☐ Audited

☑ Certified

Name Clyde P. Mock

State Colorado

WORK ANALYSIS SHEET - DMEA PROJECT

Analysis as of 12-16-54

Incl. Voucher for Sept 54

Commodity Tungsten

☐ Actual Cost

☑ Agreed Unit Co

Docket No. 3182

Idm-E No. 654

OPERATION	AUTHORIZED Units	AUTHORIZED Cost	COMPLETED Units	COMPLETED Cost	NET COST
Drifting & Crosscutting	80	2960	80	2960	2960
Raising					
Shafts	67	5092	67	5092	5092
Winzes					
Drilling (Specify)					
Surface Excavation					
Underground Excavation					
Roads and Trails					
Operating Equipment Purchased					
Surface Rehabilitation & Repairs					
Underground Rehabilitation					
New Building, Improvements, etc.		850		850	850
Other (Specify)					
Totals		8902		8902	8902

REPORT OF REVIEW 12/15/54 8,902.00

75% GOVT. PARTICIPATION 6,676.50

CLOSING LETTER 3/8/55

NOT CERTIFIED

Prepared by CSR

4/12/55 RLC.

71626

Stage I

~~Cond.~~ Bed + Amp
$850

Shutter
67-5,092

Stage II

Lite
80-2960

402

DEFENSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF REVIEW

3182

I have reviewed the Monthly Reports of:

Lloyd P. Mock
1440 St. Paul Street
Denver 6, Colorado

pertaining to Exploration Project Contract No. Idm-E654, Docket No. DMEA 3182, including Amendments Nos. 1 and 2, for the months of April, 1954, to September, 1954, inclusive, covering a project for the exploration of Tungsten on property known as Mock Shaft Big 6 Mine located in Boulder County, Colorado, near Nederland.

My review included an examination of the Monthly Reports (Form MF-104) and supporting documents attached thereto, comparison of the costs claimed with the contract and pertinent schedules, conference with the Executive Officer, DMEA Field Team, Region IV, and a determination of the reasonableness and propriety of the costs.

This review was made in lieu of a final audit of the Operator's accounts and records for the following reasons:

All costs claimed are under a contract provision for contribution by the Government on the basis of agreed estimated costs of units of work actually performed.

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

Total costs as billed by contractor:		$8,902.00
Exceptions:		
By DMEA Finance Officer	None	
Herewith	None	None
Total Accepted Cost		$8,902.00

The contract calls for a 75 percent participation of explo expenses by the United States Government. Therefore, payment to the tractor by the Government in the amount of Six Thousand Six Hundred Seventy Six and 50/100ths Dollars

- $6,676.50 -

is considered valid and proper, provided that the Regional Executiv the Administrator, or other competent official has accepted or wi the project as having otherwise met the terms of the contract.

Date: December 15, 1954

Donald T. Finch

Donald T. Finch, Auditor

402

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

224 New Customhouse
Denver 2, Colorado

October 18, 1954

WSM

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock (Mock Shaft), Boulder County Colorado.

Enclosed are two copies of the Operator's Monthly Progress Report, Form MF-104 and MF-104A, Operator's Narrative Report, Inspecting Engineer's Narrative Report, and other supporting data pertaining to work under the subject contract for the month of September 1954.

W. H. King

W. H. King

Enclosures

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
REGION IV

Administrative Audit Difference Statement

Date: _____
Payee's
Reference: [illegible]

[illegible]

Upon examination of the above Payee's reference a difference was found which made it necessary to suspend your account accordingly:

Amount Claimed $ [illegible]

Difference $ _____

Amount Approved $ [illegible]

The reason for the difference was due to:

[illegible]

Any reclaim for deductions made above must be supported by the ORIGINAL of this form.

Very sincerely yours,

N.E.Stokes
Audit Section

R-IV-B & F Form No. 4
4-15-52 D

224 New Customhouse
Denver 2, Colorado

September 27, 1954

Memorandum

To: T.A. Christensen

From: Executive Officer, DMEA Field Team, Region IV

Subject: DMEA Docket 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock (Mock Shaft), Boulder County, Coloardo, Operator's Monthly Progress Report for the period September 1954.

Enclosed are the original and four copies of Form MF-104 and MF-104A, Narrative Report, and Engineer's Report for the above period.

Work has been completed as authorized by the contract. No documentation is required for work performed under contracts prepared on Form MF-200A, therefore we recommend that payment be made for 75 per cent of the amount reported by the Operator on Form MF-104, contingent on your verification of arithmetical accuracy within the report.

An amount of $100.00 is to be withheld from the payment due the operator pending receipt of the Operator's Final Report and release of the Final Report of Review by the Contract Administration and Audit Division.

Remarks:

Date of Report	September 21, 1954
Date Received in Field Office	September 22, 1954
Date Received in Region Office	September 24, 1954

W H King
W. H. King

Enclosures
cc Subject
Chron
Secretary, Oper. Comm. (2)
WMTraver
JWTownsend

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
September 23, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3182, contract Idm-E654 (Tungsten) Lloyd P. Mock (Mock shaft) Boulder County, Colorado - Progress report for September 1954

Enclosed are the original and four copies of the subject progress report, the sixth--forms MF-104 and MF-104A, with narrative--and the original and six copies of R. L. Bolmer's memorandum covering his inspection of the underground progress and checking of the reporting forms. The contract is unit cost on short form MF-200(A) and no documentation is required.

Bolmer inspected the project on September 16, 1954, in reference to the contractor's request for an amendment to permit additional work and funds for that purpose. At that time, he verified the progress as reported in the operator's narrative for September and claimed on the MF-104A forms. This consisted of 27 feet of advance of a level at a depth of 50 feet below the collar of the Mock shaft to the north as authorized by the Region IV Field Team. The work was in conformance with the terms of and completes the contract.

Payment is approved and certified on the MF-104 forms of $749.25 or 75 percent of the total $999.00 claimed by the contractor.

It is assumed you will hold up payment of 10 percent of this last voucher pending receipt of the required reports. We will make out our final engineering report when you instruct us to do so.

W. M. Traver

W. M. Traver

enclosures

cc 4
E654
DMEA Chron.

WMT/pam

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
September 23, 1954

Memorandum

To: Chief, Mineral Resources Branch, Mining Division, Region IV

From: R. L. Bolmer

Subject: DMEA 3182, contract Idm-B654 (Tungsten) Lloyd P. Mock (Mock shaft) Boulder County, Colorado - Progress report for September 1954

The progress reported for this period under the subject short-form contract--drifting a total distance of 27 feet north on the vein at a depth of 51 feet in the shaft--was verified during an inspection of the property September 16, 1954. The inspection was made with D. R. Maclaren of the Geological Survey and in the company of the operator.

The progress reported this period completes the exploration program authorized under the subject contract. A request by the operator for Government assistance in certain additional exploration work under the contract has been recommended for denial. The completion date of the authorized work may be considered as the date of the final inspection. Contract work has not resulted in a significant discovery of tungsten ore and it is probable that a certification will not be recommended for this project.

The most promising exposure of the vein on the northeast side of the shaft occurred at a depth of some 50 feet and the operator was permitted to expend the remaining 27 feet of drift at this location. The vein structure exposed in this direction was about 3 feet in width and contained very scattered and discontinuous seams of ferberite. The seams of mineral, individually, were very thin and were disseminated both within the structure itself and for short distances into its hanging wall. While the mineralization encountered along this drift was stronger than had been encountered elsewhere, under no circumstances could it be considered of commercial grade.

The $999.00 total costs reported this period on the operator's MF-104 forms--equivalent to the completed 27 feet of drifting at the agreed upon unit price of $37.00 per foot--are approved. Payment to the operator of 75 percent of the total approved amount, or $749.25, is recommended. Probably some portion of this final payment under the contract should be withheld pending receipt of the operator's final project report.

Under this contract, the operator constructed a headframe and a hoist house in which the Government participated to the extent of $187.50

and $375.00, respectively. Neither structure has any appreciable salvage value and is of value only if left in its present location and if operations are continued in the Mock shaft. Short-form contracts, those prepared on form MF-200(A), contain no provisions for the salvage of such facilities and it is assumed, therefore, that the operator will not be required to sell or otherwise liquidate this property for the joint account of himself and the Government.

R. L. Bolmer

R. L. Bolmer
Mining Engineer

cc 6
R654
DMEA Chron.

RLB/pam

Form MF-104 (Rev.)
(April 1952)

Resources Bra
Date Rec'd
SEP 2 - 1954
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Budget Bureau No. 42-R1036.5

OCT 21 1954

Month of **September**, 195**4** Docket No. DMEA **3182** Contract No. **Idm - E654**
Operator's Name **Lloyd P. Mock** Minerals **Tungsten**
Address **Nederland, Colorado**
Contract Amount, $ **8902** Government Participation: **75** % Amount, $ **6676.50**

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) ~~xxxxxxxx~~ Independent Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting	999	1,961	2,960			
Sinking	-	5,092	5,092			
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.	-	850	850			
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	999	7,903	8,902			

I certify that the above bill is correct and just and that payment therefor has not been received.

Date **Sept. 21, 1954** *Payee Lloyd P. Mock

Per _____ Title _____

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

→ NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 649.25

Signature Randell R. Cooper
(Authorized Certifying Officer)

Date 10-11-54 Vou. No. DMA-JJ-25

(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. 6654 in accordance with the terms of the contract.

Signature R. Palmer, $749.25 Wm Title Mining Engineer Date SEP 22 1954

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE: R.A.B.

Signature W.H. King Title Executive Officer Date SEP 27 1954

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(*a*) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(*b*) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(*c*) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

OCT 21 1954

Month of September 195 4 Docket No. DMEA 3182 Contract No. Idm - E654

Operator's Name Lloyd P. Mock Minerals Tungsten

Address Nederland, Colorado

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting	ft	999	27	2,960	80	37	80	37
Crosscutting								
Raising								
Shafts	ft	-	-	5,092	67	76	67	76
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		999	27	8,052				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.		-	-	850				
TOTAL COSTS		999		8,902				

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date Sept. 21, 1954 Operator Lloyd P. Mock

Per _____ Title _____

REMARKS:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

NARRATIVE REPORT
FOR SEPTEMBER

September 21, 1954

During the month of September, the work was completed on contract Idm. - E654. The final 27 feet of drifting to the north or uphill side was done. There are numerous feeders of tungsten all the way in this drift, and in the heading there are probably eighteen or twenty feeders of high grade ore from hairline to about one-quarter inches in width.

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

402

224 New Customhouse
Denver 2, Colorado

August 20, 1954.

WSM

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region IV

Subject: DMEA Docket 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock, Boulder County, Colorado.

Enclosed are two copies of the Operator's Monthly Progress Report, Form MF-104 and MF-104A, Operator's Narrative Report, Inspecting Engineer's Narrative Report, and other supporting data pertaining to work under the subject contract for the month of July 1954.

W H King
W. H. King

Enclosures

MF-104
July

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

224 New Customhouse
Denver 2, Colorado

August 10, 1954

Memorandum

To: T. A. Christensen

From: Executive Officer, DMEA Field Team, Region IV

Subject: DMEA Docket 3182, Contract Idm-E654 (Tungsten), Lloyd P. Mock, Boulder County, Colorado - Operator's Monthly Progress Report for the month of July 1954

Enclosed are the original and four copies of Form MF-104 and MF-104A, Narrative Report, and Engineer's Report for the above period.

Work has been completed as authorized by the contract. No documentation is required for work performed under contracts prepared on Form MF-200A, therefore we recommend that payment be made for 75 percent of the amount reported by the Operator on Form MF-104, contingent on your verification of arithmetical accuracy within the report.

Remarks

Date of Operator's Report.....July 31, 1954
Date report received in B.O.M. Branch office..August 2, 1954
Date report received in Regional Office.....August 10, 1954

W. H. King

W. H. King

JWT:jp

Enclosures

cc Contract
Chron
Sec. to Oper. Comm. (2)
WMTraver

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
August 9, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3182, Contract Idm-B654 (Tungsten), Lloyd F. Mock (Mock shaft), Boulder County, Colo.--Progress report for July 1954

Enclosed are the original and four copies of the subject progress report, the fourth one--forms MF-104 and MF-104A, with narrative--and the original and six copies of R. L. Bolmer's memorandum covering his inspection of the shaft sinking progress and checking of the reporting forms. The contract is unit cost on short form MF-200(A) and documentation is not required.

Bolmer confirmed the month's progress sinking the Mock shaft 24 feet for a total depth of 91 feet below the collar on July 30, 1954. The operator has reported the advance correctly in his narrative and made the proper entries on both reporting forms. Work was performed in accordance with the terms of the contract. The engineer describes satisfactorily the conditions encountered in the shaft sinking as does the operator in his narrative.

We are advised that as of this date the total shaft sinking allowed has been completed and the contractor has notified you he is prepared to start drifting. This has been recommended by the field only to the southwest on a level to be established at approximately 85 feet below the collar and is subject to inspection and termination at any time.

Payment is approved and certified on the MF-104 forms of $1,368.00, or 75 percent of the total $1,824.00 claimed by the contractor.

J. W. Everett, for
W. M. Traver

enclosures

WMT/kp

cc 4
B654
Chron

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
August 9, 1954

Memorandum

To: Chief, Mineral Resources Branch, Mining Division, Region IV

From: R. L. Bolmer

Subject: DMEA 3188, Contract Idm-8654 (Tungsten), Lloyd F. Mock (Mock shaft), Boulder County, Colo.--Progress report for July 1954

Progress reported this period under the subject short-form contract--sinking the Mock shaft an additional 24 feet to a total depth of 91 feet below the collar--was confirmed during an inspection of the property July 30, 1954.

The vein exposed during the period gradually flattened, dipping nearly 38° in the lower sections of the shaft. Its exposure in the lower southwesterly side of the shaft essentially is unchanged from its appearance nearer the surface. In this location, the structure consists of about 2 feet of quartz and gouge which contain minor blebs and streaks of ferberite. On the lower northeasterly side of the shaft, the structure is represented by two well-defined but narrow fault surfaces bordering inclusions of schist and a light-colored dike rock. No mineralization was observed on the structure in this direction.

The ferberite encountered on the vein to the present depth of the shaft generally has not been of ore grade. The contract, however, provides for deepening the shaft by sinking an additional 67 feet or to the bottom of the ferberite mineralization. As the structure yet is mineralized on the one side of the shaft to its present depth, the operator was advised to complete the remaining 7-1/2 feet of sinking authorized under Stage I. Drifting northeasterly on the vein from the lower sections of the shaft is not advisable. Drifting southwesterly, however, appears warranted but, considering the apparent flattening and general weakening of the structure with depth, probably should not be started lower than 85 feet below the collar.

The $1,884.00 total costs reported for the period on the operator's MF-104 forms--equivalent to the completed 24 feet of shaft sinking at the agreed unit price of $76.00 per foot--are approved. Payment of 75 percent of this amount, or $1,368.00, is recommended.

R. L. Bolmer
R. L. Bolmer
Mining Engineer

RLB/ky
cc /6, 8654, Chron

(Rev.)
(1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of July 1954 Docket No. DMEA 3182 Contract No. Idm-E654
Operator's Name Lloyd P. Mock Minerals Tungsten
Address Nederland, Colorado
Contract Amount, $ 8902 Government Participation: 75% Amount, $ 6676.50

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) ~~Independent~~ Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
Sinking	1824	2698	4522			
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.	—	850	850			
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	1824	3548	5372			

I certify that the above bill is correct and just and that payment therefor has not been received.
Date 7/31/54 *Payee Lloyd P. Mock

Per _____ Title _____

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

RECEIVED
AUG 25 1954

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$1368.00

Signature Randel R. Cooper
(Authorized Certifying Officer)

Date 8-12-54 Vou. No. DMA-55-11
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-654 in accordance with the terms of the contract.

Signature R. P. Bolmey, $1,368.00 Title Mining Engineer Date AUG - 9 1954

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature W H Kung Title Executive Officer Date AUG 10 1954

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

-104A
(1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of July 1955 Docket No. DMEA 3182 Contract No. Idm-E654
Operator's Name Lloyd P. Mock Minerals Tungsten
Address Nederland, Colo.

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts	ft	1824	24	4522	59½	76	67	76
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		1824	24	4522				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc				850				850
TOTAL COSTS		1824		5372				850

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 7/31/54 Operator Lloyd P. Mock

Per Title

REMARKS:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 25 1954

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

Narrative Report
for July, 1954

3182 Idm

During the month of July, continued sinking a 24 more feet and encountered continuation of broken-up area during this work. The vein has narrowed considerably but still has showing of ore. Still have a great deal of water entering from the south or downhill side.

Several indications have been noted of slippages of ground indicating a movement of the ground to the south; and at 90 feet a slip to the northeast occurred which leaves me rather puzzled as to what took place.

There have been two intrusions of green porphyry from the foot wall — one in the center of the shaft and one from the south end. Both are carrying stringers of fairly well-developed ore.

We anticipate reaching the 100-foot mark the beginning of the week and will contact you at that time for further instructions.

400

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

224 New Customhouse
Denver 2, Colorado

July 22, 1954. JR

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMEA-3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock (Mock shaft), Boulder County, Colorado.

Enclosed are two copies of the Operator's Monthly Progress Report, Form MF-104 and MF-104A, Operator's Narrative Report, Inspecting Engineer's Narrative Report, and other supporting data pertaining to work under the subject contract for the month of June 1954.

W H King
W. H. King

Enclosures

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

224 New Customhouse
Denver 2, Colorado

July 14, 1954.

Memorandum

To: T. A. Christensen

From: Executive Officer, DMEA Field Team, Region IV

Subject: DMEA Docket 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock (Mock shaft), Boulder County, Colorado. Operator's Monthly Progress Report for the period June 1954.

Enclosed are the original and four copies of Form MF-104 and MF-104A, Narrative Report, and Engineer's Report for the above period.

Work has been completed as authorized by the contract. No documentation is required for work performed under contracts prepared on Form MF-200A, therefore we recommend that payment be made for 75 per cent of the amount reported by the Operator on Form MF-104, contingent on your verification of arithmetical accuracy within the report.

Remarks:

Date of Report	July 7, 1954.
Date Received in Field Office	July 8, 1954.
Date Received in Region Office	July 13, 1954.

W H King
W. H. King

Enclosures

RDB:cwm

cc: Contract
Secretary to the Oper. Comm.(2)
WMTraver
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
July 13, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3182, contract Idm-E654 (Tungsten) Lloyd P. Mock (Mock shaft), Boulder County, Colorado - Progress report for June 1954

Enclosed are the original and four copies of the subject progress report, the third one--forms MF-104 and MF-104A, with narrative--and the original and six copies of R. L. Bolmer's memorandum covering his inspection of the shaft sinking progress and checking of the reporting forms. The contract is unit cost on short form MF-200(A) and documentation is not required.

Bolmer verifies by inspection and measurement the total depth of the Mock shaft as of June 30 as 67 feet below the new collar for a total advance of 35-1/2 feet or of 21 feet for the month of June. These units are corrected shown on the MF-104A forms but are not reported in the narrative. The entries and extensions are correct on both reporting forms and work was performed in accordance with terms of the contract. The inspecting engineer explains the physical conditions encountered during the month's progress.

Payment is approved and certified on the MF-104 forms of $1,197.00 or 75 percent of the total $1,596.00 claimed by the contractor.

Floyd D. Everett
Floyd D. Everett, for
W. M. Traver

enclosures

cc 4
E654
DMEA Chron

WMT/pam

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
July 8, 1954

Memorandum

To: Chief, Mineral Resources Branch, Mining Division, Region IV

From: R. L. Bolmer

Subject: DMEA 3182, contract Idm-1654 (Tungsten), Lloyd F. Mock (Mock shaft), Boulder County, Colorado - Progress report for June 1954

Progress reported this period under the subject short-form contract--sinking the Mock shaft a total of 21 feet to a depth of 67 feet below the new collar--was confirmed during an inspection of the property July 6, 1954.

The vein exposed during the reporting period continued in much the same manner as was discussed previously. Twelve to 18 inches of massive white quartz are exposed on the eastern or hanging wall of the shaft. The footwall of the structure is schist and gneiss. Near the bottom of the shaft, the vein contains 4 to 5 inches of dark horn quartz and scattered streaks and patches of ferberite. Overbreak into the hanging wall disclosed irregular patches of mineral continuing in the vein beyond the normal cross section of the shaft. More information would be obtained from the exploration work if the shaft were being sunk more centrally on the structure rather than in its footwall. The mineral encountered in the sinking operation is sorted and cobbed from the waste rock and stockpiled.

The $1,596.00 total costs reported for the period on the operator's MF-134 forms--equivalent to the completed 21 feet of shaft sinking at the agreed unit cost of $76.00 per foot--are approved. Payment of 75 percent of this amount, or $1,197.00 is recommended.

R. L. Bolmer
Mining Engineer

cc 6
1654
DMEA Chron

RLB/pmm

Form MF-104 (Rev.)
(April 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42
Approval expires 6-30

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of June, 1954 Docket No. DMEA 3182 Contract No. Idm-E654
Operator's Name Lloyd P. Mock Minerals Tungsten
Address Nederland, Colorado
Contract Amount, $ 8,902.00 Government Participation: 75% Amount, $ 6,676.50

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) ~~Independent~~ Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
Sinking	1596	1102	2698			
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.	-	850	850			
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	1596	1952	3548	1596.00	1952.00	3548.00

I certify that the above bill is correct and just and that payment therefor has not been received.

Date July 7, 1954 *Payee Lloyd P. Mock

Per _____ Title _____

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

→ NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 1197.00

Signature [illegible]
(Authorized Certifying Officer)

Date 7/15/54 Vou. No. DMA 55-5

(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-654 in accordance with the terms of the contract.

Signature R. Bolmer, $1,197.00 WMA Title Mining Engineer Date JUL - 8 1954

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE: R.B.

Signature W. H. King Title Executive Officer Date JUL 14 1954

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(*a*) *Form MF–104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(*b*) *Form MF–104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(*c*) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF–104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF–104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF–200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF–200; and delete word "Independent" if the contract reported is on Form MF–200 (A). Also, report work paid for on a unit basis under contract Form MF–200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF–104 when submitted for reimbursable expenses incurred under contract Form MF–200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF–200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF–104 is required to be documented. The four copies of Form MF–104 are not to be thus supported.

Form MF–104 submitted for reimbursement under fixed price contracts on Form MF–200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF–104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau N
Approval expires

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of June 1954 Docket No. DMEA 3182 Contract No. Idm-E654
Operator's Name Lloyd P. Mock Minerals Tungst
Address Nederland, Colorado

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONT	
							Units	Unit Cos
Drifting								
Crosscutting								
Raising								
Shafts	ft	1596	21	2698	35 1/2	76	67	76
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		1596		2698				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.				850				850
TOTAL COSTS		1596		3548				850

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date July 7, 1954 Operator Lloyd P. Mock

Per Title

REMARKS:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

NARRATIVE REPORT
FOR JUNE 1954

DMEA 3182
Idm-E654

July 7, 1954

Work has progressed very smoothly. There have been only several very minor delays. The blower motor broke down, but was easily and rapidly repaired. We are getting a lot of water and I think our pump has about reached its capacity. I have a larger pump located which I can purchase if the water and depth get to be too much for the one I have.

A horse or intrusion has appeared in the shaft. It came in on the downhill or south side of the shaft and stretches about halfway across the shaft. It doesn't look like it will amount to much. It has split the vein, but the vein is still strong on the hanging wall side. The ground is quite broken now and the ore is spotty, but what there is of it is higher grade than previously.

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

402

224 New Customhouse
Denver 2, Colorado

June 16, 19

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region IV

Subject: DMEA Docket 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock (Mock shaft), Boulder County, Colorado. Operator's Monthly Progress Report for the month of May 1954

Enclosed are two copies of the Operator's Monthly Progress Report, Form MF-104 and MF-104A, Operator's Narrative Report, Inspecting Engineer's Narrative Report, and other supporting data pertaining to work under the subject contract for the month of May, 1954.

W. H. King

Enclosures

mf 104
May

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

224 New Customhouse
Denver 2, Colorado

June 14, 1954.

Memorandum

To: T. A. Christensen

From: Executive Officer, DMEA Field Team, Region IV

Subject: DMEA Docket 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock (Mock shaft), Boulder County, Colorado. Operator's Monthly Progress Report for the month of May 1954.

Enclosed are the original and four copies of Form MF-104 and MF-104A, Narrative Report, and Engineer's Report for the above period.

Work has been completed as authorized by the contract. No documentation is required for work performed under contracts prepared on Form MF-200A, therefore we recommend that payment be made for 75 per cent of the amount reported by the Operator on Form MF-104, contingent on your verification of arithmetical accuracy within the report.

Remarks:

Date of Report	June 7, 1954.
Date Received in Field Office	June 9, 1954.
Date Received in Region Office	June 11, 1954.

W. H. King

Enclosures

RDB:cwm

cc: Contract
Secretary to the Oper. Comm. (2)
WMTraver
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
June 10, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3182, Contract Idm-E654 (Tungsten), Lloyd P. Mock (Mock shaft), Boulder County, Colo.--Progress report for May 1954

Enclosed are the original and four copies of the subject progress report, the second one--forms MF-104 and MF-104A with narrative--and the original and six copies of R. L. Bolmer's memorandum covering his inspection of the shaft sinking progress and checking of the reporting forms. The contract is unit cost on short form MF-200(A) and documentation is not required.

Bolmer on his inspection made June 3, 1954, verified the advance of 14-1/2 feet sinking the Mock shaft as reported in the operator's narrative and entered on the MF-104A forms. Entries and extensions on both reporting forms are correct and work was performed in accordance with the last item of Stage I of the contract. The narrative by the operator and covering memorandum by the inspecting engineer explain satisfactorily the conditions encountered during the reporting period.

Payment is approved and certified on the MF-104 forms of $826.50, or 75 percent of the total $1,102.00 claimed by the contractor.

W. M. Traver

W. M. Traver

enclosures

WMT/kp

cc 4
E654
Chron

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
June 9, 1954

Memorandum

To: Chief, Mineral Resources Branch, Mining Division, Region IV

From: R. L. Bolmer

Subject: DMSA 3182, Contract Idm-E654 (Tungsten), Lloyd F. Mock (Mock shaft), Boulder County, Colo.--Progress report for May 1954

Progress reported this period under the subject, short-form contract--sinking the Mock shaft a total of 14-1/2 feet--was confirmed during an inspection of the property June 3, 1954. The operator completed authorized construction of his hoist house, headframe, and shaft collar during April. At that time, the existing depth of the shaft was measured as 31-1/2 feet below the new collar. On the date of the latest inspection, the bottom of the shaft had been deepened to 46 feet below the collar, for a total advance during the May period of 14-1/2 feet. The shaft is timbered to a depth of 29 feet. Due to the water encountered, it is being advanced by benching.

Above a depth of 29 feet in the shaft, the vein is hidden behind side lagging. Below this depth, it flattens in dip to about 66° and forms the hanging wall of the shaft. Its footwall is schist. The total width of the vein structure exposed in the lower, untimbered sections of the shaft is about 2 feet. The full width of the structure may not be exposed. The exposed structure is comprised mostly of quartz. Certain internal zones within the structure carry low-grade, discontinuous ferberite mineralization in the form of a breccia filling. The operator has sorted out and sacked the mineral obtained to date from the sinking operation. While portions of the mineral itself occur in a high-grade crystalline form, most of it appears low-grade and quite siliceous.

The $1,102.00 total costs reported for the period on the operator's MF-104 form--equivalent to the completed 14-1/2 feet of shaft sinking at the agreed unit cost of $76.00 per foot--are approved. Payment to the operator of 75 percent of the total reported amount, or $826.50, is recommended.

R. L. Bolmer

R. L. Bolmer
Mining Engineer

RLB/kp

cc 6, E654, Chron

Form MF-104 (Rev.)
(April 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of May, 1954 Docket No. DMEA 3182 Contract No. Idm-654
Operator's Name Lloyd P. Mock Minerals Tungsten
Address Nederland, Colorado
Contract Amount, $ 8902.00 Government Participation: 75 % Amount, $ 6676.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent ~~XXXXXXXX Short Form~~ Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
Sinking 14 1/2 ft	1102	-	1102			
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.	-	850.	850			
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	1102	850	1952	1102.00	850.00	1952.00

I certify that the above bill is correct and just and that payment therefor has not been received.
Date 6/7/54 *Payee Lloyd P. Mock

Per _____ Title _____

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 826.50

Signature _____
(Authorized Certifying Officer)

Date 6/14/54 Vou. No. DMA 54-134

(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-654 in accordance with the terms of the contract.

Signature: R.L. Bolmer, $826.50 Title Mining Engineer Date JUN - 9 1954

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE: R. DB!

Signature W. J. King Title Executive Officer Date JUN 14 1954

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of May 1954 Docket No. DMEA 3182 Contract No. Idm-654

Operator's Name Lloyd P. Mock Minerals Tungsten

Address Nederland, Colorado

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts	ft.	1102	14 1/2	1102	14 1/2	76	67	76
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Total Distributed Costs		1102	14 1/2	1102				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.		-	-	850				850
Total Costs		1102		1952				~~850~~ ~~8702.00~~

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 6/7/54 Operator Lloyd P. Mock

Per _____ Title _____

Remarks:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

NARRATIVE REPORT
FOR MAY, 1954

June 7, 1954

Sinking Shaft

During the month of May the shaft was sunk 14 1/2 feet or a total depth of 47 1/2 feet. Difficulty was encountered because the hanging wall and ore continued to pitch at an angle while the foot wall straightened. No matter where or how the holes were drilled, they broke to the foot wall and the size of the shaft got a little out of hand - meaning, of course, that about twice as much rock had to be moved as would have been necessary had we kept the shaft to normal size.

I believe I have more competent help now, and the shaft is getting trimmed back to size.

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

224 New Customhouse
Denver 2, Colorado

May 19, 1954.

WSM

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region IV

Subject: DMEA Docket 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock (Mock Shaft), Boulder County, Colorado.

Enclosed are two copies of the Operator's Monthly Progress Report, Form MF-104 and MF-104A, Operator's Narrative Report, Inspecting Engineer's Narrative Report, and other supporting data pertaining to work under the subject contract for the period April 1954.

W H King
W. H. King

Enclosures

MF-104
April

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

224 New Customhouse
Denver 2, Colorado

May 7, 1954.

Memorandum

To: T. A. Christensen

From: Executive Officer, DMEA Field Team, Region IV

Subject: DMEA Docket 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock (Mock Shaft), Boulder County, Colorado. Operator's Monthly Progress Report for the period April 1954.

Enclosed are the original and four copies of Form MF-104 and MF-104A, Narrative Report, and Engineer's Report for the above period.

Work has been completed as authorized by the contract. No documentation is required for work performed under contracts prepared on Form MF-200A, therefore we recommend that payment be made for 75 per cent of the amount reported by the Operator on Form MF-104, contingent on your verification of arithmetical accuracy within the report.

Remarks:

Date of Report	May 4, 1954.
Date Received in Field Office	May 5, 1954.
Date Received in Region Office	May 6, 1954.

W. H. King

W. H. King

Enclosures

RDB:cwm

cc: Contract
Secretary to the Oper. Comm. (2)
WMTraver
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
May 6, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3182 (Tungsten), Contract Idm-E654, Lloyd F. Mock (Mock shaft), Boulder County, Colo.--Progress report for April 1954

Enclosed are the original and four copies of the subject progress report, the initial one--forms MF-104 and MF-104A with narrative--and the original and six copies of R. L. Bolmer's memorandum covering his inspection of the surface construction progress and checking of the reporting forms. The contract is unit cost on short form MF-200(A) and documentation is not required.

Bolmer confirms the surface construction consisting of shaft collar at $100.00, headframe at $250.00, and hoist house at $500.00, or a total of $850.00. This is the correct amount allowed for that work under Stage I of the contract and is properly described in the narrative and entered as "New Buildings, Improvements, etc." on the reporting forms. The inspecting engineer approves the work as having been done satisfactorily and in accordance with the terms of the contract.

Payment is approved and certified on the MF-104 forms of $637.50, or 75 percent of the total $850.00 claimed by the contractor.

W. M. Traver

W. M. Traver

enclosure

WMT/kp

cc 4
E654
Chron

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
May 5, 1954

Memorandum

To: Chief, Mineral Resources Branch, Mining Division, Region IV

From: R. L. Bolmer

Subject: DMEA 3182 (Tungsten), Contract Idm-8654, Lloyd P. Mock (Mock shaft), Boulder County, Colo.--Progress report for April 1954

Progress under the subject, short-form contract was inspected May 3, 1954. The progress reported for the period by the operator--the construction of a shaft collar, headframe, and hoist house--was confirmed. This work is authorized under Stage I, Exhibit A of the contract at unit costs of $100.00, $250.00, and $500.00, respectively. The construction has been completed to the satisfaction of the inspecting engineer. Details of the work are described adequately in the operator's narrative. The progress is shown correctly on form MF-104A. The $850.00 total costs reported for this period, therefore, are approved. Payment of 75 percent of the total reported amount, or $637.50, is recommended.

R. L. Bolmer

R. L. Bolmer
Mining Engineer

RLB/kp

cc 6
8654
Chron

(Rev.)
(April 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of April, 1954 Docket No. DMEA 3182 Contract No. Idm.-E654
Operator's Name Lloyd P. Mock Minerals Tungsten
Address Nederland, Colorado
Contract Amount, $ 8902.00 Government Participation: 75 % Amount, $ 6676.50

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) ~~Independent~~ Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.	850.00	-	850.00			
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	850.00	-	850.00	850.00		850.00

I certify that the above bill is correct and just and that payment therefor has not been received.

Date May 4, 1954 *Payee Lloyd P. Mock

Per _____ Title _____

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 637.50

Signature _____
(Authorized Certifying Officer)

Date 5/10/54 Vou. No. 54-120

(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-654 in accordance with the terms of the contract.

Signature R. L. Bolmer, $637.50 Title Mining Engineer Date MAY 5 - 1954

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE: R.D.B.

Signature W. H. King Title Executive Officer Date MAY 7 1954

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

104A

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of April 1954 Docket No. DMEA 3182 Contract No. Idm.-E654

Operator's Name Lloyd P. Mock Minerals Tungsten

Address Nederland, Colorado

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS								TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.		850.00	3	850.00				850.00
TOTAL COSTS		850.00		850.00				850.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date May 4, 1954 Operator Lloyd P. Mock

Per _____ Title _____

REMARKS:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

U. S. GOVERNMENT PRINTING OFFICE 205676

NARRATIVE REPORT
FOR APRIL, 1954

May 4, 1954

Work was started Saturday, April 10. I had a bulldozer in to make fill upon completion of timbering; to level for head frame; and level place for hoist house.

Collaring shaft

Completed the shaft collar the first day with no trouble as I had previously cut timbers.

Headframe

Set 22-foot, four-post headframe. Installed chiv wheel, dump sheet and dump chute.

Hoist house

Had difficulty in leveling sufficient space for house due to the pitch of the hill and the proximity of bed rock to surface. Had to drill and shoot for depth of approximately four feet to gain sufficient area for house. Then got back-hoe digger in to remove dirt. The hoist house is 24' x 15', twelve feet high in front and eight feet in the rear, covered with asphalt siding; has eleven windows and two doors, one large enough to accomodate equipment. Poured two cement strips 18" x 10" x 5' for hoist mount. Spent one day setting up gear drive to motor. We have two carbon tet' fire extinguishers and upon recommendation of Mr. Ballmer will purchase a soda acid type extinguisher which should give us adequate fire protection.

Lloyd P. Mock

L. P. Mock

400

IN REPLY REFER TO:

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

November 1, 1956

Re: DMEA 3182 - Ikn C-654
Lloyd Mock
Mock Shaft, Big 6 Mine
Boulder County, Colorado
$8,902.00 - Tungsten

WSM

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 approved the expenditure of $8,902.00 on shaft sinking and drifting. The sum approved was spent on the following principal work:

Shaft sinking	67 feet
Drifting	80 feet

In the course of the sinking and drifting, 2-1/2 units of WO_3 were recovered and sold. The average grade of the material excavated is estimated to be 0.06%.

Because of the almost negative results of the work, the examiners and Field Team recommend that no certificate of discovery be issued.

I concur with the recommendation.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-11/1/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
R. Holliday, 3517

IN REPLY REFER TO:

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

November 1, 1956

Re: DMEA 3182
Lloyd Mock
Mock Shaft, Big 6 Mine
Boulder County, Colorado
$8,902.00 - 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 approved the expenditure of $8,902.00 on shaft sinking and drifting. The sum approved was spent on the following principal work:

Shaft sinking	67 feet
Drifting	80 feet

In the course of the sinking and drifting, 2-1/2 units of WO_3 were recovered and sold. The average grade of the material excavated is estimated to be 0.06%.

Because of the almost negative results of the work, the examiners and Field Team recommend that no certificate of discovery be issued.

I concur with the recommendation.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-11/1/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
R. Holliday, 3517

IN REPLY REFER TO:

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

November 1, 1956

Re: DMEA 3182
Lloyd Mook
Mook Shaft, Big 6 Mine
Boulder County, Colorado
$8,902.00 - 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 approved the expenditure of $8,902.00 on shaft sinking and drifting. The sum approved was spent on the following principal work:

Shaft sinking	67 feet
Drifting	80 feet

In the course of the sinking and drifting, 2-1/2 units of WO_3 were recovered and sold. The average grade of the material excavated is estimated to be 0.06%.

Because of the almost negative results of the work, the examiners and Field Team recommend that no certificate of discovery be issued.

I concur with the recommendation.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-11/1/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
R. Holliday, 3517

MAR 8 - 1955

Mr. Lloyd F. Mack
1140 So. Fend Street
Denver 6, Colorado

Re: Docket No. DMEA 7182 - Tungsten
Big Six Mine, Mack Shaft
Boulder County, Colorado
Contract No. [illegible]

Dear Mr. Mack:

This is with reference to the subject Exploration Contract between you and the Government.

It is not our intention to make a certification of discovery or development which would create a lien against the subject property. We are, therefore, closing our books and records with respect to this project. Your attention is called, however, to the provisions of the Contract which require the Operator to keep and preserve certain records for the period indicated.

We regret that the exploration work performed did not result in a certification of discovery or development. Your participation in the exploration program, however, is sincerely appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

TLChapman:fec
3-3-55
cc to: Docket
Code 400
Adm. Reading File
Mr. Selfridge
FT. REG. III
Mr. Holliday, USBM
Mr. Hillsgaard, USGS

March 3, 1955

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: General summary of contract and results obtained
Docket No. DMEA 3182 - Tungsten
Lloyd P. Mack
Big Six Mine, Mack Shaft
Boulder County, Colorado
Contract No. 14m-265A

Operator: Lloyd P. Mack
1440 St. Paul Street
Denver 6, Colorado

Property Rights: Property is under lease to Mr. Lloyd P. Mack from the owner Mr. Richard M. Tatlow, 10 East 40th Street, New York, N. Y.

Location: The Big Six mine is located in the Grand Island Mining District, Sec. 13, T. 1 S., R. 73 W. Boulder County, Colorado.

Geology: The basic rocks of the area are pre-Cambrian gneiss and schist, with later intrusions of pegmatite and aplite. Fissure veins occur within a shear zone and are composed mainly of quartz in pods, vugs and veinlets of fluorite occur.

Application and Contract: The Applicant asked for an exploration project which covered repair of shaft collar, erecting headframe and shaft-house, 67 feet of shaft sinking, 80 feet of drifting and 80 feet of cross-cutting at a cost of $10,030.46. As recommended by the Field Team the contract was written on a unit cost basis, for repair of shaft collar, erection of headframe and shaft-house, at a cost of $850.00 67 feet of shaft sinking at $76.00 per foot and 80 feet of drifting at $37.00 per foot, with a total cost of $8,902.00 of which

of which the Government share at 75 percent was $6,676.50. The original drifting was set for the 100 foot level, but due to the breaking up of the vein was changed to the 88 and 51 foot levels. All work was completed according to the contract in an efficient manner and all the alloted money was expended.

An application for an amendment for further work was denied.

History: The property was first opened up in 1900 and has produced approximately 1,750 units of WO_3. Most of the work was carried out by lessors during various periods. The present Operator started work in 1949. During the time of the project he saved 1,467 pounds of ore which assayed 3.40 percent WO_3 and returned $61.82, on which $3.09 royalty was paid.

Conclusions: As no minable ore was developed or discovered by the project, no certification of discovery or development is being issued.

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

TLChapman:fec
3-3-55
cc to: Docket
Code 400
Adm. Reading File
Mr. Selfridge

3182 - E654 WO3 - $8902.00

Contract dated Jan 4 - 1954
signed by King - Smith JWS DTHB
Feb 8 54
Amd #1 - extend start date 60 - to 120 days

Aug 19 54 - authorize 2nd stage
Sept 10 permission deept in other direction

Sept 28 53 recd
Exam Oct 6 & 20 53
Jt report Nov 5
Contract Jan 4 54

Appr dated Sept 28 53
Exam Oct 6 (BM) Oct 20 (GS)
no date on FT Report, Oct 20 BM
Jt report Nov 5 - 53

Traver reviews & recs to King Nov 3

Work started in Apr. -
Checked each month

Badspots: gave no consideration to salvage
value of Head Fr & Hosp Lts

Oct 26 - Demos further explo
we needed for final report
rec'd 2/14/55

400

COPY

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

224 New Customhouse
Denver 2, Colorado

February 4, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket DMEA 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock, Mock Shaft, Big 6 Mine, Boulder County, Colorado

Enclosed are the following final reports pertaining to work completed under the subject contract:

1. Original and one copy of the operator's final report.

2. Original and three copies of the final geologic report by the U.S. Geological Survey.

3. Original and three copies of the final engineering report by the U.S. Bureau of Mines.

Final payment to the operator was processed by this office December 16, 1954, in conformance with the final Report of Review by the Contract Administration and Audit Division dated December 15, 1954.

The exploration work consisted of shaft collar construction, construction of head frame, construction of hoist house, 67 feet of winze sinking and 80 feet of drifting at a total accepted cost of $8902.00 in which the Government participated to the extent of 75% or an amount of $6676.50.

The exploration work did not result in a discovery or development of tungsten ore, therefore certification of the project as a discovery or development under the terms of the contract is not recommended.

/s/ W. M. TRAVER
W. M. Traver

/s/ E. N. HARSHMAN
E. N. Harshman

Enclosures

DMEA OPERATING COMMITTEE
2-14-55

DMEA

FEB 3 1955

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region III

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
February 2, 1955

Mining Liaison Officer
RECEIVED
FEB 10 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw

Subject: DMEA 3182, Contract Idm-E654 (Tungsten), Lloyd P. Mock, Mock Shaft, Big Six Mine, Boulder County, Colorado - Final Engineering Report

Enclosed are the original and eight copies of a final engineering report by R. L. Bolmer, mining engineer, on Contract Idm-E654.

The exploration project on the Big Six Mine has been completed efficiently and in accordance with the terms of the contract. The work did not result in a discovery of any tungsten and it is recommended that no Certification of Discovery be made by the Government.

John F. Shaw

John F. Shaw

Enclosures

JFS/cm

cc 8 ✓
E654
Chron

Reviewed by
DMEA OPERATING COMMITTEE
2-14-55
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

FINAL ENGINEERING REPORT

DMEA 3182, Exploration Project Contract 14m-M64

Mook Shaft, Big Six Mine

Lloyd P. Mook

Boulder County, Colorado

Tungsten

R. L. Belmar, Mining Engineer

January 24, 1955

Reviewed by
DMEA OPERATING COMMITTEE
2-14-55
(Date)

DMEA 3182
Contract Idm-2654

MOOK SHAFT, BIG SIX MINE
LLOYD F. MOOK
BOULDER COUNTY, COLORADO

CONTENTS

Final Engineering Report — Page

Summary and introduction..... 1
Location and ownership..... 4
History and production..... 5
Description of the deposit..... 6
Work completed under the contract..... 7
Expenditures..... 9
Production from property during contract period..... 11
Efficiency of operation..... 11
Equipment..... 12
Conclusions..... 12
Recommendations..... 12

ILLUSTRATIONS

Figure	Follows page
1. Location Map, Mook Shaft, Big Six Mine, Boulder County, Colorado	4
2. Plan and Sections, Mook Shaft, Big Six Mine, Boulder County, Colorado	9

DMEA 3182
Contract Idm-2654

MOCK SHAFT, BIG SIX MINE
LLOYD P. MOCK
BOULDER COUNTY, COLORADO

FINAL ENGINEERING REPORT

By

R. L. Palmer

SUMMARY AND INTRODUCTION

A tungsten exploration project authorized at the Big Six mining property in Boulder County, Colorado, under Exploration Project Contract Idm-2654 was completed September 16, 1954. Project work did not result in the discovery of significant tungsten reserves and a certification of discovery under the contract, therefore, was not recommended. Further exploration of the property with Government assistance was considered unwarranted.

Application for Government assistance in an exploration project at the Big Six property (Docket No. DMEA 3182) was submitted to the DMEA Field Team, Region III (formerly Region IV) in September 1953. The applicant and lessee of the property, Lloyd P. Mock, 1440 St. Paul Street, Denver, Colorado, proposed deeper exploration of a tungsten bearing vein then exposed along the surface and in a shallow shaft. Specifically, he proposed to sink the shaft 47 feet to a new 100-foot level and, at the new depth, to drift 50 feet on the vein in both directions from the shaft and to crosscut a total of 50 feet from the ends of the drifts. His estimate of the total cost of such work was $10,050.40.

The property was inspected in October 1953 by an examining team from the Bureau of Mines and the Geological Survey. The examining team concluded that the ore potential of the deposit was not too great but some exploration with depth might develop moderate reserves of tungsten. It recommended a modified program, which eliminated the proposed crosscutting and divided the project into two stages. The modified program, if carried to completion, was estimated to cost a total of $8,908.00.

The recommended modified project subsequently was approved by the DMEA Field Team, Region III (formerly Region IV) and a short-form exploration project contract between the United States of America and the applicant was prepared. Due to the reluctance of the property owner to sign a subordination agreement, the contract was not signed until January 4, 1954. The total contract amount was $8,908.00 of which the Government agreed to pay 75 percent of certain agreed costs as they accrued for units of work actually performed according to the description or specifications as set forth in the contract. Project work was to commence within 60 days and was to be completed within a period of 7 months from the date of the contract. The contract later was amended to extend the starting date to 120 days and the completion time to 9 months.

Stage 1 of the contract provided for the construction of a shaft collar, headframe, and hoist house at unit prices of $100.00, $250.00, and $500.00, respectively. It also provided for sinking the Hock shaft 87 feet to the 100-foot level, or to the bottom of mineralization, whichever occurred first. Sinking was to be performed at the agreed

unit price of $76.00 per foot. Stage 2 consisted of 80 feet of drifting on the 100-foot level, or from the bottom of mineralization, if approved by the Field Team. Drifting was to be performed at a unit cost of $37.00 per foot.

Project work commenced April 10, 1954, with the construction of the authorized surface facilities. Shaft sinking was started the following month. The authorized 67 feet of sinking had been completed by August. While the vein exposed in the shaft remained strong and, for the most part, mineralized, the mineralization in no section approached commercial grade. The structure itself weakened in the final few feet of the shaft. The operator was permitted to commence drifting southwesterly on the vein at a depth of 88 feet in the shaft. The vein weakened and was mostly barren in this direction. The drift was stopped 53 feet from the shaft upon the recommendation of the inspecting engineer. The operator requested and was permitted to expend the remaining 27 feet of drift northeasterly on the vein at a depth of 51 feet in the shaft. The mineralization of the vein in this section also did not approach commercial concentrations.

The authorized project work was completed September 16, 1954 and the operator, thereupon, requested authority under the contract to perform some 270 feet of additional drifting and crosscutting at a unit price of $37.00 per feet. Specifically, he requested permission to crosscut 50 feet into the hanging wall of the shaft and to drift 100 feet on any veins encountered. He also wished to extend the two level drifts an additional 70 feet northeasterly and 50 feet southwesterly. An examining team reinspected the property October 18, 1954. The

results of the earlier project work had been unpromising and the operator's request for additional exploration, therefore, was considered unwarranted and was denied.

All of the units of work authorized for the project were completed by the operator in the manner specified by the contract. Costs of the completed work were reported monthly by, and reimbursed to the operator as they accrued. Costs totaling $8,902.00 - equivalent to the completed and authorized units of work at their respective agreed unit prices - were reported by the operator and accepted by the Executive Officer, DMEA Field Team, Region III (formerly Region IV). The operator was reimbursed for 75 percent of the accepted costs, or for a total of $6,676.50. An amount of $100.00, withheld from reimbursement to the operator pending receipt of his Final Project Report and release of the Final Report of Review by the Contract Administration and Audit Division, was paid December 17, 1954.

The operator carefully sorted and cobbed all the recoverable tungsten mineral from the vein material excavated during project sinking operations. He recovered 1,467 net dry pounds of ferberite ore averaging 3.40 percent tungsten trioxide, which he marketed for a net value of $61.82. The Government was paid a royalty of 5 percent, or $3.09, on this production.

LOCATION AND OWNERSHIP

The Big Six mining property - 40 acres, more or less, including the Big Six mine, the Meek shaft, and some other shallow workings - is located in the Grand Island Mining District in the NW1/4NW1/4 sec. 13, T. 1 S., R. 73 W., sixth principal meridian, Boulder County, Colorado, (fig. 1). The altitude of the collar of the Meek Shaft is about

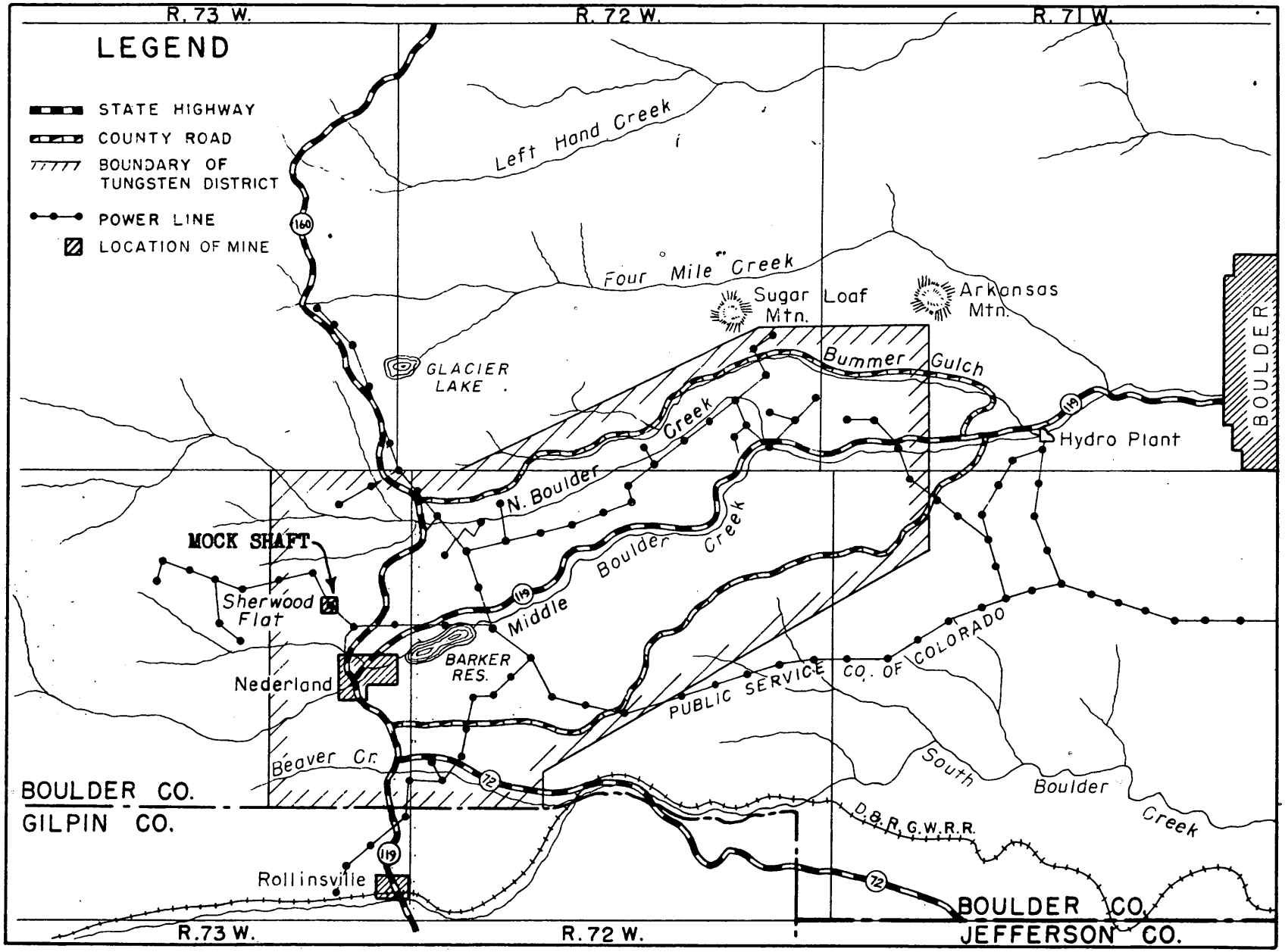


FIGURE 1 - LOCATION MAP, MOCK SHAFT, BIG SIX MINE, BOULDER COUNTY, COLO. (DMEA 3182, Contract Idm - E654)

8,535 feet. An access road, 0.6 mile long, connects the property with State Highway 160 about 1/2 mile north of the town of Nederland, from whence paved roads lead south 4 miles to Ralliesville, the nearest railhead, and east 18 miles to Boulder, the nearest supply center.

The property is owned by Richard H. Tatlow III, 10 East 40th Street, New York City, New York, who leased it to Lloyd F. Mack, the operator under the exploration project contract, on August 25, 1949, for a 3-year period. The lease carries a 3-year extension option making it effective until August 25, 1955. It provides for a royalty payment of 25 percent on the value of any minerals produced from the property. An owner's consent to lien was signed by Tatlow.

HISTORY AND PRODUCTION

Ferberite was first produced in Boulder County in 1900. The Conger mine, about 1/2 mile northwest of the Big Six shaft, was one of the earliest operations and the largest producer (500,000 s.t.u. WO_3). The Big Six deposit was discovered in the early 1900's and the shaft was sunk to a depth of 170 feet. It has been worked by many different lessees at intervals since its discovery. Complete records are not available but its total production is believed to be about 1,750 s.t.u. WO_3. Shipments during World War II amounted to 75.48 tons containing 1.19 percent WO_3. A production of about 150 s.t.u. is reported since that period.

The operator began prospecting on the tract in 1949. In 1952, he commenced work on the old Mack shaft some 350 feet south of the Big Six mine. The shaft was cleaned out and sunk from 35 feet to its present depth of 50 feet. About 50 feet farther south, the Mack Shaft

was sunk on the same vein to a depth of 33 feet. During the two years preceding the exploration project, the operator shipped 3.3 tons of sorted and up-graded ore averaging 5.36 percent WO_3 from the two shafts.

DESCRIPTION OF THE DEPOSIT

The rocks in the area are pre-Cambrian metamorphics which have been intruded by later pegmatite and aplite. A fissure vein, that occupies a shear zone in the metamorphics, outcrops in the vicinity of the Mack shaft. This zone strikes N. 20° E., dips 60° to 70° to the southeast, and is between 2 and 4 feet in width. It can be traced on the surface for a distance of about 100 feet in either direction from the shaft.

The old Mack shaft, which reportedly was sunk to a depth of 50 feet on the structure, is lightly lagged to its water level. The structure in the first 30 feet of the new shaft also is obscured by lagging. The zone exposed immediately below the lagging is 30 inches in width. It dips about 66° between an irregular foot wall of schist and a hanging wall, which is poorly exposed but probably is aplite. Tungsten mineralization in the form of ferberite ($FeWO_4$) is confined to an 8-inch streak of fine-grained, brecciated quartz along the hanging wall. The mineral is somewhat impure and occurs disseminated within the quartz either as narrow, discontinuous lenses and pods or as a breccia filling. Samples of the mineralized streak at this depth assayed up to 3 percent tungsten trioxide.

Shaft sinking during the project exposed the zone for an additional 67 feet or to a depth of approximately 100 feet below the surface.

Its character did not change appreciably within the first 50 feet of this distance. The footwall of the zone remained in schist and continued irregular and poorly defined. The quartz streak along its hanging wall ranged between 8 and 12 inches and continued to carry minor lenses, blebs, and patches of ferberite, none of which, however, were wide or continuous enough for commercial extraction. The zone began to flatten and weaken at a depth of about 85 feet. At a depth of 92 feet the structure dipped only 52° and had all but pinched out on the northeast side of the shaft. At 98 feet it had flattened to 46° and was considerably weaker on the southwest side of the shaft.

The structure was explored for 53 feet southwest of the shaft along the 88-foot level. It flattened and weakened rapidly in this direction. Most of its mineralization disappeared within a few feet of the shaft, and the zone was entirely barren of tungsten in the southwest end of the level.

A short level driven northeasterly on the zone at a depth of 51 feet, also proved disappointing. While the zone continued well defined in this direction, its mineral content remained scattered and disseminated and never approached commercial concentrations.

WORK COMPLETED UNDER THE CONTRACT

Project work commenced April 10, 1954, with the preparation of the surface site for the headframe and hoist house. Some rock excavation was necessary before the site could be leveled with a bulldozer. The collar and the first 29 feet of the shaft was retimbered and cribbed tightly and then backfilled. Skids for a hoisting bucket were provided in the shaft and runway ladders were installed.

A 22-foot, 4-post headframe, complete with sheave wheel, dumping sheet, and chute, was constructed over the shaft collar. Mine track was extended from the shaft collar to the waste dump. A 22-foot by 15-foot frame hoist house was erected some 25 feet east of the shaft. Concrete foundations were poured inside the building for a single-drum, geared hoist. The gasoline engine drive for the hoist was installed outside the building. A 105 c.f.m. portable air compressor, which the operator rented with an option to purchase, was installed on the surface.

The existing depth of the Mock shaft measured 31.5 feet below the newly constructed shaft collar. Project sinking operations started at this depth May 1, 1954, and the authorized 67 feet of sinking to a depth of 98.5 feet below the new collar had been completed by August 1954. No unusual conditions were encountered. The shaft made some water and, therefore, was advanced by benching. Water was removed with an air-powered sump pump. The shaft was sunk on the dip of the shear zone. The hanging wall of this structure was stronger and more regular, and the shaft rounds broke cleanly to it. Rounds were drilled so as to provide an 8-foot by 4-foot cross section inside the shaft timbers. Round native timber was employed for the most part.

The zone weakened in the lower 10 feet of the shaft and the operator was permitted by the Field Team to drift southwesterly on the structure at a depth of approximately 85 feet below the collar. The drift was started at the 88-foot level and was advanced 53 feet along the structure during August. The zone weakened and became barren of tungsten southwesterly along the level and the heading was stopped upon the recommendation of the inspecting engineer.

The most favorable exposure of the zone along the northeast side of the shaft occurred between a depth of 50 and 60 feet. The operator requested and was granted permission to expend the remaining 87 feet of the authorized drifting at this location. Drifting started at the 51-foot level and was completed September 16, 1954. While the zone along this level remained strong and well defined, its mineralization did not improve. The operator continued the northeast drift at his own expense but stopped it at a distance of about 40 feet from the shaft when the zone began to split up and weaken. The underground exploration completed under the contract is indicated on figure 2.

The labor force for the project included the operator, who supervised the operation and performed most of the necessary surface work, and either 1 or 2 underground employees. The underground employees were hired either at a daily rate or on a contract footage basis. Occasionally, the operator's son worked at the project. Operations were carried out on a single shift per day, six days per week.

EXPENDITURES

The total estimated cost of the project was $8,920.00, of which the Government agreed to pay 75 percent of certain agreed costs as they accrued for units of work actually completed according to the description or specifications as set forth in the contract. All of the units of work authorized for the project were completed by the operator in the manner specified in the contract. Project costs were reported monthly by the operator as they accrued and 75 percent of

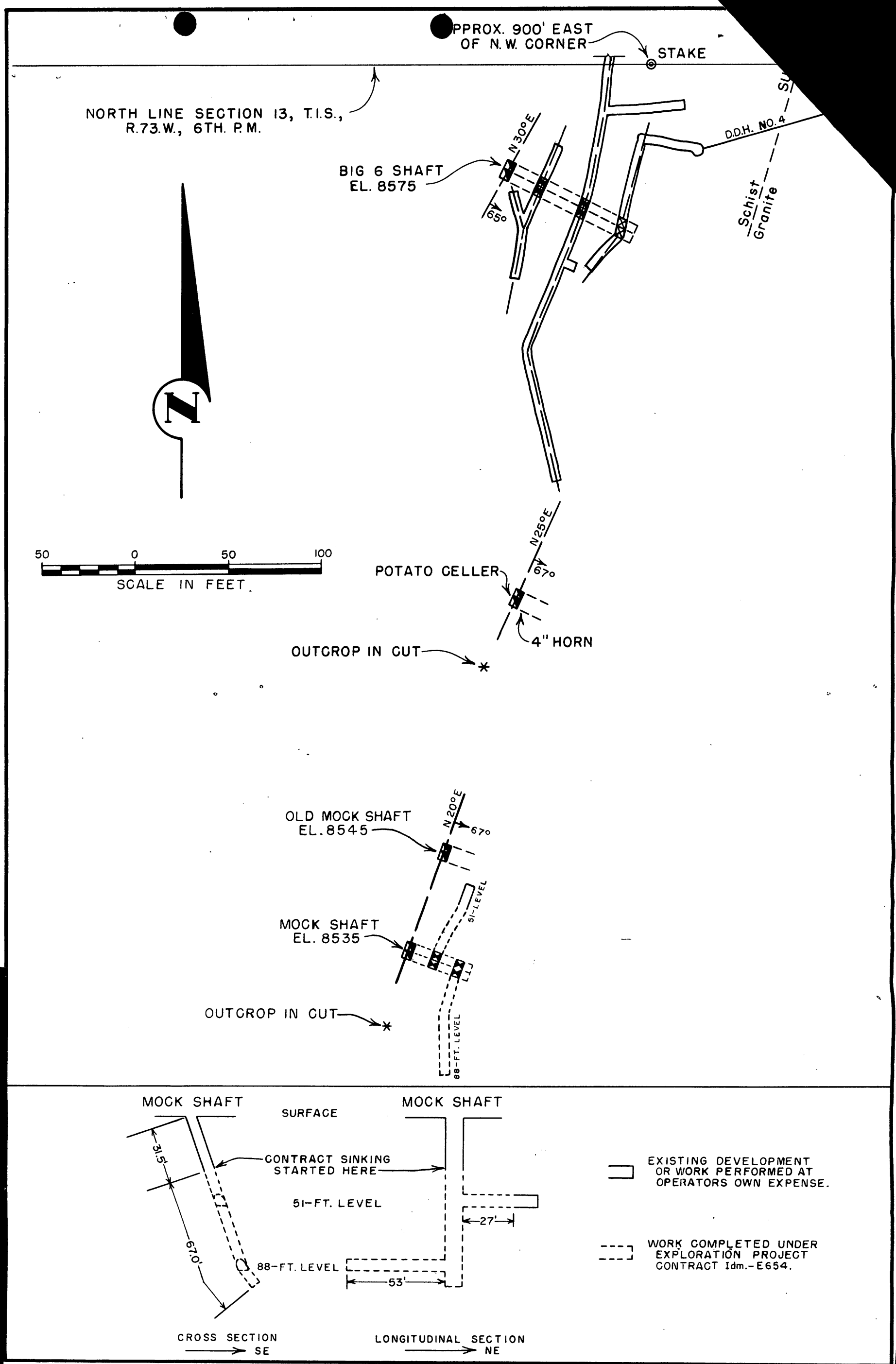


FIGURE 2. PLAN AND SECTIONS, MOCK SHAFT, BOULDER COUNTY, COLO. (DMEA 3182, CONTRACT Idm-E654)

the agreed amount was reimbursed to the operator upon verification of the work by the inspecting engineer and its acceptance by the Executive Officer, DMEA Field Team, Region III (formerly Region IV). Project costs totaling $8,902.00 - equivalent to the completed and authorized units of work at the agreed unit prices - were reported by the operator and accepted by the Executive Officer. The operator received reimbursement for 75 percent of the accepted amount, or a total of $6,676.50. An amount of $100.00, which was withheld from the final reimbursement to the operator pending receipt of his Final Project Report and the release of the Final Report of Review by the Contract Administration and Audit Division, was paid December 17, 1954.

The authorized work performed during the project and the agreed costs at which reimbursement was claimed and accepted is summarized below:

Description	Units completed	Unit cost	Accepted amount
Stage 1:			
Construct shaft collar	job	$100.00	$ 100.00
Construct headframe	job	250.00	250.00
Construct hoist house	job	500.00	500.00
Shaft sinking	67 feet	76.00	5,092.00
Stage 2:			
Drifting	80 feet	37.00	2,960.00
Total reported and accepted costs of project			$8,902.00
Government participation - 75 percent			$6,676.50

PRODUCTION FROM PROPERTY DURING CONTRACT PERIOD

The operator carefully sorted and cobbed most of the recoverable tungsten mineral from the coarser vein material excavated during the first 50 feet or so of project sinking operations. The ferberite ore thus recovered was shipped to a local custom mill August 10, 1954. The settlement received on this shipment is detailed below. The Government was paid a royalty of 5 percent, or $3.09, on the net value of the ore.

Net dry weight:	1,467 lbs.	Gross value:	$76.82
Assay:	3.40 percent WO_3	Deductions:	15.80 (sampling)
Metal content:	49.88 lbs. WO_3	Net Value:	$61.02

The fine-sized material excavated from the shaft was below the minimum acceptable mill grade and was not amenable to upgrading by hand methods. The coarse material, from which the operator's shipment derived, usually contains about 50 percent of the total mineral content. If it is assumed that the mineral in the zone was confined within a minimum mining width of 30 inches, then it can be calculated that the section of vein excavated in the shaft is equivalent to a volume of approximately 1,000 cubic feet or a weight of about 170,000 pounds. The computed average grade of this section of the vein, therefore, is only 0.06 percent WO_3 and definitely noncommercial.

EFFICIENCY OF OPERATION

Project operations were carried out efficiently and according to generally accepted mining procedure in the district. The sinking progress during the project was somewhat slower than usually experienced

for similar operations in the district. The operator found it difficult to attract and retain experienced underground labor.

EQUIPMENT

The short form exploration contract for this project was prepared on form MF-200A(Feb. 1952). Under this form of contract, the estimated agreed unit costs reflect a reduction for the estimated salvage value of all facilities, improvements, equipment, and materials that may remain unexpended at the completion of the project.

CONCLUSIONS

It is concluded that the exploration project at the Big Six property was carried out and completed efficiently and in the manner specified in the contract. The costs reported by the operator were those agreed to in the contract. Government participation in the reported costs of the project, to the extent provided in the contract, therefore, is justified and in order.

Project work did not result in the discovery of any tungsten ore reserves from which production is economically feasible. It appears that the operator will abandon all his efforts at the property. Further exploration of the deposit with Government assistance is not considered warranted.

RECOMMENDATIONS

Inasmuch, as project work did not result in the discovery of significant ore reserves and it appears that the operator will not continue operations at the property, it is recommended that no Certification of Discovery be made by the Government.

RLB/cm

IN REPLY REFER TO:

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 10 1955

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

November 29, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Kauchmann

Subject: DMEA Docket 3182, Lloyd F. Mack, Big 6 Mine, Boulder County, Colorado

Enclosed are 9 copies of a final geologic report on the above subject property by D. H. Maclaren, U. S. Geological Survey.

A strong shear zone in granite, aplite, and schistose prospected by a 180 foot shaft (67 feet sunk with Government assistance), and 94 feet of drifting on 2 levels (80 feet driven with Government assistance. Although the ground was well prepared for deposition of ore, torberite was found only in thin coatings on fracture surfaces and in small lenses and stringers in the sheared granite and aplite.

It is concluded that the property does not warrant additional exploration either now or in the future and that a certification of discovery should not be issued.

The conclusions are sound and it appears that a certification of discovery should not be issued.

E. M. Hauchmann
for A. H. Kauchmann
Supervising Geologist
Colorado-Wyoming

Enclosures (9)

Reviewed by
DMEA OPERATING COMMITTEE
2-14-55
(date)

HECK SHAFT, BIG SIX MINE

BOULDER COUNTY, COLORADO

DMEA DOCKET 3182

Final Geologic Report

Reviewed by
DMEA OPERATING COMMITTEE
2-14-55
(date)

By D. R. MacLaren
U. S. Geological Survey

HOCK SHAFT, BIG SIX MINE
BOULDER COUNTY, COLORADO

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 10 1955

INTRODUCTION

Contract Idm-2634 between Lloyd P. Hock and the Defense Minerals Exploration Administration was signed January 4, 1954. The operator was to explore for tungsten in the Hock shaft, Big Six mine, in sec. 13, T. 1 S., R. 73 W., Boulder County, Colorado. The contract, set up in two stages, provides for surface installations and deepening the Hock shaft 67 feet under Stage I and drifting 50 feet from the shaft under Stage II at a total cost not to exceed $8,902.00 of which the Government's share is $6,676.50 or 75%. Work was to start within 60 days and be completed within 7 months. However, Amendment No. 1 dated February 2, 1954, extended the starting date to within 120 days, and Amendment No. 2 dated September 15, 1954, extended the date of completion to within 9 months. Work was started April 10, 1954, and was completed about September 15, 1954. It is concluded that no ore was discovered and it is recommended that no more Government funds be spent on this project.

GEOLOGY

Gneiss and schist of the Idaho Springs formation of pre-Cambrian age are intruded by pegmatite and aplite dikes and Boulder Creek granite. These rocks are cut by fissures most of which strike northwesterly and dip steeply to the east. Ferberite occurs along many of the fissures as coatings, veins, and vug fillings, often in sufficient amounts to form ore bodies.

The Hock shaft (figure 1) was sunk to a depth of 180 feet to explore a strong shear zone, 3 to 6 feet wide, that strikes N. 22° E. and dips 60° to 70° E. For most of its depth the shaft shows that the shear zone has a

footwall of schist and a hangingwall of aplite and granite. Ferberite and horn quartz occur as irregular masses and discontinuous stringers dispersed throughout the shear zone. The total thickness of ferberite and horn quartz rarely exceeds 8 to 10 inches. The vein material as taken from the shaft and drifts is not ore grade although after hand sorting it may contain as much as 3% WO_3. About 85 feet below the collar of the shaft the dip of the shear zone flattens to about 45°. Below this point both walls are in schist and there is little or no ferberite.

A level was driven 53 feet southwest from the shaft at a depth of 38 feet below the shaft collar. It follows a shear zone, up to 2 feet wide, that contains quartz stringers, up to 4 inches thick, in a clay gouge. At the shaft the shear zone strikes S. 27° W. and dips 30° SE but to the southwest the strike gradually swings until, at the breast, it is S. 8° W. and the dip flattens to 45° E. No ferberite was found on the 38-foot level, and as the shear zone became narrower and flatter to the southwest, the operator was advised to drive the remaining 27 feet northeast from the shaft at a depth of 32 feet below the shaft collar.

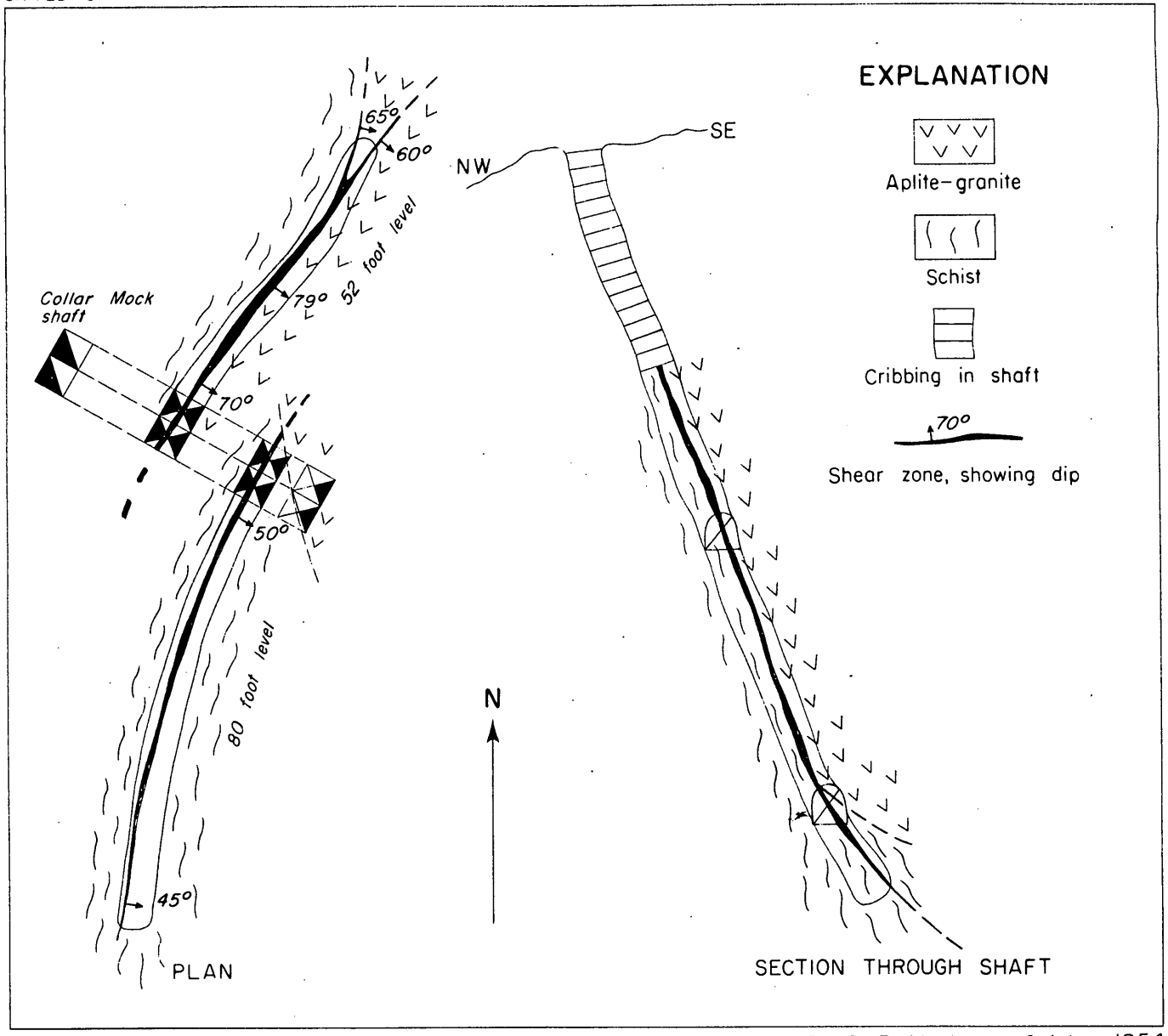
The 32-foot level follows a shear zone, up to 2 feet wide, that contains quartz stringers and two small streaks of horn quartz and ferberite up to 8 inches long. The footwall is sharply defined with schist making up the wall rock. The hangingwall is more difficult to trace as the wall rock on that side is coarsely shattered aplite and granite. Two small ferberite-lined vugs, three to six inches long, and two streaks of horn quartz, four to eight inches long, are in the aplite as much as four feet from the footwall. Although the footwall is not frozen and the hangingwall is shattered and open as is the shear zone proper, no other ferberite was found on the portion of this level driven under the contract.

Upon completion of drifting allowed under the contract, the operator extended the 32-foot level an additional 14 feet at his own expense. About 27 feet from the shaft the footwall of the shear zone swings to the north and at the breast strikes N. 25° E. and dips 65° SE, and a shear, 10 to 14 inches wide, splits to the east striking N. 40° E. and dipping 60° SE. Considerable brecciated, felsitic, dike-like material is exposed in the final 10 feet of the drift, particularly in the hangingwall of the main shear zone. The rock between the main shear zone and the split is broken by many closely spaced fractures, a few of which contain paper thin coatings of ferberite. Veinlets of ferberite, as much as 1/8 inch thick, are in the split and branch from it into the hangingwall. However, the proportion of ferberite to the brecciated wall rock is insignificant and under no circumstances or conditions can the material be considered ore.

CONDITIONS AND RECOMMENDATIONS

It is concluded that the coarsely shattered aplite and granite in the wall rock and the open nature of the shear zone should be most receptive to the deposition of ferberite, and that the few small sparce occurrences of ferberite indicate that the depositing solutions carried little tungsten.

No discovery of ore was made, and the results of 100 feet of shaft sinking, 67 feet under the contract, and 54 feet of drifting, 30 feet under the contract, are disappointing and discouraging. Therefore it is recommended that no further Government funds be expended on this project.



By D. R. MacLaren, October 1954

FIGURE 1. PLAN AND SECTION SHOWING WORKINGS AND GEOLOGY, MOCK SHAFT, BIG SIX MINE, BOULDER COUNTY, COLORADO

20 10 0 40 Feet

[illegible] OF THE INTERIOR
[illegible] Administration
RECEIVED
FEB 10 1933

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 2/10

REFERRED TO:

1. ~~H. Bomy~~
2. Code 400
3.
4.

FOR:

..... Action	..... Recommendation
..... Approval	..... Record of .....
..... Comment	..... Referring to .....
..... Conference	..... Reply for signature of .....
..... Consideration	..... Rewriting
..... Filing	..... Signature
..... Instructions	..... Suggestions
..... Investigation	..... Your information
..... Initials	
..... Mailing	
..... Previous correspondence	

REMARKS:
Send covering memo to Code 400 when you have checked.

Check (X) before the items needing attention.

ROBERT E. ADAMS
Initials of sender.

GPO 16—63815-1

400

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

Department of the Interior
Contract Administration
RECEIVED
FEB 10 1955

224 New Customhouse
Denver 2, Colorado

February 4, 1955

Memorandum

WSM

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket DMEA 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock, Mock Shaft, Big 6 Mine, Boulder County, Colorado

Enclosed are the following final reports pertaining to work completed under the subject contract:

1. Original and one copy of the operator's final report.

2. Original and three copies of the final geologic report by the U.S. Geological Survey.

not gotten 400 2/11

3. Original and three copies of the final engineering report by the U.S. Bureau of Mines.

Final payment to the operator was processed by this office December 16, 1954, in conformance with the final Report of Review by the Contract Administration and Audit Division dated December 15, 1954.

The exploration work consisted of shaft collar construction, construction of head frame, construction of hoist house, 67 feet of winze sinking and 80 feet of drifting at a total accepted cost of $8902.00 in which the Government participated to the extent of 75% or an amount of $6676.50.

The exploration work did not result in a discovery or development of tungsten ore, therefore certification of the project as a discovery or development under the terms of the contract is not recommended.

W. M. Traver
W. M. Traver

E. N. Harshman
E. N. Harshman

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 2/10

RED TO:

1. 400
2.
3.
4.

R:

Action	Recommendation
Approval	Record of
Comment	Referring to
Conference	Reply for signature of
Consideration	Rewriting
Filing	Signature
Instructions	Suggestions
Investigation	Your information
Initials	
Mailing	
Previous correspondence	

REMARKS:

Covering memo to Oper Com. to Cafey - will be forwarded

Check (X) before the items needing attention.

ROBERT E. ADAMS

Initials of sender.

GPO 16—63815-1

400

FINAL REPORT

Docket 3182
Idm E654

November 3, 1954

Work was begun on the shaft house April 10. This work and the construction and erection of a head frame, and timbering of shaft was completed May 1.

W304

On May 1 we started sinking the shaft. During the first fifteen or twenty feet the ore widened to approximately eighteen inches. From this point on down to the 100-foot level it steadily tapered to one half inch of horny, low grade ore. At the 100-foot level the vein appeared to be stronger on the south or downhill side. In the 100-feet of sinking we never had a true hanging wall. What we thought was the hanging wall seemed to duck away so fast that we could not keep with it and maintain a reasonable pitch to the shaft.

With the approval of the DMEA field team a drift was started at the 100-foot level in a southerly direction. Although facings of high grade ore were encountered throughout the 53 feet of drifting, the strata varied markedly throughout with intrusions of schist from the foot wall coming in and going out. At 53 feet, upon recommendation of the field team, we stopped work and went back in the shaft to the 50-foot level to drive in the opposite direction. In the 27 feet allowed at this depth the ore varied from feeders of hairline to 1/2 inch widths.

During the entire project there was no concentration of ore of commercial value.

Respectfully,

Lloyd P. Mock

Lloyd P. Mock
1440 St. Paul
Denver 6, Colorado

400

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

224 New Customhouse
Denver 2, Colorado

January 14, 1955

WSM

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock, Mock Shaft, Big Six mine, Boulder County, Colorado

Reference is made to your letter of January 10, 1955 relative to the operator's final report.

The operator's final report was received in this office November 5, 1954. We have deferred forwarding the report to the Washington office pending receipt of field reports.

W H King
W. H. King

402

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

224 New Customhouse
Denver 2, Colorado

January 5, 1955

WSM

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock (Mock Shaft), Boulder County, Colorado

Enclosed are two copies of a memorandum to T.A. Christensen dated December 16, 1954 relative to final payment under the terms of the subject contract.

Final payment to the operator in the amount of $100.00 has now been made in conformance with the Report of Review by the Contract Administration and Audit Division dated December 15, 1954.

W. H. King

W. H. King

Encls.

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

224 New Customhouse
Denver 2, Colorado

December 16, 1954

Memorandum

To: T. A. Christenson

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMEA 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock (Mock Shaft) Boulder, County, Colorado. FINAL PAYMENT

Reference is made to our memorandum of September 27, 1954, whereby we transmitted the Operator's final Form MF-104, Operator's Monthly Report and Voucher for the month of September 1954, and instructed you to withhold the amount of $100.00 from reimbursement to the Operator pending receipt of the Operator's Final Report and release of the Final Report of Review by the Contract Administration and Audit Division.

The Operator's Final Report is now on file in this office and we now recommend that final payment to the Operator be made on the following basis which is in conformance with the Report of Review by the Contract Administration and Audit Division dated December 15, 1954:

Basis for Final Payment

Total accepted cost	$8,902.00
Government participation at 75%	6,676.50
Total prior payments	6,576.50
Balance due the Operator	$ 100.00

W. H. King

Paid $100.00
Randel R. Cooper
Randel R. Cooper
Authorized Certifying Officer
12-17-54
DMF 55-42

JWT:dm
cc: Sec. to Oper. Comm. (2)
Subject
WMTraver
JWTownsend
Chron

JAN 1 0 1955

Mr. W. H. King, Executive Officer
DMEA Field Team, Region IV
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 3182 - Tungsten
Lloyd P. Mock
Mock Shaft, Big Six mine
Boulder County, Colorado
Contract No. Idm-2654

Dear Mr. King:

Reference is made to the subject docket and your letter of October 26, 1954, advising the operator of his obligation under Article 5 (b) of the contract to furnish a final report.

If the above-referenced report has not been received, the operator should again be advised that a final report is required.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

APPROVED:

J. H. Hedges

Member, Bureau of Mines

Thor H. Kiilsgaard

Member, Geological Survey

FARutledge:foc
1-6-55
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. IV
R. W. Geehan, USBM
T. H. Kiilsgaard, USGS

400

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 1 - 1954

224 New Customhouse
Denver 2, Colorado

OCT 28 1954

Memorandum

NSM

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock, Boulder County, Colorado

In conjunction with and supplementing data forwarded by our memorandum of September 30, 1954 we are enclosing three copies of a letter dated October 26, 1954 to the operator from the DMEA Field Team, Region IV, denying additional Government assistance to further explore the subject property. Also enclosed are three sets of data relative to the matter.

W. H. King

W. H. King

Enclosures

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

224 New Customhouse
Denver 2, Colorado

October 26, 1954

Mr. Lloyd P. Mock
1440 St. Paul
Denver, Colorado

Re: Docket DMEA 3182 (Tungsten)
Contract Idm-E654

Dear Mr. Mock:

Reference is made to your letter of October 11, 1954 wherein you request that further consideration be given your request for additional Government assistance in exploration work on your property in the light of recent developments.

An investigation of the results of work at your expense, subsequent to our decision that further Government assistance would not be forthcoming, strengthens our decision of September 28, 1954 that Government participation in the costs of additional exploration work on your property is not warranted.

We are desirous of closing the account at an early date, therefore we will appreciate receiving your final report in compliance with Article 5(b) of Contract Idm-E654.

Very truly yours,

W H King
W. H. King

E. N. Hackman
for A. H. Koschmann

DMEA Field Team, Region IV

JWT:jp
cc Subject
Chron
Koschmann
Traver
Chairman, Op. Comm. (3)
Townsend

October 11, 1954

DEPT. OF THE INTERIOR
Minerals Administration
RECEIVED
NOV 4 1954

Mr. W. H. King, Executive Officer
DMEA Field Team Region IV
224 New Customshouse
Denver 2, Colorado

Dear Mr. King:

Since the Field Team's examination of the north drift on the 50-foot level for the purpose of an extension of government assistance, we have continued this drift 14 feet further, with the following results:

I believe we have passed through the junction of this vein with the vein which outcrops in the bulldozer cut northeast of the shaft, and encountered a dike. The foot wall vein continues quite strongly at a width of from six to ten inches. The hanging wall vein has widened with numerous feeders extending at various angles into the dike.

With this unexpected improvement in mind, I believe it would be of mutual interest to have the DMEA field team reexamine this heading to see if additional assistance in exploration might now be granted.

I will very much appreciate your further consideration.

Sincerely yours,

Lloyd P. Mock

L. P. Mock

L. P. Mock
1440 St. Paul
Denver, Colorado

October 25, 1954

...NT OF THE INTERIOR
...Minerals Administration
RECEIVED
NOV 1 - 1954

Memorandum

To: A. H. Koschmann E.M.H. for A.H.K.

From: E. M. Harshman

Subject: DMEA Docket 3182 (tungsten), Contract Idm-E654, Lloyd P. Mock, Boulder County, Colorado

In a letter of October 13, 1954, the Executive Officer, DMEA Field Team, Region IV, requested that the Lloyd P. Mock property be re-examined to determine the singificance of the recent developments reported by Mr. Mock in his letter of October 11, 1954.

The property was examined on October 18, 1954, in company with Mr. Mock, operator under the above subject contract.

Following the examination by geologist MacLaren and his memorandum report of September 28, 1954, recommending denial of the operator's request for additional funds, the operator completed a 14-foot extension of the northeast drift on the 30-foot level. About 12 feet from the present face, 2 feet beyond the face at the time of MacLaren's examination, the footwall of the main shear zone swings 5° to 10° to the north and a 10" to 14" wide shear splits easterly from the main shear zone. The split strikes N. 40° E. and dips 60° southeast in contrast to a strike of N. 25° E. and a dip of 65° southeast for the main shear zone. Considerable brecciated, felsitic, dike material is exposed in the last 10 feet of the drift, particularly in the hangingwall of the main shear zone.

The rock between the split and the main shear zone is broken by many closely spaced fractures some of which contain paper thin coatings of ferberite. Veinlets of ferberite as much as 1/8 inch wide occur in the split and branch from it into the hangingwall. The proportion of

ferberite to brecciated wall rock is insignificant and under no circumstance can the material be considered ore grade.

The absence of significant amounts of ferberite near the intersection of the main shear zone and the hangingwall split tends to confirm MacLaren's conclusion that physically favorable ground in the vicinity of the mine workings is not apt to contain appreciable amounts of ore. It is therefore concluded that further exploration under contract Idw-E654 will not lead to the discovery of significant amounts of tungsten ore and it is recommended that no further government assistance be approved.

OCT 2 6 1954

Mr. W. H. King, Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA 3182 - Tungsten
Lloyd P. Mock
Mock Shaft, Big Six Mine
Boulder County, Colorado
Contract No. Idm-E654

Dear Mr. King:

This will acknowledge receipt of your letter of October 18, 1954, concerning the subject contract, with attachments, including memorandum of September 23 to Mr. W. M. Traver from Mr. R. L. Bolmer.

The last paragraph of Mr. Bolmer's report reads as follows:

> "Under this contract, the operator constructed a headframe and a hoist house in which the Government participated to the extent of $187.50 and $375.00, respectively. Neither structure has any appreciable salvage value and is of value only if left in its present location and if operations are continued in the Mock shaft. Short-form contracts, those prepared on form MF-200(A), contain no provisions for the salvage of such facilities and it is assumed, therefore, that the operator will not be required to sell or otherwise liquidate this property for the joint account of himself and the Government."

The subject contract and the two amendments thereto were prepared in your office. Presumably in assigning unit prices to the headframe and hoist house for such a short form contract you deducted the estimated salvage value of such installations from their estimated cost and set up the difference as the unit price which would, of course, be charged in its entirety to the contract. If this was not

the case, this matter is being brought to your attention in order that the estimated salvage value of installations may be deducted in arriving at the unit costs for installations in future contracts.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Approved:

J. H. Hedges

Member, Bureau of Mines

Thor H. Kiilsgaard

Member, Geological Survey

cc: DOCKET
FT, REGION IV
CODE 400
ADMIN. READ. FILE
OPER. COMMITTEE
R. W. GEEHAN, USBM
THOR KIILSGAARD, USGS

WSMartin & FARutledge/ls
10-25-54

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

400

224 New Customhouse
Denver 2, Colorado

September 30, 1954

WSY

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMEA 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock, Big Six Mine, Boulder County, Colorado.

Reference is made to your letter of September 27, 1954, relative to completion date of work under the subject contract, and wherein you advise that if the work was not completed by August 4, 1954, an appropriate amendment should be considered to extend the completion period.

Amendment No. 2 has been executed to extend the period for completion of the project work and the Washington office copies were forwarded by our memorandum of September 15, 1954.

9/15 memo sent only 10-7-54

The operator has requested Government participation in additional exploration work under the contract which has been denied within the authority delegated to this office, and your copy of the DMEA Field Team denial will be forwarded on signature by the members concerned.

W. H. King

Per Miss Curtain another 9/15 memo came in with Amend 2 & they have the official docket copy. We have memo made our copy, per yes official file & made copy. 10-5-54

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

402
Defense Minerals Administration
RECEIVED
OCT - 4 1954

224 New Customhouse
Denver 2, Colorado

SEP 30 1954

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock, Boulder County, Colorado

Enclosed for your records are three copies of DMEA Field Team, Region IV, denial of the operator's request for additional Government assistance to further explore the subject property. Also enclosed are three sets of data relevant to the matter.

W. H. King

W. H. King

Enclosures

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

224 New Customhouse
Denver 2, Colorado

September 28, 1954

Mr. Lloyd F. Mock
Nederland, Colorado

Re: Docket DMEA 3182 (Tungsten)
Contract Idm-E654

Dear Mr. Mock:

Reference is made to your letter of September 9, 1954 wherein you request Government assistance in additional exploration work aggregating 270 feet of drifting at the price of $37.00 per foot.

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

After a careful review of the results of the work performed to date under Contract Idm-E654 and other data presently available to this office, further participation by the Government in exploring for tungsten on your property does not appear to be warranted, therefore your application for additional exploration assistance is denied.

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

Very truly yours,

W. H. KING WHK
W. H. King

A. H. KOSCHMAN AHK
A. H. Koschmann

DMEA Field Team, Region IV

JWT:jp
cc Subject
Chron
Chairman, Op. Comm. (3)
AHKoschmann
WMTraver
JWTownsend

September 27, 1954

Memorandum

To: Mr. A. M. Koschmann E.M.H. for A.M.K.

From: G. R. MacLaren

Subject: DMEA Docket 3182 (tungsten), Contract Idm-5654, Lloyd P. Mock, Boulder County, Colorado

Lloyd P. Mock, operator, has completed exploration authorized by contract Idm-5654, and has requested supplementary funds amounting to $9,990 (Government's share 75% or $7,492.50) to do additional drifting amounting to 220 feet and crosscutting amounting to 50 feet.

I visited the property September 16, 1954, accompanied by R. L. Bolmer of the U. S. Bureau of Mines and the operator. We made a thorough examination of the work completed under stage II of the contract. On the 88-foot level a drift has been driven southwest from the shaft for 53 feet. It follows a shear zone up to a foot wide, that contains quartz stringers, 2 to 4 inches wide, in a clay gouge. At the shaft the shear zone, between walls of schist, dips 61° southeast. Southwest of the shaft, the quartz dies out while the clay-filled shear narrows and tends to disperse along the foliation of the schist. At the breast of the drift the shear zone is not more than a few inches wide and contains no quartz, while the dip flattens to 45° southeast. The operator's statement that "patches of highgrade have been encountered throughout this work and seem to be getting stronger" appears to be incorrect as no ferberite was found by the examiners throughout the 88-foot level.

On the 52-foot level a drift has been driven 25 feet northeast from the shaft. The drift follows a shear zone, up to 2 feet wide, that contains quartz stringers and two small streaks of horn quartz and ferberite about six inches long. The footwall is sharply defined, with

schist making up the wall rock. The hangingwall is more difficult to trace as the wall rock on that side is a coarsely shattered aplitic granite. Two small ferberite lined vugs, three to six inches long and two streaks of horn quartz, four to eight inches long are in the aplite, as much as four feet from the footwall shear. Although the shear zone is not frozen, and the hangingwall is well broken and open, no other ferberite was found on this level.

It is concluded that the coarsely shattered aplitic granite in the shear zone should be very receptive to ore deposition, and that the few and small occurrences of ferberite indicate that the depositing solutions carried little tungsten. The results of 100 feet of winzing, 67 feet under the contract, and 80 feet of drifting are discouraging and further exploration with Government aid is not warranted. Therefore, it is recommended that the request for additional funds be denied.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
September 20, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3182, Contract Idm-8654 (Tungsten), Lloyd F. Mock (Mock shaft), Boulder County, Colo.

Transmitted herewith are the original and eight copies of a memorandum by R. L. Bolmer, covering request by the operator of the subject contract for funds and authority for additional exploration work.

I concur with Bolmer's recommendation that the request by denied.

W. M. Traver

enclosure

WMT/kp

cc 8
8654
Chron

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
September 17, 1954

Memorandum

To: Chief, Mineral Resources Branch, Mining Division, Region IV

From: R. L. Bolmer

Subject: DMEA 3182, Contract Idm-2654 (Tungsten), Lloyd P. Mock (Mock shaft), Boulder County, Colo.--Request for Government assistance in additional exploration work

The operator has requested Government assistance in certain additional exploration work under the subject contract. Specifically, he requests an additional 270 feet of drifting at the presently authorized unit price of $37.00 per foot. The locations of and the reasons for the requested work are outlined in the operator's letter to the DMEA Field Team, Region IV, dated September 9, 1954. The property was examined September 16, 1954, with D. R. Maclaren of the Geological Survey and in the company of the operator.

On the date of examination, the exploration presently authorized under the subject contract--deepening the Mock shaft by 67 feet and drifting a total of 80 feet northeasterly and southwesterly on the vein--had been completed. The conditions encountered by most of this work have been discussed previously in the inspecting engineer's monthly reports.

Under the contract, the shaft was sunk 67 feet on the vein to a depth of 98.5 feet below the collar. The vein exposed by sinking,

while it remained a strong enough structure, contained only spotty and erratic ferberite mineralization, none of which would approach commercial concentrations. Near the bottom of the shaft, the structure itself began to flatten and generally became weaker.

At the 88-foot level, a drift was driven 53 feet southwesterly on the structure. Less tungsten mineralization was encountered in this drift, than had been in the shaft. Near the end of the drift, the structure narrowed and flattened considerably.

The most promising exposure on the northeast side of the shaft occurred at a depth of 50 feet and the operator was permitted to expend the remaining 27 feet of drift at this location. The structure exposed to the northeast was about 3 feet in width and also contained scattered and discontinuous seams of ferberite. The seams of mineral, individually, were very thin and were disseminated both within the structure itself and for short distances into its hanging wall. While the mineralization exposed along the northeast drift was stronger than had been encountered elsewhere, under no circumstances could it be considered of commercial grade.

The results accomplished by the work presently authorized and completed under the contract are not considered promising and certainly are not justification for all or any part of the additional exploration requested by the operator.

F. W. Everett, for
R. L. Bolmer
Mining Engineer

RLB/ky

cc / 8
M54
Chron

September 9, 1954

Mr. W. H. King, Executive Officer
DMEA Field Team Region IV
224 New Customshouse
Denver 2, Colorado

Dear Mr. King:

In view of the showing of tungsten that we have found, both on the surface in the entire area, and in the exploration done under contract Idm - E654, I feel that further exploration and development would be justified. I would like an extension to our present contract to undertake the following projects:

1. Drift through the hanging wall for a distance of 50 feet in an effort to locate any parallel veins. If such is found, would like to continue 50 feet each way on the vein. Due to the fact that the ore on which we started down seems to have ducked into the hanging wall, and that five foot test holes which we have made at various depths have never run out of vein material, believe we may cut this ore with this drift. This would be at the 88-foot level.

2. Considering the showing of ore in our 27 feet of drifting at the 52-foot level in a northerly direction, would like to continue this drift for another 70 feet, making a total of 97 feet in this direction.

3. In our 53 feet of drifting at the 88-foot level in a southerly direction, the vein has intermittently straightened and rolled. Patches of high-grade have been encountered throughout this work and they seem to be getting stronger. I would like to continue this drift for an additional 50 feet making 103 feet in all.

The three projects total 270 feet more of drifting and the price of $37 per foot, our present contract price for drifting, is satisfactory. Would appreciate an early decision on this in order to get the work done, if allowed, before the bad weather sets in. If more forms of "Owner's Consent to Lien" are necessary, please send me the blanks and I will have them signed.

Sincerely yours,

Lloyd P. Mock
Nederland, Colorado

SEP 27 1954

Mr. W. H. King, Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA 3182 - Tungsten
Lloyd P. Hack
Big Six mine
Boulder County, Colorado
Contract No. Idm-8654

Dear Mr. King:

Completion date of the subject contract was August 4, 1954. If additional time is required to complete the authorized program, an appropriate amendment should be considered.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

APPROVED:

J. H. Hedges

Member, Bureau of Mines

Thor H. Kiilsgaard

Member, Geological Survey

FARutledge:foc 9-27-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. IV
R. W. Geehan, USBM
Thor H. Kiilsgaard, USGS

400

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 22 1954

224 New Customhouse
Denver 2, Colorado

September 20, 1954

WSM

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3182 (Tungsten), Contract Idm-E564, Lloyd P. Mock (Mock Shaft), Boulder County, Colorado.

Enclosed are two copies of the Operator's Monthly Progress Report, Form MF-104 and MF-104A, Operator's Narrative Report, Inspecting Engineer's Narrative Report, and other supporting data pertaining to work under the subject contract for the month of August, 1954.

W H King
W. H. King

Enclosures

MF-104 August

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 22 1954

224 New Customhouse
Denver 2, Colorado

September 15, 1954

Memorandum

To: T. A. Christensen

From: Executive Officer, DMEA Field Team, Region IV

Subject: DMEA Docket 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock (Mock Shaft), Boulder County, Colorado. Operator's Monthly Progress Report for the period August, 1954.

Enclosed are the original and four copies of Form MF-104 and MF-104A, Narrative Report, and Engineer's Report for the above period.

Work has been completed as authorized by the contract. No documentation is required for work performed under contracts prepared on Form MF-200A, therefore we recommend that payment be made for 75 per cent of the amount reported by the Operator on Form MF-104, contingent on your verification of arithmetical accuracy within the report.

Remarks:

Date of Report	Sept. 3, 1954
Date Received in Field Office	Sept. 7, 1954
Date Received in Region Office	Sept. 14, 1954

John F. Shaw
For W. H. King

Enclosures

RDB:mb

cc: Contract
Secretary, Oper. Comm. (2)
WMTraver
Chron

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

DEPARTMENT OF THE INTERIOR
Bureau Mines Administrative
RECEIVED
SEP 22 1954

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
September 13, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3182, Contract Idm-E654 (Tungsten), Lloyd P. Mock (Mock shaft), Boulder County, Colo.--Progress report for August 1954

Enclosed are the original and four copies of the subject progress report, the fifth--forms MF-104 and MF-104A, with narrative--and the original and six copies of R. L. Bolmer's memorandum covering his inspection of underground progress and checking of the reporting forms. The contract is unit cost on short form MF-200(A) and no documentation is required.

The progress, correctly reported in the narrative and entered on the MF-104A forms, comprised sinking the Mock shaft an additional 7.5 feet, or to a depth of 98.5 feet below the collar, and drifting on the 88-foot level, or at the bottom of mineralization to the southwest from the shaft, a distance of 53.0 feet. This was in accordance with Stage I and II of the contract. The narrative and the inspecting engineer's covering memorandum adequately describe the physical conditions encountered and definitely the vein southwest from the shaft on the 88-foot level contains no mineral of commercial grade.

Payment is recommended and certified on the MF-104 forms of $1,898.25, or 75 percent of the total $2,531.00 claimed by the operator.

W. M. Traver

enclosures

WMT/kp

cc 4
E654
Chron

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 22 1954

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
September 10, 1954

Memorandum

To: Chief, Mineral Resources Branch, Mining Division, Region IV

From: R. L. Bolmer

Subject: DMEA 3182, Contract Idm-8654 (Tungsten), Lloyd F. Mock (Mock shaft), Boulder County, Colo.--Progress report for August 1954

Progress reported this period under the subject short-form contract--sinking the Mock shaft an additional 7.5 feet on the vein to a total depth of 58.5 feet below the surface and drifting a total distance of 53.0 feet south on the vein at a depth of 88 feet in the shaft--was confirmed during an inspection of the property September 2, 1954.

The vein exposed by shaft sinking this period continued to flatten. At the bottom of the shaft, the structure dips only 46° and generally has weakened. The structure also flattens towards the south along the new 88-foot level. Some 20 feet south on this level, the structure dips about 45°; beyond this point it flattens rapidly, dipping only 16° in the far end of the drift. The vein exposed along the south drift is strong enough--about 1 foot of horn quartz and gouge--but it contains only small, discontinuous seams and patches of ferberite. Much of the tungsten mineralization contains high percentages of hematite; none of the mineral is of commercial grade.

The operator recently was given permission to drift south on the vein from a point approximately 85 feet below the collar of the shaft. The extent of this work was dependent upon the conditions encountered therein. Any of the authorized 80 feet of drift not expended south of the shaft could be performed on the vein to the north of the shaft. The extent of drifting in either direction within the total allowable footage was subject to mutual agreement between the operator and the Government.

Considering the unfavorable conditions encountered by the 53 feet of drift then completed south of the shaft, the operator was advised

by the inspecting engineer to proceed no farther in that direction. It was suggested to the operator that the unsampled footage (87 feet of drift) might be used to advantage by drifting north on the vein at a depth of between 50 and 60 feet in the shaft. The operator, however, was cautioned that he first must secure official approval for such work from the Region IV Field Team.

The $2,531.00 total costs reported for the period on the operator's MF-104 forms--equivalent to the completed 7.5 feet of sinking and 53.0 feet of drifting at the agreed upon unit prices of $76.00 and $37.00 per foot, respectively--are approved. Payment to the operator of 75 percent of these total reported costs, or $1,898.25, is recommended.

R. L. Bolmer

R. L. Bolmer
Mining Engineer

RLB/kp

cc/6
8654
Chron

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 22 1954

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of August, 1954 Docket No. DMEA 3182 Contract No. Idm - E654
Operator's Name Lloyd P. Mock Minerals Tungsten
Address Nederland, Colorado
Contract Amount, $ 8,902 Government Participation: 75 % Amount, $ 6,676.50

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) ~~Independent~~ Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting	1,961	-	1,961			
Sinking	570	4,522	5,092			
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.	-	850	850			
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	2,531	5,372	7,903	2531.00	5372.00	7903.00

I certify that the above bill is correct and just and that payment therefor has not been received.
Date 9/3/54 *Payee Lloyd P. Mock

Per _____ Title _____

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

→ NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 1898.25

Signature Randell R. Cooper
(Authorized Certifying Officer)

Date 9-17-54 Vou. No. DMA-55-22
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-654 in accordance with the terms of the contract.

Signature L. L. Lohney $1898.25 Title Mining Engineer Date SEP 10 1954

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE: R. S.

Signature J. F. Shaw for W. H. King Title Executive Officer Date SEP 15 1954

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(*a*) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(*b*) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(*c*) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 22 1954

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of August 194 Docket No. DMEA3182 Contract No. Idm - E654

Operator's Name Lloyd P. Mock Minerals Tungsten

Address Nederland, Colorado

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting	ft	1,961	53	1,961	53	37	80	37
Crosscutting								
Raising								
Shafts	ft	570	7 1/2	5,092	67	76	67	76
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		2,531	60 1/2	7,053				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.		-	-	850				850
TOTAL COSTS		2,531		7,903				850

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 9/3/54 Operator Lloyd P. Mock

Per Title

REMARKS:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 22 1954

NARRATIVE REPORT
FOR AUGUST

September 3, 1954

During the month of August we finished the remaining 7 1/2 feet of sinking, and upon the advice of field team, returned to 88 feet where we started a drift on the vein in a southerly direction.

Have encountered some ore of good quality but thin in the 53 feet completed - but nothing of commercial value. The heading is making considerable water.

In this 53 feet, the structure has changed continuously back and forth from a straight vein with the schist disappearing to a flat with the schist coming in.

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

September 15, 1954

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock, Boulder County, Colorado

Enclosed are the original and two copies of Amendment No. 2 to Contract Idm-E654 which has been executed to authorize an extension of the period for completion of the project work from 7 months to 9 months. Also enclosed are three copies of the operator's letter requesting the extension of the completion period.

Copies of the amendment have been given to the operator, the Fiscal Officer, Region IV, and a copy has been retained for our files.

/s/ W. H. King

W. H. King

Enclosures

Copy made of this memo on 10-5-54 prior code 400 did not rec. sto copy.

400

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

224 New Customhouse
Denver 2, Colorado

August 23, 1954

Memorandum

WSM

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock, Boulder County, Colorado

Enclosed for your records are three copies of work authorization of the DMEA Field Team, Region IV, dated August 19, 1954, and three sets of data relative to authorization of Stage II work under the contract.

W. H. King

See Contract file

Enclosures

Stage II Work Authorized

COPY

Re: Docket 3182
Contract Idm E654

August 9, 1954

Mr. W.H. King, Executive Officer
DMRA Field Team, Region IV
224 New Customhouse
Denver 2, Colorado

Dear Mr. King:

Have completed stage I of Contract (67 feet of sinking) and as per terms of contract, request written permission of field team to begin stage II (80 feet of drifting).

Thank you for your splendid cooperation.

Sincerely yours,

/s/ Lloyd P. Mock

Copy to: W. M. Traver

Nederland, Colorado.

August 18, 1954

Memorandum

To: A. N. Neuschaum *E.N.H. for A.N.N.*

From: E. N. Harshman

Subject: DMEA Docket 3182 (tungsten), Contract Ida-6654, Lloyd P. Mack, Big Six Mine, Boulder County, Colorado

The Big Six Mine was examined on August 3, 1954, in company with S. R. MacLaren, U. S. Geological Survey. At that time work under stage I of contract Ida-6654 was about finished, the bottom of the shaft being 95 feet below the collar.

The shaft followed a steeply dipping strong shear zone 3 to 6 feet wide, with schist on the footwall and granitic rocks on the hanging-wall. Ferberite and horn quartz occur in silicified wall rock as lenticular masses and discontinuous stringers dispersed throughout the shear zone. The total thickness of horn quartz and ferberite at any one horizon in the vein rarely exceeds 8 to 10 inches, and the vein material as taken from the shaft is not ore grade. Hand sorted material may contain as much as 2% WO_3. At about 65 feet below the collar of the shaft the "vein" flattens from a dip of 65° - 70° southeast to a dip of about 45° southeast. There is little or no ferberite in the vein material below the point of change in dip.

Work under stage II of the contract consists of 50 feet of drifting from the bottom of the shaft (100-foot level) or from the bottom of the ferberite mineralization. Field Team approval is required before this work is started.

Although it now appears unlikely that significant amounts of ferberite ore will be discovered by exploration under the contract, it is recommended that drifting at a point 35 to 50 feet below the shaft

collar be authorized by the Field Team as stipulated under stage ii.

South of the shaft the shear zone may cut rocks slightly more favorable to ore deposition than those to the north of the shaft. It thus appears advisable to expend most of the 80 feet allowed under the contract in drifting to the south.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
August 18, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3182, Contract Idm-E654 (Tungsten) Lloyd F. Mock (Mock shaft), Boulder County, Colo.--Recommendation for authorization to start Stage 2

It is recommended, after inspection of the shaft sinking work completed in the Mock shaft, that the Region IV Field Team authorize the contractor, in writing, to start drifting ~~[illegible]~~ to the south from the Mock shaft at a depth of between 85 and 90 feet below the collar, in accordance with Stage 2 of the contract. Drifting north from the shaft is also recommended, after the drift is completed far enough south so operations can be carried on economically, working the 2 headings concurrently. It should be stressed that advance of the south drift is of most importance.

W. M. Traver

W. M. Traver

WMT/ici

cc: 7
E654
Chron.

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

224 New Customhouse
Denver 2, Colorado

January 7, 1954.

See page 4 of Belsen's Rept
WSM

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Report of Examination - DMEA Docket 3182 (Tungsten), Lloyd P. Mock, Mock Shaft, Big Six Mine, Boulder County, Colorado. (E-654)

Enclosed are four copies of the report of examination on the subject docket.

The contract has been signed and is in effect.

for John F. Shaw
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
1-20-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

November 13, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination - DMEA Docket 3182 (Tungsten), Lloyd P. Mock, Mock Shaft, Big Six Mine, Boulder County, Colorado.

Enclosed are eight copies of the engineering report of examination on the subject property.

The applicant proposed to sink the Mock shaft 65 feet, drift 80 feet and crosscut 40 feet at an estimated cost of $10,050.40,

The examiners recommend this work except for the crosscutting.

We concur with the examiners and recommend the sinking and drifting to be done in two stages at an estimated cost of $8,092.00, Government participation $6,676.50.

W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
1-20-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
November 3, 1953

Memorandum

To: Executive Officer, Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3182 (Tungsten), Mock shaft, Big Six mine, Lloyd P. Mock
Boulder County, Colorado

Enclosed are the original and eight copies of the "Summary, Conclusions, and Recommendations," by E. N. Harshman, Geological Survey, and Carl Belser, Bureau of Mines, and of Belser's engineering report on the above docket.

The applicant requested $10,050.40 to sink the Mock shaft an estimated 65 feet to the 100-foot level, drift 40 feet both directions on the vein on the 100-foot level, and drive crosscuts 20 feet into the hanging wall and footwall at the end of each drift.

Belser concludes that because of the improvement shown by the vein with additional depth in the shaft, a limited amount of exploration is merited. He recommends surface preparatory work comprising shaft collar, hoist house, and headframe construction at a cost of $850.00; sinking the Mock shaft an additional 67 feet to the 100-foot level at $76.00 a foot, $5,092.00; and drifting 40 feet both ways from the shaft on the vein on the 100-foot level, a total of 80 feet of drifting at $37.00 a foot, $2,960.00; or a total of $8,902.00. It is suggested a contract be drawn up on the short form MF-200(A) and set up in two stages. Stage 1 to include surface preparation and sinking the Mock shaft to the 100-foot level, or to the limit of worthwhile ferberite mineralization, and stage 2 to include drifting on the 100-foot level, or a level to be established at the lower limit of mineralization in the shaft. The latter stage requires prior approval of Region IV Defense Minerals Exploration Administration representatives. All crosscutting requested by the applicant is eliminated.

I concur with Belser's conclusions and recommendations.

The incomplete application furnished us October 2, 1953, for use in preparing the engineering report is also enclosed.

W. M. Traver

W. M. Traver

Reviewed by
[illegible]
1-20-54

enclosure

WMT/le

cc 8 DMEA 3182
DMEA Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
Denver Federal Center
Denver 2, Colorado

November 6, 1953

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3182, (Tungsten), Big 6 Property, Boulder County, Colorado

Attached are 3 copies of the geologic report by E. N. Harshman on the subject property.

Limited exploration by the applicant has exposed a 4-foot silicified fault zone containing horn quartz and ferberite in a 8-inch streak on the hangingwall. Samples of the ore assayed 3.8 and 4.3% WO_3. The vein has a schist footwall and a granite or pegmatite hangingwall.

About 3 tons of hand-sorted ore have been shipped. This ore averaged about 5% WO_3.

The applicant proposes to sink the shaft an additional 67 feet to a total depth of 100 feet, to drift 80 feet on the vein, and to crosscut a total distance of 80 feet into the vein walls.

Mr. Harshman recommends a somewhat reduced program in two stages, prosecution of the second stage to depend on the outcome of the first stage. The reduced program consists of the shaft sinking requested by the applicant and 80 feet of drifting.

I concur in this recommendation.

E. N. Harshman
for A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (8)

Reviewed by
DMEA OPERATING COMMITTEE
1-20-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 3182, Mock Shaft, Big Six Mine

Lloyd P. Mock

Boulder County, Colo.

Tungsten

E. N. Harshman, Geologist
Geological Survey

Carl Belser, Mining Engineer
Bureau of Mines

November 5, 1953

Reviewed by
DMEA OPERATING COMMITTEE

1-20-54
(date)

DMEA 3182

MOCK SHAFT, BIG SIX MINE
LLOYD P. MOCK
BOULDER COUNTY, COLO.

Summary, Conclusions, and Recommendations

By E. N. Harshman
Geologist
Geological Survey

Carl Belser
Mining Engineer
Bureau of Mines

DMEA 3182
MOCK SHAFT, BIG SIX MINE
LLOYD P. MOCK
BOULDER COUNTY, COLO.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By E. N. Harshman and Carl Belser

Lloyd P. Mock, 1440 St. Paul Street, Denver, Colo., applied for a Defense Minerals Exploration Administration loan of $10,050.40 to explore for tungsten by an estimated 65 feet of shaft sinking, 80 feet of drifting, and 80 feet of crosscutting.

A field examination was made on October 6 and 20, 1953, by an examining team from the Geological Survey and the Bureau of Mines accompanied by Lloyd P. Mock.

The exposed country rocks are pre-Cambrian schists, gneisses, and granites cut by aplite and pegmatite dikes. The vein in the Mock shaft has a strike of N. 20° E. and a dip of 60-70° to the southeast. The Old Mock shaft, now flooded and inaccessible, was sunk on this vein to a depth of 50 feet. The vein can be traced on surface for a distance of 90 feet to the south and it may extend northward as much as 250 feet. It is 30 inches wide in the bottom of the Mock shaft and has a quartz streak containing ferberite stringers near the hanging wall. The gouge consists mainly of quartz, clay, and altered country rock. The footwall is schist while the hanging wall contains considerable pegmatite.

Lloyd P. Mock cleaned out the Old Mock 35-foot shaft in 1952 and sank it to a total depth of 50 feet. He then cleared the surface wash from the vein with a bulldozer and started a second shaft 57 feet

south of the 50-foot shaft. This latter shaft is now 33 feet deep. The vein at the bottom of the shaft is 30 inches wide and has improved with depth. The ore occurs in an 8- to 9-inch quartz streak against the hanging wall. Production from this work has been 3.3 tons ore containing 5.36 percent WO_3. This ore was evidently carefully sorted.

The applicant requests Government assistance to sink the shaft to the 100-foot level, drift 40 feet each way on the vein from the bottom of the shaft, and to do 80 feet of crosscutting at the ends of the drifts.

This program was modified by eliminating the crosscutting and dividing the work into two stages. The project is estimated, if carried to completion, to cost $8,902.00--Government participation 75 percent, or $6,676.50. An exploration loan for this amount is recommended for approval. A short form unit-cost contract is suggested.

BIG 6 MINE

BOULDER COUNTY, COLORADO

DMEA DOCKET 3182

Geologic Report

By E. N. Harshman
U. S. Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE
1-20-54
(Date)

BIG 6 MINE
BOULDER COUNTY, COLORADO

INTRODUCTION

Lloyd P. Mock, 1440 St. Paul Street, Denver 6, Colorado, has applied to the Defense Minerals Exploration Administration, DMEA Docket 3182, for assistance to explore for tungsten ore on the Big 6 mining property, Grand Island Mining District, Boulder County, Colorado. The property, described as the NW¼ of the NW¼ of sec. 13, T. 1 S., R. 73 W., containing 40 acres, is held under lease from Richard H. Tatlow III.

The applicant proposes to extend the present 33-foot shaft to a total depth of 100 feet, to drift 80 feet on the vein, and to crosscut a total distance of 80 feet to explore for parallel veins.

The property was examined on October 20, 1953, in company with R. L. Bolmer, U. S. Bureau of Mines.

Limited exploration at greater depths appears justified and is recommended in two stages, prosecution of stage 2 exploration to depend entirely on the results of exploration in stage 1.

GEOLOGY

The tungsten ore deposits in the Big 6 mine area occur along fissure veins in pre-Cambrian gneiss, schist, and accompanying pegmatite and aplite dikes. Most of the veins have a northeast strike and a steep easterly dip. In general, the ore shoots are small and the grade is moderate to low.

The applicant has prospected an area south of the Big 6 mine by two shallow shafts and several bulldozer cuts (figure 2 of engineering report). The northern shaft, now flooded, is reported to have exposed

a 2 to 4-foot wide fault zone striking about N. 20° E. and dipping steeply east. Some ferberite, in isolated masses, is reported in the silicified footwall part of the fault zone. An examination of the dump indicates that the vein walls are schist and aplite.

The southern or Mock shaft has been sunk for 33 feet on a fault zone 4 to 4½ feet wide, striking N. 22° E. and dipping 60° to 70° E. As exposed in the uncribbed 4-foot bottom section of the shaft, the fault zone is 4½ feet wide with the hangingwall thirty inches composed of silicified vein material. Ferberite occurs in a silicious band 8 to 9 inches wide located on the hangingwall of the vein. Considerable horn quartz is associated with the ferberite. The footwall 2 feet of the fault zone is composed of somewhat silicified and altered country rock.

The footwall country rock is biotite schist and the hangingwall rock is either pegmatite or granite.

With increasing depth there has been some improvement in the strength of the vein and in the ferberite content of the vein material. One sample of the ferberite bearing part of the vein, cut across 7 inches in the bottom of the shaft, assayed 3.8% WO_3. A second sample cut across 8 inches assayed 4.3% WO_3.

Shipments of hand-sorted ore are reported by the applicant as follows:

1. 2872 pounds - 6.20% WO_3
2. 3192 pounds - 4.50% WO_3.

CONCLUSIONS AND RECOMMENDATIONS

Although the ore potential of the vein exposed in the Mock

shaft is not great, exploration at greater depths may develop modest reserves of tungsten ore. In contrast to the Big 6 mine which was in schist, one wall of the vein in the Mock shaft is pegmatite or granite. The presence of the more competent wall rock favors deposition of minable ore bodies.

Exploration is recommended as follows:

Stage 1 - Install the necessary surface facilities (described in the engineering report) and sink the Mock shaft to a depth of 100 feet.

Stage 2 - Drift 80 feet on the vein from the bottom of the shaft, the direction of the drift to depend on geologic data obtained in sinking the shaft.

If exploration in stage 1 indicates that significant ore is not present on the vein, the contract should be terminated before the shaft reaches the proposed depth of 100 feet. Stage 2 exploration should be prosecuted if stage 1 exploration indicates the presence of significant ore but only with prior approval of representatives of the Defense Minerals Exploration Administration.

The U. S. Bureau of Mines estimates the cost of the two stage exploration program to be $8,902 (Government participation $6,676.50).

It is recommended that the application for exploration assistance (DMEA Docket 3182) be approved in the amount of $8,902 for exploration as outlined above.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 3182, Mock Shaft, Big Six Mine

Lloyd P. Mock

Boulder County, Colo.

Tungsten

Carl Belser, Mining Engineer
Bureau of Mines

October 20, 1953

DMEA 3182
MOCK SHAFT, BIG SIX MINE
LLOYD P. MOCK
BOULDER COUNTY, COLO.

Engineering Report

By Carl Belser
Mining Engineer
Bureau of Mines

DMEA 3182
MOCK SHAFT, BIG SIX MINE
LLOYD P. MOCK
BOULDER COUNTY, COLO.

CONTENTS

Engineering Report	Page
Introduction	1
Acknowledgments	1
Location, Topography, and Physical Features	2
History and Production	2
Ownership and Extent	3
Description of Deposits	4
Mineable Ore Reserves	4
Present Status	5
Exploration and development	5
Mining and Milling equipment and other facilities	5
Project Proposals, With Costs	5
Estimated cost	6
Recapitulation of project costs	8
Conclusions	9
Recommendations	9

ILLUSTRATIONS

Figure	Follows page
1. Location Map, Mock Shaft, Big Six Mine, Lloyd P. Mock, Boulder County, Colo.	2
2. Plan Map, Showing Mock Shaft, Big Six Mine, Lloyd P. Mock, Boulder County, Colo.	3

DMEA 3182
MOCK SHAFT, BIG SIX MINE
LLOYD P. MOCK
BOULDER COUNTY, COLO.

ENGINEERING REPORT

By

Carl Belser

INTRODUCTION

Lloyd P. Mock, 1440 St. Paul Street, Denver 6, Colo., on September 28, 1953, submitted an application to the Defense Minerals Exploration Administration for aid in an exploration project on a north-south vein near the Big Six mine located northwest of Nederland, Boulder County, Colorado. The application, DMEA 3182, requested aid in sinking 67 feet of shaft, drifting 80 feet, and driving 80 feet of crosscuts at an estimated cost of $10,050.40 of which the Government's participation (75 percent for tungsten) would be $7,537.80. This proposed project is designed to explore at greater depth a tungsten-bearing deposit which has been opened on surface and in the shaft.

A field examination of the Mock shaft was made by the Bureau of Mines on October 6, 1953, and by the Geological Survey on October 20, 1953.

ACKNOWLEDGMENTS

The applicant, Lloyd P. Mock, accompanied the examining team during the examination.

E. N. Harshman, geologist, was assigned to make the examination as the Geological Survey member of the examining team.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Big Six mine and Mock shaft are located in the Grand Island Mining district in the NW1/4NW1/4 sec. 13, T. 1 S., R. 73 W., sixth principal meridian, Boulder County, Colo. (fig. 1).

The Mock shaft, 33 feet deep, is located about 400 feet south of the Big Six mine workings and they apparently are not on the same vein. The altitude at the collar of the Mock shaft is about 8,535 feet.

An access road, 0.6 mile long, connects the property with State Highway 160 about 1/2 mile north of the town of Nederland, from whence paved roads lead south 4 miles to Rollinsville, the nearest railhead, and east 18 miles to Boulder, the nearest supply center. Growths of pine and spruce timber occur on the property and native timber and lumber can be purchased at Nederland. Water for mine purposes can be obtained from the Mock and Big Six shafts. The Big Six shaft is reported to make 30 gallons of water a minute. Water for domestic purposes is hauled from Nederland.

The nearest custom mill is located at Nederland. Miners can be employed and housed in Nederland. Service lines of the Public Service Company of Colorado pass over the property and formerly were connected with the Big Six mine.

Annual rainfall is about 18 inches. Although the winters are somewhat severe, State Highway No. 160 is kept open and interruptions to year-around operation would be few.

HISTORY AND PRODUCTION

Ferberite was first produced in Boulder County in 1900. The Conger mine, 2,600 feet northwest of the Big Six mine, was

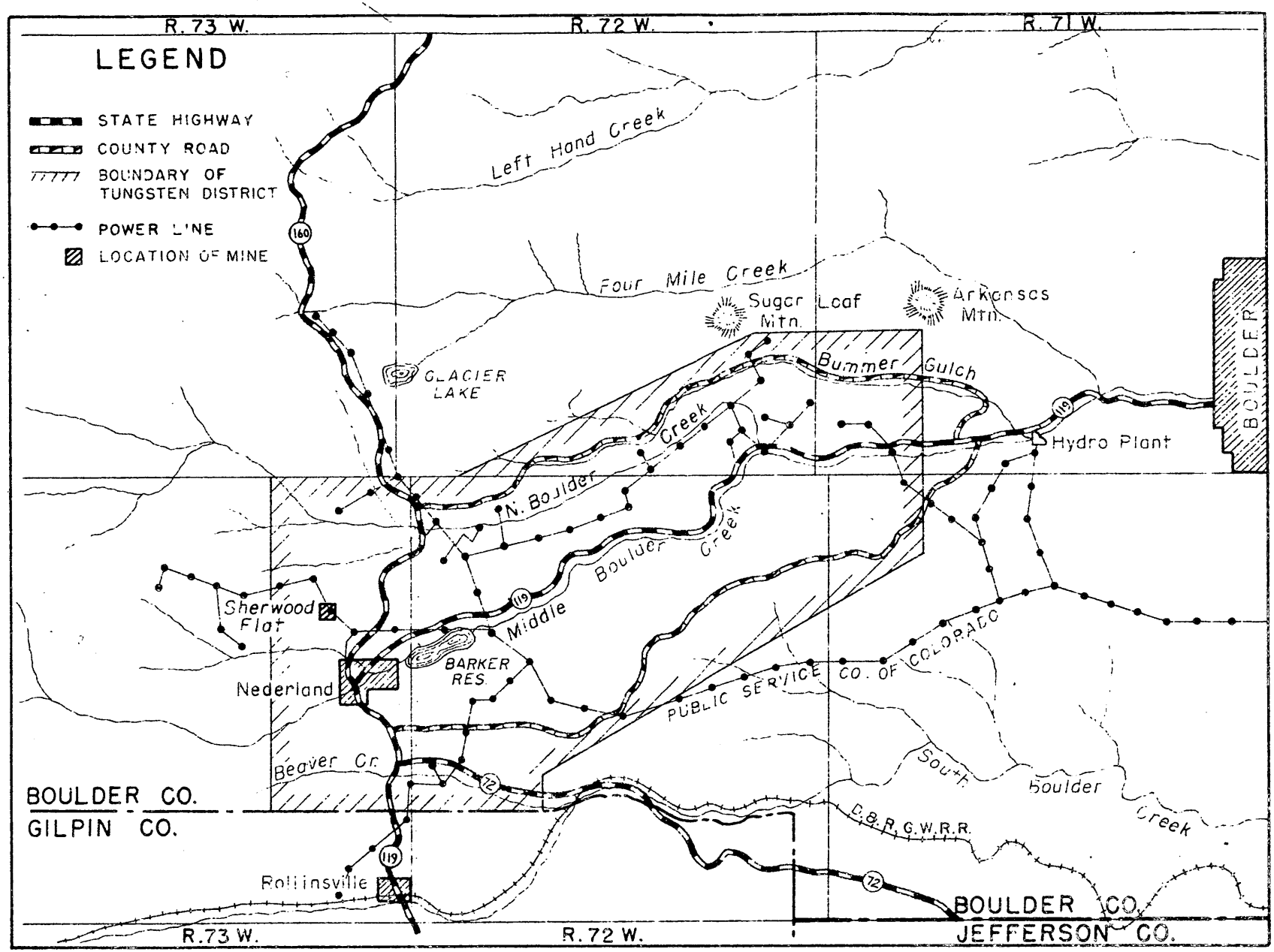


FIGURE 1. - LOCATION MAP, MOCK SHAFT, BIG SIX MINE, LLOYD P. MOCK, BOULDER COUNTY, COLO. (DMEA 3182)

one of the first mines operated and also has the largest recorded production. The Big Six ore deposit was discovered in the early 1900's and the shaft was sunk to a depth of 170 feet (fig. 2).

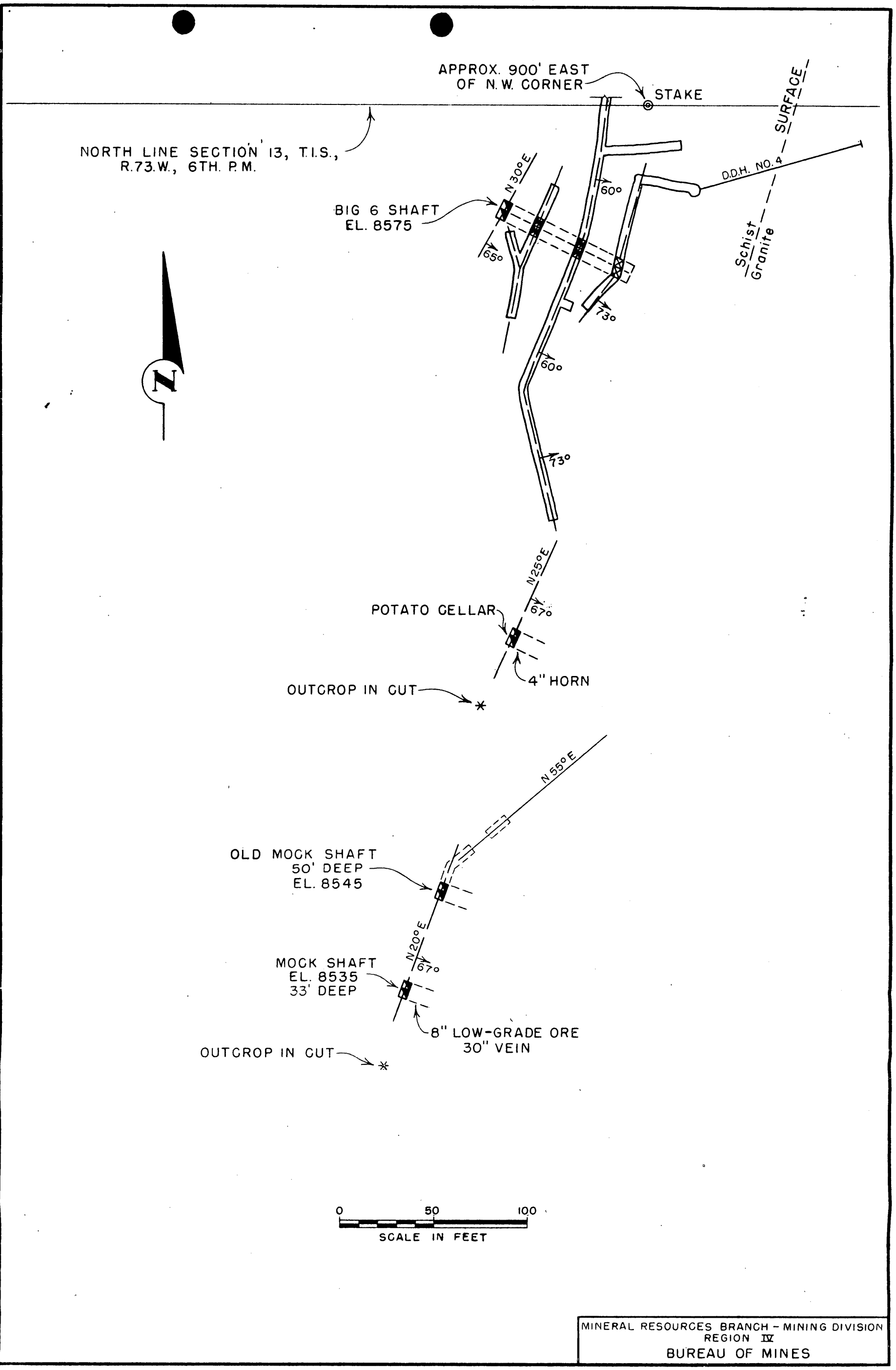
Lloyd P. Mock first began prospecting on the 40-acre tract in 1949 under a verbal lease. In 1952 he commenced work on the Old Mock shaft, 350 feet south of the Big Six mine. The shaft was cleaned out and sunk from 35 feet to its present depth of 50 feet. About 50 feet farther south the Mock shaft was sunk on the same vein to a depth of 33 feet. Thirteen bulldozer cuts have been made by the applicant during the past 2 years.

Complete production records from the Big Six mine are not available. Shipments made during World War II amounted to 75.48 tons containing 1.19 percent WO_3 (89.91 units).

During the past 2 years 3.3 tons of ore containing 5.36 percent WO_3 (16.1 units) have been produced from the two shafts on the vein worked by the applicant.

OWNERSHIP AND EXTENT

The property consists of 40 acres, more or less, of patented land located in the NW1/4NW1/4 sec. 13, T. 1 S., R. 73 W., of the sixth principal meridian. The land is owned by Richard H. Tatlow, III, New York City, New York, and was leased by the owner to Lloyd P. Mock on August 25, 1949, for a 3-year period. The lease carried a 3-year extension option making the lease active until August 25, 1955. The applicant states that the property is free of all liens or encumbrances. An owner's consent to lien was signed by R. H. Tatlow, III, on September 18, 1953.



MINERAL RESOURCES BRANCH - MINING DIVISION
REGION IV
BUREAU OF MINES

FIGURE 2 - PLAN MAP, SHOWING MOCK SHAFT, BIG SIX MINE, LLOYD P. MOCK, BOULDER COUNTY, COLO. (DMEA 3182)

DESCRIPTION OF DEPOSITS

The ore occurs as ferberite in northeasterly striking veins which dip to the southeast. The gangue material is mostly quartz, clay, and altered country rock. The country rock is typical Idaho Springs formation. The wall rock of the veins which have been opened are predominantly schist but in places are composed of gneiss, pegmatite, or aplite. Ore deposits are lenticular and generally occur near vein intersections or near aplite or pegmatite dikes.

In the Mock shaft (fig. 2) the vein strikes N. 20° E. and has a dip of 67° to the southeast. The vein, at the bottom of the shaft, is 30 inches wide with the ferberite confined to an 8-inch quartz streak on the hanging wall. The footwall is schist and the hanging wall appears to be pegmatite. The shaft is cribbed and part of the vein is hidden from view, but indications are that both the vein and the ore streak improve with depth.

MINEABLE ORE RESERVES

There are no known mineable ore reserves on the property. Two samples of the 8-inch ore streak in the bottom of the Mock shaft assayed 3.80 and 4.30 percent WO_3 respectively. From the results of the present development it is inferred that the ore will continue to improve with depth.

Jojo!

PRESENT STATUS

Exploration and Development

All workings, with the exception of two outlying caved shafts and the surface trenching, are shown on figure 2. The Big Six ore deposit is developed by a 170-foot shaft and 350 feet of drifts and crosscuts. In the area with which this application is concerned the Mock shaft, 33 feet deep, and 56 feet farther up the hill on the same vein, the Old Mock 50-foot shaft, are located.

Mining and Milling Equipment and Other Facilities

A fair access road connects the property with State Highway No. 160. A three-room frame house and a storage shed are included in the leased area. Mining equipment consists of the following:

1 Vulcan Model O gasoline-driven hoist
1 Montgomery Ward small gasoline-driven hoist
1 Gardner-Denver S-45 jackhammer-type drill
1 Gardner-Denver drifter-type drill
1 Thor sponge-type air-driven pump
1 600-pound mine bucket
50 feet 12-pound track
1 12-cubic-foot mine car
1 Column and arm for drifter-type drill
Miscellaneous small tools

There is no milling equipment on the property. The custom mill of Hetzer Mines Inc. is located at Nederland.

PROJECT PROPOSALS, WITH COSTS

The applicant proposes to sink the shaft (67 feet) to the 100-foot level, to drift 40 feet on the vein each direction from the shaft on the 100-foot level, and to drive 80 feet of crosscuts into the hanging wall and footwall from the end of the drifts, at a total

cost of $10,050.40. Government participation for tungsten is 75 percent, or $7,537.80.

The project was modified by eliminating the crosscutting.

Estimated Cost

Shaft (67 feet - 3 months or 13 weeks time required)			
Independent Contracts			
None			
Labor and Supervision			
Labor			
132 shifts at $14.00		$1,848.00	
Supervision			
(Includes hoistman-topman)			
3 months at $425.00		1,275.00	
Total labor and supervision			$3,123.00
Operating Materials and Supplies			
Timber			
7 ladders, 36 stulls, 6 wall-plates, skids, 4 platforms, etc.		385.00	
Explosives, caps, fuse		375.00	
Pipe and fittings		58.00	
2 sets of drill bits		84.00	
Oil and grease		60.00	
Gasoline, 660 gallons		158.40	
Total supplies			1,120.40
Operating Equipment			
Rental			
Compressor, 3 months at $150.00		450.00	
Owned by applicant	Value		
Hoist, Vulcan 0	1,200.00		
Blower	150.00		
Jackhammer, G-D,S-45	250.00		
Pump, Thor, Sponge-type	250.00		
Hose, pipe, column,etc.	350.00		
Bucket, car, rail,etc.	350.00		
Drifter, G-D	375.00		
Misc. small tools	100.00		
	3,025.00		
Rental, 60 month depreciation basis, 3 months at 50.00 per month		150.00	
Total operating equipment			600.00

Miscellaneous			
Repairs to equipment	$ 100.00		
Payroll taxes $1.50/$100.00	47.52		
Liability insurance $2.95/$100.00	93.46		
Accounting $15.00/month	45.00		
Total miscellaneous		$ 285.98	
Total Shaft Sinking			$5,129.38
Cost per foot			76.55

Drift (80 feet - 40 working days)

Independent Contracts			
None			
Labor and Supervision			
Labor			
80 shifts at $14.00	1,120.00		
Supervision			
(Includes hoistman-topman)			
2 months at $425.00	850.00		
Total labor and supervision		1,970.00	
Operating Materials and Supplies			
Explosives, caps, fuse	300.00		
Drill bits	42.00		
400 gallons gas	96.00		
Oil and grease	40.00		
Total supplies		478.00	
Operating Equipment			
Rental			
Compressor, 2 months at $150.00	300.00		
Owned by applicant, value same as for Shaft Sinking 3,025.00			
Rental, 60 month depreciation basis, 2 months at $50.00 per month	100.00		
Total operating equipment		400.00	
Initial Rehabilitation and Repairs			
None			
New Buildings, Improvements, etc.			
None			
Miscellaneous			
Repairs to equipment	50.00		
Payroll taxes $1.50/$100.00	30.00		
Liability insurance $2.95/$100.00	59.00		
Bookkeeping $15.00/month, 2 months	30.00		
Total miscellaneous		169.00	
Total			$3,017.00
Cost per foot drifting			37.71

Initial Rehabilitation and Repairs		
None		
New Buildings, Improvements, etc.		
Construct shaft collar	$100.00	
Construct headframe	250.00	
Construct hoist house	500.00	
Total new buildings, improvements, etc.		$850.00

Because the work is exploratory and will be done during the "dry" season, no allowance is made for a shaft sump. Allowing $76.00 per foot for sinking the Mock shaft 67 feet, $37.00 per foot for 80 feet of drifting, and a total of $850.00 for construction of a shaft collar, head frame and hoist house, the estimated cost of the project is $8,902.00.

Recapitulation of Project Costs

Construct shaft collar	$ 100.00 1/
Construct headframe	250.00 1/
Construct hoist house	500.00 1/
Sink the Mock shaft 67 feet at $76.00 per foot	5,092.00 1/
Driving 80 feet of drift on the 100-foot level of the Mock shaft at $37.00 per foot	2,960.00 1/
Total	$8,902.00

The shaft will require 3 months to sink and the drift will require 2 months to drive, a total of 5 months for completion of the project.

Government participation in tungsten exploration projects is 75 percent, or, in this case, $6,676.50.

1/ The entire work under each item constitutes a unit of work.

CONCLUSIONS

The vein in the Mock shaft is fairly strong and is apparently stronger near the present bottom of the shaft than near the surface. The area is favorable and the vein merits some exploration at greater depth.

RECOMMENDATIONS

A two-stage program is recommended. Stage 1 consists, after surface preparations, of sinking the Mock shaft an additional 67 feet to the 100-foot level but may be terminated by the Defense Minerals Exploration Administration if the ferberite mineralization does not continue downward.

Stage 2 consists of 80 feet of drifting on the 100-foot level or from the bottom of the ore, wherever it occurs in the sinking operation. Stage 2 is to be executed only with prior approval of Region IV DMEA representatives.

The estimated cost is $850.00 for surface preparatory work, $5,092.00 for sinking 67 feet (stage 1), and $2,960.00 for driving 80 feet of drift (stage 2), - a total of $8,902.00. The Government's participation will be 75 percent, or $6,676.50.

A contract on short form MF-200(A) is suggested, providing contribution by the Government on a basis of the estimated costs on units of work performed.

Dmea 318Q, E-54, Amend. #1, 2,

C O P Y

Received by DMEA 9/17/54

No. 2

AMENDMENT OF CONTRACT: No. Idm-E654

Contract Docket No. DMEA 3182, dated January 4, 1954, between the United States of America and Lloyd P. Mock is hereby amended as follows, effective as of the date of the contract:

> Referring to "Article 3. Exploration project" of Exploration Project Contract Form MF-200(A) (February 1952), following the words "and shall bring the project to completion within a period of", delete seven (7) months" and in lieu thereof substitute "nine (9) months"

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

Dated Sept. 15, 1954

UNITED STATES OF AMERICA

By /s/ W. H. King, Executive Officer
DMEA Field Team, Region IV

/s/ Lloyd P. Mock
Lloyd P. Mock

2

DMRA 3182 (Tungsten)
Idm-E654

Lloyd P. Mock,
Boulder County,
Colorado

Stage II - Work Authorized

See ltr to Applicant from

FT dated August 19, 1954.

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

400

224 New Customhouse
Denver 2, Colorado

September 14, 1954

WSM

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock, Boulder County, Colorado

Enclosed are three copies of work authorization by the DMEA Field Team, Region IV, dated September 10, 1954, and three copies of supporting data, for the performance of certain work under Contract Idm-E654.

John F. Shaw
For W. H. King

Enclosures

Work Authorization
(two)
(file with contract)

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

224 New Customhouse
Denver 2, Colorado

September 10, 1954

Mr. Lloyd F. Mock
1440 St. Paul Street
Denver 6, Colorado

Re: Docket DMEA 3182 (Tungsten)
Contract Idm-2054

Dear Mr. Mock:

Reference is made to our letter of August 19, 1954 wherein you were authorized to perform drifting south on the vein from a point approximately 85 feet below the collar of the shaft, to the extent conditions encountered indicate, but not to exceed a total of 80 feet.

Inasmuch as conditions encountered in the drifting indicate that the performance of the entire 80 feet in that direction is not warranted we hereby confirm our verbal approval of September 3, 1954 for you to perform the unexpended balance of the 80 feet in drifting south on the vein in, or at the bottom of, the mineralization, which is about 50 to 60 feet below the collar of the shaft.

Nothing in this work authorization shall be construed to increase the estimated total cost of the project, the amount of the Government's contribution, or any item of allowable cost which is expressly designated "allowable maximum".

Very truly yours,

W. W. King

W. W. King

E. N. Hardman

for A. E. Koechmann

DMEA Field Team, Region IV

JWT:jp
cc Subject
Amendment File
Chron
Chairman, Oper. Comm. (5)
TAChristensen
AEKoechmann
WEBrewer
JWTownsend

September 3, 1954

Mr. W. H. King, Executive Officer
DMEA Field Team Region IV
224 New Customshouse
Denver 2, Colorado

Re: Docket 3182
Idm - E654

Dear Mr. King:

Due to the poor showing of ore at the 88-foot level in drift, I request permission to expend the remaining 27 feet at from 50 to 60 feet in the opposite or northerly direction, this being on the best showing of ore.

Sincerely yours,

Lloyd P. Mock

Lloyd P. Mock
Nederland, Colorado

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

224 New Customhouse
Denver 2, Colorado

August 19, 1954

Mr. Lloyd F. Mock
1440 St. Paul Street
Denver 6, Colorado

Re: Docket DMEA 3182 (Tungsten)
Contract Idm-E654

Dear Mr. Mock:

Consistent with the stipulations contained in Exhibit "A" attached to Exploration Project Contract Form MF-200(A), Contract Idm-E654, and confirming DMEA Field Team, Region IV, verbal authorization of August 9, 1954, you are authorized to commence exploration work under Stage II of said Exhibit "A" of the contract as follows:

Expend the 80 feet of drifting described under said Stage II of the contract by drifting south on the vein from a point approximately 35 feet below the collar of the shaft to the extent conditions encountered in the drifting indicate as being desirable.

The balance of the authorized drifting not expended as above is to be performed on the vein to the north of the shaft.

The extent of drifting in either direction within the total allowable footage is subject to mutual agreement between yourself and the Government.

Nothing in this work authority shall be construed to increase the estimated total cost of the project, the amount of the Government's contribution, or any item of allowable cost which is expressly designated allowable maximum

Very truly yours,

W H King
W. H. King

E. M. Hauschman
for A. H. Koschmann

DMEA Field Team, Region IV

Stage II Authority

JWT:jp
cc Contract
Amendment
Chron
TAChristensen
WMTraver
AHKoschmann
Chairman, Oper. Comm. (3)
JWTownsend

400

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

224 New Customhouse
Denver 2, Colorado

February 2, 1954

Memorandum

To: C. C. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock, Boulder County, Colorado

3182

WSM

Enclosed are the original and two copies of Amendment No. 1 to Contract Idm-E654 which has been executed to extend the starting date of work under the contract from 60 to 120 days. Also enclosed are three copies of the operator's letter requesting the extension of starting date.

Copies of this amendment have been given to the operator, the Fiscal Officer, Region IV, and a copy has been retained for our files.

W. H. King

W. H. King

Enclosures

Amend no 1

No. 1

AMENDMENT OF CONTRACT: No. Idm-E654

Contract Docket No. DMEA 3132, dated January 4, 1954, between the United States of America and Lloyd P. Mock is hereby amended as follows, effective as of the date of said contract:

> Referring to "Article 3. Exploration Project" of Exploration Project Contract Form MF-2[illegible](A) (February 1952) following the words "The Operator, within" delete "sixty (60)" and in lieu thereof substitute "one hundred twenty (120)".

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

Dated: FEB 2 1954

UNITED STATES OF AMERICA

Lloyd P. Mock
Lloyd P. Mock

By W H King
W. H. King, Executive Officer
DMEA Field Team, Region IV

[illegible] 1954

January 14, 1954

Mr. W. H. King
Executive Officer
DMEA Region IV
224 New Customhouse
Denver 2, Colorado

RE: DMEA 3188 (Tungsten) Mock shaft (Big Six Mine) Lloyd P. Mock, Boulder County, Colo.

Dear Mr. King:

Thanks for the signed copy of the contract which I received January 12. I would like to request that the period of 90 days following the effective date (in which I must start work) be extended to 120 days. I make this request due to the fact that there is a great deal of surface work to be done to start, and certainly the weather conditions in Nederland before April 1 would make this surface work very difficult.

Thanks for your consideration.

Sincerely yours,

L P Mock

L. P. Mock

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

224 New Customhouse
Denver 2, Colorado

January 6, 1954

REGISTERED

Memorandum

To: C.C. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3182 (Tungsten), Contract Idm-E654, Lloyd P. Mock, Boulder County, Colorado

Enclosed are the original and two copies of Contract Idm-E654. Copies of this contract have been given to the operator, the Fiscal Officer, Region IV, and a copy has been retained for our files.

W H King
W. H. King

Enclosures

MF-200 (A)
(February 1952)

DOCKET NO. DMEA 3162

COMMODITY Tungsten

Idm-E654

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 14 1954

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

EXPLORATION PROJECT CONTRACT[1]
(Short Form)

IT IS AGREED this 4th day of January, 1954, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] Lloyd P. Lock
1140 St. Paul Street
Denver 6
Colorado

hereinafter called the "Operator," as follows: and as set forth in Annex I attached hereto and made a part hereof

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

ARTICLE 2. *Operator's property rights.*—With respect to that certain land situated in the State of Colorado, County of Boulder, described as follows:[3] 10 acres of patented land located in the NE¼, NW¼, Sec. 13, T. 1 S., R. 73 W. of the 6th principal meridian,

the Operator represents and undertakes:[4]

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

(*b*) That the Operator is a lessee, in possession and entitled to possession, and the Owner's Consent to Lien is attached.

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

ARTICLE 3. *Exploration project.*—The Operator, within sixty (60) days from the date of this contract shall commence work on a project of exploration for[5] Tungsten

in or upon the described land; and shall bring the project to completion within a period of seven (7) months from the date of this contract. The work to be performed is more fully described in Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, are made a part of this contract. The Government will contribute to the cost of this work as hereafter provided. The work shall be performed by the Operator or by independent contractor or contractors efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmen's compensation and employers' liability insurance, with suitable and adequate equipment, materials, and labor, to bring the project to completion within the time fixed. The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

ARTICLE 4. *Costs of the project.*—The agreed, estimated costs of performing the work, expressed in terms of units of work to be performed (per foot of drifting, per foot of drilling, per cubic yard of material to be moved, etc.) are set forth in Exhibit "A," attached hereto. The Government will pay seventy-five (75) percent of these agreed, estimated costs, as they accrue, for units of work actually performed that conform with the description or specifications for the work set forth in this contract, in an aggregate total amount not in excess of $6,676.50, which is 75 percent of $8,902.00, the agreed, estimated total cost of the project in which the Government will participate: *Provided,* That until the Operator's final report and final accounting have been rendered to the Government and any final check or auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten (10) percent of the maximum total which the Government might have been called upon to pay under the terms of the contract. The Government may, as it sees fit, make payments direct to the Operator's independent contractors, if any, for the account of the Operator, rather than to the Operator.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 9. *Changes and added provisions* .....

Executed in sextuplicate the day and year first above written.

Lloyd P Mock
(Operator)

By .....

THE UNITED STATES OF AMERICA

By W S King
Executive Officer, DMEA
Field Team, Region IV

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

..... [CORPORATE SEAL]

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

Department of the Interior
Defense Minerals Administration
RECEIVED
JAN 14 1954

ANNEX I

The following provisions are in lieu of all of paragraph (a) of Article 6 which precedes the colon:

If the Government considers that a discovery or development from which production may be made has resulted from the exploration work, the Government, at any time not later than six months after a sufficient, complete, final report and final account referred to in the contract 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. The Operator, or his successor in interest, shall pay to the Government a royalty on all minerals mined or produced from the land described in Article 2, 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 of discovery or development, or until the total net amount contributed by the Government, without interest, is fully repaid, whichever occurs first, unless the Government waives its right to a royalty; or (2) if the Government makes a certification of discovery or development, for 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. Said royalty shall be a percentage of the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production (including any bonuses), in whatever form disposed of, including ore, concentrates, or metal, as follows:

EXHIBIT A

Description of the Work

The work will be divided into two stages, Stage 1 and Stage 2. Stage 2 must have the prior written approval of the Field Team before the work in Stage 2 is started.

Stage 1 consists of constructing a shaft collar, headframe, and hoist house at the Mock shaft. The Mock shaft will be sunk an additional 67 feet to the 100 foot level or to the bottom of the ferberite mineralization, whichever occurs first.

Stage 2 consists of 80 feet of drifting on the 100 foot level, or from the bottom of the ferberite mineralization if approved by the Field Team.

The location of the Mock shaft is shown on Figure 2 which is attached and made a part of Exhibit A.

DMEA 3182

Estimated Costs of the Project

Stage 1

1/ Construct shaft collar	$100.00	
1/ Construct headframe	250.00	
1/ Construct hoist house	500.00	
Sink the hock shaft an additional 67 feet or to the bottom of the fosterite mineralization, whichever occurs first, at $76.00 per foot -	5,092.00	
Total Stage 1 -		$5,942.00
Government Participation, Stage 1, at 75% -		$4,456.50

Stage 2

Drive 80 feet of drift in accordance with written approval of the Field Team at $37.00 per foot -	$2,960.00	
Total Stage 2 -		$2,960.00
Government Participation, Stage 2, at 75% -		$2,220.00

Total Stage 1 and Stage 2 -	$8,902.00
Government Participation, Stage 1 and Stage 2, at 75% -	$6,676.50

1/ The entire work constitutes the unit of work.

MF-203
(Revised July 1, 1953)

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 Colorado, County of Boulder, described as follows:1/

Northwest quarter of the Northwest quarter, Section 13, Township 1 South, Range 73 West.

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/ Lloyd P. Mock

hereinafter called the "Operator"; and

WHEREAS, under the provisions of said contract the Government is entitled to a percentage royalty on production (as set forth on the reverse side hereof) 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.

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 18th day of September, 1953.

[Seal]

[Seal]

[Seal]

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.

RELEVANT CONTRACT PROVISIONS

Repayment by Operator.--a. Certification.--If at any time the Government considers that a discovery or development from which production may be made has resulted from the exploration work, the Government, at any time not later than six months after the Operator has rendered the final report and final account, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

b. Percentage royalty.--The Operator, or his successor in interest, shall pay to the Government a royalty on all minerals mined or produced from the land described in Article 2,--(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 of discovery or development, or until the total net amount contributed by the Government, without interest, is fully repaid, whichever occurs first, unless the Government waives its right to a royalty; or (2) if the Government makes a certification of discovery or development, for a period of ten years (or other period fixed by the contract) from the date of the contract, or until the total net amount contributed by the Government, without interest, is fully repaid, whichever occurs first. Said royalty shall be a percentage of the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, as follows:

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

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

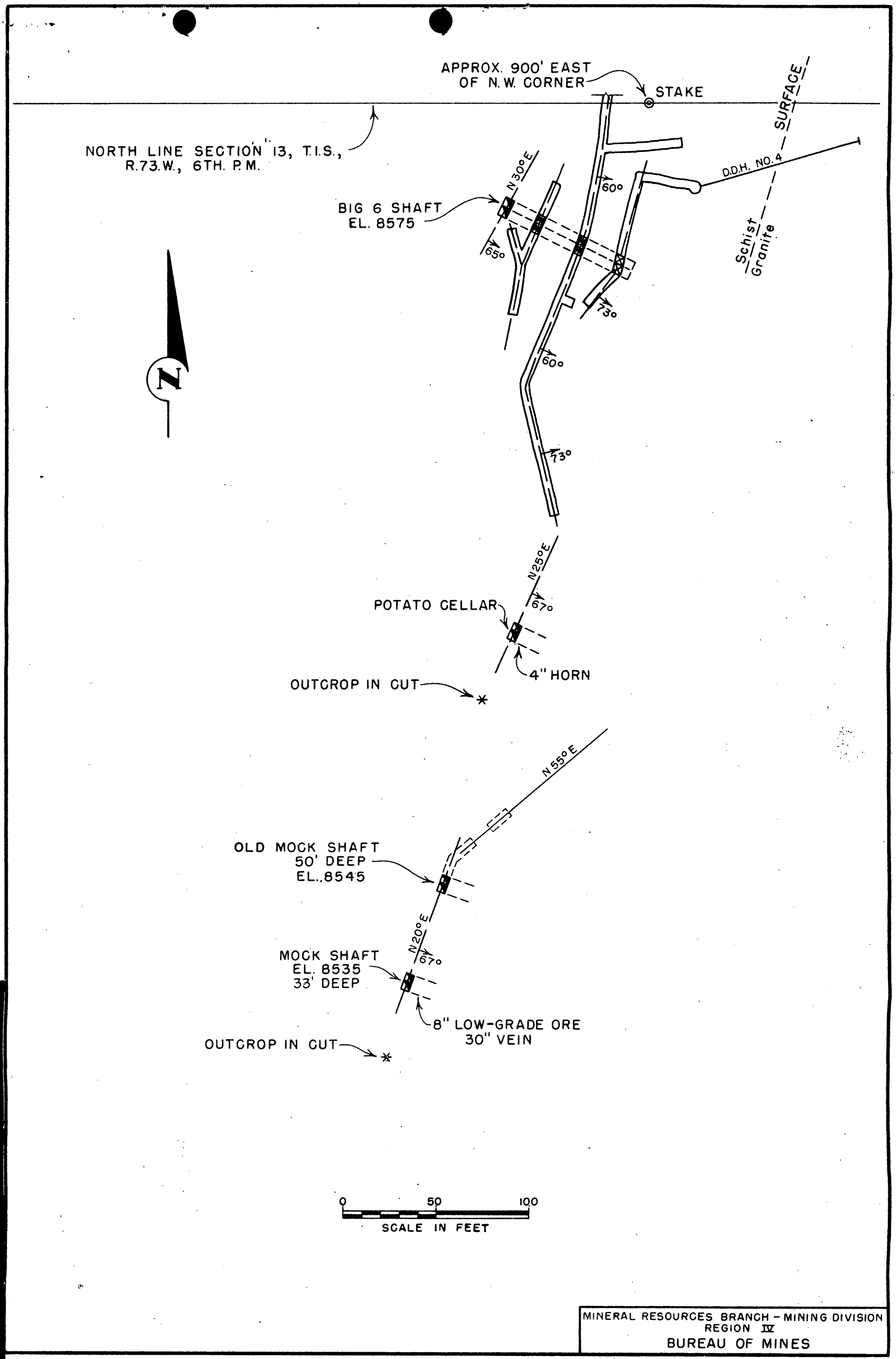
(For instance: the percentage royalty on a net amount of five dollars ($5.00) per ton, would be one and one-half (1½) percent; on a net amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

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

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

e. Notice to Purchasers.--The Operator shall notify any purchaser of the production of the Government's royalty interest, and shall authorize and direct the purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets; but failure or refusal by the purchaser to comply shall not relieve the Operator of liability to pay any royalty falling due.

f. No Obligation to Produce.--This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.



MINERAL RESOURCES BRANCH - MINING DIVISION
REGION IV
BUREAU OF MINES

FIGURE 2 - PLAN MAP, SHOWING MOCK SHAFT, BIG SIX MINE, LLOYD P. MOCK, BOULDER COUNTY, COLO. (DMEA 3182)