officer on returning to Denver. On Monday, October 28, 1957, the matter was reviewed with Mr. E. N. Harshman, Acting Executive Officer, DMEA Field Team, Region III. He agreed with the Auditor that the pickup mileage, ($30.80) which was primarily for hauling supplies, should be allowed, as this is an ordinary and necessary charge to the project. After discussing the charge for transporting crew, it was agreed by the Auditor and the Executive Officer that the disallowance should stand. The transportation for one month covered all charges for direct labor, and labor on Head Frame, which actually was incurred over a five months' period. The transportation of that portion of the crew included in the labor charge as claimed (actually, total labor allowed was $1,705.39) was incidental to the transportation of the crew engaged in operation under Fixed Unit Costs, and the claim for this item is accordingly denied.

The amount of $30.80 representing 11 round trips to Bagdad, or 440 miles @ 7¢, which is reinstated by the Auditor, is more fully described in prior paragraph. IK addition, an amount of $15.40 for pickup mileage was claimed in October, 1955, and this amount was approved by the Executive Officer.

Total of $30.80 plus $15.40 = $46.20, allowable project cost.

IV. CONCLUSIONS

The audit disclosed that all costs charged to this project with the exception of net disallowances totaling $540.18, as itemized in the preceding section of this report, are reasonable and proper under the terms of the contract.

The adjustments between "Items of Costs" as shown on the July, 1956 MF-104, the disallowances, disposition of jointly owned equipment, and the accepted costs, as disclosed by this audit, are summarized in Exhibit "A" attached hereto.

At the conclusion of that portion of the audit dealing with operations of Black Pearl Mining Company on October 22, 1957, the findings were discussed with Mr. J. H. Cazier, Secretary-Treasurer, Black Pearl Mining Company. On October 23, 1957, the findings were discussed with Mr. R. C. Bogart, General Manager, Hillside Mining Company, covering operations of that company. On October 28, 1957, the findings of the entire operation were reviewed with Mr. E. N. Harshman, Acting Executive Officer, DMEA Field Team, Region III.

T. H. Brading, Auditor

January 13, 1957

EXHIBIT "A"

AUDIT SUMMARY

Contract No. Idm-E763

	BLACK PEARL MINING COMPANY								HILLSIDE MINING AND MILLING COMPANY				
	PREPARATORY WORK	EXPLORATORY WORK	TOTAL	DISTRIBUTION CORRECTED	DISALLOWANCES PRIOR	DISALLOWANCES AUDIT	REINSTATED	TOTAL	STAGE I	STAGE II	TOTAL	PROPERTY DISPOSAL	TOTAL ACCEPTED COSTS
1. Independent Contracts													
Bulldozing	$ 268.75		$ 268.75	$ 268.75				$ 268.75					$ 268.75
1A Fixed Unit Costs													
Shaft Sinking		$ 8,905.00	8,905.00	8,905.00				8,905.00	$10,595.00		$10,595.00		19,500.00
Station and Skip Pocket									2,000.00		2,000.00		2,000.00
Drifting and Crosscutting		6,613.00	6,613.00	6,613.00				6,613.00	17,731.00		17,731.00		24,344.00
Timbering		1,372.00	1,372.00	1,372.00				1,372.00	3,349.50		3,349.50		4,721.50
Raising										$4,130.00	4,130.00		4,130.00
Sampling and Assaying		195.00	195.00	195.00				195.00	435.00		435.00		630.00
2. Labor and Supervision													
Labor	719.63		719.63	719.63				719.63					719.63
Supervision	300.00		300.00	300.00				300.00					300.00
3. Operating Materials and Supplies													
Fuel and Lubrication	19.84		19.84	19.84				19.84					19.84
Explosives	19.81		19.81	19.81				19.81					19.81
Pipe	20.00		20.00	20.00				20.00					20.00
Track	50.00		50.00	50.00				50.00					50.00
Drill Bits and Steel	20.00		20.00	20.00				20.00					20.00
Small Tools	58.19		58.19	58.19				58.19					58.19
4. Operating Equipment													
Purchase	380.00		380.00	380.00				380.00				$103.00	277.00
Depreciation	200.00		200.00	200.00				200.00					200.00
6. New Buildings, Improvements, etc.	2,030.08		2,030.08	1,881.92	[redacted]		$148.16	1,500.00				151.25	1,348.75
7. Miscellaneous													
Trucking Charge	15.83		15.83	15.83				15.83					15[redacted]
Payroll Taxes	86.21		86.21	65.54		$ 8.41		57.13					57[redacted]
Liability Insurance				168.83		21.66		147.17					147.17
Accounting	175.00		175.00	175.00				175.00					175.00
Pickup Mileage	174.39		174.39	174.39	158.99		30.80	46.20					46.20
Totals	$4,537.73	$17,085.00	$21,622.73	$21,622.73	$689.07	$30.07	$178.96	$21,082.55	$34,110.50	$4,130.00	$38,240.50	$254.25	$59,068.80

ADDENDUM TO REPORT

DISPOSITION OF PROPERTY

HILLSIDE MINING AND MILLING COMPANY

Contract No. Idm-E736 Docket No. DMEA 3448

Disposition of purchased equipment was effected by sale to Black Pearl Mining Company (approved by letter from Executive Officer, DMEA Field Team, Region III, dated December 31, 1957, addressed to the Operator), as shown in the following summary: -

Head Frame and Sheave Wheel complete with bearings	$151.25
Blower with gasoline engine	26.75
12" pneumatic saw	76.25
Total	$254.25

Due to the location of the property, 125 miles from Phoenix and about 19 miles from Bagdad, Arizona, the nearest town which is a company-town of Bagdad Copper Company, it was very difficult to interest anyone in submitting bids for the two items of equipment plus the headframe and sheave. Three bids, as follows, were finally obtained:

Western Machinery Company, Phoenix, Arizona	$ 75.00
Hillside Mining and Milling Co., Bagdad, Ariz.	50.00
Black Pearl Mining Company	254.25

Sale to Black Pearl Mining Company was approved by the Executive Officer, DMEA Field Team, Region III, in letter to the Operator, dated December 31, 1957.

224 New Customhouse
Denver 2, Colorado

January 24, 1958

EXTRA COPY
DMEA
RECEIVED JAN 27 1958
DATE
CODE

Mr. J. L. Chambers, Director
Contract Administration and Audit Division
Defense Minerals Exploration Administration
Washington 25, D. C.

Re: Hillside Mining and Milling Company
Docket No. DMEA-3448, Contract Idm-E763

Dear Mr. Chambers:

Reference is made to your letter of January 17, 1958, regarding Audit Report and Certificate covering subject contract.

The records of the Black Pearl Mining Company, project operator for March to October, 1955, were the type of records maintained by the average small operator. In endeavoring to be fair to all parties concerned, apparently I did not state my position too clearly in portions of the report. Scholz and Cazier are mining engineers, both of whom, I understand, had been employed in supervisory capacities by Bagdad Copper Company prior to undertaking the Black Pearl project.

At October, 1957, the date of the audit, neither of these persons was employed by Bagdad Mining Company. The records pertaining to the operation had been stored partially in the residence of Mr. Scholz in Phoenix, and partially in a public warehouse in Phoenix. Mr. Scholz was absent from Phoenix, and it was necessary for Mr. Cazier to obtain the records from these two points of storage and assemble them in shape to be audited. The audit was made two years after Scholz and Cazier had assigned the contract to Hillside Mining and Milling Company, and so Mr. Cazier's memory was hazy on some points.

A detailed reply to your comments follows: -

I assumed that because Scholz and Cazier had prepared and signed the maps and monthly narrative reports, and, in at least one instance, the Examining Engineer refers to Scholz as "Project Supervisor," it would be self-evident that Scholz and Cazier were mining engineers and considered to be competent by the Examining Engineer. I will amplify my comment regarding Scholz and Cazier and state that they are both qualified mining engineers, which I trust will be satisfactory.

<u>Items (2) and (3)</u>: - Comments regarding disposition of property will be made as outlined in your letter.

Regarding comment on page 7 - "Total Allowed by Contract" : -

Please refer to the August, 1955 MF-104, as submitted by the Operator. This document has the following comment typed on the face: "Application has been made to increase the amount allowed for the headframe from $1,500.00 to $2,100.00. This amount is for headframe only, and exceeds the $1,500.00." This comment was interpreted to mean that the amount charged Year to Date $2,030.08 to New Buildings and Improvements, was in excess of the $1,500.00 allowed by the contract.

Under date of August 16, 1955, Mr. Cazier, Secretary-Treasurer of Black Pearl Mining Company, requested that the contract be amended to increase the size of the headframe from 35 feet to 44 feet, with an increase in cost from $1,500.00 to $2,100.00; further, that the cost of the hoist be increased from $2,500.00 to $4,500.00.

By letter dated September 19, 1955, addressed to W. M. Traver, Executive Officer, DMEA Field Team, Region III, the Chairman, Operating Committee, denied both of these requests, and stated specifically that if the Operator desired to build a higher headframe, the difference in cost would be at his own expense. This information was transmitted to the Operator by letter written by W. M. Traver, dated September 23, 1955.

In the fifth paragraph of your letter you refer to the fact that claimed costs may cover hoist installation, for which an estimate of $300.00, in addition to the estimate of $1,500.00 for the headframe, is given in Exhibit "A" of the contract.

Giving consideration to the aforementioned comment on the August,1955 MF-104, how could it be interpreted that there is any possibility of the claimed costs covering hoist installation? In other words, by his own comment the Operator states the excess cost of the headframe was due to the fact that he constructed a 44 foot headframe instead of the 35 foot headframe specified by the contract. Hence, my comment on this disallowance.

Item 4 - Trucking Charges: - It is true that this item of trucking costs for hauling timber was allowed as part of Category (7) costs. This item was discussed at the time with Mr. E. N. Harshman, Acting Executive Officer, Region III. It was our joint conclusion that this item was allowable, as an amount of $500.00 is allowed under "General." This was interpreted to mean and include items of operating materials and supplies, including lumber for repairs. There is no doubt that some lumber was used and not claimed. Is it reasonable and proper to allow the hauling charge, which was documented, in lieu of lumber that was used and not charged for? There is no indication that the lumber hauled was for "headframe," "underground" or "repairs." In practically all mining operations lumber is hauled to the mine, stacked, then cut and used as needed. Our joint conclusion was that in view of the fact, Item 7 of the contract allowed $300.00 for railway freight and trucking, and an additional $500.00 for General, the claim for hauling lumber is an allowable item. It is true that this interpretation of the contract is a liberal interpretation of Miscellaneous on page (3) following page 21 of the manual. "Any other items of direct, reasonable and necessary costs that do not fall within other categories or subcategories of cost."

Item (5) - Accounting Costs: Again I plead liberal interpretation of the contract. Work actually started March 8, 1955, and the first MF-104 was submitted April, 1955, but did not include any items of actual cost. There is no doubt that some supplies were ordered, and clerical or accounting duties in connection with actual cost items were performed in March and April, and again I repeat, I interpreted the provisions of the contract liberally and allowed the $25.00 charge for April.

I think you will agree that, in connection with the proration of the salaries of Messrs. Scholz and Cazier, the portion prorated ($475.00) of a total of $14,000.00 would hardly include services as corporate officer.

Item (6) - Conclusions: Since the contract does not specifically designate any items as "Maximum" as many contracts on this same form do, I decided that this schedule was not required. A careful review of the matter on pages following pages 21 of the audit manual contract guide, would seem to indicate that on this contract form, while not specifically designated as "Allowable Maximums," some items of cost are considered as allowable maximum. Summary will be prepared as shown on page 65 of the audit manual.

The Audit Report and Certificate had been written in October and in rewriting the Certificate in January, I overlooked proper preparation of "Exceptions."

To summarize briefly, the Operator did not do too good a job, either of preparing the MF-104's or claiming expenses in a proper manner. There is not much doubt that the Operator did more work than he claimed on New Buildings and Improvements, but he did not file his claim properly. Can we justify these small allowances which he did claim, in lieu of items which no doubt were allowable but unclaimed?

After giving consideration to all the facts as presented, would appreciate your advice and counsel as to the proper procedure in this case.

Very truly yours,

T. H. Brading, DMEA Auditor

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9-30	Holt	400
9-30	Martin	400
	Rubin	140
10/21	Talbert	800
10/25	Selvidge	130
10/25	Lamb	130
10/23	Kiilsgaard	130
10/25	Johnson	110
"	Mittendorf	10 SH 220

Copy of letter sent to the following:
Mary and John W. Lawler, Prescott, Arizona, [illegible]
James E. and Kathryn I. Harrington, Phoenix, Arizona
~~[illegible]~~ Mary Lyons, % John W. Lawler, Prescott, Arizona
Joseph W. and Florence E. Walton, % John W. Lawler, Prescott, Arizona
Edgar A. Scholz and Irma Scholz, 5702 N. 12th St. Phoenix, Arizona
J. H. and Dorothy L. Cazier, 1555 S. Ash St. Denver, Colorado

OCT 25 1957

Re: Docket No. DMEA 3442 - Tungsten
Hillside Mining and Milling Co., Assignee
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-5763

Enclosed is a copy of a certification of discovery or development, with copy of covering letter to the Operator, which has been issued pursuant to the terms of the above-cited contract.

This correspondence relates to the Owner's Consent to Lien signed by you on February 16, 1955. The Government's prior lien on the land and upon any production therefrom will continue in existence for the length of time mentioned in the enclosed copy of the letter to the Operator. You are obligated during that period to commit no act and to assert no claim in conflict with the Government's rights under the agreement signed by you, and to give advance notice of the Government's rights to any transferee or lessee of any part of your interest in the land or the production therefrom.

Sincerely yours,

C. O. Mittendorf

Administrator

Enclosure

SPHolt/dlm 9-27-57
cc to: Code 400
Admr. R. File
Oper. Comm.
Audit Div.
FT. REG. II

F. E. Johnson
F. D. Lamb, USBM
R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

8623

ng:

Arizona, Prescot

, Phoenix, Arizona

wler, Prescott, Arizo

& John W. Lawler, Pres

3702 N. 12th St. Phoenix,

S. Ash St. Denver, Colorad

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9-27	Holt	400
9-27	Martin	400
	Robinson	110
10/21	Dalgliff	800
10/25	Lehnds	130
"	Johnson	110
		100
		220
		400

10/23 Kiilsgaard 130
10/23 Lamb 130

CERTIFICATION BY THE UNITED STATES OF AMERICA
OF A DISCOVERY OR DEVELOPMENT UNDER
AN EXPLORATION PROJECT CONTRACT

To: Hillside Mining and Milling Company, Assignee
Bagdad, Arizona

Pursuant to the provisions of Exploration Project Contract No. Idm-E763, executed February 2, 1955, (Docket No. DMEA 3448), as amended, hereinafter called the "Contract", between Hillside Mining and Milling Company (Assignee of Black Pearl Mining Company) and the United States of America, hereinafter called the "Government", to establish and fix the Government's royalty on production and its lien therefor and on the land described in the contract, the Government considers and therefore certifies that a discovery or development from which production may be made has resulted from the exploration.

The nature of said discovery or development is described broadly or indicated as follows:

Shaft sinking, drifting on the adit level, and crosscutting, drifting and raising on the 125-foot level of the Black Pearl mine have exposed tungsten ore, dominantly in the form of crystals and large masses of wolframite, with minor amounts of scheelite, occurring in a quartz fissure vein in granite.

THE UNITED STATES OF AMERICA

By C. F. Mittendorf
Administrator, Defense Minerals
Exploration Administration

Dated: OCT 25, 1957

SPHOLT:foc 9-27-57
cc to: Code 400
110
800
FT REG. III
Admr. R. File
Oper. Comm.
Finance Office
C. A. Fredell, GSA

cc to: F. D. Lamb, USBM
R. W. Holliday, USBM
T. H. Kiilsgaard, USGS
John W. & Mary Lawler
James E. & Kathryn I. Harrington
~~E. H. &~~ Mary Lyons
Jos. W. & Florence E. Walton
E.A. Schols & Mrs. Irma R. Scholz
J. H. & Mrs. Dorothy L. Cazier
Black Pearl Mining Company

8623

RECEIVED
AUG 26 '57
D.M.E.A.

Government's Copy

Long
Lemmer
"Appd. Bor. Off."
Chapman
Selfridge
Chandler
Johnson
Martin

TERMINATION AGREEMENT

It is agreed this 11th day of June, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Hillside Mining and Milling Company (Assignee of Black Pearl Mining Company), hereinafter called the "Operator," parties to that certain Exploration Project Contract No. Idm-E763 (Docket No. DMEA-3448), dated February 2, 1955, hereinafter referred to as the "Contract," that:

1. Effective August 1, 1956, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and are hereby terminated.

2. The Government shall contribute only to the agreed actual and unit costs of work performed prior to August 1, 1956.

3. The Operator shall promptly perform all winding-up and settlement actions provided for in the Contract, including the rendering of the final report and the final account.

4. All rights of the Government provided for in the Contract with respect to certification of discovery or development, percentage royalty and liens for its payment, records, audits, and recovery of any overpayment, are preserved.

5. The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this termination agreement.

IN WITNESS WHEREOF, these parties have executed this agreement as of the day and year first above written.

THE UNITED STATES OF AMERICA

By C. F. Mittendorf
Administrator, Defense Minerals Exploration Administration

HILLSIDE MINING AND MILLING COMPANY

By Robert C. Bogert

Title Secretary

Docket copy

ASSIGNMENT OF CONTRACT

WHEREAS, Black Pearl Mining Company (hereinafter called the "Assignor"), entered into Exploration Project Contract Idm-E763 (Docket No. DMEA-3448), dated February 2, 1955, (hereinafter called the "Contract"); and

WHEREAS, Hillside Mining and Milling Company, a corporation organized and existing under and by virtue of the laws of the State of Arizona, whose address is Bagdad, Arizona (hereinafter called the "Assignee"), has acquired the Assignor's interest in the land which is the subject of the Contract and the Assignee desires to complete the work under the Contract;

NOW THEREFORE, the Assignor, in consideration of the sum of One Dollar ($1.00) and other good and valuable consideration received from the Assignee does hereby assign, transfer, and convey to the Assignee all of the Assignor's right, title, and interest in the Contract (including any and all property purchased for and the right to use any and all property devoted to the work under the Contract): Provided, That the Government shall make payment to the Assignor for all work performed prior to Nov. 1, 1956, and upon payment thereof the Government shall be and is hereby released by the Assignor from all claims under the Contract.

The Assignor consents to all future amendments and assignments of the Contract and waives notice thereof.

This Assignment is subject to the execution by the Assignee of the acceptance form set forth below and to the written consent of the Government.

Dated this 12th day of Dec., 1955.

BLACK PEARL MINING COMPANY

By Edgar A. Scholz

PRESIDENT

I, J. H. Cazier, certify that I am the Secretary of the Black Pearl Mining Company named herein; that Edgar A. Scholz who signed this instrument on behalf of the corporation, was then President of said corporation; that said instrument 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. H. Cazier (Corporate Seal)

ASSIGNEE'S ACCEPTANCE

The Assignee, Hillside Mining and Milling Company, hereby accepts the above Assignment and agrees to be bound by the terms, provisions, and conditions of the Contract.

Dated this 12th day of Dec., 1955.

HILLSIDE MINING AND MILLING COMPANY

By [signature]

President

I, Geo. W. Colville, certify that I am the _____ secretary of the Hillside Mining and Milling Company named herein; that J. C. Lincoln who signed this instrument on behalf of the corporation, was then President of said corporation that said instrument 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.

[signature] (Corporate Seal)

Secretary

GOVERNMENT'S CONSENT

The Government, this 12th day of Dec., 1955, hereby consents to the above Assignment without releasing the Assignor, Black Pearl Mining Company, from any of the terms, provisions, and conditions of the Contract.

THE UNITED STATES OF AMERICA

By Frank E. Johnson

ACTING Administrator, Defense Minerals Exploration Administration

Selfridge

In drafting 11/23/55
Lawyers
"Appd Sol. Off."
Chapman
Ment in Chambers

STATE OF ARIZONA, County of Yavapai ss.
I hereby certify that the within instrument was filed and recorded at request of Hillside Mining & Milling Co.
November 2 1955 at 9 o'clock Book 61
558-575(incl.) Records of Yavapai County, Arizona.
WITNESS my hand and official seal this the day and year first above written.
FRANK C. BAUER County Recorder
By Frank C. Bauer XXXXXX

Office of Recorder
"Appd. Sol. Off."

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JAN 16 1956

SUB-LEASE AND ASSIGNMENT OF OPTION

AGREEMENT made as of the 1st day of November, 1955, between BLACK PEARL MINING COMPANY, a corporation, herein called "Lessor", and HILLSIDE MINING & MILLING COMPANY, a corporation, herein called "Lessee",

W I T N E S S E T H:

I

SUB-LEASE OF BLACK PEARL MINE

Lessor hereby subleases to Lessee and Lessee subleases from Lessor all of the following described patented and unpatented lode mining claims known as the "Black Pearl Mine", situate in the Eureka Mining District, Yavapai County, Arizona, together with the numbers of book and page of the records in the office of the County Recorder of Yavapai County, Arizona, where the U. S. Patents therefor are of record, or where the mining location notices therefor are of record, to wit:

Black Pearl Patented Lode Mining Claims numbered 1, 2, 3, 4, 6, 7 and 8 (mineral Survey 4186) (U.S. Patent No. 1102913)	All recorded in Book 181 of Deeds at pages 551-554
North Side Patented Lode Mining Claims numbered 1, 2, 3 and 5 (Mineral Survey 4186)	All recorded in Book 181 of Deeds at pages 551-554
Black Pearl Unpatented Lode Mining Claims numbered 9, 10, 11 and 12 North Side Unpatented Lode Mining Claim numbered 4	All recorded consecutively as numbered in Book 143 of Mines at pages 148-152

Together with all improvements situate thereon, water and water rights appurtenant thereto and any other rights and privileges appurtenant thereto.

This was ok'd by Pickett & Burger on 1-25-56.

for a term of seven (7) years beginning on November 1, 1955 and ending on October 31, 1962, both dates inclusive, subject to and in accordance with the following terms and provisions:

1. Property rights of Lessor.

(a) Lessor herein is in possession of said patented and unpatented lead mining claims known as the "Black Pearl Mine", as Assignee of that certain mining lease and option to purchase dated April 30,.1951 between John Lawler, Mary Lawler, James E. Harrington and Kathryn I. Harrington, his wife, F. H. Lyons and Mary Lyons, his wife, Joseph W. Walton and Florence E. Walton, his wife, as lessors, and E. A. Scholz and Irma R. Scholz, his wife, and J. H. Cazier and Dorothy L. Cazier, his wife, as lessees, as amended by instrument dated August 2, 1954 between said lessors and Black Pearl Mining Company, an Arizona corporation, Lessor herein, copies of which lease and amendment have been delivered to Lessee herein, duly initialled by Lessor herein as true and correct copies of said instrument. The said lease and amendment shall be hereinafter referred to as the "Lawler Lease". The agreement herein is made expressly subject to the rights of the Lessors of the lawler lease.

(b) The leased premises are subject to that certain mutual agreement dated February 10, 1951 between R. D. Tripple, as first party, and E. A. Scholz and J. H. Cazier, as second parties, wherein the said Tripple is entitled to a payment of a 1% royalty on the sale of ore or minerals from the leased premises until a total of

$10,000 has been paid. This agreement shall be hereinafter referred to as the "Tripple Agreement".

(c) The leased premises is further subject to the terms and conditions of that certain Exploration Project Contract dated February 2, 1955 between the United States of America acting through the Department of the Interior, Defense Minerals Exploration Administration and Black Pearl Mining Company, an Arizona corporation, wherein as consideration for certain contributions made and to be made by the government, royalties in a sum not to exceed 5% of the gross proceeds on all minerals or concentrates mined or produced from certain areas of the leased premises are payable to the government. This contract shall be herein referred to in this agreement as the "Government Contract".

2. Representations of Lessor.

(a) With respect to the Lawler Lease, Lessor represents and warrants that it is in full force and effect and that no default has been made thereunder. Lessor further represents and warrants that all royalty payments accruing thereunder prior to the effective date of this sublease either have been paid or will be paid in the manner therein provided. If required by Lessee, Lessor agrees to furnish written certification that the Lawler Lease is in full force and effect. Lessor further warrants and represents that it has good right to make this Sublease and Assignment of Option and agrees to give all notices required under the Lawler Lease in connection therewith.

(b) With respect to the Tripple Agreement, Lessor represents that there remains due and unpaid under the terms of said agreement the approximate sum of $8,150 and agrees to

give Lessee herein written certification of the amount unpaid under said agreement as of the effective term of this lease.

(c) With respect to the Government Contract, Lessor represents and warrants that said contract is in full force and effect and agrees to deliver to Lessee all reports, vouchers, and other data heretofore made by Lessor pursuant to the terms of said Government Contract. This Government Contract shall be assigned to Lessee and Lessee shall agree to perform the balance of said Government Contract in accordance with its terms and conditions and shall hold the Lessor harmless from any action under said contract by reason of work performed by Lessee thereunder. All contributions paid by the government for work performed prior to the effective date of this lease shall belong to Lessor and all contributions thereafter paid by the government shall belong to Lessee.

Lessor agrees to secure approval and acceptance of the assignment of the Government Contract to Lessee. If the government does not approve the assignment, all work done by Lessee under said contract shall be as an independent contractor of the Lessor and Lessor agrees to pay over to Lessee all contributions received by reason of the work performed by Lessee, provided that such payment shall not be contrary to the provisions of the government contract. If payments to Lessee be prohibited by the government, then the cost of all work performed under said contract for which the government makes contribution to Lessor shall be credited, to the extent of said contributions, against the royalty payments otherwise payable under the terms of this sublease.

3. Mining.

All work done upon said premises by Lessee shall be done in a good and workmanlike manner and after the manner of good mining. All works, where necessary or where directed by the State Mine Inspector or his deputy, shall be timbered properly and substantially, and with the view of development of said property into a workable mine. All mine openings shall be kept clear of obstructions, and in a condition so that they may be entered, except such openings as are now caved in and are not necessary for future operations of the Lessee, and future openings which are caved in the course of ordinary mining operations. The laws of the State of Arizona and all requirements of the State Mine Inspector shall be complied with promptly. The extent and character of the mining operations shall be determined solely by Lessee.

4. Minimum Work.

Lessee agrees to perform not less than two hundred forty 8-hour per day man shifts each month on the leased premises during the term of this sublease, except where prevented by force majeure. One hundred fifty of such shifts shall be performed under the Government Contract until completion of said contract.

If the return realized per short ton unit (20 pounds) of WO_3 in a 65% WO_3 penalty free concentrate falls below $40.00 (including all premiums and other bonuses), the work requirement shall be reduced to sixty 8-hour per day man shifts each month during the period of time that the return realized is below $40.00 per unit, except that in no event

shall the work requirement be less than one hundred fifty 8-hour per day man shifts each month until completion of the Government Contract.

The term "force majeure" as herein applied shall include Acts of God, fire, climatic conditions, shortage of water, strikes, failure of transportation facilities, rules, regulations or orders of the State, Federal or other governmental bodies, litigation, or unavoidable breakdown, provided reasonable diligence in curing such breakdowns is exercised.

5. Royalty Payments.

Lessee agrees to make all royalty payments due under the Lawler Lease, Tripple Agreement and Government Contract at the times and in the manner therein provided, and in addition, as consideration for this sublease agreement, agrees to pay to Lessor royalty payments of 10% of the gross proceeds from the production of minerals mined and sold from the leased premises. "Gross Proceeds" is hereby defined to mean the proceeds (including any bonuses, premiums, allowances or other monetary benefits) received from the sale of the minerals, ores, concentrates, or other products produced from the leased premises and delivered to the point of sale; except that charges of the buyer arising in the regular course of business and shown as deductions on the buyer's settlement sheets, on account of the costs of treatment processes performed by the buyer, sampling and assaying to determine the value of the production sold, and rail freight paid by the buyer or Lessee to a carrier, shall be allowed as deductions in arriving at the "gross proceeds" as

that term is used herein. Any costs, except rail freight, of treatment processes, milling, sampling, assaying or other costs performed or paid by the Lessee or by any other than the buyer, are not deductible in arriving at the gross proceeds as that term is here used.

Lessee further agrees to direct the buyer to furnish the Bank of Arizona, Prescott, Arizona, with a copy of the settlement sheet respecting each shipment, and in the event that the production from the leased premises are co-mingled with other production by Lessee, Lessee shall furnish said bank a verified affidavit as to the portion of each co-mingled shipment representing the production from the leased premises.

All proceeds payable to Lessee on the production from the leased premises shall be assigned to the Valley National Bank at such office as Lessee may determine, and said bank shall be authorized and instructed by Lessee to make all royalty payment due hereunder direct to the respective parties immediately upon receipt of such proceeds.

6. Purchase of Personal Property.

Lessee agrees to purchase all consumable operating supplies presently located on the leased premises and owned by Lessor at such price as the parties hereto may mutually agree upon.

Lessee shall have the right to purchase all or any portion of the machinery, tools and equipment owned by Lessor at such price as may be mutually agreed upon. If Lessee elects not to purchase any portion of said property, Lessor shall have the right to store said property on the leased

premises in a 12' x 16' cabin situate thereon or at such other place as may be designated by Lessee, provided that Lessor shall store the property by December 1, 1955 at its own cost. Prior to such storage, Lessee may use said property and shall pay rentals therefor at rates commensurate with the rates charged for rentals of like property for a period of three months, and if Lessor fails to store the property, no rentals shall accrue after December 1, 1955 for any use thereof by Lessee, except property covered by written rental agreements.

7. Purchase of Production.

Lessor agrees to assign its interest in the jig hutch and magnetic separator tails located on the leased premises as of October 1, 1955 at a price of $12,500, payable upon execution of this agreement, and Lessee shall be relieved of royalty payments to Lessor on the first $12,500 received by Lessee from ores, concentrates, and other products produced and sold from the leased premises, Lessor shall pay all royalty payments due under the government contract for Tungsten contained in said jig hutch and magnetic separator tails.

All other ore or concentrates produced by Lessor prior to November 1, 1955 shall remain the property of Lessor and Lessor shall have a reasonable time after said date in which to mill and remove said ore and concentrates.

8. Taxes.

The Lessee at all times during the life of this agreement shall pay promptly all taxes that have been or may be levied upon said mining claims or on machinery and equipment thereon owned by Lessee. The first installment of taxes

for the year 1955 shall be paid by Lessor, and the first installment of taxes for the year 1962, if this lease has not been theretofore terminated, shall be paid by Lessee, in order to effect an apportionment of taxes between the parties during the years in which this lease begins and ends.

9. Notice of Non-Liability.

Lessee agrees to record and to post on the premises prior to commencing any operations thereon under this lease, and to use reasonable care to keep posted at its own cost and expense, a notice, as provided by law, that the said Lessee is responsible for all claims and demands in connection with the operation of said property, and that the Lessor and said property are not liable for any claims or liens resulting from any such operations. All miners, laborers, and other persons who may labor or furnish any labor or materials in, for or upon said premises during the life of this agreement, and to whom any sum may be due from the Lessee for such labor or materials, shall be promptly paid by the Lessee. It is stipulated and agreed that should Lessee fail to fully complete and perform the condition hereinabove set forth with respect to the posting and recording of the notices of non-liability, such failure shall terminate and end any right, interest, claim or title that Lessee may have in or to said premises or any part thereof, and shall terminate this lease forthwith.

10. Liability for Injuries.

The Lessee hereby assumes any and all liabilities arising or to arise from accident, or injuries to its agents or employees or any other person in or about the premises, while the same are in the possession of the Lessee, and the

Lessor shall be indemified against any liability or responsibility for or on account of any such injuries, it being understood that the hazard of all such liability or liabilities is taken into consideration by the parties hereto fixing the consideration under this agreement.

11. Insurance.

The Lessee shall at all times during the life of this agreement carry and maintain liability insurance under the Workmen's Compensation Law and Occupational Disease Liability Law of the State of Arizona, satisfactory to the Industrial Commission of the State of Arizona.

12. Inspection.

The Lessor, through any duly authorized representative, shall have the right to enter upon said premises or any part thereof, and to inspect the same at any time during the life of this agreement, at Lessor's risk, and shall have the right to inspect the records of the Lessee, insofar as the same cover shipment of ores and concentrates, at any reasonable time, but without unreasonable inconvenience to the Lessee.

13. Records and Maps.

Lessee shall furnish the Lessor copies of all logs or results of any drilling or any other development work performed, and copies of all maps, records or blueprints which may relate to said mining property that may be made by or for the Lessee, together with all other records and data furnished under the Government Contract.

14. Assessment Work.

The Lessee shall perform at its own expense the annual assessment work on the unpatented mining claims hereinabove described for each year during the life of this

lessee, if assessment work is required by law, and shall complete such work on or before the first day of May of each year, and furnish Lessor proper proof thereof in a form sufficient to be recorded on or before June 15th of each year, provided, however, that if this lease is terminated, and notice of such termination is given to Lessor prior to the 31st day of December of any calendar year, lessee shall not be required to perform the assessment work for the assessment year ending on the succeeding July 1st.

15. Title.

Lessee agrees to furnish at its own expense a title policy in the sum of $1,000 on the property showing, as of the date of this agreement, good and merchantable title in and to all of the mining claims hereinabove described, vested in the lessors of the Lawler lease, free and clear of all liens, encumbrances or claims of whatsoever character, except taxes for the year 1955. Lessor covenants and agrees to warrant and defend the Lessee in the undisturbed use and enjoyment of said leased premises, subject to the paramount title of the United States and compliance by lessee with the terms and conditions of this agreement and the Lawler Lease.

16. Ore Removal.

All ores mined and placed on the dumps of said property by the lessee during the life of this agreement may be removed and shipped by the Lessee in the event of a termination of this contract, but such ores shall be removed within sixty (60) days after such termination, and shall be subject to royalty payments as hereinabove provided. In the

event such ores are not removed within said period as herein provided, title thereto shall thereupon vest in the Lessor, free of any claim or charge of the Lessee.

17. Machinery - Removal.

All machinery, equipment, and personal property, together with all improvements (including houses and other structures) which may be placed on said mining property by and at the expense of the Lessee, may be removed by it at any time within ninety (90) days after the termination of this agreement; provided, however,

(a) That such right of removal shall not extend to rails, pipes, ladders, timbers or ties in place underground;

(b) That no such property shall be removed at any time while the lessee may be in default under the terms and provisions of this agreement; and

(c) The removal shall be effected in such manner as to avoid unnecessary injury or damage to the mine and improvements that are to remain therein.

18. Default.

In the event Lessee shall make default in any of the terms or provisions hereinabove contained, except payment of royalties, then the Lessor may terminate this agreement upon forty-five (45) days' notice to the Lessee of its intention to declare this agreement at an end. If the lessee shall fail, within the forty-five (45) days, to correct and make good any violations of the terms and provisions of this agreement, on account of which such notice of default had been given, then and thereupon this agreement shall terminate. In such event, all sums paid by

lessee to Lessor or for Lessor's account under this agreement shall belong to Lessor as rental or as liquidated damages.

19. Voluntary Termination.

The Lessee may cease operations and may terminate all further liability hereunder by ninety (90) days' written notice to the Lessor of its election to terminate said agreement.

20. Surrender of Possession.

In the event of a termination of this agreement, except pursuant to the provisions of paragraph 22 below, Lessee shall forthwith deliver to the Lessor the peaceable possession of said premises, and shall be relieved of any further liability hereunder, but in no event shall the Lessee be discharged from any obligation in favor of the Lessor that may have accrued under the terms of this agreement prior to the termination thereof.

21. Notices.

All notices provided for herein may be given in writing by personal delivery of said notice, or may be given by registered mail addressed to Lessor, c/o Bank of Arizona, Prescott, Arizona, and to the Lessee, c/o Snell & Wilmer, 400 Security Building, Phoenix, Arizona, and said period of notice shall run from the date of mailing said notices or from the date of personal delivery thereof. Either party may change the address to which said notices are to be sent by notice in writing.

22. Exercise of Option.

In the event that Lessee exercises the option hereinafter described and makes the payments provided for,

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this lease shall immediately cease and determine and shall be of no further force or effect.

II

ASSIGNMENT OF OPTION

In consideration of the sum of One Dollar ($1.00) and other good and valuable consideration herein contained, the receipt of which is hereby acknowledged, the Lessor, holding an option to purchase the patented and unpatented mining claims described in the foregoing lease by virtue of the above mentioned lease and option to purchase agreement, dated April 30, 1951, referred to as the "Lawler Lease", does hereby sell and assign said option to purchase said patented and unpatented mining claims to Lessee, upon the following terms and conditions:

1. If Lessee exercises said option, it shall pay, in addition to all sums payable under the terms of said option and Tripple Agreement, the sum of Two Hundred Fifty Thousand Dollars ($250,000.00) to Lessor as additional consideration for this assignment, provided, however, that if Lessee does not exercise said option on or before November 1, 1956, the additional consideration payable to Lessor in the event that said option is exercised after said date shall be the sum of Five Hundred Thousand Dollars ($500,000.00). The additional consideration to Lessor as herein provided shall be payable only in the event that Lessee exercises said option and not otherwise.

2. Application of Royalty Payments.

All royalty payments accruing pursuant to the

terms of the above lease and payable to Lessor shall be credited against the additional consideration payable to Lessor hereunder.

Lessor represents and warrants that certain royalty payments made under the Lawler Lease have been credited against the purchase price of the option therein set forth and that as of November 1, 1955, the purchase price for said option shall have been reduced to the approximate sum of One Hundred Thirty Thousand Dollars ($130,000.00) by reason of the royalty payments theretofore made. Lessor agrees to furnish Lessee the certificate of the Bank of Arizona showing the amount of royalty payments made which have been credited against the said option price.

3. Term of Option.

In the event that said option is not exercised by Lessee during the term of the above lease or prior to any earlier termination thereof, then this assignment shall terminate also with like force and effect as if this assignment had never existed.

4. Escrow.

All papers, deeds, assignments, releases, waivers, or any other instruments that may be necessary or appropriate to carry out the terms of this assignment of option shall be executed by the respective parties and shall be deposited in escrow with the Bank of Arizona, in Prescott, Arizona, together with an executed copy of this sublease and assignment of option. Upon performance by Lessee of all of the terms and conditions of this assignment as herein expressed, including payment to the said escrow agent of the purchase prices of this option for the account of the respective

parties, the escrow agent is authorized and instructed to deliver to Lessee all papers and other instruments in escrow. If the option is not exercised, the escrow agent is authorized and instructed to deliver said instruments to Lessor. The escrow charges in connection with this escrow shall be divided equally between the parties.

Lessor represents and warrants that all necessary documents and instruments have been deposited in escrow under the Lawler Lease to show a clear chain of title to Lessor and Lessor agrees to secure from the escrow agent under the Lawler Lease a certificate verifying this fact.

III

MISCELLANEOUS

1. Execution.

The date of this agreement shall be the actual date of the execution of this agreement by the parties hereto, and if the parties shall execute the same on a different date, the effective date of this agreement shall be the actual date of the signing of this agreement by the party hereto last executing this agreement.

2. Benefits.

Time is of the essence hereof, and all the terms and provisions herein contained extend to and are binding upon the successors and assignees of the respective parties hereto.

3. Release.

Upon the surrender or cancellation of this agreement as hereinabove provided, Lessee shall execute and deliver

to the Lessor a good and sufficient release of this agreement and of the lease and option hereinabove granted.

IN WITNESS WHEREOF, the parties hereto have executed these presents as of the day and year first hereinabove named, through their proper officers being first thereto duly authorized.

BLACK PEARL MINING COMPANY

By Edgar A. Scholz
President

ATTEST:

J. H. Cazier
Secretary

HILLSIDE MINING & MILLING COMPANY

By J. C. Lincoln

George W. Colville
Secretary

STATE OF ARIZONA)
) ss.
COUNTY OF YAVAPAI)

On this, the 1st day of November, 1955, before me, the undersigned Notary Public, personally appeared E. A. SCHOLZ and J. H. CAZIER, who acknowledged themselves to be the President and Secretary respectively of BLACK PEARL MINING COMPANY, a corporation, and that they as such President and Secretary, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by signing the name of the corporation by themselves as such officers.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Jean Dickson
Notary Public

My Commission Expires:
May 2, 1956

BOOK 61 PAGE 574

STATE OF ARIZONA)
COUNTY OF MARICOPA) ss.

On this, the 1st day of November, 1955, before me, MARY KAVANAUGH, the undersigned Notary Public, personally appeared J. C. LINCOLN, who acknowledged himself to be the President of HILLSIDE MINING AND MILLING COMPANY, a corporation, and he, as such President, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by signing the name of the corporation by himself as President.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Mary Kavanaugh
Notary Public

My Commission Expires:

June 16, 1959

STATE OF ARIZONA)
COUNTY OF YAVAPAI) ss.

On this, the 1st day of November, 1955, before me, Helen L. Baum, the undersigned Notary Public, personally appeared GEORGE W. COLVILLE, who acknowledged himself to be the Secretary of HILLSIDE MINING AND MILLING COMPANY, a corporation, and that he, as such Secretary, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by signing the name of the corporation by himself as Secretary.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Helen L. Baum
Notary Public

My Commission Expires:

7-12-57

BOOK 61 PAGE 575

Docket copy

Pontin
Morgan
Chapman
Martin
Fisher
Chamberlin
Selfridge

JAN 14 1957
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222

EXPLORATION PROJECT CONTRACT
HILLSIDE MINING AND MILLING COMPANY, ASSIGNEE
DOCKET NO. DMEA 3448

AMENDMENT NO. 4

It is agreed this 28th day of December, 1956, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and Hillside Mining and Milling Company, assignee of Black Pearl Mining Company, that Exploration Project Contract No. Idm-E763 (Docket No. DMEA 3448), dated February 2, 1955, as amended, is further amended as follows:

1. (a) Work under this Contract shall be further suspended from October 31, 1956, to May 2, 1957.

(b) No costs incurred by the Operator during the period of suspension shall be allowable for contribution by the Government.

(c) The Government shall not contribute to any costs of rehabilitation or repair which in its opinion would not have occurred had there been no suspension of work.

(d) The Operator, at its own cost and expense, without contribution by the Government, during the period of suspension shall preserve the project work and any property in which the Government has an interest.

2. The period for completion of the work is extended to May 2, 1958.

3. The maximum period for payment of royalty and liens for the payment thereof, provided for in the Contract, is further increased from twelve (12) years to thirteen (13) years from the date of the Contract.

This amendment shall not be construed to increase the estimated total cost of the project, the total amount which the Government may be required to contribute, the fixed unit costs of any item of work, nor any item of allowable cost which is expressly designated "maximum."

Executed in sextuplicate the day and year first above written.

HILLSIDE MINING AND MILLING COMPANY

By Robert C. Bogart
Secretary

THE UNITED STATES OF AMERICA

By O. Meredith
Administrator, Defense Minerals Exploration Administration

Do

Butler
Sawyer
Appd. Sol. Off.
Chapman
Martin
Chapman
Selfridge

EXPLORATION PROJECT CONTRACT
HILLSIDE MINING AND MILLING COMPANY, ASSIGNEE
DOCKET NO. DMEA-3448

Amendment No. 3

It is agreed this 26th day of October, 1956, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and Hillside Mining and Milling Company, assignee of Black Pearl Mining Company, that Exploration Project Contract No. Idm-8763, (Docket No. DMEA-3448), dated February 2, 1955, as amended, is further amended as follows:

1. (a) Work under this Contract shall be suspended during the period beginning July 31, 1956, and ending not later than October 31, 1956.

(b) No costs incurred by the Operator during the period of suspension shall be allowable for contribution by the Government.

(c) The Government shall not contribute to any costs of rehabilitation or repair which in its opinion would not have occurred had there been no suspension of work.

(d) The Operator, at its own cost and expense, without contribution by the Government, during the period of suspension shall preserve the project work and any property in which the Government has an interest.

2. The period for completion of the work is extended to October 31, 1957.

3. The maximum period for payment of royalty and liens for the payment thereof, provided for in the Contract, is increased to twelve (12) years from the date of the Contract.

This amendment shall not be construed to increase the estimated total cost of the project, the total amount which the Government may be required to contribute, the fixed unit cost of any item of work, nor any item of allowable cost which is expressly designated "maximum."

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C. Mattesdorf
Administrator, Defense Minerals
Exploration Administration

HILLSIDE MINING AND MILLING
COMPANY

By Robert C. Bogard
Secretary

Docket copy

EXPLORATION PROJECT CONTRACT
HILLSIDE MINING AND MILLING COMPANY, ASSIGNEE
DOCKET NO. DMEA-3448

Chambers

Indrutz 6/22/56
Dungan
"Appd. Sel. Off."
Holt
Martin
Selfridge
Feldman

Amendment No. 2

It is agreed this 28th day of June, 1956, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and Hillside Mining and Milling Company, assignee of Black Pearl Mining Company, that Exploration Project Contract No. Idm-E763, Docket No. DMEA-3448, dated February 2, 1955, first entered into between the Government and Black Pearl Mining Company, as amended, is further amended as follows:

1. In Article 3 of the Contract, the period for completion of the work is extended from June 30, 1956, to May 31, 1957.

2. The maximum period for payment of royalty and lien for the payment thereof, provided for in the Contract, is increased to eleven years from the date of the Contract.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, the fixed unit cost of any item of work, nor any item of allowable cost which is expressly designated "maximum".

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C P Mitteudorf
Administrator, Defense Minerals
Exploration Administration

HILLSIDE MINING AND MILLING CO.

By Robert C. Bogart

Title Secretary

RECEIVED
JUL 13 1956

Docket copy

EXPLORATION PROJECT CONTRACT
HILLSIDE MINING AND MILLING COMPANY, Assignee
DOCKET NO. DMEA-3448

Justification for Amendment No. 2

On May 18, 1956, the Operator requested that the Field Team approve performance of the work outlined in items 11 through 16 of the captioned contract, and requested that the time for completion of contract be extended by 11 months.

The Field Team, by letter of June 7, 1956, granted the Operator's request for approval to perform the work noted, but informed the Operator that it was not within the delegated authority of the Field Team to grant the extension of time to complete the contract.

Amendment No. 2 extends the time for completion of the contract, in accordance with the Operator's request, and also extends the repayment period by one year, to include the added time allowed for completion.

Docket Copy

EXPLORATION PROJECT CONTRACT
BLACK PEARL MINING COMPANY
DOCKET NO. DMEA-3448
CONTRACT NO. Idm-E763

AMENDMENT NO. 1

It is agreed this 16th day of September, 1955, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and the Black Pearl Mining Company, that Exploration Project Contract No. Idm-E763 (Docket No. DMEA-3448), is amended as follows:

1. In Annex II, paragraph 1, insert the following words after the comma on the third line:

"a point 80 feet east of the cut-off plane on the adit level indicated on Figure 3,"

2. In Exhibit "A", under Fixed Unit Costs:

(a) Under Stage I, after "Timbering 800 feet" add "of drift and crosscut".

(b) Under Stage II, after "Timbering 800 feet" add "of drift and crosscut".

This amendment shall not be construed to increase the estimated cost of the project, the aggregate total amount which the Government may be required to contribute, the amount of any item designated as maximum, or the Fixed Unit Cost of any item of work.

UNITED STATES OF AMERICA

By C O Mathews
Administrator, Defense Minerals
Exploration Administration

BLACK PEARL MINING COMPANY

By Edgar A. Scholz

Potts
"Appd. Sol. Off."
Martin
Tallent
Chapman
Selfridge
F L Johnson

Docket Copy

DMEA
FEB 4 1955

MF-200
(Revised June 1954)

Docket No. DMEA-3448

Commodity Tungsten

Contract No. Idm-E-763

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

EXPLORATION PROJECT CONTRACT[1]

It is agreed this 2nd day of February, 1955, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Black Pearl Mining Company, an Arizona Corporation, whose mailing address is Box 248, Bagdad, Arizona, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200), the attached Exhibit "A," Annex I, and Annex II

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of Arizona, County of Yavapai, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] See Annex I of [5] See Annex I in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a [6] ____, [7] ____ recorded in Book ____, page ____, official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: See Annex I

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of any holder of the legal title

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

of the land (lessor, seller, optionor, etc.), are attached, as follows: Owner's Consent to Lien

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 8, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 8(b)(1).

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of Tungsten. The work to be performed is described in Exhibit "A." The Operator on or before [illegible] shall commence the work, and on or before June 30, 1956 (unless the Operator's obligation to prosecute the work is terminated—see Article 10) shall either have completed the work or shall have incurred allowable costs (see Article 6) in a sum not less than the estimated total allowable cost set forth in Exhibit "A."

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Independent contracts.*—To the extent that the allowable costs are estimated in Exhibit "A" with express reference to performance by independent contractors on a unit-price basis (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations), the work may be so performed; but if the reference in Exhibit "A" to any such independent contract requires the Government's approval thereof, payments under such contract will not be allowable costs unless the Government gives its written approval of the contract. Any such independent contract shall refer to some specific and identifiable part of the work, and shall be subject to all of the pertinent terms and conditions of this exploration contract; but the Government shall not be considered a party thereto, and its rights under this contract, including the right to terminate its contributions, shall not be affected thereby. Regardless of the provisions of any such independent contract and regardless of the Government's approval thereof, the Government will participate in payments to the independent contractor only on account of work performed in accordance with the provisions of this exploration project contract, and only to the extent that the Government deems the unit prices for the work under the independent contract to be reasonable.

(c) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—The estimated total allowable cost of the project, set forth in Exhibit "A," is the sum of $127,285.00. The Government shall contribute 75 percent of the allowable costs as they are incurred in a total sum not in excess of $95,463.75: *Provided,* That until the Operator has rendered to the Government his final report, and any final 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 10 percent of the estimated total cost of the work or not in excess of the amount of the Government's contribution to the cost of property which is or may become subject to disposal as provided in Article 9(c), whichever is greater. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 7(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. "Costs incurred" mean costs that have been paid or have become due and payable, or that in the opinion of the Government have become an obligation. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Estimated costs.*—(a) *Categories of costs.*—The allowable costs of the work to which the Government shall contribute are limited to those that are direct, reasonable, necessary, and that are estimated in Exhibit "A" by categories as specified in this article. If any category or subcategory is omitted from the estimate of costs, or if the word "none" is annexed to the listing thereof, costs under such category or subcategory are not allowable. Any excess over any estimate which is indicated as the maximum of any category, subcategory, or item, either as to requirement or related cost, and any excess over the estimated total allowable cost of the work, shall not be allowable. Any excess over the estimate of any category, subcategory, or item, either as to requirement or related cost, not indicated as a maximum shall be allowable within the limit of the estimated total allowable cost of the work. To the extent that excesses over maximums other than the estimated total allowable cost of the work may be necessary for the performance of the work, the Operator shall incur such excesses for his own account without contribution by the Government; but except for any such necessary excesses in categories, subcategories, or items thereunder the Operator is not obligated to incur more than his agreed percentage of the estimated, total allowable cost of the work.

To the extent specified in this article or in Exhibit "A" the following categories, subcategories, and elements thereof are maximums; but if not so specified either here or in Exhibit "A" they are not maximums, and may be exceeded within the limit of the estimated total allowable cost of the work:

CATEGORY (1)—INDEPENDENT CONTRACTS.—Work to be performed under independent contracts (see Article 4(b)). The estimated total amount of this category and the estimated cost of each unit of work for performance under an independent contract are maximums.

CATEGORY (2)—PERSONAL SERVICES.

Subcategory (a)—Supervision.—All elements of this subcategory (number of supervisors, periods of employment, rates of pay, and total) are maximums.

Subcategory (b)—Technical services.—All elements of this subcategory (number of technicians, periods of employment, rates of pay, and total) are maximums.

Subcategory (c)—Labor.

CATEGORY (3)—OPERATING MATERIALS AND SUPPLIES.—Includes such items as drill bits and steel, explosives, fuel, pipe, power, small tools costing less than $50 each, timber, track.

CATEGORY (4)—OPERATING EQUIPMENT.

Subcategory (a)—Rental.—The number of each object to be rented [6 mine cars, 1 truck], the rate of rental [$100 per month, $5 per hour], and the total of this subcategory are maximums.

Subcategory (b)—Purchases.—The estimated total of this subcategory is a maximum.

Subcategory (c)—Depreciation.—All elements of this subcategory (time periods, rate of depreciation, and subcategory total) are maximums.

CATEGORY (5)—INITIAL REHABILITATION AND REPAIRS.—Estimates under this category include all requirements and related costs, such as labor, materials and supplies, and supervision at a rate not higher than provided for in Category (2), and shall not be duplicated under any other category. The estimated total of this category is a maximum.

Subcategory (a)—Initial rehabilitation and repairs of existing buildings, fixtures, and installations (exclusive of mine workings).—The estimated total of this subcategory is a maximum.

Subcategory (b)—Initial rehabilitation and repairs of operating equipment.—The estimated total of this subcategory is a maximum.

CATEGORY (6)—NEW BUILDINGS, FIXTURES, AND INSTALLATIONS (EXCLUSIVE OF MINE WORKINGS).—Estimates under this category include all requirements and related costs, such as labor, materials and supplies, and supervision at a rate not higher than provided for in Category (2), and shall not be duplicated under any other category. The estimated total of this category is a maximum.

CATEGORY (7)—MISCELLANEOUS.—Repairs and maintenance (other than initial) of operating equipment, analytical work, prints and other reproductions, accounting, Operator's share of payroll taxes, liability insurance covering employment, travel, communications, and any other items of requirement or cost that do not fall within any of the first 6 categories.

THE ESTIMATED TOTAL ALLOWABLE COST of the work is a maximum.

(b) *Nonallowable costs.*—The following costs are not allowable for contribution by the Government:

(1) *Costs of the land,* such as rental, depreciation, depletion, or other cost of acquiring, owning, or holding possession;

(2) *Indirect costs,* such as general overhead, corporate management, interest, taxes (other than payroll and sales taxes), insurance (other than liability insurance covering employment), damages to persons, damages to property (other than necessary repairs or replacements of equipment or other property used in the work);

(3) *Previous work* performed or costs incurred before the date of this contract; and

(4) *Deferred payments.*—Any costs incurred by the Operator under any rental-purchase agreement, installment-purchase agreement, or any agreement for the purchase of goods under the provisions of which payment of the full purchase price is deferred more than 90 days from the delivery of the goods; unless the purchase agreement is approved by the Government in writing.

(c) *Reductions in costs.*—The Operator shall account for and give the Government credit for any incidental benefits, credits, or money received in the ordinary course of business in prosecuting the work (as by salvage or sale of materials or equipment, furnishing of room or board, furnishing of power or services to third persons, rebates or discounts on purchases, etc.), in the same ratio in which the Government contributes to costs; and such amounts shall be treated as a reduction in costs incurred so that they are available for use within the limit of the original estimated total cost. This provision does not apply to receipts from production which are subject to the Government's percentage royalty under the provisions of Article 9.

ARTICLE 7. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. If the Government elects to audit said records and accounts relating to the exploration work by certified public accountant, it may do so as a cost of the work to which the Operator shall contribute. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government. If work under this contract is carried on in conjunction with any other operations, or if labor, supervision, services, materials, supplies, equipment, facilities, or other requirements for carrying on the work are also used in connection with other operations, the costs shall be segregated and accounted for on a basis and by methods and accounts that are satisfactory to and approved by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing detailed costs incurred during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and costs incurred for each type of work; and (3) a Narrative Report of the work performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and related costs incurred.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records, or accounts.

ARTICLE 8. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 7) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value therof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½)

percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

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

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 9. *Interests in purchased property.*—(a) *Title and ownership.*—All costs under this contract shall be incurred by the Operator in the Operator's own name and for the Operator's own account; but any property acquired to the cost of which the Government contributes shall belong to the Operator and the Government jointly in proportion to their respective contributions, although title thereto shall be taken in the name of the Operator.

(b) *Preservation of property.*—Until the final disposal of any property in which the Government has an interest the Operator shall preserve and protect same for the best interest of the Government, any reasonable and necessary costs thereof to be treated as an allowable cost of the project. After the completion of the work or termination of the Government's obligation to contribute, or when such property is not in use for or needed for the work, the Operator shall neither use it without the written consent of the Government nor without paying a reasonable rental to be fixed by the Government for its interest.

(c) *Disposal of property.*—Upon the completion of the work or termination of the Government's obligation to contribute to costs, or when the property is no longer needed for the work, the Operator shall promptly dispose of salable or salvageable property in which the Government has an interest for the joint account of the Government and the Operator, either by return to the vendor, by sale to others, or purchase by the Operator or the Government at a price at least as high as could be obtained from others, unless the Government in writing waives its interest in any such property. Without advance approval of the sales price by the Government the Operator shall not sell at any price any item of property the cost of which was more than $500, and shall not sell at less than 25 percent of the purchase price any item of property which cost $500 or less. The Government, in lieu of approving the sales price for any such item, may itself purchase the item at the best price which the Operator is able to obtain or himself cares to give. Property remaining upon any termination of the work shall be considered in groups or categories (such as drill steel, or explosives, or pipe, or rails), and if the original cost of the remaining unexpended portion of any such group or category is less than $50, the Government waives its interest therein. If necessary to accomplish the disposal of any item the Operator shall dismantle and sever it from the land, the cost thereof to be treated as a cost of the project.

(d) *Default of the Operator re disposal.*—If within 90 days after the completion of the work or termination of the Government's obligation to contribute to costs, or after the property is no longer needed for the work, or after such further time as the Government may in writing allow, the Operator has failed to sell or otherwise liquidate or dispose of any property in which the Government has an interest, the Government, at any time prior to final settlement under the contract, may pursue one of the following two courses: (1) the Government, by written notice to the Operator, may place upon such property what in its opinion is a fair valuation thereof, not in excess of the cost less 1.66 percent per month from the

date such property was purchased under this contract to the termination of said 90-day period; and such property shall thereupon be considered and accounted for as having been purchased by the Operator at the valuation so fixed by the Government; or (2) the Government may enter and take possession of such property wherever it may be found, and remove and dispose of it for the joint account of the parties.

ARTICLE 10. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon: (1) the Government shall be free of all obligation to contribute to costs not then incurred other than such as may be allowable under the provisions of the contract as necessary and incidental to winding up, reporting, and accounting; and (2) the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon: (1) the Government shall be relieved of all obligation to contribute to costs not incurred when the notice was given, other than such as may be allowable by the provisions of the contract as necessary and incidental to winding up, reporting, and accounting; and (2) the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 10 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 11. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 12. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 13. *Changes and added provisions.*—

To the extent that costs are set forth in Exhibit "A" as "Fixed Unit Costs" they are in lieu of the actual costs that otherwise would be allowable costs of the project under Article 6 of the contract form.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By O. Mitchell Dow

Administrator, Defense Minerals Exploration Administration

Rutin
Hoffland
Appd. Sol. Off.
Chapman
Martin
Talbot
Selfridge
Johnson

BLACK PEARL MINING COMPANY
(Operator)

By Edgar A. Schultz

I, [illegible], certify that I am the [illegible] secretary of the corporation named as Operator herein; that Edgar A. Schultz who signed this contract on behalf of the Operator, was then President 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.

[illegible]

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70617-1

EXPLORATION PROJECT CONTRACT
BLACK PEARL MINING COMPANY
DOCKET NO. DMSA-3448

ANNEX I

The Operator's interest in the land referred to in Article 2 is held under a lease and option agreement dated April 30, 1951, between all the owners and E. A. Scholz and Irma R. Scholz, which agreement was assigned to the Operator, and under an amendment to said agreement dated August 1954, between all the owners and the Operator, the Operator's rights under these agreements expire October 1, 1964.

The land consists of three patented mining claims recorded at the Court House in Prescott, Yavapai County, Arizona, as follows:

Black Pearl Patented Lode Mining Claims Numbers 1, 2, and 7. (Mineral Survey 4186) (U. S. Patent No. 1108913)	Recorded in Book of Deeds 181, between pages 551-554.

EXPLORATION PROJECT CONTRACT
BLACK PEARL MINING COMPANY
DOCKET NO. DMEA-3448

ANNEX II

Special Agreement Concerning Royalty

It is known to both parties that production has been and may be made from an area of the land described in Annex I. It is not the intention of the parties that royalty be paid on such production, unless said production is extracted or transported through any workings described in Exhibit "A" of this contract in which case it is intended that royalty be paid to the Government.

It is agreed, therefore, that:

1. Production made from that portion of the Black Pearl vein which is above the present adit level and west of a vertical cut-off plane through the present face, shall not be subject to the royalty provisions of the contract, except as provided in paragraph 2 of this Annex.

2. Notwithstanding the provisions of paragraph 1 of this Annex, and regardless of whether a certification of discovery or development is made, royalty shall be payable in the manner set forth in Article 8 of the contract for the period set forth in Article 8 (b) (2) of the contract on all production from the land described in Annex I which is transported or extracted through any workings described in Exhibit "A", provided that in no event shall more than one royalty be due on any production.

EXPLORATION PROJECT CONTRACT
BLACK PEARL MINING COMPANY
DOCKET NO. DMEA-3448

EXHIBIT "A"

Description of the Work

The following figures and maps are attached to and made a part of this contract:

"Figure 1. Location Map - Black Pearl Mine - Yavapai County, Arizona."

"Figure 2. Topographic and claim map - Black Pearl Mine - Yavapai County, Arizona," showing claims included in contract outlined in blue.

"Fig. 3. Longitudinal Section on Vein Looking North - Black Pearl Mine - Yavapai County, Arizona," showing proposed exploration and also including plan and cross-section of the proposed shaft.

This work is divided into two stages, as follows:

Stage I

Preparatory work

1. Prepare site for shaft, shaft house, headframe and hoist.

2. Erect 35 foot, wood headframe with sheave.

3. Erect hoist house, approximately 12 feet by 15 feet and install hoist.

4. Purchase and install buckets, skip, and accessory equipment for the operation/

Exploration work

5. Extend the main adit from the present face 400 feet easterly along the Black Pearl vein.

6. On the footwall side, approximately 50 feet from the Black Pearl vein at or near the point indicated in Figure 3, sink a 2-compartment vertical shaft 150 feet.

7. At a depth of 125 feet in the shaft, cut a station and skip pocket.

8. Crosscut 45 feet from end of station specified in item 7, to cut Black Pearl vein.

9. Drift 400 feet easterly along the Black Pearl vein, from the point where cut under item 8.

10. Sample vein at 5-feet intervals.

Stage II

No work shall be undertaken under this stage without the prior approval of the Government.

11. For purposes of ventilation and safety, raise 125 feet from the 125-foot level along the vein to the adit level, to a point approximately as shown in Figure 3.

12. Extend the vertical shaft an additional 125 feet, to a total depth of 275 feet.

13. At a depth of 250 feet in the shaft, cut a station and skip pocket.

14. Crosscut 60 feet from the end of the station specified in item 13 to the Black Pearl vein.

15. Drift 600 feet easterly and 200 feet westerly along the Black Pearl vein.

16. Sample vein at 5-foot intervals.

Minimum cross-sectional dimensions of the work under the contract shall be as follows:

Drifts, (including adit) and crosscuts, 4½ feet by 6½ feet in the clear of timber.

Raise, 4 feet by 6 feet in the clear of timber.

Vertical shaft, 6 feet by 11 feet in rock section.

Station and skip pocket, 9 feet by 9 feet by 20 feet in rock section.

All work under the contract shall be timbered as necessary.

The location, direction and extent of all work are subject to the approval of the Government.

Estimated Cost of the Project

Stage I

ACTUAL COSTS

Category (1) Independent Contracts		
Bulldozing, 32 hours @ $15.00/hr.	$ 480.00	
		$ 480.00
Category (2) Personal Services		
(a) and (b) Supervision and Technical		
1 Supervisor-Engineer @ $600/mo., 1 month, ½ time	300.00	
(c) Labor		
2 men, 24 days each or 48 days at $16.25 including overtime, 6-day week	780.00	
		$ 1,080.00
Category (3) Operating Material and Supplies		
Small tools, etc.	100.00	
Drill bits and steel	20.00	
Explosives	20.00	
Fuel, and lubricants	20.00	
Track, spikes, fish-plates, ties	50.00	
Pipe	20.00	
		$ 230.00
Category (4) Operating Equipment		
(a) Rental		
None		
(b) Purchases		
1 Gasoline hoist, about 35 H. P.	2,500.00	
Fan with gasoline motor	500.00	
Framing equipment	300.00	
2 sinking buckets, skip, etc.	1,250.00	
Cable	200.00	
		$ 4,750.00

(c) Depreciation
Estimated value equipment
$12,000.00
Used 1 month, 1/60 — 200.00 — $ 200.00

Category (5) Initial Rehabilitation and Repairs
None

Category (6) New Buildings, Fixtures and Installations

Erect Hoist House	500.00	
Erect headframe with sheave	1,500.00	
Installing hoist	300.00	
		$ 2,300.00

Category (7) Miscellaneous

Payroll taxes, Social Security and Compensation insurance	150.00	
Railway freight and trucking	300.00	
General	500.00	
		$ 950.00

Total cost for preparation work — $ 9,990.00

The Government will contribute to the costs of the work requirements listed below on the basis of the Fixed Unit Costs specified therefor, as they accrue, in lieu of actual costs. The Fixed Unit Costs include all costs of the work whatsoever, except the costs of the preparatory work under the first 4 items of Stage I to which the Government will contribute on the basis of actual costs.

FIXED UNIT COSTS

Stage I

Sinking 2-compartment vertical shaft 150 feet @ $130.00/ft.	$19,500.00
Cut station and skip pocket at 185-foot level of shaft 1/	2,000.00
Drifting and crosscutting 845 feet @ $34.00/ft.	28,730.00
Timbering 800 feet @ $7.00/ft.	5,600.00

1/ The completed work constitutes the unit.

Spiling 40 feet @ $20.00/ft. 2/	800.00	
Sampling and assaying, 160 samples @ $5.00 each	800.00	
		$ 57,430.00
Estimated Total Cost of Stage I		$ 67,420.00

Stage II

Raise 125 feet from the 125-foot level on the vein @ $35.00/ft.	4,375.00	
Extend shaft an additional 125 feet @ $130.00/ft.	16,250.00	
Cut station and pocket at the 250-foot level of shaft 1/	2,000.00	
Drifting and crosscutting 860 feet @ $34.00/ft.	29,240.00	
Timbering 800 feet @ $7.00/ft.	5,600.00	
Spiling 80 feet @ $20.00/ft. 2/	1,600.00	
Sampling and assaying 160 samples @ $5.00 each	800.00	
Estimated Total Cost of Stage II		$ 59,865.00
Estimated Total Cost of Project		$127,285.00
Government Participation @ 75%		$ 95,463.75

1/ The completed work constitutes the unit.
2/ The unit cost includes the cost of timbering.

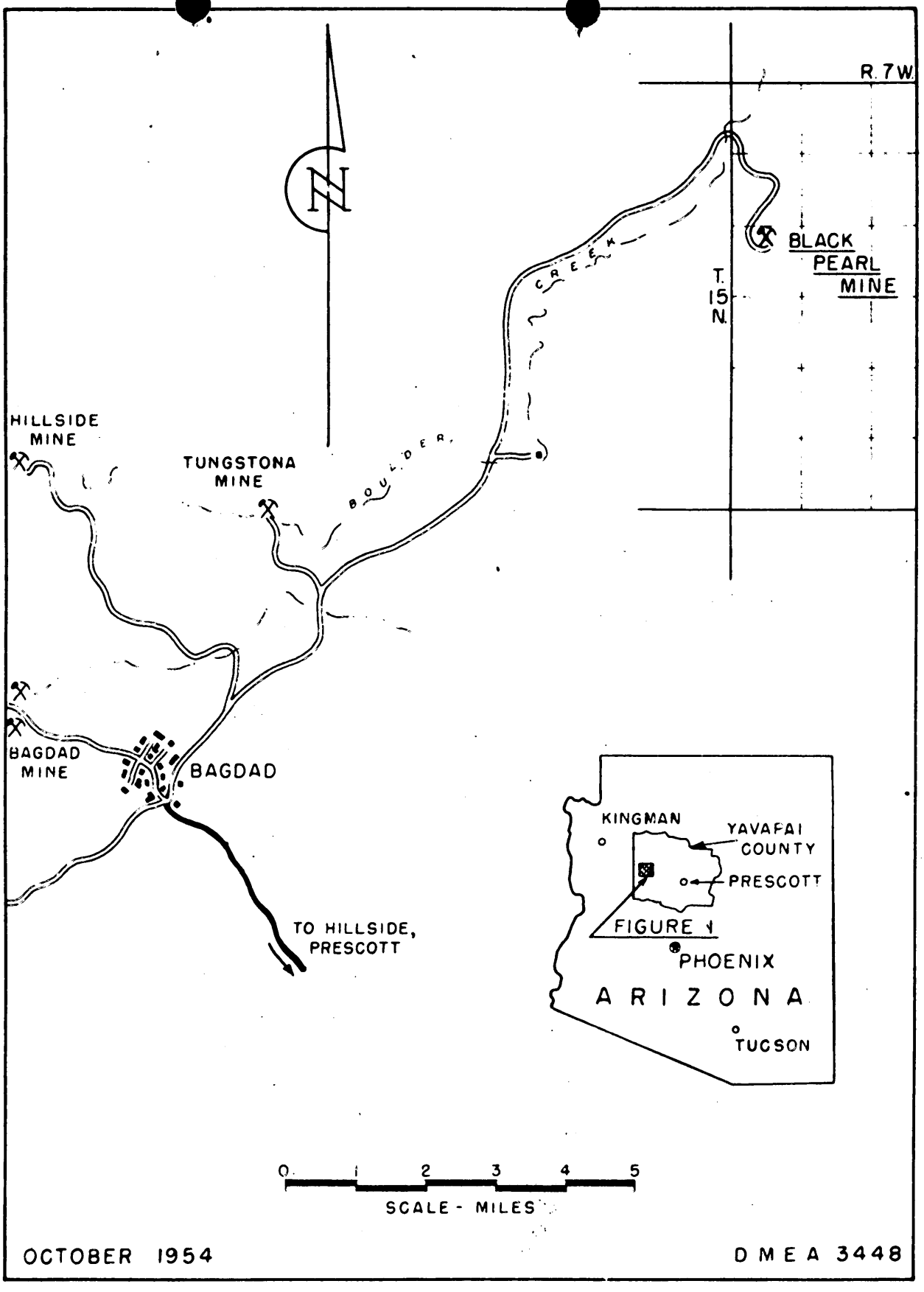


FIGURE 1. - LOCATION MAP - BLACK PEARL MINE
YAVAPAI COUNTY, ARIZONA

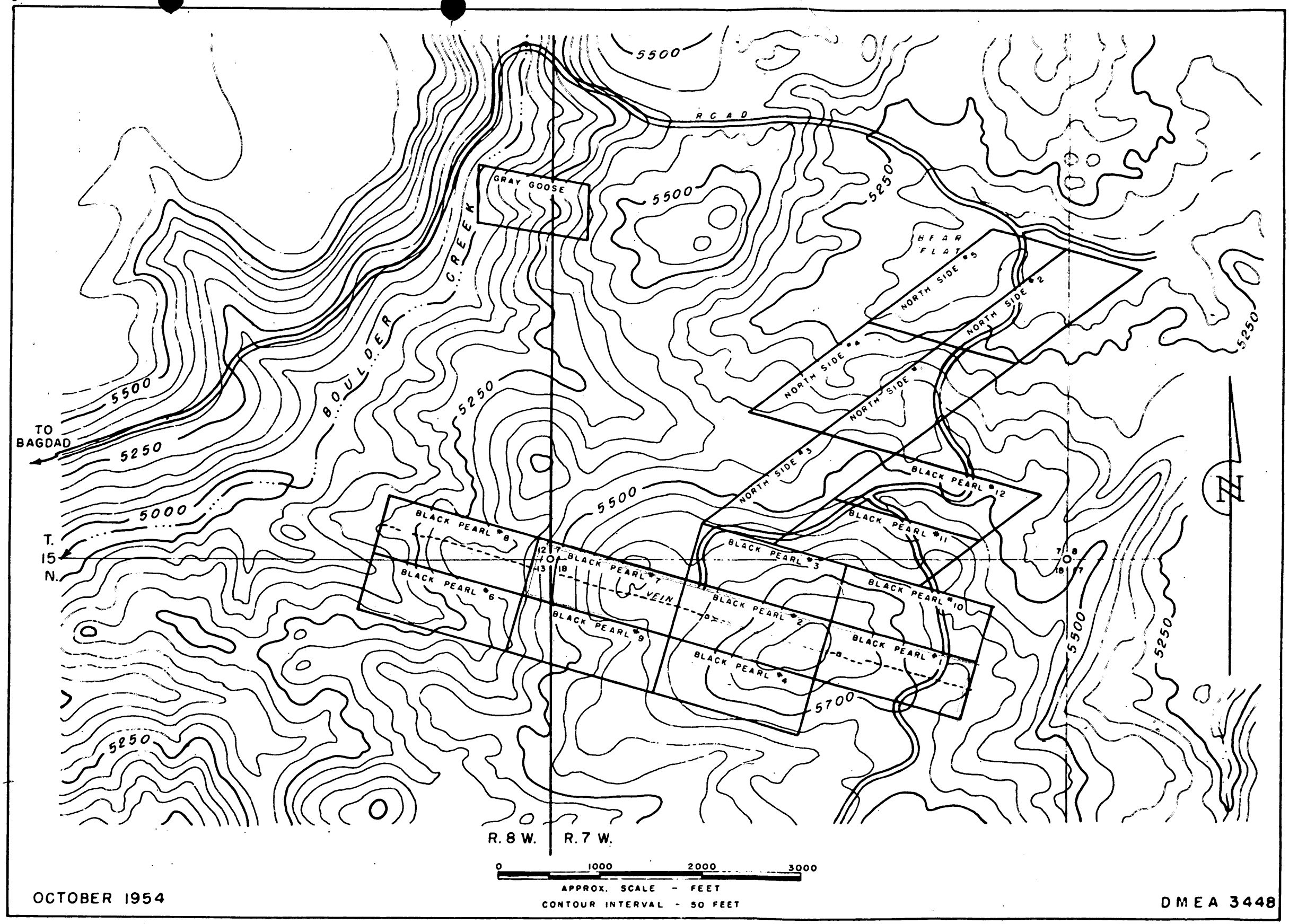
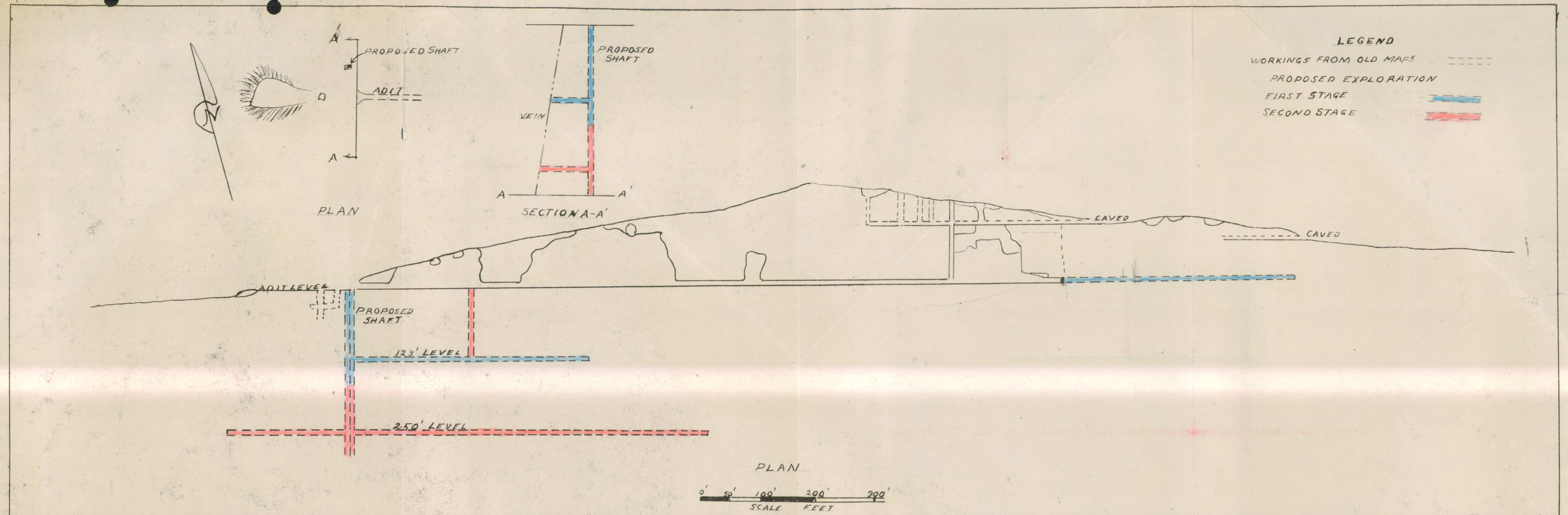


FIGURE 2. - TOPOGRAPHIC AND CLAIM MAP - BLACK PEARL MINE - YAVAPAI COUNTY, ARIZONA



OCTOBER 1954 LONGITUDINAL SECTION ON VEIN LOOKING NORTH BLACK PEARL MINE YAVAPAI COUNTY, ARIZONA DMEA-3448

MF-203
(Revised July 1, 1954)

OWNER'S CONSENT TO LIEN

WHEREAS, the undersigned, as owner, co-owner, lessor, or seller has an interest in certain property in the State of Arizona, County of Yavapai, described as follows:1/ Three patented mining claims recorded at the Court House in Prescott, Yavapai County, Arizona, as follows:

Black Pearl Patented Lode Mining Claim — Recorded in Book of Deeds

Mineral Survey 4100 — 201, Pages 516-517

(U. S. Patent No. 1102913)

which is the subject of a proposed exploration project contract, hereinafter called the "contract", between the United States of America, hereinafter called the "Government", and

2/ Black Pearl Mining Company

Box 710, Kingman, Arizona

hereinafter called the "Operator"; and

WHEREAS, under the provisions of said contract the Government is entitled to a percentage royalty on production and to other rights and equities which do or may conflict with or be adverse to the rights of the undersigned:

NOW THEREFORE, the undersigned, in consideration of said contract and as an inducement to the Government to enter into same, undertakes and agrees as follows:

1. The Government's equity in and right to dismantle, sever, take possession of, and remove and dispose of facilities, buildings, fixtures, equipment, or other items as provided in the contract or any amendment thereof shall prevail over and be prior and superior to any conflicting or adverse rights of the undersigned, and the Government is authorized to enter upon the land for such purposes.

2. To secure the payment to the Government of the percentage royalty on production3/ provided for under the terms of said exploration project contract or any amendment thereof there is hereby granted to the Government a lien upon the land above referred to and upon any production of minerals therefrom until said royalty is fully paid or ten years have elapsed from the date of the contract, whichever occurs first.

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Insert the name of the Operator as it will appear in the exploration project contract.

3/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

(OVER)

3. The undersigned shall commit no act nor assert any claim that may contravene or conflict with the lien, claim, or rights of the Government under the provisions of said contract. This agreement shall be binding upon the heirs, executors, administrators, successors, and assigns of the undersigned.

4. Changes and added provisions _____

Dated this 16, day of February, 1955.

James E. Harrington [Seal]

Kathryn J. Harrington [Seal]

Mary L. Lyons [Seal]

John W. Lowber

Mary Lowber

[illegible]

[illegible]

[illegible]

Dorothy L. Cazier

Edgar A. Schol

Irma R. Schol

BLACK PEARL MINING CO.
BAGDAD, ARIZONA

E. A. SCHOLZ, PRESIDENT
L. K. LINDAHL, VICE PRESIDENT
J. H. CAZIER, SECRETARY-TREASURER

August 11, 1954

Defense Minerals Exploration Administration
U.S. Department of Interior
Interior Building
Washington 25, D.C.

Dear Sirs:

Enclosed please find our Application for Aid in an Exploration Project together with supporting papers as listed in the application.

Please consider this either as a new application or revision of our 1951 application Docket 1506X Black Pearl Mine, Yavapai County Arizona. At the time of approval of that application we were unable to secure the subordination required even though the owners had originally agreed to furnish it. We have in our posession the required subordination for the proposed program and have obtained a longer term lease and option to purchase the property together with the owners agreement to assist us in obtaining an exploration project.

Since the time of our original application we have further developed the property with encouraging results. While the grade of the ore has been found to be somewhat lower than that shown in some of the older reports, we have found the ore to be more continuous than was indicated by surface exposures and the old reports. Our metallurgical results have been quite encouraging too, indicating that an 85% recovery of the tungsten is attainable with a relatively simple plant.

Very truly yours,

J H Cazier

Black Pearl Mining Company

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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. 3448
Metal or Mineral Tungsten
Date Received
Estimated Cost $248,500
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: Black Pearl Mining Company, Box 248, Bagdad, Arizona
An Arizona Corporation -- See attached sheet
Successor to E.A. Scholz and J.H. Cazier Docket 1506X
Black Pearl Mine, Yavapai County Ariz

(*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 Black Pearl Mine, Yavapai County Arizona
See attached sheet

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

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise
10 year lease and option to purchase

(*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. attached

(*e*) If you own the land, describe any liens or encumbrances on it

(*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.

(*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.

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

(*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.

(*c*) The work will start within 15 days and be completed within 24 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.

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.).

(*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.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*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.

(*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.

(*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.

(*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.

(*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)? see attached

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

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

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 August 11, 1954

Black Pearl Mining Company
(Applicant)

By Edgar A. Scholz Pres.

J. H. Lazier Sec.

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

1. Name of Applicant

Black Pearl Mining Company, an Arizona Corporation

E.A. Scholz, Bagdad, Arizona, President

L.K. Lindahl, Hillside Arizona, Vice-President

J. H. Cazier, Bagdad, Arizona, Secretary-Treasurer

Applicant Corporation is the successor to E.A. Scholz and J.H. Cazier who under Docket 1506X Black Pearl Mine, Yavapai County, Arizona secured approval of an exploration project similar to what is now requested but were unable to secure the necessary subordination. The owners have now agreed to an extension of the lease and option period and have consented to and have provided us with a subordination agreement.

3. Applicant's Property rights.

It is proposed to explore the Black Pearl Mine which is held by applicant on a Lease and Option to Purchase dated April 30 1951, expiring May 4, 1959 and amended by a supplemental agreement dated August 2, 1954 extending the expiration date to October 1, 1964 and amending the royalty rate a nd method of calculating royalty therein. This amendment specifically recognizes that we are applying for an exploration grant and agrees that the subordination will be supplied and a subordination agreement has been signed by the owners for our use. Copies of both the Lease and Option to Purchase and Amendment are attached hereto covering the following mining property.

Name of Claim	Recording Data, Yavapai County Arizona
North Side Patented Lode Mining Claims numbered 1,2,3 and 5(Mineral Survey 4186)	All recorded in Book 181 of Deeds at pages 551-554
Black Pearl Patented Lode Mining Claims numbered 1,2,3,4,6,7 and 8 Mineral Survey 4186(U.S.Patent No. 1102913)	All recorded in Book 181 of Deeds at pages 551-554
Black Pearl Unpatented Lode Mining Claims numbered 9,10,11 and 12 and North Side Unpatented Lode Mining Claim numbered 4	All recorded in Book 143 of Mines at Pages 148-152

4. Physical description.

(a) The Black Pearl Mine is developed by a 1230 foot adit on the vein which achieves a depth of 165 feet below the surface and having passed the crest of the hill will have 100 feet or more of backs for the next 200 feet of advance from the present face. The last 670 feet of adit advance was made by the applicant. Previous operators had driven 560 feet and made numerous short adits, shafts and cuts near the surface, all of which are presently inaccessible. The main adit for it's entire length together with a number of raises and stopes are now accessible for examination.

Tungsten mineralization was discovered at the Black Pearl property in 1914. Between that time and when the present operators obtained a Lease and Option on the property in 1951 at least 62,100 lbs. of wolframite averaging 70% WO_3 had been mined. Most of this production came from hand sorting ore produced from shallow workings, pits and residual placers on the vein outcrop except that produced as a result of a sampling program by Mr. Harlow D. Phelps in 1936 when 180 feet of the adit was driven and sampled. Undoubtably additional unreported production was made from the property during this time.

Due to it's remote location and inaccessibility there was no major attempt to develop the property, except the work performed by Phelps, until 1951 when the applicant's operations were started. The applicant in now mining and treating in a jig plant on the property approximately 15 tons of ore per day.

(b) Total reported production from the property prior to inception of the current operation 1951 was 62,100 pounds of 70% WO3 hand sorted concentrate or 2173 units of WO3 from ore reported to have averaged .92% WO3. The applicant has produced and shipped 2803 units of WO3 from their operation of the property. The average grade of the development and stope ore as broken was .50% WO3 with a calculated grade in place of .60% WO3. The tungsten content of the ore broken was determined from the content of concentrate shipped, assay and measurement of the tails and other resulting products and is based on the handling of nearly eight thousand tons of ore. In addition to it's tungsten content the vein also contains approximately 25% pyrite, .12% bismuth as Bismuthinite, .55 ounces of silver associated with the bismuthinite, .05 to .15% BeO as beryl and from 2 to 4% white mica.

The ore reserves of the Black Pearl Mine have been calculated as follows based on the areas shown on the attached section and the grade information obtained from the applicant's operation of the mine:

Measured ore	8,000 tons at 0.65% WO3 10,000 tons at 0.40% WO3
Indicated ore	60,000 tons at 0.59% WO3
Inferred ore	425,000 tons at 0.59% WO3

These figures are believed to be conservative. No vertical change in grade or character of ore has been observed.

(c) The Black Pearl vein is a strong persistent quartz vein averaging three and one half feet in width over an outcrop length of 2000 feet and persisting at a narrower width and with only occasional observed tungsten mineralization several thousand additional feet. The vein trends North 75° West and dips 80 to 85 degrees to the South. The wall rock is coarse grained granite with some greisen consisting mainly of quartz-muscovite having developed along the walls. The main ore mineral is wolframite occurring as equidimensional crystals from 1/8" to 10 inches in cross-section in a coarsely crystalline gangue consisting of approximately 25% pyrite and 70% quartz with muscovite mica, bismuthinite, beryl and feldspar.

It is our desire by the proposed program to establish the continuity and persistence of the orebody at a greater depth and to thus delineate sufficient ore to justify a larger more complete milling plant and equipping for expnded production from the mine.

The following reports and maps are being enclosed to be used in consideration of our application:

Copy of a February 11, 1939 report by Harlow D. Phelps

Print of a section by H.R. Wood showing workings and production to October 1, 1935

20 scale geological plan map of the Black Pearl Mine by J.H. Cazier and E.A. Scholz.

Topographic map of the Bagdad quadrangle showing the location of the Black Pearl Mine and new road mentioned above.

100 scale section showing the proposed work and ore reserve data which is attached to and is a portion of this application.

Copy of an April 30 , 1938 report by J.F. Frost.

(d) The Black Pearl mine is 18 miles by road northeasterly from Bagdad, Arizona the nearest supply and residence point. The first six miles of this road are graded and drained while the last twelve miles are graded, drained and surfaced, this section having been improved under the Government's access road program. The applicant built the pioneer road for the last ten miles of this distance which was later improved as a portion of the Government's program. This road is passible throughout the year except that it might be necessary occasionally to remove snow near the mine or the creek crossings might be impassible for an occasional day during the year due to high water. The nearest railroad station is at Hillside Arizona 42 miles distant.

(e) It is believed that manpower, materials, supplies and equipment will be available as required. The proposed project will be desireable in providing employment. Water is available at Bear Flat from wells and at Boulder Creek about one mile from the mine in quantities sufficient for the proposed program or a milling operation. Power is supplied by internal combustion engines.

5. The Exploration Project

(a) It is proposed to explore for tungsten(wolframite)

(b) The proposed program has logically been divided into three stages each dependent upon the success of the preceeding stage and the agreement to enter into the next stage. The completion of the following program will develop the Black Pearl vein for a strike distance of 1900 feet and to a depth of 250 feet vertically below the present adit.

(1) It is proposed to sink 150 feet of vertical shaft, collared 40 feet in the footwall of the vein and opposite the portal of the main adit, crosscut to the vein on the 125 foot level, perform 400 feet of drifting on that level and raise 120 feet to the adit level.

(2) It is next proposed to sink an additional 125 feet of shaft, crosscut to the vein on the 250 foot level, drift 800 feet and drive one 120 foot raise to the 125 foot level.

(3) The final step to complete the proposed exploration program would consist of an additional 1100 feet of drifting and 820 feet of raises from the 250 foot level. The attached section shows each stage of the proposed exploration program.

(c) The work will start within 15 days and be completed within 24 months from the date of an exploration project contract.

(d) The proposed program would be managed by E.A. Scholz and J. H. Cazier each of whom own one third interest in applicant corporation and whose professional experience has been as follows:

E.A. Scholz

B.S. in Geological Engineering, Montana School of Mines

Geologist, Glacier Production Co.,Cut Bank, Montana 1941-1942

Geologist, U.S. Geological Survey, Washington D.C. 1942-1945

Geologist in Charge of Exploration and Development, Martin Brothers Inc., Butte, Montana 1945-1946

General Manager, Ruby Gulch Mining Co., Zortman Mont. 1946-1948

Gneral Superintendent,Hillside Mining & Milling Co., Bagdad Arizona 1948-1950

Partner in Charge, Copper King Lease(E.A. Scholz & J.H. Cazier) Bagdad, Arizona 1950 to date

Black Pearl Mining Company, Bagdad Arizona 1951 to date

J. H. Cazier

BzS. in Mining Engineering, University of Nevada, Mackay School of Mines

Various project supervisory and management positions, Exploration Department, International Smelting & Refining Co. Salt Lake City Utah 1935-1940

Assistant General Supt. Lexington Mining Co. Neihart, Mont. 1941-1942

General Supt. Callahan Consolidated Mines Inc. Wallace Ida., 1942

Supervising Engineer, Reconstruction Finance Corporation, Phoenix, Arizona and Salt Lake City Utah 1943-1948

Military Leave, Lieutenant U.S.N.R. 1944-1946

General Superintendent Goodwin Mining Co., Bagdad, Ariz. 1948-1949

General Supt. Bagdad Copper Corporation, Bagdad, Ariz 1949-1952

Black Pearl Mining Co. 1952 to date.

6. Estimate of Costs

The proposed exploration program has been estimated to cost as follows:

Preparation

Site preparation, surface tracks etc.	$2,000.00
Headframe and installation	3,500.00
Hoist and installation, hoist house	5,500.00
Skips, cage and other shaft equipment	2,000.00
Pump, ventilating fan, framing equipment etc.	1,500.00
Total preparation	$14,500.00

Stage No. 1

150 feet of shaft sinking at $176.00	$26,400.00
60 foot crosscut and 125' level station	4,200.00
400 feet of drifting and sampling at $55.00	22,000.00
120 foot raise and sampling at $40.00	4,800.00
	$57,400.00
Total through first stage	$71,900.00

Stage No. 2

125 feet of shaft sinking at $176.00	21,000.00
75 foot crosscut and 250' level station	5,300.00
800 feet of drifting and sampling at $55.00	44,000.00
120 feet raise and sampling at $40.00	4,800.00
	$75,100.00
Total through second stage	$147,000.00

Stage No. 3

1100 feet of drifting and sampling at $55.00	$60,500.00
820 feet of raisesand sampling at $50.00	41,000.00
	$101, 500.00
Total proposed program	$248,500.00

The above footage cost estimates are based on our recent drifting experience and shaft sinking costs with which we are familiar and which were performed under similar conditions. All drifts and raises on the vein will have to be timbered. Until the vein has been drained we have found that it will probably be necessary to spile a portion of the drifts. In order to provide reliable grade information each round will have to be crushed and sampled. The cost of doing this has been included above.

The applicant is now equipped and operating the property, Additional equipment as required would be provided by them under the proposed program except that listed under preparation above.

7. The applicant is prepared to furnish their share of the cost of the proposed project by use of equipment, services and money provided by them.

AMENDMENT TO LEASE AND OPTION TO PURCHASE

KNOW ALL MEN BY THESE PRESENTS:

For a valuable consideration each to the other in hand paid, receipt of which is hereby acknowledged, that certain lease and option entered into on the 30th. day of April, 1951, by and between JOHN LAWLER, a single man, MARY LAWLER, a single woman, JAMES E. HARRINGTON and KATHRYN I. HARRINGTON, his wife, F.H. LYONS and MARY LYONS, his wife, JOSEPH W. WALTON and FLORENCE E. WALTON, his wife, as first parties, and E. A. SCHOLZ and IRMA R. SCHOLZ, his wife, and J. H. CAZIER and DOROTHY L. CAZIER, his wife, second parties, which said lease and option to purchase has since been assigned by second parties to the BLACK PEARL MINING COMPANY, an Arizona corporation, is hereby amended in the following respects:

1. The term of said lease is hereby extended from May 4, 1959, to October 1, 1964, which latter date shall be the date of termination of said lease and option in the event the full purchase price of the property, as provided in said lease and option, has not been paid prior to that time.

2. The royalty payments as provided in said lease and option and set out with particularity on pages 2 and 3 of said instrument, are hereby changed from twelve and one-half per cent (12½%) of the net mint, net smelter, net mill or other returns, to ten and one-half per cent (10½%) of the gross proceeds from the production of minerals mined and sold from the property described in said lease and option. "Gross Proceeds" is hereby defined by the parties to mean the proceeds received from the sale of all minerals, ores or concentrates produced from the property described in said lease and option and delivered to the point of sale; except that charges of the buyer arising in the regular course of business

and shown as deductions on the buyer's settlement sheets, shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, milling, sampling, assaying, transportation or other costs performed or paid by the lessee or by any other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is used herein. Provided however, that the royalty payable on the one fourth interest of Mary Lawler shall be and remain (12½%) of the gross proceeds as determined herein.

3. It is recognized by first parties that the lessee has made application or contemplates making application for assistance from the Defense Minerals Exploration Administration to facilitate the exploration and development of the property described in said lease and option and such action on the part of lessee is hereby approved. First parties further agree to execute such instruments as may be required by the Defense Minerals Exploration Administration from first parties to facilitate the granting of assistance as aforesaid, including an owner's consent to lien and subordination agreement.

4. In all other respects said lease dated April 30, 1951, is hereby ratified and confirmed.

IN WITNESS WHEREOF, the parties have hereunto set their hands this_____day of August , 1954

_____
John Lawler

_____
Mary Lawler

_____
James E. Harrington

_____
Kathryn I. Harrington

_____
Mary Lyons

_____
Joseph W. Walton

_____
Florence E. Walton

BLACK PEARL MINING COMPANY, an
Arizona corporation,
By

_____
Its President

ATTEST:

_____
Its Secretary

SECOND PARTY.

LEASE AND OPTION TO PURCHASE

THIS AGREEMENT made and entered into this 30th. day of April, 1951 by and between JOHN LAWLER, as single man, MARY LAWLER, a single woman, JAMES E. HARRINGTON and KATHRYN I. HARRINGTON, his wife, F. H. LYONS and MARY LYONS, his wife, JOSEPH W. WALTON and FLORENCE E. WALTON, his wife, hereinafter termed "First Parties", and E. A. SCHOLZ and IRMA R. SCHOLZ, his wife, and J. H. CAZIER and DOROTHY L. CAZIER, his wife, hereinafter termed "Second Parties", for and in consideration of One and NO/100 DOLLARS ($1.00), and other good and valuable consideration, the receipt whereof is hereby acknowledged, by each party to the other in hand paid, and in consideration of the performance of the covenants and agreements hereinafter set forth, the parties hereto do hereby agree as follows, to-wit:

I

First Parties do hereby grant unto Second Parties the exclusive right and option to purchase and operate the following described patented and unpatented lode mining claims situate in the EUREKA MINING DISTRICT, county of Yavapai, State of Arizona, the names of which, together with the book and page of the records in the office of the County Recorder of Yavapai County, Arizona, where the United States Patents therefor are of record, or where the mining location notices therefor are of record and are as follows, to wit:

Name of Claim	Book	Page
Patented Mining Claims		
Black Pearl Patented Lode Mining Claims numbered 1,2,3,4,6,7 and 8 (mineral Survey 4186) (U.S. Patent No. 1102913)	All recorded in Book 181 of Deeds at pages 551-554	
North Side Patented Lode Mining Claims numbered 1,2, 3 and 5 (Mineral Survey 4186)	All recorded in Book 181 of Deeds at pages 551-554	
Unpatented Mining Claims		
Black Pearl Unpatented Lode Mining Claims numbered 9, 10, 11 and 12	All recorded consecutively as numbered in Book 143 of Mines at pages 148-152	
North Side Unpatented Lode Mining Claim numbered 4		

Together with all improvements situate thereon, water and water rights appurtenant thereto and any other rights and privileges appurtenant thereto.

"The immediately afore-described group of patented and unpatented lode mining claims constitutes and is locally known as the "Black Pearl Group" or Black Pearl Mine" and is, for the purposes of brevity, hereinafter referred to in this Contract, wherever mentioned, as the Black Pearl Mine,") for a total purchase price of ONE HUNDRED SEVENTY*FIVE THOUSAND DOLLARS $175,000.00), bearing no interest, and payable by Second Parties to First Parties on or before May 4, 1959, in the manner and at such times as follows:

Twelve and one-half percent (12½%) royalty payments of the net mint, net smelter, net mill or other returns from all ores, concentrates, bullion, or other products removed and disposed of from the above described "Black Pearl Mine"; which royalty payments shall be paid by Second Parties to First Parties in the manner and at the tumes hereinafter set forth and when so paid shall be credited against the aforesaid purchase price.

The term "net mint returns", "net smelter returns" net mill returns" and "other returns" as used herein shall be construed to mean the net values found and accounted for by the smelter, mint, mill or other place of treatment or sale, less the reasonable cost of truck or rail transportation, smelter charges, penalties and deductions made by said smelter, mill or other place or treatment or sale.

Such royalty payments shall be made directly to THE BANK OF ARIZONA, and Arizona banking corportion, Prescott, Arizona, the Escrow Agent hereinafter names, and said The Bank of Arizona, shall either deposit said royalty payments to the credit of First Parties in the proportions as hereinafter set forth, or shall forward the same to the person entitled thereto in accordance with any instructions delivered by such person to said bank. All royalty payments shall be made to said Escrow Agent within thirty (30) days of the settlement date for each load of ore, concentrate or other material sold or shipped and such payment shall be accompanied by a true copy of the smelter, mint, mill or other return for delivery to First Parties.

The Royalty payments, when made hereunder, shall be divided and credited by the Escrow Agent, The Bank of Arizona, as below set forth, which proportions represent the aliquot un-divided ownership of First Parties in said "Black Pearl Mine":

JOHN LAWLER, a one-fourth($\frac{1}{4}$) share(said one-fourth share representing the sum of FORTY*THREE THOUSAND SEVEN HUNDRED FIFTY AND NO/100 DOLLARS ($43,750.00) out of the total rental or purchase price herein contained);

JAMES E. HARRINGTON AND KATHRYN I. HARRINGTON, his wife, and F.H. LYONS and MARY LYONS, his wife, a two sixths (2/6) share (said two-sixths share representing the sum ofFIFTY EIGHT THOUSAND THREE HUNDRED THIRTY THREE AND 34/100 DOLLARS ($58,333.34) out of the total rental or purchase price herein contained:

JOSEPH W. WALTON and FLORENCE E. WALTON, his wife, as one-sixth 1/6 share (said one-sixth share representing the sum ofTWENTY-NINE THOUSAND ONE HUNDRED SIXTY SIX AND 66/100 DOLLARS ($29,166.66) out of the total rental or purchase price herein contained):

MARY LAWLER, a one-fourth ($\frac{1}{4}$)share (said one-fourth share representing the sum of FORTY*THREE THOUSAND SEVEN HUNDRED FIFTY AND NO/100 DOLLARS ($43,750.00) out of the total rental or purchase price herein contained);

PROVIDED, HOWEVER, that in no event shall the royalty payments to be made and credited to Mary Lawler be less than the following amounts paid on or before the dates set forth opposite said amounts:

FIVE THOUSAND AND NO/100 DOLLARS ($5,000.00) on or before May 4, 1952:

TEN THOUSAND AND NO/100 DOLLARS ($10,000.00) on or before May 4, 1953.

TEN THOUSAND AND NO/100 DOLLARS ($10,000.00) on or before May 4, 1954:

EIGHTEEN THOUSAND SEVEN HUNDRED FIFTY AND NO/100 DOLLARS ($18,750.00) on or before May 4, 1959,

The intent of this provision being that Second Parties agree to and must pay the above amounts to Mary Lawler, through the Escrow Agent, whether or not said payments are made from the twelve and one-half percent ($12\frac{1}{2}\%$) royalty payments herein provided or must necessarily be made by additional cash payments by Second Parties, to be treated as advance royalty payments. Failure of Second Parties to make the payments to Mary Lawler as above required shall constitute a default as to the entire lease and option agreement, PROVIDED, HOWEVER, THAT the said Mary Lawler may, in writing, agree to alter or ament said payments or extend said payment dates. Nothing herein contained shall be construed as impairing the right of Second Parties to abandon this agreement without liability to make the payments aforesaid, should they so elect.

111

Upon execution and delivery of this Agreement, Second Parties shall be entitled to the posession of the foregoing described patented and unpatented lode mining claims, and every part thereof, and they shall have the right to work, operate and develop the same in any manner and by

such means as they may deem fit and proper and to extract, mine, mill and ship for treatment or other disposition, the ores and minerals therefrom. Second Parties agree that all such work shall be done in a good and minerlike manner.

It is agreed that beginning immediately after execution of this agreement, and during each and every month thereafter, during the term of this agreement, Second Parties shall do and perform not less than sixty (60) eight-hour shifts of work per month on said "black Pearl Mine" afore-described, weather permitting and if not prevented by acts of God, strikes, insurrections, rebellions, governmental restriction or other conditions beyond the control of Second Parties. The monthly shift obligations contained herein shall be cumulative.

IV

First Parties shall promptly pay all taxes which may be assessed on or levied against the foregoing described mining property for all years prior to the second installation of taxes due and payable for the year 1950. Taxes beginning with the second installment for the year 1950 and for all succeeding time there after, provided that Second Parties have not abandoned their interest hereunder, shall be paid by Second Parties. Failure to pay said taxes shall be considered a default hereunder.

First Parties agree to convey the afore-described patented lode mining claims to Second Parties free and clear of all liens and encumbrances and with Warranty Deed and Warranty of title. First Parties agree to quit claim to Second Parties all of their right, title and interest in and to the afore-described unpatented lode mining claimes.

V

Second Parties shall promptly pay all debts and obligations incurred or created or on account of any of their obligations hereunder, and shall keep said property and mining claims clear and free of any and all liens and charges of every character, including all damage claims for injuries to employees as well as claims for labor materials, supplies, equipment and

other charges: and in this connection, Second Parties shall record, post and keep posted, pursuant to the provisions of Section 62-210 of the Arizona Code Annotated, 1939, Notices of Non-Liability on the part of First Parties, First Parties to execute and furnish such Notices of Non-Liability: PROVIDED, HOWEVER, that nothing herein contained shall prevent Second Parties from borrowing money and pledging or otherwise encumbering their rights hereunder as security for such borrowing: PROVIDED FURTHER, HOWEVER, that Second Parties agree that during the period hereof they will not mortgage, sell or otherwise encumber, or dispose of said property without first giving First Parties notice of their intention to do so, and further that any such encumbrance or disposition of the property, or any part thereof, shall be made expressly subject to the rights of the First Parties hereunder.

VI

Second Parties shall do and perform within the time required by law the annual labor or assessment work on or for the benefit of the unpatented mining claims hereinbefore described as are necessary to comply with the laws of the United States and the State of Arizona, and upon completion of the annual labor for any particular year the Second Parties shall furnishe the First Parties, for recording, on or before June 15th. of each year, and affidavit showing said work to have been performed: PROVIDED, HOWEVER, that if this Lease and Option is terminated and canceled at any time during the first six (6) months of any annual labor year, that is, at any time between July 1, at noon, and the following January 1, at noon, the Second Parties shall be relieved from doing the assessment work for that annual labor year.

VII

Simultaneously with the execution and delivery of this Agreement the parties shall execute and deposit in escrow with the Bank of Arizona, an Arizona banking corporation, with its principal office and place of business in Prescott, Yavapai County, Arizona, with escrow filing fees to be equally

shared between the First Parties and Second Parties, the following instruments, together with proper escrow instruction to said Escrow Agent:

A. Executed copy of this Agreement:
B. Warranty Mining Deed of First Parties covering patented lode mining claims, title to such property to be in First Parties, free and clear of all liens and encumbrances:
C. Quit Claim Deed of First Parties covering the unpatented Lode Mining Claims.
D. Quit Claim Deed of Second Parties quit-claiming to First Parties all interest of Second Parties in and to the "Black Pearl Mine" hereinbefore described.

As and when the said purchase price hereinabove set forth shall have been fully paid by Second Parties to First Parties and Second Parties shall not be in default in the performance of any of their agreements and covenants herein, said escrow Agent shall deliver to Second Parties, or their assigns, all of the foregoing described instruments, and First Parties, shall thereafter have no further right, title or interest in and to the property, and said instruments above-described, and this Agreement shall forthwith terminate. In any other event, said Escrow Agent shall deliver the said instruments to First Parties.

Second Parties may, at any time, abandon this Agreement upon thrity(30) days written notice therof, delivered to First Parties at the banking office of said Escrow Agent, Prescott, Arizona, and all parties hereto shall thereupon be relieved of all further obligations hereunder. In the event of such abandonment or forfeiture as hereinafter provided, Second Parties shall have the right to remove from said "Black Pearl Mine" property, all machinery, tools, and equipment of every kind and character that they have placed thereon, with the exception of timbering, rails, ladders and pipe placed underground. Said removal shall be made within ninety (90) days after the effective date of any such abandonment or forfeiture. If not so removed, title thereto shall vest in First Parties. In the event of forfeiture or abandonment of this Agreement, and all moneys which have been paid to the First Parties as royalty payments, or otherwise, shall be long to First Parties and shall be retained by First Parties as rent of said premised and as liquidated damages, or either.

In the event that Second Parties are, in the opinion of First Parties, failing to perform the mining work in a good and minerlike manner, or failing to perform in accordance with the requirements of this Contract, or in any particular, except the making of money payments, unless the amount due First Parties from Second Parties is in dispute, First Parties shall give Second Parties written notice of the condition or conditions which First Parties consider are not being fulfilled. If Second Parties fail to make good such deficiendy, provided the objection is proper and within the terms of this Agreement, before the expiration of ninety (90) days from the date of delivery or mailing of said notice, or fail to make the payments as provided herein, unless the amount due is in dispute, then this agreement shall, at the option of First Parties, terminate and First Parties shall have the right to re-enter and to take possession of said mining claims and Second Parties agree to give up, relinquish and give over the said mining property to First Parties, in which event Second Parties shall have thirty (30) days in which to remove the personal property as hereinbefore provided for and under the same conditions as hereinabove set forth.

VIII

Second Parties agree to keep a true and correct record of the production, reduction and disposition of all ores or other materials mined, milled or otherwise handled by them under this Agreement, which records shall be open to the inspection of First Parties, or their representative, at all reasonable times. First Parties, or their representatives, reserve the right to go upon the mining claimes and property herein described for the purpose of reasonable inspection.

IX

Time is of the essence of this Agreement, it is understood and agreed, however that Second Parties, at all times mentioned during the period of this Lease, and exclusive Option, shall have the right to pay said rental or purchase price on a royalty payment basis, in the manner and at such times,

as hereinabove set forth. And it is further specifically agreed that Second Parties at all times during the period of this Lease and exclusive Option shall have an option to pay said rental or uprchase price on or before the expiration period of this Lease and Option, and the option to pay said rental or purchase price out of moneys separate, distinct and apart from said royalty income payments.

X

It is understood and agreed that this is an option to purchase coupled with the right to operate and that Second Parties may at their pleasure surrender said properties back to First Parties upon giving the notice hereinbefore provided for without further obligation hereunder, subject to the requirement that they shall perform all obligations which have matured and are owing to First Parties prior to the giving of such notice of termination.

X1

The delivery of any notices or papers required or permitted under this agreement to any one person being a member of either First or Second Parties hereto shall constitutes delivery and notice to all members of either First or Second Parties.

Delivery or notices, unless otherwise provided, may be made or given by registered mail, addressed as follows:

First Parties:

John Lawler
Prescott, Arizona
or
J. E. Harrington
Phoenix, Arizona

Second Parties:

E. A. Scholz
Bagdad, Arizona
or
J. H. Cazier
Bagdad, Arizona

X11

The parties hereto agree to make, execute and deliver, or cause to be made, executed and delivered, and to mutually assist each other in the execution and delivery of all papers, deeds, assignments, releases, waivers, notices or any

other instruments that may be necessary or required to carry out the terms and conditions of this Agreement.

XIII

The provisions of this Agreement shall extend to and be binding upon and inure to the benefit of the heirs, executors, administrators and assigns of the parties hereto. In this connection, First Parties specifically agree to recognize and assignment of this mining Lease and Option Agreement by Second Parties to any corporation of Second Parties's choosing, whether said corporation be now in existence or be chartered in the future.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first hereinabove written, in quntiuplicate, each to be considered an original.

John Lawler

Mary Lawler

James E. Harrington

Kathryn I. Harrington

First Parties

F. H. Lyons

Mary Lyons

Joseph W. Walton

Florence W. Walton

E. A. Scholz

Irma R. Scholz

Second Parties

J. H. Cazier

Dorothy L. Cazier

Hillside, Arizona
% Hillside Mines, Inc.,
April 30, 1938

Mr. H. L. Williams,
Present.

Dear Sir:

Given below is a preliminary report on the Black Pearl Group of Tungsten Mining Claims in Yavapai County, Arizona. The inspection of the property was made April 12 to 23 (incl.) 1938 by Mr. W. W. Stephenson and myself. Assay results and other data are not yet available, hence this "preliminary report".

Every detail (except one plot of claims that has since been amended) which has been possible to check of the work of Mr. H. R. Wood has pointed to its accuracy and correctness. Details will be given below of additional checks to be made. Consequently, data given on his drawing "Section of workings on Black Pearl Group" will be used in various calculations made herein. Only in case of marked discrepancy in average assay results (which I believe highly improbable) will the final report differ in substance from this preliminary report.

SUMMARY:

1. One very strong vein has been superficially developed on the property.
2. The shallow workings (at no point more than 70 ft. below the surface and mainly much nearer the surface) from 1900 feet of length of this one vein have produced a recorded 59 615 lb. of wolframite which contained 70% WO_3.
3. Total recorded production is 62 100 pounds.
4. Various other strong veins outcrop on the property. Wolframite can be found in several of these outcrops. None of these other veins have been developed sufficiently to determine their value.
5. Since the above recorded production, 180 ft. of drifting has been done. This drift was mainly in sulphide (FeS_2) ore and showed an average of 0.[illegible]% WO_3 and average width of 4.2 ft. The maximum depth below the outcrop was 106 ft. It is noteworthy that the average WO_3 content of the oxide ore checks very closely with the reported average WO_3 content of the sulphide ore after correcting for enrichment by subtraction of FeS_2.
6. There are no serious natural obstacles to the successful exploration, development, and exploitation of the property.
7. There is a reported possibility of finding good silver ore at some place on the property.
8. Present reserves are calculated at $67,000 net operating profit.

CONCLUSIONS:

1. The future price and market for tungsten is the greatest factor of uncertainty in my mind. If a satisfactory market at near present quotations can be expected, then:
2. The program for development which is outlined near the end of this report is strongly recommended.
3. A total capital expenditure of $200,000. will be required. Only a few thousand will be required for initial exploration. Additional amounts will be required only upon satisfactory results from the completion of each step until the entire amount will be required to place the property in satisfactory operation.
4. Based on assumptions given herein, an exceptionally profitable operation is indicated.

Drawing No. 2 shows the general location of the property. Drawing No. 1 gives the exact location and ties to legal subdivisions of land. It will be noted that there are 11 patented claims and 5 unpatented claims. Each claim is of the full size of 20.66 acres. The vein, from which practically all production to date has been obtained, is covered for a length of 6000 feet by patented claims. There are also certain showings of wolframite to the north and west of the Black Pearl Group which are not covered by the Group.

The question of title, ownership, and terms for operation and or purchase was not studied in this examination.

According to a report by Mr. Wood, the claims were located in 1914 by Mr. William Conners. It is evident from the present condition of the mine workings that operation was under the "lessee system" -- whether by the owner or by actual lessees. By that is meant that the mine was not developed nor operated systematically but rather with a view of obtaining a little more tungsten with the minimum outlay of effort. If waste from sorting operation was in the way, it was thrown to the bottom of the shaft instead of hoisting it by hand. Inadequate timber was used; and so on. Such a method had one distinct advantage and one distinct disadvantage from the viewpoint of future large scale operation. The advantage is that by the nature of operation, the workings were shallow. Hence the vein was explored over a greater length than perhaps would have been the case by other methods. The disadvantage is that the value of the bein at considerable depth has never been proven, nor is there much available ore blocked out (except by drifting in 1936 and dumps).

The past production of the property is shown in detail on the attached "Section of Workings on Black Pearl Group" by H. R. Wood. At present quotations, the value would be slightly in excess of $40,000.

The Black Pearl Group is in a granite formation. Various large granite pegmatite dikes cut the granite. The veins are largely quartz with muscovite in almost pure veinlets in places. The vein material can well be designated, greisen. Numerous large vugs from which pyrite has been weathered are to be found in the oxidized zone. A carefully cut sample from an oxide dump contained 5.7% Fe: that from one sulphide dump 10.9% Fe and another sulphide dump 15.0% Fe (average sulphide 12.9% Fe). This would mean a reduction of at least 15.5% in weight by weathering of FeS2. The average of 180 feet of drift in sulphide is given as 0.784% WO3. Calculating this to the oxidized material would give 0.928% WO3, which checks remarkably well with the 0.922 % reported by Mr. Wood. Two important conclusions can be drawn from the above:

1. Reported assays of WO3 agree exceptionally well with themselves.
2. The greatest depth yet obtained(though still very shallow) shows no trend toward a decreasing WO3 content of the original vein material.

Very few specimens were found wherein the wolframite occurred as small(10 mesh) particles in a mass of pyrite. The common mode was as pieces of wolframite in quartz or muscovite from 1/4" to 3/8" to 1 1/2". Much larger pieces are reported and I found several larger pieces in recently cased vein material.

In addition to the massive minerals mentioned above, namely: quartz, muscovite, pyrite,wolframite, numerous other minerals were found in lesser amounts. Flourite apparently worked into the joints of the granite. A few large crystals of microcline were found. A few specimens of bismuthinite(carrying 30 oz. ag.) were found in the sulphide dump. Numerous small aggregates of molybdenite were found in the sulphide dump (assays for Mo are being made). Silver assays of several hundred ounces per ton are reported but I do not know from whence they came. Gold and silver assays were made on all samples taken by myself but no commercial amounts were found in those samples.

The elevation is guessed as near 6000 feet. This indicates a more agreeable summer temperature than in the lower regions of Arizona. Also considerable snowfall is reported for some winters. Scrub oak and similar brush, pinion, juniper, and cedars cover the property. Large pines are in the vicinity of Camp Wood some 8 miles north. A sawmill is said to be operatin in the pine timber. Lumber and mine timber should be readily and cheaply obtainable.

The property is connected by road with Prescott Arizona(see drawing 2). Unfortunately, there is about 3/8 of a mile of road going down into Lees Creek which has been constructed entirely too steeply--grades as steep as 11°-50'. Using a tractor it would be possible to get equipment for exploration to the property. But for satisfactory construction and operation some two miles of road would have to be built into the property. Also the road across the malpais mesas(lava flats) from the rim above Lees Creek to near Camp Wood would need to be surfaced with decomposed granite for satisfactory wet weather travel. In places the road across the mesa should be straightened and changed to the tops of the low ridges. The mesa road is probably six miles in length. In no place are exceptionally difficult mountain road building problems encountered. It is no known just how much of this road Yavapai County would construct should it be demonstrated that work on a large scale is to be done on the property.

There are three possible sources of water for milling:

1. Possibility of developing water in mine workings.
2. Loco Creek-- shown on drawing 1.--quantity doubtful
3. Boulder Creek-- some 600 feet West of Blakk Pearl Claim No. 8. and probably will be sufficient at all times.

The lower tunnel was caved about 100 feet from the mouth and was filled with water behind the cave. It is very desirable to have this ground timbered and the debris removed so that the 180 feet nearest the face can be sampled accurately. Sampling this 180 feet should give a valuable check on reported results and, as it is the deepest point now accessible, should give the best indicator we now hase as to the prospects with depth.

As no mine workings were open for a sufficient distance to warrant systematic sampling, the program consisted of dampling some dumps, a cut across both walls of a shaft and samples from various outlying shallow workings to determine the extent of thed distribution of the tungsten. Because of teh very spotty nature of the deposit, i.e. large pieces of barren quarts and large pieces of wolframite, it was necessary to cut samples weighing from 50 lbs. to 175 lbs, then carefully break all material down to 3/8" or less before reducing the quantity of sample with a riffle. Assays have not been received to date. A further description of each sample will be made when the assays are reported.

No metallurgical tests have been made. The character of the ore would indicate that recovery on jigs should start at a rather coarse size (say 3/8"). It is quite probable that a considerable quantity of clean tailing can be discharged at such a coarse size. Middling products will have to be ground finer in steps (say to 10 or 20 mesh). The recovery methods will be jigs and tables. Flotation will probably be useful in removing pyrite from the wolframite concentrate. Should the molybdenite prove to be in paying quantities, the tails from the tungsten mill should be reground and floated to recover the molybdenum.

As stated in preceeding paragraphs, operations at this property have not been of such a nature that an ore reserve would be created. The work done in 1936 was an exseption.

The following figures are made from the data on "Section of Workings on Black Pearl Group" by H. R. Wood. Vein areas marked in green have been selected as being reasonable to assume as ore reserve of the average width and analysis, viz., 4.2 ft. wide containing 0.984% WO_3. Each square on the section is 10 ft. by 20 ft. = 200 sq.ft.

106 x 200 = 21200 sq. ft.
21200 x 4.2 = 89040 cu. ft.
89040 x 12 = 7420 tons @ 0.984% WO_3.

The data given on the same drawing indicate 6475 tons of dump material containing 0.4425% WO_3 (0.33% recoverable at 75% recovery).

The greatest uncertainty in calculating the value of these reserves as well as calculating the possible outcome of operation of the Black Pearl Group lies in the future price of tungsten. No doubt each reader of this report will have his own ideas as to the future price of tungsten. In which case the financial outcome figures will be changed accordingly. A figure of $20.00 net per unit of WO_3 is herein used. Only on theing can be said in defense of that particular figure, viz., it is slightly below present published quotations at a time when steel operations are at a low ebb and other metals are exceptionally low in price.

The question of costs is also a faster in the equation from wheih net profits are derived. Taking into consideration that the vein is fairly wide, dips steeply, has granite walls, and would not be sorted underground, it is hoped that a fairly cheap shrinkage stope mining method can be used. Also it seems probable that considerable coarse quartz can be discarded as a clean final tailing early in the milling process, thereby making low milling costs per ton. Construction costs are assumed which will put the property into proper shape for efficient operation. The assumed basis is 100 tons per day.

Mining and development	$4.00 per ton
Milling	1.00 per ton
Overhead and taxes	2.00 " "
Total operating cost	$7.00 " "

The dump material is calculated at:

Cost to place in mill bins	$0.50 per ton
Milling	1.00 " "
Overhead	1.00 " "
Total cost dumps	$2.50 per tons

The recovery on newly mined ore is assumed to be 80%: on dumps 75%. At $20.00 net received per unit of WO3 present reserves would show the following operating profit per ton:

Present ore block 742 tons at $5.50	$40,810	Total operating profit
Dumps 6475 tons at $4.10	$26,540	" "
Total operating profit on present res.	$67,350.	

Conservative business calls for sufficient ore reserves to be blocked out to refund the total capital expenditure. The following program is outlined to provide 75,000 tons of ore reserve (assuming 75% of the vein material encountered will be ore of 0.784% WO3 and with of 4.2 feet). 75,000 tons will provide slightly more than two years operation at 100 tons per day. Drawing 4 shows a proposed plan of accomplishing this development. It will be noted that this proposal leaves untouched a lot of ground to the east which can very reasonably be expected to yield ore. All ore found in this area, that below the tunnel level, and other favorable places will add to the estimated net profit from the operation. The expenditure, not including cost of equipment for this proposal would be:

Crosscut(see drawing 7) 1255 feet @$10.00	$12,500.
Drifts (see drawing 4) 1700 ft. @ $10	17,000.
Raises (see drawing 4) 700 feet @ $7.50	5,250.
Total	$34, 750

Given below is a very rough estimate of total capital required to place the property on an operating basis. It should be noted that the $35,000 for development is a prepaid development charge which is included in operating costs but for which funds must be provided before operation starts. The refund of that amount is inclued in assumed "Mining and development" costs.

Power	$35,000.
Mine Development	35,000
Mill	75,000
Mining Machinery and Shop	22,500
Road(mine proportion)	10,000
Offices, bldgs., water supply	7,500
Miscl not inclued above	15,000
Total capital necessary	$200,000
Deduct prepaid development a	35,000
Amount which net operating profit must refund	$165,000

All of the assumptions made above show a net operatieg proft of $412,500.00 for 75000 tons of ore. Also the purchase price of the property must come out of this amount.

The logical steps in the development and exploitation of the Black Pearl Group seem to me to be the following (see drawing 4)

A. Open the lower tunnel and carefully check the figures on the last 180 feet of drift. If these check, then proceed with:

B. Without spending any money on roads, take a portable compressor and supplies to the property with a Caterpillar tractor. Continue driving the present lower tunnel for another 600 feet (cost $6000. plus equipment). Provide sample crushing equipment to sample very carefully all material obtained from drifting operation. If the results from this work hold up to expectations, then:

C. Remove compressor and equipment also additional equipment to the crosscut tunnel site(see drawing 7), and drive the 1255 ft. crosscut tunnel. Then drive lower drifts and raises(see drawing 4). During thai period run metallurgical tests, design mill, make road survey and have all details ready to go into execution as soon as "C" is completed satisfactorily.

D. Construct roads, mill, shops, power plant and other surface work necessary. prepare chutes and stopes underground.
E. Start operation and continue drifting east.

Various alternatives to the above plan have been studied. Drawing 5 offers a slightly more conservative policy but will cost more in the end.

Additional data will be given as soon as obtainable.

Respectfully submitted,

(signed)
J.F. Frost,
Engineer of Mines

Hillside, Arizona
% Hillside Mines, Inc.,
May 25, 1938

Mr. H. I. Williams,
Present

Dear Sir: Assays- Black Pearl

We have the following assay report from Chas. O. Parker & Co. of Denver, Colorado.

	WO3	MoS2
Sample No. 1	0.60%	
2	0.12%	trace
3.	0.44%	trace
4	trace	
5	trace	
6	0.80%	
7	2.54%	
8	trace	
9	trace	

Determination for molybdenum was requested on only two samples.
The descriptions of the above samples and comments follow:
No. 1. This is a sample of an oxidized ore dump at the blacksmith shop level. several cuts were taken from the sides and face of the dump after local surface concentration effects had been removed. Also several shallow pits were sunk on top. There were not many large boulders in this dump. A sample of about 175 lb. was taken and broken down to about 1/4 inch before reducing by means of a riffle. This dump is only one of many included in Mr. Wood's average of 0.44% WO3. The above assay of 0.60% WO3 merely indicates the average of 0.44% WO3. used in the calculations sounds reasonable. This is material which is the reject from hand sorting.
No. 2 This is a sample of a small sulphide ore dump. The figure of 0.12% WO3 is somewhat lower than was expected. Two possible reasons stand out:
A. It is reported that the tunnel was driven some distance in 1936 before good ore was encountered(see sample 3).
B. It is known that considerable hand sorting from these dumps has taken place, and it is reported that this particular dump was also sorted as it was made.
Noe. 3. This is a sample of the larger sulphide dump just below No. 2. It has also been sorted somewhat.).44% WO3 remaining from a reported original vein content of 0.784% WO3 is only slightly lower than should be expected. (see note at end of this report).

No. 4. This is a sample from the discovery pit on Black Pearl Claim No. 8. (see map No. 1). An inspection indicated that very little wolframite could be seen in the material now accessible. Sample No. 4 was taken to prove or disprove this point. Result was " trace"/

No. 5. This is a sample from the discovery pit on Black Pearl Claim No. 9. (See map No. 1). It was taken for the same reason that sample No. 4 was taken. It should be noted however that sufficient work was not done at the time of the examination to expose the vein properly. It is entirely possible that, were the solid vein expose properly, results higher than the reported "trace" would be obtained.

No. 6. This is a sample of some 50 lb. cut from channels of 5.9 ft. on each side of the shaft "e" (See Section of Workings on Black Pearl Group). It was taken 14 ft. below the collar of the shaft which is the lowest point now accessible. This particular spot evidently was not what the old operators considered good ore because it was left in place while the bein below and to the sides had been thoroughly "gouged out". In spite of this , however, it should be noted that 0.80% WO3 compares well with previously reported averages.

No. 7. This is a collection of various pieces of float and old dump from North Side Claim No. 3, approximately 150 ft. north east of the 44 ft. tunnel (See map No. 10. Apparently there is another bein or possibly two veins which have not been explored. This can be considered a collection of specimens at this point which show the presence of tungsten and not as a true sample. The assay was 2.54% WO3.

No. 8. This is a sample of 3.1 ft. of the face of the 80-ft. tunnel on North Side Claim No. 3 shown on map No. 1. The assay of "trace" probably explains why the tunnel was stopped at this point. However, wolframite can be found on the dump, so possibly this was a barren spot in a vein which had been carrying tungsten.

No. 9. This is a sample of 0.4 ft. of the face of the 44-ft. tunnel on North Side Claim No. 3. The assay was "trace". The notes regarding sample No. 8 apply to this sample also.

In conclusion I may state that these preliminary results add strength to the assumptions made in the preliminary report of April 30, 1938. Samples 1, 2, 3, and 6 are especially indicative. Step A. in the recommendations of April 30th, namely, the accurate sampling of 180 feet nearest the face of the lower tunnel is the next job to be done in the exploration of the Black Pearl Group. The vein being naturally spotty, as formerly explained, will require a quite short sampling interval to give accurate results.

Respectfully submitted,

J. F. Frost

(C O P Y)

REPORT OF THE BLACK PEARL TUNGSTEN MINE YAVAPAI COUNTY, ARIZONA

Foreward:

The purpose of this report is to present as briefly as possible, the information and data I have acquired as the result of my study and examination of the Black Pearl property which with the tunnel sampling extended over a period of several months; included are the results and deductions therefrom.

The sampling was partly under my direction. The surveying done for the map of the tunnel and profile was done by me as was the patent survey. In fact, it was while making the patent survey that I first became interested in the property; and thought of its possibilities.

I have not, in this report undertaken to recommend or to outline a method of mining and development or to estimate what this cost might be. There are many factors entering into these questions and entail more study and investigation than I felt like giving the matter at this time.

There are difficulties to oversome and problems to work out, particularly in regard to the method of mining and the development of water. But they are not beyond the ability of good miners and engineers to solve.

Summary and Conclusion:

The main vein of the Black Pearl is an unusual and promising occurrence of Wolframite(tungsten) having a strong and well defined outcrop, averaging 3 feet wide and 2000 feet long. A 560 foot tunnel with an estimated 8000 tons of ore developed has an average assay of from 0.7 to 0.9 WO_3 with an approximate net value of $56,000.

Probable ore, - ore indicated between the outcrop and a level 40' below the present tunnel level has approximately 72,000 tons with a net value of approximately half a million dollars.

The owners and lessors from 1915 to 1933 have mined and shipped 62,000 pounds of tungsten having a remarkable average of 70% by hand sorting. Most of this came from shallow workings all along the outcrop. This ore was mined and sorted by hand and packed down the mountain.

It is an interesting fact that no capital has ever been put into the property. Roads, trail, buildings, tunnels etc. have all been financed from the sale of Tungsten; with, I understand, a good profit left for the owners.

The market for Tungsten has been steadily increasing for the past 4 years to the present price of $20.00 per unit. A unit being 20 pounds or 1/100 of a ton for a standard content of Tungstic acid--60% WO_3. If the supply from China should be cut off Tungsten would command a high price in this country. While considerable Molybdenum is being used as an alloy in themanufacture of steel it does not take the place of Tungsten for high speed tool steel.

Because of the purety of its wolframite the Black Pearl product, I understand can be sold at a premium direct to steel companies, under contract, rather than to buyers.

The vein shows not only unusual length but a remarkable persistence in width throughout its entire length. The geological indications and mineral associations are favorable as are in the physical indications.

The mystery is that the property has not been snapped up before now. The answer to that is--1/2 of the ownership has repeatedly refused to sign up with anyone under any conditions.

I believe the Black Pearl property is one of unusual merit with real possibilities and that it may develop into one of the greatest tungsten mines of this county it it is property handled.

General Information:

The Black Pearl property consists of 11 patented and 5 unpatented lode claims,--Mineral Survey No. 4186--located in the Eureka Mining District, covering parts of Section 7,8,12,13 and 18, T 15N R 7 W, Yavapai County Arizona. It consists of the Black Pearl and North Side groups as shown on the claim map included with this report.

The mine is located 57 miles via the Williamson Valley and Camp Wood road, in a northwesterly direction from Prescott. At 25 miles from Prescott the road turns left and westerly onto the Camp Wood Road and in 15 miles is within the pine forest of the Camp Wood country. At mile 46.5 the Tungsten Mine road leads southerly from the Camp Wood Road. Thus far the road is very good, negotiable easily in two hours, The road from here on is over a winding ungraded and unsurfaced road over a "malapai" Mesa of varying grads. At mile 54 the road reaches the rim of the Mesa. Below and to the south lies Bear Flat and the head waters of Loco Creek. Farther south stands Tungsten Mountain like a sentinal rising above the surrounding country.

The present road down from the Mesa rim is very steep for a short distance, having a grade in places as high as 23%: but when the road is in good repair can be negotiated with a good car or light truck. This road could easily be carried more gradually down the side of the Mesa. It is two miles from the top of the rim to themine camp at Bear Flat; from here it is one mile by a good trail to the main tunnel on the west slope of Tungsten Mountain. This route is generally closed by snow during a part of the winter months.

The CCC or some other alphabetical agency of the government has startoda road which if completed will some within a mile or so of the property and would join the road to Camp Wood and a saw mill. This would connect the mine with Hillside, the nearest railroad point; and is a part of the Hillside Mine road. The total distance to Hillside would probably be about 35 miles and the road would be open the year around. I understand the road has been constructed as far as Wild Horse Basin on Boulder Creek within about six miles of the mine. This, I understand would not be a difficult road to build into theproperty. Included with this report is a map showing the location of the mine with reference to Prescott and Hillside.

The elevation at Bear Flat is approximately the same as Prescott, one mile above sea level. The portal of the main tunnel is about 520 feet above Bear Flat or 5000 feet elevation. The top of the mountain is 155 feet above the portal of the tunnel or approximately 6000 feet elevation.

The regional topography is that of the irregular high mesa plateau of Basalt or "Malapai" flows, broken and distorted by earth movements and intrusions of granites, pegmatite, and other chrystalline rocks, presumably of pre-cambrain origin.

The property is located over the major part of Tungsten Mountain, which rises above the surrounding mesas. The drainage is to Boulder Creek and Loco Creek at the base of the mountain. Both creeks flow to the Santa Maria River but by quite different routes.

Mine timbers can be obtained from a saw mill off the Camp Wood road about wo miles from the mine. Tungsten Mountain has a scanty growth of cedar and pinon.

Water for domestic use is obtained from a spring at the camp on Bear Flat. Boulder Creek has water all year, although very low during dry seasons; showing only in places as running water. There is probably a fair underground flow even during dry seasons, and I believe sufficient water can be developed for milling purposes from Boulder Creek. If it was found advisable to build the mill at the mine workings the lift would be about 650 feet; the length for a pipe line approximately 4,000 feet.

Power would have to be developed as there is no transmission line within reach of the property.

The surface equipment consists of a blacksmith shop, mine track, rail and cars at the tunnel portal, two bunk houses and a warehouse at Bear Flat.

There are no mines operating close to this property. Some work has been done on a Tungsten showing south and adjoinging the Black Pearl.

The largest mines in this district are the Hillside and Bagdad, 10 to 15 miles southwest; shown on thelocation map included as a part of this report. The Hillside Mine, a gold mine, has been a big producer. The Bagdad is a large low grade copper deposit in the development stages. There are many other smaller properties in this section of the Eureka Mining District.

History and Ownership:

The property was located in 1914 by William Conners. Mr. Homer R. Wood and William Lawler acquired a half interest at that time. Mr. Lawler died leaving his interest to his widow and son. The present owners are: H.L. William, Joseph P. Walton, and William Stephenson, a total of ½ interest: Mary Lawler and John William Lawler, the remaining ½ interest.

The title of the property is in good shape. The government passed on that before recently issuing patent to the property.

The property has an unique history in that all expenditures have come out of the profits. No capital has ever been put into the propery. The road, trail, building, small tunnel and shafts have all been financed from the sale of Tungsten, which was mined almost from the grass roots, hand drilled, sorted and shipped by pack burro down the mountainand by truck 57 miles to Prescott. Thence by rail to eastern buyers.

Mineralization and Geology:

The main vein has a length of almost 6,000 feet with Tungsten showing on the outcrop for a distance of 2,000 feet. Beginning at the shaft and the portal of the main tunnel on the west slope of the mountain, the outcrop has been opened up at intervals along its entire length, extending over the top of the mountain and down the east slope.

The profile map made by Homer R. Wood, part owner at that time, and a mining engineer of excellent reputation, gives a very graphic picture of the actual development and production from this vein. Apparently, only the surface of this remarkable deposit has been scratched. Mr. Wood's map shows a total of 62,100 pounds of Tungsten mined and shipped from 1915 to 1935, having a most unusual high content of over 70% WO_3. This work was all done by hand drilling and rather crude timbering. Most of the old workings are badly caved.

The work done by lessors is inclued in theprofile map by Mr. Wood. Their method was to shoot very light and sort out the coarse tungsten underground. The balance went to a sorting platform where it was cobbed and sorted.

Mr. Wood's map shows that 330 pounds of Tungsten was mined from the shaft on the north side No. 4 claim. See my claim map for location.

"1,185 pounds of Tungsten from placer" see map, came from the side slope of Tungsten Mountain as a result of erosion from the ledges.

The direction or strike of the main vein is S 74°E. The dip almost vertical in places and varying from 75 to 85°S.W.

The width of the main vein varies from 1.7 to 6 feet. The measurements taken by me at accessible cuts and in the main tunnel are shown in the small profile map accompanying this report. It is not possible to give a definite average from those measurements as they could not be equally spaced. I believe that 3 feet is a conservative and fair average for the width of the main vein for a distance of 2,000 ft.

The deepest shaft according to Mr. Wood was about 65 feet. The main tunnel is now in 560 feet from the present portal: at the face it is 120 feet vertical below the surface outcrop. Ore was found 40 feet below the main tunnel in the stope off theshaft near the portal and according to Mr. Wood's profile map produced 900 pounds of Tungsten. This is therefore a depth to which ore is indicated below the present level.

Other veins found are indicated on the claim map in color, showing Tungsten at a number of other workings on the property. There is Tungsten float over a considerable area of the North slope of Tungsten Mountain. The vein system has not been fully worked out but a series of parallel veins is indicated. A half mile tunnel from the base of the mountain would cut the main vein at a depth of 500 feet below thepresent tunnel and would intersect other veins at lesser depth. This possibility is worth investigating more fully.

The Tungsten occurs in the form of wolframite, a tungstate of iron and manganese, black in color with a metallic luster Hence the name Black Pearl.

The Gangue material, that is the material associated with the tungsten in the vein is largely quartz, mica, and pyrite... Veins of this tiype are classed as high temperature deposits, resulting from the metamorphism of the granitite and pegmatite. "Such metamorphic products when essentially consisting of quartz and mica are called"greisen"-- Kemp.

A pegmatite is essentially a coarse grained granite in which the constituents have crystallized into large crystals, due to slow cooling under great heat and pressure. Associated are many rare minerals. Cassiterite or tin is mined in Coffney, South Carolina in Pegmatite: also in New South Wales, greisen in Pegmatite contains cassiterite associated with wolframite (tungsten) and molybdenite. Lindgren "Mineral Deposit," page 769

Because of the fact that wolframite and cassiterite are commonly associated in pegmatite dykes of this character and formation, see Lindgren, (Page 621-764) there is at least a possibility that casseterite will be encountered with further development in depth.

Molybdenite is present and shows in many of the specimen samples taken. It may be practicable to recover it in the milling process.

Another rare mineral found at one of the cuts on the outcrop was bismuthinite. As stated, a sample I took here assayed 245 oz. of silver per ton. This was at the cut shown on the claim map at the intersection with the Hematite vein.

Because of the manner in which deposits of this character were formed it is not unreasonable to assume that the veins will have considerable depth. Especially so considering the length of the outcrop and width of the vein.

Sampling:

The results of the sampling undertaken under the direction of Mr. Sayre and myself in 1936 are fully shown on the assay map of the main tunnel.

The tunnel had caved in places and it was necessary first to clean it out and retimber to the face--381 ft.

It was decided that the best way to sample would be to advance the tunnel a definite distance and get a uniform cut from each car. It was decided to shoot rather heavy to break any large chunks by hand while loading the car. The car was dumped into a chute with a slot in it about 3 inches wide, for the sample. This was dropped onto a sheet iron covered platform where the sample was broken to about 1 inch by hand, coned and quartered to approximately a 90 pound sample.

These "head" samples were taken to the sampling works at Prescott where they were ground to $\frac{3}{4}$ - $\frac{1}{2}$ inches size.

At the sampler they were first ground to $\frac{3}{4}$ - $\frac{1}{2}$ inch. Mixed by a large Jones splitter 3 times. Then cut once. Reject saved; other $\frac{1}{2}$ ground in a cone pulverizer to a sand fineness. Again mixed in a Jones sampler and cut by a smaller cone sampler to about a 3 to 4 lb. sample.

The reject for the chute (that which did not drop through the slot for the samples) passed to a sorting platform where the Tungsten was cobbed and sorted. The reject from this or "tailing" was sampled by taking every 20th shovel full and this sample coned and quartered to about 90 pounds for the "tail" samples, which was sacked and run through the Prescott sampler as described for the "Head."

Lots 1 and 2 were handled this way, while lots 3 to 6 inclusive were shipped by freight direct to the assayer rather than have the expense and time of running through the Prescott sampler.

By more careful coning and quartering, the size of the samples was reduced to approximately 50 pounds each.

There were two miners and one sorter doing all the work, hand drilling, mucking, packing, and trucking to Prescott. It had taken $2\frac{1}{2}$ months to sample 54 feet of tunnel--represented by 53 head samples and 24 tail samples.

It was decided to get in a portable compressor. In order to speed up the work to see more of the vein, and to get more samples, we changed the method as follows:

Installed the compressor and a mounted jack hammer, increased the force to four men and a packer, changed the slot to a horizontal position in the shute, installed a small crusher to reduce the entire slot--sample to ¼ inch, mixing and cutting through a Jones sampler, or splitter.

This did not leave time for sorting. However, about 100 pounds of Tungsten was recovered from the side of the dump by the top man, when he was not busy cutting samples.

Samples of four lots, shipments Nos. 6 to 10 inclusive as shown on the tunnel sample map, were taken in this way. It represents a distance of 126 feet of the tunnel.

A copy of the assay return for all the samples included in lots 1 to 10 inclusive are a part of this report. A total of 126 samples from 180 feet of tunnel.

The sampling and work done in the tunnel showed that the walls, foot wall in particular, is soft and caved badly in places. This resulted in badly diluting the sample with waste material as is shown by the variable "numbers of cars" for the "foot advance" in the table results, on the tunnel sample map.

To correct this I measured the tunnel at regular intervals and calculated as follows: The average of all the samples, that is the foot assay value divided by the foot advance, equals 0.504% WO3. The factor of 1.4 is the ratio of the sample width to the acutal width of the vein. Which, multiplied by the average of 0.504 equals 0.705% WO3 as the value of the vein. See tunnel assay map.

I carried this a little further with respect to the last four samples. I measured the area mined and determined the volume by using the prismoidal formula. See table at upper right hand part of tunnel sample map. This gave a result of 0.72% WO3.

Mr. Sayre and I arrived at a result of 0.784% WO3 on the first eight samples as follows: See following page 12-A.

Mr. Wood calculated the total tons of ore mined to 1935 and determined the average as 0.922% WO3. This was largely from ore closer to the surface where the iron was oxidezed and little or no sulphides showing, which would give a higher per cent of WO3 and check fairly close to the 0.784% WO3 average of the sulphides ore in the tunnel.

The sampling indicated that the wolframite is desseminated all through the vein but that it is more highly concentrated in lense or shoots throughout the vein, and intimately associated with the quartz, pyrite and mica. Many large solid pieces of pure wolframite showing crystal faces were recovered. I have a specimen in my office which weighs 43/4 pounds. A large specimen was given away. Mr. Wood reports a specimen which weighed approximately 80 pounds, found wholly encased within about 8 inches of mica on one of the walls.

The sampling also shows that it is impossible to make much of a recovery by hand sorted, but that the entire vein can be mined and milled with average heads of not less than 0.7% WO3. Many tail samples, after the Tungsten had been sorted out by hand, ran high in comparison with the corresponding head sample.

Ore Deposits:

The ore developed by the main tunnel 560 feet with a vertical height of 120 feet from the face of the tunnel to the surface outcrop, and width of approximately four feet would indicate at least 8,000 tons of ore partly blocked out after making an allowance for the ore already stoped out.

For the "Probable Ore," or the ore partly blocked out, I have assumed ore to

a depth of 40 feet below the present main tunnel level. The horizontal length of which is 2,000 feet and the average width as stated, I have estimated to be three feet (assuming 12 cubid feep per ton of ore in place) the total ore above a level 40 feet below the present tunnel level would be 3 x 289,000 - 12 = 72,250 tons.

The "Probable Ore" is dependent on the depth of the vein. As previously discussed under geology, indications for considerable depth are good. If the depth and length are equal to the showing of the outcrop, which is entirely within the realms of possibility, there is indicated an ore body of 2000 feet long, 2,000 feet deep, and three feet wide or the equivalent of one million tons of ore. Even with tungsten at the present price this would be a first class bonanza.

Tonnage and Value of Ore:

Ore developed--8,000 tons. Ore partly blocked out, or probable ore 72,250 tons. Possible ore, indicated by the length and width of the outcrop and the geology, 1,000,000 tons.

Using the conservative figure of 0.7% WO3 and the present quotation of tungsten of $20 a unit for 60%WO3. This is equal to $14 a ton ore. Assuming $7 as the total cost for mining, milling, development and transportation, there would be a net profit of $7 or a value as follows: Ore developed 7 x 8,000 = $56,000. Probable ore, 7 x 72,250 = $505,750. Possible ore, 7 x 1,000,000 = $7,000,000. Assuming the production of 1,000 tons a month to start, with a 50 ton mill, the ore developed would be recovered in about 8 months.

Mining:

As stated in my introduction I will not attempt to outline the method of mining. It is a matter to be worked out in a practical manner by experienced miners.

The walls caved quite badly in places in the present workings, apparently the result of surface waters and oxidation. However, I do not consider it bad enough to be a serious obstacle or an expensive one, and may correct itself entirely with greater depth below the surface. It may be found advisable to leave pillars of low grade ore for support in the stopes and these "pulled" later.

I do not anticipate any trouble from underground waters. The mountain is drained to the level of Boulder Creek, a vertical distance of 650 feet, to the indicated ground water level. In the spring there will be some surface water to take care of but this will be of little consequence as the mine is almost at the top of the mountain.

Milling:

The milling would be comparatively simple. A combination of quartz, mica, pyrite, and wolframite can be easily separated by a simple process of concentration. Coarse grinding followed by jigs, classification finer grinding, followed by tables, I think will give a very good recovery. Perhaps some provision made for molybdenum, if found in paying quantities. However, it would be advisable to have a test run by a competent metallurgist before designing a mill.

In the milling operation, I believe it will be found advisable to sort out the coarse tungsten from a short sorting belt located between the bin and the crusher. Probably the man at the bin and crusher could do this.

It may also be practical to sort out some of the large high grade pieces underground as was done by the leasers.

Market for Tungsten:

Tungsten is used largely in the steel industry and molybdenum has taken its place as an alloy in certain steels. I saw a letter from the president of one of our large steel companies stating that in his opinion nothing at present took the place of tungsten as an alloy for high speed tool steel.

The largest supply of Tungsten comes from China where it is cheaply mined by Chinese Coolies for export. If Japan should cut off this supply or if and when the source is exhausted, tungsten will command a high price in this country. During the World War it reached a little over $100 a unit or $5 a pound.

Capital Requirements:

The initial development would consist chiefly of roads, water development, a mill, power, and quarters for the men. As stated I am not prepared to make an estimate of these costs which of course, would depend on the scale of operations and development decided upon.

I would consider a 50 ton unit for a mill built so that its capacity could be doubled. Water must be developed to meet the size of the mill and other needs.

A road must be built into the property. The best route and cost is a matter of further investigation.

As there is no transmission line close enough, a power plant of some kind must be installed for pumping, mining, and milling on perhaps separate units for each.

Prescott, Arizona
February 11, 1939

Respectfully submitted,
(Signed) Harlow D. Phelps, E. M.
(Registered)
(Professional)
(Engineer)
(Seal)
(Arizona U.S.A.)

This report included the following maps and copies of assay certificates:

Maps:

The maps included with this report are as follows:

1. Location map, showing roads, etc. copied in part, from the Yavapai County Engineer's map.

2. My claim map, showing claims, tunnels, etc. with the outcrops of veins shown in color.

3. Homer Wood's profile map of the main tunnel and production from 1915 to 1935.

4. My profile map showing area from which the "Probable ore" was determined.

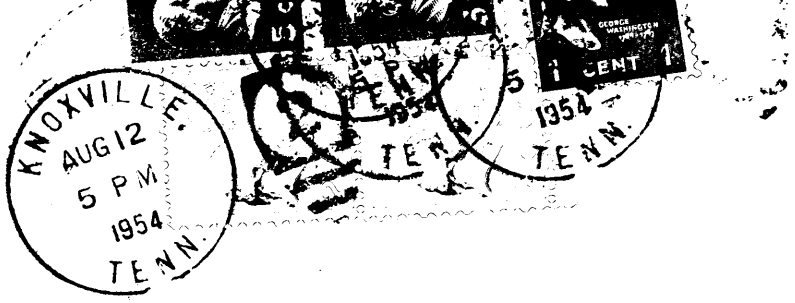
5. My assay map of the main tunnel.

Copy of Assay Certificate:

Included herewith is a copy made from the assay returns of all samples taken from the main tunnel car samples as described under "Sampling."
(The above was prepared from a copy of Mr. Phelps' report. The original signed copy of that report and the maps mentioned are not available except possibly by purchase from Mr. Phelps)

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

OFFICIAL BUSINESS



Mr. George C. Selfridge, Chairman
Operating Committee DMEA
Dept of the Interior
Washington 25, D.C.

DMEA Form 7
(12-56)

October 21, 1957

MEMORANDUM

Project Summary

OFFICIAL FILE COPY

Date	Surname	Code
10-18	Holt	2400
10-18	Martin	400
		~~1440~~

To: Administrator, DMEA

From: Division of Iron and Ferro-Alloys, DMEA

Subject: Summary of Contracts and Results Obtained
Docket No. DMEA 3448 - Tungsten
Hillside Mining and Milling Company, Assignee
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Operator: Hillside Mining and Milling Company, Box 248, Bagdad, Arizona

Operator's Property Rights: The Operator controls, by assignment of lease from the Black Pearl Mining Company, three patented lode mining claims, owned by James E. Harrington, Kathryn I. Harrington, his wife, F. H. Lyons and Mary Lyons, his wife, John W. Lawler, Mary Lawler, Joseph W. Walton and Florence E. Walton, his wife, and leased to Edgar A. Scholz and Irma Scholz, his wife, and J. H. Cazier and Dorothy L. Cazier, his wife. The lease was transferred by the lessees to Black Pearl Mining Company, and assigned by Black Pearl Mining Company to Hillside Mining and Milling Company. The three claims, situated in the NW¼ sec. 18, T. 15 N., R. 7 W., Gila and Salt River B. and M., Yavapai County, Arizona, are recorded in the office of the County Recorder of Yavapai County as follows:

See

Claim Name	U. S. Survey No.	Recorded Book	Recorded Page
Black Pearl No. 1) Black Pearl No. 2) Black Pearl No. 7)	4186	181	551-554

Contract:

(a) Executed February 2, 1955. (Long Form, MF-200, rev. June, 1954)

(b) Work to be commenced on or before March 30, 1955, and to be completed on or before June 30, 1956.

(c) Work authorized:

Stage I consisted of preparing site for shaft, shaft house, Headframe and hoist, constructing shaft house, installing hoist, erecting headframe, purchasing equipment, extending main adit 400 feet, sinking two-compartment shaft 150 feet, cutting station at 125-foot level, crosscutting 45 feet to vein and drifting 400 feet on the vein.

8623

Stage II included raising from the 125-foot level to the adit level, sinking shaft an additional 125 feet, cutting station at the 250-foot level, crosscutting 60 feet to vein, and drifting 600 feet easterly and 200 feet westerly on the vein.

All surface work, purchases and installations were on an actual cost basis, amounting to $9,990.00. All underground work was on a unit cost basis, amounting to $57,430.00, giving a total estimated cost for Stage I of $67,420.00. Total estimated cost for Stage II work was $59,865.00, total estimated cost of the project was $127,285.00, Government participation at 75 percent, $95,463.75

Amendment No. 1, executed Sept. 16, 1955, made minor corrections in wording, and additions to the contract, without increasing the total cost.

Amendment No. 2, executed June 28, 1956, extended the period for completion of the work from June 30, 1956 to May 31, 1957, and extended the royalty repayment period from 10 years to 11 years.

Amendment No. 3, executed October 26, 1956, authorized suspension of the work between July 31, 1956 and October 31, 1956, extended the period for completion of the work from May 31, 1957, to October 31,1957, and the royalty repayment period from 11 years to 12 years.

Amendment No. 4, executed December 28, 1956, further suspended work from October 31, 1956,to May 2, 1957, extended the period for completion of the work to May 2, 1958, and again extended the royalty repayment period, from 12 years to 13 years from the date of the contract.

The contract was assigned on December 12, 1955, by the Black Pearl Mining Company to the Hillside Mining and Milling Company.

The contract was terminated by mutual agreement, on June 11, 1957, effective as of August 1, 1956.

Work Completed:

Actual Costs

Surface work, installations, etc.	$3,848.66*

Fixed Unit Costs

Adit level drifting, 271 feet @ $34.00/ft.	9,214.00
Shaft sinking, 150 feet @ $130.00/ft.	19,500.00
Station cutting at 125 level	2,000.00
Drifting and crosscutting on 125-foot level, 445 feet @ $34.00/ft.	15,130.00
Timbering drifts, 674.5 feet @ $7.00/ft.	4,721.50
Raising, 118 feet @ $35.00/ft.	4,130.00
Assaying, 126 samples @ $5.00/each	630.00
Total Accepted Cost of Project	$59,174.16*

Government Participation @ 75 percent $44,380.62*

* Subject to final Audit

Audits:

A review in lieu of final audit, dated January 13, 1958, was received on Feb. 10, 1958.

Reports:

The Operator's undated Final Report was received in the field office on April 29, 1957, and in this office on May 8, 1957. The Final Report of the Field Team, dated August 1957, was received September 9, 1957.

Past Production:

From 1915 to 1935 production from the mine was about 3,100 units of WO_3 from ore averaging 0.68 percent WO_3. From 1935 to 1951 the mine was worked intermittently, and no data are at hand as to production. From 1951 through 1954 Scholz and Cazier produced 2,803 units of WO_3 from ore averaging 0.50 to 0.60 percent WO_3. Total recorded production prior to the date of the contract was 4,976 units of WO_3.

Present Production:

During and after completion of work under the contract 13,912 tons of ore averaging 0.283 percent WO_3 were mined and milled by the Hillside Mining and Milling Company. Prior to the assignment of contract to Hillside Mining and Milling Co. the Black Pearl Mining Company produced 228.91 tons of ore averaging 0.549 percent WO_3.

Royalties Paid to Government:

Scholz and Cazier (Black Pearl Mining Co.)	$292.82
Hillside Mining and Milling Company	7,703.06
Total	$ 7,995.88

34,000 pounds of concentrate, averaging 63.3 percent WO_3, are on hand.

Certification:

As recommended by the Field Team, a certification of discovery or development was issued by this office on October 25, 1957.

Comment:

The project consisted of shaft sinking, drifting on the adit level, and drifting and crosscutting on the 125-foot level of the Black Pearl mine to explore for tungsten, occurring as small to large crystals and large masses of wolframite, with minor amounts of scheelite, in a quartz fissure vein in granite.

Reserves of tungsten ore discovered by project work have been estimated by the Field Team as 109,000 tons of indicated and

inferred ore, averaging 0.27 percent WO_3 .

W S Martin

W. S. Martin, Director
Division of Iron and Ferro-Alloys

DMEA Form 17
Feb. 58

DEFENSE MINERALS EXPLORATION ADMINISTRATION

WORK COMPLETED ANALYSIS

After final audit or review report is received, prepare original only and file in official docket

Operator Black Pearl Mining Company, Hillside Mining & Milling Co., Assignee		Actual Cost	X
State Arizona		Agreed Unit Cost	X
Final Report of Audit	X	Commodity Tungsten	Docket No. DMEA 3448
Final Report of Review			Contract No. Idm-763

Operation	Authorized by Contract and Amendments		Completed		Net cost after sale of Government Property
	Units	Cost	Units	Cost	
	Feet	$	Feet	$	$
Drifting & Crosscutting	1705	57,970.00	716	24,344.00	24,344.00
Timbering drift & Xcut	1600	11,200.00	674.5	4,721.50	4,721.50
Spiling " " "	120	2,400.00			
Raising	125	4,375.00	118	4,130.00	4,130.00
Shafts	275	35,750.00	150	19,500.00	19,500.00
Winzes					
Drilling (Specify)					
Surface Excavation		624.19		475.01	475.01
Underground Excavation		4,000.00		2,000.00	2,000.00
Roads and Trails					
Operating Equipment Purchased		6,175.61		671.51	568.51
" " Depreciation		200.00		200.00	200.00
Surface Rehabilitation & Repairs					
Underground Rehabilitation					
New Building, Improvements, etc.		2,990.20		2,651.03	2,499.78
Other (Specify) Sampling & Assaying		1,600.00		630.00	630.00
Totals		$127,285.00		$59,323.05	$59,068.80 *

* Net cost total must agree with final report of audit or review.

Prepared by Stephen P. Holt Date 7.15.60
Stephen P. Holt

31398

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code

May 23, 1968

Memorandum

To: The File

From: Chief, Office of Minerals Exploration

Subject: DMEA-3448 (Tungsten)
Hillside Mining & Milling Co. (Assignee)
Black Pearl Mine
Yavapai County, Arizona
Contract Idm-E763

Under date of February 2, 1955, the Government entered into the subject contract with the Black Pearl Mining Company to explore the Black Pearl Patented Lode Mining Claims Numbers 1, 2, and 7 (Mineral Survey 4186) (U. S. Patent No. 1102913), in Yavapai County, Arizona, which was held by the Operator under an assignment of a lease and option agreement, dated April 30, 1951, between all the owners and E. A. Scholz and Irma R. Scholz. The contract was assigned on December 12, 1955, by the Black Pearl Mining Company to the Hillside Mining and Milling Company. The object of the exploration program was to test the possible tungsten occurrences along a quartz fissure vein in granite by shaft sinking, drifting, crosscutting and raising to explore the mineralized zone.

The total estimated cost of the work under the contract, as amended, was $127,285.00, with Government participation at 75 percent, or $95,463.75, of which $44,301.60 was expended. The project work, which was terminated by mutual agreement, effective August 1, 1956, exposed tungsten ore, dominantly in the form of crystals and large masses of wolframite, with minor amounts of scheelite, occurring in a quartz fissure vein in granite. A certification of discovery was issued accordingly.

Royalties received through April 6, 1960, totalled $9,037.67. Reports received since that time and information furnished by the U. S. Bureau of Mines indicate that no production was made from the property through February 2, 1968, the expiration of the royalty repayment period.

It is recommended that the amount of the Government's contribution to the cost of exploration under this contract be written off and the file closed.

Frank E. Johnson

cc: Director's Reading File
Economic Geology File
OME Docket
OME Reading File
Branch of Budget and Finance
OME Region I
130

GLAult/a 5-23-68

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225

Office of Minerals Exploration
Building 53 Room 203

February 8, 1968

OFFICIAL COPY
O. M. E.
RECEIVED
FEB 12 1968
INITIALS CODE
gla 130
gla 130
220

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: DMEA-3448 (Tungsten)
Hillside Mining and Milling Company (Assignee)
Black Pearl Mine
Yavapai County, Arizona
Contract Idm E-763

A check on production with the U. S. Bureau of Mines, from the Black Pearl Claims, shows that no ore has been produced since May, 1967 to date.

J. William Hasler

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

OME Docket Surname

1/24/68 110

220

130 (file)

Memorandum

JAN 26 1968

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: DMEA-3448 (Tungsten)
Hillside Mining & Milling Co. (Assignee)
Black Pearl Mine
Yavapai County, Arizona
Contract Idm-E763

The royalty period of the subject contract expires February 2, 1968. Please check with the Bureau of Mines for information on possible production from the Black Pearl claims since May 1967 to date, and advise.

FRANK E. JOHNSON

Frank E. Johnson

cc: Director's Reading File
Division File
Economic Geology File
OME docket
OME Reading File
130

GLAult/a 1-24-68

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
6/14/66	Kirkemo	120K
		110
		220

Mr. John W. Lawler

JUN 14 1966

Prescott, Arizona

Re: DMEA-3448 (Tungsten)
Hillside Mining and Milling Co. (Assignee)
Black Pearl Mine
Yavapai County, Arizona
Contract Idm-8763

Dear Mr. Lawler:

Thank you for your letter dated June 6, 1966, advising us of the expiration of the Scholz and Carier lease and option agreement on October 1, 1964, and inquiring about the Government's present interest in the property.

Expiration of the Scholz and Carier lease and option agreement did not invalidate the Government's lien upon the land and rights to royalties upon any production therefrom. This lien is in full force until royalties are fully paid or until February 2, 1968, whichever occurs first. Royalties are credited to the Government's share ($44,380.62) of the cost of the DMEA contract on this property.

We call to your attention the Owner's Consent to Lien which you signed February 16, 1955, as co-owner of the Black Pearl mining claims, copies of the certification of discovery or development dated October 25, 1957, and an accompanying letter of the same date which were mailed to you and other co-owners of the claims. The contract and these documents establish the Government's lien on the land and upon production therefrom as stated above. Co-owners of the claims are obligated to protect the Government's interest under the agreement signed by them and to give advance notice of the Government's rights to any transferee or lessee of any part of their interest in the land or in production from it.

We hope this will adequately answer your question about the Government's present interest in the property.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading
Division File
Economic Geology File
OME Docket
OME Reading
R-III w/cy inc. ltr & 63
Kirkemo
120M

HKirkemo/mm (6/14/66)

23263

Prescott, Arizona
June 6, 1966

Mr. Frank E. Johnson
Chief, Office of
Minerals Exploration

Dear Sir:

To the best of my knowledge, there has been no ore shipped from the Black Pearl Mining property since Mr. E.A. Scholz and Mr. J.H. Cazier ceased their operations. Scholz and Cazier lease and option to buy expired on October 1, 1964. Please take note that after this date they had no further claims on this property and at this time the Mining claims reverted back to the original owners.

It is my opinion that the U.S. government exploration lien, which Mr. Scholz and Mr. Cazier had on this property expired with their lease; therefore I believe, that the government has no further claims on the mining claims. Please if I am wrong inform me.

Enclosed are the "filled in" forms your office sent.

Sincerely,

John W. Lawler

OFFICIAL COPY
O. M. E.
RECEIVED
JUN 9 1966
INITIAL | COPY
6/9 m | ~~120 m~~
110
120 K
120 S
220

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
	Selfridge	120
1/31	Johnson	110
		220

Memorandum

To: Acting Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: DMEA-3448 (Tungsten)
Hillside Mining and Milling Co. (Assignee)
Black Pearl Mine
Yavapai County, Arizona
Contract Idm-E763

On November 6, 1957, we sent Region III for forwarding a letter to Mr. and Mrs. James E. Harrington concerning the certification under the subject contract. Do your files contain the Harrington address?

(signed) FRANK E. JOHNSON

Frank E. Johnson

GCSelfridge/mm (7/30/65)
cc: Director's Reading File
Division File
Economic Geology File
OME File
OME Reading File
G. C. Selfridge (2)
120M

23263

Building 20 - Federal Center
Denver, Colorado 80225

OFFICIAL FILE COPY
O. M. E
RECEIVED DEC 9 1963
DATE
12/10 Murphy 500

December 4, 1963

Memorandum

230

To: Fiscal Section, Division of Management Operations
Office of the Secretary, U. S. Department of the Interior
Washington, D. C. 20240

From: Acting Field Officer, OME, Region III

Subject: DMEA-3448 (Tungsten)
Contract Idm-E763
Hillside Mining & Milling Company, Assignee
(Black Pearl Mine)
Yavapai County, Arizona

Attached is the original Report of Royalty Review dated November 18, 1963, on the subject property covering the period November 1, 1960, through November 5, 1963.

Original signed by

Hugh M. Connors

Attachment

cc Chief, Division of Field Operations, OME
E. D. Talbert, Acting Chief
Contract Administration and Audit Division
Royalty Corres. Idm-E763
Chron

HMC/lm

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
11/29	[illegible]	220

NOV 29 1963

Memorandum

To: Acting Field Officer, Region III

From: E. D. Talbert, Chief (Signed) E. D. Talbert
Contract Administration and Audit Division

Subject: DMEA-3448 (Tungsten)
Hillside Mining & Milling Company, Assignee
Black Pearl Mine
Yavapai County, Arizona
Contract Idm-E763

The original and one copy of a Report of Royalty Review covering the subject contract are enclosed. If you concur in the facts stated therein, please make the following distribution:

(a) Original to the Fiscal Section, Division of Management Operations, Office of the Secretary, U. S. Department of the Interior, Washington, D. C. 20240; and

(b) One copy for your files.

This Report of Royalty Review is made for record purposes only; therefore, no copy for the Operator is provided.

As evidence of your concurrence, a copy of your memorandum transmitting the original report to the Fiscal Section should be furnished this Division. If for any reason you do not concur, both copies of the report should be returned to this Division with your comments.

Enclosures

EDTalbert/ama 11-27-63

cc:
Docket
Director's Reading File
CA & A Division
Fiscal Section

43683

OFFICIAL FILE COPY
O. M. P.
RECEIVED NOV 21 1960

DATE	INITIALS	
11-21	gad	220
11/21	[illegible]	802
"	[illegible]	500
		2.2c

Building 20 - Federal Center
Denver 25, Colorado

November 16, 1960

Memorandum

To: Fiscal Section, Division of Administrative Services
Office of the Secretary, Department of the Interior
Washington 25, D. C.

From: Hugh M. Connors, Acting Field Officer, AME, Region III

Subject: [illegible] (Bungalow)
Contract No. Tln-5763
Hillside Mining and Milling Company, Assignee
Black Warrior Mine
Yavapai County, Arizona

Attached is the original Report of Royalty Review on the subject property dated November 1, 1960 covering the period December 1, 1957, through October 31, 1960.

Original signed by
LM
For
Hugh M. Connors

Attachment

LM
cc: E. D. Talbert, Acting Chief
Contract Administration and Audit Division
Chief, Division of Field Operations (2)
Royalty Corres E763
Chron

OFFICIAL FILE COPY O. M. E. RECEIVED NOV 21 1960		
DATE	INITIALS	
11-21	gad	200
11/21	[illegible]	800
"	Hart	500
		220

Building 20 - Federal Center
Denver 25, Colorado

November 16, 1960

Mr. Robert C. Bogart, Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: DMEA-3043 (Tungsten)
Hillside Mining and Milling Company, Assignee
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Dear Mr. Bogart:

Enclosed is a copy of the Report of Royalty Review on the subject contract dated November 1, 1960 covering the period December 1, 1957, through October 31, 1960.

You will note that $[illegible].36 is the amount of overpayment of Royalty. If you submit a claim to us for that amount the overpayment in Royalty will be refunded to you.

Yours very truly,

Original signed IM

for
Hugh M. Connors
Acting Field Officer
OME, Region III

Enclosure

IM
cc: E. D. Talbert, Acting Chief
Contract Administration and Audit Division
Chief, Division of Field Operations (2)
Royalty Corres. E763
Chron

Form 7
(0-58)

OFFICIAL FILE COPY

Date	Surname	Code
11/8	[illegible]	800
11-8	gad	220
"	[illegible]	500
		220

NOV 8 1960

Memorandum

To: Acting Field Officer, Region III

From: E. D. Talbert, Acting Chief (Signed) E. D. Talbert
Contract Administration and Audit Division

Subject: DMEA-3448 (Tungsten)
Hillside Mining & Milling Co., Assignee
Black Pearl Mine
Yavapai County, Arizona
Contract Idm-E765

Attached are the original and two copies of a Report of Royalty Review on the above cited project. If you concur in the facts stated in the report, distribution should be made as follows:

(a) Original of the report to the Fiscal Section, Division of Administrative Services, Office of the Secretary, Department of the Interior, Washington 25, D. C.;
(b) One copy to the Operator; and
(c) One copy for your file.

As evidence of your concurrence, a copy of your letter transmitting the Operator's copy should be furnished to this Division. If for any reason you do not concur, the original and both copies of the report should be returned to this Division with your comments.

Attachments

CEFisher/ama
November 8, 1960

Copy to: Docket
Director's Reading File
CA & A Division
Mr. Rothrock

43683

Form 7
-58)

OFFICIAL FILE COPY

Date	Surname	Code
4/29	Holt	500
	Arnold	500
4/29	Tackett	800
5/2	Selfridge	120
		110
5-V	gad	220
		225

MAY 2 1960

Mr. Robert C. Bogart, Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: DMEA-3448 (Tungsten)
Hillside Mining and Milling Company,
Assignee
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Dear Mr. Bogart:

We note from your letter of April 4, 1960, to Mr. J. W. Townsend, Executive Officer, OME Field Team, Region III, Denver, Colorado, that you forwarded check for $1,022.93 in payment of royalty from the sale of stockpiled tungsten concentrates, with the statement that you believed this ended any obligation on the above contract, as the final report was submitted at the termination of operations.

Receipt of this check does clear present obligations. However, under the terms of the contract and of the certification, as noted in our letter of October 25, 1957, all minerals mined or produced from February 2, 1955, to February 2, 1968, are subject to the Government's percentage royalty until the sum of $44,301.60 is paid. You will note that this sum is slightly different from the figure given in our letter of October 25, 1957, which figure was revised by the final audit, which has now been made.

Sincerely yours,

(signed) FRANK E. JOHNSON (SPH)

Acting Director

SPHolt/gla
4/29/60
cc to: Black Pearl Mining Co.
Director's Reading File
Region III (2)
Docket
Chron
Code 500
CA&A Division

43683

Form 7
-58)

OFFICIAL FILE COPY

Date	Surname	Code
4/20	Holt	500
	Burwell	500
4/21	Talbot	800
		120
		110
		220
		225

Mr. Robert C. Bogart, Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: DMEA-3448 (Tungsten)
Hillside Mining and Milling Company,
Assignee
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Dear Mr. Bogart:

We note from your letter of April 4, 1960, to Mr. J. W. Townsend, Executive Officer, OME Field Team, Region III, Denver, Colorado, that you forwarded check for $1,022.93 in payment of royalty from the sale of stockpiled tungsten concentrates, with the statement that you believed this ended any obligation on the above contract, as the final report was submitted at the termination of operations.

Receipt of this check does clear present obligations. However, under the terms of the contract and of the certification, as noted in our letter of October 25, 1957, all minerals mined or produced from February 2, 1951, to February 2, 1968, are subject to the Government's percentage royalty until the sum of $44,301.60 is paid.

Sincerely yours,

Acting Director

SPHolt/gla
4-20-60
cc to: Director's Reading File
Region III (2)
Docket
Chron
Code 500

43683

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
4/20	Holt	500
	Brown	500
4/21	Talbot	800
4/22	Selfridge	120
		110
5-2	gadi	220
		225

MAY 2 1960

Mr. J. H. Cazier
Black Pearl Mining Co.
3032 South Kearney Street
Denver 22, Colorado

Re: DMEA-3448 (Tungsten)
Hillside Mining and Milling
Company, Assignee
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Dear Mr. Cazier:

Enclosed, as requested in your letter of April 5, 1960, is one photographic (Thermofax process) copy of the Amendment to Lease and Option to Purchase, dated August __, 1954, on the above-captioned property.

This print is made from the only copy of the agreement in our file. As you will note, it shows only the typed names of the signers, and does not contain the date of the month when executed. Other documents in our file refer to that date as August 2, 1954.

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Director

Enclosure

SPHolt/gla
4-20-60
cc to: Director's Reading File
Region III (2) w/2 cys incoming letter
Docket
Chron
Code 500

P. S. We are also enclosing a copy of a self-explanatory letter to Mr. Robert C. Bogart, Manager, Hillside Mining and Milling Company.

43683

3032 S. Kearney
Denver 22, Colorado
April 5, 1960

U. S. Department of Interior
Office of Mineral Exploration
Washington 25, D. C.

Re: Black Pearl Mining Co.
Docket No. 3448 (Tungsten)
Contract No. IDME 763

Gentlemen:

We have occasion to need a photographic copy of the Amendment to Lease & Option to purchase dated August, 1954, with the property owners.

We believe a signed copy is in your file and would appreciate your sending us a photograph of it.

Very truly yours,

J. H. Cazier
Black Pearl Mining Co.

Hillside Mng. Co. assignee 1-11-56

OFFICIAL FILE COPY
O. M. E.
RECEIVED APR 8 1960

DATE	INITIALS	CODE
4-8	gad	VVO
4/8	[illegible]	800
4/11	[illegible]	500

CABLE ADDRESS
LENWAY SAN FRANCISCO

TELEPHONE DOUGLAS 2 8560

FRED H. LENWAY AND COMPANY, INC.

IMPORT · EXPORT · DOMESTIC

METALS · CHEMICALS · MINERALS · RAW MATERIALS · MACHINERY

112 MARKET STREET
SAN FRANCISCO 11, CALIFORNIA

229

Docket 34448
Black Pearl
(Hillside)

BOUGHT FROM:
Hillside Mining & Milling Company
Bagdad, Arizona

OUR INVOICE NO

YOUR ORDER NO

SHIPPED TO Phoenix, Arizona

CONTRACT NO 3671-P

SHIPPED VIA Truck

DATE March 24, 1960

Delivered Warehouse Phoenix, Arizona.

TERMS Net Cash

MARKS

FINAL SETTLEMENT

339 BAGS WOLFRAMITE CONCENTRATES

Gross	-	34,262 lbs.
Tare	-	359 lbs.
Net Wet	-	33,903 lbs.
H20 0.03%		10 lbs.
Net Dry		33,893 lbs.

33,893 lbs. = 16.9465 short tons at 61.91% WO3 =

1,049.1578 S.T.U.'s WO3 at $19.50 per S.T.U. $20,458.58

LESS:
1/2 weighing and sampling charges ($156.04) . . $ 78.02

TOTAL AMOUNT DUE YOU $20,380.56

Ledoux Analysis WO3 - 58.97%
Abbot A. Hanks WO3 - 61.91%
Walker & White WO3 - 62.60%

Middle assay governs settlement.

Idm-E 76% Hillside Mining & Milling Co. $1022.93
Check # 4830,

OME
DEPARTMENT OF THE INTERIOR
APR 8 1960
REGION III
DENVER, COLORADO

LEDOUX & COMPANY WEIGHERS, SAMPLERS AND ANALYSTS

M Teaneck, N. J. Jan. 14, 1960

Return of 339 Bags of Tungsten Ore

Weighed for Fred H. Lenway & Co., Inc.

Marked

Ex

Bags	Lbs.	
339	34262	
	359	Tare
	33903	
	10	Moisture @0.03%
	33893	Net Dry

Note: Packed in "Corolon" Plastic lined burlap bags in good condition.

Weighed by

LEDOUX & COMPANY, (Inc.)

Report checked by

OME
DEPARTMENT OF THE INTERIOR
APR 5 1960
REGION III
DENVER, COLORADO

HILLSIDE MINING & MILLING COMPANY

BLACK PEARL ROYALTIES

SHIPMENT	AMOUNT	LAWLER AGREEMENT 11%	DMEA CONTRACT 5%	BLACK PEARL SCHOLZ & CAZIER 10%	TRIPPLE AGREEMENT 1%
3671 P	$20,458.58	$2,250.44	$1,022.93	$2,045.86	$204.59

OME
DEPARTMENT OF THE INTERIOR
REGION IV
DENVER, COLORADO

Hillside Mining & Milling Company

BAGDAD, ARIZONA

April 4, 1960

OME
DEPARTMENT OF THE INTERIOR
APR 1 19
REGION III
DENVER, COLORADO

Mr. J. W. Townsend
Executive Office OME
Field Team Region III
United States Department of Interior
Office of Minerals Exploration
Building 20 Federal Center
Denver 25, Colorado

Re: Docket DMEA 3448 (Tungsten)
Contract No. Idm E763
Black Pearl Mine
Yavapai County, Arizona

Dear Mr. Townsend:

Enclosed is our check in the amount of $1,022.93 for royalty from the sale of the stockpiled tungsten concentrates.

The entire stockpile was sold and this, I believe, ends any obligation on the above contract as the final report was submitted at the termination of operations. I hope that everything has been handled in a satisfactory manner. No copy of this settlement has been sent to the Tucson office.

Very truly yours,

HILLSIDE MINING & MILLING CO.

Robert C. Bogart
General Manager

RCB:bp
Enclosures - Check ($1,022.93)
4 Copies Final Settlement
4 Copies Weight Certificate
4 Copies Royalties Distribution

Copy in "Settlement sheet" file

OFFICIAL FILE COPY
O. M. E.
RECEIVED FEB 26 1960

DATE	INITIALS	CODE
2-26	gad	200
2/26	[illegible]	800
2/29	[illegible]	500
	J.P.H.	225

Building 20 - Federal Center
Denver 25, Colorado

February 19, 1960

Mr. James H. Cazier
Black Pearl Mining Company
3052 South Kearney
Denver 22, Colorado

Re: Docket No. DMEA-3448 (Tungsten)
Contract No. Idm-E763
Hillside Mining and Milling Company
(Black Pearl mine)
Yavapai County, Arizona

Dear Mr. Cazier:

In order to up-date our files on the referenced contract, we would like to obtain two copies of the instrument whereby the Hillside Mining and Milling Company surrendered possession of the property which it held by the "Sub-Lease and Assignment of Option". We, also, would like to know:

(1) Does your company still hold the property by assignment of the lease and option agreement between all the owners, and E. A. Scholz and Irma R. Scholz?

(2) Has there been production from the subordinated land since January 1, 1959? If yes, and shipments were made, who was the purchaser?

(3) Is any ore, concentrates, or low-grade ore stockpiled? If yes, please furnish estimated weight and grade of each type of material.

An early reply will be appreciated.

Very truly yours,

J. W. Townsend
Executive Officer, OME
Field Team, Region III

TMR:mjs
cc: Chmn. Op. Comm (2)
Royalty corres E763
Chron

BAGDAD COPPER CORPORATION

BAGDAD, ARIZONA

November 3, 1959

OME
DEPARTMENT OF THE INTERIOR
NOV 5 1959
REGION III
DENVER, COLORADO

OFFICIAL FILE COPY
O. M. E.
RECEIVED NOV 9 1959

DATE	INITIALS	CODE
11/10	RCW	225
11/10	[illegible]	800
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		225

S.P.H.

Mr. J. W. Townsend
Executive Officer OME
Field Team, Region III
United States Department of Interior
Office of Minerals Exploration
Building 20 Federal Center
Denver 25, Colorado

Hillside Mining
Assignee

Re: Docket DMEA 3448 (Tungsten)
Contract No. Idm E763
(Black Pearl Mine)
Yavapai County, Arizona

Dear Mr. Townsend:

The Black Pearl concentrates are stockpiled awaiting a buyer. At the present time we are attempting to locate a buyer and accepting bids.

You will be notified and royalty will be paid immediately upon receipt of settlement by the purchaser of these concentrates.

Very truly yours,

HILLSIDE MINING & MILLING CO.

Robert C. Bogart

Robert C. Bogart
General Manager

RCB:bp

OFFICIAL FILE COPY O. M. E. RECEIVED OCT 14 1959		
DATE	INITIALS	CODE
10/14	RCW	225
10/14	[illegible]	800
10/15	[illegible]	500
		225

Building 20 - Federal Center
Denver 25, Colorado

October 12, 1959

Mr. Robert C. Bogart, General Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: Docket No. ~~DMEA 3448~~ (Tungsten)
Contract No. ~~Idm-E763~~
(Black Pearl mine)
Yavapai County, Arizona

Dear Mr. Bogart:

At the last inspection of the Black Pearl mine, it was noted that an estimated 34,000 pounds of 63.3 percent WO_3 concentrates from this property were stored in Bagdad. As you know, royalty is due the Government on these stockpiled tungsten concentrates when they are sold.

Will you please advise the present status of the above mentioned concentrates.

Very truly yours,

Original signed by

J. W. Townsend
Executive Officer, OME
Field Team, Region III

HMC:ltm

cc: Chmn. Op. Comm. (2)
Roy. Corres. E763
Semiannual Rept. file E763
Charon.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado
February 14, 1958

DATE		CODE
2/19	C	220
"	Feg	110
	WSM	400

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3448 (Tungsten) Contract Idm-E763, Hillside Mining and Milling Company (Black Pearl mine) Yavapai County, Arizona - FINAL PAYMENT

Enclosed are two copies of a memorandum to T. A. Christensen, dated February 10, 1958, relative to final payment under the terms of the subject contract.

W. H. King

W. H. King

Enclosures

DMEA		
RECEIVED FEB 10 1958		
DATE	INITIALS	CODE

224 New Customhouse
Denver 2, Colorado
February 10, 1958

Memorandum

To: T. A. Christensen

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No DMEA 3448 (Tungsten) Contract Idm-763, Hillside Mining and Milling Company (Black Pearl mine) Mavapai County, Arizona - FINAL PAYMENT

Reference is made to our memorandum of August 31, 1956, whereby we forwarded the final Form MF-104, Operator's Monthly Report and Voucher, for the month of July 1956, and requested that you withhold the amount of $500.00 from reimbursement to the Operator, pending resumption of work under the contract.

Project work was not resumed and the contract was terminated effective August 1, 1956. The Operator's final report has been received, therefore we recommend that final payment to the Operator be made on the following basis, which is in conformance with the Report of Review of reported project costs by the Contract Administration and Audit Division, DMEA, dated January 13, 1958. Attached is one copy of correspondence concerning liquidation of jointly owned property acquired under the contract.

Basis for Final Payment

Total accepted cost----------	$59,063.80
Government participation at 75%-----	44,301.60
Total prior payments----------	43,880.62
Balance due the Operator----------$	420.98

Original signed by
W. H. KING
W. H. King

Enclosure
JDC:hmh
cc: Chmn. Op. Comm. (2)) w/copy
DMEA/Tucson) of property
MF-104 File, Reg. III) liquidation data
Harshman
Emerick
Townsend
Corres File, Reg. III
Chron

420 98

2/12/58 DMA 58-87

224 New Customhouse
Denver 2, Colorado
December 31, 1957

Mr. Robert C. Bogart, General Manager
Hillside Mining & Milling Company
Bagdad, Arizona

Re: Docket No. DMEA 3449 (Tungsten)
Contract Idm-E763
Hillside Mining & Milling Company
(Black Pearl mine)
Yavapai County, Arizona

Dear Mr. Bogart:

Consistent with authority delegated to this office under Order No. 2808, from the Office of the Secretary, Department of the Interior, the United States of America acting through the Department of the Interior, Defense Minerals Exploration Administration, hereby approves the bid by Black Pearl Mining Company, dated December 17, 1957, in the amount of $254.25, for the jointly owned property acquired under Contract Idm-E763, in which the Government has a 75 percent interest which is subject to liquidation under the provisions of the contract.

You are instructed to make the necessary arrangements with the successful bidder as to payment to you for the property and upon receipt of payment, release the property to Black Pearl Mining Company.

The sum of $254.25 reflecting both yours and the Government's interest in the property liquidation will be deducted from the gross amount of claims by you held pending in this office for reimbursement under the terms of the contract, thereby automatically making a deduction from monies due you in final payment of your account of the amount of $190.69, due the Government in the transaction.

Yours very truly,

W H King

W. H. King
Executive Officer, DMEA
Field Team, Region III

cc: J. H. Cazier, Sec-Treas.
Black Pearl Mining Co.
1555 South Ash Street
Denver, Colorado

JWT:hmh

cc: MF-104 File (5)) with
DMEA Auditor, Reg. III) copies
Harshman) supporting
Corres. File) bids
Emerick
Tucson (Romslo)
Townsend
Chron

DMEA
DEPARTMENT OF THE INTERIOR
DEC 30 1957
REGION III
DENVER, COLORADO

December 17, 1957

Mr. E. N. Harshman
Executive Officer
DMEA Field Team
Region III
224 New Customhouse
Denver 2, Colorado

Re: DMEA Docket No. 3448
Contract ldm - H 763
Black Pearl Mine
Yavapai County, Arizona

Dear Sir:

The following bids are offered on equipment located at the Black Pearl Mine or in Hillside Mining and Milling Co. storage in the area:

1)	Headframe and sheave wheel complete with bearings	$151.25
2)	Shaft ventilation fan complete with 6½ - 8½ H.P. single cylinder gasoline engine with V-belt drive	26.25
3)	Rotary or turbine air motor skill saw swinging 12" blade	76.25
		254.25

Yours very truly,

BLACK PEARL MINING CO.

J. H. Cazier
Secretary Treasurer

JHC:jp

xxxxxxxxxxxxxxxxxxxxx

December 26, 1957

DMEA
DEPARTMENT OF THE INTERIOR
DEC 30 1957
REGION III
DENVER, COLORADO

Mr. E. N. Harshman
Acting Executive Officer
DMEA Field Team Region III
224 New Customhouse
Denver 2, Colorado

RE: Docket No. DMEA 3448 (Tungsten)
Contract No. IDM E763
Hillside Mining & Milling Company
(Black Pearl Mine)
Yavapai County, Arizona

Dear Mr. Harshman:

Enclosed is a bid on the equipment located at the Black Pearl Mine, in addition to the two sent to you on November 25, 1957.

The following bids were made on the headframe, sheave wheel, shaft ventilation fan and air saw:

Black Pearl Mining Co.	$254.25
Western Machinery	75.00
Hillside Mining & Milling Co.	50.00

It might be well to note that the headframe and sheave could possibly be of value to the contract if left in the property as an added inducement to future mining.

In view of the above facts, I recommend the bid of the Black Pearl Mining Company be accepted.

Very truly yours,

HILLSIDE MINING & MILLING COMPANY

Robert C. Bogart

Robert C. Bogart
General Manager

RCB:bp
Enclosure

DMEA
DEPARTMENT OF THE INTERIOR
NOV 29 1957
REGION III
DENVER, COLORADO

xxxxxxxxxxxxxxxxxxxxx

November 25, 1957

Mr. E. N. Harshman
Executive Officer
DMEA Field Team
Region III
224 New Customhouse
Denver, Colorado

Re: DMEA DOCKET NO. 3448
CONTRACT IDM E763
BLACK PEARL MINE
YAVAPAI COUNTY, ARIZONA

Dear Mr. Harshman:

Enclosed is one bid on the equipment at the Black Pearl Mine.

This lot is so small that it is difficult to obtain bids. I have been unable to find anyone who is at all interested in the wooden head frame and sheave.

Therefore, on behalf of the Hillside Mining & Milling Company, I would like to submit a token bid of $50.00 for the lot, consisting of one air saw, Briggs & Stratton air cooled engine, head frame and sheave.

Very truly yours,

HILLSIDE MINING & MILLING COMPANY

Robert C. Bogart

Robert C. Bogart
General Manager

RCB:bp
Enclosure

DMEA
DEPARTMENT OF THE INTERIOR
NOV 29 1957
REGION III
DENVER, COLORADO

October 29, 1957

Mr. Robert C. Bogart
% Bagdad Copper Corporation
Bagdad, Arizona

Dear Mr. Bogart:

Mr. E. A. Scholz, mining engineer, has talked to me a couple of times about making them an offer on some small items at the Black Pearl Mine. All he has there, according to our phone conversation, is a 12" air saw; an old sheave wheel, and a small Briggs & Stratton air cooled engine. I told Mr. Scholz that we didn't really want this equipment as it is too small a lot of equipment for me to make a trip to inspect but, if it was delivered to Phoenix, we would pay $ 75.00 for the three items. Unfortunately there is not enough for anyone to go to much expense to inspect it, and Mr. Scholz suggested I wrote you and tell you what we would pay for it.

If you can get any more money from any other source out of it, we would rather not have it. I realize the offer is low but none of the items are very interesting.

Best regards.

Yours very truly,

WESTERN MACHINERY COMPANY

J. P. Keller
Manager

JPK:hj

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

OFFICIAL FILE COPY
DMEA
RECEIVED FEB 19 1958

DATE	INITIALS	CODE
2-19	C	220
	WSM	400

Memorandum

February 12, 1958

To: Chairman, Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket No. DMEA 3448 (Tungsten), Contract No. Idm-E763, Hillside Mining and Milling Company (Black Pearl mine), Yavapai County, Arizona - FINAL SUMMARY REPORT

The contract was terminated before completion of all work originally provided for by a TERMINATION AGREEMENT dated June 11, 1957, which was made effective August 1, 1956.

An Interim Report by the Operator covering work completed under the contract, forwarded by our memorandum of May 6, 1957, was accepted as the Operator's final report. The original and two copies of a Joint Final Engineering and Geologic Report were forwarded by our memorandum of September 5, 1957.

See Memo & Report 9.5.57

Final payment to the Operator was processed by this office February 10, 1958, in conformance with the Report of Review of reported project costs by the Contract Administration and Audit Division, DMEA, dated January 13, 1958, which was released to this office February 6, 1958.

Exploration work completed under the contract consisted of preparation of surface site, erection of head frame and sheave, erection of hoist house, installation of skip and accessory equipment in the shaft, 150 feet of shaft sinking, excavation of a station and skip pocket, 716 feet of drifting and cross cutting, 674.5 feet of drift and crosscut timbering, 118 feet of raising, and analysis of 126 samples; all at a total accepted cost of $59,068.00, toward which the Government contributed 75 per cent, or an amount of $44,301.60.

The exploration work completed resulted in the discovery or development of a significant quantity of tungsten ore, on which a Certificate of Discovery or Development was issued October 25, 1957.

W. H. King
W. H. King

E. N. Harshman
E. N. Harshman

EA Form 7
12-56)

OFFICIAL FILE COPY

Date	Surname	Code
2/7	Chambers	800
2/7	C	220
	WSM	400

FEB 7

Mr. Thomas H. Breding
DMEA Auditor
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-2314
Contract Idm-E254
American Exploration and
Mining Co.
and
Docket No. DMEa-3448
Contract Idm-E763
Hillside Mining and Milling
Company

Dear Mr. Breding:

In your letter of February 5, 1958, you ask whether both operators under each of the referenced contracts should be furnished copies of your reports of reviews.

Both operators in each case should be given a copy of the report.

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers, Director
Contract Administration
and Audit Division

JLChambers/wb
February 6, 1958

Copy to: Docket (2)
Admr. Reading File
Mr. Chambers

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
1/27	Talbert	800
1/28	C	220
	WSM	400

Mr. Thomas H. Brading
DMEA Auditor
224 New Customhouse Building
Denver 2, Colorado

JAN 27 1958

Re: Docket No. DMFA-3448
Contract No. Idm-E763
Hillside Mining and
Milling Company

Dear Mr. Brading:

Your letter of January 24, 1958, satisfactorily explains the audit findings which were questioned by my letter of January 17, 1958. Copies of your letter will be attached to the Washington copies of the audit report, thereby making revision of the report unnecessary.

Upon submission to this Division of:

(1) another copy of the audit report,
(2) two copies of an addenda to the report furnishing information regarding the disposition of property, and
(3) three copies of the revised certificate,

the report will be acceptable and normal distribution is authorized without further advice from this Division.

In connection with this case, and for your consideration in the preparation of future audit reports, it is to be remembered that an audit report should "stand on its own feet." In other words, it should not be necessary for a reader to review vouchers, correspondence, and examining engineers' reports to determine the auditor's reasons for either acceptance or disallowance of costs. The manual states, relative to Section III of the report, that: "It will indicate the extent and scope of attention given each item and the auditor's finding and determination in regard to the acceptability of pertinent costs. Details should be given of the auditor's examination of each item under each category or subcategory, sufficient to enable the reader to obtain a fair picture of the extent and thoroughness of the coverage."

For example, your treatment of the headframe costs (in the audit report and without the benefit of your letter) certainly does not give sufficient or pertinent facts. After one and a half pages

of unnecessarily minute cost details, the report erroneously indicates a disallowance for costs in excess of a maximum. No mention is made that the Operator built a 44 foot headframe rather than the specified 35 foot headframe, and that the disallowance actually was for the excess costs involved.

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers, Director
Contract Administration
and Audit Division

EDTalbert/wb
January 27, 1958

Copy to: Docket
Admr. Reading File
Mr. Chambers

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
1/17	Tallent	800
1-17	C	220
		400

JAN 17 1958

Mr. Thomas H. Breding
DMEA Auditor
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-3448
Contract No. Idm-E763
Hillside Mining and
Milling Company

Dear Mr. Breding:

The Washington copies of your Audit Report and Certificate covering the referenced project are returned herewith for such revision as may be necessary after consideration of the following points:

(1) On page 3 of the report, under the title of Supervision, reference is made to the time of "Messrs. Scholz and Cazier" without identification of their supervisory or technical capacity. Mr. Cazier is identified elsewhere in your report as secretary-treasurer of Black Pearl, but I find no other reference in your report to Mr. Scholz; however, he signed several contract documents as president.

(2) On page 4, under Operating Equipment, and on page 7, under New Buildings, etc., deductions are stated for property disposition, but no information is given as to method of disposition. The proper reporting of this information is given by example on pages 56 and 64 of the audit manual.

(3) On page 7, under New Buildings, etc., costs of the headframe in excess of $1,500.00 have been disallowed without sufficient explanation. Your report indicates that the amount of $1,500.00 is a maximum under the contract; however, the contract specifies that only the total for the category, i. e., $2,300.00 is a maximum. This interpretation is set forth on page 18 and in the contract guide (following page 21) of the audit manual.

The docket on this project indicates that the Operator built a 44 foot headframe instead of the 35 foot headframe specified by the contract. Therefore, any costs in excess of the reasonable and necessary costs of a 35 foot headframe are for the account of the Operator and should be disallowed. Consideration also must be given to the possibility that the claimed costs may cover the hoist installation,

8623

for which an estimate of $300.00, in addition to the estimate of $1,500 for the headframe, is given in Exhibit "A" of the contract.

(4) On page 7 trucking charges for hauling timber have been allowed as part of the Category (7) costs. If the timber was used in the headframe, the trucking costs should be transferred to Category (6) and given consideration in determining the allowable costs of the headframe. On the other hand, if the timber was used in the underground work, the trucking charges should be disallowed. Such costs are included in the fixed unit costs.

(5) On page 8 accounting costs of $175.00 for a prorated portion of Mr. Cazier's salary of $1,000.00 per month for seven months are allowed, whereas the Operator's narratives and the examining engineer's reports indicate that the work on an actual cost basis was performed during a period extending only from May 4, 1955, to the latter part of September 1955.

In connection with Mr. Cazier's salary of $1,000.00 per month (as well as the salary of Mr. Scholz), part of which also was prorated to supervision and technical services, the question arises as to whether such salary was for services as a corporate officer. Article 6 (b) of the contract prohibits contribution by the Government to corporate management expenses.

(6) Sec. IV, Conclusions, of the report does not include a summary statement of the status of contract maximums. An example of this summary is given on page 65 of the audit manual.

(7) The audit certificate states the exceptions as follows:

Prior to this audit	$689.07	
During this audit (Reinstatement)	148.89	540.18

Based upon your audit summary the exceptions properly should be stated in the following manner:

Prior to this audit	$689.07		
Less: Reinstatements	178.96	$510.11	
During this audit		30.07	540.18

A sample of this format is attached to my memorandum addressed to all auditors under date of November 8, 1957.

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers, Director
Contract Administration
and Audit Division

Enclosure
EDTalbert/wb
January 17, 1958

Copy to: Docket
Admr. Reading File
Mr. Chambers

12/2	C	220
12/2/57		800
12/3	12/3/57	400

224 New Customhouse
Denver 2, Colorado

November 26, 1957

CERTIFIED MAIL

Mr. Robert C. Bogart, General Manager
Hillside Mining & Milling Company
Bagdad, Arizona

Re: Docket No. DMEA 3448 (Tungsten)
Contract No. Idm-E763
Hillside Mining & Milling Company
(Black Pearl mine)
Yavapai County, Arizona

Dear Mr. Bogart:

Enclosed for appropriate action by your Company is a sealed bid relative to liquidating the Government's interest in jointly owned property acquired under the Contract, and a copy of Mr. Scholz's letter of November 22, 1957 by which the sealed bid was transmitted to this office.

In submitting your proposal relative to liquidating the Government's interest in the jointly owned property acquired under the Contract, you should abstract all bids received, including your own bid should you wish to bid on the property in order to retain it in place, and provide this office with the original and four copies of the abstract of bids and the original and four copies of each bid included in the abstract.

Very truly yours,

Original signed by
E. N. HARSHMAN

E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III

Enclosure

cc: Mr. J. R. Cazier
1555 South Ash Street
Denver, Colorado

cc: Mr. Edgar A. Scholz, President
Black Pearl Mining Company
Bagdad, Arizona

JWT:prl
cc: Chmn. Op. Comm. (2)
Harshman) w/copy of Mr. Scholz's
Townsend Emerick) letter of Nov. 22.
Chron. DMEA/Tucson-Romslo)
Corres. file)

OFFICIAL FILE COPY

Date	Surname	Code
11-4	Holt	400
11-4	Martin	400
11/6	GCS.	130
"	Johnson	110
		~~100~~ 310
11/6	gb	220
		400

NOV 8 1957

Mr. E. N. Harshman, Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 3448 - Tungsten
Hillside Mining and Milling Company,
Assignee
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Dear Mr. Harshman:

The enclosed letter of October 25, 1957, to Mr. James E. Harrington and Mrs. Kathryn I. Harrington, concerning the certification of the above-subject contract, was returned by the post office at Phoenix, Arizona, undelivered because of insufficient address.

It will be appreciated if you can ascertain the proper address and forward the letter.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (SHB)

APPROVED:

Frank D. Lamb (SHB)
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey (SHB)

SPHOLT/dlm 11-4-57
cc to: Code 400
Admr. B. File
Oper. Comm.
FT. REG. III
Messrs. R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

Enclosure

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
10-21	Holt	400
10-21	Martin	400
10/21	Talbitt	800
10-25	Fredge	130
10/23	Kauk	130
10/23	Kilogaard	130
10/25	Johnson	110
	Mittendorf	100
10/25	C	220
		400

OCT 28 1957

AIR MAIL

Hillside Mining and Milling Company
Bagdad, Arizona

Re: Docket No. DMEA 3448 - Tungsten
Black Pearl mine
Yavapai County, Arizona
Contract No. Idm-E763

Gentlemen:

Enclosed is a certification of discovery or development which covers all the land described in Article 2 of the contract.

By the terms of the Exploration Project Contract, as amended, and of the certification all minerals mined or produced from February 2, 1955, to February 2, 1968, are subject to the Government's percentage royalty as set forth in the contract until the sum of $44,380.62, subject to final audit, is paid.

Royalty should continue to be paid, as it has been in the past, to Mr. E. N. Harshman, Acting Executive Officer, DMEA Field Team, Region III, 224 New Customhouse, Denver 2, Colorado. The purchaser should be advised to deduct royalties from the amount due on each shipment and forward check direct to the Acting Executive Officer. Royalty payments to the Government should be accompanied by suitable evidence, such as settlement sheets, showing quantity and grade of the products sold, the name of the purchaser, and the charge certified to be correct by the purchaser.

You are requested to notify Mr. Harshman of any change in ownership or production rights that might have any effect on the Government's right to its percentage royalty. Also, if production ceases at any time for any extended period, please notify Mr. Harshman at 6-month intervals that no production has been made, when that is the case.

Sincerely yours,

C. O. Mittendorf

Administrator

Enclosure

cc to: Mary Lyons
Jos. W. & Florence E. Wato

cc to:
J. H. & Dorothy L. Cazier
Black Pearl Min. Co.
E. A. & Irma R. Scholz
John W. & Mary Lawler
James E. & Kathryn I. Harrington

Oper. Comm.
FT. REG. III
F. D. Lamb, USBM
R. W. Holliday, USBM
T. H. Kilsgaard, USGS

SPHOLT:foc: 10-21-57 cc to:
cc to: Code 400
800
110
Admr. R. File

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9-27	Holt	400
9-27	Martin	400
10/25	Selfridge	130
10/24	Talbot	800
10/25	Johnson	110
"		~~110~~
"	Mittendorf	~~100~~
		220
		400
10/23	Kiilsgaard	130
10/23	Lamb	130

OCT 25 1957

Black Pearl Mining Company
c/o Mr. Edgar A. Scholz
5702 North 12th Street
Phoenix, Arizona

Re: Docket No. DMEA 3448 - Tungsten
Hillside Mining and Milling Company,
Assignee
Black Pearl mine
Contract No. Idm-E763

Gentlemen:

Enclosed is a copy of a certification of discovery or development, with copy of covering letter to the Operator, which has been issued pursuant to the terms of the above-cited contract.

This correspondence relates to the Sub-Lease and Assignment of Option signed by you as lessor and the Hillside Mining and Milling Company as lessee, on November 1, 1955. The Government's prior lien on the land and upon any production therefrom will continue in existence for the length of time mentioned in the enclosed copy of the letter to the Operator. You are obligated during that period to commit no act and to assert no claim in conflict with the Government's rights under the agreement signed by you, and to give advance notice of the Government's rights to any transferee or lessee of any part of your interest in the land or production therefrom.

Sincerely yours,

C. O. Mittendorf

Administrator

SPHOLT:foc
9-27-57
cc to: Code 400
800
Admr. R. File
Oper. Comm.
Enclosures
FT. REG. III
Messrs. F. E. Johnson
F. D. Lamb, USBM
R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

8623

DMEA Form 7
(12-56)

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Date	Surname	Code
10-18	Holt	400
10-18	Martin	400
10/21	Talbot	800
10/20	Selfridge	130
10/23	Lamb	130
10/25	Johnson	
"	Butterworth	~~110~~
		109
		220

10/23 Kilsgaard 130

Mr. Clarence A. Fredell, Acting Director
Technical Services Division
Defense Materials Service
General Services Administration
7th and D Streets, S. W.
Washington 25, D.C.

Re: Docket No. DMEA 3448 - Tungsten
Hillside Mining and Milling
Company, Assignee
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Dear Mr. Fredell:

Enclosed is a copy of a certification of discovery or development issued under the subject contract.

Contract No. Idm-E763 for the exploration of the Black Pearl tungsten deposits was executed February 2, 1955. Expenditures up to $127,285.00 were authorized by the contract as amended, of which the Government's share at 75 percent was $95,463.75. Cost of the work completed was $59,174.16, of which the Government's share was $44,380.62, subject to final audit.

The object of the exploration program was to test the possible tungsten occurrences along a quartz fissure vein in granite. The program employed shaft sinking, drifting, crosscutting and raising to explore the mineralized zone.

The contract, as amended, provided for 275 feet of shaft sinking, excavating two shaft stations, 1,600 feet of drifting, 105 feet of crosscutting, and 125 feet of raising. Work completed comprised 150 feet of shaft sinking, excavating one shaft station, 716 feet of drifting and crosscutting, and 118 feet of raising.

Reserves of tungsten ore discovered by project work are estimated as 109,000 tons of indicated and inferred ore, averaging 0.27 percent tungsten trioxide (WO_3).

Sincerely yours,

C. O. Mittendorf

Administrator

Enclosure

SPHOLT/dlm 10-18-57
cc to: Code 400
800
110

cc to: Admr. R. File
Oper. Comm.
FT. REG. III

Messrs. F.D. Lamb, USBM
G. L. DeHuff, Jr. USBM
T. H. Kilsgaard, USGS

8623

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DMEA
RECEIVED SEP 30 1957

DATE	INITIALS	CODE
10/1	B	220
"	WSM	400

September 1957

3448
Idm-E763
Tungsten
Hillside Mining and Milling Co.
Black Pearl mine
Yavapai County, Arizona

W. S. Martin, Chief, Iron and Ferroalloys Division-DMEA
Through: Chief, Branch of Ferrous Metals and Ferroalloys
R. W. Holliday, Commodity Specialist, Branch of Ferrous Metals and Ferroalloys

Final Report by Field Team

8/1957 9/27/57

X

X

X

X

X

X

I concur with the examiners recommendation that a Certificate of Discovery be issued.

R. W. Holliday

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

September 23, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED SEP 25 1957

DATE	INITIALS	CODE
9/25	B	220
9/26	WSM	400

Memorandum

To: Chairman, Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket No. DMEA-3448 (Tungsten), Contract No. Idm-E763
Hillside Mining and Milling Company (Black Pearl Mine)
Yavapai County, Arizona

Reference is made to your letter of September 18, 1957, concerning the final engineering and geologic report forwarded by our memorandum of September 5, 1957.

The caption on the report of "Final Report by Field Team, Region III" is a misnomer, as the engineering and geologic report is only considered a section of the Field Team's final report. The Field Team's final report ordinarily is a brief summary report designated "Final Report" which summarizes the extent of the project work, costs and results. Therefore, when the liquidation of the property and other closing procedures have been completed, the Field Team's summary report will be submitted.

The Field Examiners in their report recommend the issuing of a Certificate of Discovery or Development as a result of the exploration work performed, in which this office concurs.

Noted
S.I.H.

By J. W. Townsend
Alternate Acting Executive Officer

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9-18	Holt	400
9-18	Martin	400
9/18	Talbert	800
9/18	RLS	130
"	Johnson	
		400
		400
		400
9/19	C	220

SEP 18 1957

Mr. William H. King, Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 3443 - Tungsten
Hillside Mining and Milling Co., Assignee
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-7763

Dear Mr. King:

In the first paragraph of your letter of September 5, 1957, you referred to the report transmitted with the letter as "a joint final engineering and geological report" on the subject contract, while in the second paragraph of the same letter you state "The Field Team's final report will be submitted when the liquidation of jointly owned property and other closing procedures have been resolved." However, unless we hear from you to the contrary, the report in question, which contains on the title page the notation "Final Report by Field Team - Region III," will be treated as such, and the one to follow when the liquidation of property and other closing procedures have been completed will be treated as a supplement.

The authors of the report, on page 2, recommend that a "Certificate of Discovery" be issued, but your letter of transmittal does not contain any mention of certification. It will be appreciated if you will give us the Field Team's specific recommendation as to certification.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (SHB)

SPHolt/dlm 9-18-57

cc to: Code 400
Admr. R. File
Oper. Comm.
FT. REG. III

Messrs. R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

CONCURRED:

P. F. Yopes (SHB)
Member, Bureau of Mines

N. E. Nelson (SHB)
Member, Geological Survey

8623

OFFICIAL COPY
RECEIVED 1957
DATE CODE
9/17 C 220
9/17 WSM 400

IN REPLY REFER TO:

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

September 16, 1957
Re: DMEA 3448 Idm-E763
Hillside Mining & Milling Company
Black Pearl Mine
Yavapai County, Arizona
Tungsten

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team Final Report

The contract, granted February 2, 1955, sanctioned the expenditure of $127,285.00 on the exploration by sinking and drifting of a 3-foot quartz-pyrite-wolframite fissure vein in granite. Production prior to the contract totalled about 5,000 short ton units of WO_3. The applicant requested assistance on a $248,500 project.

Work completed cost $59,174.16. About 3,800 units of tungsten was produced from 13,900 tons of ore, and sold for $159,917. $7,995.88 was remitted as payment on the accrued royalty, $44,380.62. Unsold concentrate contains about 1,070 units.

Estimated reserves above the 250 level are:-

Tons	Class	Grade	Units
78,000	Indicated and Inferred	6.65 Pds/ton	25,890
31,000	Indicated and Inferred	3.0 "	4,650

Available data seem to indicate that the grade of the ore decreases downward.

The examiners and Field Team recommend that a certificate of discovery be issued. I concur with the recommendation.

N. E. Nelson

N. E. Nelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

September 5, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3448 (Tungsten), Contract No. Idm-E763, Hillside Mining and Milling Company (Black Pearl mine), Yavapai County, Arizona

Enclosed are the original and two copies of a joint final engineering and geologic report, dated August 1957, by T. M. Romslo, Mining Engineer, Bureau of Mines, and J. N. Faick, Geologist, Geological Survey; and joint memorandum in transmittal thereof, dated August 28, 1957, from W. L. Emerick and T. M. Romslo, pertaining to work completed under the subject contract.

The Field Team's final report will be submitted when the liquidation of jointly owned property and other closing procedures have been resolved.

E. N. Harshman

E. N. Harshman

Enclosures

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D M E A
RECEIVED SEP 9 1957

DATE	INITIALS	CODE
9/9	Q	220
9/9	JB	130
"	FB	110
9/13	Q.	130 JB
9/16	WSM	220
		400

Reviewed by
DMEA OPERATING COMMITTEE
9-13-57
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
REGION III

SOUTHWEST
EXPERIMENT STATION

DMEA
DEPARTMENT OF THE INTERIOR
SEP 3 - 1957
REGION III
DENVER, COLORADO

P. O. BOX 4097
UNIVERSITY STATION
TUCSON, ARIZONA

August 28, 1957

Memorandum

To: W. H. King, Executive Officer, DMEA Field Team, Region III

From: W. L. Emerick
T. M. Romslo

Through: E. N. Harshman

Subject: Docket No. DMEA-3448 (Tungsten), Contract No. Idm-E763, Hillside Mining andMilling Co. (Black Pearl Mine), Yavapaid County, Arizona - Final Report.

Enclosed are the original and 8 copies of a joint final report on the above docket by T. M. Romslo, U. S. Bureau of Mines, and J. N. Faick, U. S. Geological Survey. Faick prepared the Survey sections before his resignation on June 30, 1957 and the completed joint report was assembled by Romslo. The report has been read and approved by Emerick.

W. L. Emerick, Geologist
U. S. Geological Survey

T. M. Romslo, Mining Engineer
U. S. Bureau of Mines.

OFFICIAL FILE COPY
DMEA
RECEIVED SEP 9 1957

DATE	INITIALS	CODE
		130 2/3
		220
8/16	WSM	400

CC W. H. King (Orig. & 8)
W. L. Emerick
DMEA-3448
DF

Reviewed by
DMEA OPERATING COMMITTEE
9-13-57
(date)

OK Hmc
9-4-57

DMEA
ARTMENT OF THE INTERIOR
SEP 3 - 1957
REGION III
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
FRED A. SEATON, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

FINAL REPORT BY FIELD TEAM
REGION III

DMEA-3448 (Tungsten), Contract No. Idm-E763

Hillside Mining and Milling Company (Black Pearl Mine)

Yavapai County, Arizona

T. M. Romslo, Mining Engineer
U. S. Bureau of Mines

J. N. Faick, Geologist
U. S. Geological Survey

August 1957

See memo of 7.12.58

Reviewed by
DMEA OPERATING COMMITTEE
9-13-57
(date)

DMEA-3448 (TUNGSTEN), CONTRACT No. Idm-E763
HILLSIDE MINING AND MILLING COMPANY (BLACK PEARL MINE)
YAVAPAI COUNTY, ARIZONA

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General geology	8
Description of the deposit	9
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SUMMARY, CONCLUSIONS AND RECOMMENDATION

The Black Pearl mine, situated in Yavapai County, Arizona was explored with Government aid from the Defense Minerals Exploration Administration as authorized by amendments to the Defense Production Act of 1950. Three applications were submitted to explore the Black Pearl mine, but the first two were withdrawn. The third application was assigned docket No. DMEA-3448 and contract No. Idm-E763 was granted February 2, 1955, after the necessary field examinations were completed.

The Black Pearl project explored a fissure vein in granitic host rocks. The vein, which averages about 3 feet wide and about 1,800 feet long, contains principally quartz, pyrite, wolframite, specularite, and minor amounts of beryl, bismuthinite and molybdenite. The deposit was discovered in 1914 and worked intermittently until 1929, and was worked almost continuously from 1951 through 1956. Production prior to the exploratory project was about 100,000 pounds of WO_3.

The contract provided for shaft sinking and drifting at an estimated cost of $127,285.00. The contract was issued to the Black Pearl Mining Company and then was transferred to the Hillside Mining and Milling Company

on November 1, 1955, after a small amount of the allowable work was completed. The Hillside Mining and Milling Company deepened the shaft to 155 feet and explored the vein on the adit level and on the 125 level. The total approved cost of the project before a final audit was $59,174.16.

This exploration work and stoping operations during the life of the contract resulted in production of about 76,000 lbs. of WO_3 from about 13,900 tons of ore. Royalties paid to the Government amounted to $7,703.06 and additional royalty will be paid when 21,522 lbs. of WO_3 remaining in storage are sold.

Measured ore reserves remaining in the mine are not significant; however, total indicated and inferred reserves above the 250-foot level amount to about 109,000 tons of ore. Of this amount 78,000 tons contain about 6.65 pounds WO_3 per ton and 31,000 tons contain about 3 pounds WO_3 per ton. Available data seem to indicate that the grade of ore is decreasing downward.

It is recommended that a Certificate of Discovery be issued because:

1. The indicated and inferred reserves of low-grade tungsten ore above the 250 level are significant.

2. Additional reserves of similar ore could be present below the 250 level.

3. Other minerals of potential value are present in the deposit.

4. Additional production during periods of emergency and more favorable economic conditions is possible.

INTRODUCTION

This report describes the results of exploration in the Black Pearl Mine, Yavapai County, Arizona, that was done with Governmental aid authorized by amendments to the Defense Production Act of 1950. The Black Pearl mine was the subject of three applications to the Defense Minerals Exploration Administration. The first of these, DMA-160, was submitted by the Dixon Mineral Company in 1951, but before a contract could be consummated, the mine was purchased by E. A. Scholz and J. H. Cazier and the application was withdrawn. Subsequently, in June 1951, a request for an exploration loan was submitted by Scholz and Cazier. This application was docketed DMA-1506X and a contract was drawn up by DMA for signature of the applicants. The applicants were unable to get a consent to lien signed by one of the owners and on June 13, 1952 the application was withdrawn. In August 1954, E. A. Scholz, J. H. Cazier, and L. K. Lindahl organized an Arizona corporation, the Black Pearl Mining Company, and renegotiated the lease and option to purchase the property. The owners recognized the intent of Scholz and Cazier to apply for Government assistance and agreed to supply an Owners Consent to Lien. On August 16, 1954 the Defense Minerals Exploration Administration received a new application from the Black Pearl Mining Co. for an exploration project estimated to cost $248,500. This application was docketed as DMEA-3448, and was referred to the field team on September 2, 1954 with a request for field examination.

The mine was examined on September 21 and 22, 1954 by William R. Hardwick, mining engineer, Bureau of Mines, and John N. Faick, and Leonid Bryner, geologists, U. S. Geological Survey. The examiners were accompanied by Scholz and Cazier. On September 23 all phases of the project were discussed with Scholz and Cazier and this resulted in the applicant company requesting changes in the proposed project. The final accepted proposal provided for building a headframe, sinking a shaft to a depth of 250 feet, drifting and crosscutting for 1,750 feet on the 125- and 250-foot levels, and raising to connect the levels. The work was to be done in two stages at an estimated total cost of $127,285. The area subordinated under the contract is the Black Pearl patented lode mining claims Nos. 1, 2, and 7, exclusive of all ore previously developed above the Black Pearl adit.

ACKNOWLEDGMENTS

Acknowledgments are due to E. A. Scholz and J. A. Cazier, respectively president and secretary-treasurer of the Black Pearl Mining Co., for their courteous cooperation during the examination and early stages of the project. Acknowledgment is also due Robert C. Bogart, General Manager, Hillside Mining and Milling Company for his excellent cooperation in supplying pertinent data concerning operations during the latter stages of the project. Acknowledgment also is made for information obtained from Arizona Bureau of Mines Bulletin N . 148 by Eldred D. Wilson, and from private examination reports by Harlow D. Phelps and J. F. Frost, which were supplied by Scholz and Cazier.

LOCATION, ACCESSIBILITY, PHYSICAL FEATURES AND CLIMATE

The Black Pearl tungsten mine is located in the northwest quarter of section 18, T. 15 N., R. 7 W., Yavapai County, Arizona (fig. 1). The mine is accessible by 19 miles of fair dirt road which lead directly to the mine from Bagdad, Arizona, but the traveler must be careful not to follow branch roads which lead to the left from the main road at 1.8 miles and 4.2 miles respectively from Bagdad. The mine, which is shown on the Bagdad quadrangle (1948 edition), is at an altitude of 5,700 feet in an area of moderate to rough topography. The area receives about 14 inches of precipitation, divided nearly equally between summer and winter storms. The vegetation consists of live oak, juniper, pinon and grasses that are characteristic of the Arizona Mountains.

HISTORY AND PRODUCTION
(pre DMEA)

The Black Pearl claims were first located in 1914 by Wm. Conners and the property was worked intermittently until 1929, and was operated almost continuously from 1951 through 1956. The vein was explored by surface and underground workings for a strike length of about 1,900 feet.

According to the former owner, H. R. Wood, shipments from the Black Pearl mine during the years 1915-1929 inclusive are as shown in Table 1.[1/]

1/ Wilson, E. D., Tungsten deposits of Arizona, Arizona Bur. of Mines, Geological Series No. 14, Bull. 148, p. 21, 1941.

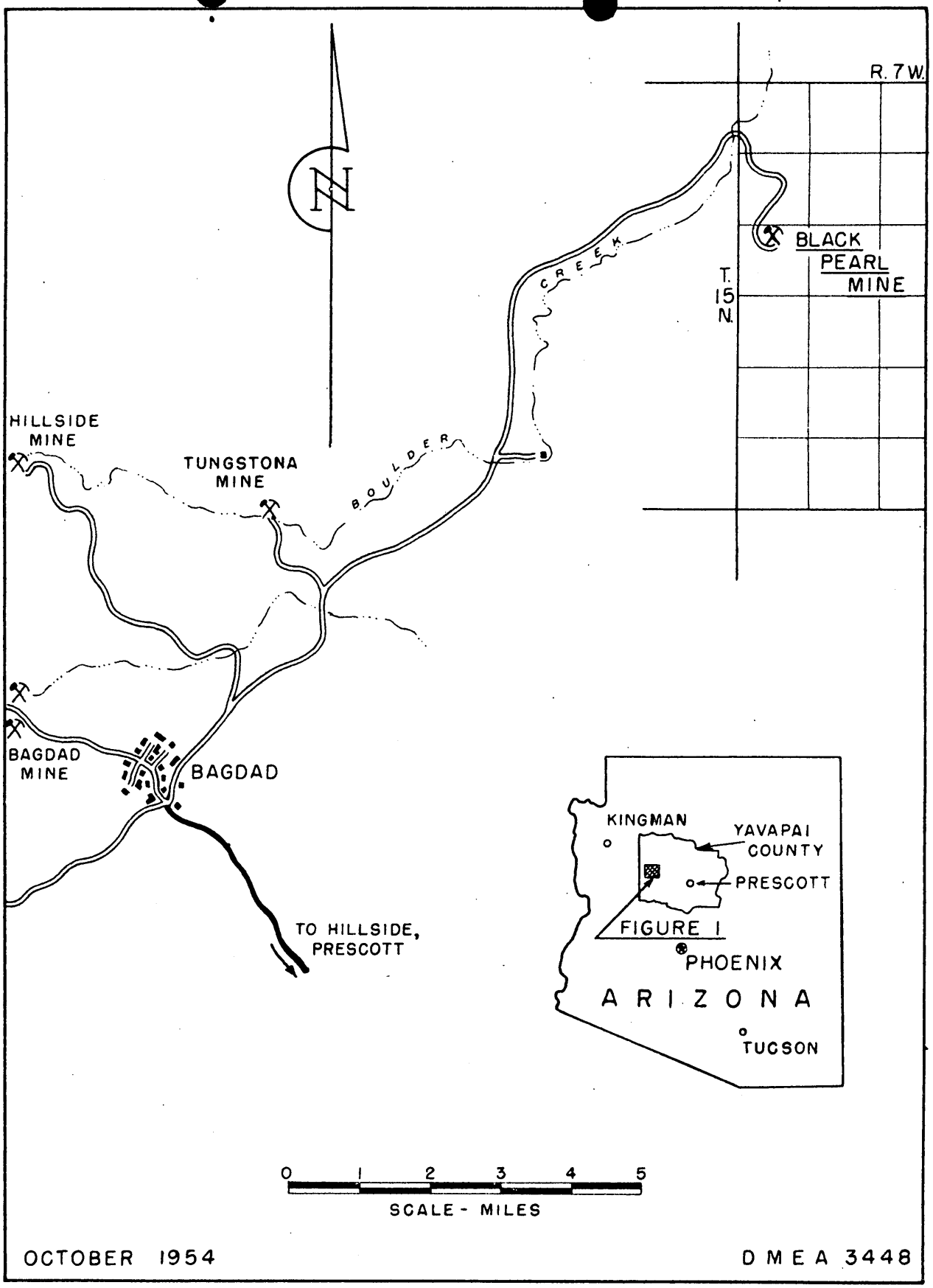

FIGURE 1. - LOCATION MAP - BLACK PEARL MINE
YAVAPAI COUNTY, ARIZONA

TABLE 1. Production from the Black Pearl Mine 1915 to 1929.

Year	Pounds	Percent WO_3	Year	Pounds	Percent WO_3
1915	3,401	71.13	1930	1,620	72.00
1917	3,152	70.70	1931	1,895	72.00
1917	6,830	69.90	1932	3,825	68.00
1918	3,613	70.60	1933	4,841	69.88
1918	1,482	70.81	1933	12,472	71.14
1918	1,444	71.60	1933	2,291	69.76
1919	100	68.00	1935	975	- - -
1926	6,994	71.10	Misc.	4,265	- - -
1929	2,900	72.45	Total	62,100	70.00 Av.

In 1936, the Vega Mines Co., an Arizona corporation, drove and sampled 180 feet of adit beginning 381 feet from the portal. The sampling done by H. D. Phelps, Mining Engineer, in 1936, yielded an average of 0.504 percent WO_3 for 126 samples representing the 180 feet of adit. Phelps overall average of 0.504 percent WO_3 for mined rock was recalculated by him to represent only the vein material in place, and a grade of 0.705 percent WO_3 was obtained.

Scholz and Cazier produced about 2,803 units of WO_3 between 1951 and February 1955, the date of the contract. Prior to granting the contract the total recorded production amounted to 4,976 units of WO_3. Undoubtedly there has been some production that is not known to us.

OWNERSHIP AND EXTENT OF THE PROPERTY

The Black Pearl property, see fig. 2, consists of the following mining claims:

Name of Claim	Recording Data
North side patented lode mining claims Nos. 1, 2, 3, and 5 (Mineral Survey 4186)	Book 181 of Deeds Pages 551 - 554
Black Pearl patented lode mining claims Nos. 1, 2, 3, 4, 6, 7, and 8 (Mineral Survey 4186)	Book 181 of Deeds at pages 551 - 554
Black Pearl unpatented lode mining claims Nos. 9, 10, 11, and 12) North Side unpatented lode mining claim No. 4)	Book 143 of Mines at lages 148-152

In 1954 these claims were owned as follows:

John Lawler	1/4 share
Mary Lawler	1/4 share
James E. and Kathryn I. Harrington & F. H. Lyons and Mary Lyons	2/6 share
Joseph W. and Florence Walton	1/6 share

On April 30, 1951, E. A. Scholz and J. A. Cazier secured a lease and option to buy the above claims. This option was extended to October 1, 1964 by an amendment signed in August 1954. The applicant's lease and option provides for a purchase price of $175,000.00 and requires royalty to owners of 10½ percent on three quarters of the gross proceeds and 12½ percent on the remaining one quarter.

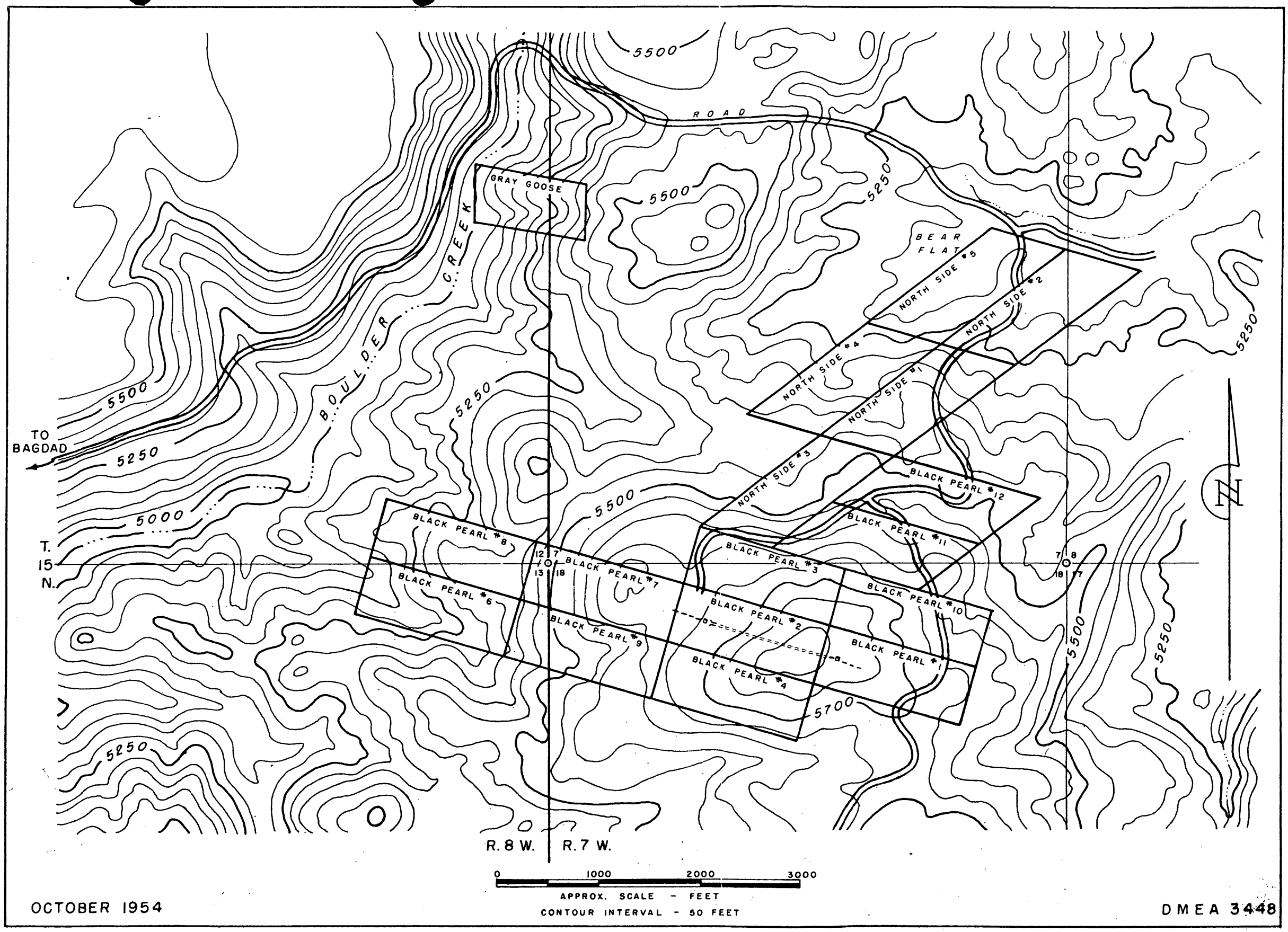

FIGURE 2. - TOPOGRAPHIC AND CLAIM MAP - BLACK PEARL MINE - YAVAPAI COUNTY, ARIZONA

The unpatented Gray Goose mining claim was located by the applicant to provide a site for a pumping plant on Boulder Creek.

Of the above mentioned claims only the Black Pearl Patented Lode Mining Claims Numbers 1, 2, and 7 were subordinated to the Government for the purpose of this exploration contract.

GENERAL GEOLOGY

The Black Pearl mine is developed on a northwesterly trending fissure vein which dips steeply to the south in a granite host rock (fig. 3). This rock is probably of early Precambrian age, and apparently forms the basement rock of an extensive region. Relatively large parts of the region are covered by a series of Quaternary or Tertiary lava flows with which gravel deposits are interbedded. Lavas form the tops of broad mesas in this area, but near the mine the lavas and gravels are absent and the underlying rock is granite.

The normal granite near the mine, forming the host rock for the Black Pearl vein, is a medium to dark gray, relatively coarse-grained aggregate of quartz, orthoclase, hornblende and biotite. The granite is cut by a series of joints spaced from $\frac{1}{2}$ to $1\frac{1}{2}$ feet apart and approximately parallel to the vein. The joints occupy a zone on the south side of the vein, but similar joints were not found north of the vein. Crystals or clots of feldspar lying across the joints in the granite are not offset or otherwise affected.

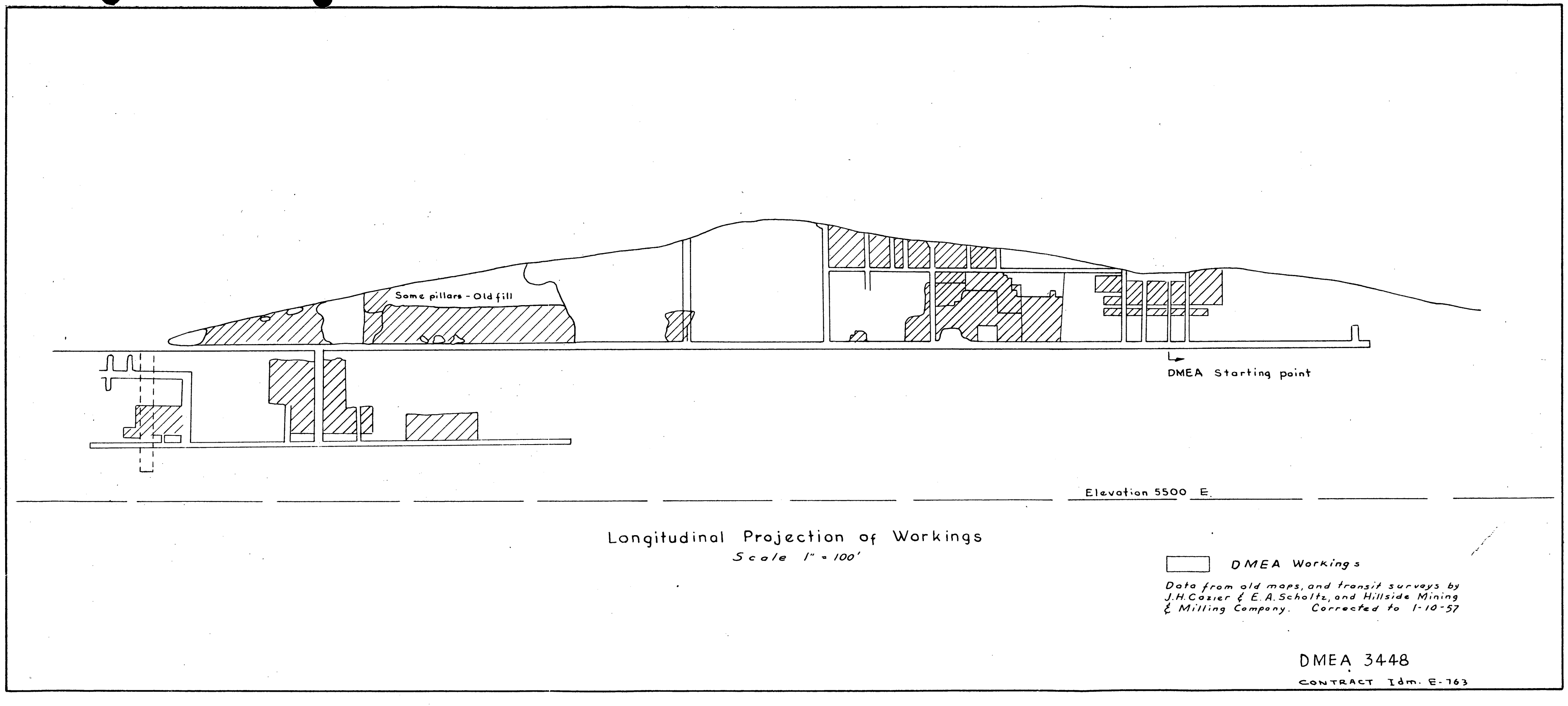

FIGURE-4-BLACK PEARL TUNGSTEN MINE, YAVAPAI COUNTY, ARIZ.

A type of granitic rock, distinctly different from that described above, crops out a few hundred feet west of the exposed part of the Black Pearl vein. This granitic rock is a uniformly fine-grained, whitish, aplitic rock in which quartz is the dominant mineral. In appearance the rock is similar to alaskite. In this rock, and about on the projection of the Black Pearl vein, there are many dark brown or reddish spherical clots. Some of these clots, not so deeply weathered as others, reveal a core of granular pyrite. A dike of similar, aplitic, light-cllored granite crosses the Black Pearl vein near its eastern end, but neither the dike nor the vein appear to be noticeably affected by the other at the junction.

DESCRIPTION OF THE DEPOSIT

The black Pearl vein (fig. 4), which occupies a narrow fissure in granite, strikes N. 70° to 75° W. and dips 75 to 85 degrees south. The strike length of the vein at the outcrop is about 1,800 feet, and the potentially productive part of the vein is about 1,600 feet. The continuity of the vein is interrupted only by a slight echelon arrangement of the vein segments and by short intervals that are barren or only slightly mineralized. The vein is fairly uniform in thickness, averaging about 3 feet; however, it thins appreciably and apparently pinches out at both ends.

The vein makes a sharp contact with the granite and in most places where the contact can be observed there is a thin selvage of gouge between the vein and the granite. This gouge is commonly slickensided and the plunge of the striations on it varies from nearly horizontal to nearly vertical. There is no indication that appreciable displacement has taken place along the fissure, either prior to or following emplacement of the ore.

The granitic host rock near the vein has been altered to greisen, which is recognizable mainly by a preponderance of coarse, white mica. The mica is a common mineral in the wall rock next to the vein, along the faults and fractures that intersect the vein, and also in relatively barren parts of the vein.

The predominant gangue mineral in the Black Pearl vein is massive, grayish-white, coarse-grained crystalline quartz. Associated locally with the quartz are abundant masses or veins of coarse muscovite, and some relatively small amounts of a pinkish feldspar, occurring as veinlets. The quartz commonly has a network of tight fractures. At the surface these stand out as thin, reddish brown lines. Coarse, euhedral crystals and crystal aggregates of blue-green beryl are relatively abundant in the vein, and in a few places purple fluorite is abundant.

The principal hypogene metallic minerals in the vein, in decreasing order of abundance, are: pyrite, wolframite, specularite, bismuthinite and molybdenite. Gold and silver are reported to be sparingly present in the ore and chalcopyrite is present in trace amounts. Scheelite is reported to be present in minor amounts.

Pyrite is the most abundant of the metallic minerals, and according to Scholz it constitutes about 25 percent of the vein material. The pyrite varies from coarse- to fine-grained, crystalline or massive, but generally occurs in large masses in the veins. These masses tend to be crudely elongated normal to the vein walls.

The ore mineral is wolframite. This occurs in the vein as isolated euhedral to subhedral crystals which range from a fraction of an inch to many inches in maximum dimension, and crystals 2 or 3 inches across are moderately abundant. Scholz reports that the largest single piece of wolframite recovered from the mine weighed about 250 pounds and that pieces which weigh from 10 to 15 pounds are frequently recovered. He also reported that the iron content of the wolframite is slightly higher in the west part of the vein and the manganese content is highest in the east part of the vein. The ratio of iron to manganese is about 1 : 1 on the west end of the vein and about 1 : 1.3 on the east end. The wolframite tends to be lighter colored on the east end and darker colored on the west.

Specularite is abundant in parts of the vein zone and appears to be concentrated in or very close to barren parts of the vein. Those parts of the vein that contain considerable specularite contain little or no wolframite; apparently these two minerals are incompatible. This relationship of specularite to wolframite may be a useful guide in exploration.

Bismuthinite occurs in coarse- to fine-grained platy or acicular crystals in small masses or nuggets but is not abundant. Scholz and Cazier estimated that the ore contains 0.12 percent bismuth, probably all in the bismuthinite, which if recovereable, would constitute a valuable by-product of the ore.

Molybdenite occurs in coarse to fine platy granules and apparently is widely distributed in the vein in very small amounts. It is doubtful if it could be recovered economically.

Beryl is sufficiently abundant in the ore to be of possible commercial value; Scholz and Cazier estimated that the BeO content of the ore ranges from 0.15 to 0.5 percent. The beryl occurs as pale-blue euhedral crystals and columnar aggregates. The individual crystals are often from 1 to 2 inches long, and crystal aggregates several inches across and weighing several pounds are not uncommon. Some of the beryl is recovered by hand sorting but none of it has been marketed.

Muscovite is relatively abundant, Scholz and Cazier estimated that this mineral constitutes from 2 to 4 percent of the vein filling. The muscovite is generally concentrated along the vein walls and forms seams from about 1/4 to 2 inches wide, but in some places occurs as more or less isolated masses. Most of the muscovite is coarse-grained; however, a very fine-grained mica was found in a few thin veinlets cutting vein quartz.

Oxides of iron, largely derived from weathering of pyrite, occur abundantly in the outcrop and in the near-surface mine workings. Pyrite is not present in the outcrop but cavities from which pyrite has been leached are abundant. Oxidation has extended to a depth of at least 40 feet below the outcrop and has caused a slight disintegration of the vein to this depth, thus making the ore somewhat more amenable to mining and milling than the unoxidized ore.

The paragenesis of the hypogene vein minerals is very complex. The deposit appears to be a pegmatite that verges on the hypothermal type of vein. The mineral sequence suggests overlapping or "telescoping" of the two types of deposits, and it is possible that the exposed part of the Black Pearl vein represents the transition zone between a hypothermal quartz vein and a pegmatite.

The mineral suite on the 125 level appears to be somewhat different than on the adit level although there is no obvious change in the width or persistence of the vein. On the 125 level fair amounts of tungsten were found in the vein exposed by about 200 feet of drift at the west end but in the eastern part of the vein visible amounts of wolframite are present in only a few places. As will be discussed in the section on the results of the DMEA project, the amount of wolframite appears to diminish downward between the surface and the 125 level. Beryl also decreases and is reported only from one small pod on the 125 level; however, the amount of bismuthinite seems to be fairly uniform throughout the explored

parts of the vein. The principal difference in the mineralogy between the adit and the 125-foot level is the apparent absence of specularite, fluorite, and molybdenite on the 125 level, and the reduction in the amount of beryl and wolframite on the 125-foot level.

DESCRIPTION OF WORK COMPLETED WITH COSTS

Work under Contract No. Idm-E473, which was granted February 2, 1955, was started March 5, 1955 by the Black Pearl Mining Company. The Company continued work to November 1, 1955, when the Hillside Mining and Milling Company obtained the property under a lease and option agreement and was assigned the contract by DMEA. The latter company continued exploratory work through July 1956. Work then was officially recessed to May 2, 1957. On February 14, 1957, the Hillside Mining and Milling Co. notified the DMEA that the lease and option agreement with the Black Pearl Mining Co. was being cancelled because negotiations for more favorable terms were unsuccessful. Reassignment of the exploratory contract back to the Black Pearl Mining Co. was requested, but the Government preferred termination and requested signatures ~~on the~~ on the Termination Agreement dated June 14, 1957. The agreement, executed to terminate the contract August 1, 1956, was signed June 11, 1957.

Table 2, that follows a description of work completed, shows the allowable and performed work, with costs.

Black Pearl Mining Company's Operations

The Black Pearl Mining Company extended and timbered the adit 194.5 feet and 196.0 feet, respectively (figs. 3 and 4). The adit was driven to a minimum size of 4.5 feet by 6.5 feet and was timbered with 5-foot sets of 8-inch square posts and 6- by 8-inch caps and dividers. The timber sets were lagged nearly tight with 2- by 10-inch planks. Drift rounds were drilled with jackleg type machines. They were loaded with 40 percent powder and electrically blasted. The muck was loaded into 1-ton cars by a 2-drum slusher-slide. It was ~~muck was~~ hand-trammed to the mill until September when a battery powered locomotive was put in service upon completion of repairs to the pre-contract portion of the adit. Channel samples, taken at about 5-foot intervals, were cut across the face at 2, 4 and 6 feet above the floor of the adit. A total of 39 composites of these samples were assayed for WO_3. Unit costs of drifting and timbering were $34.00 and $7.00 per foot, respectively.

Shortly after the adit was started, work was begun on leveling a site for the mine plant, construction of a headframe and hoist house. The leveling required 21.5 hours of bulldozer work at $12.50 per hour. Construction of the headframe was started shortly after the shaft was collared and driven to a depth of 36 feet. The headframe, 44 feet in height, was constructed of 8-inch square and 6- by 8-inch fir and native pine timber. It was set on concrete piers and was properly braced with channel iron splints, flat iron plates and round iron rods.

The allowable cost of the 44-foot high headframe that was constructed in lieu of the specified 35-foot high structure was $1,500.00. Sinking was renewed after the headframe had been equipped, the hoist house built, and a hoist and ventilator had been installed. Allowable costs of the work were $130.00 per foot of shaft, $380.00 for equipment (ventilator with motor and a 12-inch pneumatic saw) and $1,699.91 for other preparatory work. The shaft was broken to a minimum cross section of 6 by 11 feet and was timbered to 2, 4-foot square compartments with 8-inch square wall plates and 6- by 8-inch dividers. It had reached a depth of 68.5 feet when operations were taken over by the Hillside Mining and Milling Co.

Hillside Mining and Milling Company's Operations

This company extended and timbered the adit an additional 76.5 and 78.5 feet, respectively. Five composite samples were obtained from this interval and were assayed. The shaft was simultaneously extended to a depth of 155 feet. Five feet over the allowable 150 feet was driven at the operator's expense in order to provide space for larger ore pocket than specified by the contract. At no extra cost to the Government, the operator also excavated a 17.25-foot by 15-foot by 10-foot high station on the 125 level in lieu of the 9- by 9- by 20-foot station specified by the contract (fig. 5). The operator also elected to drive 94 feet to the vein in lieu of the allowable 45-foot crosscut. This arrangement allowed a string of 10 gable-bottom, 2-ton cars to be dumped into the ore pocket as the train enters or departs from the station. Drifting on the vein started

as soon as the crosscut was completed. The allowable 400 feet of drifting and timbering to the east was completed. Additional drifting and timbering at no expense to the Government was about 80 feet to the east and 130 feet to the west. The last work under the contract was the completion of a 118-foot raise from the 125 level to the adit. It was the only work completed under Stage 2 and was done while drifting on the 125 level was in progress.

RESULTS OF THE PROJECT

The results of the project are considered favorable for the following reasons:

1. The potential reserves of low grade tungsten ore were found to be significant.

2. A substantial portion of the cost to the Government was repaid from production during the life of the project.

3. Additional production is expectable during periods of more favorable economic conditions or national emergencies.

Potential reserves are given in the Ore Reserve section of this report. Information and data on production follows:

The Black Pearl Mining Company, which had been operating the mine, continued to mine and mill ore during its tenure of the exploratory contract. Ore was produced from development headings and stopes, all of which were in heavy ground that required square set timbering. Wolframite was hand sorted from the ore before it was hand trammed to a mill near the portal of the adit

TABLE II

Allowable work with costs				Work completed by: Black Pearl Mining Co.			Hillside Mining & Milling Co.			Both Operators		
Stage I			Estimated Total Cost*	Units	Unit Cost	Approved Cost*	Units	Unit Cost	Approved Cost*	Units	Unit Cost	Approved Cost*
Actual Costs												
(1) Prepare site for shaft, shaft house, head frame and hoist - Bulldozing 32 hrs. at $15.00/hr.				21.5 hrs.	$12.50/hr.	$ 268.75				21.5 hrs.	$12.50/hr.	$ 268.75
(2) Erect 35-foot, wood head frame with sheave				Job	$1,500.00	1,500.00				Job	$1,500.00	1,500.00
(3) Erect hoist house, approx. 12 by 15 feet, and install hoist				Item 3 plus installations of Item 4		1,699.91				Item 3 plus installations of Item 4		1,699.91
(4) Purchase and install buckets, skip and accessory equipment for operation				Equipment		380.00				Equipment		380.00
Total items 1, 2, 3 & 4			$ 9,990.00			$3,848.66						$ 3,848.66
Fixed Costs	Units	Unit cost										
Sinking 150 feet shaft	150 ft.	$130.00/ft.	$19,500.00	68.5 ft.	$130.00/ft.	$ 8,905.00	81.5 ft.	$ 130.00	$10,595.00	150.0 ft.	$130.00/ft.	$19,500.00
Cut station and skip pocket at 125 level	Job	2,000.00	2,000.00									
Drifting on adit level	400 ft.	$ 34.00/ft.	13,600.00	194.5 ft.	34.00/ft.	6,613.00	76.5 ft.	34.00	2,601.00	271.0 ft.	34.00/ft.	9,214.00
Drifting on 125 level	400 ft.	34.00/ft.	13,600.00				400.0 ft.	34.00	13,600.00	400.0 ft.	34.00/ft.	13,600.00
X-cut, shaft to vein on 125 level	45 ft.	34.00/ft.	1,530.00				Job	2,000.00	2,000.00	Job	2,000.00	2,000.00
Timbering on Adit level	800 ft.	7.00/ft.	5,600.00	196.0 ft.	7.00/ft.	1,372.00	450.0 ft.	34.00	1,530.00	45.0 ft.	34.00/ft.	1,530.00
Spiling	40 ft.	20.00/ft.	800.00				478.5 ft.	7.00	3,349.50	674.5 ft.	7.00/ft.	4,721.50
Sampling and assaying	160 assays	5.00 each	800.00	390 assays	5.00 each	195.00	87 assays	5.00	ea. 435.00	126 assays	5.00 ea.	630.00
Total Stage I			$67,420.00			$20,933.66			$34,110.50			$55,044.16
Stage II												
Raise from 125 level	125 ft.	$ 35.00/ft.	$ 4,375.00				118.0 ft.	$ 35.00	$ 4,130.00	118.0 ft.	$35.00/ft.	$ 4,130.00
Extend shaft	125 ft.	130.00/ft.	16,250.00									
Cut station and skip at 250 level	Job	2,000.00	2,000.00									
Drifting and cross-cutting	860 ft.	34.00/ft.	29,240.00									
Timbering	800 ft.	7.00/ft.	5,600.00									
Spiling	80 ft.	20.00	1,600.00									
Sampling and assaying	160 samples	5.00 ea.	800.00									
Total Stage II			$59,865.00			$ -0-			$ 4,130.00			$ 4,130.00
*Total Cost of Project			$127,285.00			$20,933.66			$ 38,240.50			$59,174.16
*Government share @ 75%			$ 95,463.75			$15,700.25			$ 28,680.37			$44,380.62

*Before: (1) Government's equity in equipment, and (2) Final Audit.

Additional handsorting was done on a stationary inclined screen with 1-inch square openings. Oversize went to a stockpile and undersize was concentrated in a Hartz type jig having .054-inch screen openings. Bed concentrate containing an estimated 50 percent WO_3 was periodically removed. Much of the production containing mainly pyrite and up to 1.0 percent WO_3 was stockpiled. The hand sorted ore and jig concentrate was crushed to minus 1/8 inch and magnetically cleaned at the Hillside Mining and Milling Company's mill near Bagdad, Arizona.

The Hillside Mining and Milling Company continued to mine ore which was concentrated at its mill at the Tungstona mine. Both timber square set and top slice methods of stoping were used. Hand sorting of the ore was done to a much lesser extent than previously. Figure 6 is the flow sheet of the Tungstona mill before minor modifications.

Hillside Mining and Milling Company's milling and production records are shown in tables 3 and 4, respectively. Pounds of WO_3 produced from the 13,912 tons of ore mined totalled 73,301,953 for an average of above 5.269 per ton, or .769 pound more than the 4.5 pounds indicated by milling records.

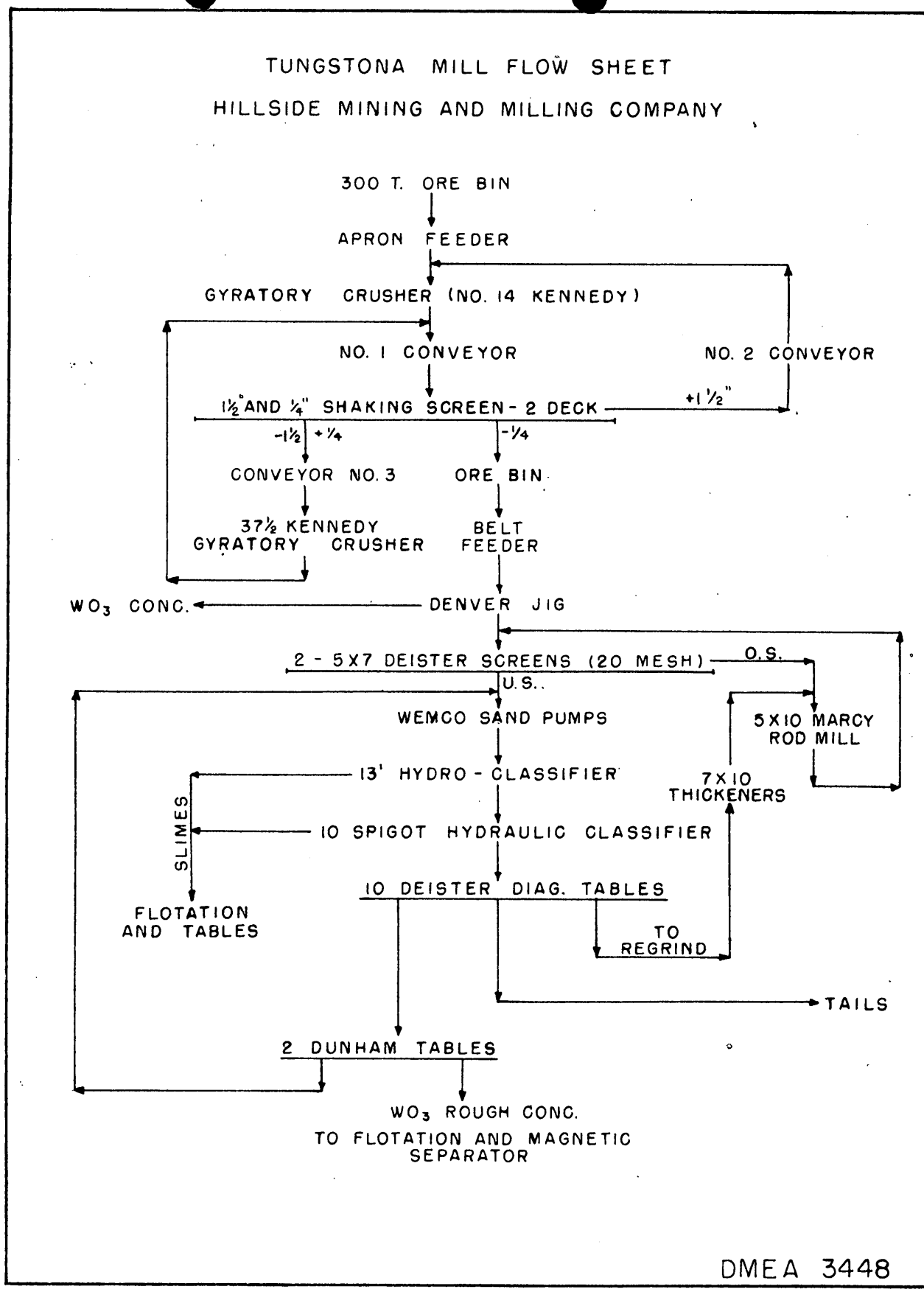

FIGURE 6 - MILL FLOW SHEET - TUNGSTONA MINE
HILLSIDE MINING AND MILLING COMPANY YAVAPAI COUNTY, ARIZONA

TABLE 3. Milling records.

Date 1956	Dry tons milled	Heads	Tails	Indicated Recovery, lbs. per ton
April	1,922	0.240	0.049	3.82
May	1,857	0.301	0.068	4.66
June	1,282	0.375	0.103	5.44
July	1,450	0.292	0.069	4.46
August	1,505	0.364	0.054	6.20
September	1,726	0.285	0.042	4.86
October	861	0.228	0.043	3.70
November	912	0.301	0.048	5.06
December	2,397	0.269	0.047	4.44
Totals and averages*	13,912	0.283	0.058	4.5*

*Indicated lbs. recovered per ton of ore = 13,912 x 4.5 or 62,604.

31,302

TABLE 4. Production records.

Shipment	Units WO_3	Pounds WO_3	Payment	Royalty paid DMEA
9-1739-36	101.207	2,024.140	$6,358.27	$317.91
9-1739-35	152.476	3,049.520	9,439.92	472.20
9-1739-34	319.040	6,380.800	19,900.41	995.02
9-1739-33	109.500	2,190.003	6,804.12	340.21
9-1739-29	17.232	344.646	1,066.78	53.34
9-1739-28	20.841	416.819	1,307.06	65.35
9T-51-1	1,624.013	32,480.270	88,313.86	4,415.91
9-T-51-3	384.730	7,694.600	20,862.17	1,043.12
Inventory	*1,076.100	21,522.000		
Total	3,805.139	**76,102.798	$154,052.259	$7,703.06

*34,000 pounds of 63.3 WO_3 concentrates. Assay is by Hillside Mining & Milling Co. Payment and royalty will be based on accepted assay and price when marketed.

**2,800.843 of this was produced from jig concentrates purchased from the Black Pearl Mining Co.

Royalties paid to the Government on concentrate sold are the above $7,703.06 plus $292.82 paid by S holz & Cazier, or a total of $7,995.88. The payments were made in accordance with the terms of Annex 2 of the contract, a Special Agreement Concerning Royalty. This amounts to approximately 18 percent of the Government's cost of $44,380.62. Substantial additional royalties will be received when the concentrate on hand is marketed.

ORE RESERVES

Ore reserve estimates have been revised to take into account the new data made available by the DMEA project as shown on the preceding pages. Reserve estimates are somewhat uncertain because exploration has not been adequate to determine the limits of the ore shoots. Grade estimates are difficult to obtain because (1) the wolframite is coarse-grained and of erratic distribution, therefore difficult to sample; (2) coarse wolframite is hand sorted from broken ore before milling and is difficult to correlate with production; (3) ore produced from different places in the mine has been treated along with dump ore and jig tails and also with ore from the Tungstona mine, and a completely satisfactory correlation of production and grade figures cannot be made.

The revised ore reserve estimate is based on a vein 3 feet wide, 1,600 feet long and having an estimated depth extension of 250 feet below the adit. The grade of ore on the "0" and 125 level is estimated as shown in table 5.

A small amount of ore that might be considered as measured ore apparently remains above the adit level but nearly all of it is in the old part of the mine and is not subordinated to the Government; therefore, it is not included in the estimates.

Because of the uncertainties of ore shoot limits, and because of the difficulties of determining the grade of ore, all the indicated and inferred ore is lumped together for the purpose of this report. Total indicated and inferred ore to a depth of 250 feet below the adit: $\frac{1600 \times 250 \times 3}{11} = 109{,}000$ tons.

Tonnage of ore remaining above the adit, possibly 9,000 tons, is about equal to that mined from the drifts and stopes of the 125 level.

0.27% WO_3

Of the 109,000 tons of ore containing an average of 5.4 pounds WO_3 per ton, approximately 72 percent or 78,000 tons contain an estimated 6.65 pounds per ton, and the remaining 31,000 tons contain an estimated 3 pounds per ton.

TABLE 5. Estimated grade of ore.

Grade at Adit Level

Length of vein feet	Estimated grade lbs. per ton	Basis for estimate
350	12	Old stopes near portal.
300	12	Cazier and Scholz production.
300	7	Hillside M. & M. Co. production.
950 ft. total	10.4 lbs. per ton average	
650	3 estimated	
1,600 ft. total	7.4 lbs. per ton average for all ore on adit or "0" level.	

Grade at 125 level

500 ft.	6.65	Hillside's production corrected for dilution and mill losses
550	6.65	Downward extension of ore mined on adit level by Scholz & Cazier and Hillside
550	3.00	Indicated grade by assay of samples in drift
1,600 ft. length	5.4	lbs. per ton average

EFFICIENCY OF OPERATIONS

All phases of the project were carried out in a safe and efficient manner under the supervision of E. A. Scholz and J. H. Cazier, of the Black Pearl Mining Co., and R. C. Bogart, of the Hillside Mining and Milling Co. Mr. K. Pumala was mine foreman for both companies.

As far as known, no lost time accidents occurred during the life of the contract.

FUTURE OPERATIONS

It seems likely that the Black Pearl mine may again be operated at some future time. Although the grade of ore appears to have decreased with depth there is no evidence to indicate that the tungsten is "bottomed". We believe the indicated and inferred ore reserves are sufficient to justify mining under emergencies or favorable economic conditions. In Mr. Bogart's opinion, the mine could be operated at a profit under recent Government prices, provided other than Government royalties were more favorable than the existing 22 percent, more mining faces were available through extension of the 125 level, and the 250 level was opened up. Mr. Bogart also indicated that with more operating experience both the mining and milling methods could be improved to obtain lower production costs.

9/3 Q 220
9/4 WSM 800
400

224 New Customhouse
Denver 2, Colorado

August 30, 1957

Mr. Robert C. Bogart, General Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: Docket No. DMEA-3448 (Tungsten)
Contract No. Idm-E763
Hillside Mining and Milling Co.
(Black Pearl Mine)
Yavapai County, Arizona

Dear Mr. Bogart:

By the terms of your exploration project contract with the Government, the Government acquires an interest in any property paid for or purchased with funds contributed jointly by the Operator and the Government. Such property includes: all facilities, buildings, fixtures, equipment, or other items costing more than $50 each; materials and supplies considered in groups or categories (such as pipe, or explosives, or rails, or drill steel), if the original cost of the remaining categories of materials or supplies exceeded $50; and equities in any installment-purchase contract; or rental-purchase contract.

It is your responsibility to make the best possible disposition of the property for the benefit of the Government. Every reasonable effort must be made to realize its full value. By the terms of your contract, if it is necessary to accomplish such disposition of property, you are required to dismantle it, sever it from the land, and remove it for the purpose of sale. Reasonable efforts to accomplish the sale might include: (1) advertising in newspapers, periodicals, and posting notices in public places; (2) canvassing users or dealers in such property; and (3) negotiating with the original vendor for accepting the return of the property.

Should you wish to retain the property, or in effect sell it to yourself, you may do this only after having first made every reasonable effort to procure a price higher than you yourself are willing to pay. In the case of an incompleted installment-purchase or rental-purchase agreement, the contract itself is the property to be disposed of. You are not authorized to complete the purchase of the equipment covered by such incompleted contracts for your own account without reference to the Government's interest. Consultation should be had with the Government's agents with respect to the disposition of equities in any installment-purchase or rental-purchase contracts.

In a proper case the Government will approve of and join in the sale of property for the joint account of the Operator and the Government. You are requested to advise this office in advance of the proposed disposition of any such property so that we may advise you if the Government will approve thereof.

A preliminary review of the accounting records on file in this office, submitted by the Operator, indicates that the costs of the following property are subject to liquidating procedures, as outlined in this letter: -

1. Equipment Purchased

ITEM	ORIGINAL COST
1 12" pneumatic saw	$ 200.00
1 Fan with gasoline motor	180.00
	$ 380.00

2. New Buildings and Improvements

Head frame and sheave	$1,500.00	
TOTAL		$1,880.00

Liquidation of the Government's interest in the foregoing jointly owned property must be resolved before the required final audit of reported project costs by the Contract Administration and Audit Division, DMEA, can be completed. Tentatively, an on-site audit is scheduled for some time the latter part of September. Further contact will be made with you regarding the exact date of the audit.

In the meantime please advise the location of the project cost records pertaining to the portion of the work completed by Black Pearl Mining Company, and the cost records pertaining to work completed by Hillside Mining and Milling Company after assignment of the contract.

Very truly yours,

Original signed by
E. N. HARSHMAN

E. N. Harshman
Acting Executive Officer,
DMEA Field Team, Region III

JWT:bh

cc-Mr. Edgar A. Scholz, President
Black Pearl Mining Company
Chairman, Op. Comm. (2)
Brading
Harshman
DMEA/TUC.
Emerick
Townsend
Corres. File - Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

August 23, 1957

Memorandum

TO: Chairman, Operating Committee, DMEA

From: Alternate Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3448 (Tungsten), Contract No. Idm-E763, Hillside Mining and Milling Company (Black Pearl mine), Yavapai County, Arizona

Enclosed are the Government's, Division, and Audit copies of the TERMINATION AGREEMENT forwarded by your letter of June 11, 1957, and which has been executed to terminate Contract No. Idm-E763, effective August 1, 1956.

Copies of the Termination Agreement have been distributed to the Operator, the Finance Office, Region III, and to others concerned.

J. W. Townsend

J. W. Townsend

Enclosures

OFFICIAL FILE COPY
DMEA
RECEIVED AUG 23 1957

DATE		CODE
8/26	P	220
8/26	WSM	400

OFFICIAL FILE COPY
DMEA
RECEIVED AUG 26 1957

DATE		CODE
8/26	Q	
8/26	[illegible]	220
8/26	WSM	800
		400

224 New Customhouse
Denver 2, Colorado

August 23, 1957

Memorandum

To: T. H. Brading, DMEA Auditor

From: Alternate Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3448 (Tungsten), Contract No. Idm-E763, Hillside Mining and Milling Company (Black Pearl mine), Yavapai County, Arizona

The subject contract was terminated by mutual agreement, effective August 1, 1956, before completion of all the work provided for in the contract. Enclosed is a copy of the TERMINATION AGREEMENT for your records.

The Operator has rendered an acceptable final engineering and geologic report and a final accounting, as required by the contract. Therefore, final payment of the Operator's account is in order, contingent on release to this office of a Certificate and Report of Audit or Report of Review of reported project costs, whichever the case indicates.

Acceptable units of work or service completed on a Fixed Unit Cost basis are as follows:

Shaft sinking	150	feet
Skip station and skip pocket.....	1	
Drifting and crosscutting.....	716	feet
Timbering.....	674.5	feet
Raising.....	118	feet
Sample analysis.....	126.	

The sum of $500.00 was withheld from reimbursement to the Operator in processing the final accounting report, which was for the month of July, 1956.

Original signed
J. W. TOWNSEND

JWT:prl

J. W. Townsend

cc: Chmn. Op. Comm. - 2
Harshman
Townsend
Corres. file
Chron.

224 New Customhouse
Denver 2, Colorado

8/21 C 220
8/21 800
400

August 19, 1957

Memorandum

To: W. L. Emerick - w/enclosure
DMEA/Tucson (Remale) - w/enclosure

From: Alternate Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3448 (Tungsten), Contract No. IAm-2765, Hillside Mining and Milling Company (Black Pearl mine), Yavapai County, Arizona

Enclosed is a copy of the Chairman's letter of August 15, 1957 concerning final reports pertaining to work completed under the subject Contract.

In reference to the last paragraph of the Chairman's letter, please advise the date we can expect to receive the Joint Final Engineering and Geologic Report containing an estimate of ore reserves and recommendations relative to the issuing of a Certification of Discovery or Development.

Original signed
J. W. Townsend

J. W. Townsend

JWT:prl

cc: Chmn. Op. Comm. (2)
Barshman) w/copy of
Townsend) enclosure.
Corres. file)
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

August 19, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Alternate Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3448 (Tungsten), Contract No. Idm-E763, Hillside Mining amd Milling Company (Black Pearl mine), Yavapai County, Arizona

Enclosed are three copies of a letter, dated August 16, 1957, from Edgar A. Scholz, President, Black Pearl Mining Company, pertaining to termination of the subject Contract.

J. W. Townsend

J. W. Townsend

8/21 C 220
8/22 WSM 130
400

DMEA
DEPARTMENT OF THE INTERIOR
AUG 19 1957
REGION III
DENVER, COLORADO

August 16, 1957

Executive Officer
DMEA Field Team Region III
224 New Custom House
Denver 2, Colorado

RE: Exp. Project Cont. #Idm- E763
(Docket #DMEA 3448) - BLACK PEARL

Dear Sir:

We have just received a copy of a letter addressed to Hillside Mining and Milling Company which indirectly answers our letter of July 11.

As the outlook for tungsten in the immediate future is not encouraging, we are agreeable to termination of the contract with Hillside. We respectfully request that this be done without prejudice to reopening the exploration program at such time as we can set a firm starting date for continuing exploration. We believe that information obtained to date has been inconclusive and that it would be highly desirable to complete the project as soon as is warranted.

We would appreciate your keeping us informed of any action taken on the Black Pearl project. Please send correspondence to me at 5702 North 12th Street, Phoenix, Arizona, with a copy to Mr. J. H. Cazier, 1555 South Ash Street, Denver, Colorado.

Yours truly,

BLACK PEARL MINING CO.

Edgar A. Scholz

Edgar A. Scholz

DMEA
RECEIVED AUG 20 1957
CODE

EAS/af

5 cc - Addressee
cc - J.H. Cazier

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
8-12	Holt	400
8-12	Martin	400
8/14	Selfridge	430
"	Johnson	110
"	Gottesdorf	100
8/15	P	220
		400

AUG 15 1957

Mr. William H. King, Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 3448 - Tungsten
Hillside Mining and Milling Co., Assignee
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-2763

Dear Mr. King:

Reference is made to your letter of August 5, 1957, concerning the Operator's Final Report on the above-subject project.

Although the report does not contain an estimate of ore reserves, failure to submit such an estimate can be understood from the Operator's description of the scattered and erratic occurrences of tungsten mineralization as disclosed by project work.

Other sections of the report, listing work done, costs, and maps, are more satisfactory, so we consider the report as a whole to be adequate.

Early receipt of the Field Team's estimate of ore reserves, with your recommendation as to certification, will be much appreciated. Please also advise us when we may expect the Final Report of the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

APPROVED:

P. F. Yopes (JHB)
Member, Bureau of Mines

N. E. Nelson (JHB)
Member, Geological Survey

SPHolt/dlm 8-12-57
cc to: Code 400 FT. REG III
Messrs. R. W. Holliday, USBM
Admr. R. File T. H. Kilsgaard, USGS
Oper. Comm.

8623

OFFICIAL FILE COPY
DMEA
RECEIVED AUG 13 1957

DATE	OFFICE	CODE
8/13	G	220
8/13	C.E.F.	800
8/14	WSM	400

224 New Customhouse
Denver 2, Colorado

August 9, 1957

AIR MAIL

Memorandum

To: W. L. Emerick
T. M. Rumsle

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3648 (Tungsten), Contract No. Idm-8763, Hillside Mining and Milling Company (Black Pearl mine), Yavapai County, Arizona

Mr. J. H. Cazier, Secretary-Treasurer, Black Pearl Mining Company, was in this office today and in discussing the proposed termination of the subject Contract advised that the property had reverted back to Black Pearl Mining Company and that they did not plan to maintain the mine in an accessible status more than a short time.

Therefore, if it is necessary that the property again be visited in conjunction with preparation of the Final Engineering and Geologic Report, it should be done immediately.

E. N. Marshman

JWF:prl

cc: Chmn. Op. Comm. - 2
Marshman
Townsend
Corres. file
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

OFFICIAL FILE COPY
DMEA
RECEIVED AUG 7 1957

DATE	INITIALS	CODE
8/7	P.K.	220
8/7	WSOY	400

August 5, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Acting Executive Officer, DMEA Field Team, ~~Region III~~

Subject: Docket No. DMEA 3448 (Tungsten), Contract No. Idm-E763, Hillside Mining and Milling Company (Black Pearl mine), Yavapai County, Arizona

Please advise at an early date whether or not you consider the Operator's report, forwarded by our memorandum of May 6, 1957, to be adequate as the Operator's final report.

E. N. Harshman

E. N. Harshman

OFFICIAL FILE COPY
D M E A
RECEIVED AUG 7 1957

DATE	INITIALS	CODE
8/7	PK	220
8/7	[illegible]	800
8/8	WSM	400

224 New Customhouse
Denver 2, Colorado

CERTIFIED MAIL

August 5, 1957

Mr. Robert C. Bogart, General Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: Docket No. DMEA 3448 (Tungsten)
Contract No. Idm-5763
Hillside Mining and Milling Company
(Black Pearl mine)
Yavapai County, Arizona

Dear Mr. Bogart:

After thorough consideration, the Government has decided that it prefers to terminate Contract No. Idm-5763 in its present status rather than to approve assignment of the Contract back to Black Pearl Mining Company, the original Operator under the Contract.

Under the circumstances, it will be appreciated if the original and all copies of the TERMINATION AGREEMENT forwarded to you by our letter of June 14, 1957 be signed by an official of Hillside Mining and Milling Company authorized to sign such an instrument, the signer's title inserted, and the original and all copies promptly returned to this office.

Upon return of the properly executed copies of the Termination Agreement, the "Operator's Copy" will be forwarded to you.

Very truly yours,

Original signed by
E. N. HARSHMAN

E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III

cc: Mr. Edgar E. Scholz, President
Black Pearl Mining Company
5902 North 12th Street
Phoenix, Arizona

JWT:prl
cc: Chmn.Op.Comm.-2
Harshman
DMEA/Tucson
Emerick
Townsend
Corres.file
Chron.
) w/copy of Chairman's letter of July 29, 1957.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
7-29	Chapman	400
7-29	Martin	400
7/29	Martin	130
"	Colman	110
"	Christensen	100
7/30	P.K.	220
		400

JUL 29 1957

Mr. William H. King, Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 3448 - Tungsten
Hillside Mining and Milling Co., Assignee
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Dear Mr. King:

Your memorandum of July 15, 1957, concerning the above-noted project, transmitted enclosures from Edgar A. Scholz, President, Black Pearl Mining Company, dated July 11, 1957, with signed document, dated April 1, 1957, requesting reassignment of the above-noted Contract, from Hillside Mining and Milling Company to Black Pearl Mining Company. We also refer to your memorandum of July 18, 1957, enclosing copy of letter to you, dated July 15, 1957, from Robert C. Bogart, General Manager, Hillside Mining and Milling Company, concerning reassignment of Contract and Termination Agreement.

The Washington Office still feels that further Government participation in the continuation of the project is not warranted. Under the circumstances, it does not appear that a reassignment and recess would be appropriate. Please request the Operator to execute the Termination Agreement and return to your office for distribution.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee

APPROVED:

Frank D. Lamb
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

TLChapman/dlm 7-29-57
cc to: Code 400
Admr. R.File
Oper. Comm.
FT. REG. III
Messrs. R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
7-25	Chapman	400
7-25	Martin	400
		130
		110
		100
		228

Mr. William H. King, Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 3443 - Tungsten
Hillside Mining and Milling Co., Assignee
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-5763

Dear Mr. King:

Your memorandum of July 15, 1957, concerning the above-noted project, transmitted enclosures from Edgar A. Scholz, President, Black Pearl Mining Company, dated July 11, 1957, with signed document, dated April 1, 1957, requesting reassignment of the above-noted Contract, from Hillside Mining and Milling Company to Black Pearl Mining Company. We also refer to your memorandum of July 18, 1957, enclosing copy of letter to you, dated July 15, 1957, from Robert C. Bogart, General Manager, Hillside Mining and Milling Company, concerning reassignment of Contract and Termination Agreement.

The Washington Office, ~~does not feel~~ still feels that further Government participation in the continuation of the project is not ~~work on the property is~~ warranted. Under the circumstances, it does not appear that a reassignment and recess would be appropriate. Please request the Operator to execute the Termination Agreement and return to your office for distribution.

If at any time in the future the conditions of the tungsten program or market improves, a new application may be presented and it will be taken into consideration.

Sincerely yours,

APPROVED:

Chairman, Operating Committee

Member, Bureau of Mines

TLChapman/dlm 7-25-57
cc to: Code 400
Admr. R. File
Oper. Comm.
FT. REG. III
Messrs. R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

Member, Geological Survey

86

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 22 1957

DATE	INITIALS	CODE
7/22	P.K.	220
7/22	WSM	400

July 18, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3448 (Tungsten), Contract No. Idm-E763, Hillside Mining and Milling Company (Black Pearl mine), Yavapai County, Arizona.

Enclosed are the original and two copies of a letter from Robert C. Bogart, dated July 15, 1957, which is in conjunction with material forwarded to you by our memorandum of July 15, 1957 and in reply to our letter of July 10, 1957, to Mr. Bogart.

W. H. King

W. H. King

Enclosures

Hillside Mining & Milling Company

BAGDAD, ARIZONA

July 15, 1957

DMEA
DEPARTMENT OF THE INTERIOR
JUL 17 1957
REGION III
DENVER, COLORADO

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 22 1957

DATE	INITIALS	CODE
7/22	WSM	400

Mr. W. H. King
Executive Officer
DMEA Field Team Region III
Department of the Interior
Defense Minerals Exploration Administration
224 New Custom House
Denver 2, Colorado

RE: DOCKET DMEA 3448 (TUNGSTEN)
CONTRACT IDM 763
BLACK PEARL MINE

Dear Mr. King:

All effort has been made to obtain a re-assignment of this contract to the Black Pearl Mining Co., but due to the absence of one of its officials, progress has been slow. Since receiving the copies of the Termination Agreement, Mr. Scholz of Black Pearl Mining Co. has returned and five copies of the request for re-assignment have been submitted to your office.

We are holding the Termination Agreement due to the negotiations for re-assignment. If this is not in accord with your wishes, please advise.

Very truly yours,

HILLSIDE MINING & MILLING CO.

Robert C. Bogart

Robert C. Bogart
General Manager

RCB:bp
Airmail

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 17 195
DATE | INITIALS | CODE
7/17 | C | 220
130
7/18 | WSM | 488

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

July 15, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3448 (Tungsten), Contract No. Idm-E763, Hillside Mining and Milling Company (Black Pearl mine), Yavapai County, Arizona

Reference is made to the "TERMINATION AGREEMENT" forwarded by your letter of June 11, 1957 and to our letter to Mr. Bogart, dated July 10, 1957, two copies of which were forwarded at the time of writing.

In conjunction with the matter, enclosed are the following:

1. Original and two copies of a letter, dated July 11, 1957, from Edgar A. Scholz, President, Black Pearl Mining Company.

2. Original and two copies of a letter, dated July 9, 1957, from Don Corbitt, of Snell & Wilmer, Attorneys, and attachment thereto, dated April 1, 1957, by Hillside Mining and Milling Company and Black Pearl Mining Company, requesting reassignment of the Contract back to Black Pearl Mining Company.

The views of the field examiners and this office are contained in Mr. Harshman's memorandum of May 6, 1957 and data from the field forwarded therewith.

Copies of the Termination Agreement have not been returned as requested in our letter of July 10 to Mr. Bogart.

The last paragraph of the letter under item 1 requests a six-months' recess in project activities. Amendments Nos. 3 and 4 provide for a recess of operations from July 31, 1956 to not later than May 2, 1957.

7-18-57
Conferees:
BM
DL

The matter is forwarded for your consideration and appropriate action with reply direct to the Operator, or advice to this office as to how we should proceed.

W. H. King

W. H. King

Enclosures

BLACK PEARL MINING CO.

BAGDAD, ARIZONA

E. A. SCHOLZ, PRESIDENT
L. K. LINDAHL, VICE PRESIDENT
J. H. CAZIER, SECRETARY-TREASURER

5702 North 12th St.

Phoenix
July 11, 1957

DMEA
DEPARTMENT OF THE INTERIOR
JUL 15 1957
REGION III
DENVER, COLORADO

Mr. W. H. King, Executive Officer
DMEA Field Team Region 111
224 New Custom House
Denver 2, Colorado

Re: DMEA-3448
Black Pearl Mine

Dear Mr. King,

We have requested reassignment of the Black Pearl exploration assistance project to the Black Pearl Mining Company by executing proper forms now being forwarded to your office from the offices of Hillside Mining and Milling Company attorneys.

We have been keeping the mine dewatered and have maintained a full time watchman since cessation of Hillside Mining and Milling Company activities. We believe that the long range value of tungsten will become apparent as soon as the indecision due to the government domestic buying program, or lack thereof, has subsided. It may then be feasible to continue an exploration program at the Black Pearl.

On the basis of these premises we respectfully request reassignment of DMEA-3448 to the Black Pearl Mining Company and a six-month recess in project activities.

Yours truly,

Edgar A. Scholz

Edgar A. Scholz, President
Black Pearl Mining Company

cc W. R. Storms
cc J. H. Cazier

LAW OFFICES
SNELL & WILMER
SECURITY BUILDING
PHOENIX, ARIZONA

FRANK L. SNELL
MARK WILMER
JOSEPH T. MELCZER, JR.
EDWARD JACOBSON
NICHOLAS H. POWELL
PERRY M. LING
ROLAND R. KRUSE
FREDERICK K. STEINER, JR.
JAMES H. O'CONNOR
RICHARD B. SNELL
MAYNARD P. GOUDY
ROGER W. PERRY
DON CORBITT

DMEA
DEPARTMENT OF THE INTERIOR
JUL 11 1957
REGION III
DENVER, COLORADO

July 9, 1957

United States Department of the Interior
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

Attention: Mr. W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Re: Docket No. DMEA 3448 (Tungsten)
Contract No. Idm-E763
Hillside Mining and Milling Company
(Black Pearl mine)
Yavapai County, Arizona

Dear Mr. Traver:

Enclosed please find the original and 5 copies of a petition to transfer the above set forth contract. This is in compliance with your letter dated February 18, 1957, addressed to Mr. Robert C. Bogart.

Sincerely yours,

SNELL & WILMER

By Don Corbitt
Don Corbitt

DC:fb
Enclosures

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 17 195

DATE	INITIALS	CODE

DMEA
DEPARTMENT OF THE INTERIOR
JUL 11 1957
REGION III
DENVER, COLORADO

April 1, 1957

United States Department of the Interior
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

Attention: Mr. W. M. Traver
Executive Officer, DMEA
Field Team, Region III

RE: Docket No. DMEA 3448 (Tungsten)
Contract No. Idm-E763
Hillside Mining and Milling Company
(Black Pearl mine)
Yavapai County, Arizona

Dear Mr. Traver:

The Hillside Mining and Milling Company, a corporation, and the Black Pearl Mining Company, a corporation, by their properly authorized officers, hereby request that the above set forth contract be assigned from the Hillside Mining and Milling Company to the Black Pearl Mining Company.

HILLSIDE MINING AND MILLING COMPANY

By _____ President

ATTEST:

_____ Secretary

ASSIGNOR

BLACK PEARL MINING COMPANY

By Edgar A. Schol President

ATTEST:

_____ Secretary

ASSIGNEE

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 15 1957

DATE	INITIALS	CODE
7/15	P.K.	220
7/15	[illegible]	800
7/16	WSM	4400

224 New Customhouse
Denver 2, Colorado

CERTIFIED MAIL

July 10, 1957

Mr. Robert C. Bogart,
General Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: Docket DMEA-3448 (Tungsten)
Contract Idm E763
Hillside Mining and Milling Co.
(Black Pearl Mine)
Yavapai County, Arizona

Dear Mr. Bogart:

By letter of June 14, 1957, we forwarded to you the Government's, Division, Audit, Finance Office, and Field Team copies of a proposed Termination Agreement for signature by an authorized official of Hillside Mining and Milling Company and prompt return of the Agreement to this office.

As considerable time has elapsed and the Termination Agreement has not been returned, we will appreciate your prompt attention to the matter and either execution and return of all copies of the Agreement or return of all copies of the Agreement unexecuted, together with your comments on or objections to it.

Very truly yours,

Original signed by
W. H. KING

W. H. King
Executive Officer, DMEA
Field Team, Region III

JWT:jy
cc: Chm. Op. Comm. (2)
Harshman
Emerick
DMEA/TUC
Townsend
Corresp. E763
Chron.

224 New Customhouse
Denver 2, Colorado

June 14, 1957

CERTIFIED MAIL

OFFICE ... RECEIVED
6/20 JWH 120
6/24 800
400

Mr. Robert C. Bogart, General Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: Docket No. DMEA-3448 (Tungsten)
Contract No. Idm-E763
Hillside Mining and Milling Co.
(Black Pearl Mine)
Yavapai County, Arizona

Dear Mr. Bogart:

Enclosed are the Government's, Division, Audit, Finance Office, and Field Team's copies of a proposed Termination Agreement which has been prepared and signed by the Administrator, DMEA, for the Government to terminate Contract No. Idm-E763, effective August 1, 1956.

If the Termination Agreement is satisfactory, all copies are to be signed by an official of Hillside Mining and Milling Company, authorized to ~~such~~ such an instrument, the signer's title inserted, the corporate seal affixed, and all copies promptly returned to this office, upon receipt of which the "Operator's" copy will be forwarded to you.

Very truly yours,
Original signed by
W. H. KING

W. H. King
Executive Officer, DMEA
Field Team, Region III

Encls.
JWF:bh
cc-Chairman, Op. Comm. (2)
Harshman
Emerick
DMEA/Tucson
Townsend
Corres. File
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
6-7	Chapman	400
6-7	Martin	400
6-7	Chambers	800
6/10	Selfridge	130
6/11	Johnson	100
"	Gulbertson	220
6/12	C	400

JUN 11 1957

Mr. J. H. Harshman
Acting Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA-3448 (Tungsten)
Hillside Mining & Milling Co.
Yavapai County, Arizona
Contract No. I4n-1763

Dear Mr. Harshman:

Enclosed are the original and five copies of a "Termination agreement" for the above referenced contract, signed by the Administrator for the Government.

If the conditions and terms of the proposed agreement are satisfactory to you and the Operator, all six copies are to be signed by the Operator and the usual distribution made.

If any of the conditions and terms of the proposed agreement do not have your approval or that of the Operator and cannot be altered within your delegated authority, the original and all copies are to be returned to this office, together with the proposed changes for consideration.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (HB)

APPROVED:

Frank D. Lamb (HB)
Member, Bureau of Mines

Thor H. Kiilsgaard (HB)
Member, Geological Survey

TLChapman/bih 6/6/57

cc to: Docket
Adm. Reading File
Operating Committee
Messrs. R.W.Holliday
T.H.Kiilsgaard
Code 400

Enclosures (6)

P.S. Two extra copies of the agreement are enclosed for the Field Team.

8623

Government's Copy

"Apud. Sol. Off."

Long
Chapman
Martin
Chambers

TERMINATION AGREEMENT

It is agreed this _____ day of _____, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Hillside Mining and Milling Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract No. Idm-E763 (Docket No. DMEA-3448), dated February 2, 1955, hereinafter referred to as the "Contract," that:

1. Effective August 1, 1956, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and are hereby terminated.

2. The Government shall contribute only to the agreed actual and unit costs of work performed prior to August 1, 1956.

3. The Operator shall promptly perform all winding up and settlement actions provided for in the Contract, including the rendering of the final report and the final account.

4. All rights of the Government provided for in the Contract with respect to certification of discovery or development, percentage royalty and liens for its payment, records, audits, and recovery of any overpayment, are preserved.

5. The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this termination agreement.

IN WITNESS WHEREOF, these parties have executed this agreement as of the day and year first above written.

THE UNITED STATES OF AMERICA

HILLSIDE MINING AND MILLING COMPANY

By_____

Title_____

By_____
Administrator, Defense Minerals Exploration Administration

Please save this note
WSM

Changes & corrections
made in letter —
Will be typed as a
discussion —
(
FEJ.

MEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
6-7	Chapman	400
6-7	Martin	400
		120
		100
		220
		400

Memorandum

To: Administrator, DMEA

From: Division of Iron and Ferro-Alloys, DMEA

Subject: Termination before completion and Summary of subject project.
Docket No. DMEA-3448, Tungsten
Hillside Mining and Milling Company (Assignee of Black Pearl Mining Company)
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Termination before completion of the project is requested by the Operator but the Field Team believes more work is warranted. This Division concurs in request for termination.

OPERATOR Hillside Mining and Milling Company
Bagdad, Arizona

PROPERTY The land referred to in Article 2 of the contract form consists of the Black Pearl Nos. 1, 2 and 7, patented lode mining claims, patent No. 1102913, recorded in Prescott, Arizona in Book of Deeds 181, pages 551-554.

The property owned by John Lawler, Mary Lawler, James E. Harrington, Kathryn I. Harrington, his wife, F. H. Lyons, Mary Lyons, his wife, Joseph W. Walton and Florence E. Walton, his wife, is under a Lease and Option Agreement, dated April 30, 1951, to E. A. Scholz and Irma R. Scholz, his wife and J. H. Cazier and Dorothy L. Cazier, his wife. By an Amendment to Lease and Option dated August ?, 1954, it was assigned to the Black Pearl Mining Company and time was extended to October 1, 1964.

CONTRACT Executed February 2, 1955, was issued to the applicant, the Black Pearl Mining Company, by the Defense Minerals Exploration Administration.

The project was divided into two stages. Stage I consisted of preparing site for shaft, shaft house, headframe and hoist, erecting shaft house, installing hoist, purchasing equipment, extending main adit 400 feet, sinking two compartment shafts 150 feet, cutting station at 125 foot level, crosscut to vein 45 feet and drifting 400 feet on the vein. Stage II includes raising from 125 foot level to

8623

adit level, sinking shaft an additional 125 feet, cutting station at 250 feet, crosscutting 60 feet to vein, and drifting 600 feet easterly and 200 feet westerly on vein.

All surface work, purchases and installations were on an actual cost basis, amounting to $9,990.00. All underground work was on a unit cost and for Stage I amounted to $57,430.00, or a total of $67,420.00. Stage II cost amounted to $59,865.00 and a total for the project of $127,285.00, Government participation 75 percent, $95,463.75

Four amendments to the contract were written, but no change was made in the work or costs.

On December 12, 1955, the contract was assigned to the Hillside Mining and Milling Company.

WORK COMPLETED

Actual Cost.	
Surface work, installations, etc.	$ 4,537.73
Unit Cost.	
Adit level, 271 feet drifting at $34.00/ft.	9,214.00
Shaft sinking, 150 feet at $130.00/ft.	19,500.00
Station cutting at 125 foot level	2,000.00
Drifting and crosscutting on 125 foot level at $34.00/ft.	15,130.00
Timbering 674.5 feet at $7.00/ft.	4,721.50
Raising 118 feet at $35.00/ft.	4,130.00
Assaying 126 samples at $5.00 each	630.00
Total cost (subject to audit)	$59,863.23
Government participation, 75 percent	$44,897.42

GEOLOGY

The Black Pearl mine is developed on an easterly trending fissure vein which dips steeply to the south in a granite host rock. This rock is probably pre-Cambrian. The vein has a strike length of about 2,000 feet and averages about 3 feet in width. It is continuously mineralized except for short distances along en echelon offsets. To the west the vein splits and shows little mineralization.

The vein gangue mineral is quartz with masses of muscovite and pinkish feldspar. The metallic minerals in decreasing order of importance are; pyrite, wolframite, specularite, bismuthenite, molybdenite and some scheelite. The wolframite occurs as small to large crystals and in large masses. The distribution is irregular and erratic. Some beryl occurs as pale blue crystals.

ORE VALUES AND TONNAGE

From 1915 to 1935 the mine produced about 3,100 units of WO_3 from ore averaging 0.68 percent WO_3. From 1935 to 1951 the mine was worked intermittently and no data are at hand as to the production. From 1951 through 1954, Scholz and Cazier produced 2803 units of WO_3 from ore averaging 0.50 to 0.60 percent WO_3.

The Field Team examined the property in September 1954, and at that time the reserve was estimated as 14,000 tons of indicated ore and 140,000 tons of inferred ore over a length of 2,000 feet and to a depth of 250 feet below the adit level. This ore was estimated to average 0.60 percent WO_3.

During and after completion of the work noted 13,912 tons of ore averaging 0.283 percent WO_3 were mined and milled by the Hillside Mining and Milling Company. A small tonnage was mined by Scholz and Cazier prior to the assignment.

On the basis of the value of the ore mined and milled, a reappraisal of the property was made by the Field Team. This reappraisal showed that the vein only had a possible productive length of 1,600 feet, and a depth of 250 feet below the adit level. Using the value of the ore mined by the Hillside Mining and Milling Company it is estimated that the mine would produce 109,000 tons of ore down to the 250 foot level averaging 0.27 percent WO_3.

ROYALTIES

Scholz and Cazier	$ 292.82
Hillside Mining and Milling Company	7,703.06
Total	$7,995.88

34,000 pounds of 63.3 percent WO_3 are on hand.

TERMINATION

As a result of the drop in indicated and inferred tonnage and especially to the indicated drop in grade, it is not believed that further participation by the Government is warranted, and a termination agreement before completion of the project is being written.

COMMENTS AND RECOMMENDATIONS

The Field Team believes that further exploration should be carried on before termination, probably by continuing drift on the 125 foot level to the east. The Commodity Divisions of the Bureau of Mines and the Geological Survey recommend termination of the project.

TLChapman/bih
6/6/57
cc to: Docket
Adm. Reading File
Operating Committee
Code 400

OFFICIAL FILE COPY

Date	Surname	Code
5-27	Chapman	400
5-27	Martin	400
		140

May 27, 1957

MEMORANDUM

To: Associate Solicitor, Division of Mineral Resources

From: Iron and Ferro-Alloys Division, DMEA

Subject: Preparation of Termination Agreement
Docket No. DMEA 3448 - Tungsten
Hillside Mining and Milling Company (Assignee of Black Pearl Mining Company)
Black Pearl mine
Yavapai County, Arizona
Contract No. Idm-E763

Attached is draft of Termination Agreement for your use in preparing in final form.

W. S. Martin

W. S. Martin, Director
Iron and Ferro-Alloys Division

Attachment

TLChapman:foc
5/27/57
cc to: Docket
Chron.

8623

OFFICIAL FILE COPY
DMEA
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DATE	INITIALS	COPY
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IN REPLY REFER TO:

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

May 21, 1957
Re: DMEA 3448 Idm-E763
Hillside Mining & Milling Co.
Black Pearl Mine
Yavapai County, Arizona

Memorandum

~~To:~~ W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of memorandum of Acting Executive Officer of May 6, 1957, recommending additional work

The contract was awarded February 2, 1955. Expenditures as of April 1, 1957, amounted to $59,174.16. No work has been done under the contract since June 30, 1956, and the mining plant has been dismantled. The workings explore a 3-foot wolframite-bearing quartz fissure vein in granite. At the time the contract was awarded, the mine had produced about 5,000 units of WO_3 and reserves were estimated to be:

Measured	9,180 units	
Indicated	8,400 "	
Inferred	84,000 "	
Total	101,580 "	(172,000 tons at 0.59% WO_3)

From April through December, 1956, the operators produced 13,912 tons of 0.258% WO_3 material or:-

3,600.38 units

Sales amounted to $154,052.26 and royalty to $7,703.06. As of April 1, 1957, concentrate on hand amounted to 1,076.100 units.

The present examiners estimate the average mine grade (in place) as shown by the work of the operators, as 0.36% WO_3 instead of 0.59% as estimated in 1955. It has also been shown by exploration work and mining that the length of the deposit is probably less than that taken in 1955. The total reduction in tons, as now estimated, is 63,000 and in WO_3, about 68,550 units, allowing for the 3,600-unit production.

In view of the unfavorable results, I recommend termination of the project. Consideration might now be given an exploratory project consisting of diamond drilling of the vein below the easterly stopes on the 0 level.

N. E. Nelson

N. E. Nelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

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May 17, 1957

Memorandum

To: W. S. Martin, Chief, Iron and Ferroalloys Division-DMEA
Through: Acting Chief, Branch of Ferrous Metals and Ferroalloys JCOH

From: R. W. Holliday, Commodity Specialist, Branch of Ferrous Metals and Ferroalloys

Subject: Docket DMEA 3448 (Tungsten)
Hillside Mining and Milling Co.
Black Pearl mine
Yavapai County, Arizona

Apparently no DMEA contract work has been done at subject property since June 30, 1956 (letter of February 21, 1957, from Mr. J. N. Faick). Apparently there is no operator, as yet, prepared to begin work and no single specific program of exploration acceptable to all parties. Although the Field Team examiners have indicated a belief that further exploration is justified they also feel that there is little chance of obtaining a new operator.

Unless some specific proposal is expected in the near future I would recommend termination of the contract.

R. W. Holliday

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

May 6, 1957

FILE COPY
DMEA
DENVER MAY 10 1957
5-10 C
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220
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400

Memorandum

To: Chairman, Operating Committee, DMEA

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-3448 (Tungsten) Contract Idm-E763, Hillside Mining and Milling Company (Black Pearl mine) Yavapai County, Arizona

Enclosed are the original and three copies of a joint memorandum by T. M. Romslo, Bureau of Mines, and J. N. Faick, Geological Survey, in which they give their reasons for recommending additional work at the Black Pearl mine.

Your letter of April 22, 1957, points out the discouraging aspects of the work completed to date, particularly the decrease in amount and grade of the present ore reserve estimates in contrast to those made following the original examination.

Although the work completed has not been encouraging, I concur with the Faick-Romslo conclusion that work to date has not been sufficient to definitely establish the approximate ore reserves in the Black Pearl mine and that some additional exploration is warranted.

In all the comments regarding exploration at the Black Pearl mine, considerable stress has been put on the so-called ore reserve estimates. These are in reality somewhat controlled guesses based on a number of assumptions which can only be proven or disproven by continued exploration. This is particularly true of the tonnage figures, and I see little significance in the reduction from 140,000 to 109,000 tons; continued exploration may show either figure to be high or low.

The apparent decrease in grade with increasing depth is somewhat more disturbing, but I question whether enough work has been done to establish this decrease as factual. Drifting on the 125-foot level has exposed about 600 feet of the ore shoot out of a possible length of 1600 feet, and the grade and character of the eastern 1,000 feet is unknown.

5/13/57
Copies to:
[illegible]

Work under Stage I of the contract on the 125-foot level has been completed, and I would not recommend sinking to and drifting on the 250-foot level as provided for in Stage II of the present contract. Should additional work be requested, I would recommend additional drifting eastward along the vein on the 125-foot level to determine the true character of the deposit at that depth. Results of stoping from the 125-foot level indicate that the ore above the level may contain about 6.65 pounds of WO_3 per ton - rather low-grade but conceivably minable under favorable economic conditions. = 0.3325 % WO_3

In summary, I believe that the ore potential of the Black Pearl mine is not great, although modest reserves of low-grade tungsten ore might be developed by continued exploration. My objection to terminating the project at the present stage of completion, should additional work be requested, is based on the lack of factual data upon which to base a reasonably accurate appraisal of the ore reserves in the mine.

E. N. Harshman

E. N. Harshman

Enclosures

DMEA
DEPARTMENT OF THE INTERIOR
MAY 3 - 1957
REGION III
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Box 4126 University Station
Tucson, Arizona

MINERAL DEPOSITS
IN REPLY REFER TO:
DMEA
RECEIVED
MAY 3 1957
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

W.O.

May 1, 1957

Memorandum

To: E. N. Harshman, Acting Executive Officer, E.N.H.
DMEA Field Team Region III

From: T. M. Romslo
J. N. Faick

Through: W. R. Storms WRS
W. L. Emerick WLE

Subject: Docket DMEA-3448 (Tungsten) Contract Idm-E763,
Hillside Mining and Milling Company
(Black Pearl Mine), Yavapai County, Arizona

Reference is made to E. N. Harshman's memorandum of April 26, 1957 and its attached letter by George C. Selfridge. The requested additional information that may assist in overcoming the Operating Committee's objection to continuance of the subject contract is given below.

First, it is to be noted that the re-appraisal of the project as shown by the report from the field under date of April 1, 1957, is conservative with respect to amount and grade of ore reserves. The fact that these reserves are of lesser magnitude than originally expected is actually one of the accomplishments of the project, and does not necessarily require modification of the original recommendations pertaining to the advisability of exploring the deposit. The 250-foot level was selected as the maximum depth to be explored by DMEA for practical reasons, and is not intended to imply that the tungsten mineralization stops at this depth. Actually, the tungsten probably extends much deeper, as is suggested by other nearby deposits that are geologically and mineralogically similar to the Black Pearl ore. At the Bonus claims (DMA-455, denied), which are situated about one-half mile southwest of the Black Pearl, similar tungsten mineralization is exposed about 400 feet below the outcrop of the Black Pearl. At the Tungstona mine, near Bagdad, Arizona, similar ore has been explored from the outcrop to depths of about 500 feet without any apparent change in character. We therefore assume the tungsten at the Black Pearl will extend at least to the 250 level, and probably below, although the grade of ore may be expected to diminish downward, as previously shown. The total ore reserves would be significantly greater than our revised estimates if it is found that tungsten extends below the proposed 250 level.

Of secondary importance is the probability that the Black Pearl mine probably could profitably be operated under certain conditions, as shown by Mr. Bogard, Manager, Hillside Mining & Milling Co., in his report forwarded to you on April 30. The conditions which Mr. Bogard believes would permit successful operation of the mine are as follows:

1. More development to open more areas to bring about an increase in tonnage and efficiency;

2. More liberal royalty conditions than those negotiated by the Hillside Mining and Milling Company;

3. A $63.00 or better price for tungsten;

4. A screening plant ahead of the concentrator to eliminate excessive gangue and reduce the amount to be treated;

5. With further operating experience, new mining methods could be employed, thereby reducing mining costs.

We do not believe the DMEA project has reached a satisfactory stopping point because the tonnage, grade, and extent of the deposit has not been established. It is our belief that further exploration is justified; however, we feel that under prevailing economic conditions there is little chance of obtaining a new operator. It is our opinion that the contract should be available for a period of possibly 6 months. If work is not renewed within that time by an acceptable operator the contract should be terminated without prejudice.

T. M. Romslo, Mining Engineer
U. S. Bureau of Mines

J. N. Faick, Geologist
U. S. Geological Survey

TMR:JNF:ms
cc: Acting Executive Officer (8)
Harshman
Storms
Emerick

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

May 6, 1957

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RECEIVED MAY 8 1957

DATE		CODE
5/8	C	220
5/9	dwb	800
5/10	WSM	400

Memorandum

To: Chairman, Operating Committee, DMEA

From: Acting Executive Officer, DMEA Field ~~Team~~, Region III

Subject: Docket No. DMEA 3448 (Tungsten), Contract No. Idm-E763, Hillside Mining and Milling Company (Black Pearl mine), Yavapai County, Arizona

Enclosed are the original and one copy of a report submitted by the Operator pertaining to work completed to date under the contract.

If no more work is performed, the report is considered adequate as the Operator's final report.

Comments on the project requested in your letter of April 22, 1957 will be forwarded under separate cover.

E. N. Harshman

E. N. Harshman

Enclosures

W.O.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
BOX 4097
TUCSON 5, ARIZONA

DMEA
DEPARTMENT OF THE INTERIOR
MAY 2 - 1957
REGION III
DENVER, COLORADO

April 30, 1957

Memorandum

To: E. N. Harshman, Acting Executive Officer, DMEA Field Team, Region III

From: Superintendent, Southwest Experiment Station

Subject: Operator's Final Report, Docket DMEA-3448 (Tungsten), Contract Idm-E763, Hillside Mining & Milling Co. (Black Pearl Mine), Yavapai County, Ariz.

Enclosed are original and 4 copies of a final report by the above company on work done at the Black Pearl tungsten mine. This report has been read and approved by Messrs. Romslo, Emerick, and Faick. If no additional work is done under terms of this contract, then this will be the operator's final report. If additional work is done, then a supplemental report will have to be submitted.

Walter R. Storms

Walter R. Storms

CC Exec. Off. (8)
W. L. Emerick
DMEA-3448
DF

WRStorms:frj

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DMEA
RECEIVED MAY 8 1957

DATE	INITIALS	CODE

DMEA
DEPARTMENT OF THE INTERIOR
MAY 2 - 1957
REGION III
DENVER, COLORADO

HILLSIDE MINING & MILLING COMPANY

BLACK PEARL MINE
DEFENSE MINERALS EXPLORATION ADMINISTRATION CONTRACT
DOCKET NO. DMEA 3448 (TUNGSTEN)
CONTRACT NO. IDM E763

Operator: Hillside Mining & Milling Company
Bagdad, Arizona

Prior Operator: Black Pearl Mining Co.

Property: Black Pearl Mine
Yavapai County, Arizona
T 15N R7W GSRBM

Work approved under contract:

Preparation work	$ 9,990.00
Stage I	
Sinking 2 compartment vertical shaft 150 ft. @ $130.00/ft.	19,500.00
Cut Station and skip pocket at 125 ft. level	2,000.00
Drifting and crosscutting 845 ft. @ $34.00/ft.	28,730.00
Timbering 800 ft. @ $7.00/ft.	5,600.00
Spiling 40 ft. @ $20.00/ft.	800.00
Sampling and assaying 160 samples @ $5.00 each	800.00
Estimated Total Cost of Stage I	67,420.00
Stage II	
Raise 125 ft. from 125 ft. level on vein @ $35.00/ft.	4,375.00
Sink shaft an additional 125 ft. @ $130.00/ft.	16,250.00
Cut station and pocket at 250 ft. level at shaft	2,000.00
Drifting and crosscutting 860 ft. @ $34.00/ft.	29,240.00
Timbering 800 ft. @ $7.00/ft.	5,600.00
Spiling 80 ft. @ $20.00/ft.	1,600.00
Sampling and assaying 160 samples @ $5.00 each	800.00
Estimated Total Cost Stage II	59,865.00
Estimated Total Cost of Project	$127,285.00
Government participation @ 75%	$ 95,463.75

OPER. FINAL REP.

Work completed under contract:

Adit level-271 ft. of drift
275.5 ft. of timber

125 ft. level-445 ft. of drift
400 ft. of timber

Shaft - 150 ft.

Cutting Station

Raise from 125 ft. level to adit level

Preparatory work including grading, setting head frame, etc.

Costs to date:

Taken from Operator's Unit Cost and Progress Report for the month of August, 1956.

OPERATION	UNITS TO DATE	COST PER UNIT	TOTAL COST
Drifting & Crosscutting	716	34.00	$24,344.00
Timbering	675.5	7.00	4,721.50
Raising	118	35.00	4,130.00
Shafts	150	130.00	19,500.00
Cutting Station	1	2,000.00	2,000.00
Sampling & Assaying	126	5.00	630.00
			55,325.50
Bulldozing			268.75
Equipment purchased			380.00
New Buildings & Improvements			2,030.08
Other Preparatory Work			1,858.90
Total Cost			$59,863.23
Disallowed			689.07
Total Cost			$59,174.16
Government cost at 75% participation			44,380.62

Additional work not covered by contract performed by Hillside Mining & Milling Company.

Shaft 15 ft. additional depth
125 ft. level West Drift, 115 ft. west of intersection of crosscut with vein.
125 ft. level east drift, 55 ft. additional exploration to the east.
Crosscut to vein, 49 ft.
Stoping, 10,655 tons mined from Stopes.

Work was started in the latter part of March, 1955, by the Black Pearl Mining Co. On November 1, 1955, the Black Pearl Mining Co. re-assigned this contract to the Hillside Mining & Milling Company.

During the period of March, 1955, to November 1, 1955, the following work was completed under the contract:

	UNITS	
Drifting and Crosscutting	194.5 ft.	$ 6,613.00
Timbering	196.0 ft.	1,372.00
Shafts	68.5 ft.	8,905.00
Sampling & Assaying	39	195.00
		17,085.00
Bulldozing		268.75
Operating equipment purchased		380.00
Buildings, head frame and improvements		2,030.08
Other Work		1,858.90
Total cost of work performed by Black Pearl Mining Co. (from Operator's Report)		$21,622.73

From November 1, 1955 to December 31, 1956, the Hillside Mining & Milling Company completed the work to date on this contract.

	UNITS	COST
Drifting and Crosscutting	521.5	$17,731.00
Timbering	479.5	3,356.50
Raising	118	4,130.00
Shafts	81.5	10,595.00
Sampling & Assaying	87	435.00
Cutting Station	1	2,000.00
Estimated total cost of work performed by Hillside Mining & Milling Company (from Operator's Report)		$38,247.50

The Black Pearl Vein is situated in a coarse crystalline granite which is an extension of the Lawler Granite of Pre-Cambrian age as mapped by the U.S.G.S. in the Bagdad Quadrangle.

The ore body is continuous for approximately 2,000 feet, disregarding the echelon offsets. The wall rock has been altered from 6 to 24 feet. The vein maintains a strike of approximately North 76° East and a dip of about 80° South. The principal mineral is Wolframite, which occurs as coarse crystal groups from one to several hundred pounds. Small crystals are the exception. Other minerals are Bismuthinite, silver pyrite, mica, and beryl. Pyrite is quite abundant, amounting to 25% by weight of ore. These minerals occur in a gangue of white quartz, small amount of pink feldspar, and occasional areas of specular hematite.

Due to the altered zones in and about the vein, mining is quite costly. Stoping must be carried on by square sets in most areas of the mine and the haulage drifts require constant repair.

In areas in and about the echelons mining is further agravated by overlapping ends of the echelons, causing heavy ground and costly timbering with extreme care being required.

The spotty occurance of the Wolframite mineralization makes selective mining extremely difficult and sampling almost useless.

BLACK PEARL PRODUCTION
BY HILLSIDE MINING & MILLING

CONCENTRATES

LOT NO.	LBS. CONC.	GRADE % WO_3	LBS. WO_3	VALUE
1955 Production:				
9-1739-28	598.998	69.586	416.819	$1,307.21
9-1739-29	501.019	68.789	344.646	1,066.78
1956 Production:				
9-1739-30	No Black Pearl			
9-1739-31	" " "			
9-1739-32	" " "			
9-1739-33	3,092.126	70.826	2,190.003	6,804.12
9-1739-34	10,311.558	61.88	6,380.792	19,900.41
9-1739-35	5,025.563	60.68	3,049.512	9,439.92
9-1739-36	3,156.817	64.12	2,024.151	6,358.27
9-T-51-1	52,472.165	61.90	32,480.270	88,313.86
9-T-51-2	No Black Pearl			
9-T-51-3	12,587.274	61.13	7,694.600	20,862.37
On hand:				
Jan. 1, 1957	*34,000	*63.30	21,522	
Total Production	121,745.520	62.51	76,102.793	
Recovered from Jig	633.094	54.21	343.200	
Conc. Purchased from	633.094	54.21	343.200	
Scholz & Cazier	1,700.000	70.44	1,197.480	
(Black Pearl Mining)	2,200.000	41.68	916.960	
Production from Ore Mined	116,579.332	62.88	73,301.953	

*Hillside Mining & Milling Company's weights and assays not final settlement.

MILL RECORD

PERIOD	DRY TONS BELT WT.	ASSAY HEADS % WO_3	ASSAY TAILS % WO_3
April, 1956	1,922	0.202	0.049
May "	1,857	0.264	0.068
June	1,282	0.375	0.103
July	1,450	0.292	0.069
August	1,505	0.364	0.054
September	1,726	0.285	0.042
October	861	0.228	0.043
November	912	0.301	0.048
December	2,397	0.269	0.047
	13,912	0.283	0.058

Recovery: $\frac{73,301.953 \text{ lbs. } WO_3}{13,912 \text{ dry tons}}$ = 5.269 lbs. WO_3 recovered/ton

Assume tail assay as being correct.

5.269 lbs. WO_3 recovered
1.160 lbs. WO_3 in tails
6.429 lbs. WO_3 in heads

0.321 WO_3 mined grade of ore.

	TONS		% WO_3
Total Tons mined	13,912	@	0.321
Calculated Dilution	2,715	@	0.000
Calculated grade of ore in place	11,197	@	0.399

CONCLUSION: Under the proper operating conditions I believe that the Black Pearl Mine could be operated successfully and profitably.

These conditions are:

1. More development to open more areas to bring about an increase in tonnage and efficiency.

2. More liberal royalty conditions than those negotiated by the Hillside Mining and Milling Company.

3. A $63.00 or better price per unit for Tungsten.

4. A screening plant ahead of the concentrator to eliminate excessive gangue and reduce the amount to be treated.

5. With further operating experience, new mining methods could be employed, thereby reducing mining costs.

Report submitted by:
Hillside Mining & Milling Company
Robert C. Bogart, General Manager

BLACK PEARL MINE

PROGRESS MAP

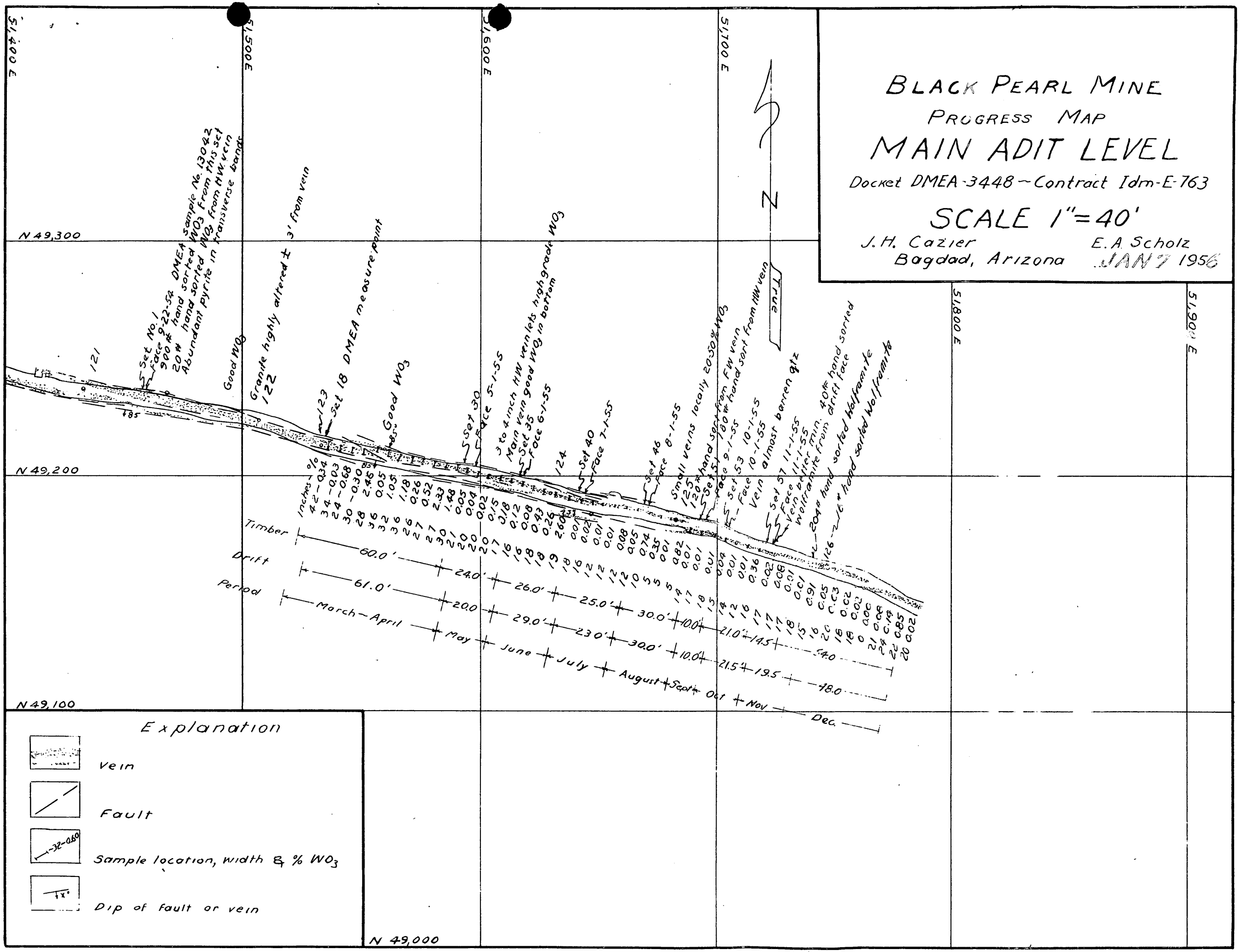
MAIN ADIT LEVEL

Docket DMEA-3448 ~ Contract Idm-E-763

SCALE 1" = 40'

J.H. Cazier — E.A. Scholz

Bagdad, Arizona — JAN 9 1956



DMEA Form 7
(12-56)

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Date	Surname	Code
4/19	Chapman	400
4/19	Martin	400
4/22	Selfridge	130
"	Johnson	110
"	Mattenson	100
4/23	C	220
		400

APR 22 1957

Mr. E. N. Harshman, Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 3448 - Tungsten
Hillside Mining and Milling Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Dear Mr. Harshman:

Reference is made to your memorandum of April 8, 1957, enclosing memorandum of April 1, 1957, from T. M. Romslo and J. N. Faick, re-appraising the above-noted project.

By letter of February 14, 1957, Hillside Mining and Milling Company advised you that it is dropping its contract; and that Scholz and Casier (Black Pearl Mining Company) wish to have the contract returned to them, and desire to complete the work.

After reviewing the docket on this project we find that we are unable to agree with you that continuance of Government participation in the project is warranted. This project was set up on the basis of an inferred target of 140,000 tons of 0.6% WO_3 ore. The target was estimated to have a strike length of 2,000 feet and a vertical extent of 250 feet below the adit level. In the reappraisal of the project made by Romslo and Faick the target is now estimated to be only 109,000 tons of 0.275% WO_3 ore in the same area. In addition, indications are that the grade is decreasing with depth, and apparently, also the length of individual ore shoots. On the basis of these facts we do not see how the Government would be justified in participating in the continuation of the project.

If you have any additional information that would assist in overcoming our objections we would be pleased to receive it, otherwise it will be necessary to inform the Operator that the Government will not participate further in this project and that it should take the necessary steps to close out the project.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (246)

APPROVED:

O. M. Bishop (246)
Member, Bureau of Mines

Thor H. Kiilsgaard (246)
Member, Geological Survey

cc to: Oper. Comm.
FT. REG. III
Messrs. R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

TLCHAPMAN:foc
cc to: Docket
Code 400
Admr. R. File

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
4/16	Chapman	400
4/16	Martin	400
4/17	Selfridge	130
		110
		100
		220

noted

Mr. E. N. Harshman, Acting Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA 3443 - Tungsten
Hillside Mining and Milling Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Dear Mr. Harshman:

Reference is made to your memorandum of April 8, 1957, enclosing memorandum of April 1, 1957, from T. M. Romalo and J. N. Faick, re-appraising the above-noted project.

By letter of February 14, 1957, Hillside Mining and Milling Company advised you that it is dropping its contract; and that Scholz and Cazier (Black Pearl Mining Company) wish to have the contract returned to them, and desire to complete the work.

Please request a statement from Scholz and Cazier of their plans for resuming work and completing the contract, if they receive a reassignment. According to Amendment No. 4 the present recess expires on May 2, 1957.

This office agrees with Romalo and Faick that continuance of Government participation in the project is warranted, but that it cannot be held in abeyance indefinitely. If work is not resumed within a reasonable time and carried out to completion, it may then be necessary to terminate the project by mutual agreement or unilaterally.

Sincerely yours,

Noted by George C. Selfridge
Chairman, Operating Committee (WB)

APPROVED:

Frank D. Lamb (WB)
Member, Bureau of Mines

Thor H. Kiilsgaard (WB)
Member, Geological Survey

TLChapman:am 4-16-57
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT REG III
Messrs. R. Holliday, USBM
T. Kiilsgaard, USGS

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

OFFICIAL FILE COPY
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RECEIVED APR 10 1957

DATE	INITIALS	CODE
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		120
4/10	WSM	400

April 8, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3448 (Tungsten), Contract No. Idm-E763, Hillside Mining and Milling Company (Black Pearl mine), Yavapai County, Arizona

In conjunction with matter discussed in your letter of March 14, 1957, enclosed are the original and three copies of a joint memorandum report, dated April 1, 1957, from T. M. Romslo, mining engineer, Bureau of Mines, and J. N. Faick, geologist, Geological Survey, wherein they provide an analysis of the work performed to date and the results thereof.

Stage I work has been completed except for 129 feet of adit extension under Item 5. By letter of June 5, 1956, the Field Team, Region III, approved for performance the work under Items 11 to 16, inclusive, of Stage II. However, 118 feet of raising under Item 11 constitutes all the work that has been completed.

The performance of further work under the Contract appears to involve DMEA policy, since the work would be somewhat in the nature of development work. However, we concur with recommendations in the field report, as it appears that further work is indicated in order to provide conclusive information as to tonnage and grade of the deposit.

E. N. Harshman

E. N. Harshman

Enclosures

MINERALS REFLECTS TO:
DMEA
RECEIVED
APR 4 1957
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Box 4126 University Station
Tucson, Arizona

DMEA
DEPARTMENT OF THE INTERIOR
APR 5 - 1957
REGION III
DENVER, COLORADO

April 1, 1957

Memorandum

To: Executive Officer, DMEA Field Team Region III

From: T. M. Romslo
J. N. Faick

Through: W. R. Storms
W. L. Emerick

Subject: Docket DMEA-3448 (Tungsten) Contract Idm-E763, Hillside Mining and Milling Company (Black Pearl Mine) Yavapai County, Arizona

We have been requested to re-appraise the results of the DMEA exploration project on the Black Pearl mine. Since beginning of the DMEA contract dated February 2, 1955, work and costs completed to date are as follows:

271 ft. drifting on adit level

445 ft. drifting and crosscutting on 125 level

675.5 ft. timbering on adit and 125 level

118 ft. raising from 125 to adit level

150 ft. shaft sinking

Plus cutting shaft station and assaying 126 samples.

Total approved cost $59,174.16 -- Government cost 75% or $44,380.62

A small additional amount of exploratory work was done at no expense to the Government. The mine as presently developed is shown on the attached longitudinal projection.

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DMEA
RECEIVED APR 10 1957

DATE	INITIALS	CODE

The workings explore a wolframite-bearing quartz fissure vein in granite, which near the vein has been altered to mica or greisen. Associated with the wolframite in the vein are abundant pyrite, minor specularite and rare beryl, molybdenite and bismuthinite.

The mine was operated intermittently since 1914 and, as of the original DMEA examination on September 21, 1955, the total production was estimated at 5000 units of WO_3 from ore that was estimated to average about 0.68 percent WO_3. At the time of the examination the ore reserves were estimated as follows:

Tons	Percent WO_3	Class	Estimated by
18,000	0.51	Measured	Scholz & Cazier
14,000	0.6	Indicated	DMEA
140,000	0.6	Inferred	DMEA

The indicated ore reserve estimates were based on a strike length of 1300 feet as exposed in the adit, a depth of 40 feet below the adit and an average width of 3 feet, which is the width of vein used in all of our reserve estimates. The inferred reserve estimate is based on a strike length of 2,000 feet, which is about the length of the vein outcrop, a width of 3 feet, and a probable depth of 250 feet below the adit level. We now believe the magnitude and grade of the indicated and inferred reserves as originally estimated is too high and is subject to downward revision. The grade as estimated is approximately the grade of ore originally mined and as this was selective mining insufficient allowance was made for low-grade or barren sections of the

vein. Apparently the grade of the measured ore, i.e. 0.5 percent, is approximately correct for the higher grade sections of the ore in the upper part of the mine, not 0.6 as estimated by the examiners. Sampling and estimation of ore grades is extremely difficult because (1) the wolframite is coarse-grained and of erratic distribution, therefore difficult to sample; (2) coarse wolframite is hand sorted from broken ore before milling and is difficult to correlate with production; (3) ore produced from different faces in the mine has been treated along with dump ore and jig tails and also with ore from the Tungstona mine, and a completely satisfactory correlation of production and grade figures can not be made.

Another reason the original reserves estimates were too high is because the strike length of the deposit is not as great as supposed. Although the outcrop length is about 2,000 feet, the length on the adit or "0" level is only about 1600 feet, and on the 125 level the length is undetermined. The vein ranges from a few inches to about 6 feet wide and is persistent except for a few echelon "breaks"; however, some parts of the vein are too narrow and too low-grade to be minable, and allowance for these parts of the vein causes substantial reduction in the original reserve estimates.

The best appraisal of the project that can be made is through records of production kept by Hillside Mining and Milling Company; therefore milling records are given in Table 1 and shipping records are given in Table 2.

TABLE I

HILLSIDE MINING AND MILLING COMPANY

Milling Records

Date 1956	Dry Tons Milled	Heads	Tails	Indicated Recovery lbs. per ton	Actual Recovery lbs.per ton
April	1922	0.240	0.049	3.82	3.058
May	1857	0.301	0.068	4.66	3.913
June	1282	0.375	0.103	5.44	4.481
July	1450	0.292	0.069	4.46	6.286
August	1505	0.364	0.054	6.20	6.8824
September	1726	0.285	0.042	4.86	4.128
October	861	0.228	0.043	3.70	5.388
November	912	0.301	0.048	5.06	2.400
December	2397	0.269	0.047	4.44	6.130
Totals & Average	*13,912 T.	0.283	0.058	4.5	4.816

*13,912 tons X 4.816 lbs. per ton = 67,007.68 lbs. WO_3

TABLE II

HILLSIDE MINING AND MILLING COMPANY

Production Records

Shipment	Units WO_3	Pounds WO_3	Payment	Royalty Paid DMEA
9-1739-36	101.207	2,024.140	$ 6,358.27	$ 317.91
9-1739-35	152.476	3,049.520	9,439.92	472.20
9-1739-34	319.040	6,380.800	19,900.41	995.02
9-1739-33	109.501	2,190.003	6,804.12	340.21
9-1739-29	17.232	344.646	1,066.78	53.34
9-1739-28	20.841	416.819	1,307.06	65.35
9T-51-1	1,682.342	33,646.844	88,313.86	4,415.91
9T-51-3	384.730	7,694.600	20,862.17	1,043.12
Inventory	*1,076.100	21,522.000		
Total	3,863.469	77,269.372	$154,052.259	$7,703.06

*34,000 pounds of 63.3 WO_3 concentrates. Assay is by Hillside Mining & Milling Co. Payment and royalty will be based on accepted assay and price when marketed.

Royalties paid to the Government on concentrate sold are the above $7,703.06 plus $292.82 paid by Scholz & Cazier, or a total of $7,995.88. This amounts to approximately 18 percent of the Government's cost of $44,380.62. Substantial additional royalties will be received when the concentrate on hand is marketed.

Inspection of Tables 1 and 2 indicate that actual production as shown by shipments plus inventory is about 10,000 pounds greater than production as shown by milling records. An estimated one-half of this amount was obtained by hand sorting coarse wolframite from broken ore, the other one-half was obtained by re-treating jig middlings and tails left over from Scholz and Cazier operations.

The corrected estimated recovery of WO_3 from the 13,912 tons of ore produced by Hillside M. & M. Co. is 67,007.68 pounds from the mill plus 5,000 pounds hand sorted ore from the mine, a total of 72,007.68, which indicates a recovery of 5.176 pounds per ton.

Included in the 13,912 tons milled was 2,000 tons of barren development rock from the 0 and 125 level drifts and 900 tons of barren wall rock from the stopes. The barren development rock is for 835 feet of 7x8 ft. drift on a 3-foot wide vein. R. C. Bogart, Manager, estimates that dilution in the stopes ranges from 5 to 10 percent for an average of about 7.5 percent. If the 13,912 tons of rock treated contained 2900 tons of waste then the amount of dilution is about 20 percent. Also if mill recovery is 80 percent, as it seems to be, then about 20 percent of the tungsten content in the vein is lost in milling. Recalculating from the average recovery of 5.176 pounds per ton, and making allowance for milling loss and waste dilution it can be shown that the vein in places contains about 7.24 pounds of WO_3 per ton of ore. This is a reasonable average of the ore mined by Hillside M. & M. Co. from all parts of the mine worked.

The grade of ore mined from stopes on the 125 level is represented by production for the month of October through December. During the 3-month period 4170 tons of ore were treated for an average per ton recovery of 5.16 pounds WO_3. Grade of this ore in the vein, after allowing for dilution and mill losses, is 6.65 pounds per ton WO_3.

Our revised ore reserve estimate is based on a vein 3 feet wide, 1600 feet long, and a depth of extension 250 feet below the adit. The grade of ore on the "0" and 125 level is estimated as shown in the table below.

Grade at Adit Level

Length of vein feet	Estimated Grade Lbs. per ton	Basis for estimate
350	12	Old stopes near portal
300	12	Cazier and Scholz production
300	7	Hillside M. & M. Co. production
950 ft. total	10.4 lbs. per ton average.	
650	3	estimated
1600 ft. total	7.4 lbs. per ton average for all ore on adit or "0" level.	

Grade at 125 level

500 ft.	6.65	Hillside's production corrected for dilution and mill losses
550	6.65	Downward extension of ore mined on adit level by Scholz & Cazier and Hillside
550	3.00	Indicated grade by assay of samples in drift.
1600 ft. length	5.4	lbs. per ton average

Total indicated and inferred ore to a depth of 250 feet below the adit: $\frac{1600 \times 250 \times 3}{11}$ = 109,000 tons. Tonnage of ore remaining above the adit level, possibly 9000 tons, is about equal to that mined from the drifts and stopes of the 125 level.

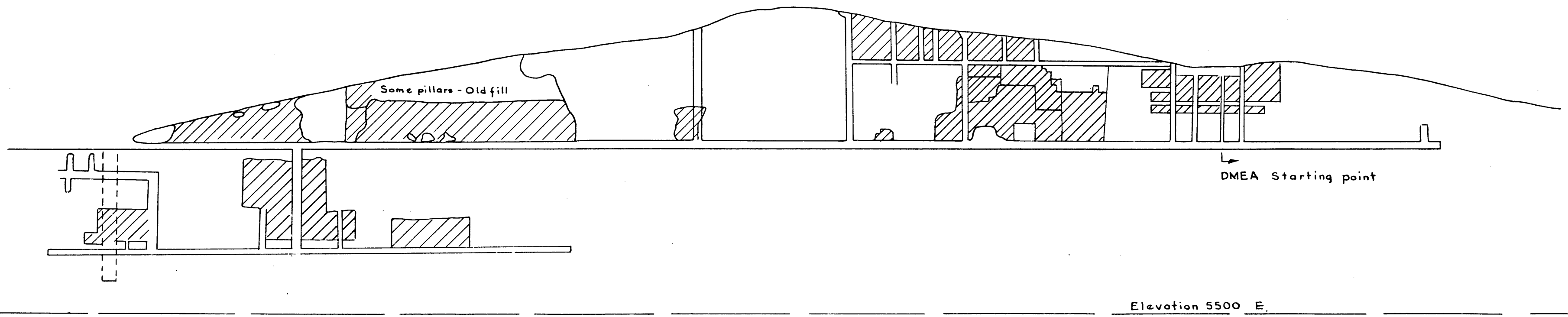
Of the 109,000 tons of ore containing an average of 5.4 pounds WO_3 per ton, approximately 72 percent or 78,000 tons contain an estimated 6.65 pounds per ton and the remaining 31,000 tons contain an estimated 3 pounds per ton.

Although the grade of ore has decreased with depth there is no evidence to indicate that the tungsten is "bottomed." Presumably the ore is present in sufficient quantity to be minable under emergencies or favorable economic conditions. In Mr. Bogart's opinion the mine could be operated at a profit under recent Government prices provided other than Government royalties were more favorable than the existing 22% and more mining faces were available through extension of the 125 level and opening up of the 250 level. We therefore believe continuance of Government participation in Stage II of the contract is justified, provided the work is shortly renewed by the present or other competent operator.

R. M. Romslo, Mining Engineer
U. S. Bureau of Mines

J. N. Faick, Geologist
U. S. Geological Survey

JNF:RMR:ms
cc: Executive Officer (8)
Harshman
Storms
Emerick



Longitudinal Projection of Workings

Scale 1" = 100'

Data from old maps, and transit surveys by J.H. Cozier & E.A. Scholtz, and Hillside Mining & Milling Company. Corrected to 1-10-57

DMEA 3448

FIGURE BLACK PEARL TUNGSTEN MINE, YAVAPAI COUNTY, ARIZ.

OFFICIAL FILE COPY
D M E A
RECEIVED APR 10 '95
DATE | INITIALS | CODE

OFFICIAL FILE COPY
DMEA

RECEIVED		
DATE		CODE
3/21	C	226
4/22		800
		225

224 New Customhouse
Denver 2, Colorado

March 19, 1957

Mr. Robert C. Bogart, General Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: Docket No. DMEA 3448 (Tungsten)
Contract No. Idm-E763
Hillside Mining and Milling Company
(Black Pearl mine)
Yavapai County, ARizona

Dear Mr. Bogart:

In reference to our letter to you, dated February 18, 1957, please disregard the requirement stipulated under item 3.

Very truly yours,

original signed by
E. N. Harshman

E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III

JWT:prl

cc: Chairman, Op. Comm. (2)
Storms
Harshman
Emerick
Townsend
Corres. file
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
140	Chapman	400
	Martin	400
	Chambers	800
	Rubin	140
	Dwyer	140
3/13	Selfridge	130
"	Johnson	110
"	Christensen	100
		220

MAR 14 1957

rewritten by

Mr. E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA 3448 - Tungsten
Hillside Mining and Milling Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Dear Mr. Harshman:

Reference is made to your memorandum of February 26, 1957 with enclosed copies of a memorandum by J. N. Fasch, Geological Survey, pertaining to proposed reassignment of the subject contract to the original Operator.

We concur that a reappraisal of the project is justified before the Government participates further and will await your report before deciding on this matter. If your report is favorable, and should we concur in it, we will consider the question of reassignment of the contract based upon receipt of the papers you requested in your letter to Hillside dated February 18, 1957. In further regard to your letter to Hillside, we note that subparagraph numbered 3 to the second paragraph on page 1 requested written consent of lessors to reassignment of the land from Hillside to Black Pearl. Such a condition was not made for the first assignment because the basic lease does not require such consent. In view of the large number of lessors, the parties should be advised to disregard your instructions to obtain the consent of lessors to Black Pearl regaining possession of the land.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

APPROVED:

P. F. Yopes
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

TLChapman:HCRubin:ar
Copy to: Docket
Code 400
Admr. Read. Rile
Oper. Comm.
Field Team Reg. III
R. Holliday, USBM
T. Kiilsgaard, USGS
R.Dwyer
H. Rubin
Chron

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
3/5	Chapman	400
3/5	Martin	400
3-5	Chamber	800
		130
		110
		100

220

Mr. E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA 3448 - Tungsten
Hillside Mining and Milling Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Dear Mr. Harshman:

Reference is made to your memorandum of February 26, 1957, with enclosed copies of a memorandum by J. N. Faick, Geological Survey, pertaining to proposed reassignment of the subject contract to the original Operator.

We concur that a reappraisal of the project is justified before the Government participates further and will await your report before deciding on this matter. If your report is favorable, and should we concur in it, we will consider the question of reassignment of the contract based upon receipt of the papers you requested in your letter to Hillside dated February 18, 1957. In further regard to your letter to Hillside, we ~~wonder why~~ sub-paragraph number 3 to the second paragraph on page 1 requested written consent of lessors to ~~bind~~ assignment when such a condition was not made for the first assignment.

Sincerely yours,

Chairman, Operating Committee

APPROVED:

Member, Bureau of Mines

Member, Geological Survey

TLChapman:am 3-5-57
cc to: Docket
Dode 400
Admr. Read. File
Oper. Comm.
FT REG III
Messrs. R. Holliday, USBM
T. Kiilsgaard, USGS

8623

OFFICIAL FILE COPY DMEA RECEIVED FEB 21 1957		
DATE	INITIALS	CODE
2/21	C	220
2/21	WD	800
/	/	225

224 New Customhouse
Denver 2, Colorado

February 18, 1957

Mr. Robert C. Bogart, General Manager
Hillside Mining & Milling Company
Bagdad, Arizona

Re: Docket No. DMEA-3448 (Tungsten)
Contract No. Idm-E763
Hillside Mining & Milling Company
(Black Pearl Mine) Yavapai County, Ariz.

Dear Mr. Bogart:

Reference is made to your letter of February 14, 1957, wherein you request instructions as to the proper procedure to effect transfer of Contract No. Idm-E763 to the Black Pearl Mining Company.

To effect reassignment of the contract to Black Pearl Mining Company would follow the same procedure as when the contract was assigned to Hillside Mining & Milling Company. The following letters and instruments will be required:

1. Original and five copies of a request from both the proposed assignor and proposed assignee that the contract be assigned from Hillside Mining & Milling Company to Black Pearl Mining Company.

2. Three signed copies or three photostats of the original signed instrument whereby Hillside Mining & Milling Company conveys their interest to Black Pearl Mining Company.

3. Three signed copies or three photostats of the original signed instrument whereby the owners of the land described in Article 2 of the contract consent to the assignment of the lease and option agreement on the land.

4. Three signed copies or three photostats of the original of any other instrument executed between the proposed assignee and assignor that would have any bearing on future operations under the DMEA contract.

Approval for the assignment of the contract is not within the authority delegated to this office; therefore, when the above material has been received, the matter will be forwarded to the Washington Office, DMEA, for their consideration and appropriate action.

Very truly yours,

Original signed by
W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

JWT:bh
cc-Chair., Op. Comm. (2)) w/copy of
Harshman) Operator's
Storms) letter of
Emerick) February
Royalty File E-763) 14, 1957
Townsend
Corres. File
Chron.

Hillside Mining & Milling Company

[redacted]
BAGDAD, ARIZONA

February 14, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED FEB 21 1957

DATE	INITIALS	CODE

Mr. W. M. Traver, Executive Officer
DMEA Field Team Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No.DMEA 3448 (Tungsten)
No.IDME 763 (Black Pearl Mine)

Dear Mr. Traver:

We have been unable to renegotiate our contract with the owners of the Black Pearl Mine; therefore, we are dropping our contract with them.

I have spoken to Scholz & Cazier (Black Pearl Mining Co.) in regard to the DMEA Contract. They wish to have this returned to them so that they may complete the work.

If this is agreeable with the Government, I would appreciate instructions as to the proper procedure to make this transfer.

As soon as our figures are complete on the amount of tungsten on hand I will send you a report on our entire operation with a recap on production. If any other reports are necessary please inform us.

Very truly yours,

HILLSIDE MINING & MILLING CO.

Robert C. Bogart

Robert C. Bogart
General Manager

RCB:bp
cc: Mr. Walter R. Storms, Supt.
Southwest Experimental Station
U. S. Bureau of Mines
P. O. Box 4097
Tucson, 5, Arizona

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

OFFICIAL FILE COPY
DMEA
RECEIVED JAN 14 1957

DATE	INITIALS	CODE
1/14	CW	220
	g	225
January 11, 1957		

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Chairman, Operating Committee, DMEA

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3448 (Tungsten), Contract No. Idm-E763, Hillside Mining and Milling Company (Black Pearl mine), Yavapai County, Arizona.

Enclosed are the Government's, Division, and Docket copies of Amendment No. 4 to Contract No. Idm-E763, which was forwarded by your letter of December 31, 1956 for signature by the Secretary of the operating company.

Copies of the Amendment have been distributed to the Operator, the Finance Office, Region III, and to others concerned.

E. N. Harshman

E. N. Harshman

Enclosures

400

DOCKET
SURNAME
Chapman
Martin
Fisher
Champe
Selfridge
Mitchell

DEC 31 1956

Mr. N. M. Brewer, Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA [illegible] - Tungsten
Hillside Mining and Milling Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-2763

Dear Mr. Brewer:

Enclosed are the original and five copies of a proposed Amendment No. [illegible] to the above referenced contract, signed by the Administrator for the Government. Two extra copies are enclosed for the use of the Field Team.

If the conditions and terms of the proposed amendment are satisfactory to you and the Operator, all six copies should be signed by the Operator and the usual distribution made.

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

Sincerely yours,

George O. Selfridge

Chairman, Operating Committee (WB)

APPROVED:

Frank D. Lamb (WB)
Member, Bureau of Mines

N. E. Nelson (WB)
Member, Geological Survey

Enclosure

TLChapman:am 12-27-56
cc to; Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG. III
Messrs. R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

400

DOCKET

December 17, 1956

MEMORANDUM

To: Associate Solicitor, Division of Mineral Resources

From: Iron and Ferro-Alloys Division, DMEA

Subject: Preparation of Amendment No. 4
Docket No. DMEA 3448 - Tungsten
Hillside Mining and Milling Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-5763

Attached is rough draft of proposed Amendment No. 4 to the above-captioned contract for your use in preparing in final form.

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

Attachment

TLChapman:am
cc to: Docket
Code 400

EXPLORATION PROJECT CONTRACT
HILLSIDE MINING AND MILLING COMPANY, ASSIGNEE
DOCKET NO. DMEA 3448

AMENDMENT No. 4

It is agreed this _____day of _____, 1956, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and Hillside Mining and Milling Company, assignee of Black Pearl Mining Company, that Exploration Project Contract No. Idm-E763 (Docket No. DMEA 3448), dated February 2, 1955, as amended, is further amended as follows:

1. (a). Work under this Contract suspended as authorized in Amendment No. 3 to October 31, 1956, shall be further suspended to May 2, 1957.

(b) No costs incurred by the Operator during the period of suspension shall be allowable for contribution by the Government.

(c) The Government shall not contribute to any costs of rehabilitation or repair which in its opinion would not have occurred had there been no suspension of work.

(d) The Operator, at its own cost and expense, without contribution by the Government, during the period of suspension shall preserve the project work and any property in which the Government has an interest.

2. The period for completion of the work is extended to May 2, 1958.

3. The maximum period for payment of royalty and liens for the payment thereof, provided for in the Contract, is increased to thirteen (13) years from the date of the Contract.

This amendment shall not be construed to increase the estimated total cost of the project, the total amount which the Government may be required to contribute, the fixed unit costs of any item of work, nor any item of allowable cost which is expressly designated "maximum."

Executed in sextuplicate the day and year first above written.

TLChapman:am 12-17-56
cc to: Docket Code 400

HILLSIDE MINING AND MILLING COMPANY

By_____
Secretary

THE UNITED STATES OF AMERICA

By_____
Administrator, Defense Minerals Exploration Administration

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

RECEIVED DEC 17 1956

224 New Customhouse
Denver 2, Colorado

December 13, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3448 (Tungsten), Contract Idm-E763, Hillside Mining & Milling Company (Black Pearl Mine), Yavapai County, Arizona

In response to paragraph 3 of your letter dated December 3, 1956, on the subject contract, we enclose two copies of the following:

a. Letter dated December 5, 1956 to Mr. Robert C. Bogart, General Manager, Hillside Mining & Milling Company, Bagdad, Arizona requesting a statement regarding current production and payment of royalty pertaining thereto.

b. Reply dated December 10, 1956 from Mr. Bogart stating that previously unreported production was shipped to G.S.A., but to date payment has not been received. Mr. Bogart further states that royalty on this production will be paid "as soon as possible after receipt of payment."

We trust this complies with your request.

W. M. Traver

W. M. Traver

Enclosures

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

224 New Customhouse
Denver 2, Colorado

December 5, 1956

Mr. Robert C. Bogart, General Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: Docket DMEA 3448 (Tungsten), Contract Idn-E763, Hillside Mining and Milling Company (Black Pearl Mine), Yavapai County, Arizona

Dear Mr. Bogart:

Our records indicate that the most recent production reported to this office for which royalty has been paid is on shipment 9-1739-36. The amount of royalty paid is $317.91.

Please advise us by return mail if this is the most recent production for which DMEA is due royalty. A simple statement to the effect is all that is necessary.

If there has been DMEA production subsequent to that reported by shipment 9-1739-36, then of course you must submit the required copies of production evidence, royalty check for the proper amount, and declare this to be the most recent production.

Yours very truly,

Original signed by
J. W. TOWNSEND

for W. M. Traver
Executive Officer, DMEA
Field Team, Region III

MHM/vj

cc: Royalty File E763
Corres. File E763
Chair. Opr. Comm. (2)
W. R. Storms
Townsend
Marshall
Chron.

December 10, 1956

DMEA
DEPARTMENT OF THE INTERIOR
DEC 12 1956
REGION III
DENVER, COLORADO

Mr. W. H. Traver
Executive Officer, DMEA
Field Team Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA 3448 (Tungsten)
Contract No. IDM 5763
Hillside Mining & Milling Co.
Yavapai County, Arizona
Black Pearl Mine

Dear Mr. Traver:

Two lots of Tungsten concentrates, totaling 66,300 pounds was shipped to the General Services Administration. As of this date payment has not been received.

Royalty on this production will be paid as soon as possible after receipt of payment.

Very truly yours,

HILLSIDE MINING & MILLING CO.

Robert C. Bogart

Robert C. Bogart
General Manager

RCB:bh

WC (2)

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

224 New Customhouse
Denver 2, Colorado

December 5, 1956

Mr. Robert C. Bogart, General Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: Docket No. DMEA 3448 (Tungsten)
Contract No. Idm-K763
Hillside Mining and Milling Company
(Black Pearl mine)
Yavapai County, Arizona

Dear Mr. Bogart:

In reference to your letter of November 12, 1956, and in conjunction with advice to you in our letter of November 23, the Washington Office, DMEA, has instructed us to advise you that they will prepare an appropriate amendment granting a six-months' extension of recess and an appropriate extension for the date of completion.

When the proposed amendment is received, it will be forwarded to you immediately for signature by an authorized official of Hillside Mining and Milling Company.

Very truly yours,

Original signed by
W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

JWT:prl

cc: Chairman, Op. Comm. (2)
Marshman
Storms
Emerick
Townsend
Corres. file
Chron.

400
DOCKET
SURNAME
Chapman
Martin
Chapman
Selfridge
Kjorness

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA-3448 - Tungsten
Hillside Mining and Milling Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Dear Mr. Traver:

Reference is made to the subject docket and your memorandum of November 23, 1956, the memorandum of T. M. Romslo, Bureau of Mines, and W. L. Emerich, Geological Survey, of November 15, 1956, and Operator's letter of November 12, 1956, requesting a 3 months extension of recess.

You may advise the Operator that we will write an amendment granting a six months extension of recess and an appropriate extension for date of completion.

Please also advise us whether current royalties have been paid and are up to date.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

APPROVED:

/s/ James Paone
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

TLChapman:am 11-30-56
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG. III
Messrs. R. Holiday, USBM
T. H. Kiilsgaard, USGS

RCS.

400

INTERIOR

DOCKET

SURNAME

Chapman

Martin

Holliday

DMEA

14X4401, Revolving Fund, Defense Production Act, Interior (Allocated Working Fund to the Office of the Secretary)

T E L E T Y P E

MR. W. M. WEAVER, EXECUTIVE OFFICER
DMEA FIELD TEAM, REGION III
224 NEW CUSTOM HOUSE
DENVER 2, COLORADO

REYMEMO OF NOVEMBER 23, MEMO OF ROMELO AND EMERICH OF NOVEMBER 15, AND OPERATORS' LETTER OF NOVEMBER 12, PERTAINING TO DOCKET DMEA 3448, HILLSIDE MINING AND MILLING COMPANY, REQUESTING A 3 MONTH EXTENSION OF RECESS. YOU ARE AUTHORIZED TO WRITE AN AMENDMENT GRANTING THE EXTENSION OF RECESS TO JANUARY 31, 1957, WITH NO EXTENSION OF TIME FOR COMPLETION OF THE WORK.

CHAIRMAN, OPERATING COMMITTEE

TLChapman:am 11-28-56
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG. III
Messrs. R. Holliday, USBM
T.H. Kiilsgaard, USGS

[get anniversary date]

Give 6 months out of recess and fix new payback date

Figure out how long work would take to see what completion date should be

Provide automatic termination if work is not resumed or is resumed but not completed by the above completion date

Preserve Right to Certify

Also

See that Royalties are not now in default and are kept up to date

And

Write to FT saying WE will amend

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

224 New Customhouse
Denver 2, Colorado

November 23, 1956

RECEIVED
NOV 26 1956
DMEA

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3448 (Tungsten), Contract No. Idm-E763, Hillside Mining and Milling Company (Black Pearl mine) Yavapai County, Arizona

Enclosed are the Government's, Division, and Docket copies of Amendment No. 3 to Contract No. Idm-E763, which were forwarded by your letter of October 29, 1956 for signature by the Operator.

Also enclosed is the following material pertaining to a further extension of the period fixed for suspension of operations:

1. The original and three copies of the Operator's letter of November 12, 1956.

2. The original and three copies of a joint memorandum report, dated November 15, 1956, from T. M. Romslo, Mining Engineer, Bureau of Mines, and W. L. Emerick, Geologist, Geological Survey.

For further reference in the matter, you are referred to the Operator's letter of November 5, 1956, two copies of which were forwarded to you with copies of our letter to the Operator, dated November 7, 1956.

This office concurs in the recommendations of the field examiners that the contract be further amended to extend the recess period for an additional three months.

W. M. Traver

Enclosures

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

224 New Customhouse
Denver 2, Colorado

November 23, 1956

Mr. Robert C. Bogart, General Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: Docket No. DMEA 3448 (Tungsten)
Contract No. Idm-E763
Hillside Mining and Milling Company
(Black Pearl mine)
Yavapai County, Arizona

Dear Mr. Bogart:

Enclosed is the Operator's Copy of Amendment No. 3 to Contract No. Idm-E763, which provides for a recess of operations from July 31, 1956 to not later than October 31, 1956.

Preparation of an amendment to extend the recess period an additional three months, as requested in your letter of November 12, 1956, is not within the authority delegated to this office. Therefore, the matter has been forwarded to the Washington Office, DMEA, for their consideration and appropriate action, on which you will hear either direct from them or from this office at an early date.

Very truly yours,

Original signed by
W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

JWT:prl

cc: Chairman, Op. Comm. (2)
Marshman
Storms
Emerick
Townsend
Corres. file
Chron.

Hillside Mining & Milling Company

E. R. DICKIE, GENERAL MANAGER

BAGDAD, ARIZONA

November 12, 1956

DMEA
DEPARTMENT OF THE INTERIOR
NOV 15 1956
REGION III
DENVER, COLORADO

RECEIVED
NOV 26 1956
D.M.E.A.

Mr. W. M. Traver
Executive Officer, DMEA
Field Team Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA 3448 (Tungsten)
Contract No. IDM E763
Hillside Mining & Milling Co.
Yavapai County, Arizona
Black Pearl Mine

Dear Mr. Traver:

Enclosed are the signed copies of the proposed Amendment No. 3 to the contract No. IDM E763.

As previously stated in my letter of November 5th, we are renegotiating a contract with the Black Pearl Mining Co. and the original owners of the Black Pearl Mine. As we have been laboring under heavy royalties, Mr. Lincoln, President, is renegotiating our contract in order to permit the company to continue to operate.

As we have a 90-day period in which to renegotiate with the Black Pearl Mining Co. I would like to request an additional three months before resuming operations on Stage II of the DMEA contract No. IDM E763. This period would include the months of November, December, 1956, and January, 1957.

In the meantime, we will continue to mine from the areas already explored and opened for mining.

Very truly yours,

HILLSIDE MINING & MILLING CO.

Robert C. Bogart

Robert C. Bogart
General Manager

RCB:bp
Enclosures
cc: Mr. Walter R. Storms, Supt.
Southwest Experimental Station
U. S. Bureau of Mines
Tucson 5, Arizona

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
BOX 4097
TUCSON 5, ARIZONA

DMEA
DEPARTMENT OF THE INTERIOR
NOV 20 1956
REGION III
DENVER COLORADO

RECEIVED NOV 16 1956 D.M.E.A.

NOV 16 1956

November 15, 1956

Memorandum

To : W. M. Traver, Executive Officer, DMEA Field Team, Region III

From : T. M. Romslo, W. L. Emerick

Through: W. R. Storms, E. N. Harshman

Subject : Docket DMEA-3448 (Tungsten), Contract Idm-E763, Hillside Mining and Milling Company, Assignee, Yavapai County, Arizona

Reference is made to your memorandum of November 7, 1956 requesting the writers' recommendation relative to either performing the balance of the work at a later date or termination of the contract in its present status.

For the following reasons, we recommend the company be allowed to perform the balance of the work at a later date and that the presently expired 3-month recess be extended an additional 3 months as requested by Mr. Bogart in his letter of November 12.

1. Work completed to date has indicated the presence of significant reserves of potentially economic ore between the adit and 125 level.

2. Completion of the balance of the work can be expected to indicate the presence of an additional significant amount of similar ore.

3. The operator has shown good faith in all phases of the contract and has carried out all work in a safe and efficient manner.

4. The chance of complete repayment of the Government's share of the project's cost will be enhanced if the project is completed.

T M Romslo

T. M. Romslo, Mining Engineer
U. S. Bureau of Mines

W L Emerick

W. L. Emerick, Geologist
U. S. Geological Survey

CC W. M. Traver (Orig. & 8)
W. L. Emerick
DMEA-3448
DF

TMRomslo:WLEmerick:frj

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

224 New Customhouse
Denver 2, Colorado

November 7, 1956

RECEIVED
NOV 13 1956
D.M.E.A.

Memorandum

To: W. R. Storms - w/enclosure
W. L. Emerick - w/enclosure

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3448 (Tungsten), Contract No. Idm-8763, Hillside Mining and Milling Company, Assignee, Yavapai County, Arizona

Enclosed is a copy of a letter from this office to Robert C. Bogart, dated November 7, 1956, with attached copy of incoming letter of November 5, 1956, wherein he requests a further extension of the recess of operations for an additional indefinite period.

As it appears that operations under the DMEA Contract may be disrupted for a considerable period of time and may involve another assignment of the contract, please forward a memorandum report containing an analysis of the results of the work performed to date and your recommendations relative to either performing the balance of the work at a future date or terminating the contract in its present status.

Original signed by
W. M. TRAVER

W. M. Traver

Enclosures

JWT:prl

cc: Chairman, Op. Comm. (2)
Marshman
Townsend
Corres. file
Chron.

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

224 New Customhouse
Denver 2, Colorado

November 7, 1956

Mr. Robert C. Bogart, General Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: Docket No. DMEA 3448 (Tungsten)
Contract No. Idm-E763
Hillside Mining and Milling
Company, Assignee
Yavapai County, Arizona

Dear Mr. Bogart:

Enclosed are the Government's, Division, Docket, Finance Office, and Field Team copies of proposed Amendment No. 3 to Contract No. Idm-E763, which was prepared in Washington and has been signed by the Administrator, DMEA, for the Government, to authorize a suspension of operations ending not later than October 31, 1956, pursuant to your request of September 18, 1956.

Further reference in the matter is made to your letter of November 5, 1956, wherein you request that the suspension of operations be extended for an additional indefinite period.

It is not possible to permit operations under the contract to be suspended for an indefinite period. Therefore, it appears that you should have all copies of the enclosed Amendment signed by an official of your Company authorized to sign such instruments, and return all copies to this office, with a request that the suspension of operations be extended for an additional specific period, stating the date on or before which operations will be resumed.

When the properly signed copies of the Amendment are returned, together with your request for a further extension of the period within which operations are to be suspended, we will forward the matter to the Washington Office, DMEA, for their consideration and appropriate action.

Very truly yours,

Original signed by
W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

JWT:prl

cc: Chairman, Op. Comm. (2) } w/copy of Operator's letter of Nov. 5
Marshman
Storms
Emerick

Townsend
Corres. file
Chron.

November 5, 1956

Mr. W. M. Traver, Executive Officer
DMEA Field Team Region III
224 New Custom House
Denver 2, Colorado

Re: Docket DMEA 3448 (Tungsten)
Contract IDME 763
Hillside Mining & Milling Co.
Black Pearl Mine

Dear Mr. Traver:

We have not been able to resume operations on the contract. Mr. Lincoln, the President of our company, is trying to re-negotiate a contract with the Black Pearl Mining Co. and the original owners of the mine.

We have been laboring under heavy royalties. Mr. Lincoln is therefore attempting to get these royalties reduced so that it will permit the company to make a small profit.

I would therefore appreciate your consideration to continue this recess until something concrete has been established.

Sincerely yours,

HILLSIDE MINING & MILLING CO.

Robert C. Bogart

Robert C. Bogart
General Manager

RCB:bp
cc: Mr. Walter R. Storms, Supt.
Southwest Experimental Station
U. S. Bureau of Mines
Tucson 5, Arizona

SEP 26 1956
GEOLOGICAL SURVEY
DENVER, COLO.

September 18, 1956

Memorandum

To : Executive Officer, DMEA Field Team, Region III

From : T. M. Romslo
W. L. Emerick

Through: W. R. Storms
E. N. Harshman

Subject : Project DMEA-3448, Contract Idm-8763 (Tungsten), Hillside Mining and Milling Co., (Black Pearl Mine), Yavapai County, Ariz.

Robert C. Hagert, General Manager of subject company in letters of September 5 and 18, 1956 to W. M. Trayer requests that work under the contract be suspended during the 3-month period of August through October 1956 and that the termination date of the contract be extended to August 31, 1957. Since the present completion date is May 31, 1957, the requested extension is for a period equal to the proposed recess of 3 months.

We recommend approval of the requested recess and extension of the termination date of the contract on the basis of the reasons presented by Mr. Hagert.

Original signed by
T. M. Romslo

T. M. Romslo, Mining Engineer
U. S. Bureau of Mines

W L Emerick

W. L. Emerick, Geologist
U. S. Geological Survey

CC W. M. Trayer (Orig. & 3)
W. L. Emerick
DMEA-3448
RF

T:Romslo:WLEmerick:fr]

DOCKET
SURNAME
Chapman
Martin
Chapman
Selfridge
Matthews

400

OCT 29 1956

Mr. W. M. Traver
Executive Officer, Region III
22h New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 3448 - Tungsten
Hillside Mining Company (Assignee)
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-8763

Dear Mr. Traver:

Enclosed are the original and five copies of an Amendment No. 3 to the above referenced contract, signed by the Administrator, for the Government. Two extra copies are enclosed for the use of the Field Team.

If the conditions and terms of this proposed amendment are satisfactory to you and the operator, all six copies are to be signed by the operator and the usual distribution made.

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

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

APPROVED:

Frank D. Lamb (FDL)
Member, Bureau of Mines

Thor H. Kiilsgaard (THK)
Member, Geological Survey

TLChapman:foc / 10/24/56
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG. III
Messrs. Robert Holliday, USBM
Thor H. Kiilsgaard, USGS

Enclosures

R.C.S.

400

DOCKET
SURNAME
Chapman
Martin

October 17, 1956

MEMORANDUM

To: Associate Solicitor, Division of Mineral Resources

From: Iron and Ferro-Alloys Division, DMEA

Subject: Preparation of Amendment No. 3
Docket No. DMEA 3448 - Tungsten
Hillside Mining and Milling Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-8763

Transmitted is a rough draft of an Amendment No. 3 to the above-captioned contract for your use in preparing the final draft.

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

Transmittal

TLChapman:foc
10/17/56
cc to: Docket
Code 400

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

224 New Customhouse
Denver 2, Colorado

VIA AIR MAIL

September 24, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3448 (Tungsten), Contract No. Idm-E763, Hillside Mining and Milling Company (Black Pearl mine), Yavapai County, Arizona

In conjunction with the requested Amendment to the subject contract, we are enclosing the original and three copies each of the Operator's letters of September 5 and September 18, 1956.

The Operator requests authorization for suspension of operations from July 31, 1956, to November 1, 1956, and an extension of the period for completion of the project work from May 31, 1957, to August 31, 1957.

Extension of the period for completion of the project work is in excess to that for which authority is delegated to this office. Therefore, the matter is forwarded for your consideration and appropriate action, with the recommendation that a suitable amendment be prepared as requested by the Operator.

W. M. Traver

W. M. Traver

Enclosures

RECEIVED
SEP 26 1956

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

224 New Customhouse
Denver 2, Colorado

September 24, 1956

Mr. Robert C. Bogart, General Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: Docket No. DMEA 3448 (Tungsten)
Contract No. Idm-E763
Hillside Mining and Milling Company
(Black Pearl mine)
Yavapai County, Arizona

Dear Mr. Bogart:

In reference to your letters of September 5 and September 18, 1956, the matter of your request for authorization of a recess of operations for the months of August, September, and October, 1956, and extension of the period for completion of the project work to August 31, 1957, has been forwarded to the Washington Office, DMEA, for their consideration and appropriate action, as preparation of an amendment of the nature requested is not within the authority delegated to this office.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Office, DMEA
Field Team, Region III

WMT

JWT:prl
cc: Chairman, Oper. Comm. (2)
Harshman
Storms
Emerick
Townsend
Corres. file
Chron.

RECEIVED
SEP 26 1956

Hillside Mining & Milling Company

E. R. DICKIE, GENERAL MANAGER
BAGDAD, ARIZONA

September 18, 1956

DMEA
DEPARTMENT OF THE INTERIOR
SEP 20 1956
REGION III
DENVER, COLORADO

Mr. W. M. Traver, Executive Officer
DMEA Field Team Region III
224 New Custom House
Denver 2, Colorado

RE: DOCKET DMEA 3448 (TUNGSTEN)
CONTRACT IDME 763
HILLSIDE MINING & MILLING CO.
BLACK PEARL MINE

Dear Mr. Traver:

We would appreciate it very much if the recess could incorporate the months of August, September and October, with operations to be resumed on or about November 1, 1956.

It is estimated that the time for completion of the various stages of development will be as follows:

Sinking shaft 125 ft.	1-1/2	Mo.
Cutting station & pocket	1	Mo.
Drifting to vein	1	Mo.
Drifting 200 ft. East and 200 ft. West	2	Mo.
Remaining 400 ft. of drift East	4	Mo.
Delays in operation	1/2	Mo.
Estimated time to complete contract after resuming operations	10	Mo.

New completion date to be August 31, 1957.

Called San Francisco concerning shipping of concentrates and was informed that G.S.A. would start accepting shipments about October 1, 1956. Payment on shipments will be received approximately the first of December.

Your further consideration of this recess will be greatly appreciated.

Very truly yours,

HILLSIDE MINING & MILLING CO.

Robert C. Bogart
General Manager

RCB:bp
cc: Mr. Walter R. Storms, Superintendent
U. S. Bureau of Mines
Tucson, Arizona

RECEIVED
SEP 23 1956

Hillside Mining & Milling Company

BAGDAD, ARIZONA
September 5, 1956

DMEA
DEPARTMENT OF THE INTERIOR
SEP 13 1956
REGION III
DENVER, COLORADO

Mr. W. M. Traver, Executive Officer
DMEA Field Team Region III
224 New Custom House
Denver 2, Colorado

RE: DOCKET NO. DMEA 3448 (TUNGSTEN)
NO. IDME 763

Dear Mr. Traver:

We would like very much for you to consider granting us a three-month recess on our DMEA Contract.

Several reasons prompt this request:

1. Our operating capital is somewhat lower than it has been in the past. This is due to a lack of a market for our concentrates for the past three months. Most of our funds are tied up in our stockpile which will require two months after we start shipping to receive payment. No date has been set at this time for re-opening the stockpile.

2. Some preparation is necessary to start the sinking operation. Two methods are now under consideration. One will result in a slower rate of sinking but will permit continued production. The other will shut production off completely.

Your consideration of this matter will be greatly appreciated.

Very truly yours,

HILLSIDE MINING & MILLING CO.

Robert C. Bogart

Robert C. Bogart
General Manager

RCB:bp

RECEIVED
SEP 26 1956

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

RECEIVED
SEP 17 1956

224 New Customhouse
Denver 2, Colorado

September 13, 1956

Mr. Robert C. Bogart, General Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: Docket DMEA 3448 (Tungsten)
Contract Idm-E763
Hillside Mining and Milling Company
(Black Pearl mine)
Yavapai County, Arizona

Dear Mr. Bogart:

Reference is made to your letter of September 5, 1956 in which you request a three-months' recess of operations of the captioned contract for reasons stated.

Before consideration can be given to this request, it will be necessary for you to furnish the specific dates to incorporate in a necessary amendment to the contract. Therefore, please advise the date operations under the contract were suspended, the date on or before which they will be resumed, and the estimated time required thereafter to complete the remaining work under the contract.

It is our understanding that the tungsten purchase program is again in effect, and you should take that into consideration in submitting this additional information. Six copies are required.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

WMT:prl

cc: Chairman, Oper. Comm. (2)
Storms
Emerick
Townsend
Corres. E763
Chron.

cw

DOCKET
400 SURNAME
Chapman
Martin
Isley
Selfridge
Johnson

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 3448 - Tungsten
Hillside Mining and Milling
Company (Assignee)
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-5763

Dear Mr. Traver:

Reference is made to your memorandum of August 17, 1956, with attachments as listed therein, pertaining to determination of royalty payable under the subject contract. We note, from the copy of T. M. Romalo's memorandum dated August 15, 1956, that he recommends acceptance of the proposed method of computation. Your concurrence is also noted.

After a study of the above noted letters and documents we agree with you that the Operator's proposal is acceptable and that fair appraisal has been made which suits the conditions found at the project.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (SAB)

APPROVED:

FRANK D. LAZAR (SAB)
Member, Bureau of Mines

N. E. Norton (SAB)
Member, Geological Survey

TLChapman/foc /8/27/56
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG. III
Messrs. R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

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

224 New Customhouse
Denver 2, Colorado

August 17, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Royalty Determinations, Docket DMEA 3448 (Tungsten), Contract Idm-E763, Hillside Mining & Milling Company (Black Pearl Mine), Yavapai County, Arizona

Enclosed for review and your decision as to the acceptability of Operator's proposal for making royalty payments from comingled production are the following:

1. One copy of a letter from the Operator dated July 23, 1956
2. One copy of a letter from the Operator dated August 13, 1956
3. One copy of each settlement sheet for Lot Nos. 28, 29, 33, 34, 35 and 36
4. One copy of each Mill Report for the months of April and May, 1956
5. One copy of each shipment breakdown for the months of April and May, 1956
6. One copy of memorandum from T. M. Romslo, dated August 15, 1956, recommending acceptance of the method of royalty payments

This office has received royalty payments of $2,243.82 from the cited shipments. It is the examining engineers opinion that the Operator's proposal is acceptable; to which this office concurs.

Please advise us of your decision.

W. M. Traver

W. M. Traver

Enclosures

All attachments to Division

RECEIVED
AUG 30 1956

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

224 New Customhouse
Denver 2, Colorado

August 16, 1956

Memorandum

To: W. R. Storms

From: Executive Officer, DMEA Field Team, Region III

Subject: Royalty Determination, Docket DMEA 3448 (Tungsten), Contract Idm-E763, Hillside Mining and Milling Company (Black Pearl Mine), Yavapai County, Arizona

Enclosed is copy of operator's letter of transmittal dated August 13, 1956, with copies of settlement sheets on shipments 9-1739-35 and 36, breakdown of Tungsten contained, and mill report sheet for May.

This material will enable your examining engineer to comply to request made in our memorandum of July 30, 1956.

W. M. TRAVER

W. M. Traver

Enclosure

MHM/vj

cc: Royalty File E763
Corres. File E763
Sec. Opr. Comm. (2)
Marshall
Chron.

RECEIVED

August 15, 1956

Memorandum

To : Walter R. Storms, Superintendent, Southwest Experiment Station, Region III

From : T. M. Romalo, Mining Engineer, Tucson, Ariz.

Subject : Royalty determination, Docket DMEA-3448 (Tungsten) Contract Ldm-2763, Hillside Mining and Milling Company (Black Pearl Mine), Yavapai County, Ariz.

Reference is made to W. M. Trower's memorandum to you of July 30, 1956 and a copy of a letter dated July 23, 1956 from subject company regarding a proposed method of royalty payment.

Approval is recommended for the proposed royalty payment because it has been determined by probably the only feasible method and the involved production data is acceptable.

The ores of both the Tungstona and Black Pearl are similar in that a high percentage of the values are present as coarse wolframite crystals. Accurate sampling of such ore by practical methods has been found nearly impossible at the Tungstona mill and other tungsten properties. It follows that the assays of samples of this type of ore are not reliable. These findings are demonstrated in the following data obtained at the Tungstona mill during the period of April through July 1956. As shown in the table, actual recoveries ranged from 65.5 to 141.9 percent of the recoveries indicated by assays.

CC W. M. Trower (Orig. & 8)
DMEA-3448
BF

TMRomalo:frj

Dry Tons Milled	Percent WO_3 Heads	Percent WO_3 Tailings	Recoveries Indicated Percent	Recoveries Indicated Pounds	Recoveries Actual Percent	Recoveries Actual Pounds
April-4,115	0.240	0.049	80.0	3.82	65.5	2.500*
May - 4,405	0.301	0.068	67.5	4.66	84.0	3.913
June- 1,282	0.375	0.103	62.5	5.44	82.4	4.481
July- 1,450	0.292	0.069	75.5	4.46	141.9	6.286
11,252						

* Does not include 2,951.468 pounds of WO_3 as hand sorted material of 3 shipments, 9-1739-28, 29 and 33.

The above data indicates that the only practical method of determining royalties is to base the payment on actual recoveries. This method, as proposed, involves a proration of recovered tungsten concentrates on the basis of tons of ore from each mine and actual recovery obtained in the milling of 13,043 tons of Tungstona ore during the period November 1955 and through March 1956. Production data for the period follows:

HILLSIDE MINING & MILLING CO.
PRODUCTION - TONS & LBS. WO_3
NOVEMBER 1, 1955 - MARCH 31, 1956

Tons Milled Date	Tons	Lot No.	Total Lbs. WO_3	Production Tungstonia	Black Pearl	Purchased From Scholz & Cazier
Nov. '55	2,716	9-1739-27S	1,798.6175	1,798.6175		
Dec. '55	3,147	9-1739-28	7,960.7733	6,703.4274	416.8659	840.48
Jan. '56	3,445	9-1739-29	7,394.9649	7,050.3199	344.6450	
Feb. '56	2,682	9-1739-30S	1,499.0346	1,499.0346		
Mar. '56	1,053	9-1739-31	4,673.5289	4,673.5289		
		9-1739-32	6,245.4658	6,245.4658		
		9-1739-33	4,461.88	2,258.62	2,203.26	
Total	13,043		34,034.265	30,229.0141	2,964.7709	840.48
Inv. Oct. 31, 1955			533.84	533.84		
			33,500.425	29,695.1741	2,964.7709	840.48

Average Tungstona Production - Nov. 1, 1955 - March 31, 1956
2.2767 Lbs. WO_3 per ton.

Scheelite 9-1739-27 1,798.6175
9-1739-30 1,499.0346
3,297.6521

3,297.6521 / 29,695.1741 = 11.11% of production in Scheelite

2,2767 @ 11.11% = 0.2529 Lbs. WO_3 as scheelite/ton

Total WO_3/ton Recovered	2,2767
WO_3 as scheelite	.2529
WO_3 as Wolframite	2.0238

As shown in the operator's mill report for April 1956, ore treated totalled 4,155 tons of which 2,223 was from the Tungstona mine and the remaining 1,922 tons was from the Black Pearl mine. Total production was 10,376.68 pounds WO_3 of which 4,498.81 pounds was credited to the Tungstona mine on the basis of the above actual recovery of 2.0238 pounds per ton. The remaining 5,877.7 7 pounds WO_3 was credited to the Black Pearl mine for an indicated recovery of 3.058 pounds per ton.

In order to determine if the above proration of production was equitable I questioned Mr. Bogart regarding justification of applying the indicated recovery factor and obtained data that indicated the reported tonnages were acceptable. Regarding the recovery factor, Mr. Bogart said that 2 stopes containing ore of essentially the same grade and milling qualities were being drawn during the production period of November 1955 through March 1956. During the latter part of the period one of the stopes was shut down after much ore diluted with wall rock had been sent to the mill. Production for April and May was confined to undiluted ore from the other stope. On this basis, Mr. Bogart believes that the ore treated during April and May was probably somewhat higher than the previously produced ore.

Tonnages reportedly mined from each mine were obtained from belt weights and by weighing 6 of the 17 truck loads of ore delivered during April. Reported tonnages of Black Pearl ore mined and milled from November 1956 through July 1956 follow:

Period	Tons Mined Est'd by carg	Dry Tons Milled (By belt weight)
11/1/55 to 5/1/56	3,665	
April		1,922
May	1,042	1,857
June	1,106	1,282
July	755	1,450
Total to date	6,568	6,511

The tonnage mined evidently is in error since the stockpile contains an estimated 300 to 400 tons of ore instead of the indicated 57 tons. On this basis, the corrected total tons mined is placed at approximately 6,900. Of this tonnage, 1,572 ton was produced during April through June from stopes and raises in a section of the mine that was developed prior to initiation of work under the contract. Essentially all of this ore has been milled to date and although it came from unsubordinated ground the company has already paid royalties to the Government on the major portion of the concentrates produced and marketed.

The Black Pearl stockpile contained an estimated 3,665 tons of ore when milling was started. Of this ore, an estimated 535 tons containing an estimated 0.02 percent WO_3 came from 105 lineal feet of adit. The average grade of the 535 tons was determined by including barren wallrock in the 7- by 8-foot adit with material from the vein that averaged 16 inches wide and contained an average of 0.10 percent WO_3. The grade of the vein material is based on the assay of channel samples taken at 5-foot intervals. Since much of the material from the adit was included with the 1,922 tons milled in April, the low recovery (2.5 pounds WO_3 per ton) was anticipated. As the low grade material was gradually exhausted recoveries gradually increased each month to a high of 6.286 pounds in July.

Original signed by
T. M. Romslo

T. M. Romslo, Mining Engineer
Southwest Experiment Station

Chronic Copy

xxxxxxxxxxxxxxxxxxxx

DMEA
Date Rec'd.

AUG 15 1956

BUREAU OF MINES
Denver, Colorado

August 13, 1956

Mr. W. M. Traver, Executive Officer
DMEA Field Team Region III
224 New Custom House
Denver 2, Colorado

Dear Mr. Traver:

Enclosed is our royalty check in the amount of $789.91 as the settlement on shipments 9-1739-35 and 36. Also enclosed are copies of our settlements and a breakdown of Tungsten contained together with the May mill report.

The greatest portion of this production was in May, therefore, the May mill report has been the basis of these calculations.

Any further royalty payments will be paid on the full production from the mill, as only Black Pearl ore was treated in June and July. There will be one exception to this, as a few pounds of concentrate was on hand June 1st that contained some Tungstona production. We were unable to ship this material due to the curtailment of the government stockpile.

Very truly yours,

HILLSIDE MINING & MILLING CO.

Robert C. Bogart

Robert C. Bogart
General Manager

RCB:bp
Enclosures

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

RECEIVED
AUG - 1 1956

224 New Customhouse
Denver 2, Colorado

July 30, 1956

Memorandum

To: W. R. Sterms

From: Executive Officer, DMEA Field Team, Region III

Subject: Royalty determination, Docket DMEA 3448 (Tungsten), Contract Idm-E763, Hillside Mining and Milling Company (Black Pearl Mine), Yavapai County, Arizona

Enclosed is a copy of a letter dated July 23, 1956 from Hillside Mining and Milling Company, wherein production data is submitted and method of royalty payment proposed.

Before forwarding this material to Washington for a decision as to the acceptability of such a proposal, we request your office to submit a memorandum approving or disapproving of the royalty payment proposal. The enclosed production data submitted by the operator should be substantiated by the examing engineer. It may be well to include a copy of the detailed report stated to be forthcoming in paragraph 1, page 2, of the Progress Report for March 1956 on the subject contract. The referred to Progress Report was forwarded to this office by your memorandum dated April 19, 1956.

W. M. TRAVER

W. M. Traver

Enclosure

MMM/vj

cc: Royalty File E763
Correspondence File E763
Sec. Opr. Comm. (2)
Marshall
Chron.

Charmino copy

July 23, 1956

DMEA
Date Rec'd.
JUL 27 1956
BUREAU OF MINES
Denver, Colorado

Mr. W. M. Traver, Executive Officer
DMEA Field Team Region III
224 New Custom House
Denver 2, Colorado

Re: DOCKET NO. DMEA 3448 (TUNGSTEN)
NO. IDME 763

Dear Mr. Traver:

Enclosed please find our royalty check in the amount of $1,453.91, together with the mill report sheet for April. Other enclosures are copies of our settlement sheets on shipments containing Black Pearl Tungsten, also a breakdown of each shipment with products and quantities contained, and sheet containing royalty recapitulation.

Our Tungsten milling experience has shown that it is near impossible to make a metallurgical balance with heads, tails and concentrate assays and weights. This is attributable to several factors.

First and foremost is sampling. Tungsten, as we mine it, is in coarse crystals and the mill heads are a 1/4 in. product. In the first splitting to reduce the quantity taken (8 or 9 lbs. every 30 min.) should a 1/4 in. piece of tungsten fall one direction the sample will be high. If it falls the other direction it would be exceedingly low. This same condition will follow through to the final pulverizing stage. These difficulties are quite similar and parallel to the sampling of coarse free gold and its problems at arriving at an average value per ton.

Secondly is the assaying. Tungsten is quite difficult to assay, requiring about 16 hours per sample. The results are not always 100% dependable and are quite easily contaminated on low grade ores.

Third, the requirements for a saleable tungsten concentrate (Wolframite) is 60% or higher. In order to bring the concentrates to grade numerous steps are taken. To name a few, flotation to remove the pyrite; drying; separation of highly magnetic material and running through a high flux separator to remove the Wolframite from the gangue. These steps result in numerous low grade products which require further treatment to bring to grade. These products are stored until such time as a quantity has accumulated to warrant a cleaning operation. Therefore, on short runs of different ores we are continually plagued with new products requiring special cleaning and handling methods. The time lag in bringing these products to grade results in erroneous figures.

To summarize, a mill balance sheet for one month is of no value due to inaccuracies of assaying, sampling, and delays in bringing low grade products to grade in any one varied.

The figure deducted from the Black Pearl and Tungstona mixed ores and charged to Tungstona is based on a 13,043 ton mill run over a period of five months. From the foregoing conclusions I deemed it near impossible to establish a true grade for the Black Pearl and Tungstona ores and therefore used this method for calculating a ratio of pounds WO_3 recovered. As some low grade products are now on hand, the Black Pearl will be credited with these products when they are brought to grade and shipped. As two months milling were mixed, I am of the opinion that no great discrepancy can be accumulated to either property.

Now that only one ore is being milled, the calculations will be greatly simplified and the royalties can be paid on shipments when the payment has been received.

For like reasons as before, the ore mined from ground not under the DMEA project will be included as being mined applicable to the contract. At the present time approximately 1,400 tons have been mined in the original ground, and this is a small amount of what we hope and expect to mine in future months. Therefore, instead of going into meaningless calculations to arrive at an equitable grade on these ores, our company is willing to pay the royalties on this ore not accountable to the contract.

This method is, of course, subject to your approval and a suggested method at arriving at a smooth, workable method of calculating the royalties.

Hoping this meets with your approval, I remain

Sincerely yours,

HILLSIDE MINING & MILLING COMPANY

Robert C. Begart

Robert C. Begart
General Manager

RCB:bp
Enclosures

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

224 New Customhouse
Denver 2, Colorado

July 11, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3448 (Tungsten), Contract Idm-E763, Hillside Mining and Milling Company, Assignee, Yavapai County, Arizona

Enclosed are the Government's, Division, and Docket copies of Amendment No. 2 to Contract Idm-E763, which was prepared in Washington and forwarded by your letter of June 28, 1956, for signature by the Operator.

Also enclosed is a copy of the Operator's letter returning the executed copies of the Amendment to this office.

Copies of the Amendment have been distributed to the Operator, the Finance Office, Region III, and other offices concerned.

W. M. Traver

W. M. Traver

Enclosures

RECEIVED
JUL 13 1956

Hillside Mining & Milling Company

E. R. DICKIE, GENERAL MANAGER

BAGDAD, ARIZONA

July 7, 1956

DMEA
Date Rec'd 7-8-56

JUL 11 1956

BUREAU OF MINES
Denver, Colorado

Mr. W. M. Travor
Executive Officer, DMEA
Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Dear Mr. Travor:

Re: DOCKET DMEA 3448 (TUNGSTEN)
CONTRACT EDM-E763

Enclosed please find the original and four copies signed by myself as secretary of the Hillside Mining and Milling Company.

Very truly yours,

HILLSIDE MINING & MILLING CO.

[illegible]
Secretary-Treasurer

[illegible]
[illegible]

400

DOCKET
SURNAME
Holt
Martin
Chambers
Selfridge
Johnson
Whitehead

JUN 28 1956

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 3448 - Tungsten
Hillside Mining and Milling Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Dear Mr. Traver:

Enclosed are the original and five copies of a proposed Amendment No. 2 to the above-referenced contract, signed by the Administrator for the Government. Two extra copies are enclosed for the use of the Field Team.

If the terms and conditions of this proposed amendment are satisfactory to you and the Operator, all six copies should be signed by the Operator and the usual distribution made.

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

Sincerely yours,

APPROVED:

George C. Selfridge

P. F. Yopes (245)
Member, Bureau of Mines

Chairman, Operating Committee (245)

Thor H. Kiilsgaard (245)
Member, Geological Survey

SPHolt/foc 6/26/56
cc to: Docket
Code 400
Admr. Read. File
Operating Comm.
FT. REG. III
Messrs. R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

June 13, 1956

Memorandum

To: W. S. Martin, Chief, Iron and Ferroalloys Division-DMEA
Through: Chief, Branch of Ferrous Metals & Ferroalloys

From: R. W. Holliday, Commodity Specialist, Branch of Ferrous Metals & Ferroalloys

Subject: Request for extension of time and approval of Stage II.
Docket No. 3448-Tungsten
Hillside Mining and Milling Co.
(Black Pearl Mine), Yavapai County,
Arizona

I concur in the Field Team recommendation that completion date of subject contract be extended 11 months and that Stage II work under the contract be authorized.

R. W. Holliday

R. W. Holliday

RECEIVED
JUN 14 1956

IN REPLY REFER TO:

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

RECEIVED
JUN 14 1956

June 13, 1956

Re: DMEA 3448, Idm-E763
Hillside Mining and Milling Co.
Black Pearl Mine
Yavapai County, Arizona
Tungsten

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of application for an amendment increasing term of contract and permission to start Stage II work.

The applicant requests a ten months extension of the contract term and permission to drive a raise from the 125 foot level to the adit.

Both requests have the approval of the examiners. From the success met with in the work program I believe the relief from the time limit and the permission are merited.

I recommend that the requests be granted.

N. E. Nelson

N. E. Nelson

400 Docket
Holt
Martin

June 12, 1956

MEMORANDUM

To: Associate Solicitor,
Division of Mineral Resources

From: Iron and Ferro-Alloys Division, DMEA

Subject: Preparation of Amendment No. 2
Docket No. DMEA 3448 - Tungsten
Hillside Mining and Milling Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Transmitted herewith is a rough draft of a proposed Amendment No. 2 to the above-captioned contract for your use in preparing the final draft.

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

Attachment

cc: Docket
Code 400

SPHolt/ls

EXPLORATION PROJECT CONTRACT
HILLSIDE MINING AND MILLING COMPANY
DOCKET NO. DMEA-3448

Justification for Amendment No. 2

On May 18, 1956, the Operator requested that the Field Team approve performing the work outlined in items 11 through 16 of the captioned contract, and requested that the time for completion of contract be extended by 11 months.

The Field Team, by letter of June 7, 1956, granted the Operator's request for approval to perform the work noted, but informed the Operator that it was not within the delegated authority of the Field Team to grant the extension of time to complete the contract.

Amendment No. 2 extends the time for completion of the contract, in accordance with the Operator's request, and also extends the repayment period by one year, to cover the added time allowed for completion.

EXPLORATION PROJECT CONTRACT
HILLSIDE MINING AND MILLING COMPANY
DOCKET NO. DMEA-3448

AMENDMENT NO. 2

It is agreed, this _____ day of _____, 1956, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and Hillside Mining and Milling Company, assignee, that Exploration Project Contract No. Idm-E763, Docket No. DMEA-3448, dated February 2, 1955, between the Government and Black Pearl Mining Company, assignor, as amended, is further amended, effective February 2, 1955, as follows:

1. In Article 3 of the Contract, the period for completion is extended to May 31, 1957.

2. In Article 8(b) of the Contract, the period for payment of royalty to the Government is changed from ten years from the date of the Contract to eleven years from the date of the Contract.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, nor the agreed unit cost of any item of work.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By _____
Administrator, Defense Minerals
Exploration Administration

HILLSIDE MINING AND MILLING CO.

By _____

400

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

224 New Customhouse
Denver 2, Colorado

June 7, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3448 (Tungsten), Contract Idm-K763, Hillside Mining and Milling Company, Yavapai County, Arizona

WEM

Enclosed is the following material pertaining to approval of Stage II work and an Amendment to the Contract to extend the date fixed for completion of the project work:

1. Original and three copies of the Operator's letter of May 18, 1956.

2. Original and three copies of a joint memorandum, dated May 28, 1956, from T. H. Benale, Mining Engineer, Bureau of Mines, and J. H. Faick, Geologist, Geological Survey.

3. Memorandum dated June 4, 1956, from E. H. Harshman, Member, DMEA Field Team, Region III, transmitting the material under items 1 and 2.

4. Four copies of project work approval issued by the DMEA Field Team, Region III, pertaining to the performance of work under Stage II, which has been issued in conformance with provisions in the contract.

sent separately on 6/11/56

In addition to the project work approval, the Operator requests an eleven-months extension of the date fixed for completion of the project work. Preparation of such an amendment is not within the authority delegated to this office. Therefore the matter is forwarded for your consideration and appropriate action, with the recommendation that an amendment be prepared as requested by the Operator.

W. M. Traver

W. M. Traver

Enclosures

copy of each attachment sent to USBM on 6/11/56.

Hillside Mining & Milling Company

E. R. DICKIE, GENERAL MANAGER
BAGDAD, ARIZONA

May 18, 1956

DMEA
Date Rec'd.
JUN 5 1956
BUREAU OF MINES
Denver, Colorado

Mr. W. M. Traver, Executive Officer
DMEA Field Team Region III
224 New Custom House
Denver 2, Colorado

RE: DOCKET NO.DMEA 3448 (TUNGSTEN)
NO. IDME 763

Dear Mr. Traver:

At this time I would like to have an extension of time on the Exploration Project under the above DMEA contract, now in progress at the Black Pearl Mine, brought up for your consideration.

The contract is not nearly completed for the following reasons:

(1) The former operators let nearly five months pass before any real amount of development was undertaken on the shaft sinking operation.

(2) Our Companys moving in and mechanizing the mine consumed a considerable time.

(3) The shaft was sunk 15 feet deeper than the contract indicated in order to facilitate the use of a large and more functional station and skip pocket.

(4) The crosscut to the vein was longer than anticipated.

The drifting operation on the 125 ft. level is now advancing quite rapidly and is fully mechanized with mucking machine and electric trammer.

At the present rate of development Stage I drifting on the 125 ft. level will be completed by August 1st, or a required extension of 30 days over the June 30th date.

Also, I would like to make application for approval of Stage II of this DMEA contract. On this stage the 125 ft. raise from the 125 ft. level to the adit level could be initiated by the first of June, for it is anticipated the drifting will be well past the proposed location of this raise.

The present developments on this ore body are quite encouraging and the mine would warrant this further development.

It is estimated that an additional ten months extension of time will be required for the completion of Stage II.

Your consideration of this matter will be greatly appreciated.

Thanking you, I remain

Very truly yours,

HILLSIDE MINING & MILLING COMPANY

Robert C. Bogart

Robert C. Bogart
General Manager

RCB:bp

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
BOX 4097
TUCSON 5, ARIZONA

MINERAL DEPOSITS
DMEA
RECEIVED
JUN 1 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

Date Rec'd
JUN 5 1956

May 28, 1956

BUREAU OF MINES
Denver, Colorado

Memorandum

To : Executive Officer, DMEA Field Team, Region III

From : T. M. Romslo
J. N. Faick

Through: W. R. Storms
E. N. Harshman

WRS

Subject : Docket DMEA-3448, Contract Idm-E763 (Tungsten), Hillside Mining and Milling Company (Black Pearl Mine), Yavapai County, Ariz.

The attached letter (Original and 5 copies) of May 18, 1956 from Robert C. Bogart, general manager, to W. M. Traver requests: (1) an 11 month extension of the contract; and (2) approval of stage 2.

We recommend approval of both requests. The 11 month extension of the contract is necessary because the former operator's rate of progress was less than anticipated and because continuation of development and mining operations will necessarily retard exploratory progress on stage 2 work. Approval of stage 2 at this time is justified since stage 1 is nearing completion and the results obtained have been very favorable. Drifting on the 125 level to May 1, 1956 comprises 120 feet under the contract and 115 feet at no expense to the Government. The drift follows a 4- to 5-foot wide vein that contains an average of about 10 pounds of WO_3 per ton. Assays submitted with the Operator's progress report for April show that the 120 feet of DMEA drift averages 53.7 inches in width and contains 0.816 percent WO_3.

T. M. Romslo
Mining Engineer
U. S. Bureau of Mines

J. N. Faick
Geologist
U. S. Geological Survey

EC W. M. Traver (Orig. & 8)
E. N. Harshman
J. N. Faick
DMEA-3448
DF

TNRomslo;J.N.FAICK:frj

IN REPLY REFER TO:
DMEA
Date Rec'd.
JUN 5 1956
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

June 4, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3448 (Tungsten), Contract Idm-E 763, Hillside Mining and Milling Company (Black Pearl Mine), Yavapai County, Arizona

Enclosed are the original and eight copies of a memorandum by Faick and Romslo recommending approval of stage II work under the subject contract, and an 11 months' extension of the completion date. Enclosed also are the original and five copies of the applicants' request for a time extension and stage II work.

Sinking and drifting under stage II of the contract appears justified by the results of stage I explorations. Raising on the vein, which contained ore on both the adit and 125-foot levels, certainly appears to be preparation for mining but since the purpose of the raise is stated in the contract to be for safety and ventilation it appears that it must be approved. The contract provides no such raise between the 125- and 250-foot levels.

The requested 11 months' extension of the completion date appears justified.

E. N. Harshman
E. N. Harshman
Member, Field Team

Enclosures (15)

400

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

224 New Customhouse
Denver 2, Colorado

June 7, 1956

Mr. Robert C. Bogart, General Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Feb 2, '55 to June 30, '56 = 17 mo.
Plus 11 mo
28 mo
more than 2 years
Hence FT cannot make the amendment

WSM
6/11/56

Re: Docket DMEA 3448 (Tungsten)
Contract Idm-2763
Hillside Mining and Milling Company
Yavapai County, Arizona

Dear Mr. Bogart:

Enclosed is DMEA Field Team, Region III, approval for the performance of work under Stage II of Contract Idm-2763, as requested in your letter of May 18, 1956.

You also request extension of the date fixed for completion of the project work an additional eleven months. The preparation of an amendment of that nature is not within the authority delegated to this office. Therefore the matter has been forwarded to our Washington Office for their consideration and appropriate action, on which you will be further advised at an early date.

Very truly yours,

W. M. Traver

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Enclosure

JWT:prl
cc: Chairman, Oper. Comm. (2))
Finance Office, Reg. III) w/copy of project work approval
Harshman)
Storms)
Faick)
Townsend
Corres. file
Chron.

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

AIR MAIL

20A New Customhouse
Denver 2, Colorado

June 5, 1956

Mr. Robert C. Bogart
General Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: Docket No. DMEA-348 (Tungsten)
Contract Idm-8763, Hillside Mining
and Milling Company, Yavapai County,
Arizona

Dear Mr. Bogart:

In reference to your request of May 18, 1956 and consistent with the provisions of Contract Idm-8763 relative to the performance of work under Stage II, this constitutes the Government's approval for you to perform the work outlined under Stage II items 11 to 16 inclusive. The work shall be accomplished in conformance with the provisions in the Contract pertaining to that particular item of work.

Nothing in this work approval shall be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, the fixed unit cost of any item of work nor any item of allowable cost which is expressly designated "maximum."

Very truly yours,

DMEA Field Team, Region III

W. M. Traver

W. M. Traver

JWT/pw

cc: Chairman, Op.Comm. (4)
Finance Office, Region III
Amendment File, Region III
Harshman
Storms
Faick
Townsend
Corres. File
Chron

E. H. Harshman

E. H. Harshman

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

224 New Customhouse
Denver 2, Colorado

April 26, 1956

Mr. Robert C. Bogart, General Manager
Hillside Mining and Milling Company
Bagdad, Arizona

Re: Docket DMEA-3448 (Tungsten)
Contract Idm-E763
Black Pearl claims 1, 2 and 7
Yavapai County, Arizona

Dear Mr. Bogart:

Your Monthly Progress Report and Voucher for March, 1956 does not contain a map or maps showing progress for the period, as stipulated in the contract under Article 7 (b) (3). A plan map and cross section are required, which maps may be incorporated on one sheet for convenience if you desire. Progress for the particular reporting period must be indicated as well as progress to date as of the end of the period.

Future Monthly Progress Reports and Vouchers will not be processed for payment unless the above maps are included with the reports.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

JDC:jy
cc: Corresp. E763
Sec. Op. Comm. (2)
Storms
Chron.

RECEIVED
APR [illegible]

DEPARTMENT OF THE INTERIOR
Office of the Solicitor

Date 1/20/56

Referred to: Administrator, DMEA - Attention:W.S.Martin

From: Associate Solicitor, Division of Mineral Resources

For: Information and retention _____

Information and return _____

Necessary action ~~and return~~ _____

Comment and return _____

Distribution in office or region _____

_____

_____

Remarks: Sub-Lease and Assignment of Option Agreement surnamed.

_____

_____

_____

Robert Odlanyer

(Signature)

DOCKET
SURNAME
Chapman
Martin

400

January 18, 1956

MEMORANDUM

To: Associate Solicitor, Division of Mineral Resources

From: Iron and Ferro-Alloys Division, DMEA

Subject: Sub-Lease and Assignment of Option Agreement
Docket No. DMEA 3448 - Tungsten
Black Pearl Mining Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Ldm-8763

Attached hereto is a copy of Sub-Lease and Assignment of Option Agreement, from the Black Pearl Mining Company to Hillside Mining and Milling Company, for your review as to the sufficiency of the document.

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

TLCHAPMAN:fcc
1-18-56

Attachment

cc to: Docket
Code 400
Adm. Read. File

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

JAN 16 1956

224 New Customhouse
Denver 2, Colorado

January 11, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3448 (Tungsten), Contract Idm-E763, Black Pearl Mining Company, Assignee, Hillside Mining Company, Assignor - Yavapai County, Arizona

Enclosed are the Government's, Division, and Docket copies of Assignment of Contract which were forwarded by your letter of December 6, 1955, for execution by the Assignee and Assignor.

Also enclosed are two copies of the "Sublease and Assignment of Option Agreement" by which Black Pearl Mining Company transferred its interest in the land to Hillside Mining and Milling Company.

The Assignee's and Assignor's copies of the Assignment of Contract have been forwarded to them and a copy provided the Finance Office, Region III.

W. M. Traver

W. M. Traver

Enclosures

DOCKET
Chapman
Martin
Yogo
Kiilsgaard
Selfridge
McKeadon

JAN 11 1956

T E L E T Y P E

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House Building
Denver 2, Colorado

Reurtt January 9, 1956, Docket DMEA-3448, Black Pearl Mining Company. Please date assignment as of December 12, 1955, and make usual distribution. We also need copies of the Sub-Lease and Assignment of the Option Agreement, as requested in our letter of transmittal.

George C. Selfridge
Chairman, Operating Committee (HB)

cc: Docket
Code 400
Adm. Read. File
Oper. Committee
T. Kiilsgaard, USGS
R. Holliday, USBM
FT, Reg. 3-confirmation

TLChapman/ls
1/11/56

Mr. George Selfridge

RECEIVED

JAN 10 1956

DN 235 BUR MINES 1-9-56 4-20

CHAIRMAN, I OPERATING COMMITTEE, DMEA

RE DOCKET DMEA 3448, CONTRACT IDM-E763, BLACK PEARL MINING COMPANY, ASSIGNOR, HILLSIDE MINING AND MILLING COMPANY, ASSINXX ASSIGNEE. YOUR LETTER DECEMBER 6 REQUESTS RETURN OF INSTRUMENT FOR SIGNATURE BY ADMINISTRATOR. HOWEVER, THE ASSINXX ASSIGNMENT WAS SIGNED BY FRANK E JOHNSON, ACTING ADMINISTRATOR, BUT NOT DATED. ASSIGNEE,S AND ASSIGNOR,S EXECUTION DATED DECEMBER 12,1955. PLEASE TELETYPE ADVICE AS TO DATE WE SHOULD INSERT OF GOVERNMENT,S CONSENT.

W M TRAVER

Denver, Colo.

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

224 New Customhouse
Denver 2, Colorado

December 28, 1955

Mr. J. H. Cazier, Secretary-Treasurer
Black Pearl Mining Company
Bagdad, Arizona

Re: DMEA Docket No. 3448
Contract Idm-E763
Black Pearl Mine
Yavapai County, Arizona

Dear Mr. Cazier:

Reference is made to our Certified letter dated December 9, 1955 wherewith we transmitted five copies of a proposed assignment of Contract Idm-E763, and requested that all copies be returned to this office properly executed by the Assignor and the Assignee if the terms and conditions were satisfactory. To date the documents have not been returned.

We have received the Operator's Monthly Report and Voucher for work performed during the month of November, 1955 but cannot make payment until the above matter is satisfactorily resolved. The report and voucher is in the name of Hillside Mining and Milling Company, and is executed by the General Superintendent for that company.

We request a reply at your earliest convenience.

Very truly yours,

W. M. Traver

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

JDC:jy
cc: Corresp. E763
Sec. Op. Comm. (2)
Harshman
Storms
Townsend
Chron.

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

400

RECEIVED
DEC 13 1955

CERTIFIED MAIL

December 9, 1955

224 New Customhouse
Denver 2, Colorado

W/M

Mr. J. E. Caxier, Secretary - Treasurer
Black Pearl Mining Company
Bagdad, Arizona

Re: Docket DMEA 3448 (Tungsten), Contract Idm-E763, Black Pearl Mine, Yavapai, Arizona

Dear Mr. Caxier:

Enclosed are the Government's copy, Finance Office copy, Field Team copy, Docket copy, and Division copy of a proposed assignment of the subject contract.

If the terms and conditions of the proposed assignment are satisfactory, all copies should be executed by the assignor and assignee and returned to this office. All of the above named copies have been signed by the Acting Administrator, Defense Minerals Exploration Administration. The assignor and assignee copies are being retained in this office and will be forwarded you upon receipt of all of the enclosed copies properly executed.

The enclosed form of assignment has been prepared in lieu of that submitted by the Black Pearl Mining Company. The company form does not refer to the property purchased for or devoted to use pursuant to the contract, a cut-off date of payment by the Government to the assignor, agreement by the assignor to future amendments of contract, and the fact that in its consent to assignment the Government does not release the assignor from the obligations imposed by the contract.

When the properly executed copies of the assignment are returned, it will be necessary that you also forward us three copies of the Sub-Lease and Assignment of the Option Agreement by which Black Pearl Mining Company transferred its interests in the land to the Hillside Mining and Milling Company.

Very truly yours,

E. M. Harshman

E. M. Harshman
Acting Executive Officer, DMEA
Field Team, Region III

Enclosures

EMC:ab
cc: Chair. Op. Comm. (2)
Harshman
Storms
Faick
Townsend Contract E763 Chron.

DOCKET
Surname:
Chapman
Martin
Clearwater
Selfridge
Johnson

DEC - 7 1955

TELETYPE

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver, Colorado

Reurmemo November 30, 1955, Dooket DMEA 3448, Black Pearl Mining Company. Assignment of Contract Idm-E763 to Hillside Mining Company redrafted by our Legal Division and Mailed December 6. Please process October 1955 voucher for payment to Black Pearl Mining Company.

George C. Selfridge
Chairman, Operating Committee

cc: Docket
Code 400
Oper. Committee
Adm. Read. File
Thor Kiilsgaard, USGS
Robt. Holliday
Code 800
FT, Reg. 3

TLChapman/ls
12/6/55

R.C.S.

DOCKET
Surname:
Chapman
Martin
Holliday
Kiilsgaard
Chambers
Yopes
Selfridge
Ryman

DEC - 6 1955

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
New Custom House
Denver 2, Colorado

Re: Docket No. DMEA 3448, Tungsten
Black Pearl Mining Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E7[redacted]

Dear Mr. Ricker:

Enclosed are the original and six copies of a proposed assignment of the subject contract.

If the terms and conditions of the proposed assignment are satisfactory, all copies should be executed by the assignor and assignee and returned to us for signature by the Administrator.

The enclosed form of assignment has been prepared in lieu of that submitted by the Black Pearl Mining Company. The company form does not refer to the property purchased for or devoted to use pursuant to the contract, a cut-off date of payment by the Government to the assignor, agreement by the assignor to future amendments of contract, and the fact that in its consent to assignment the Government does not release the assignor from the obligations imposed by the contract.

There should also be transmitted to the Government copies of the Sub-Lease and Assignment of the Option Agreement by which Black Pearl Mining Company transferred its interest in the land to the Hillside Mining and Milling Company.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (JLB)

Enclosures

cc: Docket
Code 400
Oper. Comm.
Adm. Read. File
T. Kiilsgaard, USGS
R. Holliday, USBM
FT, Reg. 2

APPROVED:

P. F. Yopes (JLB)
Member, Bureau of Mines

Thor H. Kiilsgaard (JLB)
Member, Geological Survey

TLChapman/ls 12/1/55

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

402

224 New Customhouse
Denver 2, Colorado

November 30, 1955

Memorandum

To: Chairman, Operating Committee, DMEA

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-3448 (Tungsten), Contract Idm-E763, Black Pearl Mining Company, Yavapai County, Arizona - Assignment of Contract to Hillside Mining Company; Our memorandum to Washington Office of November 7, 1955

Reference is made to the material forwarded by our memorandum to you dated November 7, 1955 relative to the assignment of the subject contract from Black Pearl Mining Company to Hillside Mining and Milling Company.

We have the Operator's monthly progress report and voucher for October, 1955 made out in the name of Black Pearl Mining Company. Please advise us as soon as possible as to the status of the assignment of the contract and also whether or not the current voucher can be processed for payment in the name of Black Pearl Mining Company.

E. N. Harshman

E. N. Harshman

three Op. Com. on 12/5/55

RECEIVED
DEC - 2 1955
Rec'd 400 on 12/5

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

Indritz 11/23/55

NOV 28 1955

Memorandum

To: The Administrator
Attention: Chief, Iron and Ferro-Alloys Division

From: Associate Solicitor, Division of Mineral Resources

Subject: Assignment of Contract Idm-E763, Docket No. DMEA-3448 by Black Pearl Mining Company to Hillside Mining and Milling Company

The attached form of assignment has been prepared in lieu of that submitted by the Black Pearl Mining Company. The company form does not refer to property purchased for or devoted to use pursuant to the contract, a cut-off date of payment by the Government to the Assignor, agreement by the Assignor to future amendments of Contract, and the fact that in its consent to assignment, the Government does not release the Assignor from the obligations imposed by the Contract.

There should also be transmitted to the Government copies of the Sub-Lease and Assignment of Option Agreement by which the Black Pearl Mining Company transferred its interests in the land to the Hillside Mining and Milling Company.

Robert P. Dwyer

Robert P. Dwyer

Attachment
P.INDRITZ/wog
Copy to: DMEA Docket
Solicitor's Docket
W.S.Martin (2)
G.C.Selfridge
R.P.Dwyer
P.Indritz
Chron.

400

DOCKET
SURNAME
Chapman
Martin

November 16, 1955

MEMORANDUM

To: Associate Soliciter, Division of Mineral Resources

From: Iron and Ferro-Alloys Division, DMEA

Subject: Government Consent to Assignment
Docket No. DMEA 3448 - Tungsten
Black Pearl Mining Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Attached herewith is a rough draft for your use in preparing the final draft of proposed Government Consent to Assignment.

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

Attachment.

TLChapman/foc
11/16/55
cc to: Docket
Code 400

GOVERNMENT CONSENT TO ASSIGNMENT

The Government this _____ day of _____, 1955, hereby consents to the attached Assignment of the Black Pearl Mining Company, Contract No.Idm-E763 (Docket No. DMEA 3448), to the Hillside Mining and Milling Company, without releasing the Black Pearl Mining Company of any of the terms, provisions and conditions of the Contract

THE UNITED STATES OF AMERICA

By_____
Administrator, Defense Minerals
Exploration Administration

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

RECEIVED
NOV 17 1955

224 New Customhouse
Denver 2, Colorado

November 14, 1955

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3448 (Tungsten), Contract Idm-E763, Black Pearl Mining Company, Yavapai County, Arizona

Enclosed are the original and three copies of a memorandum, dated November 7, 1955, from J. N. Faick, Geologist, U. S. Geological Survey, pertaining to operations under the subject contract.

W. M. Traver

By J. W. Townsend

Enclosures

MINERAL DEPOSITS
IN REPLY REFER TO:
D M E A
RECEIVED
NOV 9 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED
NOV 17 1955

Box 4126 University Station
Tucson, Arizona

November 7, 1955

To: Mr. E. N. Harshman

From: J. N. Faick

Subject: DMEA 3448, Interim inspection, Black Pearl Mine (Tungsten), Yavapai County, Arizona

On October 26, 1955 I made a brief interim inspection of the work being done under the DMEA contract at the Black Pearl mine. At this time, neither of the operators, E. A. Scholz or J. H. Cazier, were present; they were in Phoenix completing a transaction to sell the property to the Hillside Mining and Milling Company of Bagdad, Arizona. The transfer of the mine to the new operators is to be effective as of November 1, 1955.

On October 26 the shaft was 65 feet deep and another round was ready for blasting. The shaft is in solid granite, the only unusual feature noted was a slight aplitic banding having an easterly strike and a dip of about 10 degrees north. Traces of wolframite in scattered "spots" of pegmatite were reported but were not seen by this writer.

The contract drift on the vein has been driven about 175 feet, and in the face of the drift the vein is 16 inches wide. Quartz, pyrite and a small amount of wolframite were visible in the face.

John N. Faick

John N. Faick

JNF:ms

cc. Harshman (8)

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

November 7, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3448 (Tungsten), Contract Idm-E763, Black Pearl Mining Company, Yavapai County, Arizona

Enclosed is the following material relative to assignment of Contract Idm-E763 from the Black Pearl Mining Company to The Hillside Mining and Milling Company:

1. Original and three copies of an assignment document prepared by the Operator which has been signed by both the Black Pearl Mining Company and the Hillside Mining and Milling Company officials.

2. Original and three copies of a letter from Wilbert G. Anderson dated October 31, 1955.

3. Original and three copies of a memorandum dated November 2, 1955 from T. M. Romslo, Mining Engineer, Tucson, Arizona and transmittal thereof from the Superintendent of the Southwest Experiment Station dated November 1, 1955.

The examining engineer recommends that the Assignment of the contract be approved in which this office concurs.

W. M. Traver

By J. W. Townsend

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Box 4097
Tucson 5, Ariz.
November 2, 1955

Southwest Experiment Station

Memorandum

To : W. R. Storms, Superintendent, Southwest Experiment Station, Region III

From : T. M. Romslo, Mining Engineer, Tucson, Ariz.

Subject : Contract Idm-E763, Docket DMEA-3448, Black Pearl Mining Company's Black Pearl Tungsten Mine, Yavapai County, Ariz.

Reference is made to the Black Pearl Mining Company's request that subject contract be assigned to the Hillside Mining and Milling Company.

The following information indicates that assignment of the contract would be advisable:

The Hillside Mining and Milling Company is headed by J. C. Lincoln, President of the Bagdad Copper Corp. Other members of the company are either officers or supervisors of this corporation. Known present holdings of the company is the Tungstona Mine and Mill that is located a few miles off the road to the Black Pearl at about 5 miles north of Bagdad. Development of the Tungstona mine started in about 1952 and mining and milling operations were initiated in 1954. Since 1954, the mine has produced 100 to 250 tons of low-grade tungsten ore daily from development headings and shrinkage stopes. Ore has been treated in a new mill at the mine. Ore of shipping grade reportedly is obtained by mixing Tungstona concentrates with high grade concentrates purchased from the Black Pearl Mining Company. Reports from reliable sources also indicate that operation of the Tungstona mine is not presently profitable because the grade of mine ore is much below the anticipated 0.2 to 0.3 percent WO_3.

I have been informed that continued operation of the Tungstona mine is not expected but that the mill will be used to treat Black Pearl ore if assignment of the contract is granted. According to Messrs. Crazier and Scholz, the corporation also

CC W. M. Traver (Orig. & 8)
DMEA-3448
DF

TMRomslo:frj

intends to materially increase ore production from the Black Pearl and to accelerate the rate of exploratory advance under the contract with the Government. If this is done, the chances of completing authorized explorations in the allotted time will be enhanced and royalty payments to the Government while subsidy prices are effective also should show an increase. An increase in royalty payments would be expected not only from treating a greater amount of ore but from an expectable increase in mill recovery. The increased recovery is expectable on the basis of a recent test in which stock-piled middlings from the Black Pearl were treated at the Tungstona mill. The reported value of concentrates produced was about $4.00 per ton mill-heads.

T. M. Romslo

T. M. ROMSLO

CC W. M. Traver (Orig. & 8)
DMEA-3448
DF

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Southwest Experiment Station

November 1, 1955

Certified Mail

Memorandum

To : W. M. Traver, Executive Officer, DMEA Field Team, Region III

From : Superintendent, Southwest Experiment Station

Subject : Assignment of DMEA Contract Idm-E763, Docket DMEA-3448, Black Pearl Mining Co.'s Black Pearl Tungsten Mine, Yavapai County, Ariz.

Enclosed are original and 3 copies of an Assignment of DMEA Contract Idm-E763 from the Black Pearl Mining Co. to the Hillside Mining & Milling Co. for your approval and approval of the DMEA Administrator. This Assignment was received this morning from the law offices of Snell & Wilmer in Phoenix. Also enclosed is original letter from the lawyers and a memorandum by T. M. Romslo regarding this assignment.

I understand that the Black Pearl Mining Co. was getting low in funds, so it subleased its Black Pearl mine to the Hillside Mining & Milling Co. The company evidently now wants to assign its contract to Hillside although no formal request has been made through this office.

Scholz and Cazier of the Black Pearl Mining Co. are supposed to have talked to C. O. Mittendorf at the Las Vegas meeting of the American Mining Congress about this assignment.

As the Hillside Mining & Milling Co. is a responsible company, we recommend that the assignment be made if the Black Pearl Mining Co. so desires.

Walter R. Storms

Walter R. Storms

LAW OFFICES
SNELL & WILMER
SECURITY BUILDING
PHOENIX, ARIZONA

FRANK L. SNELL
MARK WILMER
JOSEPH T. MELCZER, JR.
EDWARD JACOBSON
NICHOLAS H. POWELL
PERRY M. LING
ROLAND R. KRUSE
WILBERT G. ANDERSON
FREDERICK K. STEINER, JR.
JAMES H. O'CONNOR
RICHARD B. SNELL
MAYNARD P. GOUDY

October 31, 1955

U. S. BUREAU OF MINES
SOUTHWEST EXPERIMENT STATION
NOV 1 1955
TUCSON, ARIZONA

Mr. W. R. Storms
Superintendent
Southwest Experimental Station
Region III
U. S. Bureau of Mines
University Station
Tucson, Arizona

Re: Contract No. 1DM-E-763, Docket No. 3448

Dear Mr. Storms:

Mr. E. A. Scholz advised me that it would be best to forward to you the enclosed assignments of the above named DMEA contract from Black Pearl Mining Company to Hillside Mining and Milling Company. This assignment was made pursuant to the subleasing of the mining property by the Black Pearl Mining Company to the Hillside Company. I believe that Mr. Romslo is acquainted with the Hillside Company and can advise you as to the particulars of that company. Mr. J. C. Lincoln is personally backing this venture and there is no question that your government contract will be fully performed by the Hillside Company. I appreciate that this matter must be finally disposed of in Washington but I thought perhaps it might be well to initiate the assignment through your office so that you would be advised of the transaction.

If you have any questions on this matter, please do not hesitate to call me.

Very truly yours,

SNELL & WILMER

By Wilbert G. Anderson
Wilbert G. Anderson

WGA:A
encls.

ASSIGNMENT

For Value Received, BLACK PEARL MINING COMPANY, an Arizona corporation, does hereby assign to HILLSIDE MINING AND MILLING COMPANY, an Arizona corporation, all its right, title and interest in and to the following contract:

> That certain Exploration Project Contract, dated February 2, 1955, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and Black Pearl Mining Company, an Arizona corporation, being Docket Number DMEA-3448 and Contract Number IDM-E-763, records of the Department of the Interior,

which assignment is made pursuant to the Sub-Lease and Assignment of Option Agreement, dated as of the 1st day of November, 1955, between Black Pearl Mining Company, an Arizona corporation, covering the land which is subject to the terms of the above Exploration Project Contract.

This Assignment is subject to approval by the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration.

Dated as of the 1st day of November, 1955.

BLACK PEARL MINING COMPANY

By Edgar A. Seberg
President

ATTEST:

J. N. Lewis
Secretary

ACCEPTANCE OF ASSIGNMENT

HILLSIDE MINING AND MILLING COMPANY, an Arizona corporation, does hereby accept the above Assignment and

agrees to perform the balance of said Exploration Project Contract in accordance with its terms and conditions.

Dated as of the 1st day of November, 1955.

HILLSIDE MINING AND MILLING COMPANY

By _____
President

ATTEST:

George W. Colville
Secretary

APPROVAL OF ASSIGNMENT

The United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, does hereby approve the above Assignment.

Dated: November _____, 1955.

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

By _____

STATE OF ARIZONA)
COUNTY OF) ss.

On this, the 1st day of November, 1955, before me, Helen L. Baum, the undersigned officer, personally appeared E. A. SCHOLZ and J. H. COZIER, who acknowledged themselves to be the President and Secretary of BLACK PEARL MINING COMPANY, a corporation, and that they as such President and Secretary, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by signing the name of the corporation by themselves as such officers.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Helen L. Baum
Notary Public

My Commission Expires:

7-12-57

STATE OF ARIZONA)
COUNTY OF) ss.

On this, the 1st day of November, 1955, before me, Helen L. Baum, the undersigned officer, personally appeared J. C. LINCOLN and GEORGE W. COLVILLE, who acknowledged themselves to be the President and Secretary of HILLSIDE MINING AND MILLING COMPANY, a corporation, and that they as such President and Secretary, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by signing the name of the corporation by themselves as such officers.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Helen L. Baum
Notary Public

My Commission Expires:

7-12-57

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

RECEIVED
OCT 31 1955

224 New Customhouse
Denver 2, Colorado

October 28, 1955

Mr. J. H. Cazier
Secretary - Treasurer
Black Pearl Mining Company
Bagdad, Arizona

Re: Docket DMEA-3448,
Contract Idm-E763,
Black Pearl Mining Company
Yavapai County, Arizona

Dear Mr. Cazier:

Although documentation of costs has been waived for Exploration Contract No. Idm-E763, we still require assay return sheets or certified true copies, giving the results of your sampling. We do not require copies of invoices for this work.

Your Monthly Report and Voucher for September, 1955, is being processed for payment although the above data is not as yet included. Please forward five copies of these assay returns to this office at your earliest convenience.

Very truly yours,

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

By J. W. Townsend
J. W. Townsend

JBC:prl
cc: Sec. Op. Comm. (2)

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

224 New Customhouse
Denver 2, Colorado

October 17, 1955

Memorandum

To: Chairman of the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: DMEA Docket No. 3448 (Tungsten), Contract Idm-E763, Black Pearl Mining Company, Black Pearl mine, Yavapai County, Arizona

Enclosed are the Government's, Division, and Docket copies of Amendment No. 1, which have been signed by the Operator as requested in your letter dated September 19, 1955. Other copies have been distributed in the usual manner.

for W. M. Traver

Enclosures

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

RECEIVED
OCT 10 1955

224 New Customhouse
Denver 2, Colorado

October 5, 1955

Memorandum

To: W. R. Storms

From: Executive Officer, DMEA Field Team, Region III

Subject: Royalty payments, DMEA Docket 3448 (Tungsten), Contract Idm-E763, Black Pearl Mining Company, Black Pearl Claims No. 1, 2, and 7, Yavapai County, Arizona

Please comply to our request contained in Paragraph 2 of our memorandum of August 19, 1955.

W. M. TRAVER

W. M. Traver

RDB/vj

cc: Royalty File E763
Sec. Opr. Comm. (2)
Berkenkotter
Chron

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

RECEIVED
OCT 6 - 1955

224 New Customhouse
Denver 2, Colorado

October 4, 1955

Mr. J. H. Cazier, Secretary-Treasurer
Black Pearl Mining Company
Bagdad, Arizona

Re: Docket DMEA 3448 (Tungsten),
Contract Idm-E763

Dear Mr. Cazier:

Reference is made to our letter of September 23, 1955, whereby we transmitted the original and four copies of Amendment No. 1 for signature.

In the first paragraph of the second page of this letter we stated that it was our interpretation of contract provisions to permit Government contribution in both unit-cost timbering and spiling in the same unit advance. This is not correct. As noted in footnote 2 on page 5 of Exhibit "A", the agreed unit-cost for spiling includes the cost of timbering.

Very truly yours,

W. M. Traver

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Talbert
Martin
Selfridge
Johnson
Mittendorf

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

OCT 3 - 1955

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA-3448 (Tungsten)
Black Pearl Mining Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-5763

Dear Mr. Traver:

By letter dated September 21, 1955 you advised the referenced Operator that the requirement for documentary support of the monthly Forms MP-104 was waived.

This action was taken under the authority granted to you by DMEA Circular No. 19, dated April 17, 1952. However, this Circular requires, in cases of such waivers, that "The Executive Officer shall immediately notify the Contract Administration and Audit Division, Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C. * * * ". This was not done in this instance.

In the future it is requested that a copy of such letters be forwarded directly to the Contract Administration and Audit Division. Also a copy should be given the regional auditor representatives of that Division.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (2/6)

APPROVED:

/s/ Robert W. Geehan
Member, Bureau of Mines (2/6)

N. E. Nelson
Member, Geological Survey (2/6)

EDTalbert/ama - September 28, 1955
Copies to: Docket
Adm. Read. File
Mr. Martin
Mr. Brading
Mr. Chambers
Mr. Kiilsgaard
Mr. Holliday
Operating Committee
FT, Reg. III - 2

R.C.S.

DOCKET
Surname:
Chapman
Martin
Martin
Yoss
Kilgaard
Selfridge
Weatherby

OCT 3 - 1955

Interior Department
Defense Minerals Exploration
Administration
14X4401(01) Revolving Fund,
Defense Production Act,
Interior (Allocated Working Fund
to the Office of the Secretary)

T E L E T Y P E

W. N. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Reurlet September 23, 1955, to J. H. Cozier, properly spelled Cazier, Black Pearl Mining Company, Docket DMEA 3448, advising that you interpret intent of contract to provide for Government contribution in both the cost of spiling and timbering in the same unit advance to the maximum number of units allowable. Please refer to footnote 2, last line on page 5, Exhibit "A" of contract, which states: "The unit cost includes the cost of timbering."

George C. Selfridge

Chairman, Operating Committee

cc: Docket
Code 400
Oper. Committee
Adm. Read. File
T. Kiilsgaard, USGS
W. McInnis, USBM
FT, Reg. 3 - confirmation

WSMartin/ls
9/29/55

224 New Customhouse
Denver 2, Colorado

September 23, 1955

Mr. J. H. Cozier, Secretary-Treasurer
Black Pearl Mining Company
Bagdad, Arizona

WSM

Re: Docket DMEA 3448 (Tungsten),
Contract Idm-E703

Dear Mr. Cozier:

Enclosed find the original and four copies of Amendment No. 1 that were prepared and signed in Washington. Your request for an increase of the allowable maximums to permit the installation of a higher headframe and for purchase of a larger hoist are denied. We quote from a letter from the Chairman of the Operating Committee, DMEA, Washington, D. C.

> "A. Change from a 35-foot headframe to 44-foot headframe, with a cost increase from $1,500 to $2,100. We believe that a 35-foot headframe should give sufficient height to handle all operations for sinking a 250-foot shaft and handling the rock from a small property. Only a bucket and cross-head is required for sinking shaft if our knowledge of Arizona Mining Laws is correct. The rock from drifts and raises can be handled with cars and cage. If the Operator desires a higher headframe, the difference in cost will be at his own expense.
>
> "B. We consider a 35 H.P. hoist has sufficient power to handle all rock from the exploration program. If the Operator desires a more powerful hoist, the difference in cost will be at his own expense."

Your request for a smaller inside dimension raise is denied as too small to comply with safety regulations.

The zone where royalty need not be paid is extended by this amendment to 80 feet east of the cut-off plane indicated on Figure 3 attached to the Contract. We interpret this as 80 feet east of the point in the adit where the face was at the time the Contract was signed.

Copy retained 400

This amendment also clarifies where timbering is an allowable extra unit cost claim. We interpret the intent of the Contract to provide for Government contribution in both the cost of spiling and timbering in the same unit advance to the maximum number of units allowable. Why?

Please have all copies of the amendment signed by an official authorized to sign these documents, affix the corporate seal, and return them to this office, leaving the date blank. When we have received them we will send you the Operator's copy.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer
DMA Field Team
Region III

Enclosures

WMT:prl
cc: Chairman, Oper. Comm.
Marshman
Storms
Townsend
Corres. file
Chron.

w/copy of Chairman's three letters of 9/19/55

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

RECEIVED
SEP 26 1955

September 21, 1955

224 New Customhouse
Denver 2, Colorado

Mr. J. H. Cazier,
Secretary-Treasurer
Black Pearl Mining Company
Bagdad, Arizona

Re: DMEA Docket 3448 (Tungsten), Contract Idm-E763, Black Pearl Mining Claims, Yavapai County, Arizona

Dear Mr. Cazier:

Consistent with authority delegated the Executive Officer, DMEA Field Team, Region III, we hereby waive the requirement for you to provide documentary support of Form MF-104 (Revised-April 1952) Operator's Monthly Report and Voucher, beginning with the month of September, 1955, except for support of equipment purchases for which the individual costs exceed $50.00 as explained on the reverse side of Form MF-104 (Revised).

In lieu of documentary support of the monthly voucher, an auditor from the Contract Administration and Audit Division will make interim audits of the accounts pertaining to the exploration project and will make a final audit on completion or termination of the contract, before the final voucher is processed for reimbursement.

This waiver does not forego the requirement for a concise but complete narrative that must accompany the original and each copy of the Monthly Report.

Very truly yours,

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

RB:ab
cc: Contract File E763
Corresp. File E763
Oper. Comm. (2)
Fiscal Officer, Region III
W. R. Storms
J. W. Townsend
Harshman
Chron.

DOCKET
SURNAME
Chapman
400 Martin
Talbot
Selfridge
Holliday

SEP 19 1955

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House Building
Denver 2, Colorado

Re: Docket No. DMEA 3448 - Tungsten
Black Pearl Mining Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Dear Mr. Traver:

Enclosed are the original and five copies of proposed Amendment No. 1 to the above-referenced project, signed by the Administrator for the Government.

If the terms and conditions of this proposed amendment are satisfactory to you and the Operator, all six copies should be signed and the usual distribution made.

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

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Enclosure

APPROVED:

/s/ Robert W. Geehan (GCS)
Member, Bureau of Mines

/s/ N. E. Nelson (GCS)
Member, Geological Survey

TLCHAPMAN:foc 9/14/55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG. III
R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

RSS

C

400

DOCKET
Surname:
Chapman
Martin
Fitzhugh
F. Johnson
McHenderson

SEP 19 1955

Mr. W. A. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA 3446 - Tungsten
Black Pearl Mining Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

Dear Mr. Traver:

Reference is made to your memorandum of August 30, 1955, concerning the referenced docket, with enclosures as follows:

1. Letter dated August 16, 1955, from J. A. Cazier, Secretary-Treasurer, Black Pearl Mining Co.

2. Memorandum dated August 26, 1955, from Walter R. Storms, Superintendent, Southwest Experiment Station.

3. Memorandum dated August 22, 1955, from T. M. Romslo, Mining Engineer.

The above-mentioned letter from Mr. Cazier requested four amendments to the contract, and our comments are as follows:

A. Change from 35-foot headframe to 44-foot headframe, with a cost increase from $1,500 to $2,100. We believe that a 35-foot headframe should give sufficient height to handle all operations for sinking a 250-foot shaft and handling the rock from a small property. Only a bucket and cross-head is required for sinking shaft if our knowledge of Arizona Mining Laws is correct. The rock from drifts and raises can be handled with cars and cage. If the Operator desires a higher headframe, the difference in cost will be at his own expense.

B. We consider a 35 H.P. hoist has sufficient power to handle all rock from the exploration program. If the Operator desires a more powerful hoist, the difference in cost will be at his own expense.

R.G.B.

C. To change raise dimensions from 4 feet X 7 feet inside timber dimension to 4 feet X 7 feet outside timber dimension or rock section would make the raise too small to comply with safety regulations.

D. Unless unforeseen conditions arise, we do not believe any change is warranted in the drifting allowed in the adit.

An amendment is being written to move the dividing line in the adit to a point 80 feet easterly (map measurement) for ores to the west and above the adit level to be excluded from royalties. Also, this amendment will define timbering costs as set forth in the contract to be only for drifts and crosscuts.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Approved:

/s/ Robert W. Geehen (GCS)

Member, Bureau of Mines

/s/ N. E. Nelson (GCS)

Member, Geological Survey

cc: Docket
Code 400
Adm Read. File
Oper. Comm.
Thor Kiilsgaard, USGS
Robt. Holliday, USBM
FT, Region 3

TLChapman/ls
9/12/55

Porter
Martin
Tebbet
Chapman
Selfridge
K. Duncan
Matthews

SEP 1 9 1955

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA-3448, Tungsten
Black Pearl Mining Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Ida-8763

Dear Mr. Traver:

Reference is made to your memorandum of August 19, 1955, with the enclosed copy of a memorandum from T. M. Romslo, Mining Engineer, dated August 2, 1955, concerning the subject project.

Under "Analysis of Contract, Forms MF-104 and 104A and Operators' Narrative Report," Mr. Romslo makes two points which are discussed below.

1. The first point is stated as follows:

"The first of these is Annex II, Special Agreement Concerning Royalty. The Agreement excludes royalty payment on ore from a specified zone provided it is not extracted or transported through any workings described in Exhibit 'A'; Figure 3 (Longitudinal Section of Vein Looking North) is a part of Exhibit 'A' and could be considered as a description of workings from which ore from the restricted zone must necessarily be extracted and transported.. . ."

As we understand this point, we think Annex II clearly states that production from the Black Pearl vein above the present adit level and west of a vertical cut-off plane at the present face is exempt from the royalty provisions, unless it is transported through the DMEA workings shown on Figure 3. This does not require the Operator to transport the ore through those workings, and unless it is so transported it will not be subject to royalty.

We noted, however, that on the date of the contract the face of the adit level had been advanced 80 feet easterly of the point of the face shown on Figure 3, and the attached amendment extends the exempt area the additional 80 feet.

R.C.S.

2. The second point made is that the contract is not clear as to where the costs estimated for timbering are to apply. This point is well made. It was intended that costs be allowed for timbering only in drifts and crosscuts. In raises and shafts timbering is included in the unit costs. An amendment which we are sending to you with a separate covering letter is intended to clarify these two points.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

Approved:

/s/ Robert W. Geehan (JHB)

Member, Bureau of Mines

(s) N. E. Nelson (JHB)

Member, Geological Survey

cc: DMEA Docket
Adm. Read. File
Oper Comm.
T. H. Kiilsgaard, USGS
Code 400
Robt. Holliday, USBM
Mr. H. C. Rubin, Rm. No. 7351
FT, Reg. 3

TLChapman/HCRubin/pr/ls
9/16/55

Docket 3448 Talbot

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

SEP - 7 1955

Mr. Richard N. Greenburg
Regional Comptroller
General Services Administration
49 Fourth Street
San Francisco 3, California

Reference: 9C

Dear Dick:

Receipt is acknowledged of your letter of September 1, 1955, relative to your claim against the Black Pearl Mining Company.

Under date of February 2, 1955, this Administration entered into Exploration Project Contract No. Idm-E763, Docket No. DMEA-3448 with the Black Pearl Mining Company in the total sum of $127,285.00 with provision for contribution by the Government of 75 percent of the allowable costs as they are incurred in a total sum not in excess of $95,463.75. The Operator has been paid a total of $9,046.77 for the Government's contribution to costs incurred and work performed through the month of July 1955.

In the antepenultimate paragraph of your letter you request information on three specific matters. My replies follow in the same numerical order.

(1) The matter of this Administration considering an offset of the amounts due GSA was given full consideration at a meeting on May 27, 1955, with Mr. Oliver Eastland, representing the Office of the General Counsel, GSA. In attendance at this meeting were the Administrator, the Deputy Administrator, and the Chief of the Contract Administration and Audit Division, all of the DMEA, together with a representative from the Department's Office of the Solicitor. It was the concurred opinion, in view of the purpose of the exploration program and the type of contract, that DMEA was not the proper facility for liquidating a claim of this type.

(2) The DMEA does not take a mortgage on the mining equipment purchased for the exploration project. The contract, however, does provide that "any property acquired to the cost of which the Government contributes shall belong to the Operator and Government jointly in proportion to their respective contributions, although

R.C.B.

title thereto shall be taken in the name of the Operator", and further provides, upon completion or termination of the contract, for prompt disposal of such property for the joint account of the Government and the Operator. In the instant case the Government has contributed to equipment and other property costing only approximately $1,000.

(3) This Administration has entered into no contracts with the Hillside Mining and Milling Company, Tungstona, Arizona.

It is regretted that I can offer you no assistance in your problem of collecting this claim.

Your regards and best wishes have been conveyed to Mr. Chambers. He was very appreciative. For your information he is making a most remarkable recovery.

Sincerely yours,

(Signed) E. D. Talbert

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

EDTalbert/wb
September 7, 1955

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

September 1, 1955

9C

Mr. E. D. Talbert
Deputy Director
Contract Administration & Audit Division
Defense Mineral Exploration Administration
Department of the Interior
Interior Building
Washington 25, D. C.

Dear Del:

For the past several months this office has been involved in trying to collect the claim against the Black Pearl Mining Company, Bagdad, Arizona. The total amount of this claim is $8,928.28, which is comprised of an over-payment of $7,699.28 for tungsten concentrates and $1,229 re-assaying costs.

Briefly, this claim is based on inaccurate sampling resulting in over-payment to the Black Pearl Mining Company.

To give you a clear understanding of the matter I am attaching copies of a letter written by our Regional Counsel, dated May 20, 1955, to the attorneys for the firm, copies of a letter dated July 29, 1955, from the attorney of the firm to this Administration, together with a copy of a letter dated July 16, 1955, from the Black Pearl Mining Company to their attorney.

You will see from reading this correspondence that we are having difficulty in collecting the amount of the over-payment.

The proposal made by Black Pearl to repay us at the rate of $2.00 per unit does not appear to be the answer to the problem inasmuch as, at the rate we are now buying tungsten concentrates, our total authorization for the purchase of tungsten concentrates will be exhausted in approximately one year. This means that the proposal made by Black Pearl could not be fulfilled before our purchase program ends.

RECEIVED

We feel that, after completing the purchase program for tungsten concentrates, we would have little, if any, chance of collecting the balance of the amount owing after that date.

This office has been advised that the Defense Mineral Exploration Administration has made a grant, or a loan, to the Black Pearl Mining Company for exploration and development and that a part, if not all, of the funds under this grant has been paid to Black Pearl.

I would appreciate your advice as to the following:

(1) If total payments under the grant have not been made, would your Administration consider an offset of the amounts due GSA?

(2) In making grants for exploration and development, does your Administration take a mortgage on the mining equipment purchased for the program?

(3) Has your Administration made any grants or loans to the Hillside Mining and Milling Company at Tungstona, Arizona? If you have made grants or loans to the Hillside Mining and Milling Company, could an offset be made against the account of that firm inasmuch as the Black Pearl Mining Company is now selling all of their out-put to the Hillside Mining and Milling Company.

This Administration would very much appreciate any help you can give us in this matter.

Incidentally, I have learned that Jay Chambers suffered a stroke recently, and I would appreciate your conveying to him my very best regards and wishes for his speedy recovery.

Cordially,

RICHARD H. GREENBURG,
Regional Comptroller.

Attachments.

DOCKET
Surname:
Chapman

400

August 31, 1955

MEMORANDUM

To: Acting Assistant Solicitor
Defense Minerals

From: Iron and Ferro-Alloys Division, DMEA

Subject: Amendment No. 1, and letter to W. M. Traver, Executive Officer, DMEA Field Team, Region 3, with comments on memorandum of T. M. Romalo, Mining Engineer, dated August 2, 1955.
Docket No. DMEA 3448 - Tungsten
Black Pearl Mining Company
Black Pearl Mine
Yavapai County, Arizona
Contract No. Idm-E763

For your study and review are letter to W. M. Traver and a rough draft of Amendment No. 1, for the referenced contract.

Thos. L. Chapman, Acting Chief
Iron and Ferro-Alloys Division

Attachments

cc: Docket
Code 400

TLChapman/ls

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

224 New Customhouse
Denver 2, Colorado

August 30, 1955

Memorandum

To: Chairman of the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3448 (Tungsten), Contract Idm-E763, Black Pearl Mining Company, Black Pearl Mine, Yavapai County, Arizona

Enclosed are three copies of a letter from J. H. Cazier, dated August 16, 1955, wherein he requests an amendment to incorporate four changes into Contract Idm-E763. Also enclosed are three copies of a memorandum from the inspecting engineer, dated August 22, 1955, and three copies of the Supervising Engineer's transmittal memorandum, dated August 26, 1955, relative to the requested changes.

The operator requests two changes, which he denotes "A" and "B" in his letter, to increase the totals under Category (4)(b) and Category (6) of Exhibit "A" of the contract, both of which are allowable maximums. He is required by the State mining code to have both a cage and skip in the shaft and therefore needs a larger hoist than as anticipated. He therefore requests an increase in Category (4)(b), Purchases, to cover the purchase of a larger hoist. We recommend approval. He also requests that the maximum stipulated under Category (6), New Buildings, Fixtures, and Installations, be increased to permit construction of a higher head frame than as stipulated in the contract. For safety and convenience, we also agree with this change. The operator requests that the funds necessary for these increases be transferred from the amount allowable under Stage I unit-cost drifting on the adit level. We dislike decreasing the amount of new exploration work but necessarily agree with the transfer.

We concur with the inspecting engineer that the request for smaller inside timber dimensions of the Stage II exploration raise be denied.

The inspecting engineer, in his memorandum attached to the operator's monthly report and voucher for June, 1955, requested clarification of a possible point of contention regarding royalty due the Government. Annex II of the contract stipulated that royalty is not due the Government from production made from a zone above the adit level and west of a vertical plane projected through the then present face of the adit, except when such production is transported or extracted through working described in Exhibit "A" of the contract. The engineer contends that because Figure 3, attached to and made a

part of Exhibit "A", shows a longtitudinal section through old and proposed workings of the Black Pearl mine, it might be construed to mean that the old workings are part of the working described in Exhibit "A". If you believe this needs clarification, please include such in the amendment. Another point that the inspecting engineer raised in the same memorandum was that in Annex II of the contract the western boundary of the excluded zone is described as a vertical plane through the "present face" of the adit, meaning the face at the time the contract was signed. The operator has advanced the adit over the 100 feet between the date the contract was signed and the date that project work began. If it was the intent of royalty provisions to exclude all ground above the adit east of where DMEA work began, then this point should also be clarified in the amendment.

The inspecting engineer raised another question in his inspection memorandum referred to above concerning unit-cost timbering provisions in the contract. He makes recommendations in the enclosed memorandum. We wonder if it was the intent of the contract to allow unit-cost timbering in the raise when timbering normally is installed as the raise is advanced. However, under Stage II unit-cost work 880 feet of unit-cost timbering and spiling is allowed as against 860 feet of drifting and crosscutting.

We recommend that the amendment be made effective July 1, 1955, as explained in the engineer's memorandum.

W. M. Traver

W. M. Traver

DMEA
Date Rec'd.

AUG 18 1955

BUREAU OF MINES
Denver, Colorado

August 16, 1955

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA-3448 (Tungsten)
Contract No. Idm-E-763

Dear Mr. Traver:

It is requested that the subject Contract be amended as follows:

A. Under Exhibit A, Page 1, Stage I, Preparatory Work, Item 2, "Erect 35 foot wood headframe with sheave" be amended to read "Erect 44 foot, wood headframe with sheave" and that the estimated cost of the project, Stage I Actual Costs, Category (6) for headframe with sheave be increased from $1,500.00 to $2,100.00 and that the $600.00 increase be added to the total cost for preparation work.

B. Under Exhibit A, Page 3, Stage I Actual Costs, Category (4b) purchases, that the amount allowed for 1 gasoline hoist be increased to $4,500.00 and that the description of the hoist be amended to "about 80 H. P." and that the $2,000.00 increase be added to the total cost for preparation work.

C. Under Exhibit A, Page 2, it is requested that the minimum cross-sectional dimensions of the raise under the Contract be amended to read "Raise 4 feet by 7 feet outside of timber."

D. It is requested that the footage of adit advance, Exhibit A, Page 1, Stage I, Exploration Work, Item 5 be reduced by $2,600.00 representing about 62 feet of advance to supply the funds required for requested amendments A and B above.

These amendments to our Contract are requested for the following reasons:

A. Using skip hoisting as contemplated in the Contract the 35 foot headframe orginally approved by the Contract does not allow sufficient room for disposition of the rock hoisted. With the 35 foot headframe the normal safe skip dumping position would be approximately 10 feet above the collar. This would not provide sufficient height for storage of the rock hoisted. The requested 44 foot headframe is adapted to the timber available and would allow sufficient room for some storage for skip hoisting as originally intended.

B. A 35 horsepower gasoline hoist is inadequate to perform the service intended. It will be necessary under the Arizona Code to have both a cage and skip. Therefore, the estimated load to be handled is as follows:

Estimated weight of rock	2400 lbs.
Estimated weight of cage and skip	2800 lbs.
Estimated weight of cable	400
Total	5600

At 250 feet per minute the required theoretical horsepower would be 42 indicating at 5700 foot elevation that an 85 horsepower gasoline engine would be required. We have secured a quotation of $5,950.00 on a new Vulcan Denver hoist to meet these specifications and are still hoping to find a suitable used hoist or to be able to amend our specifications sufficiently to obtain a suitable hoist for $4,500.00.

C. It has been requested that the cross-sectional area of the raise be amended to 4 feet outside of timber to correspond with the expected vein width where the raise is to be driven. It is felt that the raise will be much more solid if the vein walls are not broken, a better sampling of the vein will be obtained and a raise of sufficient size for all purposes would result from the requested amendment.

D. More than 90 feet of adit advance was made between the time of our application and the time of starting work under the above project contract. The requested amended adit advance total will therefore still extend past the point contemplated in the exploration program and the point shown in our application.

We will appreciate your consideration of these requested amendments to our Contract.

Very truly yours,

J. H. Cazier, Sec.-Treas.
Black Pearl Mining Co.

JHC:dc

DMEA
Date Rec'd.
AUG 29 1955
BUREAU OF MINES
Denver, Colorado

Box 4097
Tucson 5, Arizona

August 26, 1955

Memorandum

To : W. M. Traver, Executive Officer, DMEA Field Team, Region III

From : Superintendent, Southwest Experiment Station

Subject : Proposed Amendment, DMEA Contract Idm-E763, Docket DMEA-3448, Black Pearl Mining Co.'s Black Pearl Tungsten Mine, Yavapai County, Ariz.

As requested in your memorandum of August 22, a memorandum by T. M. Remsle is attached regarding the amendment to contract Idm-E763 as proposed by J. H. Cazier. I concur with Remsle's recommendations.

In regard to the clouded work provision for unit-cost timbering, the contract should be changed to show the extra allowance of $7.00 per foot for timbering only in drifts, crosscuts, and raises.

Walter R. Storms

Walter R. Storms

CC W. M. Traver (8)
J. N. Faick
DMEA-3448
BF

WRStorms:frj

Box 4097
Tucson 5, Arizona

August 22, 1955

Memorandum

To : Walter R. Sterns, Superintendent, Southwest Experiment Station, Region III

From : T. M. Romsle, Mining Engineer, Tucson, Arizona

Subject : Proposed Amendment, Docket DMEA-3448 (Tungsten), Contract Idn-E763, Black Pearl Mining Company, Black Pearl Mine, Yavapai County, Ariz.

Reference is made to W. M. Traver's memorandum to you of August 22, 1955 and its attached copy of subject company's request of August 16, 1955.

REQUESTED AMENDMENTS

The requested amendments, "A", "B", "C", and "D", are correctly identified as to Exhibit, page and Category of the contract.

"A" - Substitute a 44-feet wooden headframe with sheave for the specified similar 35-feet installation and increase actual costs from $1,500.00 to $2,100.00.

"B" - Purchase a gasoline hoist of about 85 horsepower for $4,500.00, instead of the specified gasoline hoist of about 35 horsepower at $2,500.00.

Both requested amendments "A" and "B" are recommended for approval on the basis of reasons given by the operator and because actual costs are involved on items in which the Government will have an equity.

"C" - Minimum cross section of raise to be 4 feet by 7 feet outside of timber instead of the specified 4 feet by 6 feet in the clear of timber.

I recommend that this requested amendment be denied because a less than 4-foot in-the-clear width for a ventilation and safety raise is considered inadequate.

CC W. M. Traver (Orig. & 8)
J. N. Faick
DMEA-3448
BF

TMRomsle :fr]

"D"-Transfer of $2,600.00 of the $28,730.00 allowed for drifting and crosscutting of Stage 1 to provide for increased costs of headframe and hoist.

The requested transfer of funds is recommended for the reason given by the operator. Transfer of the unexpended balance of the maximum allowed for bulldozing, as suggested by the Field Team, is not advisable because the amount is inadequate even before possible additional bulldozing costs.

DATE OF AMENDED CONTRACT

Partial costs of the headframe were included in the Operators report for July. To provide for these costs the requested amendment should be effective as of July 1, 1955.

UNIT-COST TIMBERING

The indefinite work provision for unit-cost of timbering under Stages 1 and 2 should be clarified. This could be accomplished by the following rewording of pertinent items without changing the intent of the contract.

Stage 1

Sinking and timbering 2-compartment vertical shaft - - - -
Cut station and skip pocket at 125-foot level of shaft, including necessary timbering.

Timbering drift and crosscuts, where necessary.

Stage 2

Extend shaft, with timber, an additional - - - - - - - -

Cut station and pockets at 250-foot level of shaft, including necessary timbering.

Timbering of drifts, crosscuts and raise, where necessary, - - - - - -

Allowance of cost of timbering raise is not necessarily implied but I feel it should be allowed because a ventilation and safety raise should be timbered where necessary and contain platforms and ladders throughout. The per foot costs of $35.00 for driving the raise and $7.00 for timbering are reasonable.

T. M. Romslo
Mining Engineer
Southwest Experiment Station

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

224 New Customhouse
Denver 2, Colorado

August 19, 1955

Memorandum

To: W. R. Storms

From: Executive Officer, DMEA Field Team, Region III

Subject: Royalty payments, DMEA Docket 3448 (Tungsten), Contract Idm-E763, Black Pearl Mining Company, Black Pearl Claims No. 1, 2, and 7, Yavapai County, Arizona

Enclosed is your copy of our letter to Mr. J. H. Cazier, Secretary-Treasurer of Black Pearl Mining Company concerning royalty calculations for production under DMEA Contract Idm-E763.

At the time of the next monthly inspection of the property please have the engineer examine the companies method of royalty determination to see if the Government can give its approval. Please submit a memorandum (6 copies) to this office and if revisions are required or are desireable they should be discussed in detail.

We are also enclosing one copy each of Black Pearl Mining Company's royalty letters dated July 21, 1955.

W. M. TRAVER

W. M. Traver

Enclosures

RDB/vj

cc: Royalty File E763
Sec. Opr. Comm. (2)
Berkenkotter
Chron

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

224 New Customhouse
Denver 2, Colorado

August 19, 1955

Mr. J. H. Cazier, Secretary-Treasurer
Black Pearl Mining Company
Bagdad, Arizona

Re: Royalty payments, DMEA Docket 3448 (Tungsten), Contract Idm-E763, Black Pearl Mining Company, Black Pearl Claims No. 1, 2 and 7, Yavapai County, Arizona

Dear Mr. Cazier:

Please excuse the delay in acknowledging receipt of your royalty payment check No, 665 in the amount of $250.25 for March, April, May and June production of 1955. This amount has been credited to your account as repayment of funds advanced to the Black Pearl Mining Company under DMEA Contract Idm-E763.

According to the terms of Contract Idm-E763, royalty is due on all production from the Black Pearl Nos. 1, 2 and 7 claims from February 2, 1955, the date of the contract. As you had no claim for work performed in February of 1955 we assume that your royalty check covers the total production from these three claims from February 2, 1955 through June of 1955. If this is so, we believe a statement from you to this effect should be in our files in order that our records may be complete.

As to your proposals for prorating the value received for the sale of concentrates back to the individual headings by volume of rock removed and drift assays, we cannot give a definite acceptance at this time without knowing the extent of mineralization and the number and method of your control sampling. We do, however, accept your proposals tentatively, and if a field inspection of the operation shows your method to be equitable to both yourself and the Government, this method of calculating royalties can be used until there is a change in conditions which would warrant further revision.

We do, however, call your attention to the provisions of Article 8(c) of your contract form, which specifies that royalty payments are to be made on the basis of the calculated percentage of the value in the form sold. Black Pearl Mining Company is selling their production in the form of concentrates; therefor royalties are to be paid on this basis and the royalty rate will amount to 5.0 percent. This will result in additional royalty being due on May 1955 production. Correct royalty equals ($66.15) x(.05) = $3.31 and additional royalty due is $3.31-0.99 or $2.32.

At some time in the future a royalty audit will be made for this project by DMEA auditors, at which time it will be necessary for your company to furnish one copy of each settlement sheet pertaining to ore or concentrate sales. In anticipation of this royalty audit we therefore request you to furnish one copy of all settlement sheets for production containing DMEA ore and a copy of your smelter schedules with the different ore buyers to whom ore is shipped. This material will be in addition to the four copies of calculation sheets determining tonnage, value, and royalty due on DMEA portion of monthly shipments.

We hereby agree that DMEA monthly royalty settlement can be deferred until the Black Pearl Mining Company has received their final settlement for ore shipments.

Any further information yuu may desire concerning this subject we will gladly furnish. We are enclosing several copies of DMEA Order 1-Amended, Section 10 of which explains the Government's position in DMEA royalty matters.

Yours very truly,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Enclosures

RDB/vj

cc: Royalty File E763
Sec. Opr. Comm. (2)
W. R. Storms
D. T. Finch
Berkenkotter
Chron

3448

COPY

Excerpt from THE MINING RECORD--Thursday, August 4, 1955, page 11.

BLACK PEARL MINE GETS LOAN FROM U. S.

Bagdad, Ariz.--Black Pearl Mining Co., near Bagdad, has been awarded a $127,285 exploration contract to develop tungsten properties. Total value of Government participation is $95,463. Mine has been under development for four years by J. H. Cazier and Edgar A. Scholz. New exploration program calls for sinking a 150-ft shaft and 400 ft. of drifting from the shaft.

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

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

224 New Customhouse
Denver 2, Colorado

March 15, 1955

REGISTERED

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3448 (Tungsten), Contract Idm-E763, Black Pearl Mining Company, Yavapai County, Arizona

Enclosed are the Government, Division and Docket copies of Contract Idm-E763 which was prepared in Washington and forwarded by your letter of February 2, 1955 for signature by the operator.

The contract has been properly signed, the corporate seal affixed, and Owner's Consent to Lien attached as requested in your letter of February 2, 1955.

Copies of the contract have been given to the operator, the Finance Office, Region III, and a copy has been retained for our files.

W. M. Traver

W. M. Traver

Enclosures

Docket

224 New Customhouse
Denver 2, Colorado

February 7, 1955

Copy retained 400

Black Pearl Mining Company
Box 248
Bagdad, Arizona

WSM

Re: Docket DMEA-3448

Dear Sirs:

Enclosed are the original and six copies of Form MF-203, "Owner's Consent to Lien" for the signature of all owners and all parties who have assigned their interests to the Black Pearl Mining Company.

Please return the original and five copies of the signed Forms MF-203 to this office so that we may continue to process the contract.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer
DMEA Field Team, Region III

Enclosures

HMC:pw

cc: Chairman Op.Comm.
Administrator DMEA
Storms
Harshman
Connors
Subject
Chron

400

DOCKET
Surname:
Chapman
Martin
McInnis
Newcomb
Taffaut
Selfridge
Johnson

FEB 2 1955

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA 3448 - Tungsten
Black Pearl Mining Company
Black Pearl Mine
Yavapai County, Arizona

Dear Mr. Traver:

Enclosed are the original and five copies of the above-referenced exploration contract, signed by the Administrator for the Government, together with Annex I and Annex II, Exhibit "A" (5 pages), and figures 1, 2, and 3.

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

Before execution of the contract, you should obtain the "Owner's Consent to Lien" which the operator advises us he now has available.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

Enclosures

APPROVED:

J. H. Hedges (JHB)
Member, Bureau of Mines

Thor H. Kiilsgaard (JHB)
Member, Geological Survey

cc: Docket
FT, Reg. III
Code 400
Adm. Reading File
Oper. Comm.
W. McInnis, USBM
T. Kiilsgaard, USGS

TLChapman/ls
1-27-55

R.G.

Rubin

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

JAN 25 1955

Memorandum

To: The Administrator, DMEA
Attention: Mr. W. S. Martin

From: Acting Assistant Solicitor, Defense Minerals

Subject: Black Pearl Mining Company, Docket No. DMEA-3448, Black Pearl Mine, Yavapai County, Arizona

There is attached hereto a contract covering the above-mentioned project, in satisfactory legal form for execution, subject to attachment of Owner's Consent to Lien and the maps referred to in Exhibit "A".

J. L. Hofflund

J. L. Hofflund
Acting Assistant Solicitor,
Defense Minerals

HCRubin:gjb 1/25/55

Copy to: DMEA Docket
Solicitor's Docket
H. C. Rubin
J. L. Hofflund
W. S. Martin
Chron. File

400

Docket
Surname:
Chapman
Martin

INTERIOR DEPT.

JAN 17 1955

SOLICITOR

January 14, 1955

MEMORANDUM

To: Acting Assistant Solicitor, Defense Minerals

From: Iron and Ferro-Alloys Division, DMEA

Subject: Preparation of contract
Docket No. DMEA 3448
Black Pearl Mining Company
Black Pearl Mine
Yavapai County, Arizona

Transmitted herewith is the rough draft of a proposed contract for your use in preparing the contract in final form.

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

Attachment

cc: DOCKET
ADM. READ. FILE
CODE 400

WSMartin/ls
1/14/55

Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

January 4, 1955

Memorandum

To: W.S. Martin, DMEA, Room 3538

From: Robert W. Geehan

Subject: DMEA 3448 - Tungsten
Black Pearl Mine
Yavapai County, Arizona

Information at hand indicates that this deposit is a favorable location for obtaining significant reserves of tungsten ore.

Several methods of exploration have been considered; all those outlined in the Field Team report would provide desirable information. The choice of a specific method is related to (1) costs and (2) maximum information. In my opinion, the best method for this specific deposit would be to sink an inclined shaft, on the vein, from a location near the portal of the main adit. The shaft proper could well be 175 feet deep with a station at the 150 foot level. From this station, drifts should be extended, say 800 feet, with the greatest footage to the east. A drift extending the present adit, say 400 feet, to the east would also be good exploration. This proposal can be summarized as follows:

(1)	Inclined shaft	175 feet
(2)	Drifts	1,200 feet

I believe that this proposal is only slightly different than those listed in the Field Team report; but still distinctly better for the following reasons:

(1) The inclined shaft combines the lower cost of shaft sinking (compared with the winze) with the better information obtained (compared with the vertical shaft).

(2) The extra 50 feet of depth and corresponding distance between levels cuts down exploration costs per ton; these seemed higher than desirable. The strong structure and extensive strike

Copy retained 400

length make it practical to add this increment. If information obtained while sinking makes it seem desirable to change this spacing, there would be ample time to amend the contract.

Robert W. Geehan

Robert W. Geehan

Attachments

Docket

IN REPLY REFER TO:

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

Defense Minerals Administration
RECEIVED
DEC 17 1954

December 16, 1954

W309

Re: DMEA-3448
Black Pearl Mining Co.
(Black Pearl Mine)
Yavapai Co., Ariz.
$247,150 - Tungsten

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: E. L. Newcomb, U. S. Geological Survey

Subject: Review of exploration proposals

The geologic merits of further exploration on this property have been clearly established by the various application review memoranda, private and government reports, and the recent Field Team examination report. The main problems, which remain to be considered and decided upon, are the location and amount of exploration, and the matter of fair and reasonable costs for the exploration program.

A DMEA contract (DMEA-1506) was drawn up for execution in 1952, but was not finalized because Scholz and Cazier were unable to obtain the required Landlord's Subordination Agreement.

I have reviewed the project allowed under DMEA-1506, and Plans I and II as outlined in the Field Team report on DMEA-3448. Plan II has been recommended for approval by the Field Team; however, they would exclude the two raises on the basis that this work is development and not exploration.

Under Plan II, all the work would be done in the vein zone and the sinking of an interior shaft would be centered below the most productive part of the vein zone. I am in agreement with their recommendation that Plan II be approved. However, I do not believe the third stage of winze sinking and development of a third level are justified for exploration purposes.

I recommend Stage I; Stage II, excluding the two raises; Stage III, excluding work below the 250 level of Plan II be approved.

E. L. Newcomb

E. L. Newcomb

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

224 New Customhouse
Denver 2, Colorado

November 30, 1954

WHK

Memorandum

To: Secretary to the Operating Committee, Defense Minerals Exploration Administration

From: Field Team, Region IV

Subject: Report of Examination, DMEA Docket 3448 (Tungsten), Black Pearl Mining Co., Black Pearl claims, Yavapai County, Ariz.

Enclosed are the original and three copies of the report pertaining to the above application.

We recommend a modified exploration program similar to Plan II, Figure 3A in the engineering report, except for the two raises shown under the second stage. This would reduce the total estimated cost to $238,750.00.

We also recommend that the subordination include Black Pearl claim No. 7 as it will be benefitted as a result of the exploration, as well as Black Pearl claims No. 1 and No. 2.

The applicant wishes to exclude, "all ore developed vertically above the main adit at the time of entering the contract." This would cause difficulties in administering the contract and we recommend that the Government receive royalty on all production from Black Pearl claims No. 1, No. 2 and No. 7.

Extra copies of maps are included for use in a contract.

W. H. King
W. H. King

for E. N. Hauchman
A. H. Koschmann

Enclosures

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC - 6 1954

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

224 New Customhouse
Denver 2, Colorado

November 30, 1954

Memorandum

To: DMEA Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination, DMEA Docket 3448 (Tungsten), Black Pearl Mining Co., Yavapai County, Arizona.

Enclosed are 9 copies of the engineering report of examination on the subject docket.

The applicant amended his original application to sink a winze on the vein near the center of the ore body in lieu of sinking a shaft. The applicant estimated a total cost of $331,775.00.

The engineer examiner recommends winzing, drifting and raising in a three stage program at a total estimated cost of $247,150.00.

We concur in this recommendation except for the two raises shown under the second stage in Plan II, Figure 3A. We consider these two raises would be development and not exploration.

We also recommend that the subordination include Black Pearl claim No. 7 as it will be benefitted as a result of the exploration as well as Black Pearl claims Nos. 1 and 2.

The applicant wishes to exclude "all ore developed vertically above the main adit at the time of entering the contract." This might cause difficulties in the administering of this contract and we believe the Government should have royalty on all production from Black Pearl claims Nos. 1, 2, and 7.

W H King
W. H. King

Enclosure

November 18, 1954

Memorandum

To : W. H. King, Chief, Mining Division, Region IV

From : Chief, Mining Methods Br., Mining Div., Region IV

Subject : Report, Docket DMEA-3448, Black Pearl Mining Co.'s Black Pearl Tungsten Mine, Yavapai County, Ariz.

Enclosed are original and 8 copies of the section on Summary, Conclusions and Recommendations by William R. Hardwick of the Bureau of Mines, and John N. Faick and Leonid Bryner of the Geological Survey, and the section on Engineering by Hardwick for the above report. A separate report on Geology already has been submitted by the Geological Survey.

The applicant originally proposed to sink a shaft in the footwall, then explore the deposit by crosscutting to and drifting on the vein. The estimated costs for this program were $248,500. As the DMEA Examiners considered that much of this proposal was development work and not exploration, the applicant submitted an amended application where a winze on the vein was proposed as a substitute for the shaft, with drifting on the vein on three different levels. Costs as estimated by applicant for this work were considerably higher than those in the original proposal, or $331,775.

The work as proposed in the second plan was approved by the DMEA examiners, but the costs were considered to be much too high. The examiners estimated that work under the second plan could be done for $247,150. These costs still seem somewhat high, but as the vein material is said to be very fractured and the ground very "heavy", I will approve the total of $247,150 for the entire program.

The DMEA examiners were unable to come to an agreement with the applicant as to the cost of the program. The applicant insists that the entire project cannot be completed for less than $331,775; the DMEA Examiners believe that $247,150 is sufficient.

CC W. H. King (8)
J. N. Faick
DMEA-3448
DF

WRStorms:frj

If an agreement can be reached with the applicant for reasonable costs, I recommend that exploration assistance be provided by the Government. However, I believe that $247,150 should be the maximum amount allowed.

Walter R. Storms

Walter R. Storms

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

November 2, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3448 (tungsten), The Black Pearl Mining Company's Black Pearl Mine, Yavapai County, Arizona

Enclosed are 9 copies of a geologic report by J. M. Falck and Leonid Bryner of the U. S. Geological Survey covering the above docket.

At the Black Pearl mine wolframite occurs in a strong fissure vein in pre-Cambrian granite. The vein has a strike length of 2,000 feet and is about 3 feet wide. Accompanying wolframite in the vein material are pyrite, specularite, bismuthenite, molybdenite, beryl, and minor amounts of gold, silver, and chalcopyrite. The vein has been explored on 3 levels through a strike length of 1700 feet and to a depth of 225 feet below the outcrop.

The applicant proposes 2 plans for continued exploration of the deposit, one from a vertical shaft to be sunk from the surface (Plan 1), the other from an inclined winze sunk on the highest grade section of the vein (Plan 2). Falck and Bryner favor Plan 2 and recommend that Government assistance be approved for exploration under that plan.

E. H. Koschmann
for A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (9)

Box 4126 University Station
Tucson, Arizona

October 27, 1954

MEMORANDUM

TO: A. M Koschmann

FROM: J. N. Faick

SUBJECT: DMEA Docket 3448 (Tungsten)
The Black Pearl Mining Company's Black Pearl Mine
Yavapai County, Arizona

Enclosed are the original and 8 copies of a geological report on the field examination of the Black Pearl Mine.

This report recommends Government participation in exploration of the property by either of 2 plans submitted by the applicants, but Plan 2 is favored by the writers of this report.

John N. Faick

JNF:ms

Encls.

cc. Koschmann (8)
Storms

ON-SITE REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA-3448, Black Peark Mining Company

Black Pearl Tungsten Mine

Yavapai County, Arizona

William R. Hardwick, Mining Engineer
U. S. Bureau of Mines

John N. Faick, Geologist
U. S. Geological Survey

Leonid Bryner, Geologist
U. S. Geological Survey

November 1954

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By William H. Hardwick[1], John N. Faick[2], and Leonid Bryner[2]

The Black Pearl tungsten mine in Yavapai County, Ariz., first was located in 1914. From 1914 to 1954, it produced approximately 5,000 units of WO_3. On August 16, 1954, an application for Government participation in the costs of an exploration project, estimated to cost $248,500.00, was submitted to the Defense Minerals Exploration Administration by the Black Pearl Mining Co. This application was docketdd as DMEA-3448. On September 2, 1954, a field examination was requested by the DMEA Field Team, Region IV.

Maybe just the [illegible] years

On September 21-24, 1954, John N. Faick, Leonid Bryner, and William R. Hardwick visited and examined the Black Pearl mine and discussed the proposed project with E. A. Scholz and J. H. Cazier of the applicant company. As the result of this conference, the applicant decided to submit a revised proposal. This revised proposal requested Government participation in an exploration project which it estimated would cost $331,775.00. It was received in the Tucson office of the Bureau of Mines on September 28, 1954.

The Black Pearl vein outcrops for a horizontal distance of 6,000 feet. The western end of the vein outcrops at an altitude of 5,250 feet and the eastern end at 5,750 feet. Ore minerals are

---

1/ Mining engineer, U. S. Bureau of Mines
2/ Geologist, U. S. Geological Survey

found continuously along a 2,000-foot section in the east-central portion of the exposed vein. The gangue minerals are quartz and pyrite; the ore minerals are wolframite, beryl, bismuthinite, and silver.

The developed portion of the vein strikes N. 74° E., dips 75° to 85° south, and averages 3 feet in width. It has been developed by a 1,300-foot adit that reaches a maximum depth of 165 feet. There are 18,000 tons of measured ore that contains 0.59 percent WO_3 above the adit level. Various estimates of the indicated and inferred ore below the adit level range from 154,000 to 425,000 tons that contain 0.60 percent WO_3.

The applicant is mining the ore above the adit level at the rate of 15 tons per day, and is making a profit. However, the company is unable to finance the exploration required to prove the ore below the adit level and has requested Government assistance. It proposes to explore the Black Pearl vein by determining the depth and the lateral limits of the ore body.

The company estimates that the total cost of the project will be $331,775.00. However, the examining engineer estimates that the total cost of the project will be only $247,150.00.

The applicant states that it is able to finance 25 percent of the costs of the exploration program and requests that the Government finance 75 percent.

From an examination of the mine, a study of all available information, and a review of the applications, the following conclusions are drawn:

1. Significant reserves of tungsten ore probably can be found below the main adit level of the Black Pearl mine;

2. Beryl, bismuth, molybdenum, and scrap mica are possible by-products;

3. Judging by the current operations and the professional record of the responsible officers, the applicant is qualified to conduct the proposed exploration program;

4. Equipment and supplies are on hand or are readily available;

5. Manpower is available;

6. The DMEA examiners favor a winze located near the center of the known ore body because it would allow sampling and inspection of the vein during progress;

7. A shaft cannot be located near the center of the known ore body without sinking an additional 165 feet;

8. Exploration work should be started near the center of the known ore body and if possible should follow the vein;

9. The applicant's estimated costs appear to be unreasonably high;

10. The proposed project also may benefit Black Pearl claim No. 7; therefore the DMEA examiners believe that the three claims. Black Pearl Nos. 1, 2, and 7 should be subordinated.

Based on the above conclusions, if the Black Pearl Mining Co. is willing to accept a reasonable mutually agreeable estimated cost, it is recommended that Government assistance be granted for the proposed exploration project for the Black Pearl mine.

BLACK PEARL MINING COMPANY

BLACK PEARL MINE

(Tungsten)

YAVAPAI COUNTY, ARIZONA

DMEA 3448

GEOLOGY

By
J. N. Faick and Leonid Bryner
Geologists
U. S. Geological Survey

BLACK PEARL MINING COMPANY
BLACK PEARL MINE

(Tungsten)

YAVAPAI COUNTY, ARIZONA

DMEA 3448

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CONCLUSIONS AND RECOMMENDATIONS	16

ILLUSTRATIONS

Figure 1 - Location Map	See Engineering Report
Figure 2 - Claim Map	" " "
Figure 3 - Proposed Exploration	" " "
Figure 4 - Geologic Map and Longitudinal Projection of the Black Pearl mine, Yavapai County, Arizona	Following Page 3

TABLES

Table I Production from the Black Pearl Mine 1915 to 1929	Page 12
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INTRODUCTION

In an application to the Defense Minerals Exploration Administration, dated August 11, 1954, Edgar A. Scholz, president of the Black Pearl Mining Company, and his partners, L. K. Lindahl and J. H. Cazier, requested Government participation in exploration for tungsten at the Black Pearl mine. The applicants' estimated cost of the proposed project is $248,500. Scholz and Cazier previously had submitted an application (DMEA 1506X) for assistance in exploring the Black Pearl mine, but a field examination was not made and no formal report was submitted. A contract for exploring the property under DMEA was approved on the basis of information available at that time, but the contract was later disallowed because the applicant was unable to obtain the necessary subordination agreement.

The Black Pearl mine is in the northwest quarter of section 18, T. 15 N., R. 7 W., Yavapai County, Arizona (fig. 1). The mine is accessible by 19 miles of fair dirt road from the new part (eastern settlement) of Bagdad. This dirt road leads directly to the mine and is suitable for ordinary passenger vehicles; however, the traveler must be careful not to follow branch roads which lead to the left from the main road at 1.8 miles and 4.2 miles respectively from Bagdad.

The mine is shown on the Bagdad quadrangle (1948 edition), but the road from Bagdad to the mine is shown only as far as Wildhorse Basin. The elevation of the mine is about 5700 feet and the topography is fairly rugged.

Eleven patented and four unpatented claims (fig. 2) are controlled by the applicant by a lease and option to purchase, dated April 30, 1951. This agreement is due to expire October 1, 1964.

On September 21 and 22 the Black Pearl property was examined by J. N. Faick and Leonid Bryner of the U. S. Geological Survey, and W. R. Hardwick of the U. S. Bureau of Mines. The examiners were aided by Scholz and Cazier whenever possible. In this connection it is worth mentioning that Scholz and Cazier impress the examiners as being reasonably capable and conscientious operators. The underground workings and the surface in the Black Pearl No. 1 and No. 2 claims (fig. 2) form the subject matter of this report because this seems to be the most highly mineralized part of the property, and because these are the claims the applicant company proposes to explore. This report includes results of this examination and also data obtained from older reports, which were prepared by other engineers and geologists who have examined the property.

GENERAL GEOLOGY

The Black Pearl mine is developed on an easterly trending fissure vein which dips steeply to the south in a granite host rock. This rock is probably of early pre-Cambrian age, and apparently forms the basement rock of an extensive region. Relatively large parts of the region are covered by a series of Quaternary or Tertiary lava flows with which gravel deposits are interbedded. Lavas form the tops of broad mesas in this area, but near the mine the lavas and gravels are absent and the underlying rock is granite.

The normal granite near the mine, and that which forms the host rock for the Black Pearl vein, is medium to dark gray, relatively coarse-grained aggregate of quartz, orthoclase, hornblende and biotite. In this rock there are scattered clots of mixed orthoclase and quartz, usually in subhedral to anhedral crystals. These clusters of crystals

range in size from about 1/2 inch to 4 inches in maximum dimension. The granite is cut by a series of joints spaced from 1/2 to 1-1/2 feet apart and approximately parallel to the vein. These joints occupy a zone on the south side of the vein, but similar joints were not found north of the vein. Crystals or clots of feldspar lying athwart the joints in the granite are not offset or otherwise affected. About 1000 feet east of S-4 (fig. 4) the joints die out.

A type of granitic rock, distinctly different from that described above, crops out a few hundred feet west of the exposed part of the Black Pearl vein. This granitic rock is a uniformly fine-grained, whitish, aplitic rock in which quartz is the dominant mineral. In appearance the rock is similar to alaskite. In this rock, and about on the projection of the Black Pearl vein, there are many dark brown or reddish spherical clots. Some of these clots, not so deeply weathered as others, reveal a core of granular pyrite. A dike of similar, aplitic, light-colored granite crosses the Black Pearl vein near its eastern end, but neither the dike nor the vein appear to be noticeably affected by the other at the junction.

DESCRIPTION OF THE DEPOSIT

The Black Pearl vein (fig. 4) which occupies a narrow fissure in granite strikes N. 70° to 75° W. and dips 75 to 85 degrees south. The strike length of the vein is about 2000 feet, the continuity of the vein being interrupted only by a slight echelon arrangement of the vein segments and by short intervals that are barren or only slightly mineralized. The vein is fairly uniform in thickness, averaging about 3 feet; however, it thins appreciably and apparently pinches out at both ends. At its west end the vein apparently splits

into two branches, which lie at a maximum distance of about 150 feet apart, and in these branches the vein material is essentially barren and appears as small, scattered lenses in the granite.

The vein makes a sharp contact with the granite and in most places where the contact can be observed there is a thin selvage of gouge between the vein and the granite. This gouge is commonly slickensided and the plunge of the striations on it varies from nearly horizontal to nearly vertical. There is no indication that appreciable displacement has taken place along the fissure, either prior to or following emplacement of the ore. There are a few faults of very small displacement that cross the vein, according to Scholz.

The granitic host rock near the vein has been altered to Greisen, which is recognizable mainly by a preponderance of coarse, white mica. The mica is a common mineral in the wall rock next to the vein and also along the faults and fractures that intersect the vein, and in relatively barren parts of the vein.

The predominant gangue mineral in the Black Pearl vein is massive, grayish-white coarse-grained crystalline quartz with which is associated locally abundant masses or veins of coarse muscovite and relatively small amounts of pinkish feldspar, which usually occurs as veinlets in the quartz. The quartz commonly has a network of tight fractures. At the surface these stand out as thin, reddish brown lines. Coarse, euhedral crystals and crystal aggregates of blue-green beryl are relatively abundant in the vein, and in a few places purple fluorite is abundant.

The principal hypogene metallic minerals in the vein, in decreasing order of abundance, are: pyrite, wolframite, specularite, bismuthenite and molybdenite. Gold and silver are reported to be sparingly present in the ore and chalcopyrite is present in trace amounts. Scheelite is reported to be present in minor amounts.

Pyrite is the most abundant of the metallic minerals, and according to Scholz it constitutes about 25 percent of the vein material. The pyrite varies from coarse to fine-grained, crystalline or massive, but generally occurs in large masses in the veins. These masses tend to be crudely elongated normal to the vein walls.

The ore mineral is wolframite. This occurs in the vein as isolated euhedral to subhedral crystals which range from a fraction of an inch to many inches in maximum dimension, and crystals 2 or 3 inches across are moderately abundant. Scholz reports that the largest single piece of wolframite recovered from the mine weighed about 250 pounds and that pieces which weigh from 10 to 15 pounds are frequently recovered. According to the applicant the iron content of the wolframite is slightly higher in the west part of the vein and the manganese content is highest in the east part of the vein. The ratio of iron to manganese is about 1:1 on the west end of the vein and about 1:1.3 on the east end. The wolframite tends to be lighter colored on the east end and darker colored on the west.

Specularite is abundant in parts of the vein zone and appears to be concentrated in or very close to barren parts of the vein. Those parts of the vein that contain considerable specularite contain little or no wolframite; apparently these two minerals are incompatible. This relationship of specularite to wolframite may be a useful guide in exploration if its validity can be proved.

Bismuthinite occurs in coarse to fine-grained platy or acicular crystals in small masses or nuggets but is not abundant. The applicants estimate that the ore contains 0.12 percent bismuth, which is believed to be all in the bismuthinite, which, if recoverable, would constitute a valuable by-product of the ore.

Molybdenite occurs in coarse to fine platy granules and apparently is widely distributed in the vein in very small amounts, and it is doubtful if it could be recovered economically.

Beryl is sufficiently abundant in the ore to be of possible commercial value; the applicants estimate that the BeO content of the ore ranges from 0.15 to 0.5 percent. The beryl occurs as pale-blue euhedral crystals and columnar aggregates. The individual crystals are often from 1 to 2 inches long and crystal aggregates several inches across and weighing several pounds are not uncommon. Some of the beryl is recovered by hand sorting but none of it has been marketed.

Muscovite is relatively abundant and the applicants estimate that this mineral constitutes from 2 to 4 percent of the vein filling. The muscovite is generally concentrated along the vein walls and forms seams from about 1/4 to 2 inches wide, but in some places occurs as more or less isolated masses. Most of the muscovite is coarse-grained; however, very fine-grained mica was found in a few thin veinlets cutting vein quartz.

Oxides of iron, largely derived from weathering of pyrite, occur abundantly in the outcrop and in the near-surface mine workings. Pyrite is not present in the outcrop but cavities from which pyrite has been leached are abundant. Oxidation has extended to a depth of

at least 40 feet below the outcrop, and has caused a slight disintegration of the vein to this depth, thus making the ore somewhat more amenable to mining and milling than the unoxidized ore.

The paragenesis of the hypogene vein minerals is very complex. It is believed that at least 3 and probably 4 stages of mineralization are represented. It is probable, but by no means certain, that the earliest vein material to be deposited was massive white coarse-grained quartz with which is associated coarse-grained massive pyrite. This early wave of mineralization apparently was followed by quartz-specularite mineralization and then by a pegmatitic phase represented by quartz, beryl, muscovite (?) and wolframite. The end-stages of the mineralization process is represented by minor amounts of quartz, fluorite, bismuthinite, chalcopyrite, pyrite, and by very small amounts of feldspar and mica.

The deposit undoubtedly formed under relatively high temperatures and under conditions of slow heat loss. The quartz, pyrite, specularite and wolframite are characteristic of relatively high temperature veins and the greisen, silicate gangue minerals and beryl are characteristic of pegmatites. The deposit appears to be a pegmatite that verges on the hypothermal type of vein. The mineral sequence suggests overlapping or "telescoping" of the two types of deposits, and it is probable that the exposed part of the Black Pearl vein represents the transition zone between a hypothermal quartz vein and a pegmatite. In this connection it is worth emphasizing that Kerr[1/], as a result of his comprehensive study of tungsten deposits, reported that "In tungsten-bearing pegmatites the stage of tungsten deposition is

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1/ Kerr, P.F. Tungsten Mineralization in the United States; Geol.Soc. Amer. Memoir 15, p.39,1946.

closely related to the period at which the pegmatite grades into high-temperature quartz vein." Apparently tungsten minerals have been found concentrated in the transition zones between hypothermal veins and pegmatites at Silver Hill, Wash., Oreana, Nevada, and in the Black Hills, S. Dak. If this relationship holds true at the Black Pearl mine then exploration below the present workings should be approached with considerable caution because the tungsten mineralization is likely to be confined to the transition zone which is probably restricted to a relatively short vertical distance.

Figure 4 illustrates the structural form, dimensions and significant mineralogy of the Black Pearl deposit. Some of the most important features shown on the map are as follows:

1. The en echelon arrangement of vein segments.
2. Minor branches from the main veins.
3. A major echelon offset in the vein system immediately west of Station 109 and the vertical trend of this feature between the surface and the adit level.
4. The lack of upward persistence of a nearly similar offset at Station 105.
5. The apparent absence of the vein at the surface above Station 110 and 111.
6. The comparatively barren zone at the surface between Station 107 and 115.
7. The abundance of specularite in the vein zone exposed at the surface from S-3 to about 110 feet east of this point and the absence of specularite elsewhere except near the old adit near the east end of the vein.

EXPLORATION

The Black Pearl vein has been explored throughout a strike length of about 1700 feet by 3 adits, several shallow shafts, several stopes and many surface cuts. The main adit (fig. 4) entered the vein near its west end and was driven eastward in tungsten-bearing vein material a distance of about 1300 feet. This adit is 165 feet below the highest outcrop but a shaft or winze near the portal of the adit is reported to have explored the vein an additional 60 feet, and 900 pounds of concentrate was produced from the shaft. Thus the existence of tungsten minerals has been proven throughout a vertical distance of 225 feet from the outcrop to the deepest workings.

Two alternative proposals for additional exploration of the vein are under consideration. These alternative proposals (fig. 3) are as follows:

Plan 1. Sink a new shaft near the portal of the present adit to a depth of 275 feet, crosscut to the vein and drive 2300 feet of drifts along the vein on the 125 and 250-foot levels. Supplement drifting with necessary raises.

Plan 2. Sink a winze on the dip of the vein from the adit level to a depth of 390 feet and explore the vein by drifting along it. The proposed drifting is as follows: A. 400 feet eastward from the present face of the main adit, B. 600 feet on the 125 level, C. 2300 feet on the 250 level, D. 600 feet on the 375 level. Drifting is to be supplemented by necessary raises.

It is proposed to do the work in stages as outlined in the engineering report.

Either of the applicants' 2 proposals will satisfactorily explore the deposit and final selection of the exploration method must depend upon evaluation of many factors; therefore the apparent advantages and disadvantages of each method are listed below.

PLAN I - VERTICAL SHAFT NEAR PORTAL OF ADIT

Advantages of Plan 1.

1. Plan 1 has many practical advantages because operations will be conducted from the surface near the present plant where facilities and manpower can be utilized most readily.

2. A gasoline driven hoist can be used and installation of expensive electrical generating equipment can be avoided. Ground conditions in the shaft and crosscuts should be very good, and little or no water is expected; therefore early phases of the project should proceed without unusual difficulty or expense.

3. This method will result in shortest tramming distance and will deliver any recovered ore almost directly to the mill.

Disadvantages of Plan 1.

1. Shaft and crosscuts are not on vein; therefore, probably should be considered development work rather than exploration.

2. As the shaft is not on the vein it will be necessary to check the vein by crosscuts and drifts at frequent intervals; certainly not over 125 feet, as proposed by the applicants.

PLAN II - WINZE FROM THE ADIT

Advantages of Plan 2.

1. The proposed winze would be sunk below the present adit and could be located on the most favorable part of the ore zone and would follow the ore. The greatest amount of information would be obtained by sinking on the ores.

2. Some ore would be recovered from a winze sunk on the vein and this would help to defray the cost.

Disadvantages of Plan 2.

1. Electrical generating equipment will be required to provide power underground and this will greatly increase the cost.

2. Costs will be relatively high because a hoisting station and ore pocket will have to be cut underground.

3. Costs of sinking could be relatively higher because there might be a small amount of water in the vein and there probably will be some sloughing of the walls during sinking. This might be an important factor in the length of time required to complete the project.

4. Tramming distance of both ore and waste will be greater for drifts extending west of the winze.

5. Sampling of the ore during sinking of the winze will be required and this will increase the cost of the project.

Either of the applicants' proposals will be satisfactory for exploring the Black Pearl deposit, but these writers favor plan 2 because under this plan all the work will be done in the vein and will yield more pertinent information than the shaft.

PRODUCTION AND GRADE

The Black Pearl mine was operated intermittently from 1915 to 1929 and was operated almost continuously since 1951. The mine has produced about 5000 units of WO_3 from ore that averaged about 0.68 percent WO_3.

According to the former owner, H. R. Wood, shipments from the Black Pearl mine during the years 1915-1929 inclusive are as shown in Table I.[1]

TABLE I

PRODUCTION FROM THE BLACK PEARL MINE 1915 TO 1929

Year	Pounds	Percent WO_3	Year	Pounds	Percent WO_3
1915	3,401	71.13	1930	1,620	72.00
1917	3,152	70.70	1931	1,895	72.00
1917	6,830	69.90	1932	3,825	68.00
1918	3,613	70.60	1933	4,841	69.88
1918	1,482	70.81	1933	12,472	71.14
1918	1,444	71.60	1933	2,291	69.76
1919	100	68.00	1935	975	---
1926	6,994	71.10	Misc.	4,265	---
1929	2,900	72.45	Total	62,100	70.00 Av.

At least 180 feet of adit were driven since 1929 and before the present period of operations, but production figures for that period are not available.

Scholz and Cazier report having shipped 2803 units of WO_3 since the inception of the present operation in 1951. The average grade of this ore, according to the applicant, was 0.50% WO_3 as broken ore, and 0.60% WO_3 in place. These probably are reliable figures. Other values in the ore, according to the applicant, are approximately 25 percent pyrite, 0.12 percent bismuth as bismuthinite, 0.55 ounces of silver, 0.5 to 0.15 percent BeO in beryl and from 2 to 4 percent muscovite.

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[1] Wilson, E.D., Tungsten deposits of Arizona, Arizona Bur. of Mines, Geological Series No. 14, Bull. 148, p. 21, 1941.

Production furnishes the most reliable basis for grade of ore because the spotty distribution of the wolframite deposit makes adequate sampling very difficult, if not impossible. The sampling done by H. D. Phelps, Mining Engineer, in 1936 (fig. 4) shows how the grade of ore varies from place to place. This sampling was done by taking 50 to 90 pound samples from successive carloads as the adit was advanced. A total of 126 samples was taken in 180 feet of drift. These samples averaged 0.504 percent WO_3; however, individual samples varied greatly from this average. For example, Lot 1, representing 8 feet of drift, averaged 0.90 percent WO_3, while Lot 4, representing about the same length of drift, averaged 0.26 percent WO_3.

In estimating the grade of ore it is important to note that dilution by the soft wall rock might be a factor to consider when the ore is mined. Phelps' overall average of 0.504 percent WO_3 for mined rock, was recalculated by him to represent only the vein material in place, and a grade of 0.705 percent WO_3 was obtained. For this same part of the drift he also obtained an average vein value of 0.784 percent WO_3 from 8 samples but it is not clear to the writers how this figure was obtained.

The location of 6 samples taken by the U. S. Bureau of Mines are shown in figure 4 and the analyses are given in Table II. These are car samples of broken ore left after high-grade material had been extracted by hand sorting.

TABLE II

U. S. BUREAU OF MINES SAMPLES, BLACK PEARL MINE

		Oz./Ton Au	Oz./Ton Ag	% WO_3	% Bi	% BeO
Sample No.	13037	Tr.	0.90	0.42	0.22	0.15
" "	13038	Tr.	1.40	0.18	0.24	0.20
" "	13039	Tr.	0.60	0.01	0.25	0.15
" "	13040	Tr.	0.90	0.72	0.21	0.02
" "	13041	Tr.	0.10	0.12	0.04	0.03
" "	13042	Tr.	0.10	0.01	0.21	Nil

A recent shipment of 2015 pounds of concentrates from the property was assayed by Abbot A. Hanks, August 2, 1954, and these analyses are shown in Table III.

TABLE III

ANALYSIS OF 2015 POUNDS OF CONCENTRATE FROM THE BLACK PEARL MINE

	Percent		Percent
WO_3	71.11	P	0.02
Sn	0.01	S	0.28
Cu	0.03	Mn	10.88
As	0.01	Pb	0.08
Sb	0.01	Zn	0.04
Bi	0.16	Fe	8.25
Mo	0.06	Ca	0.14

ORE RESERVES

In the original application the reserves are estimated at 60,000 tons of indicated ore and 425,000 tons of inferred ore, each class with an estimated grade of 0.59 percent WO_3. The inferred reserves estimate is based on an assumed depth of 800 feet below the adit level, which in the opinion of these writers is unlikely in the Black Pearl deposit; therefore the estimate is thought to be unreasonably high. The applicants estimate the measured reserves at 18,000 tons containing an average of 0.51 percent WO_3. This estimate appears fairly reasonable, providing the grade is as high as estimated, but no attempt was made by us to verify either the grade or tonnage figure.

The indicated reserves are estimated by the writers of this report to be 14,000 tons of ore containing about 0.6 percent WO_3. This estimate is based on a strike length of 1300 feet, as exposed by the main adit, a depth of 40 feet below the adit as shown by the shaft near the portal, and an estimated average width of 3 feet.

In addition to the indicated reserves, the inferred reserves are estimated to be 140,000 tons of ore containing approximately 0.6 percent WO_3. This estimate of inferred reserves is based on a strike length of 2000 feet, which is about the length of the vein outcrop, an average width of 3 feet and a probable depth of 250 feet below the adit level.

In these calculations a tonnage factor of 11 cubic feet per ton was used because of the high pyrite content of the vein. The estimated grade is based on available sample reports and production records.

CONCLUSIONS AND RECOMMENDATIONS

Tungsten mineralization is present in most of the Black Pearl vein, which has a strike length of about 2000 feet, and average width of about 3 feet and which has been explored to a depth of about 225 feet below the outcrop. The order of magnitude of reserves in the zone for which exploration is proposed is about 500 or 600 tons per foot of depth, of ore that is expected to average 0.6 percent WO_3. The depth to which tungsten mineralization extends cannot be predicted but it is probable that significant amounts of ore will be discovered by the proposed project.

It is, therefore, recommended that Government aid in exploring the Black Pearl tungsten deposit be granted.

DMEA-3448, BLACK PEARL MINING COMPANY
BLACK PEARL TUNGSTEN MINE
YAVAPAI COUNTY, ARIZONA

Engineering Report

By William R. Hardwick
Mining Engineer
U. S. Bureau of Mines

November 1954

Reviewed by
DMEA Oper. Comm.
12-10-54
Date.

DMEA-3448, BLACK PEARL MINING COMPANY
BLACK PEARL TUNGSTEN MINE
YAVAPAI COUNTY, ARIZONA

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INTRODUCTION

An application for a $10,000.00 loan to open and mine tungsten ore from the Black Peark mine was submitted to the Defense Minerals Administration by Dixon Mineral Co. early in 1951. This application was numbered DMA 160, but before a contract was consumated, E. A. Scholz and J. H. Cazier purchased R. D. Tripple's (Dixon Mineral Co.) interest and the application was cancelled.

Subsequently, in June 1951 a request for an exploration loan was submitted by Scholz and Cazier. This application was docketed DMA-1506X. The project was recommended by C. A. Anderson, U. S. Geological Survey, and a contract was drawn up by DMA for signature of the applicants. However the applicants were unable to get an Owner's Consent to Lien signed by one of the owners and on June 13, 1952, at the request of the applicants, the docket was placed in the inactive files.

In August 1954, E. A. Scholz and J. H. Cazier organized an Arizona corporation, the Black Pearl Mining Co., and renegotiated their Lease and Option to Purchase with the owners. In an amendment thereto the owners recognized the intent of Scholz and Cazier to apply for Government assistance and agreed to supply an Owner's Consent to participate in an exploration project.

On August 16, 1954 the Defense Minerals Exploration Administration received a new application from the Black Pearl Mining Co. for an exploration project estimated to cost $248,500. This application was docketed as DMEA-3448.

The Operating Committee referred the docket to the DMEA Field Team, Region IV who, by a letter dated September 2, 1954, requested a field examination.

This exploration project consisted of three stages, the 2nd and 3rd stage to be dependent upon the success of the preceding stage, briefly as follows:

Stage 1. A vertical shaft to be sunk 150 feet in the footwall of the vein opposite the portal of the main adit; crosscut to the vein on the 125-foot level; drift 400 feet eastward on the vein; and raise 120 feet to the adit level.

Stage 2. Sink the shaft an additional 125 feet; crosscut to the vein on the 250-foot level; drift 800 feet on the vein; and raise 120 feet to the 125-foot level.

Stage 3. An additional 1,100 feet of drifting on the 250-foot level and 820 feet of raises from the 250-foot level (in 3 raises).

Figure 3 shows the above proposed work.

The mine was examined on September 21 and 22, 1954 by William R. Hardwick, mining engineer, Bureau of Mines and John N. Faick and Leonid Bryner, geologists, Geological Survey. The examiners were accompanied by E. A. Scholz and J. H. Cazier. On September 23 all phases of the proposed project were discussed with the applicant. As a result of this discussion, the applicant has submitted a revised proposal that has some advantages as an exploration project, but results in a greater estimated cost.

This revised request was received at Tucson on September 28 and likewise consists of three stages briefly as follows:

Stage 1. A winze to be sunk on the vein from the adit level, near the midsection of the known ore body; drift 600 feet on the vein at the 125-foot level; and drift 400 feet east on the adit level.

Stage 2. Sink the winze an additional 125 feet; drift 800 feet on the 250-foot level; raise 120 feet from the 125-foot level to the adit level; and raise 120 feet from the 250-foot level to the 125-foot level.

Stage 3. Sink the winze an additional 125 feet; drift 600 feet on the 375-foot level; and drift 1,500 feet on the 250-foot level. The total estimated cost of this revised program is $331,775; the proposed work is shown on figure 3A.

In the initial DMEA Docket 3448 the applicant indicated no limitations on the area to be subordinated for royalty purposes. At the conference on September 23, the applicant was advised that it should be specific in the description of the property to be subordinated, according to item 3 of the application.

The revised project proposal, in original and 3 copies, is enclosed with this report. It will be noted that the applicant has limited the ground to be subordinated to the patented Black Pearl Nos. 1 and 2 claims, Mineral Survey 4186, and in addition has excluded "all ore developed vertically above the main adit at the time of entering the contract".

ACKNOWLEDGMENTS

Acknowledgments are due to E. A. Scholz and J. A. Cazier, respectively president and secretary-treasurer of the Black Pearl Mining Co., for their courtesy to the examining team and for furnishing information relative to the application for Government assistance. Acknowledgment also is made for information obtained from Arizona Bureau of Mines Bulletin No. 148 by Eldred D. Wilson, and from private examination reports by Harlow D. Phelps and J. F. Frost. The latter two reports were supplied by the applicant.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The Black Pearl tungsten mine is located near the western boundary of Yavapai County, Ariz. in sections 7 and 18, T. 15 N., R. 7 W. (figure 1). The claim group contains 11 patented and 5 unpatented mining claims as shown on figure 2.

The mine is reached by following U. S. Highway 89 to Kirkland Junction. Turn north here and travel to Bagdad via Hillside on a paved road, then turn east on the first street in Bagdad and travel 1.8 miles to a point where the road forks. Take the right hand road and travel 4.2 miles from Bagdad where the road forks the second time. The left hand fork goes to the Tungstona mine. Take the right hand road and continue on a graded road to the Black Pearl mine which is 19 miles from Bagdad and 42 miles from Hillside, a station on the Santa Fe Railroad. This is a new route completed in 1951 by the current operators and improved under the Government's access road program. It is passable throughout the year.

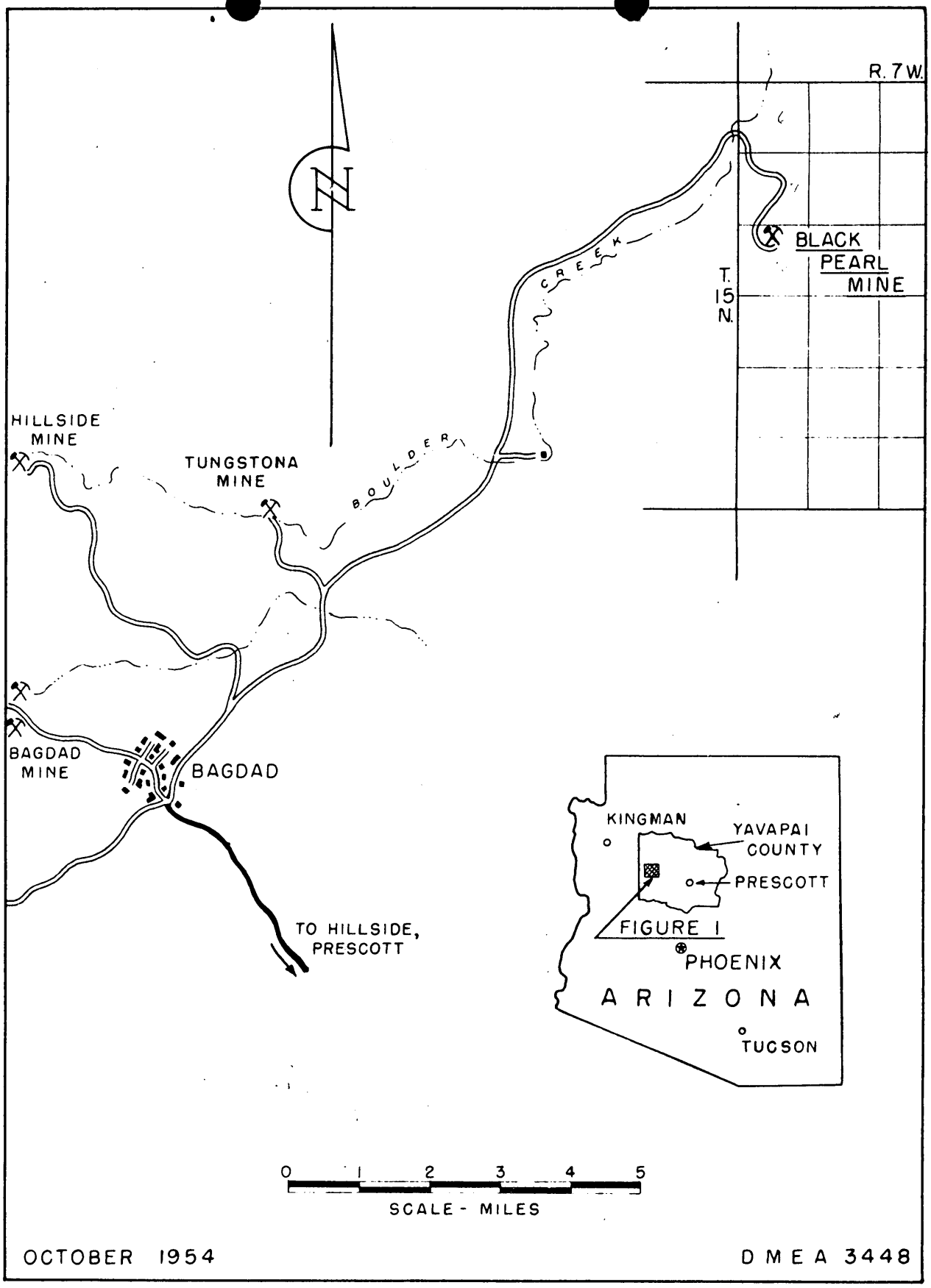


FIGURE 1. - LOCATION MAP - BLACK PEARL MINE
YAVAPAI COUNTY, ARIZONA

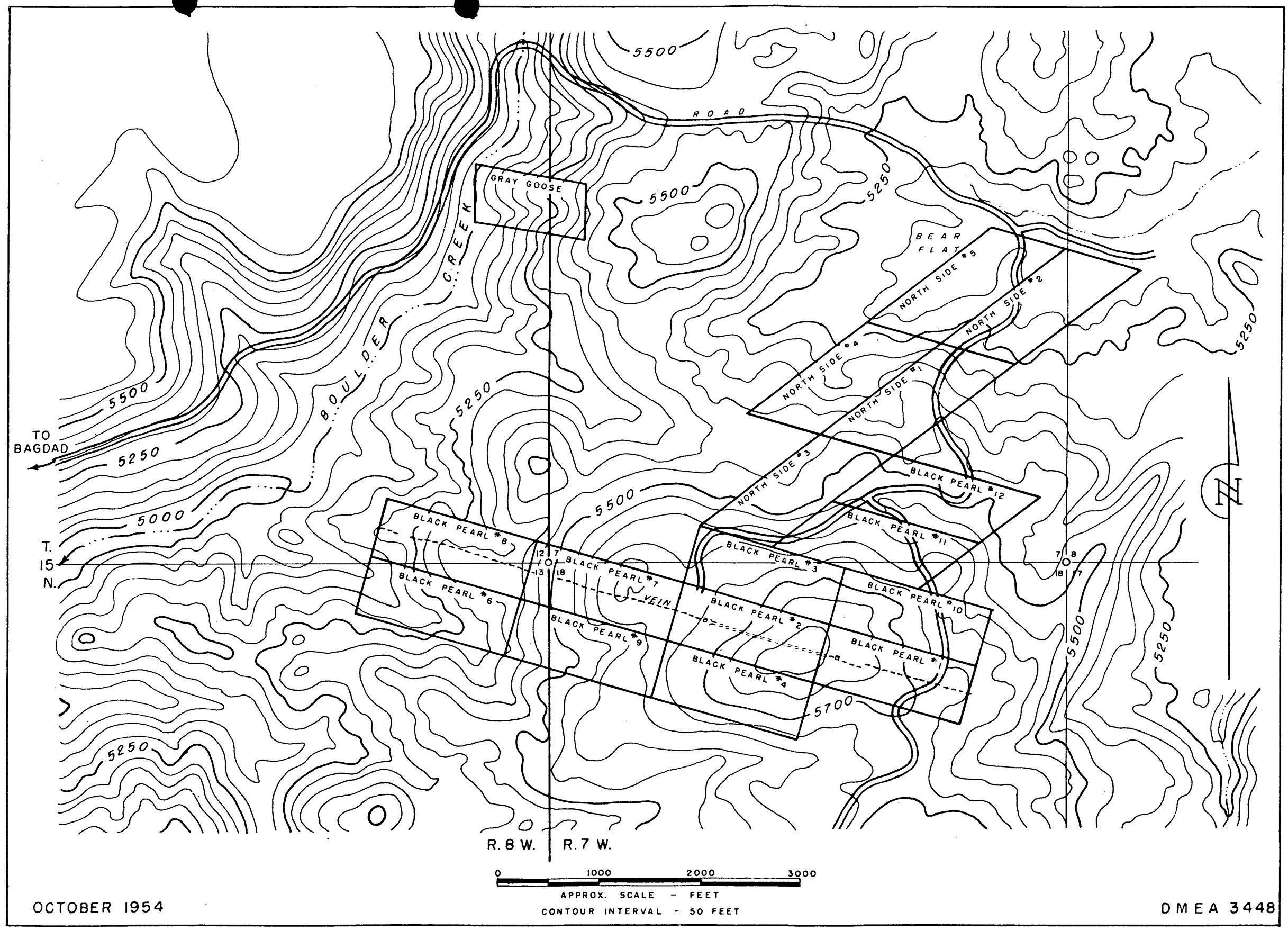


FIGURE 2. - TOPOGRAPHIC AND CLAIM MAP - BLACK PEARL MINE - YAVAPAI COUNTY, ARIZONA

The topography is moderately rugged. The mine is located on a rounded granite ridge 8,000 feet east of Boulder Creek at an altitude of 5,700 feet.

HISTORY AND PRODUCTION

The Black Pearl claims were first located in 1914 by Wm. Conners. Several veins are known to exist on the claims but only one has been explored to any extent. This lode has been explored by small test pits and adits over a length of 1,900 feet. These pits and adits were dug during the period 1915 to 1929. A small amount of stoping was done during the same period and a production of 62,100 pounds of concentrates having a WO_3 (tungsten trioxide) content of 70 percent was made.

In 1936, the Vega Mines Co., an Arizona corporation, drove and sampled 180 feet of adit. In 1951, R. D. Tripple, operating as Dixon Mineral Co., secured control of the property and then sold his interest to the present owners.

Before 1951 the owners and lessees reached the property by traveling from Prescott 57 miles via the Williamson Valley and Camp Wood roads to the vicinity of Camp Wood thence over a winding, ungraded and unsurfaced road for 10.5 miles to the mine.

The present operators, after completing the new road to the mine from Bagdad, have operated the mine and have produced 2,803 units of WO_3 from 7,900 tons of ore. An additional 1,100 units of WO_3 are contained in dump and middling products that are stockpiled from this same ore.

The total recorded production of the property has been 4,976 units of WO_3. There undoubtedly has been some production that is not recorded.

OWNERSHIP AND EXTENT

The Black Pearl group consists of the following mining claims:

Name of Claim	Recording Data
North Side patented lode mining claims Nos. 1, 2, 3, and 5 (Mineral Survey 4186)	Book 181 of Deeds Pages 551 - 554
Black Pearl patented lode mining claims Nos. 1, 2, 3, 4, 6, 7, and 8 (Mineral Survey 4186)	Book 181 of Deeds at pages 551 - 554
Black Pearl unpatented lode mining claims Nos. 9, 10, 11 and 12.	Book 143 of Mines at pages 148 - 152
North Side unpatented lode mining claim No. 4	

These claims are now owned as follows:

John Lawler ---------- 1/4 share
Mary Lawler ---------- 1/4 share
James E. and Kathryn I. Harrington & F. H. Lyons and Mary Lyons ---- 2/6 share
Joseph W. and Florence Walton ------ 1/6 share

On April 30, 1951, E. A. Scholz and J. H. Cazier secured a lease and option to buy the above claims. This option was extended to October 1, 1964 by an amendment signed in August 1954. The applicants lease and option provides for a purchase price of $175,000.00 and requires royalty to the owners of $10\frac{1}{2}$ percent on three quarters of the gross proceeds and $12\frac{1}{2}$ percent on the remaining one quarter.

The unpatented Gray Goose mining claim was located by the applicant to provide a site for a pumping plant on Boulder Creek.

DESCRIPTION OF THE DEPOSIT

The geology of the Black Pearl has been described in a report by J. N. Faick and Leonid Bryner, geologists, U. S. Geological Survey. The Black Pearl lode is an unusual deposit. It is an almost vertical structure that strikes S. 74° E. and is reported to be visible on the surface for a strike length of 6,000 feet. On September 22 and 23, 1954 a length of 2,500 feet was examined; the width varied from $1\frac{1}{2}$ to 6 feet and the average was estimated to be about 3 feet.

The deposit has been explored to a maximum depth of 165 feet by an adit 1,300 feet in length with no noticeable difference in structure or mineral content except for the change from oxidized minerals to primary sulfide minerals. The principal ore mineral, wolframite, remained unchanged.

The deposit occurs in a region that contains numerous tungsten-bearing quartz veins, most of which have not been adequately prospected. The prevailing rock of the region, and that which forms the host rock at the Black Pearl vein, is a dark-gray hornblende granite. Locally this granite is covered by extensive mesas of Tertiary volcanic flows. At the Black Pearl mine the dark hornblende-biotite granite is associated with light medium-grained rock that contains abundant quartz and alkaline feldspars and essentially no dark minerals.

The minerals quartz, pyrite, specularite and muscovite form most of the lode. The other minerals identified were wolframite, beryl, feldspar, fluorspar, bismuthinite, and molybdenite, named in the decreasing order of their abundance.

The tungsten and beryl occur as isolated crystals that range in size from 1/4 inch to 10 inches in maximum dimensions. Large crystals of wolframite are the rule rather than the exception. One massive crystal of wolframite is reported that weighed 280 pounds. Several large crystals (3 to 4 inches in diameter) were observed in a newly blasted stope face. According to the operators very few small crystals of wolframite are found; none were observed by the examiners.

The Black Pearl vein is exposed on the surface from a point in the west center of the Black Pearl No. 8 mining claim eastward through the approximate center of the Black Pearl Nos. 7, 2, & 1 claims to a point 2,000 feet east of the Black Pearl No. 1 mining claim. Scholz reported that tungsten minerals occur along the vein from a point on claim No. 8 to the eastern limit of claim No. 1, a distance of approximately 6,000 feet and an altitude differential of 500 feet.

The wall rock is intensely altered to sericite. The muscovite of the vein is concentrated near the walls of the vein. The first 3 to 4 inches on each side of the vein are almost pure mica. The applicant estimated that 3 percent of the vein is mica.

MINABLE ORE RESERVES AND GRADE

The most important development on the vein is an adit 1,300 feet long, the portal of which is near the west end of the known ore body. The height of the vein above this adit varies from a few feet to 165 feet, and probably averages 100 feet. That part of the lode above the adit has been sampled on the surface and on the adit level. The applicant considers all ore above the adit as measured ore, estimated at10,000 tons of 0.49 percent WO_3 and 8,000 tons of 0.65 percent WO_3. These figures seem reasonable.

The applicant considers all ore from the adit level to a depth of 100 feet as indicated ore, estimated at 60,000 tons containing 0.59 percent WO_3; and infers 425,000 tons of the same grade from the 100- to the 800-foot level over a strike length of 1,900 feet.

John N. Faick and Leonid Bryner in the geological report have estimated an indicated reserve of 14,000 tons containing 0.60 percent WO_3 and infer 140,000 tons of the same grade from the adit level to a depth of 250 feet and over a strike length of 2,000 feet.

The total indicated and inferred ore estimated by the applicant is 485,000 tons in 800 feet of depth or 606 tons per foot of depth.

The total indicated and inferred ore estimated by the examining geologists is 154,000 tons in 250 feet of depth or 616 tons per foot of depth.

Even in view of the strong persistent characteristics of the Black Pearl vein the applicant's inference of ore to a depth of 800 feet seems optimistic. On the other hand the inference of ore to a depth of 250 feet seems very conservative.

The sampling of this deposit is difficult. The fact that almost all of the tungsten occurs in very large crystals makes conventional sampling methods of questionable value. Homer R. Wood, a mining engineer, determined the grade of ore mined from 1915 to 1929 as 0.922 percent WO_3, based on the ratio of the weight of wolframite recovered to the weight of the material excavated. The latter was computed from measurements of the stope and mine openings from which the ore was taken. In this period a total production of 62,100 pounds of 70 percent concentrate was made.

In 1936, Harlow D. Phelps, mining engineer, starting at a point 381 feet from the portal, drove and sampled 180 feet of the adit shown on figure 3. Phelps secured a sample by passing all material down a chute with a longitudinal slot in it 3 inches wide. The material passing through the slot was quartered to a 90-pound sample, then crushed and reduced in a Jones splitter and assayed. The material passing over the slot was sampled by shoveling, crushed, split, and assayed. Phelps arrived at a grade of 0.784 percent WO_3.

All of Wood's sampling was in oxidized material whereas that of Phelps was in sulfide material. J. F. Frost, mining engineer, estimated a loss in weight of 15.5 percent as a result of oxidation, and by calculating Phelps' assay of 0.784 percent for sulfide material to an equivalent for oxidized material, arrived at a grade of 0.928 percent WO_3 which checks remarkably close to the grade of 0.922 percent reported by Wood.

Six samples were taken by the examining team on September 22, 1954, These samples were as follows:

		Ounces		Percent		
Sample No.	Location	Au	Ag	WO_3	Bi	BeO
13037	Jig heads	tr	0.90	0.42	0.22	0.15
13039	East stope	tr	0.60	0.01	0.25	0.15
13038	East center stope	tr	1.40	0.18	0.24	0.20
13040	West center stope	tr	0.90	0.72	0.21	0.02
13041	West stope	tr	0.10	0.12	0.04	0.03
13042	Drift face	tr	0.10	0.01	0.21	nil

For the head sample, 200 pounds of material was taken from a pile of approximately 15 tons of ore in the bin above a feeder belt to the jigs. This was quartered to a sample of approximately 50 pounds. Each stope sample consisted of three mine cars of ore drawn from the respective stopes and reduced to 50-pound samples.

The one face sample (13042) was a 50-pound chip sample that was taken over the face of the vein on the adit level at a point approximately 1,300 feet from the portal. This sample was taken on September 23, 1954 and according to the Bureau of Mines assay, contained only

0.01 percent WO_3 but in a letter to Walter R. Storms on September 27, E. A. Scholz states "Approximately 50 pounds of hand-sorted wolframite was produced from the toe of the drift face at the point your sample was taken". This shows how spotty the tungsten may occur.

Current practice is to hand sort all tungsten crystals in the stope. During the three days that the operation was observed the miners reported 352, 242, and 682 pounds of hand-sorted ore that is estimated to be 50 percent WO_3. This production came from approximately 45 tons of ore and therefore represents 14.2 pounds of WO_3 per ton of ore in place. To this must be added the average of the stope samples or the mill heads sample. Using the arithmetical average of the four stope samples, (0.26), a grade of 0.97 percent WO_3 is indicated for the ore mined on the three days.

From results of the various sampling programs, an estimated grade of 0.60 percent WO_3 for reserve ore seems reasonable.

PRESENT STATUS

The applicant is operating the property and is mining and milling the ore from above the adit level. The property has been in continuous operation since 1951 and has produced 2,803 units of WO_3 during this period.

The applicant employs 11 men and is currently producing 15 tons of ore per day at a reported cost of $16.50 per ton for mining and concentrating. The ore is mined by a modified square-set method, roughly hand-sorted in the stopes, then passed over a one-inch screen. The undersize is treated in jigs and the oversize is stockpiled. Only tungsten is recovered. The records of the applicant indicate that 7.2 pounds of 70 percent WO_3 concentrate have been recovered per ton of ore. An additional two pounds of WO_3 are contained in pyrite middlings on the property, these middlings to be treated when facilities are available.

PROJECT PROPOSALS AND COSTS

The initial request submitted by the applicant proposed to explore the lode by sinking a vertical shaft in the footwall, and crosscutting to and drifting on the vein (see figure 3). The proposed location of the shaft was near the west end of the known ore body.

In the conference with Scholz and Cazier on September 23, 1954, it was pointed out that the sinking and equipping of a shaft for exploration purposes could be justified only in unusual circumstances. Also, that a location could not be wisely chosen until the position of the ore body was known. It was suggested that a revised plan be submitted that would locate the exploration work more nearly in the center of the known ore body.

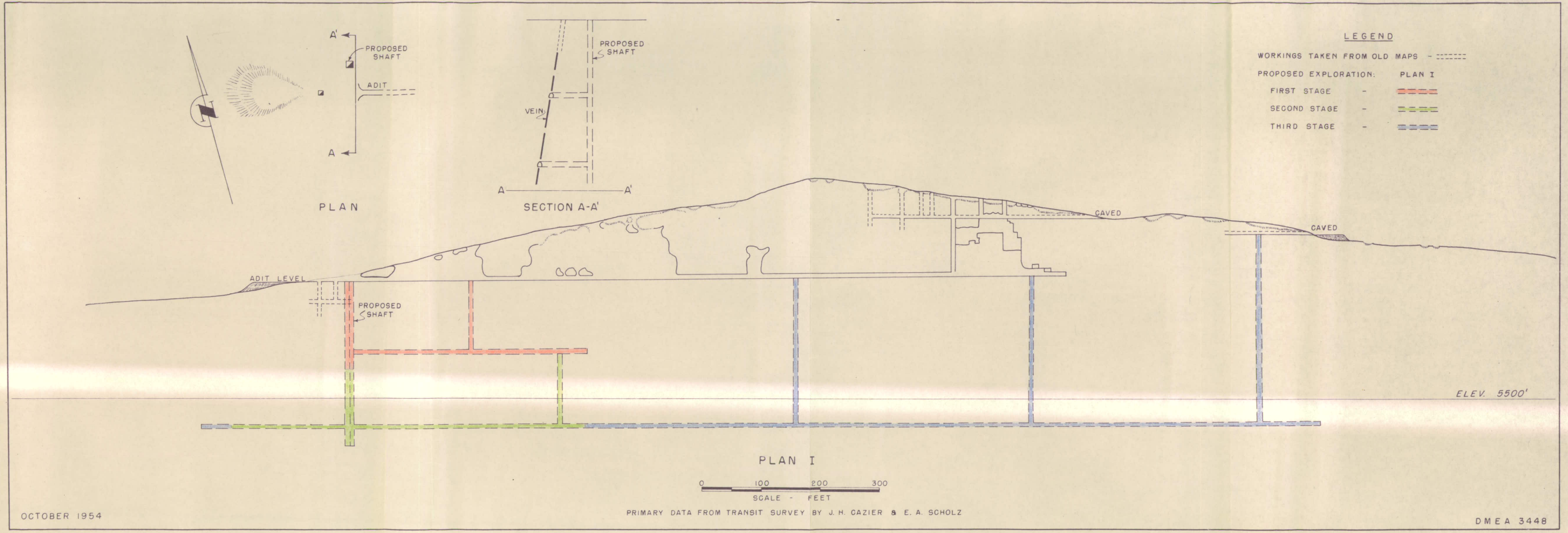


FIGURE 3. — LONGITUDINAL SECTION ON VEIN, LOOKING NORTH — BLACK PEARL MINE — YAVAPAI COUNTY, ARIZONA

Accordingly, a revised plan was submitted by the applicants on September 27, 1954 that proposed sinking a winze to be located more nearly in the center of the known productive part of the vein (see figure 3A).

For convenience, the original proposal submitted with the application is called Plan I and the revised proposal submitted after a conference with the applicant is called Plan II. The two plans proposed by the applicant are shown in detail on the following pages.

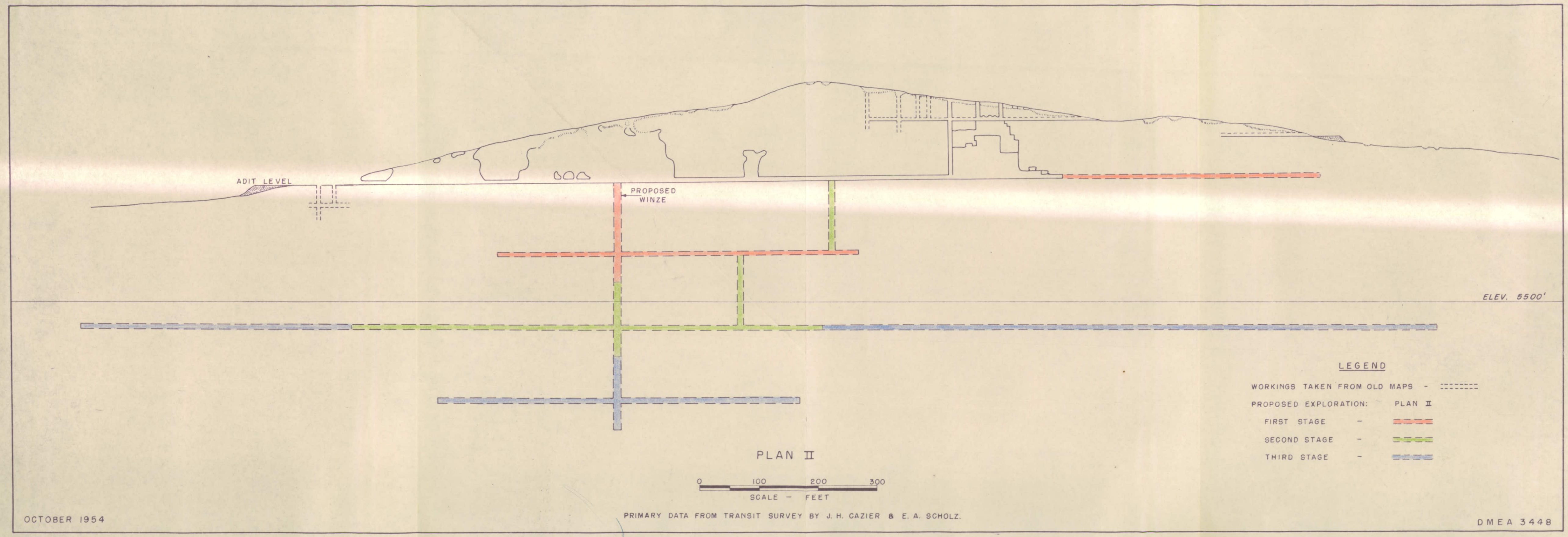


FIGURE 3-A. – LONGITUDINAL SECTION ON VEIN, LOOKING NORTH – BLACK PEARL MINE – YAVAPAI COUNTY, ARIZONA

Plan I
(See Figure 3)

Stage No. 1

Site preparation, surface tracks, etc.	$2,000.00	
Headframe and installation	3,500.00	
Hoist and installation, hoist house	5,500.00	
Skips, cage, and other shaft equipment	2,000.00	
Pump, ventilating fan, framing equipment, etc.	1,500.00	
Total preparation	14,500.00	
Sink shaft 150 feet at $176.00 per foot	26,400.00	
60 feet of crosscut at $55.00 per foot	3,300.00	
Cut 125-foot level station	900.00	
400 feet of drifting and sampling at $55.00	22,000.00	
120 feet of raise and sampling at $40.00	4,800.00	
Total Stage 1		$71,900.00

Stage No. 2

125 feet of shaft at $176.00 per foot	$21,000.00	
75 feet of crosscut at $55.00 per foot	4,125.00	
250-foot level station	1,175.00	
800 feet of drifting and sampling at $55.00	44,000.00	
120 feet of raise and sampling at $40.00	4,800.00	
Total Stage 2		$75,100.00

Stage No. 3

1,100 feet of drifting and sampling at $55.00	$60,500.00	
820 feet of raise and sampling at $50.00	41,000.00	
Total Stage 3		$101,500.00
Total proposed cost, Plan I		$248,500.00

Discussion of Plan I

Preparatory Costs

The applicant proposed that preparation costs as follows be charged to the exploration program:

Site preparation, surface tracks, etc.	$2,000.00
Headframe and installation	3,500.00
Hoist and installation, hoist house	5,500.00
Skips, cage, and other shaft equipment	2,000.00
Pump, ventilating fan, framing equipment, etc.	1,500.00
Total preparation	$14,500.00

It was pointed out to the applicant that the above items of cost, with the exception of "Site preparation, surface tracks, etc." required to handle the special sampling problem involved in this project, were for items that would be used for the production of ore as well as for exploration and as such were items of development cost. Scholz and Cazier admitted that if ore is discovered in the first stage of the project they plan to start mining as soon as possible in order to take advantage of the higher tungsten program price before it expires. They were told that, in view of the reasonable certainty that ore would be mined through the shaft, the total cost of building a headframe and installing and equipping the hoisting plant would not be recommended as exploration costs, but that a reasonable prorated part of the depreciation of this equipment could be included in the agreed estimated cost per foot on a short form contract.

Shaft

In the discussion on September 23, 1954, Scholz and Cazier proposed the following breakdown for the cost of sinking the proposed two-compartment shaft:

	Cost per foot	
Supplies, timber, blocks, wedges, rods,	$29.32	22.00
Powder, caps, fuse	4.40	4.00
Steel	.50	.50
Bits	1.50	1.50
Compressor fuel & supplies	5.00	3.00
Ventilation	1.80	1.00
Pipe	1.50	1.00
Small tools	1.00	1.00
Hoisting supplies, fuel	3.00	2.00
Direct labor	40.00	30.00
Hoisting	16.00	12.00
Top man and framing	16.00	12.00
Supervisor	14.00	2
State compensation, OAB, etc.	13.00	7.00
Depreciation of equipment, compressor, pump	15.00	6.00
Contingencies	14.00	
Total	$176.00	125.00
		5.00
		130.00

J. H. Cazier stated that these costs were based on his experience at a nearby property where the rate of advance was from 0.7 to 1.2 feet per shift.

Drifting and Crosscutting

The applicant has proposed an estimated cost of $55.00 per foot for drifting and crosscutting. This cost includes sampling and assaying, which the applicant estimates will cost $5.00 per foot. After deducting the sampling cost, the applicant's estimated cost for drifting is $50.00 per foot.

Raising

The applicant has proposed a cost of $40.00 per foot for raises above the 125-foot level and $50.00 per foot for the raises from the 250-foot level. These costs include sampling.

Cutting stations

The applicant has estimated $4,200.00 to crosscut 60 feet and cut the station on the 125-foot level in Stage 1; it has estimated $5,300.00 to crosscut 75 feet and cut a station on the 250-foot level. Deducting the cost of $55.00 per foot for crosscutting from these two items leaves a cost of $900.00 for the 125-foot level station and $1,175.00 for the 250-foot level station.

PLAN II
(See Figure 3A)

Stage No. 1

Preparation for sinking: pocket, raise, run around, hoist station, etc.	$13,500.00	
165-foot winze at $185.00 per foot	30,525.00	
Skip pocket and station at 125-foot level	4,000.00	
600 feet of drift and crosscut on 125-foot level at $55.00 per foot	33,000.00	
400 feet of advance on adit level at $55.00	22,000.00	
Total Stage 1		$103,025.00

Stage No. 2

Preparing to sink from 125-foot level	$1,500.00	
Sinking 125 feet at $185.00 per foot	23,125.00	
Skip pocket and station for 250-foot level	4,000.00	
800 feet of drift and crosscut on 250-foot level at $55.00 per foot	44,000.00	
240-foot ventilation raise at $50.00	12,000.00	
Total stage 2		$ 84,625.00

Stage No. 3

Prepare to sink from 250-foot level	1,500.00	
Sinking 125 feet at $185.00 per foot	23,125.00	
Skip pocket and station for 375-foot level	4,000.00	
1,500 feet of drift and crosscut on 250-foot level at $55.00 per foot	82,500.00	
600 feet of drift and crosscut on 375-foot level at $55.00 per foot	33,000.00	
Total Stage 3		$144,125.00
Total cost, Plan II		$331,775.00

Discussion of Plan II

Preparatory costs

The applicant had proposed no breakdown of his estimated cost of $13,500.00. This item was discussed with Scholz and Cazier on September 23, 1954 and at that time they proposed the following:

Run-around drift, 105 ft. at $55.00	$5,775.00
Raise for rope way and skip	3,500.00
Raise for pocket	1,500.00
Excavate for hoist	1,250.00
Install equipment	1,475.00
Total	$13,500.00

Winze

No breakdown was presented by the applicant for his estimated cost of $185.00 per foot to sink a winze. However, as the winze would require an electric hoist the applicant has apparently estimated the rental and operating cost of a generator-set at $9.00 per foot. This amount has been added to the $176.00 per foot cost of a shaft to get the proposed estimated cost of a winze.

Drifting, Crosscutting, and Raising

The applicant has proposed the same costs for drifting, crosscutting, and raising that were estimated for Plan I.

Cutting Stations and Ore Pockets

For each level below the adit, the applicant has proposed to construct pockets at an estimated cost of $4,000.00.

Preparing to Sink

The applicant has included a charge of $1,500.00 for preparing to sink from the 125-foot level to the 250-foot level, and from the 250-foot level to the 375-foot level.

Comparison of the Two Plans

Plan I is designed to explore the vein for a length of 1,900 feet and a depth of 250 feet. Plan II is designed to explore the vein for a length of 2,300 feet and a depth of 375 feet. Both plans are set-up in stages so when the bottom and/or the lateral limits of the ore body are reached, that part of the work can be terminated.

The two plans are compared below:

	Applicant's estimated costs	
	Plan I	Plan II
Preparatory costs	$14,500.00	$13,500.00
Shaft	47,400.00	
Winze,		76,775.00
Crosscut	7,425.00	
Stations	2,075.00	15,000.00
Drift	126,500.00	214,500.00
Raise	50,600.00	12,000.00
Total cost	$248,500.00	$331,775.00

Estimated Cost of Project

Preparatory Costs

The applicant has proposed an estimated cost of $14,500.00 for the preparatory shaft work in Plan I, and $13,500.00 for the preparatory winze work in Plan II. Both of these programs appear to be too elaborate for an exploration program. The cost of preparing to sink a 2-compartment winze is estimated by the writer as follows:

Enlarge drift, slab and retimber 50 feet at $35.00 per foot	$1,750.00
Excavate hoist station and raise for sheave, 3,750 cu. ft. at $1.00 per cu. ft.	3,750.00
Install loading bin and track	500.00
Install hoist and power line from portal	750.00
Total	$6,750.00

Estimated Cost of Winze

The following estimates by the writer of the cost per foot of sinking a winze and driving a drift at the Black Pearl mine is made for comparison with that of the applicant. The basic data, i.e. man-hours and quantity of materials, are taken from the experience of mines in similar ground for a winze having 2 timbered compartments, 4 by 4 feet in the clear, on a vein that dips 70°. The wage rates and material costs are those in current use at the Black Pearl mine:

Labor	Per day (2 shifts)
2 Hoistmen at 14.40	$28.80
2 Topmen at 13.52	27.04
2 Trammers at 13.52	27.04
4 Shaft miners at 15.00	60.00
1 Timber framer at 14.00	14.00
1 Mechanic at 14.40	14.40
½ Superintendent at $600/mo	12.00
Total labor	$183.28
Compensation insurance (9%)	16.50
Unemployment insurance (3%)	5.50
FICA (2%)	3.67
Total labor per day	$208.95
Cost per foot 1/	$83.58

1/ Based on an advance of 2.5 feet per day or 1.25 feet per shift.

Supplies	Per foot
Timber, 133.2 bf at $75.00/mbf	$9.00
Explosives, caps & fuse	3.75
Miscellaneous supplies, i.e. nails, bolts, etc.	2.00
Pipe, guides	3.50
Ventilation tube	1.20
Drill steel	.50
Drill bits	1.50
Small tools	1.00
Total supplies	$25.44

Depreciation or equipment rental		
Compressor	$12,000.00	(est. cost)
Generator	4,500.00	"
Hoist	1,500.00	"
Rope	600.00	"
Drills	1,200.00	"
Skip	400.00	"
Blower	650.00	"
Pump	1,000.00	"
Total estimated cost	$21,850.00	

Depreciation, using a 60-month period and assuming an advance of 62.5 feet per month, will be $5.83 per foot.

Summary	Per foot
Direct labor	$73.31
Compensation and unemployment ins. & FICA (14%)	10.27
Supplies, timber, pipe, bits, etc.	25.44
Fuel grease, etc.	4.40
Equipment depreciation or rental	5.83
Surface expense, haul water, supplies, etc.	5.00
Purchasing, engineering, accounting, etc.	5.00
Contingencies	5.00
Total estimated cost	$134.25

This cost is based on a 2-shift operation and the assumption that the advance will be at least 62.5 feet per month. The applicant expects some spiling ground. The ground does not appear to be bad, but if very soft ground is encountered the costs could increase as much as 50 percent. An agreed estimated price of $135.00 per foot would seem reasonable for this type of ground.

Skip Pockets and Stations

The applicant has proposed a cost of $4,000.00 to install a skip pocket and station on each of three levels. This cost would appear to be excessive for an exploration program. In addition, the applicant has proposed an estimated cost of $1,500 for each of two levels to "prepare to sink". This item seems unnecessary.

The estimated cost of installing a skip pocket and station that would be adequate for the exploration purpose of this program is as follows:

Excavate 750 cu. ft. at $1.00 per cu. ft.	$750.00
Timber and supplies	250.00
Labor	500.00
Total	$1,500.00

Drifting and crosscutting

The following costs are based on a 5- by 7-foot rock section, working 2 shifts a day for 6 days a week, with an estimated average advance of 8 feet per day:

Labor	
2 Hoistmen at 14.40	$28.80
4 Miners at 15.00	60.00
2 Topmen at $13.52	27.04
1 Mechanic at $15.00	15.00
½ Superintendent at $600/mo.	12.00
Labor	$142.84
Overtime	11.43
Compensation insurance (9%)	12.86
Unemployment insurance (3%)	4.29
FICA (2%)	2.86
Total labor per day	$174.28
Per foot	$21.78 Includes time for bombing

Summary of Drifting Costs	Per foot	
Direct labor	$21.78	19.78
Explosives	3.00	3.00
Bits and steel	1.25	1.25
Fuel, grease, etc.	3.40	3.50
TRack	1.00	1.50
Pipe	1.50	1.50
Timber	4.24	
Ventilation tube	1.50	1.50
Equipment rental	2.00	2.00
Total per foot	$39.67	34.03

An agreed estimated cost of $40.00 per foot would seem reasonable for drifting below the adit level.

TIMBER 5.00
LABOR 2.00
7.00

Sampling

Sampling presents a difficult problem. The applicant proposes to run the entire production from the vein through a sampling plant. This is estimated to cost $1.00 per foot. The ore contains several metals of economic importance and one nonmetal (scrap mica) for which a market could be developed. If the samples are assayed for all economic metals, the costs per sample (5 feet of drift or one round) might be as follows:

Sampling	$5.00
Assaying	
Tungsten	5.00
Bismuth	5.00
Beryllium	10.00
Total cost per sample	$25,00
Cost per foot	$5.00

Costs for Plan II

A summary of the costs of Plan II as estimated by the examining engineer is as follows:

Stage 1

Preparation for sinking, pocket, rope raise, runaround, hoist station	$6,750.00
150 feet of winze at $135.00	20,250.00
Skip and pocket station at 125-foot level	1,500.00
600 feet of drift & crosscut, & sample at $45.00/ft. on 125 level	27,000.00
400 feet of advance & sample on adit level at 40.00/foot	16,000.00
Total Stage I	$71,500.00

Stage 2

Prepare to sink, skip pocket & station on 250-foot level	1,500.00
125 feet of winze at $135.00	16,875.00
600 feet of drift, & crosscut, and sample at $45/ft. on 250 level	27,000.00
240 feet of ventilation raise at $35.00/ft.	8,400.00
Total Stage 2	$53,775.00

Stage 3

Prepare to sink, skip pocket & station on 375 level	1,500.00
125 ft. of winze at $135.00/ft.	16,875.00
600 ft. of drift & crosscut & sample on 375-foot level at $45.00 per foot	27,000.00
1,700 ft. of drift & crosscut & sample on 250-foot level at $45.00 per foot	76,500.00
Total Stage 3	$121,875.00
Total estimated cost	$247,150.00

Costs were discussed with the applicant on September 23, 1954. Scholz and Cazier are not in agreement with those recommended in this report. They insist that the costs that are indicated in their estimate represent the minimum costs for which the project can be accomplished.

Time Schedule

The applicant states that work can be started 15 days after a contract is approved. Preparatory work probably would require one month. If the applicant works 2 shifts per day the proposed project could be completed in 2 years.

PRODUCTION PLAN

Mining Methods and Costs

The applicant is now mining about 15 tons of ore per day on a one-shift operation. A modified square-set method is used. The applicant stated that the walls are not strong enough to permit shrinkage stoping. However, it is probable that a cut-and-fill method would be successful. The applicant stated that present mining costs are $9.50 per ton. This does not include a charge for exploration and development.

Assuming a production of 100 tons per day, the ore probably could be mined for the following cost:

	Per ton
Breaking and stoping	$4.00
Hoisting and tramming	3.00
Exploration	2.00
Development	2.00
Mining plant depreciation	1.00
Total cost of mining	$12.00

Milling Method and Costs

The applicant has a proposed plant design made by the Denver Equipment Co. This plant will cost approximately $600.00 per ton per day capacity and will recover an estimated 80 percent of the tungsten and 90 percent of the bismuth and silver by gravity and flotation methods. No plan has yet been made to save the beryllium and mica.

The operating costs of this mill are estimated at $5.00 per ton and depreciation is expected to equal $1.00 per ton, or a total milling cost of $6.00 per ton.

The recovery predicted for the proposed plant by Denver Equipment Co. is shown in the following table, except for beryl. The recovery of beryl is based on statements by the applicant that tests were made in Rapid City, S. Dak., by the U. S. Bureau of Mines. The anticipated recoverable metal is shown in the following table:

Metal	Assay	Recoverable Percent	Recoverable Amount	Price	Value
WO_3	0.59%	80	9.44 lbs.	$3.15/lb.	$29.74
Ag	0.96 oz.	90	0.86 oz.	0.89/oz.	0.76
Bi	0.22%	90	3.96 lbs.	2.25/lb.	8.91
Total recoverable value of tunsten, silver & bismuth					$39.41
BeO	0.15%	75	2.25 lbs.	2.30/lb	5.18
Total value per ton of ore					$44.59

Operating Costs

The total operating costs are estimated by the writer as follows, assuming that only tungsten, silver and bismuth are recovered:

		Per ton
Mining		$7.00
Milling		6.00
Exploration and development		4.00
Mine plant depreciation		1.00
Water development		2.00
Marketing		
Bismuth, 50%	$4.46	
Silver	.10	
Tungsten	.60	5.16
General overhead		5.00
Royalty to Government		1.71
Royalty to owner		3.94
Total		$35.81
Indicated profit before tax		$3.60

Based on the above estimate, the royalty to the Government would be $1.71 per ton of ore. This would amount to $287,000.00 on the 168,000 tons of ore that are indicated and inferred by the geologists of the examining team.

PROPOSED FINANCING

The applicant states that it is able to finance 25 percent and proposes that the Government finance 75 percent of the cost of exploration. The applicant expects to continue the operation of the existing concentrating plant during the program and should recover more than its share of the cost from this production.

CONCLUSIONS

The Black Pearl lode is an unusual and promising prospect. Actually the property is beyond the prospect stage. There are about 18,000 tons of measured ore in the upper part of the vein and it is almost certain that additional ore will be discovered by the proposed project.

Even with the current small-scale operation, the applicant is making a substantial profit. However, the applicant is unable to finance the exploration required to prove the ore below the adit level and has requested Government assistance. This assistance will enable the applicant to explore for additional ore, which if found will justify an expansion program that will result in a substantial increase in tungsten production and may possibly result in the recovery of a substantial amount of beryllium and bismuth as by-products.

From an examination of the Black Pearl Mine, a careful study of the available information, and a review of the application for Government assistance, the following conclusions are drawn:

1. A significant discovery of tungsten ore is probable;
2. A significant amount of beryl, bismuth, molybdenum, and scrap mica may be produced as by-products;
3. Judging by the current operation and the professional record of the responsible officers, the applicant is qualified to conduct the proposed exploration program;
4. Equipment and supplies are on hand, or are readily available for an exploration project;
5. Manpower is available;
6. A shaft cannot be located near the center of the known ore body without sinking an additional 165 feet;
7. Exploration work should be started as nearly as possible at the center of the known ore body, and if possible should follow the vein;
8. A winze, located near the center of the known ore body would result in production of some ore during exploration and would allow sampling and inspection of the vein during progress;
9. The applicant's estimated costs are believed to be unreasonably high, and should not greatly exceed those estimated in this report;

10. The proposed project also may benefit Black Pearl claim No. 7. Therefore, the DMEA examiners believe that the three claims, Black Pearl 1, 2, and 7, should be subordinated. All ore above that part of the main adit completed under the DMEA project should be subordinated.

RECOMMENDATIONS

Based on the above conclusions, if the Black Pearl Mining Co. is willing to accept a more reasonable mutually agreeable estimated cost than that proposed in the revised application, it is recommended that Government aid in the proposed exploration project (Docket DMEA-3448) be granted. It is recommended that the contract be made in short form type with the following details:

The exploration project will consist of excavating for and installing a new underground hoist setup on the adit level, complete with skip, loading, and unloading pockets and various necessary accessories including a runaround for access to the present face of the adit. From the adit level, the downward continuation of the ore body will be explored in stages as follows:

Stage 1

Sink a winze and install pocket to permit drifting 125 feet below the adit level. Drift and sample not to exceed 600 feet on the 125-foot level. Extend adit 400 feet eastward on the ore body.

Stage 2

Continue to sink the winze and install pocket to permit drifting on the 250-foot level. Drift and sample not to exceed 600 feet on the 250-foot level.

Stage 3

Explore for the lateral limits of the ore body by extending the 250 level drift east and west to those limits, but not to exceed a total of 1,700 feet. Connect the 250-foot level with the adit level by a raise that will be sampled and that will be located as required by the State Mine Inspector; continue to sink the winze and install a pocket to permit drifting on the 375-foot level. Drift and sample not to exceed 800 feet on the 375-foot level.

Figure 3A shows the proposed project by stages.

Estimated costs of the project

Initial excavation and installation 1/	$6,750.00
Sink 2-compartment winze (sampled) 400 ft. at $135.00/ft.	54,000.00
Ventilation raise (sampled) 240 ft. at $35.00 ft.	8,400.00
3,700 feet of drift and crosscut 2/ (sampled) at $45.00	157,500.00
400 feet drift (sampled) on adit level at 40.00/ft.	16,000.00
Install station and pocket on 3 levels at 1,500 3/	4,500.00
Total estimated cost	$247,150.00

(See page 26 for details)

1/ Entire item is to be considered a unit.
2/ The word "crosscut" is used to cover occasions where segments of the vein are offset for short distances.
3/ Each pocket and station to be considered a unit.

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

Docket

224 New Customhouse
Denver 2, Colorado

September 2, 1954

WSM

Memorandum

To: Chairman of the Operating Committee, DMEA

From: DMEA Field Team

Subject: Docket No. 3448 (Tungsten), Black Pearl Mining Company, Yavapai County, Arizona

Reference is made to your letter dated August 27, 1954 regarding a field examination on the subject docket.

From the application, it is indicated that work has been done on this property since the examination was made on Docket No. DMEA 1506X.

Therefore, a field examination is in order.

W H King
W. H. King

for E. N. Hauchman
A. H. Koschmann

DOCKET
Surname:

Hopkins
Martin
Geehan
H Johnson

AUG 27 1954

Mr. W. H. King, Executive Officer
DMEA Field Team, Region IV
Bureau of Mines
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA 3448-Tungsten
Black Pearl Mining Company
Black Pearl Mine
Yavapai County, Arizona

Dear Mr. King:

The above-docketed application for exploration assistance is being referred to your office for review and a field examination if you consider it necessary.

We enclose two copies of a memorandum by R. D. Trace, Geologist, Geological Survey, dated August 23, 1954, for your information.

This property was the subject of an application under Docket No. DMA 1506X. A contract was approved and drawn up by DMEA but was not executed because the applicant was unable to obtain landlord's subordination agreement.

Kindly advise us promptly if you consider a field examination unnecessary.

Sincerely yours,

W. S. Martin

ACTING Chairman, Operating Committee (JHB)

Enclosures

APPROVED:

J. H. Hedges

Member, Bureau of Mines (JHB)

Thor N. Kiloaard

Member, Geological Survey (JHB)

cc: Docket
FT, Region 4
Adm. Reading File
Code 400
Oper. Committee
R. W. Geehan, USBM
E. L. Newcomb, USGS

JHopkins/ls
8-24-54

R.C.G.

DOCKET
Surname:

Hopkins
Martin
Heckor
Kulsgaard
Hedges
Johnson

400

AUG 27 1954

Mr. J. H. Cazier, Sec.-Treas.
Black Pearl Mining Co.
Box 248
Bagdad, Arizona

Re: Docket No. DMEA 3446 - Tungsten
Black Pearl Mine
Yavapai County, Arizona

Dear Mr. Cazier:

The above docketed application for exploration assistance for tungsten has been reviewed by the Iron and Ferro-Alloys Division of the Defense Minerals Exploration Administration and referred to Mr. W. H. King, Executive Officer, DMEA Field Team, Region IV, 224 New Customhouse Building, Denver 2, Colorado, for a field examination of the property.

Any assistance that you can render the members of the Field Team will be appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

cc: Docket
Adm. Read. File
Code 400
Field Team, Reg. IV
Oper. Committee
R. W. Geehan, USBM
E. L. Newcomb, USGS

JHopkins/ls
8/24/54

R.C.S.

Docket

IN REPLY REFER TO:

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

August 23, 1954

WSM

Memorandum

REVIEW OF APPLICATION DMEA-3448 (tungsten)

To: W. S. Martin, Defense Minerals Exploration Administration
From: R. D. Trace, U. S. Geological Survey
Applicant's name and address: Black Pearl Mining Company, Box 248, Bagdad, Arizona
Name of property: Black Pearl Mine
Location of property: Yavapai County, Arizona
Summary of applicant's proposal:
1) Sink 150 feet, drive 400 feet, raise 120 feet.
2) Sink 125 feet, drive 800 feet, raise 120 feet.
3) Drive 800 feet, 820 feet of raises.
Sources of information on applicant's property:
DMA 1506X files.
Comments: DMA 1506X was approved and drawn up for signature in July 1951 but the operators were unable to obtain a landlord subordination agreement so the project was dropped. Now the subordination has been obtained, and the applicant has again requested an exploration contract.

This project was a good bet in 1951, and insofar as the new data goes, it still looks good. However, the application should be referred to the Field Team, in order that 1) they can consider what any recent work by the applicant shows and 2) consider and perhaps discuss with the operator, the present proposed exploration program.

RECOMMENDATION: Refer to Field Team.

R. D. Trace

R. D. Trace

Copy released 430

August 17, 1954

Black Pearl Mining Co.
Box 248
Bagdad, Arizona

Subject: DPEA-3448
Re: Exploration Assistance
Black Pearl Mine

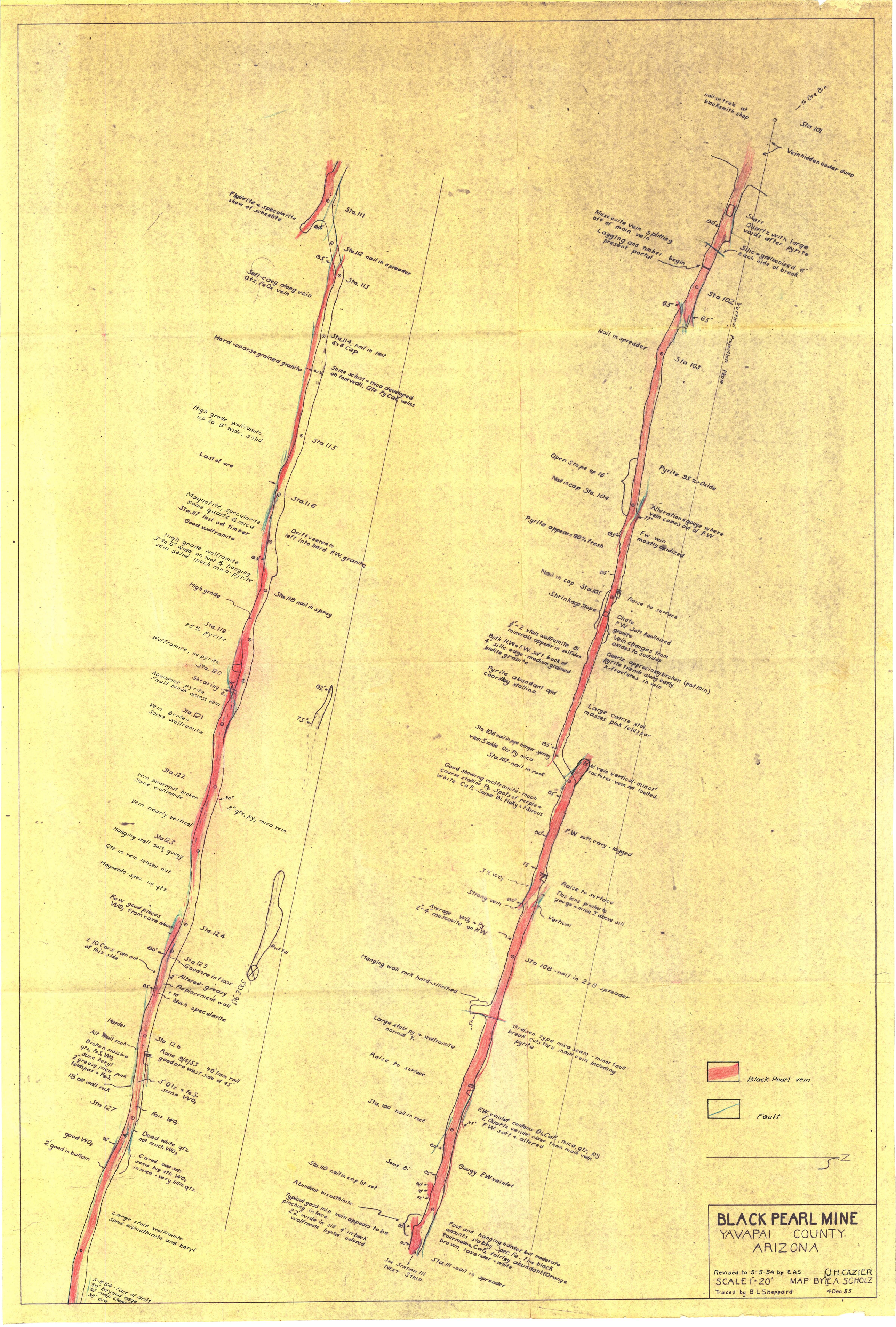
Gentlemen:

The receipt of your application dated August 11, 1954 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DPEA-3448 and referred to the Iron and Ferro Alloys Division.

Kindly refer to in any future correspondence relating to your application.

Sincerely yours,


nail in tree at blacksmith shop
To Ore Bin
Sta 101
Vein hidden under dump
Muscovite vein splitting off of main vein
Lagging and timber present portal begin
80°
Shaft
Quartz with large voids after pyrite
Silic + greisenized 6" each side of break
Sta 102
65°
65°
Vertical Projection Plane
Nail in spreader
Sta 103
Open Stope up 16'
Nail in cap Sta. 104
Pyrite 95% + Oxide
Alteration & gouge where vein comes out of F.W.
77°
Pyrite appears 90% fresh
85°
F.W. vein mostly oxidized
85°
Nail in cap Sta. 105
Shrinkage Stope
Raise to surface
Chute
F.W. Soft Kaolinized granite
Vein changes from oxides to sulfides
Quartz appreciably broken (post min)
Pyrite trends along early X-fractures in vein
¼"-2 xtals wolframite Bi. minerals appear in sulfides
Both H.W. + F.W. soft back of 4" silic. edge - medium grained biotite granite
Pyrite abundant and coarsely xtalline
Large coarse xtal. masses pink feldspar
Sta. 106 nail in pipe hanger sprag
vein 5" wide Qtz Py mica
Sta. 107 - nail in rock
85°
F.W. vein vertical - minor fractures - vein not faulted
Good showing wolframite - much coarse xtalline Py. Spots of purple + White CaF_2 - Some Bi. flaky + fibrous
85°
80°
F.W. soft, cavy - lagged
75
3% WO_3
Raise to surface
This lens pinches to gouge + mica 2' above sill
Strong vein
80°
Average WO_3 + Py 2"-4" muscovite on H.W.
Vertical
Sta 108 - nail in 2 x 8 spreader
Hanging wall rock hard - silicified
Greisen type mica seam - minor fault break cuts thru main vein including pyrite
Large xtals Py + wolframite normal %
Raise to surface
Sta. 109 nail in rock
F.W. veinlet contains Bi, CaF_2, mica, qtz, py
2" Quartz veinlet older than main vein
F.W. soft + altered
80°
Some Bi
85°
80°
Gougy F.W. veinlet
Sta. 110 nail in cap 1st set
Abundant bismuthinite
Typical good min. vein appears to be pinching in face
22" wide in sill 4' in back
wolframite lighter colored
80°
85°
See Station 111 Next Strip
Foot and hanging harder but moderate amounts slabby Spec. Fe. Fine black tourmaline, CaF_2 fairly abundant (Orange brown, lavender + white
Sta. 111 - nail in spreader
Fluorite + specularite show of scheelite
Sta. 111
80°
Sta. 112 nail in spreader
85°
Soft - cavy along vein Qtz, FeOx vein
Sta. 113
Sta. 114, nail in last 6 x 6 Cap
Hard - coarse grained granite
85°
Some schist + mica developed on footwall, Qtz Py CaF vein
High grade wolframite up to 8" wide, solid
Sta. 115
Last of ore
Sta. 116
Magnetite, specularite some quartz & mica
Sta. 117 last set timber
Good wolframite
Drift veered to left into hard F.W. granite
High grade wolframite 3" to 6" wide on foot & hanging vein solid - much mica - Pyrite
85°
Sta. 118 nail in sprag
High grade
Sta. 119
25% Pyrite
Wolframite, no pyrite
Sta. 120
Shearing 10°
Abundant pyrite Fault break across vein
82°
75°
Sta. 121
Vein broken Some wolframite
Sta. 122
Vein somewhat broken Some wolframite
30°
3" qtz, Py, mica vein
Vein nearly vertical
Sta 123
Hanging wall soft, gougy
Qtz in vein lenses out
Magnetite - spec. no qtz
Few good pieces WO_3 from cave above
Sta. 124
Rock Fill
80°
Sta 125
Goodore in floor
Altered - greasy
Replacement wall
± 30'
Much specularite
85°
± 10 Cars ran out of this side
STOE 90°
Harder
Alt. wall rock
Broken massive qtz, FeS_2, WO_3 some beryl
2" greasy mica pink feldspar + FeS_2
18' alt wall rock
Sta 126
Raise 9/4/53 40' from rail goodore west side of 45°
3' Qtz + FeS_2 some WO_3
Sta. 127
Fair WO_3
Dead white qtz not much WO_3
Caved over sets some big xtls WO_3 in mica - very little qtz
good WO_3
2' good in bottom
90°
Large xtals wolframite Some bismuthinite and beryl
5-5-54 - Face of drift 50' beyond edge of map stope 38" ore
Black Pearl vein
Fault
N
BLACK PEARL MINE
YAVAPAI COUNTY
ARIZONA
Revised to 5-5-54 by E.A.S.
SCALE 1" = 20'
MAP BY J.H. CAZIER E.A. SCHOLZ
Traced by B.L. Sheppard
4 Dec 53

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ARIZONA
(YAVAPAI COUNTY)
BAGDAD QUADRANGLE
15-MINUTE SERIES

Mapped by the Geological Survey
1945

ROAD CLASSIFICATION
1947

Dependable hard-surface heavy-duty road — Dry weather roads — U. S. Route 15
Secondary hard-surface all weather road — Loose-surface graded — Unsurfaced, graded — Dirt road — State Route 26
More than two lanes indicated along road with tick at point of change — 3 LANE, 2 LANE

TRUE NORTH — MAGNETIC NORTH 15°
APPROXIMATE MEAN DECLINATION, 1945

Scale 1:62500

1 ½ 0 1 2 3 4 Miles
1000 500 0 1000 2000 3000 4000 5000 6000 7000 Yards
1000 0 3000 6000 9000 12000 15000 18000 Feet
1 .5 0 1 2 3 4 5 Kilometers

Contour interval 50 feet
Datum is mean sea level

Polyconic projection. 1927 North American datum
10000 foot grid based on Arizona (Central) rectangular coordinate system

(Congress) 1125000

BAGDAD, ARIZ.
Edition of 1948

N3430-W11300/15

THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a series of standard topographic maps to cover the United States. This work has been in progress since 1882, and the published maps cover more than 47 percent of the country, exclusive of outlying possessions.

The maps are published on sheets that measure about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to general use in the development of the country, and consequently, though the standard maps are of nearly uniform size, the areas that they represent are of different sizes. On the lower margin of each map are printed graphic scales showing distances in feet, meters, miles, and kilometers. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 of the same units on the earth's surface.

Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys and the resulting maps have for many years been of three types, differentiated as follows:

1. Surveys of areas in which there are problems of great public importance—relating, for example, to mineral development, irrigation, or reclamation of swamp areas—are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{31,680}$ (1 inch = one-half mile) or $\frac{1}{24,000}$ (1 inch = 2,000 feet), with a contour interval of 1 to 100 feet, according to the relief of the particular area mapped.

2. Surveys of areas in which there are problems of average public importance, such as most of the basin of the Mississippi and its tributaries, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{62,500}$ (1 inch = nearly 1 mile), with a contour interval of 10 to 100 feet.

3. Surveys of areas in which the problems are of minor public importance, such as much of the mountain or desert region of Arizona or New Mexico, and the high mountain area of the northwest, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = nearly 2 miles) or $\frac{1}{250,000}$ (1 inch = nearly 4 miles), with a contour interval of 20 to 250 feet.

The aerial camera is now being used in mapping. From the information recorded on the photographs, planimetric maps, which show only drainage and culture, have been made for some areas in the United States. By the use of stereoscopic plotting apparatus, aerial photographs are utilized also in the making of the regular topographic maps, which show relief as well as drainage and culture.

A topographic survey of Alaska has been in progress since 1898, and nearly 44 percent of its area has now been mapped. About 15 percent of the Territory has been covered by maps on a scale of $\frac{1}{500,000}$ (1 inch = nearly 8 miles). For most of the remainder of the area surveyed the maps published are on a scale of $\frac{1}{250,000}$ (1 inch = nearly 4 miles). For some areas of particular economic importance, covering about 4,300 square miles, the maps published are on a scale of $\frac{1}{62,500}$ (1 inch = nearly 1 mile) or larger. In addition to the area covered by topographic maps, about 11,300 square miles of southeastern Alaska has been covered by planimetric maps on scales of $\frac{1}{125,000}$ and $\frac{1}{250,000}$.

The Hawaiian Islands have been surveyed, and the resulting maps are published on a scale of $\frac{1}{62,500}$.

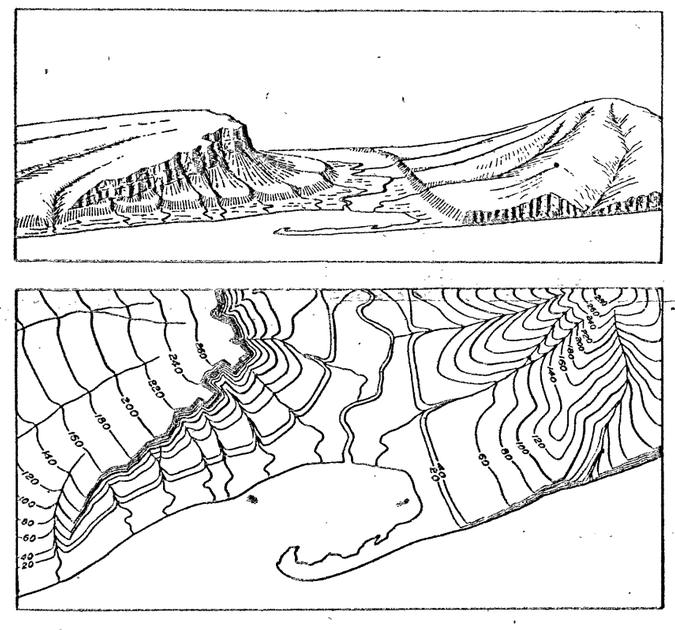
A survey of Puerto Rico is now in progress. The scale of the published maps is $\frac{1}{30,000}$.

The features shown on topographic maps may be arranged in three groups—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture (works of man), such as towns, cities, roads, railroads, and boundaries. The symbols used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams by double lines. The larger streams, lakes, and the sea are accentuated by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on a few maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The datum or zero of altitude of the Geological Survey maps is mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet above mean sea level. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slope, lines that are close together indicate a steep slope, and lines that run together indicate a cliff.

The manner in which contour lines express altitude, form, and grade is shown in the figure below.



The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly enclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping spurs separated by ravines. The spurs are truncated at their lower ends by a sea cliff. The hill at the left terminates abruptly at the valley in a steep scarp, from which it slopes gradually away and forms an inclined tableland that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped: in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. In order that the contours may be read more easily certain contour lines, every fourth or fifth, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road intersections, summits, surfaces of lakes, and benchmarks—are also given on the map in figures, which show altitudes to the nearest foot only. More precise figures for the altitudes of benchmarks are given in the Geological Survey's bulletins on spirit leveling. The geodetic coordinates of triangulation and transit-traverse stations are also published in bulletins.

Lettering and the works of man are shown in black. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Public roads suitable for motor travel the greater part of the year are shown by solid double lines; poor public roads and private roads by dashed double lines; trails by dashed single lines. Additional public road classification if available is shown by red overprint.

Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. More than 4,100 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

Geologic maps of some of the areas shown on the topographic maps have been published in the form of folios. Each folio includes maps showing the topography, geology, underground structure, and mineral deposits of the area mapped, and several pages of descriptive text. The text explains the maps and describes the topographic and geologic features of the country and its mineral products. Two hundred twenty-five folios have been published.

Index maps of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 40 percent is allowed on an order amounting to $5 or more at the retail price. The discount is allowed on an order for maps alone, either of one kind or in any assortment, or for maps together with geologic folios. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A circular describing the folios will be sent on request.

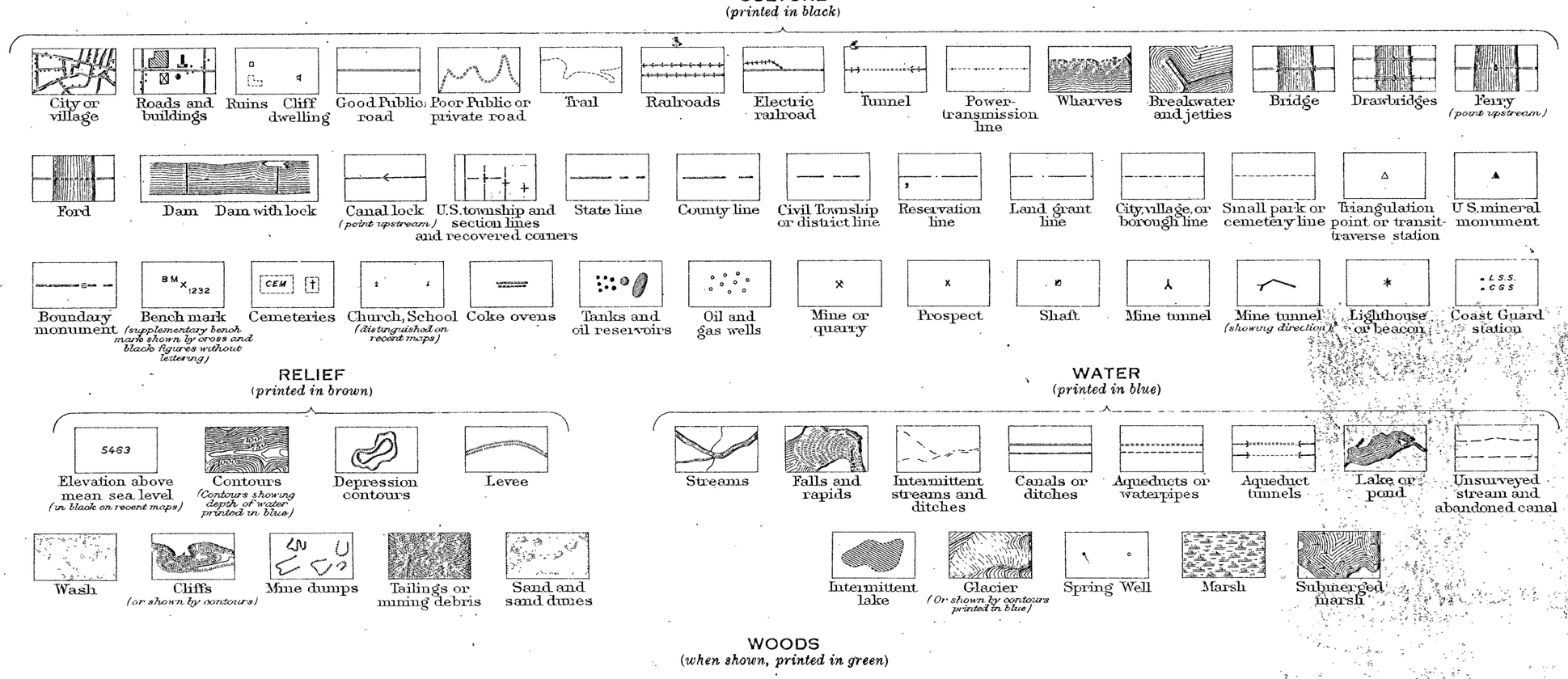
Applications for maps or folios should be accompanied by cash, draft, or money order (not postage stamps) and should be addressed to

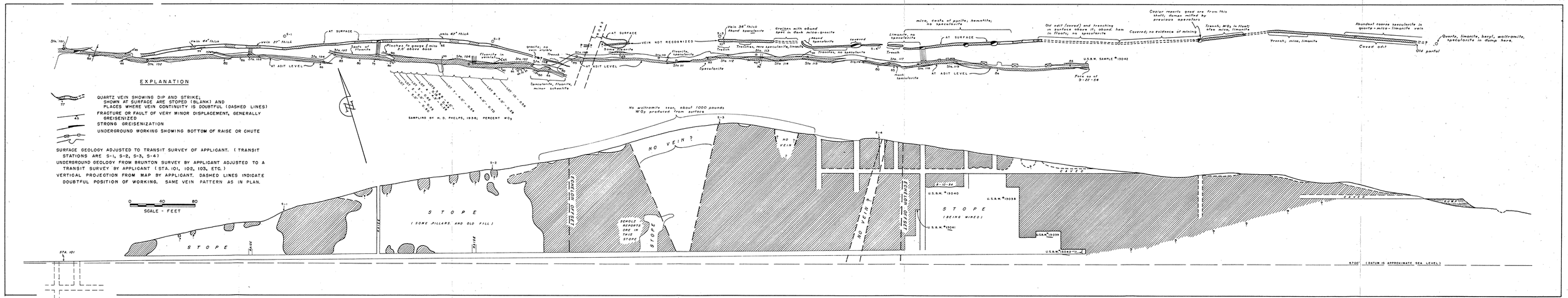
THE DIRECTOR,
United States Geological Survey,
Washington, D. C.

November 1937.

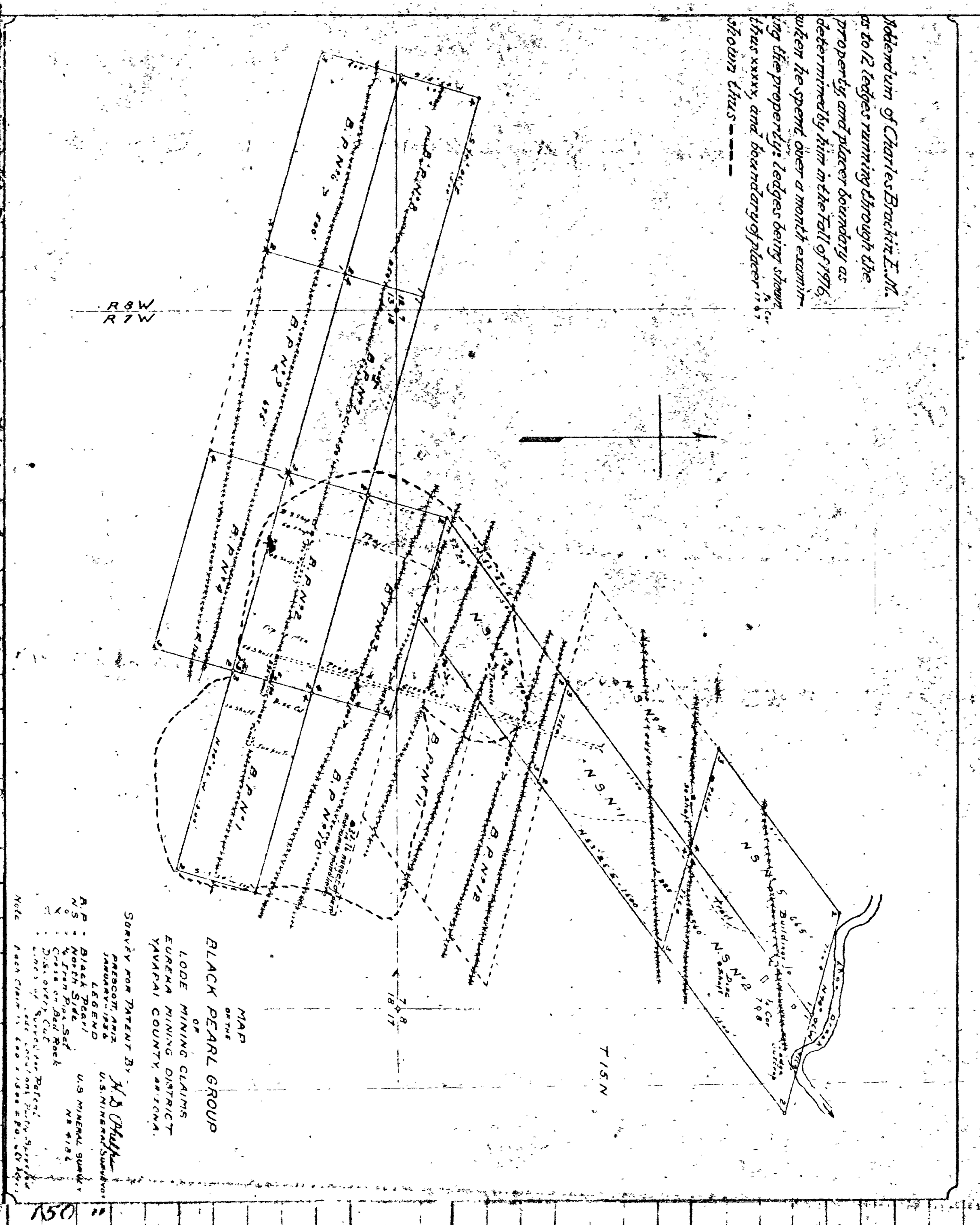
STANDARD SYMBOLS

NOTE:—Effective on and after October 1, 1946, the price of standard topographic quadrangle maps will be 20 cents each, with a discount of 20 percent on orders amounting to $10 or more at the retail rate.




EXPLANATION
QUARTZ VEIN SHOWING DIP AND STRIKE; SHOWN AT SURFACE ARE STOPED (BLANK) AND PLACES WHERE VEIN CONTINUITY IS DOUBTFUL (DASHED LINES)
FRACTURE OR FAULT OF VERY MINOR DISPLACEMENT, GENERALLY GREISENIZED
STRONG GREISENIZATION
UNDERGROUND WORKING SHOWING BOTTOM OF RAISE OR CHUTE
SURFACE GEOLOGY ADJUSTED TO TRANSIT SURVEY OF APPLICANT. (TRANSIT STATIONS ARE S-1, S-2, S-3, S-4)
UNDERGROUND GEOLOGY FROM BRUNTON SURVEY BY APPLICANT ADJUSTED TO A TRANSIT SURVEY BY APPLICANT (STA. 101, 102, 103, ETC.)
VERTICAL PROJECTION FROM MAP BY APPLICANT. DASHED LINES INDICATE DOUBTFUL POSITION OF WORKING. SAME VEIN PATTERN AS IN PLAN.
0 40 80
SCALE - FEET
SAMPLING BY R. D. PHELPS, 1936; PERCENT WO3
No wolframite seen, about 1000 pounds WO3 produced from surface
NO VEIN ?
STOPE
(SOME PILLARS AND OLD FILL)
SURFACE
SURFACE
SURFACE

Section of Workings on Black Pearl Group of Tungsten Mining Claims in Eureka Mng. Dist., Yav. Co. Arizona



Scales: Horizontal, 1 inch = 50 feet; Vertical, 1 inch = 40 feet

Total production here to 10-1-35 59615 lbs. 70% WO3
From 20 ft. shaft on No. Side No 4 claim 300 " "
From placer, hand screened + sorted 1885 " "

Grand Total production to 10-1-35 62100 lbs. 70% WO_3

Complete analysis of Four shipments						
Weights	% SiO_2	% MnO	% FeO_3	% S.	% P.	% WO_3
3401 lbs.	2.27	16.77	9.38	0.038	0.036	71.13
3613 "	2.31	10.16	10.40	0.078	0.041	70.60
1482 "	1.77	7.52	10.08	0.075	0.042	70.81
1444 "	2.23	14.55	8.74	0.005	0.020	71.60

Shipments

Date	Weight	% WO_3
11-4-16	3401 lbs.	71.13
5-25-17	3152 "	70.70
7-12-17	6830 "	69.70
4-9-18	3613 "	70.60
4-9-18	1482 "	70.81
4-9-18	1444 "	71.60
2-17-19	100 "	68.00
1-14-26	6934 "	71.10
6-7-29	2900 "	72.45
7-24-30	1620 "	72.00
3-23-31	1875 "	72.00
4-9-32	3825 "	68.00
2-14-33	4841 "	69.88
6-27-33	5054 "	71.15
10-2-33	7418 "	71.13
12-1-33	2291 "	69.76
Total	56860 lbs.	70.684% average
	3465 "	in N.Y. unsettled for
	975 "	shipped 8-24-35
	600 "	lost in shipping
	200 "	stolen from warehouse
	62100 "	production to 10-1-35

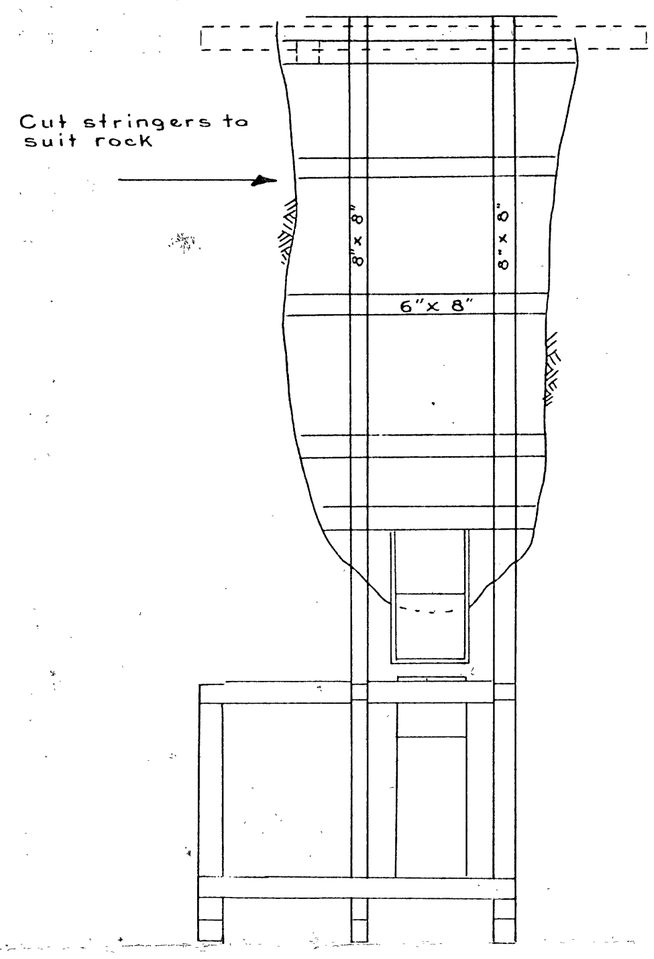
A careful estimate, made by a sampling of the dumps, computation of tonnage excavated in the running of tunnels, sinking of shafts, stoping and running cuts, showed, when results from assorted dump ore were added thereto, an average of all ore mined 0.92% WO_3, of which 52% was recovered as assorted ore included in shipments noted above. W. E. Wood, part owner, and Registered Engineer

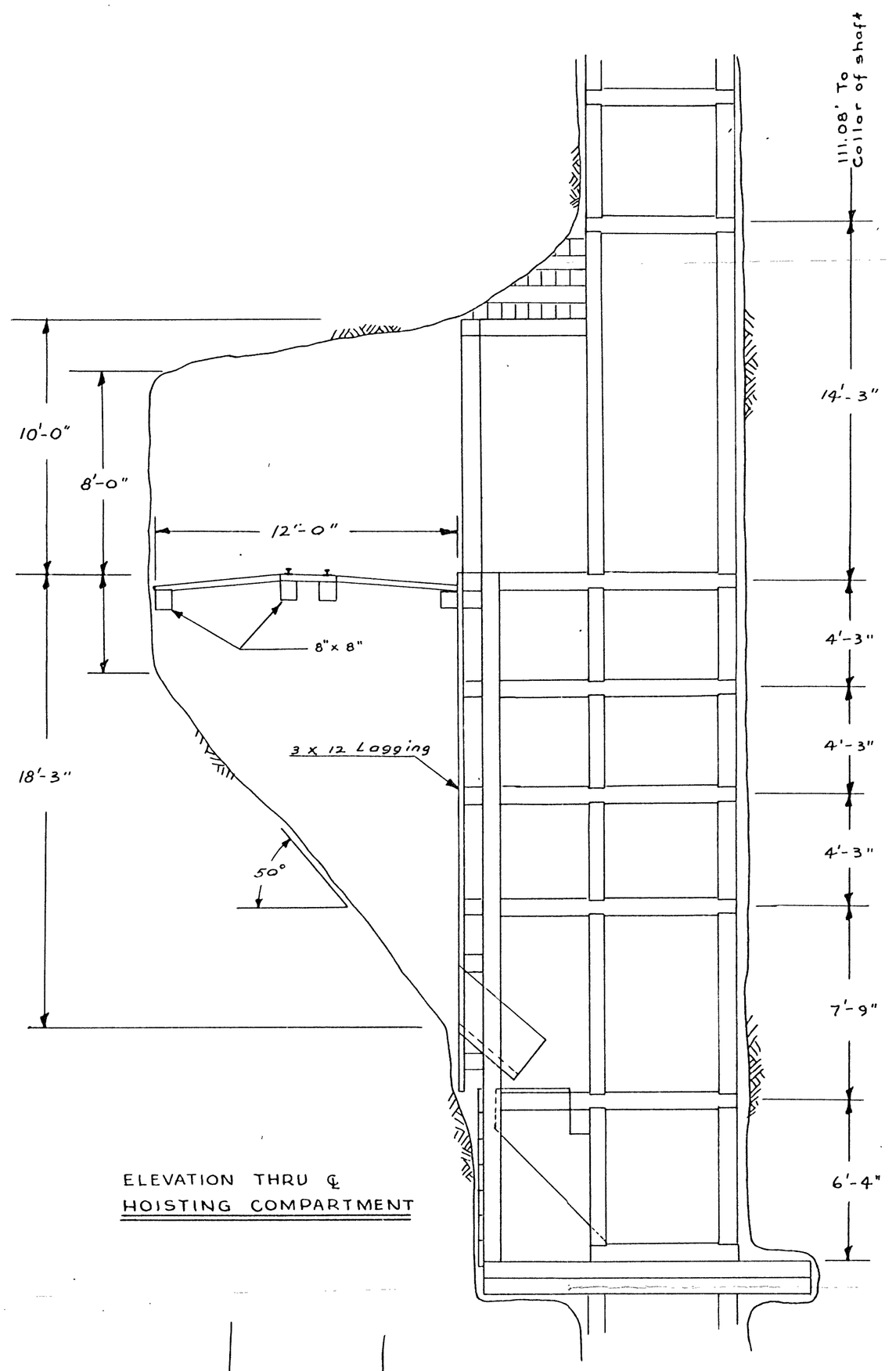
52% of content shipped = 59615 lbs. 70% WO_3 = 41730 lbs. WO_3 = .4794% of whole
48% " in dumps = 38520 " " = .44258% "
Whole, average .92200%

Extraction in dumps 4350 tons,
average width all workings 3', or 53500 cu.ft. been extracted which, at 162.5 lbs per cu.ft. = 4350 tons, and an equivalent of 2970 lt. of 3' x 6' of vein for each linear foot of drifts, shafts etc. if all stopings were counted as drifts, over a distance of 1980 ft. on the vein. This gives an average of 27.3 lbs. WO_3 for each linear foot of drift.

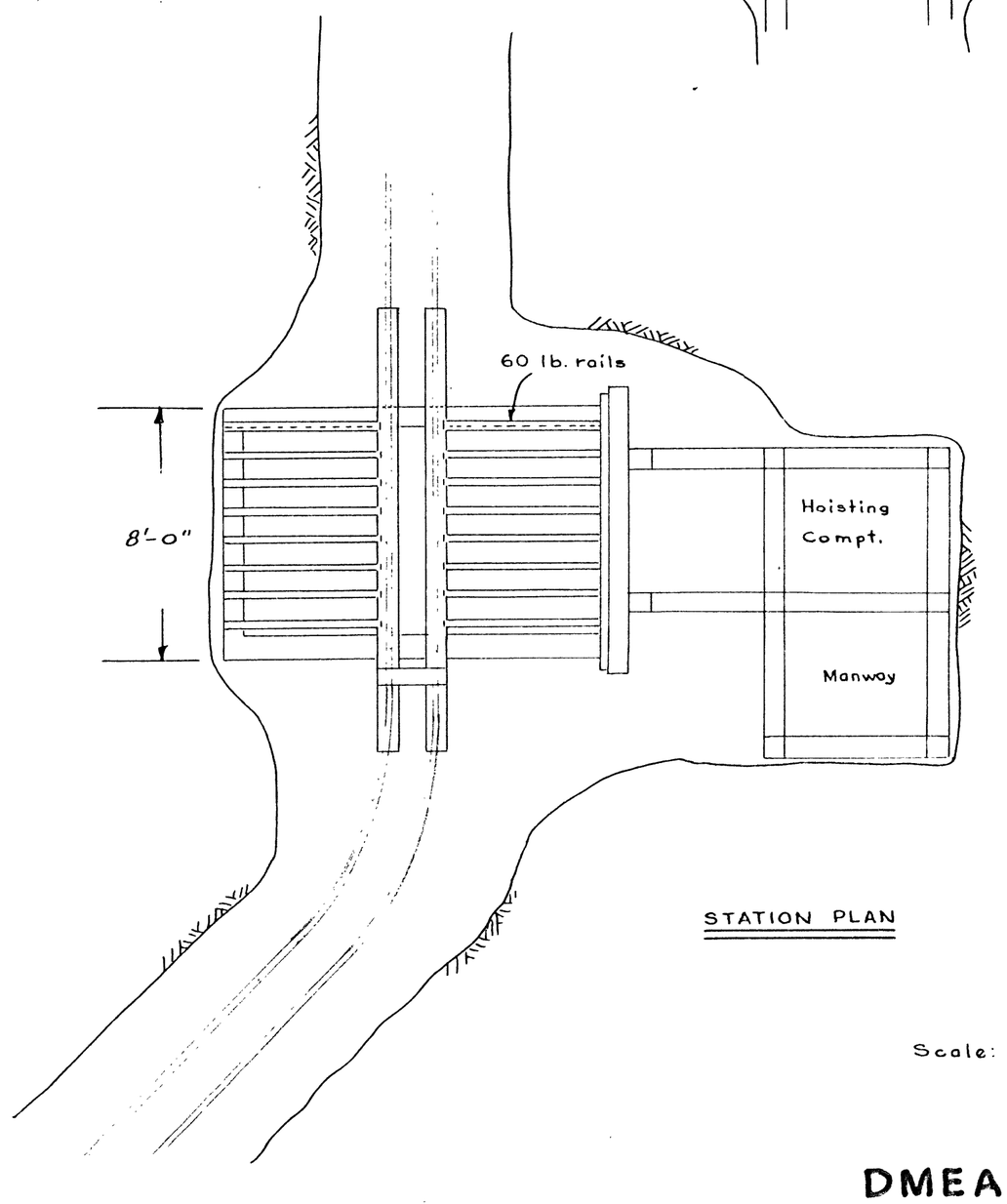
Fig-3-Plan of workings, Black Pearl Mine, Yavapai County, Arizona DMEA 3448

CONTRACT Idm E-763





ELEVATION THRU ℄ HOISTING COMPARTMENT

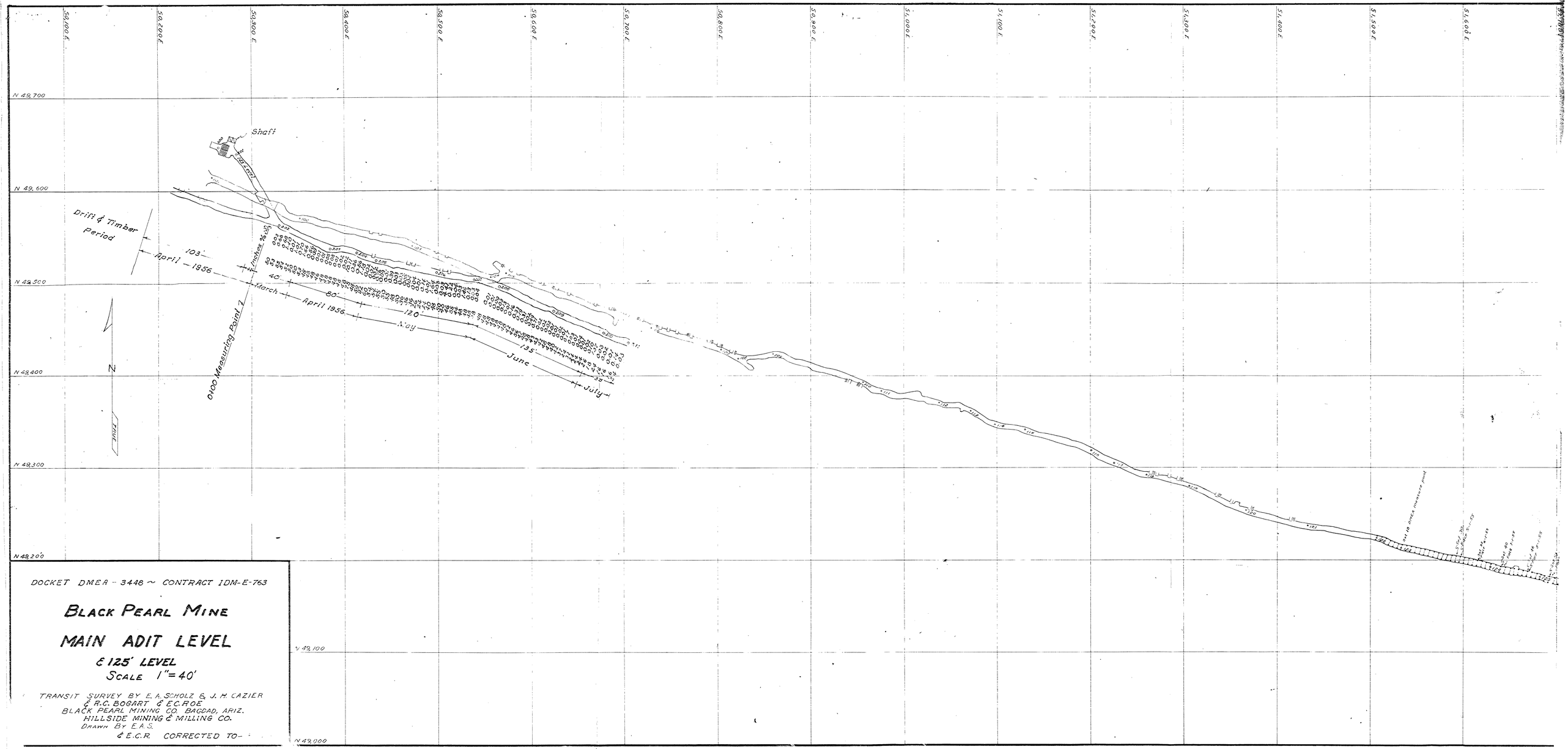


STATION PLAN

Scale: 1/4" = 1'-0"

Fig-5 - 125' Level Station & Ore Pocket, Black Pearl Mine Yavapai County, Arizona

DMEA 3448



DOCKET DMEA - 3448 ~ CONTRACT IDM-E-763

BLACK PEARL MINE

MAIN ADIT LEVEL

& 125' LEVEL

SCALE 1" = 40'

TRANSIT SURVEY BY E. A. SCHOLZ & J. H. CAZIER
& R.O. BOGART & E.C. ROE
BLACK PEARL MINING CO. BAGDAD, ARIZ.
HILLSIDE MINING & MILLING CO.
DRAWN BY E.A.S.
& E.C.R. CORRECTED TO-

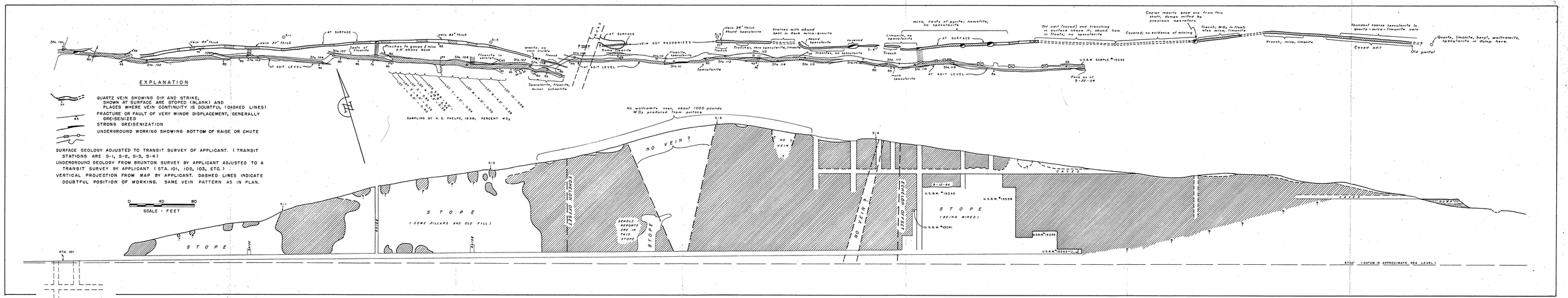


FIGURE 4. — GEOLOGIC MAP AND LONGITUDINAL PROJECTION OF THE BLACK PEARL MINE — YAVAPAI COUNTY, ARIZONA — DMEA 3448