DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE — Idm-E NO. 61 — DMEA NO. 1702

Application
- [ ] Denied
- [ ] Withdrawn

Contract
- [ ] Terminated - Not Certified
- [X] Terminated - Certified
- [ ] Cancelled
- [ ] Royalty Agreement

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

Left Side

- [X] Royalty Audits
- [X] Certification of Discovery
- [X] Closing Letter
- [X] Cost Audits
- [ ] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [X] Contract Amendments
- [X] Contract with all exhibits and annexes
- [ ] Owner's Consent to Lien and Subordination Agreement
- [X] Application and attachments

Right Side

- [X] Project summary (final)
- [X] Work Completed analysis (final)

All other material filed in chronological order including the following reports if checked:

- [ ] Field Team Semi-Annual Report for Certified Project
- [X] Final Field Team Report (Tab)
- [X] Operator's Final Report (Tab)
- [X] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [ ] On-site Exam Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No. 2 : Reports

- [X] Analysis of Semi-Annual Inspection Reports & FT Semi-annual rep.
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Field Team Interim Reports
- [X] Operator's Monthly Reports with transmittal, narrative and maps.
- [X] Settlement Sheets

Folders No. _____ : Maps (Use pocket folder or envelope)

Folders No. _____ : Settlement Sheets

Folders No. _____ : Drill Logs

Folders No. _____ : Royalty material

17983

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
8/7	Murphy	500
	[illegible]	500
8/8		140
8-8	Brown	140
10/5	[illegible]	800
10/5	[illegible]	120
"	[illegible]	110
10-6	Turnell	100
10-7	gad	220

Mr. T. H. Sackett
President
Cherokee Mines
716 Cherokee Drive
Fort Collins, Colorado

OCT 5 1961

Re: DMA-1702X (Uranium)
Cherokee Mines
Copper King Mine
Larimer County, Colorado
Contract Idm-E61

Dear Mr. Sackett:

By the terms of the subject Exploration Project Contract, as amended, and the certification of discovery or development, dated February 18, 1953, all minerals mined or produced from July 16, 1951, to July 16, 1961, were subject to the Government's percentage royalty as set forth in said contract.

As the period during which production was subject to royalty has now expired, the Government according to its present records retains no claim or lien against the property subject to the contract or any future production therefrom. We, therefore, are closing our books and records on this contract. Your attention, however, is called to the provisions of the contract which require the Operator to keep and preserve certain records for the periods indicated.

Sincerely yours,

George Fumich, Jr.

Director

FMMurphy/gla
(8/7/61) 10/5/61
cc to: Director's Reading File
CA&A Division
Region III (2)
Docket
Code 500

43683

MME Form 7
(10-58)

Mr. T. H. Sackett
President
Cherokee Mines
231 South Grant Street
Fort Collins, Colorado

New address

INTERIOR DEPT.
AUG 8 - 1961
SOLICITOR

Re: DMA-1702X (Uranium)
Cherokee Mines
Copper King Mine
Larimer County, Colorado
Contract Idm-E61

Dear Mr. Sackett:

By the terms of the subject Exploration Project Contract, as amended, and the certification of discovery or development, dated February 18, 1953, all minerals mined or produced from July 16, 1951, to July 16, 1961, were subject to the Government's percentage royalty as set forth in said contract.

As the period during which production was subject to royalty has now expired, the Government according to its present records retains no claim or lien against the property subject to the contract or any future production therefrom. We, therefore, are closing our books and records on this contract. Your attention, however, is called to the provisions of the contract which require the Operator to keep and preserve certain records for the periods indicated.

The Office of Minerals Exploration is the successor agency to the Defense Minerals Exploration Administration.

Sincerely yours,

FROM SOLICITOR
AUG 8 1961
FOR SIGNATURE

Director

RECEIVED
AUG 8 1961
ASSOC. SOLICITOR
MINERAL RESOURCES

FMMurphy/gla
8-7-61
cc to: Director's Reading File
CA&A Division
Region III (2)
Docket
Code 500

43683

DEFENSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

RECEIVED
SEP 1 6 1955

FIRST ROYALTY AUDIT CERTIFICATE

I have examined the records and sales documents pertaining to the sale of Uraninite ore for the period July 16, 1951 to August 30, 1955, by

Cherokee Mines
(T. H. Seckett, President and Manager)
20 South Grant Street
Fort Collins, Colorado

produced from the Blackhawk No. 1, Mining Lode in the Prairie Divide Mining District, Larimer County, approximately 45 miles northwest of Fort Collins, Colorado, under the terms of Contract Idm-E61, Docket No. DMA-1702X.

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

The audit established the total net sales of Uraninite ore for the period to be $27,613.54, including all applicable bonuses, premiums and allowances. Royalty due the United States Government at the contract rate of 5% is $1,380.68. The royalty paid and balance due are as follows:

Total Royalties Due	$1,380.68
Total Royalties Received	1,351.85
Balance Due	$ 28.83

Donald T. Finch
Donald T. Finch, Auditor.

September 13, 1955

FIRST ROYALTY AUDIT REPORT

I INTRODUCTION

On August 30, 1955, an audit of royalty payments received, covering the period July 16, 1951 to August 30, 1955 was made of the production records and ore sales accounts pertaining to Contract Idm-E61, Docket DMA-1702X with the

Cherokee Mines
(T. H. Sackett, President and Manager)
23/South Grant Street
Fort Collins, Colorado

produced from the Blackhawk No. 1 Mining Lode in the Prairie Divide Mining District, Larimer County, approximately 45 miles northwest of Fort Collins, Colorado.

The Operator's records of production and sales were examined at the office of Mr. W. H. Cram, Secretary at 122 South College Avenue, Fort Collins, Colorado. Mr. Cram was consulted during the course of the audit and his cooperation facilitated the work.

II GENERAL INFORMATION

The Operator is a common law trust. The trust agreement is filed at the Court House, Larimer County, Colorado, under File No. 640746.

The exploration contract is dated July 16, 1951, and as amended, provided for total exploration costs of $24,000.00, with participation by the Government of $21,600.00. A final audit report by T. H. Brading, DMEA Auditor, dated December 15, 1952, reflects accepted costs of $23,612.41 and participation by the Government of $21,251.69.
17

A Certificate of Discovery was issued on February 18, 1953.

Mining operations ceased in July, 1953, and the last reported sale of ore was to Colorado Plateau Uranium Ore Project operated by the American Smelting and Refining Company at Martindale, Utah, as evidenced by Liquidation Settlement No. 4165, dated August 3, 1953.

Copies of all but one settlement sheet had been furnished the Executive Officer, DMEA Field Team, Region III.

The Operator's production and sales records are informal and consist of memorandum work sheets and copies of liquidation settlement sheets issued by purchasers of ore.

Semi-annual inspections of the property have been made by U.S.B.M. Engineers since completion of the exploration operations.

Considerable pre-audit analysis was performed by the Auditor at the DMEA office, Denver, Colorado.

III SCOPE OF AUDIT AND FINDINGS

The audit was limited to determining the accuracy and propriety of royalty payments received by the Finance Officer, which were applicable to production and sales of ores during the period July 16, 1951 through August 30, 1955, and a determination that all indicated sales or ores subject to repayment royalties under the Exploration Contract and Amendments, for which settlement sheets have been released, have been properly accounted for.

The extent of the Audit and Findings follow:

A. Conference with the Examining Engineer, U.S.B.M.

In lieu of a conference with the Examining Engineer, a review was made of Engineer's Semi-annual Reports and of the "Check Sheet of Examining Engineer." In addition the matter was discussed with the Executive Officer, DMEA Field Team, Region III.

This review disclosed that the Operator did not stockpile ores subject to DMEA royaltios and did not commingle production subject to DMEA royalties with exempt production. Assay controls were in accordance with AEC provisions and are considered adequate. Production was sold to AEC authorized ore buyers. Audit data was reconciled with the data reported in the Engineer's Semi-annual Report for period ending December 31, 1954, with the exception of the first shipment by the Operator, consisting of 5.229 dry tons of hand-sorted ore which was received by the Vitro Chemical Company of Salt Lake City, Utah, on December 18, 1951. This exception will be discussed in greater detail later in this report.

B. Audit of Settlement Statements

During the audit itemized statements of production, sales and royalties were prepared from copies of ore settlement sheets. A condensed summary of these statements follows: -

	SALES TO VITRO CHEMICAL COMPANY 12/28/51 to 5/14/53	SALES TO A. S. & R. CO. 7/24/53 to 8/3/53	TOTAL
A.E.C. LICENSE No. [illegible]			
Wet Weight	883,530	420,640	1,304,170
Dry Weight	849,388	405,256	1,254,644
Dry Assays (Average)	424.694	202.628	627.322 ✓
	.3243	.2305	.2940 ✓
	Trace	-	Trace
	Trace	-	Trace
Pounds U_3O_8	2,754.44	934.08	3,688.52 ✓
Base Payment U_3O_8	$9,640.54	$3,147.13	$12,787.67
Development Allowance @ 50¢	$1,377.23	$ 467.03	$ 1,844.26
Premiums U_3O_8			
Excess of 4 lbs. per Ton			
Pounds U_3O_8	1,055.65	161.73	1,217.38
Amount @ 75¢	$791.74	$121.30	$913.04
Excess of 10 lbs. per Ton			
Pounds U_3O_8	22.02	-	22.02
Amount @ 25¢	$5.49	-	$5.49
Haulage Allowance			
Per Wet Ton (Average)	$5.39	$1.50	$4.13
Wet Tons	441.765	210.320	652.085
Amount	$2,380.39	$315.49	$2,696.08
Freight Charges Deducted	$3,[illegible].26	-	[illegible]
Pounds V_2O_5	6.27	-	6.27
Amount V_2O_5 @ 31¢	$1.93	-	$1.93
Pounds of Cu	15.059	-	15.059
Amount Cu @ 24.2¢	$3.66	-	$3.66
Total Receiving Station Payment	$10,774.92	$4,050.95	$14,825.87
A.E.C. Production Bonus	$ 9,640.54	$3,147.13	$12,787.67
Total Value Subject to DMEA Royalty	$20,415.46	$7,198.08	$27,613.54
Average Value Per Ton	$ 48.07	$ 35.52	$ 44.02
DMEA Royalty Percentage	5%	5%	5%
DMEA Royalty Due	$ 1,020.78	$ 359.90	$ 1,380.68
DMEA Royalty Received			1,351.85
Balance DMEA Royalty Due			$ 28.83

The itemized detail of royalty due is filed as part of the audit working papers.

Discussion of the foregoing data and the degree of confirmation follows:

Gross Weight - (1,304,170 lbs.; 652.085 tons)

Gross weight represents the total weight shown on the ore settlement sheet. During the audit all weights were converted to tons for use in recomputing haulage allowances.

Dry Weight - (1,254,644 lbs.; 627.322 Tons)

All moisture percentages, as determined by the assay for each lot of ore, were applied during the audit to the total wet weights in pounds to determine the dry weight in pounds. All dry weights in pounds were converted during the audit to dry tons for use in determining the value per ton and the applicable percentage of [redacted] royalty.

Settlement Assays U_3O_8

The settlement assays as shown on the condensed summary in this report are on an average basis. Only one shipment of ore reflected any commercial assays of Vanadium and Copper.

Pounds of U_3O_8; V_2O_5 and Cu

These items represent the total pounds of each compound as shown on each settlement sheet. These quantities were determined by applying the applicable assay grade to the dry pounds of ore. All computations for each lot and all totals for the period July 16, 1951 through August 30, 1955, were recomputed during the audit.

Payments for U_3O_8; V_2O_5 and Cu

All payments for U_3O_8 and V_2O_5 were in accordance with prices as established by A.E.C. Payment for copper was 24.2¢ per lb.

All extensions for the above payments during the period July 16, 1951 through August 30, 1955, were recomputed during the audit.

Development Allowance

Development allowance was at the A.E.C. prescribed rate of 50¢ per lb. of U_3O_8. All computations of development allowances for the period under review were recomputed during the audit.

Premiums

Excess of 4 lbs. U_3O_8 per ton

Payments for this premium were at the A.E.C. prescribed rate of 75¢ per excess pound. All computations involved in the payments of this premium for the period July 16, 1951 through August 30, 1955, were recomputed during the audit.

Excess of 10 lbs. U_3O_8 per ton

There was only one small lot which was of sufficiently high grade to secure this premium. All computations involved in determining the amount of this class of premium were recomputed during the audit.

Haulage Allowance

Haulage allowance paid by the purchasers was on the basis of wet ton miles. These allowances ranged from $1.50 to $6.00 per wet ton. There was one liquidation settlement with Vitro Chemical Company which did not show any haulage allowance or freight charges. Inquiry of Mr. Cran, Secretary for the Operator indicated this lot was sold on an F.O.B. the mine basis. All computations for haulage allowance for the period July 16, 1951 through August 30, 1955, were recomputed during the audit.

Freight Charges Paid and Deducted by the Purchaser

Settlement sheets for the Operator's lots 2 through 9 reflected deductions for freight charges paid and deducted by the Vitro Chemical Company of Salt Lake City, Utah. The total of these freight charges, which are allowable deductions, was compiled during the audit. These freight charges totaled $3,426.26 and were necessary because the production was "Off Plateau."

Total Receiving Station Payments

The computation of all total receiving station payments during the period July 16, 1951 through August 30, 1955, was confirmed during the audit.

Production Bonus

Production bonus totalling $12,787.67 applicable to all sales of ores for the period July 16, 1951 through August 30, 1955 were computed in accordance with A.E.C. regulations during the audit. The Operator had not reported $259.88 of production bonus applicable to Vitro Chemical Company's Liquidation Settlement No. 97 dated December 18, 1951. See additional comments on this item under Section C, "Audit of Operator's Records," and also Exhibit I of this report.

Total Value Subject to DMEA Royalty

The total value of ore sales subject to DMEA royalty during the period under review was confirmed during the audit.

DMEA Royalties Due

DMEA royalty due for the period July 16, 1951 through August 30, 1955, is at the rate of 5% of total value of production sold of $27,613.54, or $1,380.68.

DMEA Royalties Received

On August 29, 1955, the Auditor confirmed that the DMEA Finance Officer's records reflected royalties received for this contract of $1,351.85.

Balance of DMEA Royalties Due

Analysis of the balance of DMEA royalties due is as follows:

Royalty due on Liquidation Settlement Number 97 of Vitro Chemical Company dated December 28, 1951	$32.00
Less; Overpayment of royalties due on Operator's Lots 1 through 13	3.17
Balance of DMEA Royalties Due	$28.83

C. Audit of Operator's Records

At the beginning of the on-site audit Mr. Cram, Secretary of the Operator, produced a liquidation settlement sheet which he stated had not been reported to the Executive Officer, DMEA Field Team, Region III. He further stated he was under the impression this statement represented one truckload of hand-sorted ore that was produced before the effective date of the contract.

Examination of the liquidation sheet showed it was dated December 28, 1951, and that the ore was received by the Vitro Chemical Company on December 18, 1951. When Mr. Cram realized the dating of the liquidation, he stated that he agreed that apparently DMEA was entitled to royalty on the shipment but that Mr. Sackett, President of the Operator, would know definitely. He then advised that Mr. Sackett was out of town. Mr. Cram was advised the audit report would include the production as being subject to royalty. The matter was discussed with the Executive Officer of the DMEA Field Team, Region III, who concurred with the auditer that this production was subject to DMEA royalty.

The operator had only one copy of the liquidation statement, and so the data on the statement is summarized as Exhibit I attached to this report. The Operator did not submit any summary statements of other production, but the Operator's copies of liquidation sheets were checked in detail to the Auditor's working papers which had been prepared from copies of liquidation settlement sheets on file with the Executive Officer, DMEA Field Team, Region III.

D. Reconciliation of Production with A.E.C. Records

Correspondence by the Auditor with the Operations Office of the Atomic Energy Commission confirmed that sales of U_3O_8 during the period under review totalled 3,688.52 lbs. It also confirmed that on August 29, 1955, the available balance of U_3O_8 eligible for production bonus amounted to (10,000 lbs. - 3,688.52 lbs.) 6,311.48 lbs. All of the foregoing data agrees with the audit compilations.

IV CONCLUSIONS

The audit has confirmed the accuracy and propriety of the royalty payments received by the Finance Officer, which are applicable to ore sales during the period July 16, 1951 through August 30, 1955, except as otherwise noted in the preceding section of this report. It has also determined that all indicated sales of ores during the subject period, with the exception of Liquidation Settlement Sheet No. 97 of Vitro Chemical Company, have been properly accounted for.

Donald T. Finch

September 13, 1955

Donald T. Finch, Auditor

EXHIBIT I

SUMMARY OF VITRO CHEMICAL COMPANY LIQUIDATION SETTLEMENT SHEET NO. 97

A.E.C. LICENSE NO. P-1026

Cherokee Mines, Contract Idm-E61

Date of Settlement Sheet:		December 28, 1951
Date Ore Received		December 18, 1951
Wet Weight, Pounds		10,690 lbs.
Dry Weight, Pounds		10,458 lbs.
Dry Weight, Tons		5.229 Tons
Settlement Assay:		
U_3O_8		.71
V_2O_5		.06
Cu 1.36 Less 1% Co		.36
Pounds U_3O_8		74.25
Base Payment U_3O_8		$259.88
Development Allowance		$ 37.13
Premiums:		
Excess 4 lbs. per Ton	$40.00	
Excess 10 " " "	5.49	$ 45.49
Payment V_2O_5		$ 1.93
Payment Cu		$ 3.66
Haulage Allowance		$ 32.07
Total Receiving Station Payment		$380.16
Add: A.E.C. Bonus Computed by Auditor		259.88
Total Value Subject to DMEA Royalty		$640.04
DMEA Royalty due @ 5%		$ 32.00

Check Sheet of Examining Engineer

Operator's Name Cherokee Mines

Address 231 South Grant

Fort Collins, Colorado

RECEIVED SEP 16 1955

Exploration Contract No. Idm-E61 Docket No. DMA-1702

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

R. A. Belaner
Mining Engineer

Date 9/12/55

82448

Docket Copy

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

To: Cherokee Mines, (L. E. Jackett, President & Manager),
231 South Grant Street, Fort Collins, Colorado

Pursuant to the provision of exploration project contract No. [illegible]-1, dated July 1[illegible], 1951, (Docket No. [illegible]-1[illegible]2X), hereinafter called the "contract", between you and the United States of America, hereinafter called the "Government"; to establish and fix the Government's percentage royalty on production and its lien thereon and on the mineral which is the subject of the exploration project, the Government considers and therefore certifies that a discovery or development has resulted from the work from which commercial production of ore may be made.

The Government's estimate of such discovery or development is particularly described and delineated as follows:

Uranium ore in the form of pitchblende occurs in veinlets in a steeply dipping fracture developed east and west through the deposits and host rocks of the land described in the contract. The pitchblende is also associated with metamorphic rocks containing sulfides and iron boxwork pyrite adjacent to the vein.

Dated: FEB 18 1953

THE UNITED STATES OF AMERICA

By C. Mittendorf
Administrator, Reference Materials
Exploration Administration

Ellis
action
Hoffman
Chandler

Copies to: Adm. Reading File
Operating Committee
Docket
Field Team, Reg. V (2)
Finance Office
Mr. Chambers
Mr. Ellis
Howard I. Young, DMPA
J. H. Hedges, BM
T. P. Thayer, USGS
Frank E. Johnson
Mr. Murkland

2/3/53 gla

DEFENSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration

2/3/53

AUDIT CERTIFICATE

I have examined the records and transactions of:

Cherokee Mines Company
Fort Collins, Colorado

pertaining to Exploration Project Contract No. I-DMA-E61, Docket No. 1702X for the period of September 1, 1951 to August 31, 1952.

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

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

Total Cost as billed by Contractor		$24,115.79
Exceptions per audit report	$245.93	
Liquidation Settlement	277.77	
	$523.70	
Less Reinstatements	20.32	503.38
Total Accepted Cost		$23,612.41

The contract calls for a 90 percent participation of exploration by the United States Government. Therefore, payment to the contractor in the amount of Twenty one Thousand, two hundred fifty-one dollars and 17/100

-$21,251.17-

is valid and proper.

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

December 15, 1952

T. H. Brading
Auditor

I. INTRODUCTION

On December 8 and 9, a final audit (covering the period of September 1, 1951 to August 31, 1952) was made of the records and accounts of operations pertaining to Contract I-DMA-E61, Docket No. DMA 1702X with the:

Cherokee Mines Co.
Fort Collins, Colorado

covering a project of exploration for uranium. The following listed amendments to the contract were approved by Executive Officer, Region IV:

Number	Date	Effective
#1	9-24-51	7-16-51
#2	11-9-51	Not shown, therefore effective 11-9-51
#3	2-5-52	1-16-52
#4	2-25-52	7-16-51
#5	3-11-52	7-16-51
#6	4-22-52	3-8-52
#7	7-22-52	7-1-52
#8	9-16-52	8-22-52

The accounting records under this contract are located in the office of the secretary of the company, 128 So. College Avenue, Ft. Collins, Colorado, and the mine is located about 45 miles north and west of Ft. Collins, the Prairie Divide Mine District, Laramie County, Colorado.

During the course of the audit, the follow ng officers of the company were consulted as required:

Mr. T. H. Sackett, President & Manager
Mr. W. H. Cram, Secretary

II. GENERAL INFORMATION ON RECORDS

The accounting records of the company consisted of a ledger in which disbursements and payroll were maintained in memorandum form, invoices which were segregated by months in envelopes, cancelled checks together with check stubs, and a time book showing hours worked by individual miners. The records were not in good condition. The Monthly MF-104 reports were prepared from the memorandum information in the ledger. Therefore, audit involved in general, a check of invoices, and payroll against the records maintained. All costs, except for accruals for taxes, compensation insurance etc., were recorded on a cash basis.

III. SCOPE OF AUDIT AND FINDINGS

The audit was limited to ascertaining the accuracy, propriety and validity of the costs as shown in the "Totals to Date" column of Form MF-104, Operator's Monthly Report and Voucher for the month of August, 1952. The extent of the audit and findings under each of the "Items of Cost" follow:

1. Independent Contracts:

   Not applicable to this contract.

2. Labor and Supervision:

All charges under this item were verified by checking Monthly totals as maintained under "Payroll Section" of the ledger. In order to verify the labor time, rates and charges on a test basis, the labor costs for the months of September through December 1951, and July and August 1952, were checked from "Foreman's Daily Time Book,"

through the bi-weekly payroll record in the memo ledger, totals computed and inspection of cancelled checks made. The audit disclosed that the operator had made errors in carrying totals forward several times, with the result an understatement of $1.11 was eventually made on the charge for labor. This amount is reinstated and the total charge of $14,023.78 is properly chargeable and allowable under the terms of the contract.

General supervision in the amount of $2,700.00 represents the amount paid to the President and General Manager for part-time services, and is a proper and allowable charge under the terms of the contract.

3. Operating Material and Supplies:

All charges under subject category were verified by examination of vendors' invoices for propriety of items charged, spot check of checks in payment of these invoices was made and totals traced to proper memorandum accounts each month. The Finance Officer made a disallowance of $1.00 representing overcharge on an invoice for lumber. During the audit, a disallowance of $10.20 was made for the same reason, or a total of $11.20 disallowed.

A total charge of $1,141.00 was made for gasoline used in engines at the mine. Claim for refund of taxes charged was filed with the State and a refund in the amount of $215.52 received. Accordingly, this amount is disallowed. Charges for Miscellaneous Supplies were found to consist of the cost of small tools, drill steel, oil for compressors and engines and miscellaneous hardware, nails, etc. The totals properly allowable and chargeable under the terms of the contract, giving effect to disallowances as outlined hereinbefore under this category were:

Timber	$ 506.85
Explosives	641.57
Pipe	13.62
Gasoline	925.48
Miscellaneous Supplies	1358.98
	$3446.50

4. Operating Equipment (Rental)

All charges for rental of operating equipment were checked to the records in the ledger at the rates specified in the contract. No record of usage was maintained; however, the time as charged was in line with that authorized in the contract.

Amounts as shown on the MF-104 for rental of operating equipment are as follows:

Hoist-$124.80 per month-11 months+	$1468.81*
Jack Hammer $45.90 per month -7 months	317.70**
Total	$1786.51

*Fractional charge made for first month
**No charge for sales tax made first four months

Both these items were on a lease rental basis as follows:

Vulcan Single Drum Hoist		$2120.00
2/3 of rent to apply on purchase price:		
Payments to date	$1468.81	
Less: Insurance & Sales Tax	55.81	
Net Rent	$1413.00	
2/3 of Rent		942.00
Balance		$1178.00

Considering the fact that the hoist mentioned above was a reconditioned hoist when purchased, and has had hard usage for a year, it is the opinion of the examining engineer that the recoverable value would very probably not be in excess and possibly less than the balance due. Therefore, any Government equity in the hoist should be waived. Mr. W. H. King, Executive Officer, concurs in this opinion.

Joy L-47 Rock Drill		$427.50
90% of rent to apply on purchase price.		
Total Payments to Date	$317.70	
Less Sales Tax	2.70	
Net Rent Paid	$315.00	
90% of $315.00		283.50
Balance Paid By Company		$144.00

The company has elected to complete the payment on this piece of equipment. Therefore, the Government has an equity of 90% of $283.50 or $255.15 in the equipment which cost $427.50, or 59.68%.

Bids were received as follows:

		59.68%
Harry L. Sinclair	$145.00	$86.54
Gurwell Anderson	147.50	88.03

Cherokee Mines bid $109.75 for the Government's 90% equity. Inasmuch as the bid from the company was high, it was accepted. The amount of $121.94 or 100% of the Government equity is deducted from the rental paid and the costs properly chargeable to the project are:

Hoist		$1468.81
Jack Hammer		
	$317.70	
Less Bid	$121.94	195.76
		$1664.57

Invoices and cancelled checks covering purchases of operating equipment were examined. Purchase of the pump was authorized by Amendment No. 1 and purchase of the blower by Amendment No. 7. The purchase price of this equipment is shown below:

Gardener Denver Pump	$187.00
Buffalo Blower, Engine	251.19
Total	$438.19

Bids on this equipment were as follows:

Description	Cost	Sinclair Co.	Gurwell Anderson	Cherokee Mines
G. D. Pump	$187.00	$ 28.50	$ 25.00	$ 30.83
Blower	251.19	120.00	125.00	125.00
Total	$438.19	$148.50	$150.00	$155.83

As the bid received from the company was high, it was accepted.

The costs properly chargeable to the project as disclosed by the audit were:

Description	Cost	Liquidation Allowance	Net
G. D. Pump	$187.00	$30.83	$156.17
Blower	251.19	125.00	126.19
	$438.19	$155.83	$282.36

7. Miscellaneous

Repairs to Equipment

The allocation of these charges were:

Hoist	$135.33
Pump	49.64
Drill	33.92
Compressor	52.20
	$271.09

Invoices covering charges were examined and test check of cancelled checks was made. The charges shown above are considered to be allowable and proper under the contract.

All charges for payroll taxes and workmen's compensation insurance were checked by computation at the rates shown by the company's files to be in effect. These rates were:

F.I.C.A.	1.5%
Workmen's Compensation Insurance	2.95%

The Finance Officer had disallowed $19.21 for F.I.C.A. for the month of July because of improper documentation. Since the charge was legitimate, it was reinstated during the audit.

Salary for bookkeeper in the amount of $50.00 per month effective the date of the contract, was approved by Amendment No. 4.

IV. CONCLUSIONS AND RECOMMENDATIONS

The audit has disclosed that all costs, as charged to this project, with the exceptions of the disallowances itemized under item (3) Operating Material and Supplies, and liquidation allowances under item (4) Operating Equipment, of the preceding sections of this report, are reasonable and proper under the terms of the contract and amendments numbered one to eight. The adjustments between "Items of Costs" as shown on the August MF-104, recommended disallowances, reinstatements, liquidation settlements, and approved amounts are summarized as follows:

	Totals MF-104 8/1952	Distribution Corrections	Disallowances	Liquidation	Reinstatements	Allowed by Audit
(2) Labor & Supervision:						
Labor	$14022.67	$14022.67			$ 1.11	$14023.78
Supervision	2700.00	2700.00				2700.00
(3) Operating Mat. & Supplies:						
Timber	518.05	518.05	$ 11.20			506.85
Explosives	641.57	641.57				641.57
Pipe	13.62	13.62				13.62
Gasoline	1141.00	1141.00	215.52			925.48
Miscl. Supp.	1358.98	1358.98				1358.98
(4) Operating Equip.						
Rental	1728.00	1786.51		121.94		1664.57
Purchase	425.36	438.19		155.83		282.36
(7) Miscellaneous:						
Repairs to Equipment	271.09	271.09				271.09
Payroll Taxes	211.64	210.41	19.21		19.21	210.41
Workmen's Comp. Ins.	412.47	413.70				413.70
Tax-Hoist Jack Hammer	71.34	----				
(8) Bookkeeping	600.00	600.00				600.00
	$24115.79	$24115.79	$245.93	$277.77	$20.32	$23612.41

At the conclusion of the audit, the findings were discussed with the secretary, Mr. W. H. Cram.

T. H. Brading, Auditor

December 15, 1952

Docket Copy
Uranium

No. 8

AMENDMENT OF CONTRACT: No. 14s-261

Contract Docket No. [illegible] 17082, dated July 16, 1952, between the United States of America and Cherokee Mines is hereby amended as follows, effective August 22, 1952:

> Referring to the Amendment dated February 5, 1952, which amended Article 3 of Exploration Project Contract Form DP-200, delete "14 months" where it appears in said Amendment and in lieu thereof substitute "16 months."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may pay or the percentage of the costs which the Government may pay under the provisions of Article 13 of the contract form.

Dated September 16, 1952.

CHEROKEE MINES,
A Common Law Trust,
Trust Agreement filed
at the Court House in
Larimer County, Colo.,
under file [illegible]

UNITED STATES OF AMERICA

By H H Sackett
President & General Manager

By W. H. King
Executive Officer - [illegible]
Field Team, Region IV

[illegible] 1952

AMENDMENT OF CONTRACT: No. Ida-861

Contract Docket No. IDA 17087, dated July 16, 1952, between the United States of America and Cherokee Mines is hereby amended as follows, effective August 22, 1952:

> Referring to the Amendment dated February 8, 1952, which amended Article 3 of Exploration Project Contract Form IP-2.0, delete "in reading where it appears in said Amendment and insert thereof substitute "in quantity."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may pay or the percentage of the costs which the Government may pay under the provisions of Article 15 of the contract form.

Dated September 15 1952.

CHEROKEE MINES,
A Corson Law Street,
Street Address filed
at the Court House in
Larimer County, Colo.,
under file 2001-46

UNITED STATES OF AMERICA

By _____
President & General Manager

By _____
Executive Officer - DMEA
Field Team, Region IV

No. 7
DOCKET COPY

AMENDMENT OF CONTRACT: No. Idm-E61

Contract Docket No. DMA 1702X, dated July 16, 1951, between the United States of America and Cherokee Mines is hereby amended as follows, effective July 1, 1952:

Referring to Exhibit "A" attached to Exploration Project Contract Form MF-200, as amended by Amendment No. 5, dated March 11, 1952, said Amendment is amended as follows:

1. Under Item 1, the paragraph beginning with the words: "Sink the shaft 15 feet below the 150-foot level," delete the paragraph in its entirety and in lieu thereof insert the following:

   Sink the shaft 15 feet below the 150-foot level, extend the 150-level easterly to a point approximately 18 feet from the shaft, raise from this point on the exposed structure approximately 15 feet, or until ore is encountered, sublevel drift easterly from the top of the raise 100 feet or to the limits of mineralization, whichever occurs first.

2. Under Item 2, under the title: "To be purchased:" add:

   1 Blower - $270.00

Referring to Exhibit "A" under the title Cost of Work, (h) "Cost of Material & Supplies" add:

12. 200 feet of 8 or 10 inch metal ventilation pipe and 100 feet of flexible ventilation tubing. Estimated cost - $250.00

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may pay or the percentage of the costs which the Government may pay under the provisions of Article 11 of the contract form.

Dated July 22, 1952.

JUL 28 1952

CHEROKEE MINES, A Common Law Trust,
Trust Agreement Filed at the Courthouse
in Larimer County, Colorado, under
File Number 640746,

By H. Sackett, Pres

UNITED STATES OF AMERICA

By W. H. King
Executive Officer - DMEA

No. 6
Docket copy

AMENDMENT OF CONTRACT: No. I-DMA-E61

Contract Docket No. DMA 1702X, dated July 16, 1951, between the United States of America and Cherokee Mines is hereby amended as follows, effective March 1, 1952:

> Referring to Exhibit "A" attached to Exploration Project Contract Form MF-200 as amended by Amendment No. 4, dated September 24, 1951, in the paragraph of said Amendment beginning with "The schedule in Exhibit A", delete the figure $1.50 and in lieu thereof substitute the figure $2.75.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may pay or the percentage of the costs which the Government may pay under the provisions of Article 13 of the contract form.

Dated April 22, [illegible], 1952.

CHEROKEE MINES, A Common Law Trust, Trust Agreement filed at the Courthouse in Larimer County, Colorado under File No. 640746

By H. Barkett, Pres.

UNITED STATES OF AMERICA

By J. H. Earl
Executive Officer - DMEA

gwo

No. 4

AMENDMENT OF CONTRACT: No. Idm-D61

Contract Docket No. DMA 1702X, dated July 16, 1951, between the United States of America and Cherokee Mines is hereby amended as follows, effective as of the date of said contract:

1. Referring to Exhibit "A" attached to Exploration Project Contract Form MF-200, delete the following: "At the 150-foot level establish a station and sump, then crosscut the short distance (unknown) to the vein and drift a few rounds each way along the vein. It will be necessary to timber the winze and probably the drifts."

   Insert in lieu thereof:

   Sink the shaft 15 feet below the 150-foot level, drive a crosscut on the 150-foot level to cut the vein, drift approximately 50 feet on the vein from each side of the shaft on the 150-foot level. The total drifting on the 150-foot level will be approximately 100 feet. The location of the proposed work is shown on the attached map.

2. Referring to Exhibit "A" under title Cost of Work (e) delete: "No equipment to be purchased." and insert:

   To be purchased:

350 feet of non-spinning hoist cable	$80.00
1 ore car	$60.00

   Also insert:

   To be rented:

   1 Jackhammer at $45.00 per month
   1 Jackleg at $80.00 per month

   The estimated cost of additional supplies, labor, supervision, and the additional items of equipment listed above is $10,000.

   Under title Cost of Work delete the following:

Total	$1,877.00
Grand Total	$14,000.00

3. Referring to Article 13 of the contract (a) delete the figure $12,600.00 and in lieu thereof substitute the figure $21,600.00; (b) delete the figure $14,000.00 and in lieu thereof substitute the figure $24,000.00.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may pay or the percentage of the costs which the Government may pay under the provisions of Article 13 of the contract form, as hereby amended.

Dated March 11, 1952.

CHEROKEE MINES, A Common Law Trust, Trust Agreement filed at the Courthouse in Larimer County, Colorado, under File Number 640746.

By T. H. Sackett Pres.

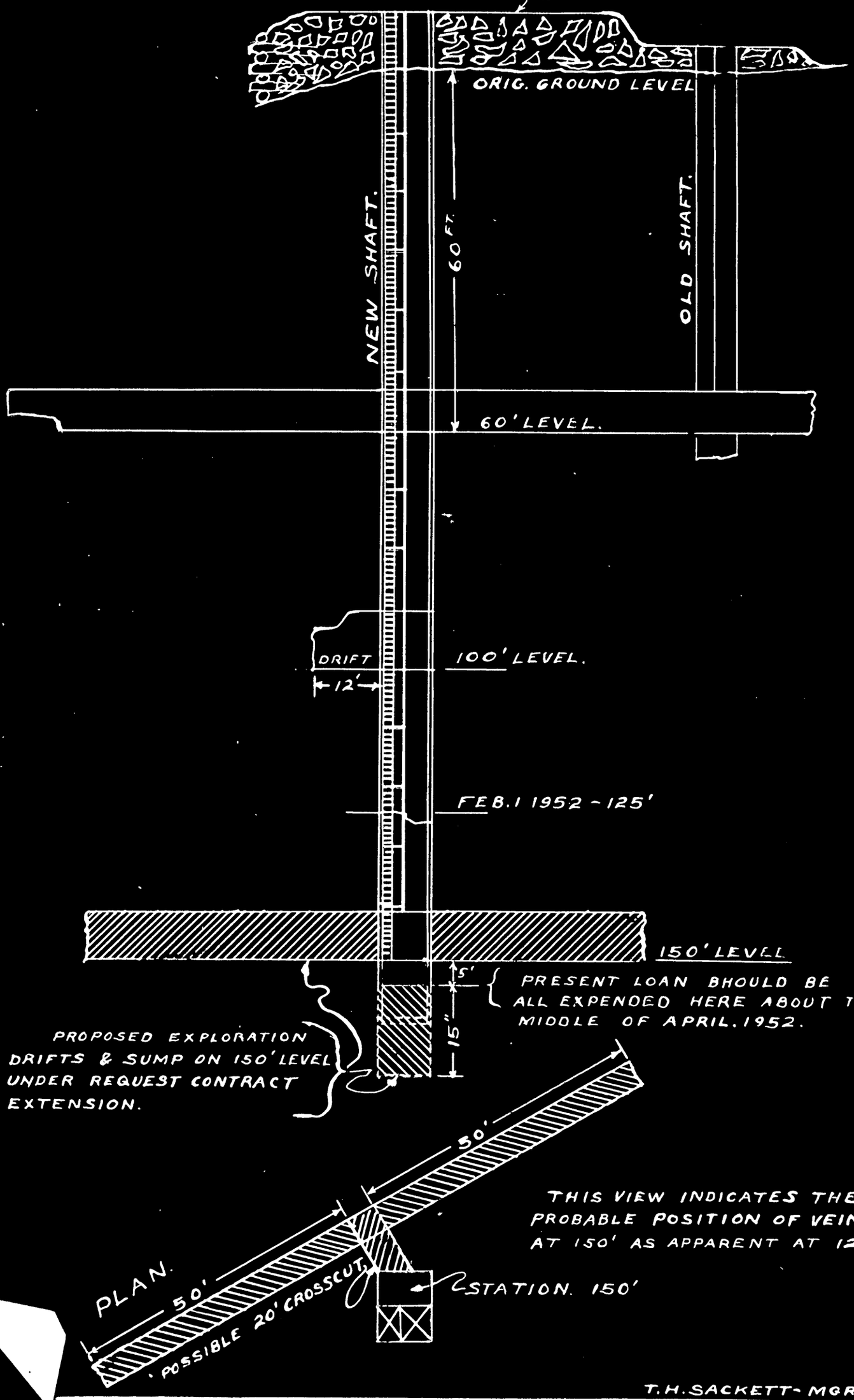
UNITED STATES OF AMERICA

By J. H. Ernst
Executive Officer - DMA

PLAT OF PRESENT & PROPOSED EXPLORATION WORK

BLACK NO. 1
HAWK

CHEROKEE MIN
FEB 13 1952



T. H. SACKETT - MGR.

AMENDMENT OF CONTRACT: No. Idm-E61

Contract Docket No. DMA 1702X, dated July 16, 1951, between the United States of America and Cherokee Mines is hereby amended as follows, effective as of the date of said contract:

Referring to Exhibit A attached to Exploration Project Contract Form MF-200, under title "Cost of Work", item "(a)" add the following:

1 Bookkeeper, $50.00 per month.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may pay or the percentage of the costs which the Government may pay under the provisions of Article 13 of the contract form.

Dated ~~February 25~~, 1952.

CHEROKEE MINES, A Common Law Trust, Trust Agreement filed at the Courthouse in Larimer County, Colorado, under File Number 640746.

By H H Sackett Pres

UNITED STATES OF AMERICA

By J. H. Earl
Executive Officer - DMA

Dimed docket copy

AMENDMENT OF CONTRACT: No. Lda-261

Contract Docket No. DMA 170ZM, dated July 16, 1951, between the United States of America and Cherokee Mines is hereby amended as follows, effective January 16, 1952:

Referring to Article 3 of Form MF-200, "Exploration Project" after the following:

"all properly designed to bring the project to completion within a period of",

delete the following:

"6 months"

and insert the following:

"14 months".

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may pay or the percentage of the costs which the Government may pay under the provisions of Article 13 of the contract form.

Dated February 5, 1952.

jws

CHEROKEE MINES, A Common Law Trust, Trust Agreement filed at the Courthouse in Larimer County, Colo., under file #410745

By H Sackett Pres

UNITED STATES OF AMERICA

By J. H. Ewing Jr.
Executive Officer, DMA

Mails + Files

OH

AMENDMENT OF CONTRACT: No. I-DMA-E61

Contract Docket No. DMA-1702X, dated July 16, 1951, between the United States of America and Cherokee Mines is hereby amended as follows:

Referring to Exhibit "A" attached to Exploration Project Contract, Form MF-200, under the title "Cost of Work", paragraph (f), add the following:

"One Vulcan Iron Works single drum mine hoist driven by Hercules gasoline engine, to be rented at the rate of $120.00 per month. Two-thirds of the rental of this hoist will apply on the purchase price of $2,120.00."

"The amount of $213.00 which the operator paid for rental of an air hoist for use on the project from August 28, 1951, to November 9, 1951, is allowed. It is agreed that one-half of the said $213.00 will apply on the purchase of the above gasoline engine driven mine hoist if the option to purchase is exercised."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may pay or the percentage of the costs which the Government may pay under the provisions of Article 13 of the contract form.

Dated November 9, 1951.

CHEROKEE MINES, A Common Law Trust, Trust Agreement filed at the Courthouse in Hinsdale County, Colorado, under file number 640746,

By H. Sackett
President

UNITED STATES OF AMERICA

W. H. K.
Jws

By J. H. Earnest
Executive Officer - DMA

AMENDMENT OF CONTRACT: No. I-Qm-Vm1

Contract Docket No. DMA-1Y2A, dated July 1, 1941, between the United States of America and Cameron Mines is hereby amended as follows:

Referring to Exhibit "A" attached to Exploration Project Contract Form-M-20A, under the title "Scope of Work", paragraph (1), add the following:

"One Wilson Iron Works single drum mine hoist driven by Kermatics gasoline engine, to be rented at the rate of $150.00 per month. Two-thirds of the rental of this hoist will apply on the purchase price of $2,100.00."

"The amount of $213.00 which the operator paid for rental of an air hoist for use on the project from August 28, 1941, to November 9, 1941, is allowed. It is agreed that one-half of the sum $213.00 will apply on the purchase of the above gasoline engine driven mine hoist if the option to purchase is exercised."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the government may pay or the percentage of the costs which the government may pay under the provisions of Article 13 of the contract form.

Dated November 9, 1941.

CAMERON MINES, A Common Law Trust, Trust Agreement filed at the County Clerk's office in Ouray County, Colorado, under file number [illegible].

By _____
President

UNITED STATES OF AMERICA

By _____
Executive Officer, DMA

Co. M.M.

AMENDMENT OF CONTRACT: No. I-DMA-161

Contract Docket No. DMA-1702X, dated July 16, 1951, between the United States of America and Cherokee Mines, is hereby amended as follows, effective as of the date of said contract:

> The schedule in Exhibit A, attached to the contract form, under the title of Cost of Work, is amended to provide for a $1.50 per hour wage rate for miners and to provide for the purchase of a pump at a cost of $187.00 in place of rental of a pump at the rate of $80.00 per month.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may pay or the percentage of the costs which the Government may pay under the provisions of Article 13 of the contract form.

Dated September 24, 1951.

CHEROKEE MINES

By H Sackett, Pres

UNITED STATES OF AMERICA

By J H Ewart
Executive Officer - DMA

DEFENSE MINERALS
ADMINISTRATION
WASHINGTON, D.C.
SEP 27 9 25 AM '51

AMENDMENT OF CONTRACT, No. I-DMA-601

Contract Docket No. DMA-1(02), dated July 16, 1951, between the United States of America and Cherokee Mines, is hereby amended as follows, effective as of the date of said contract:

> The schedule in Exhibit A, attached to the contract form, under the title of Cost of Work, is amended to provide for a $1.50 per hour wage rate for miners and to provide for the purchase of a pump at a cost of $147.00 in place of rental of a pump at the rate of $30.00 per month.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may pay or the percentage of the costs which the Government may pay under the provisions of Article 13 of the contract form.

Dated September 24, 1951.

CHEROKEE MINES

By [illegible]

UNITED STATES OF AMERICA

By [illegible]
Executive Officer - DMA

SEP 27 9 25 AM '51
DEFENSE MATERIALS
ADMINISTRATION
WASHINGTON D.C.

MF-200
(June 1951)

DMA file

Docket No. DMA 1702X
Commodity Uranium

Idm-E61

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

EXPLORATION PROJECT CONTRACT [1]

It is agreed this 16th day of July, 1951, between the United States of America, acting through the Department of the Interior, Defense Minerals Administration, hereinafter called the "Government," and [2] Cherokee Mines, (T.H. Sackett, President & Manager)
231 South Grant Street
Fort Collins, Colorado

hereinafter called the "Operator," as follows:

1. *Authority for contract.* This agreement is entered into under the authority of the Defense Production Act of 1950, pursuant to Mineral Order 5, entitled "Regulations Governing Government Aid in Defense Exploration Projects."

2. *Operator's property rights.* The exploration project shall be conducted on that certain property situated in the State of Colorado, County of Larimer, described as follows: [3]
The Blackhawk No. 1 Mining Lode in the Prairie Divide Mining District in the W ½ of Sec. 8, T. 10 N. R.72 W. of the 6th P.M.

with respect to which the Operator represents and undertakes: [4]

(*a*) That he is the sole 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:
No liens or encumbrances

(*b*) ~~[illegible]~~.

3. *Exploration project.* The Operator, within 10 days from the date of this contract shall commence work on a project of exploration for [5] Uranium; shall prosecute the work efficiently, expertly, in a workmanlike manner, in accordance with good mining standards, with suitable and adequate equipment, materials, and labor, all properly designed to bring the project to completion within a period of [6] 6 months from the date of this contract. The exploration project and the work to be performed are more fully described on Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, is made a part of this contract.

4. *Performance of the work.* The work shall be performed by the Operator, under his sole direction and control: *Provided,* That with the consent of the Government and its written approval of the contract or contracts, all or any part of the work may be performed by the Operator through contract or contracts with independent contractors. 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.

5. *Fixtures and improvements.* 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. Any additional facilities, buildings, and fixtures, to be purchased, installed, or erected by the Operator, with the estimated cost of each, to which the Government will contribute currently its agreed pro rata share, are listed in Exhibit "A" attached hereto. The difference between the cost of such additional facilities, buildings, or fixtures, and the salvage value thereof at the conclusion of the work, shall be charged as a cost of the project to which the Government has contributed its pro rata share.

6. *Operating equipment.* Any operating equipment to be rented, purchased, or furnished by the Operator, with the allowable rental, purchase price, or depreciation, as the case may be, is listed under appropriate headings in Exhibit "A" attached hereto. As to equipment purchased for the project, the Government will contribute its agreed pro rata share of the cost thereof, and the difference between the cost and the salvage value at the conclusion of the work shall be charged as a cost of the project to which the Government has contributed its pro rata share.

[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.
[4] Strike out the provision not applicable.
[5] Name of mineral.
[6] Not in excess of 2 years.

MAP on application

16—64066-2

7. *Title to and disposition of property.* All facilities, buildings, fixtures, equipment, [illegible] other items costing more than $50 each, paid for or purchased with funds contributed jointly by the Operator and the Government, shall belong to the Operator and the Government jointly, in proportion to their respective contributions, and upon the termination of the contract, if they have any salvage value, shall be disposed of for their joint account unless the Government, in writing, waives its interest in any such items. The Government may require the dismantling, severance from land, and removal of any such items in order to realize its interest in the salvage value thereof, and the cost of any such removal and of the disposal of the items shall be for the joint account of the parties in proportion to their respective interests.

8. *Labor and supervision.* An itemized schedule of labor, by numbers and classes (miners, muckers, millmen, etc.), and of supervisors, by numbers and positions, with the maximum wages or salaries that may be paid to each as an allowable cost of the project is set forth in Exhibit "A" attached hereto.

9. *Rehabilitation and repairs.* A statement of the cost of any necessary rehabilitation or repairs to put existing facilities, buildings, installations, and fixtures into useful and operable condition and which are to be allowed as costs of the project is included in Exhibit "A."

10. *Allowable costs of the project.* The costs of the project in which the Government will participate are limited to the necessary, reasonable, direct costs of performing the exploration work, including the costs of materials, supplies, engineering, power, water, analytical work, accounting, and utilities, including items of equipment costing less than $50 each; and the costs referred to in Articles 5, 6, 8, and 9, and the exhibits annexed to and referred to in this contract. Although the Government may pay part of the cost of new or additional facilities, structures, buildings, and equipment, only the depreciation on such items, computed as indicated in Articles 5 and 6, will be charged as a cost of the project. No items of general overhead, corporate management, interest, taxes, or any other indirect costs not expressly allowed by these provisions, or work performed or costs incurred before the date of this contract, shall be allowed as costs of the project in which the Government will participate.

11. *Accounts and audits.* The Operator shall keep suitable records and accounts of operations, which the Government may inspect and audit at any time. The Government may at any time require an audit of the Operator's records and accounts by a certified public accountant, 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.

12. *Progress reports.* The Operator shall provide the Government with monthly reports of work performed under the contract upon forms to be provided by the Government. Each monthly progress report shall bear the certification of the Operator and shall constitute the Operator's invoice of costs incurred on the project during the period covered by the report.

13. *Payment to the Operator.* The monthly progress report (invoice), to the extent approved by the Government, shall be processed for payment by the Government. Payment shall be made in the amount of 90 percent of the approved costs incurred; *Provided,* That the aggregate total of all sums paid by the Government under this agreement shall not exceed $12,600.00, which is 90 percent of the agreed estimated total cost of this project, $14,000.00.

14. *Final reports by Operator.* Upon completion of the project or termination of this contract, the Operator shall provide the Government with a comprehensive geologic and engineering report, including an estimate of ore reserves, to the best of his ability. Four copies of all reports shall be furnished to the Government.

15. *Repayment by Operator.* If, upon the completion of the exploration project or termination of the contract, the Government considers that a discovery or development has resulted from the work from which commercial production of ore may be made, the Government, within 6 months thereafter, shall so certify to the Operator, particularly describing and delimiting its estimate of the discovery or the development. Thereafter, if and as ore is produced as a result of such discovery or development, the Operator and his successor in interest shall be and become obligated to pay to the Government a percentage royalty on the net smelter returns or other net proceeds realized from such ore, concentrates, or metal produced within ten (10) years from the date of this contract, until the total amount contributed by the Government, without interest, is fully repaid or said 10 years have elapsed, whichever occurs first, as follows:

Of net smelter returns or other net proceeds not in excess of eight dollars ($8.00) per ton of ore: One and one-half (1½) percent.

Of net smelter returns or other net proceeds in excess of eight dollars ($8.00) per ton of ore: One and one-half (1½) percent, plus one-half (½) percent for each additional full fifty cents ($0.50) in excess of eight dollars ($8.00) per ton of ore, but not in excess of a maximum of five (5) percent.

This obligation to repay from net returns or proceeds shall be and remain a claim and lien upon the mineral deposit which is the subject of the exploration project and upon any production resulting from such discovery or development, in favor of the Government, until fully paid, or until said 10-year period has elapsed; and this claim and lien and the Government's right to repayment shall survive any termination of the contract, whether by completion of the exploration project or otherwise. This article is not to be construed as imposing any obligation on the Operator or his successor in interest to produce ore from any such discovery or development.

16. *No assignment of contract.* Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder.

17. *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 worthwhile discovery and in the opinion of the Government further operations are not justified. Upon the completion of the project or any termination of the contract the Operator shall render to the Government a full and final accounting of his operations under the contract and his expenditures of money; shall dispose of any unused materials, supplies, and equipment for the joint account of the Operator and the Government in the proportion of their respective interests; and shall pay to the Government its pro-rata share of any money remaining.

Executed in sextuplicate the day and year first above written.

Cherokee Mines
(Operator)

By H. Sackett, Pres. & Gen. Mgr.

THE UNITED STATES OF AMERICA

By C. O. Mittendorf

C. O. Mittendorf, Director
Production Expansion Division
Defense Minerals Administration

U. S. GOVERNMENT PRINTING OFFICE 16—6

EXHIBIT "A"

This exploratory work consists of sinking the present 14 foot winze on the 60 foot level of the Black Hawk No. 1 Claim to the 100 foot level and the 150 foot level. At the 100 foot level crosscut the short distance (unknown) to the vein and drift a few rounds each way along the vein. At the 150 foot level establish a station and sump then crosscut the short distance (unknown) to the vein and drift a few rounds each way along the vein. It will be necessary to timber the winze and probably the drifts.

Cost of Work

			Six Months
(a)	Labor - 4 miners @ $1.25/hr. $10.00/day - $1200.00/mo.		$7200.00
(b)	Supervisor - 1 man (part time) $225.00/mo.		1350.00
(c)	Repairs to existing facilities, structures, and buildings		100.00
(d)	Number of additional facilities, structures, and buildings necessary		----
(e)	No equipment to be purchased.		----
(f)	Air driven water pump to be rented @ $80.00/mo. (60% applying toward purchase).		480.00
(g)	No rental to be charged on operators equipment.		
(h)	Cost of Materials & Supplies		
	1. Explosives	$375.00	
	2. Carbide	60.00	
	3. Drill bits (new & regrind cost)	420.00	
	4. Drill Steel	150.00	
	5. Timber, planks, lagging, nails, lining boards	660.00	
	6. Hoist cable	30.00	
	7. Rails	40.00	
	8. 75 ft. 2 in. pipe	37.00	
	9. Hammer & engine oil	20.00	
	10. Pipe fittings & suction hose	35.00	
	11. Shovels, picks, blacksmith coal, etc.	50.00	
	TOTAL		$1877.00
(i)	Power (Gasoline engines.) 30 gals/day @ 20¢/gal		900.00
	Compensation insurance		150.00
	Social security 1½% of $8400.00		126.00
	Emergency & unexpected expense		1817.00
	GRAND TOTAL		$14000.00

Time Schedule

1st Month	- Sink and timber to 100 foot level & timber station.	$2000.00
2nd Month	- Drive drift to vein and along vein a few rounds to test same.	2000.00
3rd Month	- Sink to 125 feet and timber winze.	2000.00
4th Month	- Sink to 150 foot level and timber.	2000.00
5th Month	- Sink sump, construct station and drive to vein.	2000.00
6th Month	- Drift on vein on 100 and 150 foot levels to determine probable extent of deposit.	2000.00

Leaving $2000.00 if no unexpected immergency or expense occurs and if vein does not dip too much from the vertical.

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

DO NOT FILL IN THIS BLOCK

Docket No. DMA-1702X

Date received 6/18/51

Participation

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 18 1951
LANSON F. STROBEL
Executive Secretary

Cherokee Mines
T. H. Sackett, Pres. & Mgr.
231 South Grant Street
Fort Collins, Colorado
Wilford F. Cram, Secr. & Treas.
122 South College Avenue
Fort Collins, Colorado

Name and address of applicant

Date June 14, 1951

FILL IN THIS BLOCK

Date of application June 14, 1951

Estimated cost $14,000.00

Mineral or metal Uranium

Percentage of Government participation 90 percent

Location of mine W½ of Section 8, Township 10 North, Range 72 West of the 6th P.M. Larimer County, Colorado

Date of filing MF-100 Not filed

DMA Docket Number, if available None

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.
    (*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

    NOTE.—If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*b*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

*11. State the present and former names of the property, if any.
*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.
*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.
*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.
15. State in detail how the ore could be shipped and how and where milled.
*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.
*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.
19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?
21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.
24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

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

Cherokee Mines
(Name of company)

By Thorwald H. Sackett
(Signature of authorized official)

June 14, 1951
(Date)

President
(Title)

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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

THE APPLICANT

1. The applicant is a Common Law Trust.

2. Not applicable.

3. The Board of Trustees of this Common Law Trust are the following:

Thorwald H. Sackett, President
231 South Grant Street
Fort Collins, Colorado

Dr. Victor E. Cram, Vice-president
919 Woodford Street
Fort Collins, Colorado

Wilford F. Cram, Sectretary & Treas.
122 South College Avenue
Fort Collins, Colorado

Harold Ismert
6127½ Middleton Street
Huntington Park, California

Raymond Estes
6127½ Middleton Street
Huntington Park, California

James H. Andrews
322 East Oak Street
Fort Collins, Colorado

Arthur Brown
Livermore, Colorado

Orval O. Morris
Greeley, Colorado

4. (a) Of the above group, T. H. Sackett, James H. Andrews, O. O. Morris, and Dr. V. E. Cram, operated the Cotopaxi Mine located at Cotopaxi, Colorado, from 1942 to 1946 inclusive, and since that time have been developing a group of claims in the Cottonwood Mining District near Buena Vista, Colorado.

(b) The manager, Thorwald H. Sackett, is a graduate engineer. He was employed for about eight years by the Smuggler-Union Mining Company, several years of which were in the capacity of mine engineer.

4 (b) Continued,
Other experience in mining was with the Marysville Gold Dredging Company, Marysville, California.
Rockfield Mining & Milling Company, Manhatten, Colorado - Mgr.
Bloody Canyon Antimony Mine, Imlay, Nevada - Superintendent
Monarch Galena Company - Cotopaxi, Colorado - Mgr. & part owner
Cottonwood Mining Company, Buena Vista, Colorado - Mgr. & stockholder
Warwick Mining Company, Isabel Mines, Canyon City, Colo. - Mgr & part own.

5. The applicant is the owner of the property.

6. There are no claims, liens, or encumbrances against the property.

7. Not applicable.

8. The following is a financial statement of Cherokee Mines as of June 12, 1951.

ASSETS		LIABILITIES	
Cash on hand	none	Accounts Payable	
Cash in Bank	$817.56	Current Wages	$350.00
Merchandise on hand:		Loans	None
60 Ton Zinc Ore (not shipped)	1050.00 Net	Liens	None
2 Ton Uranium Ore (not shipped)	500.00 Net	Other liabilities	None
Buildings	500.00		
Mining Claims Blackhawk #1 & 2	------		
Equipment (including compressor, drilling equipment, etc.)	8935.00		
TOTAL	$11802.56		$350.00

9. The various members of the Board of Trustees above mentioned are prepared to invest in the proposed project the sum of $1400.00, which sum will be their part of the cost of the project in accordance with the Government ratio of contribution with regard to uranium ores as being ninety percent of the total investment.

THE PROPERTY

10. (a) The following is a description of the real property that will be involved in the exploration project:

The Blackhawk Number One Mining Lode, the same being a full mining claim 600 feet wide and 1500 feet long, located in the Prairie Divide Mining District, Larimer County, Colorado.

(b) The legal description of said mining claim is as follows:

Beginning at a point from which the Northwest (NW) Corner of Section 8, Township 10 North, Range 72 West of the 6th P.M., bears North 12°39' West 2059.38 feet; thence South 71°45' East 1500 feet; thence South 18°15' West 600 feet; thence North 17°45' West 1500 feet; thence North 18°15' East 600 feet to the point of beginning.

11. The original discovery shaft of this claim was known as the Copper King Shaft, and it was sunk by a prospector by the name of Bartlett during the years prior to 1916. Soon after this time, it was abandoned by its discoverer. Again during the thirties, it was taken over by Richard Kyle and later abandoned. In 1949, it was discovered by Harold Ismert and Arthur Brown that the dump showed the presence of uranium ores and was relocated by them at that time. Mr. Ismert and Mr. Brown renamed the mine The Blackhawk Number One, and organized the present operating company to which they assigned the ownership of the mine, this being assigned in March, 1951.

12. The mine is located about forty-eight miles north-westerly from Fort Collins, Colorado, and it is approximately the same distance south-westerly from Laramie, Wyoming. The nearest and most satisfactory shipping point is located on a branch of the Colorado and Southern Railroad at Owl Canyon, Colorado, which point is about thirty-five miles from the mine. About ten miles of the highway from the mine to this point is an oiled road. The remainder of the road is either county road or Forest Service road which have graveled surfaces and pass by the mine within a few feet. The trans-continental Union Pacific Railroad passes through Tie Siding, Wyoming about thirty-five miles from the mine, but there are no loading facilities at this station.

13. There are no sources of water for power in the immediate vicinity of the mine; however, the water in the mine is sufficient for all mining operations except milling purposes.

The only source of power available at this time is by internal combustion engines and at present, the mine is equipped with an air compressor which is powered with a 100 horse-power gasoline engine. Pumping at present is done with a three horse-power single cylinder stationary engine. The gasoline requirements for these engines is approximately two gallons per hour.

14. The buildings at the mine at the present time consist of one metal compressor house, one frame sorting house, and a trailer house used for a part-time bunk house. The compressor house contains a three hundred and eighty-five cubic foot air compressor which is in good condition and being used at the present time for development work. There is also available and being used the necessary drilling equipment, namely, one Gardner-Denver stoper and one Ingersol-Rand jack hammer, one Ingersol-Rand drifter and one Gardner-Denver drifter, one double drum air slusher, and miscellaneous other equipment such as rails, steel and pipe, etc.

15. At the present time it appears that the most reasonable market for zinc ores being produced at the mine is Salt Lake City, Utah. As to uranium ores which are being produced during development, because of the fact that this is primary ore, no market has yet been determined.

16. History:

(a) Previous exploration at this mine consisted of the sinking of one sixty foot shaft which is the one now being used and another shaft of unknown depth about seventy-five feet westward of the sixty foot shaft. Production from this second shaft consisted mostly of zinc with some small amounts of copper, the amount of said production being unknown, and the reason for the past suspension of operations being the fact that economic conditions did not warrant continuing. The presence of uranium was not known at that time.

(b) There are several nearby prospect shafts but no developments of any consequence in the neighborhood.

(c) Investigations have been made of this mine by Dr. Fair, H. C. Granger, R. U. King, Mr. Page, Mr. McKelvie and others from the Denver offices of the Geological Survey. Also, Mr. Towle, of the Atomic Energy Commission from the Denver office, has visited and examined the mine. Reports by these men on their findings, as well as a map made by Mr. Granger and Mr. King, are in the hands of the Geological Survey and Atomic Energy Commission at the present time.

17. Production:

(a) The only production from this mine at the present time is that resulting from the development work being done by the operators. A few tons of pitchblend-bearing ore are now on hand averaging, according to various assays which have been made by the Bureau of Mines, a U_3O_8 content between one and two and a half percent. There are on hand awaiting shipment approximately seventy tons of zinc ore which, according to samples sent to smelters, should average approximately twenty-five percent zinc. No ore has been shipped by the present operators so far.

Under the present price quotations, the value of this zinc ore appears to be about $27.00 to $30.00 per ton less freight and shipping cost. The uranium ore, based on one and one half percent average U_3O_8 content, would have a value of about $250.00 per ton.

18. Ore or mineral reserves:

(a) Insufficient development does not permit the exact description of the ore deposit, but the uranium appears to be in vein formation and is exposed along the floor of the sixty foot level for a distance of approximately fifty feet, this vein being from six to seventeen inches in width at this level. On the south-easterly side of a fourteen foot winze which has been sunk recently below the sixty foot level, a deposition of uranium-bearing pyrite ore has been exposed which showed an average over a twenty-two inch width of 2.81 percent U308 content.

The zinc ore deposition appears from the present development to be mineral replacements of varying widths along the strike of the vein. Some chalcopyrite is occassionally encountered in the association with the zinc ore.

(b) At the present time and stage of development there is no way of ascertaining or determining the amount of ore reserves.

19. There appear to be no conditions or circumstances regarding the property that have not been brought out by the foregoing questions.

THE EXPLORATION

20. The purpose of exploration is to determine if the vein, now known to exist at the sixty foot level bearing pitchblend, continues to sufficient depth to produce uranium in commercial quantities. It is expected this will also give the same information with regard to zinc and copper which also occur in the deposit.

21. The exploration work proposed would consist of sinking the present winze on the sixty foot level to a depth of 150 feet from the surface together with landings and drifts to the vein from this winze at the 100 foot and 150 foot levels in the event of the vein dipping away from the vertical winze. This would require sinking seventy-five feet and probably about 30 to 40 feet of drifting. 200'

It is estimated that with our equipment this work would require about five to six months.

22. The indications on the sixty foot level are that the uranium bearing vein has been cut near the top of the vein and that its uranium content will increase with depth, which probability is indicated by the fact that such has been the case in the bottom of the winze which is now fourteen feet in depth. Near the bottom of the winze a twenty-two inch vein of uranium-bearing ore, assaying 2.81 percent U308, is exposed, lying against the south wall of the deposit. The accompanying map shows this and also shows the location of the winze on the 60 foot level as well as the additional exploration on that level which the applicant has done since the investigation of the mine by Mr. R. U. King and Mr. H. C. Granger of the Geological Survey in October, 1949.

Since this additional work has been done the mine has been visited and examined by Mr. King and Mr. Towle in April of this year and again the eleventh of June by Mr. Towle and accompanied by other Geological Survey men. They made an examination of current developments and all corroborated our belief that the deposit should be explored to a greater depth.

It is our information that the reports and maps made by the Geologic survey as well as reports on samples taken by Mr. Towle and Mr. King are in your hands.

Our map showing the additional development is attached.

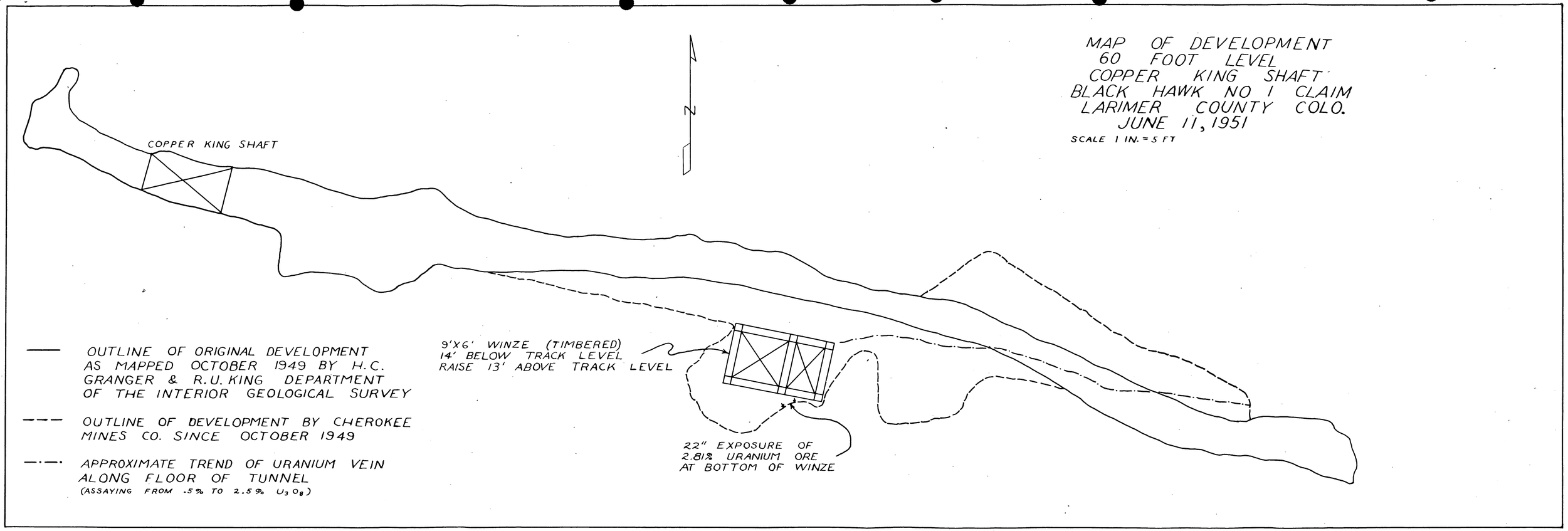
THE REQUIREMENTS AND COSTS

				Six Months
23.	(a)	Labor - 4 miners @ $1.25/hr. $10.00/day - $1200.00/mo.		$7200.00
	(b)	Supervisor - 1 man (part time) $225.00/mo.		1350.00
	(c)	Repairs to existing facilities, structures, and buildings		100.00
	(d)	Number of additional facilities, structures, and buildings necessary		----
	(e)	No equipment to be purchased.		----
	(f)	Air driven water pump to be rented @ $80.00/mo. (60% applying toward purchase).		480.00
→	(g)	No rental to be charged on operators equipment. excellent		
	(h)	Cost of Materials & Supplies		
		1. Explosives	$375.00	
		2. Carbide	60.00	
		3. Drill bits (new & regrind cost)	420.00	
		4. Drill Steel	150.00	
		5. Timber, planks, lagging, nails, lining boards	660.00	
		6. Hoist cable	30.00	
		7. Rails	40.00	
		8. 75 ft. 2 in. pipe	37.50	
		9. Hammer & engine oil	20.00	
		10. Pipe fittings & suction hose	35.00	
		11. Shovels, picks, blacksmith coal, etc	50.00	
		TOTAL		$1877.50
	(i)	Power (Gasoline engines.) 30 gals/day @ 20¢/gal		900.00
		Compensation insurance		150.00
		Social security 1½% of $8400.00		126.00
		Emergency & unexpected expense		1817.00
		GRAND TOTAL		$14000.00

24. Time schedule of project.

1st month	- Sink and timber to 100 foot level & timber station 25'	$2000.00
2nd month	- Drive drift to vein and along vein a few rounds to test same, TO TOTAL OF 100' (per J. Hostel conversation)	2000.00
3rd month	- Sink to 125 feet 1000' and timber winze. 25'	2000.00
4th month	- Sink to 150 foot level and timber. 25'	2000.00
5th month	- Sink sump, construct station and drive to vein.	2000.00
6th month	- Drift on vein on 100 and ~~200~~ 150 levels to determine probable extent of deposit, TO TOTAL OF 100' ON EACH LEVEL, including 2d month drifting (per J. Hostel)	2000.00

Leaving $2000.00 if no unexpected immergency or expense occurs and if vein does not dip too much from the vertical.


MAP OF DEVELOPMENT
60 FOOT LEVEL
COPPER KING SHAFT
BLACK HAWK NO 1 CLAIM
LARIMER COUNTY COLO.
JUNE 11, 1951
SCALE 1 IN. = 5 FT
N
COPPER KING SHAFT
9'X6' WINZE (TIMBERED)
14' BELOW TRACK LEVEL
RAISE 13' ABOVE TRACK LEVEL
22" EXPOSURE OF
2.81% URANIUM ORE
AT BOTTOM OF WINZE
OUTLINE OF ORIGINAL DEVELOPMENT
AS MAPPED OCTOBER 1949 BY H.C.
GRANGER & R.U. KING DEPARTMENT
OF THE INTERIOR GEOLOGICAL SURVEY
OUTLINE OF DEVELOPMENT BY CHEROKEE
MINES CO. SINCE OCTOBER 1949
APPROXIMATE TREND OF URANIUM VEIN
ALONG FLOOR OF TUNNEL
(ASSAYING FROM .5% TO 2.5% U_3O_8)

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
8/7	[illegible]	500
		220

August 7, 1961

Memorandum

To: The File

From: F. M. Murphy, Mining Engineer
Division of Minerals

Subject: DMA-1702X (Uranium)
Cherokee Mines
Copper King Mine
Larimer County, Colorado
Contract Idm-E61

Final production shipped July 23, 1953.

All Government's royalty due ($1,380.68) has been paid.

Mine allowed to fill with water.

By letter January 21, 1954, Operator advised Region III that mine had been leased for the express purpose of operating a radon gas health mine.

Region III advised that on July 10, 1957, the water level in the shaft was about 50 feet from the surface; also, that the mine was not being operated as a health resort.

Report, dated March 23, 1961, by Region III, indicates no production through 1960.

Since all known ore reserves were mined, it is doubtful that any further production will be made from the present mine area.

F M Murphy

F. M. Murphy

43683

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

DOCKET COPY

Project Summary Report

Ernest Wm. Ellis March 15, 1954

1. Docket No. DMEA-1702
Contract No. Idm-E61
Property: Copper King mine (Blackhawk No. 1 claim), W1/2 sec. 8, T. 10 N., R. 72 W., sixth principal meridian, Prairie Divide Mining District, Larimer County, Colorado

Operator: Cherokee Mines - T. H. Sackett, President
231 South Grant Street
Fort Collins, Colorado

Operator's property rights -

Sole owner.

2. Contract dated July 16, 1951

Work authorized -

The contract provided for sinking a presently existing 60-foot 2-compartment shaft to the 100 and 150-foot levels. At the 100-foot level it was proposed to crosscut the short distance to the vein and drift a few rounds. At the 150-foot level the contract provided for a station and sump, then a crosscut for the short distance to the vein and a short drift.

Authorization of additional work is described under Amendments Nos. 4 and 7.

Amendments -

No number - dated September 24, 1951, provided under the schedule in Exhibit "A", "Cost of Work", of the contract, for $1.50 per hour wage rate for miners and for the purchase of a pump at a cost of $187.00 in place of rental of a pump at the rate of $80.00 per month.

No number - dated November 9, 1951, amended Exhibit "A", "Cost of Work", by adding 1 Vulcan Iron Works single drum mine hoist driven by Hercules gasoline engine, to be rented at rate of $120.00 per month, two thirds of which rental would apply on the purchase price of $2,120.00.

This amendment, dated November 9, 1951, also allowed the amount of $213.00 which the Operator paid for rental of and air hoist for use on the project from August 28, 1951, to November 9, 1951, and agreed that one-half of said $213.00 would apply on the purchase of the aforesaid gasoline engine driven mine hoist if the option to purchase was exercised.

No number - dated February 5, 1952, completion date of contract extended from 6 months to 14 months.

No number - dated February 25, 1952, provided for one bookkeeper at $50.00/month.

Amendment No. 4, dated March 11, 1952 (Note: Since there were four unnumbered amendments, this amendment actually should have been "Amendment No. 5"), increased the total of the contract by $10,000, bringing the total to $24,000, with Government participation, at 90 percent, or $21,600. Due to the nature of the ore body, it was decided that work accomplished had not properly revealed the deposit. Consequently, under this amendment, and as further provided in Amendment No. 7, permission was given to deepen the shaft 15 feet below the 150-foot level, then to extend the 150-foot level easterly to a point approximately 18 feet from the shaft. From this heading, a 15-foot raise was to be driven to the structure and a 135-foot sublevel established. On this sublevel it was proposed to drift some 100 feet, or to the limitation of mineralization, whichever occurred first.

No Amendment No. 5 (see note under Amendment No. 4.)

Amendment No. 6, dated April 22, 1952, increased the hourly rate for miners from $1.50, as provided in Amendment No. 1, to $1.75.

Amendment No. 7, dated July 22, 1952, changed the description of work to be done under Item 1 of Exhibit "A" as previously provided in Amendment No. 5 (incorrectly shown as "Amendment No. 4, dated March 11, 1952), and permitted the purchase of 1 blower at $270.00 and 200 feet of 8 or 10-inch metal ventilation pipe and 100 feet of flexible ventilation tubing at estimated cost of $250.00.

Amendment No. 8, dated September 16, 1952, extended completion date of contract from 14 months to 16 months.

Work completed -

The Field Team, Region IV, reported on January 29, 1953, in submitting the Operator's and Field Team's final reports,

that the work accomplished consisted of 87 feet of shaft sinking, cutting two shaft stations, 73 feet of drifting and crosscutting and 17 feet of raising, at a total allowable cost of $23,612.41. The work was completed by September 1, 1952. The Field Team recommended that a certification of discovery be issued.

The Bureau of Mines engineer, R. L. Bolmer, reported in his conclusions and recommendations that the costs incurred at the project influenced the amount of work that could be completed within the contract price; that the amount of exploration completed was considered ample in the light of present knowledge of pitchblende occurrences at the Copper King Mine.

The operational costs were as follows:

Operation	Approved costs	Percent of total cost	Units accomplished	Unit cost
Underground preparation	$ 483.81	2.0	14 feet	$ 34.56 per foot
Shaft sinking	13,641.53	56.8	87 feet	156.80 per foot
Shaft stations	3,660.40	15.3	2 each	1,830.20 each
Drifting	4,075.88	17.0	53 feet	76.90 per foot
Crosscutting	1,370.54	5.7	20 feet	68.53 per foot
Raising	767.84	3.2	17 feet	45.17 per foot
Totals	$24,000.00	100.0		

The work under this contract was begun September 10, 1951, and was completed by September 1, 1952.

3. Audit Certificate - December 15, 1952.

Total Cost as billed by Contractor	$24,115.79
Less exceptions, Liquidation Settlement and Reinstatements	503.38
Total Accepted Cost	$23,612.41
Government participation at 90 percent	$21,251.17

4. Certification date - February 18, 1953.

The examining geologist, Truman H. Kuhn, stated in his final report that the ore shoot in the Copper King mine was estimated to contain 500 tons of indicated and inferred ore averaging 0.5% U_3O_8.

Width of the vein and mineralized wallrock was extremely irregular. However, including the pitchblende in fractures in the walls and in the boxwork pyrite, the minable width probably averaged about 2 feet. Grade of the ore was variable, but based on ore shipments and on sampling by the Atomic Energy Commission, it was estimated the ore averaged 0.5% U_3O_8 for an average width of 2 feet.

5. Comments -

The Bureau of Mines FieldTeam representative stated that the work by Cherokee Mines under the completed exploration contract proved costly and inefficient; therefore, further exploration with Government assistance was not recommended.

Production -

Production from the discovery began at the completion of the contract work and had been carried out by 2 or 3 employees until July 1953. The final production from the deposit, carload 13, was shipped July 23, 1953; the Operator considered the deposit depleted and anticipated no further production from the property. The mine was allowed to fill with water.

The highest grade ore in the discovery occurred in a narrow shoot along the eastern edge of the shaft between the 110- and 132-foot depths. Commercial grade mineral didnot extend farther than 30 feet east of the shaft. A single small lense of ore was stopedbetween the 70- and 110-foot levels east of the shaft. Only a few tons of ore were extracted west of the shaft on the 110-foot level.

Summary of Production

Date of shipments:	10/1/52 to 7/23/53
Carlots:	1 through 13
Net dry weight:	622 short tons
U_3O_8 content:	3,614.27 pounds
Gross value*:	$30,399.76
Freight:	$ 3,426.26
Net value:	$26,973.50
Government royalty paid:	$ 1,351.85

*Includes minimum price, development allowance, premium payment, haulage allowance, and initial production bonus.

By letter dated January 21, 1954, the DMEA Field Team, Region IV, was advised by the Operator that the Cherokee Mines Company had leased the mine to another group, The Prairie Divide Uranium Mines Company, for the express purpose of operating a radon gashealth mine.

This group had, at that time, installed a cage and fitted up the 65-foot level with seats and electric lights for the convenience of visitors.

Mr. T. H. Sackett, President of Cherokee Mines, stated they would hold the property and do the assessment work. Otherwise no further mining was contemplated.

Ernest Wm. Ellis

Ernest Wm. Ellis, Chief
Rare & Misc.Metals Division

☒ Audited

☒ Certified

K ANALYSIS SHEET - DMEA PROJECT

Analysis as of 12/3/54
Incl. Voucher for Aug. 1952

☒ Actual Cost

☐ Agreed Unit Costs

Name Cherokee Mines (Copper King mine)

DMA Docket No. 1702 X

State Colorado.

Commodity Uranium

Idm-E No. 61

OPERATION	AUTHORIZED Units	AUTHORIZED Cost	COMPLETED Units	COMPLETED Cost	NET COST
Drifting & Crosscutting	73	$317.30	73	$390.61	$390.61
Raising	17	762.84	17	755.23	755.23
Shafts	87	13,254.15	87	13,261.74	13,261.74
Winzes					
Drilling (Specify)					
Surface Excavation					
Underground Excavation - shaft stations		3660.40		3627.02	3 627.02
Roads and Trails					
Operating Equipment Purchased		516.50		423.36	145.59
Surface Rehabilitation & Repairs					
Underground Rehabilitation		483.81		430.22	430.22
New Building, Improvements, etc.					
Other (Specify)					*
Totals		$24,000.00		23,890.18	23,612.41

* Result of sale of equipment at end of contract $277.77

Prepared by F. M. Murphy

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
Building 20 - Federal Center
Denver 25, Colorado

OFFICIAL FILE COPY
O. M. E.
RECEIVED OCT 2 1961

DATE	INITIALS	CODE
~~10/3~~	~~HMC~~	130
10/3	HMC	800
"	Greiwell	500
	Murphy	500
		220

September 27, 1961

Memorandum

To: George C. Selfridge, Chief
Division of Field Operations, OME
Washington 25, D.C.

From: Acting Field Officer, OME, Region III

Subject: Docket No. DMEA 1702X (Uranium)
Contract No. Idm-E61
Cherokee Mines
(Copper King mine)
Larimer County, Colorado
FINAL INSPECTION

The final inspection on the captioned property was made September 27, 1961. The property was found to have been abandoned and all of the surface plant has been removed. There is no evidence of stockpiled ore on the surface.

Mr. T. H. Sackett, President of Cherokee Mines was contacted in Fort Collins. He informed me that the Cherokee Mines Corporation is about to be dissolved. There has been no production on this property since the date of the first Royalty Audit Certificate which was dated September 13, 1955.

Our royalty card checks with the AEC production records and I believe that the Government has received the proper amount of royalty due on this contract.

The new address of Mr. T. H. Sackett, President of Cherokee Mines is 716 Cherokee Drive, Fort Collins, Colorado.

Hugh M. Connors

Hugh M. Connors

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
Building 20 - Federal Center
Denver 25, Colorado

January 25, 1960

OFFICIAL FILE COPY
O. M. E.
RECEIVED JAN 28 1960

DATE	INITIALS	CODE
1-28	gad	220
"	GER	800
2/1	Murphy	800
		225

Mr. T. H. Sackett, President
Cherokee Mines
231 South Grant Street
Fort Collins, Colorado

Re: Docket No. DMEA 1702X (Uranium)
Contract No. Idm-E61
(Copper King mine)
Larimer County, Colorado

Dear Mr. Sackett:

In reference to the "Certification by the United States of America of a Discovery or Development under an exploration Project Contract" and the instructions in the Washington Office letter of transmittal of the Certification on the captioned project, please indicate your answer to the following questions and return one copy of the questionnaire immediately to this office.

Very truly yours,

Original signed by

J. W. Townsend
Executive Officer, OME
Field Team, Region III

1. Has the property been sub-leased or any change made in ownership other than this office has been notified? Yes ___ No___. If yes, please furnish details of the transaction on a separate sheet and include a true or signed copy of any instrument that was executed in conjunction with the matter.

2. Has there been production from the land subordinated under the referenced contract since January 1, 1959 ? Yes___ No___. If yes, and shipments made, who was the purchaser?_____

3. Is any of the following material stockpiled? Yes___ No___.

(a) Ore, Tons_____ Estimated grade_____
(b) Concentrates, lbs._____ Estimated grade_____
(c) Low grade ore, tons_____ Estimated grade_____
Place stockpiled_____

Signed_____

Title_____ Date_____

HMC:ltm cc: Chmn. Op. Comm. Roy. Corres. E61 Chron.

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

224 New Customhouse
Denver 2, Colorado

October 17, 1955

Mr. T. H. Sackett, President
Cherokee Mines
231 South Grant Street
Fort Collins, Colorado

Re: Royalty payments, DMEA Docket 1702X (Uranium), Contract Idm-E61, Cherokee Mines, (Copper King mine), Larimer County, Colorado

Dear Mr. Sackett:

We acknowledge receipt of your check No. 546 in the amount of $28.83 which makes your royalty (DMEA) payment current.

W. M. Traver

W. M. Traver

vj

cc: Royalty File E61
Sec. Opr. Comm. (2)
J. F. Shaw (2)
Chron.

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

224 New Customhouse
Denver 2, Colorado

October 17, 1955

Memorandum

To: T. A. Christensen

From: Executive Officer, DMEA Field Team, Region III

Subject: Royalty Payment - DMEA Docket 1702X (Uranium), Contract Idm-E61, Cherokee Mines - Colorado

Enclosed is Cherokee Mines check No. 546 in the amount of $28.83 in full payment of royalty due to date as per First Royalty Audit Report.

W. M. Traver

W. M. Traver

Enclosure

vj

cc: Royalty File E61
Sec. Opr. Comm. (2)
J. F. Shaw (2)
Royalty Report File
Chron.

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

RECEIVED
SEP 26 1955

224 New Customhouse
Denver 2, Colorado

September 22, 1955

Mr. T. H. Sackett, President
Cherokee Mines
231 South Grant Street
Fort Collins, Colorado

Re: Royalty payments, DMEA Docket 1702X (Uranium) Contract Idm-E61, Cherokee Mines, (Copper King mine), Larimer County, Colorado

Dear Mr. Sackett:

As per the First Royalty Audit Certificate prepared by the Contract Administration and Audit Division, Cherokee Mines owes the Government a royalty payment of $28.83. Mr. W. H. Cram, Secretary for Cherokee Mines was furnished a copy of this report on September 21, 1955.

Please send your check for $28.83 to the Executive Officer, DMEA Region III, Room 224 New Customhouse, Denver 2, Colorado. All Government royalty checks are to be made payable to the Defense Minerals Exploration Administration.

Yours very truly,

W. M. Traver

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

RDB/vj

cc: Royalty File E61
J. F. Shaw (2)
Sec. Opr. Comm. (2)
Berkenkotter
Chron.

Talbert

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

SEP 1 9 1955

Mr. Donald T. Finch
DMEA Auditor
224 New Customhouse
Denver 2, Colorado

Re: Contract No. Idm-E61
Docket No. DMA-1702X
Cherokee Mines

Dear Mr. Finch:

The First Royalty Audit Certificate and Report covering the referenced project is acceptable and distribution is authorized after effecting the following corrections:

(1) In the first paragraph of both the Certificate and the Report change the address to 231 South Grant Street; and

(2) In the fourth paragraph of the Report change Government participation to $21,251.17.

These changes have been made in the Washington copies.

Sincerely yours,

(Signed) E. D. Talbert

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

EDTalbert/ama
September 19, 1955

Copy to: Docket
Admr. Reading File
Mr. Chambers

R.C.S.

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

RECEIVED
SEP - 7 1955

224 New Customhouse
Denver 2, Colorado

August 30, 1955

Memorandum

To: John F. Shaw

From: Executive Officer, DMEA Field Team, Region III

Subject: Check Sheet of Examining Engineer
Cherokee Mines
Contract Idm-E61, Docket No. DMA-1702

Enclosed are five copies of Check Sheet for attachment to First Royalty Audit Report on subject company. Please have the inspecting engineer complete, sign and return four copies for the audit report.

W. M. Traver

Encls.

DTF:bh
cc-Sec. Op. Comm. (2)
Finch
Roy. File E-61
Chron.

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 7/6/55

REFERRED TO:

1. ~~Mr. Ellis~~
2.
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: NOTE: Docket copy was surnamed by Mr. Selfridge, Mr. Johnson, and Mr. Mittendorf.

Hazel

Check (X) before the items needing attention.

Initials of sender.

GPO 16—63815-1

1762
Cherokee

Geological Survey — Clearance sheet for manuscripts requiring DMEA and Bureau of Mines approval.

Author (s) P. K. Sims, George Phair, and R. H. Moench

Title Geology of the Copper King uranium mine, Larimer County, Colorado.

Submitted by Mineral Deposits Branch for approval for publication

as (or in) Bulletin (Contribution to Economic Geology)

This manuscript (with accompanying illustrations) has been

reviewed and clearance for its publication is endorsed by:

	Name	Date rec'd.	Date forwarded
1. U. S. Bureau of Mines			
2. DMEA			

DMEA suggests:

1. Add to last sentence of first paragraph on page 11 — of which 622 tons was mined from an ore shoot opened under a DMEA contract.

2. On page 15, first paragraph, the penultimate sentence might read — Subsequently, as the DMEA exploration progressed, and later mining, the new work was mapped by ~~DMEA~~ Sims.

3. The pencilled notation of $21,251.17 Government participation on page 20 should not be published without the approval of the DMEA operator.

4. Maps such as Plate 3 should identify the DMEA workings, i.e., DMEA 110 - Foot Level, etc.

GCS/hb
Copy to: Docket
Mr. Ellis
Adm. R. F.
Mr. F.E.Johnson
Mr. Selfridge
Operating Committee

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

June 28, 1955

Memorandum

To: George Selfridge, Chairman, Operating Committee

From: Ernest Wm. Ellis, Chief, Rare & Miscellaneous Metals Division

Subject: Review of Geological Survey manuscript on the "Geology of the Copper King Uranium Mine, Larimer County, Colorado."
Cherokee Mines, Docket No. DMTA-1702
Contract No. Idm-E61

Add to first paragraph page 11 the following:

Of this production 622 short tons averaging approximately 0.29 percent U_3O_8 resulted from a Defense Minerals Exploration Administration contract.

Suggestions on page 20 by C. T. Hildegaard should also be incorporated in the manuscript.

The some 30 tons difference in the reported tonnage shipped may be due to error or more probably the difference represents tons of ore shipped prior to the DMTA contract. I have no reason to believe the figures reported in the Project Summary Report are incorrect insofar as the DMTA project is concerned.

Ernest Wm. Ellis

Ernest Wm. Ellis

EWEllis/gla
cc to: Docket
Code 700 contract file

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

Defense Minerals Exploration Administration
RECEIVED
FEB 1 1954

224 New Customhouse
Denver 2, Colorado

January 27, 1954

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Royalty on Bonus Payments for Initial Production of Uranium Ore

Reference is made to your letter of inquiry dated January 20, 1954, concerning the above subject.

All operators of DMEA contracts for uranium have been notified that royalty is due on all AEC bonus payments. To date we have received the following amounts in payment of royalty on AEC Production Bonus:

DMEA-~~[illegible]~~ 1702

E61	Cherokee Mines	626.41
E236	Excalibur Uranium Corp.	130.13
E381	Sunnyside Uranium Corp.	206.29
E399	Salina Mining & Smelting Co.	27.58
	Total	$990.41

In addition we have bonus royalty due on several shipments from various other operators for which we have requested payment.

We have been notified by the Gateway Mining Company, E408, and the Boomerang Mining Company, E445, that their properties are not eligible for AEC bonus payments. We have verified these statements through the AEC office in Grand Junction, Colorado.

W. H. King

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

224 New Customhouse
Denver 2, Colorado

November 6, 1953

Memorandum

To: Chairman of the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Royalty - Contract Idm-E61 (Uranium), Docket No. DMEA 1702X, Cherokee Mines

We have received a check in the amount of $569.00 from the Cherokee Mines in payment of royalty on bonuses received to date. The amount of bonus payments received by the Operator is $12,527.79. The royalty due is 5% of this amount or $626.38. The operator had overpaid this office in the amount of $57.38. The check in the amount of $569.00 is for the difference between the royalty due and the amount of overpayment.

We have checked these figures and have found them to be correct. We are enclosing a copy of the transmittal letter from the operator.

W. H. King

W. H. King

Enclosure

COPY

Cherokee Mines
122 So. College Avenue
Fort Collins, Colorado
October 27, 1953

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

Re: Docket #DMEA-1702X
Contract Idm-E61

Gentlemen:

We have your letter of September 21, 1953 regarding the DMEA Royalities. According to our records we have received $12,527.79 in bonuses and at 5% the amount due is $626.38. From this we have deducted the amount of $57.38 which we had overpaid. Thus we are enclosing our check in the amount of $569.00.

Very truly yours,

Cherokee Mines

By: (Signed) Wilford F. Evans
Secretary

700

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

NOV 3 1953

Mr. S. A. Sackett, President
Cherokee Mines
231 South Tenth Street
Fort Collins, Colorado

Re: Docket No. [illegible] (Uranium)
Contract No. [illegible]
Larimer County, Colorado

Dear Mr. Sackett:

Reference is made to your above-named Exploration Project Contract for uranium. You are probably aware that in some similar cases it has been found that some part or all of the land which is the subject of the exploration project contract consists of claims located on land which was subject to prior Federal oil and gas leases. The validity of such claims is doubtful, and in some cases the Atomic Energy Commission has issued a lease to the land for whatever benefit that may afford in curing the invalidity as far as uranium is concerned.

By the recent act of Congress approved August 12, 1953 (Public Law 250, 83d Cong.), mining claims located between July 31, 1939, and January 1, 1953, on United States Lands which were then subject to oil and gas leases, may be validated by the owners of such claims, if, not later than December 10, 1953, they

> ".... post on such claim in the manner required for posting notice of location of mining claims and file for record in the office where the notice or certificate of location of such claim is of record an amended notice of location of such claim, stating that such notice is filed pursuant to the provisions of this Act and for the purpose of obtaining the benefits thereof."

If any of the land which is the subject of your Exploration Project Contract includes a located claim or claims, the validity of which might be questioned on account of a previous oil and gas lease, the statute cited is called to your attention so that you may validate your rights as above indicated, if you consider this to be in your interest. This Agency deems such validation to be desirable even though the land in question may be covered by a lease from the Atomic Energy Commission.

Sincerely yours,

C. A. Mittendorf

Administrator

50811

RBillis/gla
10-30-53
cc: Docket
Region IV (2)
Div. contract file

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

224 New Customhouse
Denver 2, Colorado

September 30, 1953

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Inspection Report - Contract I-DMA-E61, Docket No. DMA 1702X, Cherokee Mines, Inc., Larimer County, Colo.

Enclosed are four copies of an Inspection Report of the operation of the Cherokee Mines, prepared by R. L. Bolmer, Bureau of Mines Engineer.

W. H. King

W. H. King

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
September 25, 1953

Memorandum

To: Executive Officer, Field Team, Region IV

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

Subject: DMA 1702X, Contract I-DMA-M61 (Uranium), Cherokee Mines (Copper King mine), Larimer County, Colo. - Inspection of operations

Transmitted herewith are the original and five copies of the subject report prepared by R. L. Bolmer.

This report supplements the formal semi-annual report on the Cherokee project which we recently submitted in conformance with DMMA circular 32 dated along with other reports on certified projects.

We prepared this report a considerable time prior to receipt of your memorandum of August 27, 1953, instructing us to make the semi-annuals. It is much more comprehensive than the regular 6 months' version and should either be attached to it, or if that report has been submitted to Washington, forwarded to them for attachment to it. It is quite evident that there is unlikely to be any further operation of the Copper King mine. However, regular 6 month inspections will be made to verify the fact.

W. M. Traver

W. M. Traver

enclosures

WMT/kp

ec 5
M61
Chron

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
August 28, 1953

Memorandum

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

From: R. L. Belmer

Subject: DMA 1702X, Contract I-DMA-B61 (Uranium), Cherokee Mines (Copper King mine), Larimer County, Colo. - Inspection of operations

Production operations at the Copper King mine were inspected July 9, 1953. On that date, T. N. Sackett of Fort Collins, Colo., president and manager of Cherokee Mines, was out of town, and it was necessary to inspect the property without a representative of the company in attendance. The mine, some 44 miles northwest of Fort Collins, was in operation and it was possible to inspect and discuss with the operating personnel the development of and production from the property since the completion of work under Exploration Project Contract I-DMA-B61.

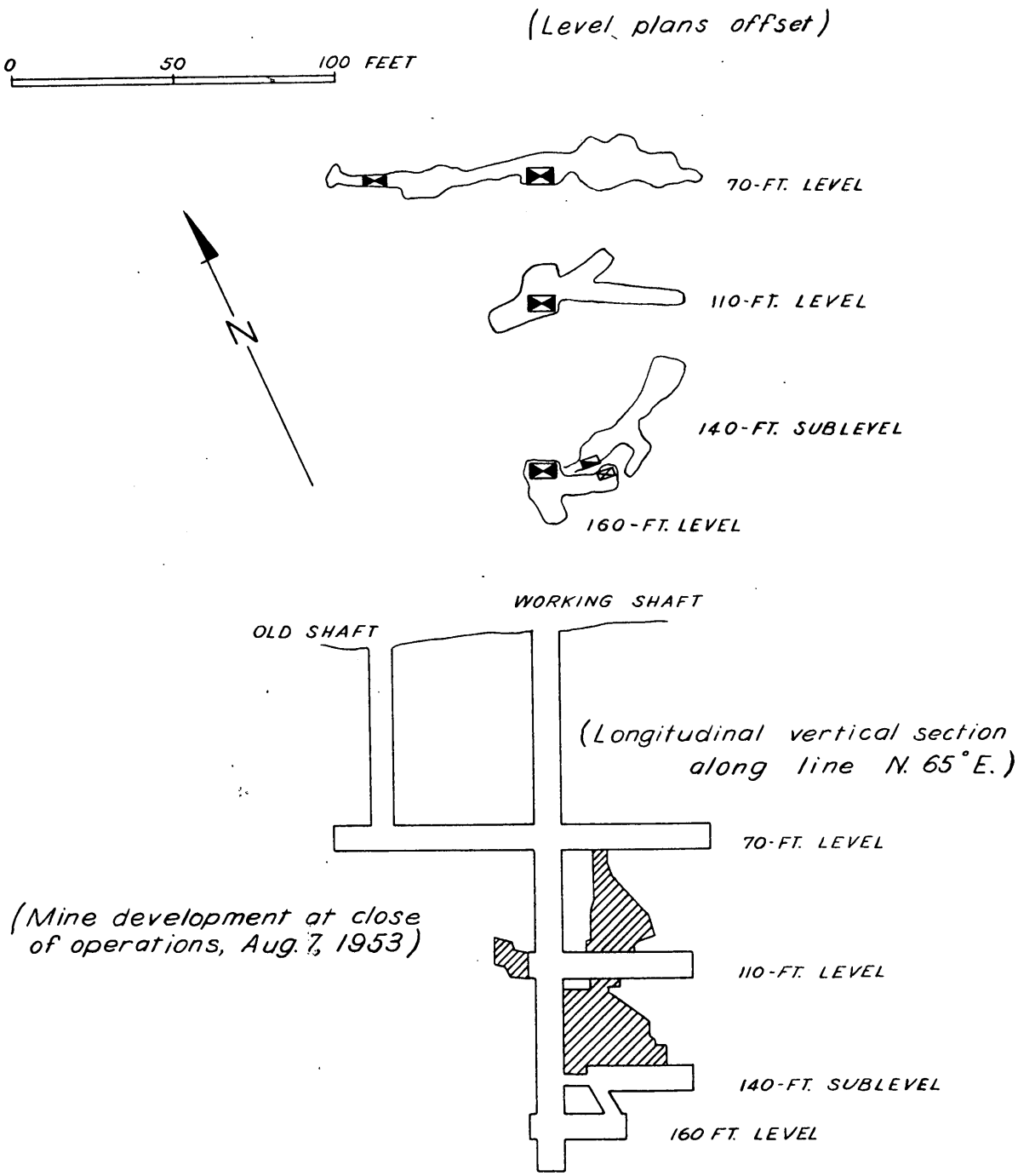
An exploration project at the property, under which the Government participated 90 percent, or $21,251.17, of the net cost, was completed August 31, 1952. As a result of project work, a discovery of uranium ore, estimated as 500 tons of indicated and inferred ore averaging 0.5 percent U_3O_8, was certified. Development of and production from the discovery began upon the completion of the exploration program and were continued on a small scale until the commercial

ore was depleted. Operations at the mine have been inspected periodically by personnel of the Atomic Energy Commission and the Geological Survey. Representatives of the Defense Minerals Exploration Administration, although kept informed of the progress, had not visited the property since the completion of contract work.

It was apparent during the inspection that the deposit was nearly depleted of commercial ore and that operations at the property would necessarily stop within a short period. A 13th carload lot was being loaded at the time and it was doubtful that a small lens then being stoped west of the shaft would contain sufficient tonnage to complete the shipment. Notification later was received that the company terminated mining operations at the property with the shipment of carload lot 13. This report was delayed in order that the settlement on the final shipment could be included.

The extent of mine development and stoping at the close of operations is shown in the accompanying level plans and longitudinal section. The stopes shown in the section outline the extent of commercial grade ore in the deposit. Both the foot and hanging walls of the developed sections were explored by short drill holes with generally negative results.

The highest grade ore occurred in a narrow shoot along the eastern edge of the shaft between 110- and 132-foot depths. While mineralization did extend farther eastward, it was very spotty. The width and grade of the mineral diminished rapidly with distance from the shaft. The eastern portions of the 70-, 110-, and 140-foot levels were barren or contained only traces of uranium. A narrow but high-grade lens in the hanging wall, exposed in a short crosscut south on



LEVEL PLANS AND LONGITUDINAL SECTION
COPPER KING MINE, LARIMER COUNTY, COLO.

(Modified from U. S. A. E. C. Report RMO-849)

CHEROKEE MINES, DMA 1702X, CONTRACT I-DMA-E61

the 140-foot sublevel, was stoped upward for some 30 feet and eventually joined the main vein zone.

Between August 20 and November 21, 1952, 14 holes, totaling 3,000 feet, were diamond drilled at the property. The work was performed by the Special Minerals Investigation Branch of the Bureau of Mines for the Atomic Energy Commission. Details of the drilling are described in United States Atomic Energy Commission Report RMO-849, "Results of Exploration at the Copper King Mine, Larimer County, Colo.", by R. C. Dorsey and K. E. Baker, March 1953. The drilling program was set up to discover additional mineralization along the main east-west structure. Drilling along the structure for a distance of 575 feet at depths from 109 to 348 feet vertically indicated no uranium of commercial size or grade.

The Atomic Energy Commission concludes that mine exploration and diamond drilling have determined an ore body 80 feet in height, 30 feet in length, and having a thickness of 1.3 feet. An estimate of 275 tons of indicated ore, 0.52 percent U_3O_8, is made. Sampling by the Commission of the vein zone and wall rock has shown assay results from 0.002 to 2.76 percent U_3O_8. Variations from 0.10 to 5.0 feet of commercial grade ore were noted. It was estimated that mining dilution will result in 410 tons of 0.35 percent U_3O_8 ore. Inferred ore reserves of 100 tons, 0.2 percent U_3O_8, in small pockets not encountered but possibly suggested in diamond drilling, also were estimated by the Commission.

Engineers and geologists of the Atomic Energy Commission made a detailed scintillometer survey of an area 1,200 feet east-west and 700 feet north-south in the vicinity of the mine. A detailed reconnaissance

within a 3-mile radius of the mine also was performed with Geiger counter and scintillometer. No significant radiometric anomalies were obtained in either instance.

The following two lots of uranium ore, which had been sorted from base metal production prior to September 10, 1951, were marketed during the period that the exploration contract was in effect:

Date	Short tons (dry)	U_3O_8 Content (percent)	U_3O_8 Content (pounds)	U_3O_8 Value (per ton)	U_3O_8 Value (per lot)
12/18/51	5.345	0.71	74.25	$65.50	$342.50
5/5/52	0.2415	0.94	4.54	88.50	21.37

The above production is not subject to the Government royalty. It is understood that the standard haulage and the initial production bonus also were paid on both lots. The earlier lot, in addition, received settlement for 1.36 percent copper and 0.06 percent V_2O_5.

Ore removed during exploration under the contract was stockpiled until the program was completed. Table 1 of this report summarizes production from the deposit during and since the completion of contract work and the total settlement received or due thereon. The 13 carload lots itemized in table 1 represent the total production from the discovery between September 10, 1951, the start of contract exploration, and July 17, 1953, the close of operations, all of which is subject to the Government royalty per the terms of the exploration contract. Further production from the discovery is not anticipated.

Royalty checks, in the amounts listed below, have been received by the Executive Officer, Defense Minerals Exploration Administration Field Team, Region IV:

Lot No.	Amount	Lot No.	Amount
1	$ 93.53	7	$ 55.96
2	100.71	8	78.54
3	81.33	9	56.96
4	81.13	10	35.03
5	63.73	11,12,13	297.91
6	79.42		

Lots 1-10 were shipped to Vitro Chemical Company, Salt Lake City, Utah, who deducted the Government royalty from the net proceeds due the operator and submitted the amount directly to the Government. Lot 10 was transferred and lots 11-13 were consigned directly to the A. S. & R. Company, Monticello, Utah, who did not deduct royalties.

The royalty amounts submitted by Vitro are incorrectly computed on the gross value of the shipments. The net value of the shipments, the gross value less any freight charges paid by the purchaser, is the correct basis for the computation. Although the royalty submitted by Vitro on lot 10 was computed on the net value, the amount is incorrect as a lower U_3O_8 settlement later was paid on this lot by the A. S. & R. Company. In the case of lot 1, the gross and net values are identical and the royalty received is correct. The royalty received on lots 11-13 was submitted by the operator. The amount was incorrectly computed and was returned. The correct royalty due on each shipment has been calculated and is shown in table 1.

All production shown for the discovery in table 1 is eligible for an initial production bonus. Such a bonus is paid by the Atomic Energy Commission directly to the producer upon application and is subject to the Government royalty. The Atomic Energy Commission will not make royalty deductions from such payments. It is the responsibility of the company to submit the royalty as the bonus payments are received. It is understood that the company has applied to the

Atomic Energy Commission for the initial production bonus on the 3,560.27 pounds total U_3O_8 content of the 13 carload lots and that payment for all but lot 13 has been made. To date, the receipt of such bonus payments has not been reported by the company nor have royalties due thereon been submitted. The company, therefore, was notified that such royalties are due.

A total production of 622 dry tons of ore averaging 0.286 percent U_3O_8 and having a total net value of $26,784.56 resulted from the discovery certified at the Copper King mine under Exploration Project Contract I-DMA-E61. A royalty of $1,339.23, or a return of 6.3 percent of its total cost in the exploration program, is due the Government. Net proceeds totaling $25,445.33 were received or are due Cherokee Mines.

Total net proceeds due company:	$25,445.33
Less	
Trucking costs, 647 wet tons at $4.00	2,588.00
Exploration cost, 10 percent of $23,612.42	2,361.25
Mining cost, 647 wet tons at $15.00	9,705.00
	$10,791.08

The actual cost of initial work at the property, prior to the exploration contract, is unknown. Such cost may have been considerable as the company established a surface plant, rehabilitated the old workings, and raised the working shaft some 70 feet to the surface. Actual costs to the company of the exploration program probably exceeded 10 percent of the $23,612.42 accepted costs.

From the foregoing it is concluded that the operation at best will prove only marginal. The operator probably will be fortunate to break even.

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

RLB/kp
cc 5, M61

Table 1. - Production from certified discovery, Copper King mine, Larimer County, Colo.
(Cherokee Mines, [redacted] 1702X, Exploration Project Contract [redacted])

Lot No.	Date	Short tons Wet	Short tons Dry	U_3O_8 content Percent	U_3O_8 content Pounds	U_3O_8 value 1/ Per ton	U_3O_8 value 1/ Per lot	Haulage allowance 2/	Gross value	Freight	Net value Per lot	Net value Per dry ton	Government royalty Rate (Percent)	Government royalty Amount
1	10/1/52	45.00	43.920	0.48	421.63	$42.60	$ 1,870.99	--	$ 1,870.99	--	$ 1,870.99	$42.60	5	$ 93.55
2	12/29/52	55.40	53.904	.36	388.11	31.20	1,681.80	$ 332.40	2,014.20	$ 484.94	1,529.26	28.37	5	76.46
3	1/5/53	45.54	43.377	.36	312.31	31.20	1,353.36	273.24	1,626.60	398.63	1,227.97	28.31	5	61.40
4	2/11/53	52.99	51.162	.30	306.97	25.50	1,304.63	317.94	1,622.57	463.85	1,158.72	22.65	5	57.94
5	2/17/53	53.15	50.705	.23	233.24	18.85	955.79	318.90	1,274.69	465.25	809.44	15.96	5	40.47
6	3/4/53	46.21	43.345	.35	303.42	30.25	1,311.19	277.26	1,588.45	404.49	1,183.96	27.31	5	59.20
7	3/18/53	44.90	42.924	.24	206.04	19.80	849.90	269.40	1,119.30	393.03	726.27	16.92	5	36.31
8	4/4/53	44.81	43.040	.35	301.28	30.25	1,301.96	268.86	1,570.82	392.24	1,178.58	27.38	5	58.93
9	5/9/53	48.42	47.088	.22	207.19	17.90	842.88	290.52	1,133.40	423.83	709.57	15.07	5	35.48
10	5/28/53	49.67	47.708	.16	152.67	10.24	488.53	74.51	563.04	--	563.04	11.80	5	28.15
11	6/18/53	52.21	50.017	.26	206.09	21.70	1,085.37	78.32	1,163.69	--	1,163.69	23.27	5	58.18
12	6/26/53	51.62	49.7875	.28	278.81	23.60	1,174.99	77.43	1,252.42	--	1,252.42	25.16	5	62.62
13	7/23/53	56.82	55.1155	.22	242.51	17.90	986.57	85.23	1,071.80	--	1,071.80	19.45	5	53.59
	Total	646.74	622.093		3,560.27		$15,207.96	$2,664.01	$17,871.97	$3,426.26	$14,445.71			$722.28

(Note: Lots 1-9 shipped to Vitro Chemical Company, Salt Lake City, Utah; Lots 10-13 to A. S. & R. Company, Monticello, Utah)

1/ Includes minimum price, development allowance, and premium payment where applicable

2/ Lot 1 purchased f.o.b. shipping point; lots 2-9 allowed 100 miles at 6¢ per wet ton mile; lots 10-13, through special contract, purchased f.o.b. shipping point and allowed 25 miles at 6¢ per wet ton mile.

Table 1. - Production from certified discovery, Copper King mine, Larimer County, Colo. (Continued)
(Cherokee Mines, DMA 1702X, Exploration Project Contract I-DMA-E61)

Lot No.-	Initial production bonus 3/	Government royalty on production bonus	Total net value	Total Government royalty	Total net proceeds to operator
1	$ 1,475.71	$ 73.79	$ 3,346.70	$ 167.34	$ 3,179.36
2	1,358.39	67.92	2,887.65	144.38	2,743.27
3	1,093.09	54.65	2,321.06	116.05	2,205.01
4	1,074.40	53.72	2,233.12	111.66	2,121.46
5	816.34	40.82	1,625.78	81.29	1,544.49
6	1,061.97	53.10	2,245.93	112.30	2,133.63
7	721.14	36.06	1,447.41	72.37	1,375.04
8	1,054.48	52.72	2,233.06	111.65	2,121.41
9	725.17	36.26	1,434.74	71.74	1,363.00
10	412.21	20.61	975.25	48.76	926.49
11	721.32	36.07	1,885.01	94.25	1,790.76
12	975.84	43.79	2,228.26	111.41	2,116.85
13	848.79	42.44	1,920.59	96.03	1,824.56
Total	$12,338.85	$616.95	$26,784.56	$1,339.23	$25,445.33

(Note: Lots 1-9 shipped to Vitro Chemical Company, Salt Lake City, Utah; Lots 10-13 to A. S. & R. Company, Monticello, Utah)

3/ Lot 10 computed at $2.70 per pound U_3O_8 content; other lots at maximum rate of $3.50 per pound U_3O_8 content

700 FILE COPY
SURNAME:

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

Ellis
Martin
Butler
Selfridge
Authority

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

AUG 14 1953

Re: Docket No. DMA-1702X (Uranium)
Contract No. Idm-561
Cherokee Mines
Larimer County, Colorado

Dear Mr. King:

Reference is made to your memorandum dated July 31, 1953, appertaining to royalty payments due the Government resulting from ore shipments, Lot Nos. 1 through 10, shipped by the captioned Operator to the Vitro Chemical Company.

We find your recalculated list of royalties correct with the possible exception of Lot 1. In the case of Lot 1 the settlement sheet does not show any haulage allowance. This was also true in the case of Lots 2 and 3. However, in the case of these two lots, a correction was made on the Lot 4 settlement sheet. If a haulage allowance is due on Lot 1, then the royalty due is $107.05 instead of $93.55, which was the amount paid.

Where the Atomic Energy Commission, or any other purchaser, fails or refuses to make the proper deduction for royalty due the Government, you will have to look to the shipper for payment supported by a copy of the settlement sheet.

Sincerely yours,

W. S. Martin
ESJ
ACTING Chairman, Operating Committee

APPROVED:

J. H. Hedges ESJ
Member, Bureau of Mines

A. R. Kinkel, Jr. ESJ
Member, Geological Survey

EWEllis/gla
8-14-53
cc to: Adm. Reading File
Operating Committee
Docket
Messrs. H.D.Reiser, Rm. 3641
A.P.Butler, Jr., Rm.3206, GSA
Ellis

HHR
8-14-53

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

224 New Customhouse
Denver 2, Colorado

July 24, 1953

Memorandum

To: C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 1702, Contract Idm-E61, Cherokee Mines

Enclosed are copies of two letters from the Vitro Chemical Company regarding royalty on Lot No. 10, shipped by the Cherokee Mines. Also enclosed is a copy of our reply.

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 24, 1953

Mr. Harold D. Haight, Office Manager
Vitro Chemical Company
600 West 33rd South
Salt Lake City 15, Utah

Dear Mr. Haight:

This will acknowledge your letters dated July 10 and July 22, 1953, regarding your royalty check No. 3226 in the amount of $35.03.

We have been informed that we are entitled to royalty on Lot No. 10, shipped by the Cherokee Mines, in the amount of $35.03. We note that the settlement sheet states that the ore was purchased from the Atomic Energy Commission. This ore was shipped by the Cherokee Mines and was subject to royalty under the Defense Minerals Exploration Administration program. It is our understanding that the ore was handled by the American Smelting and Refining Company.

The Denver office of the Atomic Energy Commission has assured us that they will clear up this misunderstanding.

Your check No. 3226 has been passed for payment. When we receive a royalty check from the operator in the amount of $35.03 we will be in a position to reimburse you for check No. 3226.

Yours very truly,

W. H. King

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

J.C:ld

C. [illegible] Hittendorf
[illegible] H. Kochmann
W. M. Traver
sub
chron

/ C O P Y /

VITRO CHEMICAL COMPANY

600 West 33rd South
Salt Lake City 15, Utah

July 22, 1953

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

Dear Mr. King:

On July 10 we wrote you requesting your either returning our check No. 3226 issued June 10, or issuing a government check to cover $35.03 royalty on Cherokee Mines Lot 10 which was paid you in error. As we have not received either a check reimbursing us or acknowledgment of our previous letter, we are again writing you.

We will appreciate your expediting action on this matter in order that we might have it completed prior to July 31, at which time we will close our books for the period. This particular transaction falls within this period and is being held open pending receipt of reimbursement from you.

We will further appreciate your notifying us of your intended action upon receipt of this letter.

Yours very truly,

VITRO CHEMICAL COMPANY

By /s/ Harold D. Haight

Harold D. Haight
Office Manager

HDH:MD

/ C O P Y /

/ C O P Y /

VITRO CHEMICAL COMPANY
600 West 33rd South
Salt Lake City 15, Utah

July 10, 1953

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

Dear Mr. King:

On June 10 we sent you our check No. 3226 for $35.03 which represented royalty portion of Cherokee Mines Lot 10. At the same time we issued our check No. 3225 for $665.48 to the Atomic Energy Commission at Grand Junction, Colorado, to complete payment for the ore. However, July 6 our check No. 3225 was returned to us by Mr. K. L. Burson, Acting Director Finance Division, U. S. Atomic Energy Commission, who informed us that we should not make royalty deductions as we were buying the ore directly from the A.E.C.

We will, therefore, appreciate your either returning our check No. 3226 or reimbursing us by the same amount, inasmuch as we have today issued our check No. 3383 for the full amount of $700.51 to the A.E.C. at Grand Junction.

Yours very truly,

VITRO CHEMICAL COMPANY

/s/ Harold D. Haight

Harold D. Haight
Office Manager

HDH:MD

cc-Mr. K. L. Burson

/ C O P Y /

DEFENSE MATERIALS PROCUREMENT AGENCY
WASHINGTON 25, D. C.

March 27, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 31 1953

Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
U. S. Department of the Interior
Washington 25, D. C.

Re: Docket No. DMA-1702X (Uranium)
Contract No. Idm-E61
Cherokee Mines
Larimer County, Colorado

Dear Mr. Mittendorf:

This acknowledges with thanks your letter of February 20, 1953, transmitting the following items on the above-referenced property:

(a) Copy of letter dated February 20, 1953, to Mr. T. H. Sackett, President, Cherokee Mines from C. O. Mittendorf, Administrator, Defense Minerals Exploration Administration.

(b) Copy of "Certificate of Discovery."

(c) Copy of Bureau of Mines report on Copper King Mine by R. L. Bolmer, Mining Engineer.

(d) Copy of geological report on Copper King Mine by Truman H. Kuhn, U. S. Geological Survey.

This material will be filed with our uranium projects in case we may have occasion to refer to it at a later date.

Very truly yours,

H. A. Mann

H. A. Mann, Chief
Minor and Light Metals Branch

700

FILE COPY
SURNAME:

Ellis
Acting
Hoffmann
Chambers
Hedges
~~Lemon~~
Selfridge
Johnson

BW.

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

FEB 20 1953

Mr. T. H. Sackett, President
Cherokee Mines
231 South Grant Street
Fort Collins, Colorado

Re: Docket No. DA-1702X (Uranium)
Contract No. [illegible]-261
Jackson County, Colorado

Dear Mr. Sackett:

Enclosed is a "certification of the United States of America of a discovery or development under an Exploration Project Contract." This certification covers the discovery made under the above contract at the opening line.

By the terms of the Exploration Project Contract, as amended, and of the certification, all uranium and other valuable minerals discovered and claimed subject to the aforesaid contract, from July 1, 1951, the date of the contract, is subject to the Government's percentage royalty set forth in the contract, as amended, until the sum of 21,251.17 is paid, or until July 16, 1961.

Payments should be made to Mr. [illegible], Executive Officer, [illegible] Team, Region IV, 222 New Customhouse Building, Denver 2, Colorado. Checks should be payable to the Treasurer of the United States. The purchaser should be advised to deduct the royalties from the amount due on each shipment and forward the check directly to the Executive Officer. Any bonus payments received by you on account of ore are considered to be a part of the gross income to which the Government's royalty applies. Royalty payments to the Government should be accompanied by suitable evidence, such as copies of settlement sheets, showing quantity and grade of the products sold, the name of the purchaser, and the price and charges, certified to be correct by the purchaser.

You are requested to notify us of any changes in ownership or production rights that might have any effect on the Government's right to its percentage royalty. Also, if production ceases at any time for an extended period, please notify us at six-month intervals that no production has been made, when that is the case.

Sincerely yours,

C. O. Mittendorf
Administrator

EWEllis/gla 2-13-53
cc to: Adm. Reading File
Howard I. Young, Deputy Adm., DPA
Oper. Committee - Mr. Hedges - Mr. Thayer
Field Man, Region IV (2)
Docket
Mr. Ellis - Mr. Chambers - F.E. Johnson

S.H. 2-20-53

FILE COPY
SURINAME

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

FILE COPY
SURNAME:

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

Mr. Howard I. Young
Deputy Administrator
Defense Materials Procurement Agency
General Services Administration Building
Washington 25, D. C.

FEB 20 1953

Re: Docket No. DMA-17024 (Uranium)
Contract No. Idm-661
Cherokee Mines
Larimer County, Colorado

Dear Mr. Young:

I am enclosing a copy of a "Certification of Discovery" and a copy of the Field Team's final report on the above referenced property.

The project contract was signed [illegible] 16, 1951, with Government participation to the extent of 90% in an exploration project estimated to cost $14,000.00, Government's share $12,600.00. By an amendment dated March 11, 1952, the total amount of the contract was increased to $2[illegible],000.00 (90% Government participation $21,000.00, [illegible] Government's share, $21,291.17) was expended.

The contract provided for sinking a [illegible] shaft, sinking 50-foot development shaft to the [illegible] 150-foot levels. At the 150-foot level it was proposed to crosscut a short distance to the vein and drift a few [illegible]. At the 150-foot level the contract provided for a station and sump, then a crosscut for the short distance to the vein and a short drift. Due to the nature of the ore body, it was decided that such work had not [illegible] revealed the deposit. Consequently the contract was amended [illegible] shaft to be deepened 15 feet below the 150-foot level, then to extend the 150-foot level easterly to a point approximately 18 feet from the shaft. From this heading, a 15-foot raise was to be driven to the structure and a 135-foot sub-level established. On this sub-level it was proposed to drift some 100 feet, or to the limitation of mineralization, whichever occurred first. Such work was performed satisfactorily.

According to the final report of the Field Team, the work accomplished consisted of 87 feet of shaft sinking, cutting two shaft stations, drifting and crosscutting 73 feet

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

and raising 17 feet, at a total allowable cost of $23,612.41. Such work resulted in the discovery of 500 tons of ore averaging 0.5 percent U_3O_8, or a total U_3O_8 content of 5,000 pounds.

Sincerely yours,

C. O. Mittendorf

Administrator

P.H.
2/20/53

Enclosures 3

EWEllis/gla 2-13-53
cc to: Adm.Reading File
Operating Committee
Mr. Hedges, Rm. 4604
Mr. Thayer, Rm. 5216 GSA Bldg.
Mr. Murkland
Contract Adm. and Audit Division
Mails & Files (Docket)
Rare and Misc. Metals Division
Field Team, Region II (2)
F. E. Johnson

2/20/53 gla

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : E. Wm. Ellis, DMEA Member
Uranium Commodity Committee

DATE: February 19, 1953

FROM : Arthur P. Butler, Jr., USGS Member, Uranium Commodity Committee

SUBJECT: Final Reports DM(E)A Docket 1702X (Uranium), Contract I-DMA-E61, Cherokee Mines, Copper King Mine, Larimer Co., Colorado

I have reviewed the final geologic and engineering reports prepared as a result of the completion of the exploration contract on the property as identified in the subject above. I concur with the conclusions of the Field Team that the work under this contract resulted in a certifiable discovery.

Arthur P. Butler, Jr.

Arthur P. Butler, Jr.

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

224 New Customhouse
Denver 2, Colorado

January 29, 1953

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMA 1702X (Uranium), Contract I-DMA-E61, Cherokee Mines, Copper King Mine, Larimer County, Colorado

Enclosed are the following final reports pertaining to work accomplished under the subject contract.

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

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

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

Work accomplishments under Contract I-DMA-E61 consist of 87 feet of shaft sinking, cutting two shaft stations, 73 feet of drifting and crosscutting and 17 feet of raising, at a total allowable cost of $23,612.41. The Government's contribution amounted to 90% or $21,251.17.

A discovery was made as a result of the work under the exploration contract, therefore it is recommended that a certification be executed as outlined in the Geologists and Engineers Reports.

W. H. King

W. H. King

A. H. Koschmann

A. H. Koschmann

cc 2/2/53

Enclosures

Supplemental Final Report
& Estimate of ore Reserves.

Docket No. DMA 1702X
U Idm-E61

November 4 1952

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

Dear Mr. King:

Enclosed herewith you will find a recently prepared plat showing the developement and extent of the work carried on by us under our DMA exploration c ontract at our Blackhawk No. I mine. This plat shows that we started work on the contract by enlarging the winze which we had previously sunk below the 60 foot level. We then deepened the shaft to 100' and cut a station and ran a short drift as shown on the plat.

Sinking was then continued to a depth of 160 feet and a station cut at the 150 foot level. Drifts were driven from the 150 foot station, and from the drift to the east a raise was made which came into ore at the 135 foot depth. For better ventilation of the sublevel we cut thru to the shaft and then drifted eastward to a point which is fifty two feet from the shaft.

The above work was completed by September 1 1952 and at that same time our records showed that we had expended the funds provided for in our contract.

As stated in our narative report of the work done during August an estimate of the ore reserve at that time indicated a probable 500 tons. Owing to the extremely pockety nature of the deposition it is not possible to estimate with any degree of accuracy the amount of reserve ore. The exploration carried on during our exploration program was very limited in horizontal directions as to render accurate estimations of ore reserves impossible.

Yours very truly, T H Sackett

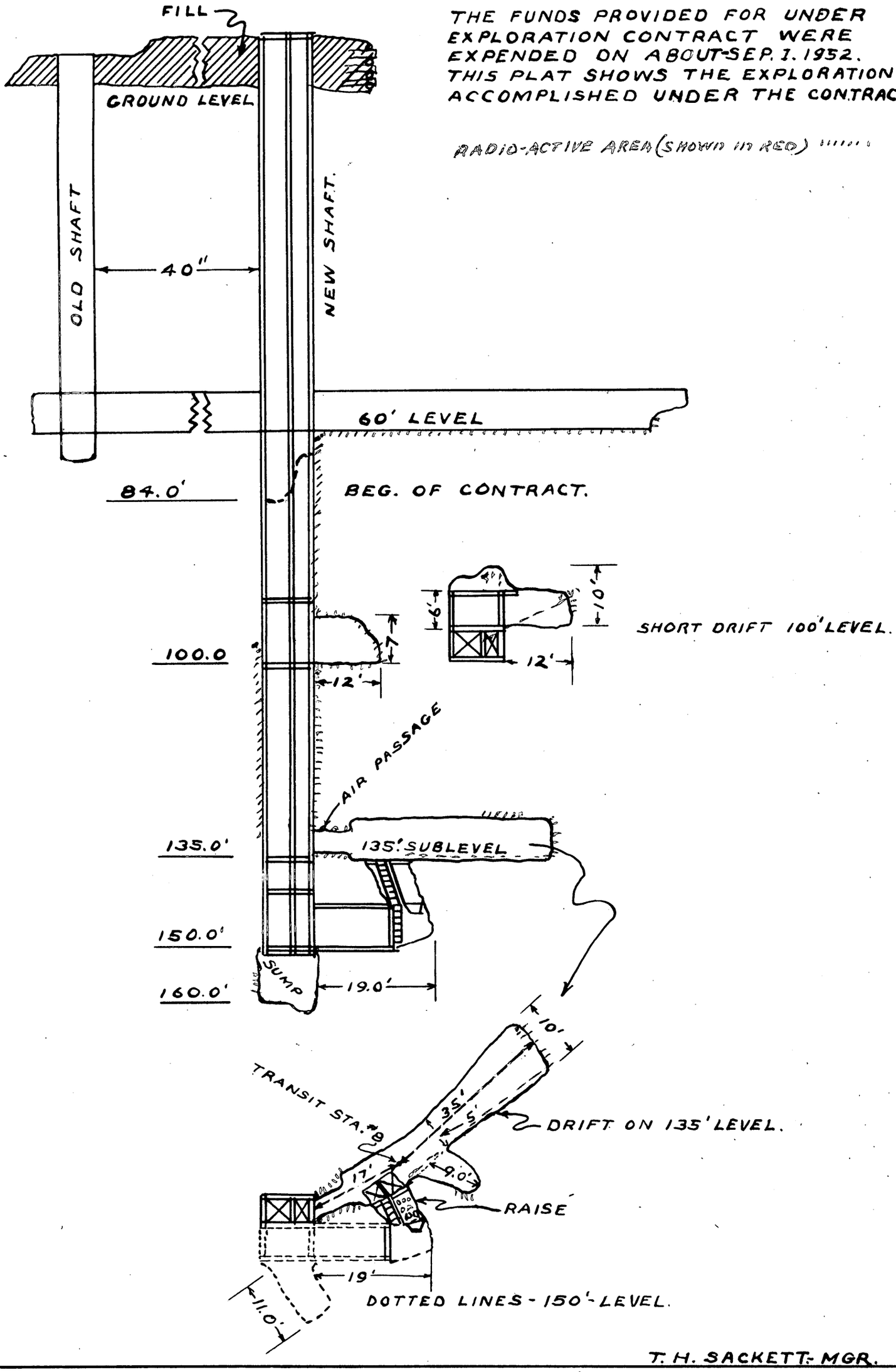
T. H. Sackett, Pres.
Cherokee Mines
231 S. Grant Ave.
Fort Collins, Colo.

PLAT OF BLACKHAWK #1 MINE AS OF SEPT. 1 1952.
DOCKET DMA 17[illegible]X - Idm-E61.

[illegible]HEROKEE MINES.
FORT COLLINS - COLO.

THE FUNDS PROVIDED FOR UNDER EXPLORATION CONTRACT WERE EXPENDED ON ABOUT SEP. 1. 1952. THIS PLAT SHOWS THE EXPLORATION ACCOMPLISHED UNDER THE CONTRACT.

RADIO-ACTIVE AREA (SHOWN IN RED) ''''''



T. H. SACKETT - MGR.

Docket No. DMA
1702X
Uranium.
Lem-E61

Mr. W. H. King
Executive Officer DMEA Field Team.
Region IV.
224 New Custom House, Denver 2, Colo.

Dear Sir:

Our report of progress fortthe month of August 1952. and the report of expenditures submitted at that time indicate that the funds provided for in the ammendment to our contract have been completely expended slightly before the first of September. Therefore in accordance with the provisions of the contract we are submitting herewith our final report as to the results of the exploration project.

The actual project began with sinking of a two compartment shaft from the sixty foot level of the mine. This shaft having been completed by raising to the surface prior to the start of work under the contract. At the start of this work the vein of pitchblend which was to be explored had been checked by a drift on the sixty foot level from the old discovery shaft. This drift was approximately 100 feet in length and the pitchblende was exposed for about sixty five feet on that level. It varied from about four inches in width to twentyfour inches. We had also sunk a small winze fourteen feet below the 60 foot level and at the bottom of this winze a pocket of rich uranium bearing lacetype pyrite ore was found. It was at this location we raised to the surface on our new shaft. It was felt that the original shaft which was very small and crooked was not adequate.

As sinking under the contract began we found that the vein continued almost vertically as we went down and stayed within the bounds of the shaft to the 135 foot level. There it was thought that it would continue on down and the shaft was sunk to 160 feet to provide a sump about ten feet deep below the 150 foot level. At the 150 foot level we then cut a station and drifted toward the southeast to pick up the vein. As no vein was crossed in that distance as we had anticipated. We then drove a few test holes ahead and did not contact any evidence of ore at that point.

After a conference with geologists of the AEC, U.S. G. S. and otheres we decided to run a drift in the direction of the long axis of the shaft far enough to provide a safe pillar and then raise on a slope to pick up the ore at a point about at the depth the vein had left the shaft. The vein was found at about the expect point and a drift driven along the structure on the 135 foot sub-level. By the first of September this drift was approximately fortyfeet from the shaft.

As the present breast of this drift was approached we found an increasing number of radio active veinlets. As our exploration funds were completely expended we were not able to continue this drift farthur as we are now forced to produce shipping ore from the body exposed by the above work.

We have raised at two points in the 135 foot level and have taken out several tons of quite good ore. The lace type pyrite which bears uranium seems to be our principle sourse of uranium at this time.

The assay plan made up by the AEC geologists indicates an average width of the vein for 70 feet in depth to be somewhat over two feet and values averaging .9% U308. Because of the varying width of the vein and the frequent pockets of lace type pyrite which can not be forseen it is difficult to estimate the amount of ore reserves now in sight. Assuming that the averages continue as above for an aveage distance of fifty feet from the shaft and allowing a factor of 75% as being ore we would have approximately 7000 cubic feet of ore which at ten cubic feet to the tom (in place) would indicate that we have around 500 tons of possible ore. These figures of course do not give allowance for any ore which might be found in addition during the removal. of this ore.

Report No. [illegible]
[illegible]
Vanadium.
[illegible]-561

Mr. [illegible] King,
Executive Officer Uran Field Team,
Region IV,
224 Van Gordon House, Denver 2, Colo.

Dear Sir:

Our report of progress for the month of August 1952, and the report of expenditures submitted at that time indicate that the funds provided for in the amendment to our contract have been completely expended slightly before the first of September. Therefore in accordance with the provisions of the contract we are submitting herewith our final report as to the results of the exploration project.

The actual project began with sinking of a two compartment shaft from the sixty foot level of the mine. This shaft having been completed by raising to the surface prior to the start of work under the contract, at the start of this work the vein of pitchblende was to be explored had been checked by a drift on the sixty foot level from the old discovery shaft. This drift was approximately 100 feet in length and the pitchblende was exposed for about sixty five feet on that level. It varied from about four inches in width to twenty-four inches. It had also much a small white fourteen feet below the 60 foot level and at the bottom of this winze a pocket of rich uranium bearing lacetype pyrite ore was found. It was at this location we raised to the surface on our new shaft. It was felt that the original shaft which was very small and crooked was not adequate.

In sinking under the contract began we found that the vein continued almost vertically as we went down and stayed within the bounds of the shaft to the 125 foot level. There it was thought that it would continue on down and the shaft was sunk to 150 feet to provide a sump about ten feet deep below the 150 foot level. At the 150 foot level we then cut a station and drifted toward the southeast to pick up the vein. In no vein was crossed in that distance as we had anticipated. We then drove a few test holes ahead and did not contact any evidence of ore at that point.

After a conference with geologists of the A.E.C., U.S.G.S. and others we decided to run a drift in the direction of the long axis of the shaft far enough to provide a safe pillar and then raise on a slope to pick up the ore at a point about at the depth the vein had left the drift driven shaft. The vein was found at about the expect point and a drift driven along the structure on the 125 foot sub-level. By the first of September this drift was approximately forty-feet from the shaft.

As the presence of this drift was approached we found an increasing number of radio active veinlets. At our exploration funds were completely expended we were not able to continue this drift further as we are now forced to produce shipping ore from the body exposed by the above work.

We have raised at two points in the 125 foot level and have taken out several tons of quite good ore. The lace type pyrite which bears uranium seems to be our principle source of uranium at this time.

The assay plan made up by the A.E.C. geologists indicates an average width of the vein for 70 feet in depth to be somewhat over two feet and values averaging .24 U3O8. Because of the varying width of the vein and the frequent pockets of lace type pyrite which can not be forseen it is difficult to estimate the amount of ore reserves now in sight. Assuming that the average continue as above for an average distance of fifty feet from the shaft and allowing a factor of 75% as being ore we would have approximately 7000 cubic feet of ore which at ten cubic feet to the ton (in place) would indicate that we have around 500 tons of possible ore. These figures of course do not give allowance for any ore which might be found in addition during the removal. of this ore.

In conclusion we feel that the project has shown that there is a possibility of considerable uranium ore which can be taken from this mine. There are several veinlets of quite highly radio active ore which show below the 150 foot level in the shaft. Also the fact that the breast of the sublevel drift on the 135 foot level shows a number of radioactive seams it might be indicated that an ore shoot could be found along the structure if exploration could be carried on farther. To us and to geologists who have been watching developements closely it seems that such exploration should be done. However unless the ore which is now ready do be mined should prove sufficiently valuable it will be very improbable that it will ever be done. There is of course the possible chance that more ore might be shown by the core-drilling program which is now being done by the Bureau of Mines, in which case our shaft might be the proper means of working such ore.

A car load of ore which had been accumulated during the sinking of the shaft and driving the drift on the 135 foot sublevel has been shipped by us during October and we hope it will give us some indication of what may be expected from future operations.

We are now making efforts to get bids upon several articles of equipment which were purchased during the period of our contract. As soon as we are able to get another bid or two we will submitt with them our offer for them. We do not feel that we wish to liquidate at this time and the purchasing of the Government interest in this equipment at a time when we are being forced to carry on the operation of the mine on our own resources naturally places us under a very heavy burden.

Yours very truly,

T. H. Sackett

T. H. Sackett, Pres.
Cherokee Mines
231 S. Grant St.
Fort Collins, Colo.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
200 New Customhouse
Denver 2, Colorado

January 26, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMA Docket 1702X, Copper King Mine, Black Hawk No. 1 Claims, Larimer County, Colorado.

Attached are 10 copies of the final geological report by Truman H. Kuhn covering DMA Docket 1702X (Contract 1-DMA-E61).

Kuhn shows that discovery of uranium ore resulted from this DMEA exploration program and certification of discovery should be made. 11

A. H. Koschmann

A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (10)

Reviewed by
DMEA OPERATING COMMITTEE

(date)

COPPER KING MINE

BLACK HAWK NO. 1 CLAIMS

LARIMER COUNTY, COLORADO

DMA DOCKET 1702X

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By Truman H. Kuhn
U. S. Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE

(date)

COPPER KING MINE
LARIMER COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Cherokee Mines, with Defense Minerals Administration assistance, has completed an exploration program for uranium at the Copper King mine on the unpatented Black Hawk No. 1 claim in sec. 8, T. 10 N., R. 72 W., 6th P. M., Larimer County, Colorado. The exploration work, which amounted to $24,000, was done under Contract No. I-DMA-E61.

The Copper King mine has been examined in detail by Paul K. Sims and George Phair and they have discussed the results of their study in U. S. Geol. Survey, Trace Elements Memorandum Report 517, "Geology of the Copper King Mine Area, Prairie Divide, Larimer County, Colorado - An Interim Report," December 1952.

Pitchblende was discovered on the Copper King dump by A. H. Brown and H. G. Ismert in 1949 and since then approximately 49 tons of uranium ore averaging 0.5% U_3O_8 have been shipped from the property.

Two types of mineral deposits are present in the Copper King mine--a massive sulphide deposit which is considered to be of pre-Cambrian age, and a pitchblende deposit of early Tertiary age. The massive sulphides, pyrite, sphalerite, chalcopyrite, and pyrrhotite, occur as a high temperature replacement deposit in pre-Cambrian metamorphic rocks. The sulphide deposit has yielded small quantities of high-grade sphalerite ore.

Pitchblende in the Copper King mine occurs principally in a tight, hard, breccia zone that cuts the older massive sulphide deposit and pre-Cambrian granite. Appreciable amounts of pitchblende also occur in small fractures near the vein and in boxwork pyrite adjacent to the vein. According to Pb/U age determinations, the pitchblende is about 60 million years old--an early Tertiary age.

The ore shoot explored in the Copper King mine is estimated to contain 500 tons of indicated and inferred ore averaging 0.5% U_3O_8.

A certification that uranium ore was discovered at the Copper King mine as a result of work under the Defense Minerals Administration contract is recommended.

COPPER KING MINE

BLACK HAWK NO. 1 CLAIMS

LARIMER COUNTY, COLORADO

DMA DOCKET 1702X

Final Geologic Report

By Truman H. Kuhn
U. S. Geological Survey

COPPER KING MINE
LARIMER COUNTY, COLORADO

INTRODUCTION

T. H. Sackett, president of Cherokee Mines, applied to the Defense Minerals Administration for assistance in exploring for uranium at the Copper King mine on unpatented Black Hawk No. 1 claim in sec. 8, T. 10 N., R. 72 W., 6th P. M., Larimer County, Colorado, and on July 16, 1951, Contract No. 1-DMA-E61 was signed authorizing a total expenditure of $14,000. On March 11, 1952, the contract was amended to increase the exploration by $10,000, to a total of $24,000. Defense Minerals Administration's share of the exploration program amounted to 90% of $24,000, or $21,600.

The Copper King mine is at an altitude of approximately 8,000 feet, near the southwestern edge of Prairie Divide, in the northern part of the Front Range of Colorado, (fig. 1) and approximately 28 airline miles northwest of Fort Collins, Colorado.

A maintained, graveled road, that branches to the west from U. S. Highway 287 at a point 23.3 miles north of Fort Collins, crosses Black Hawk No. 1 claim. The mine may be reached by proceeding 12.4 miles westward over the graveled road, then turning sharply to the left on the road to Red Feather Lakes. The mine is 5.3 miles beyond this last junction. The road to the mine is kept open throughout most of the year.

The mine was visited last on October 31, 1952, accompanied by Paul K. Sims of the U. S. Geological Survey.

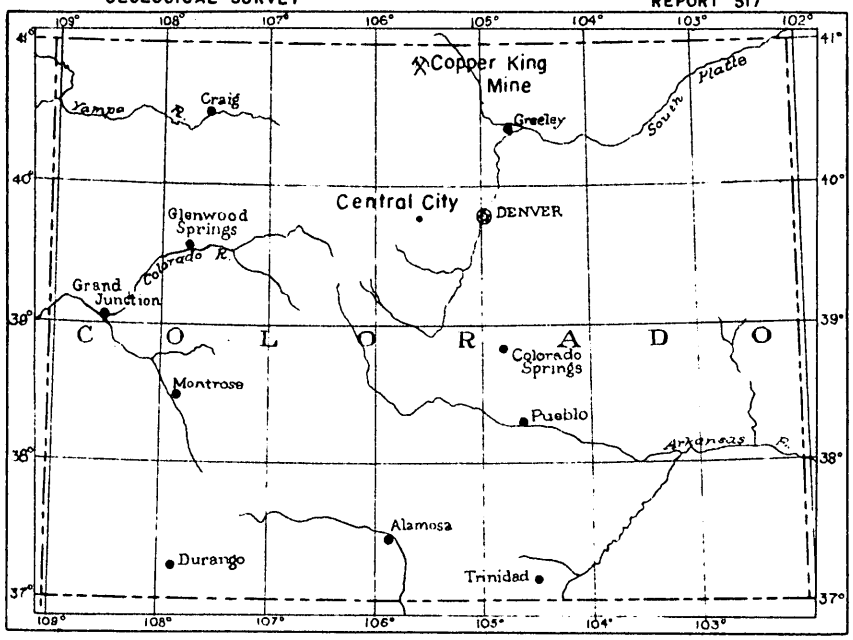
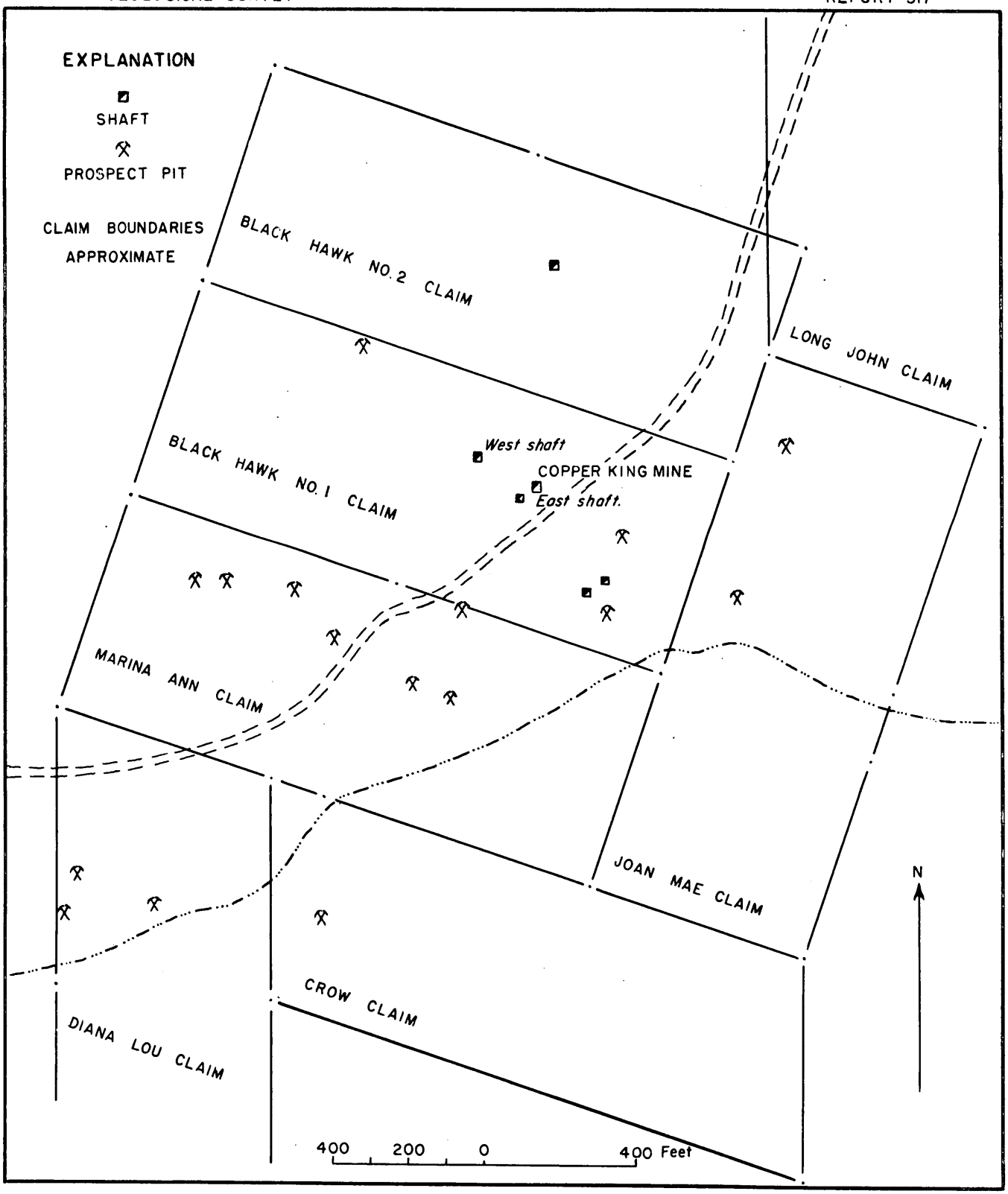


FIGURE 1.- INDEX MAP OF COLORADO SHOWING LOCATION OF COPPER KING MINE.



AFTER H.C. GRANGER AND R.U. KING
1951

FIGURE 2.-CLAIM MAP OF THE COPPER KING MINE AREA, LARIMER COUNTY, COLORADO.

Because of the interest in the uranium occurrence, the U. S. Geological Survey undertook, on behalf of the Raw Materials Division of the Atomic Energy Commission, a detailed study of the Copper King mine in order to learn the character and extent of the deposit. U. S. Geol. Survey, Trace Elements Memorandum Report 517, "Geology of the Copper King mine area, Prairie Divide, Larimer County, Colo. - An Interim Report" by Paul K. Sims and George Phair, December 1952, covers in a preliminary way the results of that study.

Figures 1, 2, and 3, Plate 2, and most of the data used in this report have been taken from the above mentioned Trace Elements Memorandum Report 517.

HISTORY AND PRODUCTION

Exploration work for zinc and copper was carried out at the Copper King mine during World War I. Nothing was produced until 1920 when a carload of zinc ore was mined from the 70-foot level. No profit was realized on the shipment and the mine was abandoned. In 1936, Richard Kyle of Idaho Springs, Colorado, reopened the mine but as far as known, no ore was produced. In 1949, A. H. Brown and H. G. Ismert discovered radioactive material on the Copper King dump and relocated the property under the name, Black Hawk No. 1 mining claim (fig. 2). After the mine was unwatered, Granger and King, geologists for the U. S. Geol. Survey, found pitchblende in a vein on the 70-foot level. The vein was explored in 1950 and 1951 by Cherokee Mines and some sulphide ore and pitchblende-bearing rock were mined from the 70-foot level. With DMA assistance an exploration program was initiated in 1951.

Since 1950, the total production from the mine has been:

1. 55 tons of hand-sorted ore containing 18.2% zinc shipped in 1951.

2. 10,690 pounds of stockpiled ore containing 0.71% U_3O_8 shipped in December 1951.

3. 44 tons of stockpiled ore containing 0.48% U_3O_8 shipped in September 1952.

MINE WORKINGS

The workings at the Copper King mine prior to the discovery of uranium consisted of a 118-foot drift on the 70-foot level, a vertical, single compartment (West) shaft connecting the 70-foot level with the surface, and 14 feet of winze below the 70-foot level.

By November 1952, Cherokee Mines had completed the following work (fig. 3):

1. A new, vertical, double-compartment (East) shaft from the surface to a depth of 171 feet.

2. A station and a 20 foot drift on the 110-foot level.

3. A station, a 10 foot crosscut, and a 19 foot drift on the 160-foot level.

4. A 52 foot drift and a 10 foot crosscut on a sublevel 17 feet above the 160-foot level.

5. An inclined raise from the 160-foot level through the sublevel to the 110-foot level.

Of the recent work, the following was completed with DMA assistance:

1. The lower 87 feet of the new East shaft.

2. The station and 6 feet of drift on the 110-foot level.

3. The station, the 10 foot crosscut, and the 19 foot drift on the 160-foot level.

4. The 10 foot crosscut and 28 feet of drift on the sublevel.

5. The inclined raise from the 160-foot level to the sublevel.

GEOLOGY

The pitchblende in the Copper King mine occurs principally in a tight, hard, breccia zone that cuts an older massive sulphide deposit and pre-Cambrian igneous and metamorphic rocks (plate 2).

Bedrock: Bedrock of the mine area consists predominantly of pre-Cambrian Silver Plume granite, with minor amounts of gneiss, schist, quartzite, amphibolite, and amphibole skarn (the term "skarn" refers to aggregates of calcium, magnesium, and iron silicates that have a demonstrable or inferred genetic relation with limestone or dolomite). The gneiss, schist, quartzite, amphibolite, and amphibole skarn are the oldest rocks of the region and occur as angular inclusions in granite. They constitute 10% or less of the exposed rocks of the area. The amphibole skarn is the principal host rock for the massive sulphide deposit.

Approximately 90% of the bedrock is composed of pre-Cambrian biotite granite, alaskite, and subordinate, irregular bodies of granite pegmatite. The granite is correlated with the Silver Plume granite.

Structure: Faults in the area have small displacements and are confined to a narrow, easterly-trending zone that extends through the Copper King mine. The Copper King fault, which cuts the pre-Cambrian rocks and the massive sulphide deposit, contains the pitchblende deposit. Other faults are believed to be later than the pitchblende mineralization.

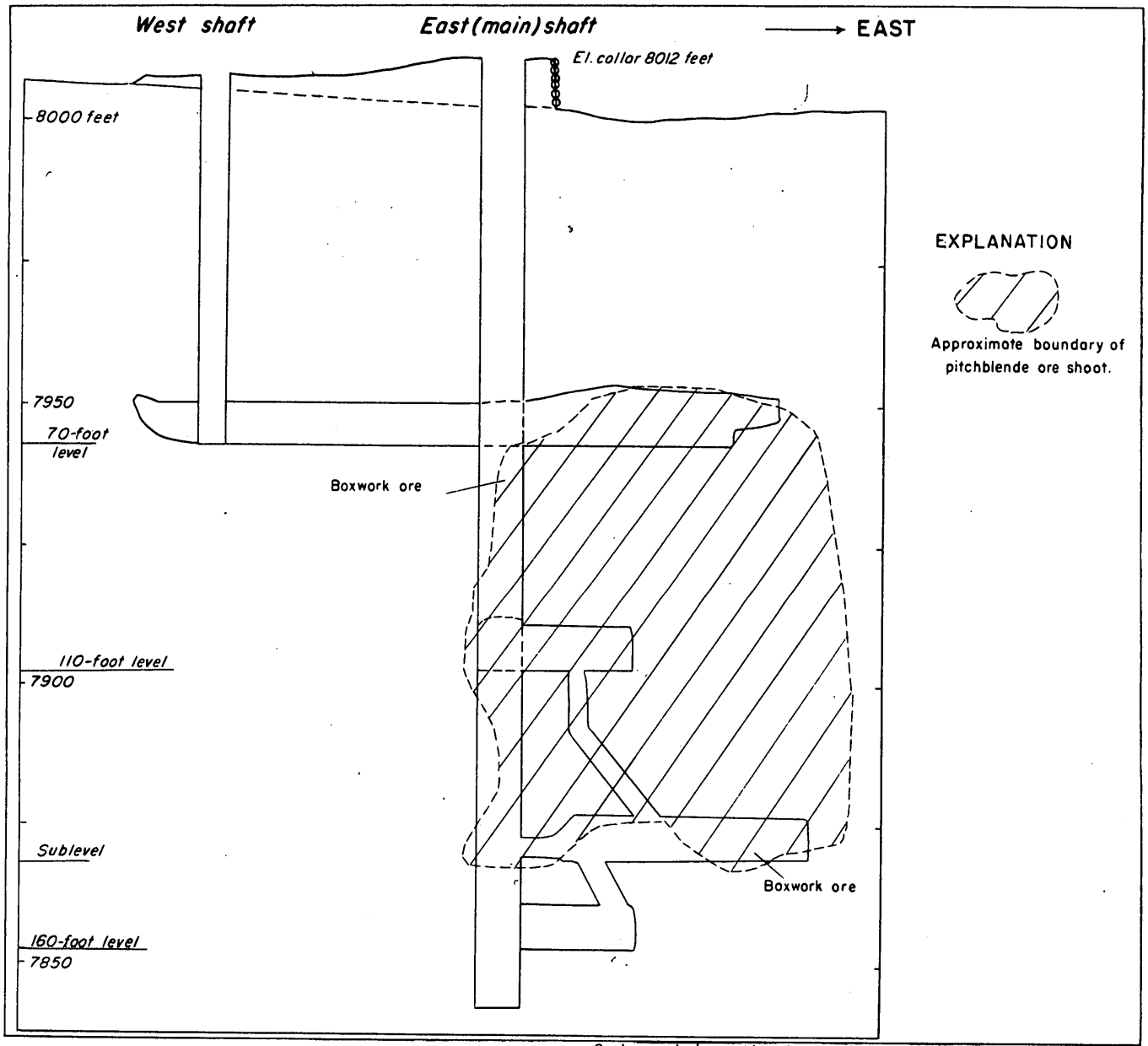
The Copper King fault strikes N. 65° W., dips nearly vertical, and is characterized by a breccia zone up to one foot in width that is tight, hard, and composed of extremely small, angular fragments of wallrock. In the upper levels, where the Copper King fault cuts the massive sulphide deposit, it is strong and persistent, but in the lower levels, where it cuts granite, the Copper King fault is weak, discontinuous, and is characterized by overlapping horsetail structures.

Two additional faults, one striking N. 55°-70° W., and dipping 80° S. and the other striking N. 80° E., and dipping 70° S., are conspicuous in the Copper King mine. Both are younger than the pitchblende-bearing Copper King fault.

Mineral Deposits: Two types of mineral deposits are present in the Copper King mine--a massive sulphide deposit, which Sims considers to be of pre-Cambrian age, and a pitchblende deposit of early Tertiary age.

The massive sulphide deposit is a high temperature replacement body in amphibole skarn and quartzite and consists of pyrite, sphalerite, chalcopyrite, pyrrhotite, and in places magnetite. The deposit at the Copper King mine has yielded small quantities of high-grade sphalerite ore.

The pitchblende at the Copper King mine is principally in the Copper King vein, although appreciable amounts are in small fractures near the vein and in boxwork pyrite adjacent to the vein. The post-ore faults, close to their intersections with the Copper King vein, contain some radioactive material, but the radioactivity is from secondary uranium products derived from the uranium in the Copper King vein. The pitchblende is intimately intergrown with siderite; other gangue minerals include pyrite and quartz. Several stages of brecciation and recementation by vein matter indicate



Geology and mine workings by P.K. Sims, November 1952

FIGURE 3.-LONGITUDINAL PROJECTION OF MINE WORKINGS, COPPER KING MINE, SHOWING APPROXIMATE OUTLINE OF PITCHBLENDE ORE SHOOT.

30 20 10 0 30 Feet

Datum is assumed.

GPO 82-800048

repeated reopening of the vein during mineral deposition. Sims believes that the pitchblende deposit probably was formed at intermediate temperature and depth.

ORE RESERVES AND GRADE

The ore shoot in the Copper King mine is estimated to contain 500 tons of indicated and inferred ore averaging 0.5% U_3O_8.

The pitchblende deposit essentially is delineated on three sides. The East shaft is approximately at the western border of the deposit and the ore apparently does not continue above the 70-foot level nor below the sublevel. Pitchblende mineralization weakens appreciably to the east and probably the ore shoot does not extend much beyond the eastern limits of the 70-foot level and the sub-level. A block of ore approximately 70 feet high and 60 feet long lies between the 70-foot level and the sublevel (fig. 3).

Width of the vein and mineralized wallrock is extremely irregular. However, including the pitchblende in fractures in the walls and in the boxwork pyrite, the mineable width probably will average about 2 feet.

Grade of the ore is variable, but based on ore shipments and on sampling by the Atomic Energy Commission, Sims estimates an average U_3O_8 content of 0.5% for an average width of 2 feet.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
January 21, 1953

Mining Division
Date Rec'd
JAN 28 1953
BUREAU OF MINES
Denver, Colorado

Memorandum

To: Executive Officer, Field Team, Region IV

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

Subject: DMA 1702X, Contract I-DMA-E61 (Uranium), Cherokee Mines (Copper King mine), Larimer County, Colorado - Final Engineering Report

Please find enclosed the original and ten copies of the subject report, prepared by R. L. Bolmer in accordance with your instructions.

An explanation of the discrepancy between the level designations and measured intervals in this final report and those shown in all the inspecting engineers' memoranda accompanying the regular monthly progress reports, as well as those in the contractor's final report, has been added on figure 2. This procedure appears, under the circumstances, a more satisfactory solution than returning the contractor's final report to him for revision.

W. M. Traver, Jr.

W. M. Traver, Jr.

enclosures

WMT/cb

cc 10

Reviewed by
DMEA OPERATING COMMITTEE
2-9-53
(date)

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

FINAL ENGINEERING REPORT

DMA 1702X, Exploration Project Contract I-DMA-E61

Cherokee Mines, Contractor

Copper King Mine

Larimer County, Colorado

Uranium

R. L. Bolmer, Mining Engineer
Bureau of Mines

January 20, 1953

Reviewed by
DMEA OPERATING COMMITTEE
2-9-53
(date)

DMA 1702X
Contract I-DMA-E61

COPPER KING MINE
LARIMER COUNTY, COLORADO

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DMA-1702X
Contract I-DMA-E61

COPPER KING MINE
LARIMER COUNTY, COLORADO

FINAL ENGINEERING REPORT

By

R. L. Bolmer

SUMMARY AND INTRODUCTION

Certain exploratory work for uranium at the Copper King mine, Larimer County, Colo., as provided under exploration project contract I-DMA-E61, dated July 16, 1951, between Cherokee Mines, of Fort Collins, Colo., and the United States of America, was completed August 31, 1952. A small pitchblende ore body, estimated to contain 5,000 pounds U_3O_8, was discovered as a result of the contract work. Certification of the discovery was recommended. The exploration accomplished at the mine conformed to the terms of the contract and incurred costs totaling $24,000.00 were approved, subject to a final audit. The Government participated to the extent of $21,350.00 in the total approved incurred costs of the project. The expenses incurred and approved were necessary and, other than those resulting from inexperienced labor, were not excessive. Further exploration at the property was not recommended.

Work under the contract began September 10, 1951, and was pursued continuously until the costs incurred had equaled the contract amount. The work involved extending an existing 14-foot winze on the 70-foot level of the mine to a depth of 171 feet and exploring the ore shoot by means of short laterals from the winze. The ore

shoot opened was of commercial grade over minimum mining widths but was quite limited in extent. The company started development and mining of the discovery at the completion of contract work.

LOCATION AND OWNERSHIP

The Copper King mine is within the boundaries of the Blackhawk No. 1 lode mining claim in the Prairie Divide Mining District, Larimer County, Colo. The exact location is W1/2 sec. 8, T. 10 N., R. 72 W., sixth principal meridian (fig. 1). The mine is 44 miles north and west of Fort Collins, Colo., via U. S. Highway 287 and the Cherokee Park and the Red Feather Lakes roads. The nearest shipping point, Owl Canyon, Colo., on a spur of the Colorado and Sourthern Railroad, is 27 miles from the property.

The Blackhawk No. 1 claim (see fig. 2 of geologic report for claim map of Copper King mine area) is held through location by Cherokee Mines, a common law trust (trust agreement filed at the courthouse in Larimer County, Colo., under file number 640746). T. H. Sackett, of 231 South Grant Street, Fort Collins, Colo., is president and manager of the trust; W. F. Cram, of 122 South College Avenue, Fort Collins, Colo., is secretary.

HISTORY AND PRODUCTION

The early history of the property is unknown and early production from the deposit, if any, was small and not recorded. The deposit reportedly was discovered prior to 1910 and was worked intermittently for copper and zinc. The ore proved marginal and these early, small-scale operations were unsuccessful.

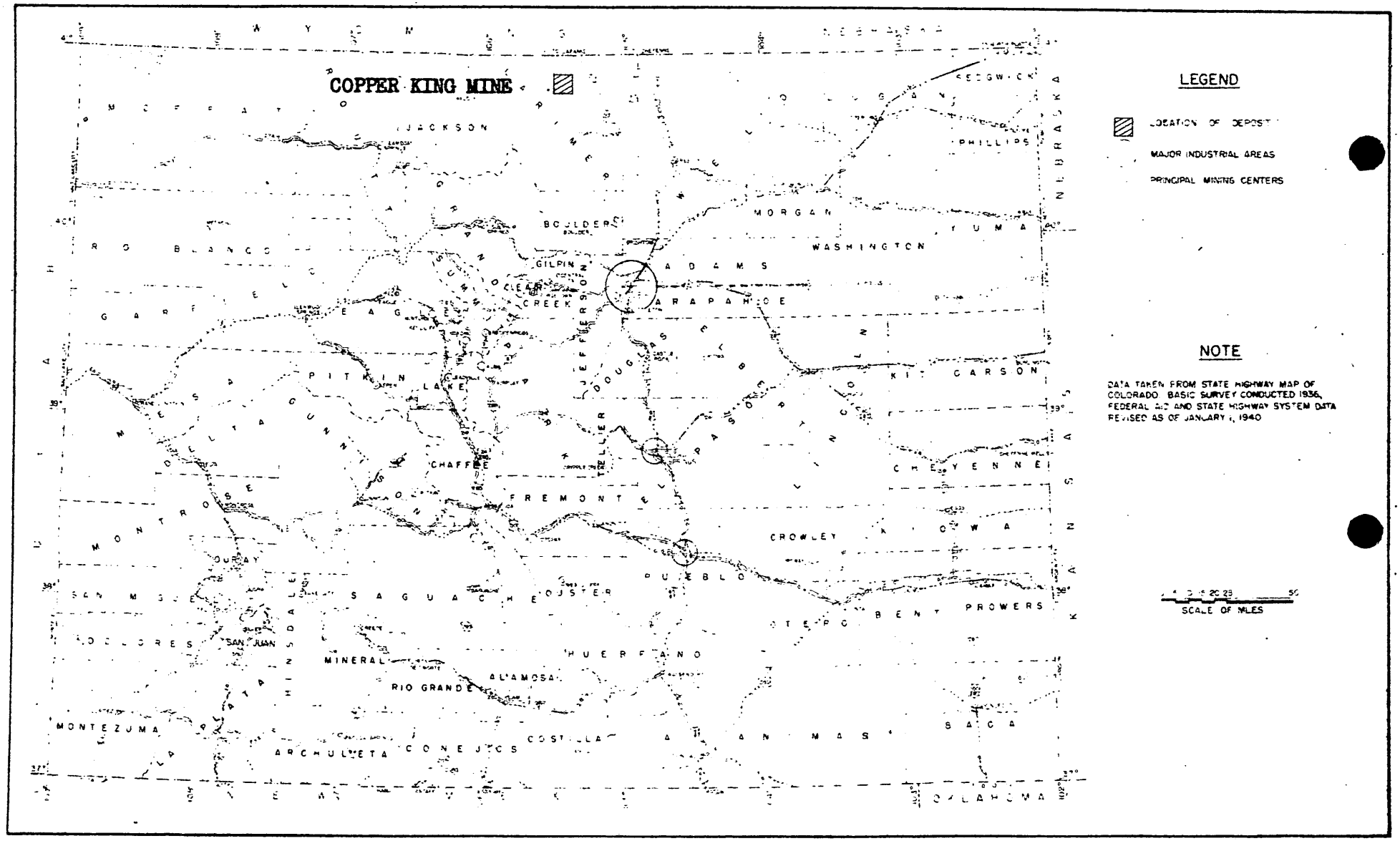

Figure 1.-LOCATION MAP, COPPER KING MINE, LARIMER CO., COLO.
Cherokee Mines DMA 1702X Contract I-DMA-E61

Early in 1949, radioactive material was detected on the dump at the old Copper King shaft and, on July 14, 1949, the Blackhawk No. 1 and 2 claims, long since abandoned, were relocated. Cherokee Mines was formed to explore and mine the deposit for uranium. The new company constructed a surface plant and unwatered and rehabilitated the mine workings. About 55 tons of ore averaging 18.2 percent zinc, removed during rehabilitation and subsequent mining on the 70-foot level, were shipped in July 1951. About 5 tons of ore assaying 0.71 percent U_3O_8, which had been sorted from the earlier shipment, were shipped in December 1951. Work under the exploration contract began September 10, 1951, and the uranium ore recovered from that work was not shipped during the project but was stockpiled on the surface.

DESCRIPTION OF THE PROPERTY

Early development of the mine consisted of the 70-foot Copper King shaft and approximately 100 feet of drift easterly off the shaft bottom. A 14-foot vertical winze sunk from the 70-foot level about 45 feet east of the shaft completed the early development of the mine (fig. 2). There were no surface facilities on the property. The old shaft was single-compartment, crooked, and, at the time the company took possession of the property, in poor repair. The 70-foot level was narrow and not on grade.

In 1950-51, the company established a surface plant and unwatered the workings. Minor repair was performed on the old shaft and the 70-foot level was widened and put on grade. The company

had decided to explore the deposit by sinking and the two-compartment, vertical Blackhawk No. 1 shaft was raised to the surface from a location on the level directly above the old winze.

Prior to the start of contract work, the company erected a headframe and dumping facilities at the collar of the new shaft. Track for waste and ore disposal had been installed across the dump and a hoist house, an ore-sorting building, and a compressor building had been constructed. A suitable compressor had been installed and an air hoist rented. Other necessary mining equipment, including a sinking bucket, mine car, double drum slusher, drills, et cetera, was provided by the company. The company's equipment was not new but was in sufficiently good condition to complete the project. Neither pumping nor ventilating equipment was provided and the air hoist, rented at the time the project started, was unsuitable for sinking any appreciable depth.

DESCRIPTION OF THE DEPOSIT

The rocks of the Copper King mine are pre-Cambrian metamorphics and granite. Small irregular sulfide deposits, the object of the early development of the mine, occur as replacements of the metamorphics at or near their contact with the granite. The sulfides are believed formed at high temperatures by emanations issuing from the intrusive granite and have been described as contact-metamorphic or pyrometasomatic deposits.[1/]

1/ Sims, P. K., and Phair, G.; Geology of Copper King mine area, Prairie Divide, Larimer County, Colo.: U. S. Geol. Survey Trace Elements Memorandum Report 517.

A steeply dipping fracture zone developed east and west through the deposits and the host rocks. The 70-foot level of the mine followed the major fault in this zone (see plate 2 of the geologic report). Minor fractures locally branch and horsetail from the major structure. The fracture system, in part, was reopened and served as a channel for later (Tertiary) mineralization. Uranium as pitchblende was deposited to a greater or lesser degree along the reopened channel. For the most part, pitchblende deposition was confined to simple filling of the openings in the zone. Some postmineral movement is evident.

Uranium mineralization is widely, but irregularly, distributed in the fault and fractures along the 70-foot level. Concentrations of the mineral west of the new shaft are noncommercial, but several small lenses of commercial grade ore do appear along the major structure or branch fractures east of the new shaft. These exposures, sampled over various widths, assayed from 0.16 to 0.33 percent U_3O_8 and would average about 0.2 percent U_3O_8 over a mining width of 30 inches. The ground between the pitchblende lenses was not radioactive; the possibility of a commercial grade ore shoot with depth and east of the shaft, however, was inferred.

The pitchblende that is associated with the metamorphics and sulfides occurs as microscopic particles detectable only by its radiation. In a few sections at lower depth, characteristic black pitchblende was observed as stringers or veinlets in the granite.

The sulfide bodies are strong, and normal-sized openings within them will stand unsupported. The other rocks stand well where fresh and unbroken outside the fracture zone; within the zone,

however, permanent openings require support. Because of its nature, the deposit must be selectively mined. Small open stopes can be opened with only a stull and headboard for support. Resuing might be used to advantage. With such a method, excessive dilution would be avoided and the waste broken could be back filled.

WORK COMPLETED UNDER EXPLORATION PROJECT CONTRACT

Initial work under the contract began September 10, 1951, and consisted of widening the old winze below the 70-foot level* to double compartment and extending shaft timbers into the winze from the new Blackhawk shaft. The work was charged as underground preparation.

Actual sinking began at 84 feet in the new shaft (fig. 2) and was continued uninterruptedly to a depth of 110 feet. At 110 feet a station was excavated on the north side of the shaft and 6 feet of drift were driven easterly on the mineralized structure. Sinking was resumed and continued to a depth of 171 feet.

The mineralized fault zone, which had been opened along the 70-foot level, entered the north side of the shaft at 72 feet. The zone steepened and remained within the shaft to a depth of 135 feet. At that depth it flattened somewhat and left the shaft on the south side. The zone was mineralized along its entire eastern exposure in the shaft; however, its western exposure in the shaft, in part, was barren of mineral. It was believed that the zone would remain mineralized to at least a 160-foot depth where it was planned to crosscut a few feet south from the shaft and drift a short distance on the zone.

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*See explanation on figure 2.

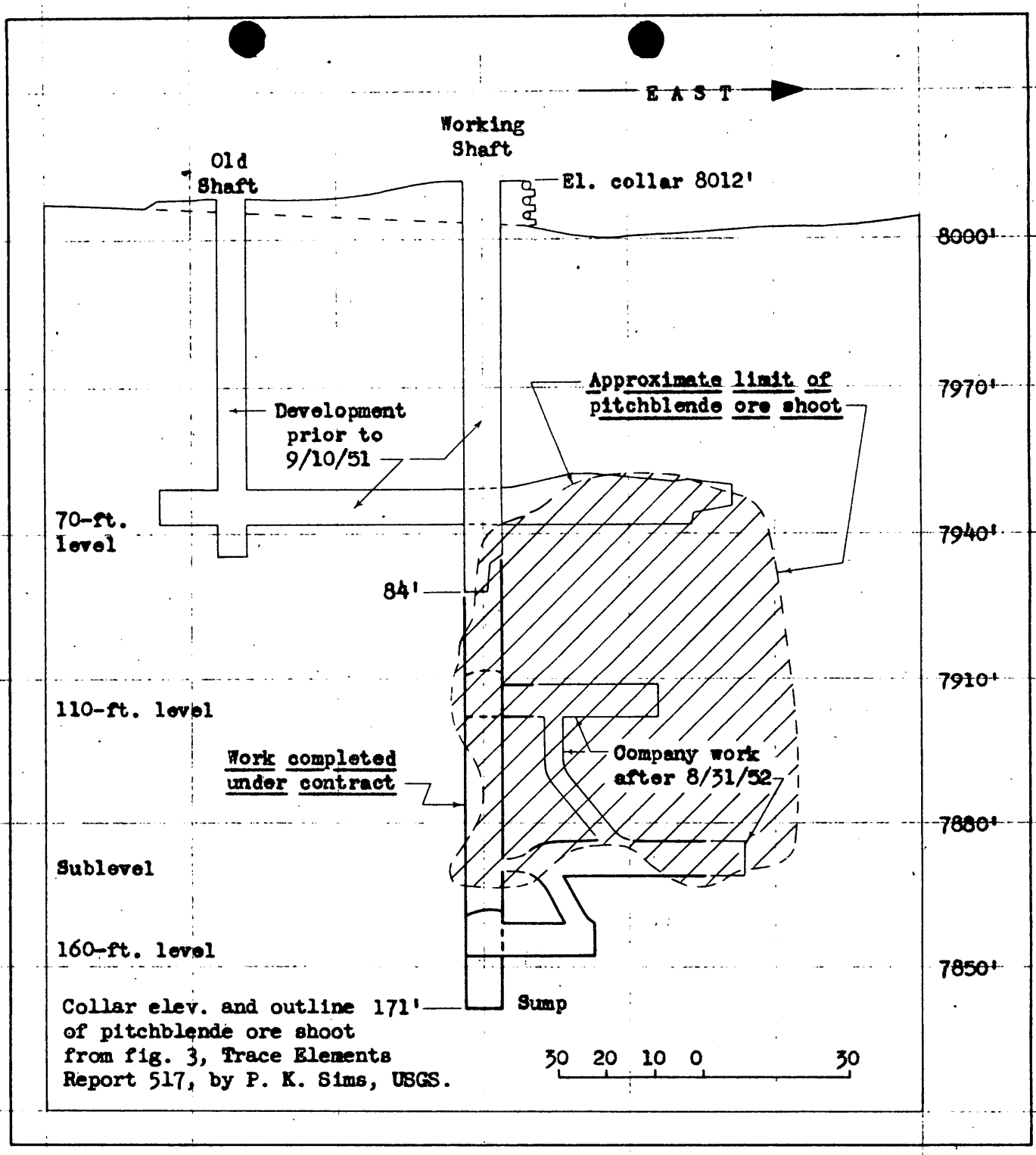


Figure 2.-LONGITUDINAL SECTION OF COPPER KING MINE, LARIMER COUNTY, COLO.

(Showing work accomplished and ore shoot discovered as a result of Exploration Project Contract I-DMA-E61)

Note: This section was compiled from accurate underground measurements by the Bureau of Mines engineer. The revised level designations and intervals shown do not correspond to those appearing in engineers' monthly project progress memoranda which were based on data furnished to inspectors by the contractor. These data were obviously incorrect, as are the text of the contractor's final report and the accompanying plat.

A station was cut at a depth of 160 feet on the south side of the shaft and a 10-foot crosscut was driven southfrom the station. The fault zone as exposed in the crosscut was barren and it became apparent that the ore was confined in the steeper sections of the zone.

The lowest exposure of pitchblende in the shaft was at 135 feet. Due to the heavy ground and the nearness of the 160-foot station, drifting from the shaft at that depth was not feasible. With the permission of the Defense Minerals Exploration Administration, the company drifted 19 feet east from the 160-foot station (sufficient for a shaft pillar) and raised on the structure until mineralization was encountered, a distance of 17 feet. A sublevel drift was driven easterly from the raise at a 143-foot depth to explore the lower and eastern extent of pitchblende mineralization in the zone. The sublevel had been extended a distance of 28 feet east of the raise by August 31, 1952, at which time the incurred costs of the project equaled the contract amount. As further exploration of the deposit had not been recommended, work under the contract was considered completed.

During exploration, numerous short holes were drilled into both walls of the sublevel to test for parallel mineralization, mostly with negative results. A 10-foot hanging wall crosscut, driven to expose radioactive mineralization indicated by a drill hole, was a part of the contract work.

Subsequent to completion of the exploration project, the company began developing and mining the pitchblende ore shoot that had been indicated from the work under the contract. Development

completed by the company to November 1952 is included on figure 2.

DESCRIPTION OF THE DISCOVERY

Approximate limits of the pitchblende ore shoot are shown on figure 2. As discussed previously, the upper, lower, and western limits of commercial grade pitchblende are delineated respectively by the 70-foot level, the 143-foot sublevel, and the Blackhawk shaft. Mineralization weakens near the ends of both the 70- and 143-foot levels and the eastern boundary of the shoot is inferred about 60 feet east of the shaft.

The grade of ore within the shoot is variable. Pitchblende occurs in discontinuous seams, bunches, kidneys, and pods, and the ore shoot is not everywhere sufficiently thick or high enough grade to be mineable. On the basis of sampling by the Atomic Energy Commission and mining and production by the company, the ore shoot has been estimated to average approximately 0.5 percent U_3O_8 over widths from 1.5 to 2 feet. Such an estimate indicates an ore shoot of about 500 tons and a total U_3O_8 content of 5,000 pounds. Due to the character of the deposit, such tonnage should not be considered measured ore but only indicated and inferred.

On ore averaging 0.5 percent U_3O_8, the company should realize, including minimum price, grade premiums, and the Atomic Energy Commission development allowance and initial production bonus, about $79.50 per ton or approximately $40,000.00 for the indicated tonnage in the discovery. (The production bonus of $35.00 per ton is paid directly by the Atomic Energy Commission and probably is not subject to royalty payments.) By selective mining of the

deposit and careful sorting of the ore, it is possible that the company could ship ore averaging better than 0.5 percent U_3O_8 and thereby realize a higher unit price.

Although the discovery is small, it is considered significant and, therefore, is recommended for certification. If the estimated tonnage is mined, about $22,000.00 will be subject to the Government's percentage royalty. It is assumed that any production of base metals from below the 70-foot level also would be subject to royalty payments. ?

Production from Discovery 2/

Date	Pounds dry	Percent H_2O	Percent U_3O_8	Pounds U_3O_8	Per pound	Per ton	Short tons	Total value
1/1/52	90,000	2.40	0.48	421.63				
Minimum price: 0.48 percent = 9.6 pounds at					$3.50	$33.60	43.92	$1,475.71
Development allowance: 9.6 pounds at					.50	4.80	43.92	201.82
Premium: 9.6 pounds - 4.0 pounds = 5.6 pounds at					.75	4.20	43.92	184.86
Net mill return*:					$4.75	$42.60	43.92	$1,870.99
Government royalty, 5 percent:								$ 93.55

*In addition, the Atomic Energy Commission pays a production bonus of $3.50 per pound or $33.60 per ton.

The above shipment was purchased by the Vitro Chemical Company, Salt Lake City, Utah. By agreement with Cherokee Mines, the buyer assumes freight charges in excess of the $6.00 per ton Atomic Energy

2/ Exploration ore sorted from material broken while sinking Blackhawk shaft.

Commission haulage allowance. Cherokee Mines pays the cost of trucking its ore to the shipping point (about $4.00 per ton). Over-all mining costs, including loading and hauling, are estimated as $16.00 to $20.00 per ton.

EXPENDITURES

Costs incurred by the exploration project between September 10, 1951, and August 31, 1952, were approved, subject to final audit, for the total amount of the contract as amended, or $24,000.00. Under the terms of the contract, the Government was obligated for 90 percent of the approved incurred costs, or $21,600.00. Actual participation by the Government, subject to final audit, will be $250.00 less, or $21,350.00. (The company's offer of $250.00 for the Government's equity in certain equipment purchased or rented with option to purchase was accepted and that amount will be withheld from the final payment to the company.)

The final monthly claim by the company for incurred costs exceeded the contract amount by $115.90. This excess was disallowed, and deductions totaling that amount were prorated to the applicable individual costs are distributed in tables 1 and 2. The costs, as distributed in tables 1 and 2, are the adjusted and corrected costs which have been approved and do not necessarily represent the company's total claim or correspond to company's distribution of the costs for such items.

TABLE 1. - Costs incurred under Exploration Contract I-DMA-E61

Distribution	Approved costs*		Percent of total	
Labor and Supervision:	$16,647.05		69.36	
Labor		$13,963.45		58.18
Supervision		2,683.60		11.18
Operating Materials and Supplies:	3,646.46		15.20	
Timber		510.46		2.13
Explosives		637.71		2.66
Pipe		13.62		.06
Power (gasoline)		1,141.00		4.75
Other		1,343.67		5.60
Operating Equipment:	2,153.36		8.97	
Rented		1,728.00		7.20
Purchased		425.36		1.77
Miscellaneous:	1,553.13		6.47	
Payroll taxes		210.45		.88
Compensation insurance		410.74		1.71
Special taxes		66.12		.28
Bookkeeping		596.35		2.48
Repairs to equipment		269.47		1.12
Total incurred costs	$24,000.00		100.00	

*Subject to final audit.

EFFICIENCY OF OPERATIONS

If operational costs at the project (table 2) are examined, it becomes evident that work under the exploration contract was not conducted efficiently. Unit costs at the project were about 100 percent higher than those experienced for comparable work at other mines. The project suffered somewhat from weather conditions and from the property's isolation from supply and labor centers; it was handicapped principally, however, by the lack of experienced labor and full-time, on-the-job supervision.

TABLE 2. - Operational costs under Exploration Project Contract I-DMA-E61

Operation	Approved costs	Percent of total cost	Units accomplished	Unit cost
Underground preparation	$ 483.81	2.0	14 feet	$ 34.56 per foot
Shaft sinking	13,641.53	56.8	87 feet	156.80 per foot
Shaft stations	3,660.40	15.3	2 each	1,830.20 each
Drifting	4,075.88	17.0	53 feet	76.90 per foot
Crosscutting	1,370.54	5.7	20 feet	68.53 per foot
Raising	767.84	3.2	17 feet	45.17 per foot
Totals	$24,000.00	100.0		

Unusual conditions were not encountered. The mine did not make excessive amounts of water; inefficient handling of the water, however, caused several unjustified delays. Electrical power was not available and an air-powered, boiler-feed pump was provided. The equipment did not have the required capacity and suffered from mechanical failures. A reserve pump was not available.

A public health survey of the mine revealed that radon gas was present in concentrations approaching maximum recommended limits and the State Commissioner of Mines instructed the company to provide mechanical ventilation. A surface fan and flexible ventilation tubing were installed at a cost to the project.

Three to four men were employed at the project. The men, while mechanically inclined, did not have previous mining experience. An hourly rate of $1.25 originally was provided by the contract. At the request of the company, the rate was increased to $1.50 and later to $1.75 per hour.

The company manager was paid $225.00 per month for part-time supervision. The manager was employed full time elsewhere and was able to spend only a few hours each week at the project. The company secretary kept the books for the project and prepared the monthly claim to the Government for the costs incurred. The service performed was not satisfactory.

The shaft was sunk vertically, 9 by 5.5 feet in cross section outside the timbers. Framed, two-compartment shaft sets were hung on about 8-foot centers and lagged. The timbering of the shaft was excellent but it probably was too elaborate for the service required. Sinking progress was slow. Twelve feet of sinking was the best advance reported in any one month. The miners were unable to cope with other than ordinary conditions and supervision often was not immediately available.

The stations at the 110- and 160-foot levels were excavated about 8.5 by 5.5 by 10 feet and timbered. Ground near the shaft at the 160-foot level was heavy and it was necessary to timber and lag the opening on this level. The raise to the sublevel was stulled and a chute installed. The sublevel was driven untimbered to about a 4.5 by 7-foot cross section. The rock broken on this level was slushed to the raise and pulled on the 160-foot level.

The costs incurred, other than those attributable to inefficient and inexperienced labor, were necessary and about normal for an operation of this type.

EQUIPMENT PURCHASED FOR THE PROJECT

The following equipment was purchased with funds contributed jointly by the company and the Government during the period the exploration contract was in effect:

Description	Purchase price	Government's equity
Gardner-Denver 3-inch boiler feed pump	$187.00	$168.30
Buffalo No. 22 fan; COM-IB7 Onan air-cooled gasoline engine	238.36	214.52
Total	$425.36	$382.82

The boiler feed pump had been in constant use at the project and was in poor condition. Both the blower and engine were used only a few months and were in good condition. A salvage value of 50 percent of the purchase price of the blower and engine was considered reasonable. Because of its condition, the salvage on the pump would be considerably less.

The following equipment was rented (with an option to purchase) during the project:

Description	Rental charged to project	Rental applicable to purchase	Government's equity toward purchase
Vulcan single-drum hoist; Hercules J X C engine - 2/3 of rent to apply on purchase price of $2,120.00	$1,200.00	$800.00	$720.00
Air hoist - 1/2 of rent to apply on purchase of above Vulcan hoist	213.00	106.50	95.95
	$1,413.00	$906.50	$815.95
Joy L-47 rock drill - 90 percent of rent to apply on purchase price of $427.50	$ 315.00	$283.50	$255.15

Insufficient rent was paid during the project to effect the purchase of either the hoist or the jackhammer. Only $906.50 of the hoist rent paid during the project applied toward its purchase. When this equipment was obtained for the project it was not new, but reconditioned, and it had been used full time during exploration. The market value of the hoist did not exceed the additional $1,213.50 necessary to effect its purchase and the Government's equity in the hoist and its drive was waived.

The jackhammer rented was new equipment. It was used seven months on the project and was in good condition. The market value of second hand drills of this type was $150.00 to $200.00, depending upon their condition. A salvage of 40 to 50 percent on the drill was considered reasonable. The Government's equity on that portion of the rent applicable toward the purchase price was $255.15; therefore, $102.06 to $127.55 reasonably was expected for the Government's equity in its salvage value.

The highest bids that the operator received on the equipment were as follows:

Description	Purchase price	Highest bid
Joy L-47 rock drill	$427.50	$147.50
Gardner-Denver boiler feed pump	187.00	28.50
Buffalo blower, engine	238.36	125.00
	$852.86	$301.00

The bids received represented 35 percent of the equipment's purchase price and, considering the condition of the pump, were reasonable. The Government's total equity in the equipment was

$637.97, or approximately 75 percent of the purchase price. The Government's equity in the equipment's salvage was the same, 75 percent of $301.00, or $225.75.

The company's offer to purchase the Government's equity in the salvage value of this equipment for $250.00 was accepted.

CONCLUSIONS AND RECOMMENDATIONS

The costs incurred at the project influenced the amount of work that could be completed within the contract price. The amount of exploration completed, however, is considered ample in the light of present knowledge of pitchblende occurrences at the Copper King mine.

That other small pitchblende bodies exist at the property is, of course, a possibility; however, the existence of a sizable ore body is considered remote. Additional exploration at the property may be of value for furthering the scientific studies of pitchblende occurrences but should not be considered on the basis of economically developing significant production of uranium from this property. For these reasons and because the work by Cherokee Mines under the completed exploration project contract proved costly and inefficient, further exploration with Government assistance was not recommended.

cb

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

224 New Customhouse
Denver 2, Colorado

September 16, 1952

Memorandum

To: C. O. Mittendorf, Administrator, DMEA

From: Executive Officer, Field Team, Region IV

Subject: Amendment No. 8 to Contract No. Idm-E61, Docket DMA 1702X, Cherokee Mines (Uranium)

Enclosed are the original and two copies of Amendment No. 8 to Contract No. Idm-E61. Copies of this amendment have been given to the operator, the Fiscal Officer, Region IV, and a copy has been retained for our files.

Also enclosed are three copies of a letter from the operator requesting this amendment.

W. H. King

W. H. King

Enclosures

DEPARTMENT OF THE INTERIOR
Bureau of Mines
OCT 1 1952

JGS
9/18/52

COPY

Cherokee Mines
122 So. College Ave.
Fort Collins, Colo.
August 22, 1952

Mr. W. H. King
Executive Officer Field Team
Region 4
224 New Custom House
Denver 2, Colo.

Re: DMA 1702 X Contract I-DMA E61

Dear Mr. King:

We would like to request an extension in the time allowed under the above mentioned contract. Due to some unforseen dificulties we have been unable to complete our work. We would like to have the contract extended until November 1, 1952. Please advise if you can grant this extension.

Very truly yours,

Cherokee Mines

By /s/ Wilford F. Cram

WC

SEP 1 - 1952

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

224 New Customhouse
Denver 2, Colorado

July 22, 1952

Memorandum

To: C. O. Mittendorf, Acting Administrator
Defense Minerals Exploration Administration

From: Executive Officer, Field Team, Region IV

Subject: Amendment No. 7 to Contract Idm-E61, Docket DMA 1702X, Cherokee Mines (Uranium)

Enclosed are the original and two copies of Amendment No. 7 to Contract Idm-E61. Copies of this amendment have been given to the operator, the Fiscal Officer, Region IV, and a copy has been retained for our files.

Also enclosed are three copies of the justification for this amendment.

W. H. King
W. H. King

Enclosures

RECEIVED
JUL 29 1952
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

JUL 28 1952

SDS
7-28-52

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20
Denver Federal Center
Denver 14, Colorado

July 7, 1952

Memorandum

To: Acting Chief, Mining Division, Region IV

From: Chief, Colorado Branch, Mining Division, Region IV

Subject: DMA 1702X (Uranium) Contract Idm-E61, Cherokee Mines, Inc., Larimer County, Colorado - Amendment providing for ventilating equipment and a change in the exploration program.

Please find enclosed the original and five copies of R. L. Belmer's recommendations on the above subject submitted in accordance with your memorandum of June 25, 1952.

I am in agreement with Belmer's recommendations. Under the existing circumstances it may be necessary and would probably be as satisfactory to use flexible ventilation tube, and it is doubtful if it will be possible to rent a suitable blower. Costs, in any event, should be kept to a minimum.

W. M. Traver, Jr.

W. M. Traver, Jr.

Enclosures

WMT/bam

cc: 5
E61
DMEA Chron.
T.H.Kuhn-2

JUL 28 1952

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20
Denver Federal Center
Denver 14, Colorado

July 7, 1952

Memorandum

To: Chief, Colorado Branch, Mining Division, Region IV

From: R. L. Bolmer

Subject: DMA 1702X (Uranium), Contract Idm-E61, Cherokee Mines, Inc., Larimer County, Colorado - Amendment providing for ventilating equipment and a change in the exploration program.

The final phase of exploration under the subject contract provided for crosscutting a short distance southeast on the 150-foot level of the Blackhawk shaft and drifting for 50 feet in each direction on the vein encountered. To date, crosscutting a reasonable distance southeast on this level has failed to disclose the uraninite vein. The contractor has requested permission to drift on the vein at about the 130-foot level, the lowest point at which the mineralized vein was observed in the shaft.

Rather than establish a new shaft station at the 130-foot depth, the contractor proposes, at the suggestion of Defense Minerals Exploration Administration representatives, extending the present 150-foot station a short distance east of the shaft, raising from here approximately 15 feet to the bottom of mineralization on the vein, and then drifting easterly on the vein.

The uraninite vein is exposed in the lower sections of the shaft to a depth of 130 feet. The vein strikes easterly and dips steeply southeasterly. On the higher levels, the vein cuts across the middle section

of the shaft; but, as had been anticipated, the vein passed outside the southeast corner of the shaft 130 feet below the surface. The vein, as observed during shaft sinking, was weakening when it left the shaft but the mineralization was assumed to continue to at least a depth of 150 feet.

The 150-foot level crosscut did cut a fault or shear zone 10 to 15 feet south of the shaft. This zone has a strike and dip similar to the vein exposed higher in the shaft and its distance from the shaft is about where the vein should be if it were projected to this level. The zone, however, does not contain uraninite at this location.

From the evidence of its attitude and position, the fault zone is concluded as being the same structure as contains uraninite higher in the shaft. Apparently mineralization on this structure dies out between 130- and 150-foot depths.

The contractor's proposal to raise from the 150-foot level and then sublevel drift on the mineralized portion of the vein is more feasible than establishing a new shaft station at the 130-foot depth and drifting from there. The cost of a new station would be costlier and its nearness to the 150-foot station possibly would cause unusual difficulty. The fracture zone projects into that section of the shaft and the ground would be difficult to support, if it could be held at all.

In order to maintain a minimum 10-foot shaft pillar, the raise should be started 15 to 18 feet east of the shaft. The raise should be extended 5 to 8 feet into the ore zone in order for the sublevel to be driven on a recognizable structure. The ground surrounding the shaft on the 150-foot level is fractured badly but it appears to improve towards the east. The sublevel should not require excessive timbering. It will be kept as narrow as possible. Broken rock will be slushed into the raise,

drawn from a chute on the 150-foot, level and trammed to the shaft in a bucket and dolly.

To avoid undue delays, the contractor was given verbal permission to (1) extend the 150-foot level easterly to a point approximately 18 feet from the shaft, (2) raise from this point on the exposed structure approximately 15 feet or until ore is encountered, and (3) sublevel drift easterly from the top of the raise 100 feet or to the limits of mineralization, whichever occurs first (see attached sketch). It is anticipated that the funds remaining will not permit the completion of all this work; however, as much work will be performed as the funds remaining will permit and Defense Minerals Exploration Administration representatives approve.

It is not probable that the mineralized vein extends any distance west of the shaft at the lower depths. The proposed sublevel could not be extended in this direction without endangering the shaft or the 150-foot shaft station. Drifting west from the shaft, if approved, appears more feasible from the 100-foot level.

It is recommended that the subject contract be amended to permit the above revision in the program.

A recent public health survey at the mine indicated that radon gas was present in the shaft in concentrations approaching maximum recommended limits. Radon concentration is expected to increase as the vein is exposed by drifting. As a result of this survey, the State Mine Commissioner has instructed the contractor to provide mechanical ventilation. The contractor, in turn, has applied for an amendment to the contract to permit the purchase of the required blower and ventilation pipe.

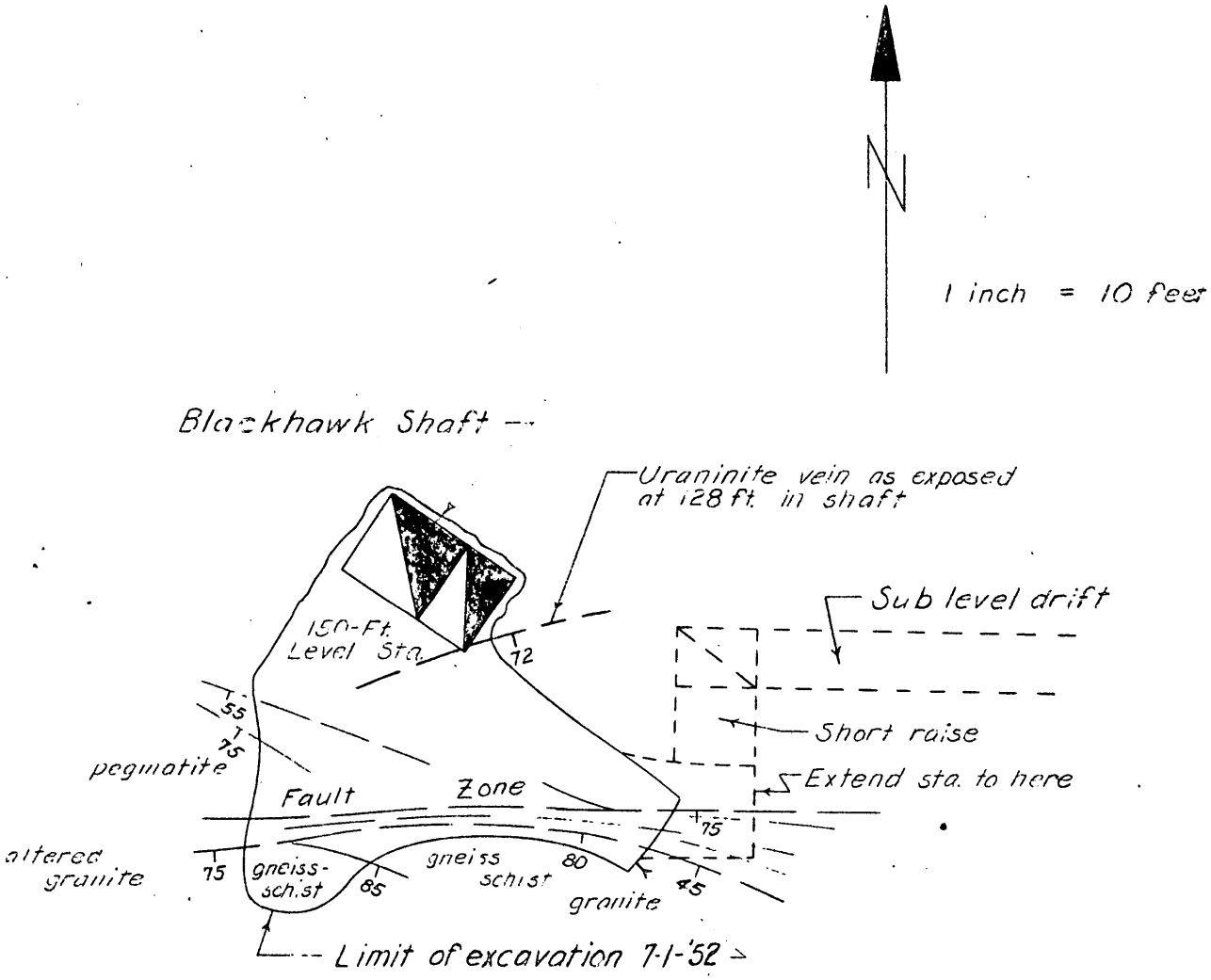
The need for ventilation is recognized and an amendment allowing the purchase of 200 feet of 8- to 10-inch metal ventilation pipe, 100 feet of flexible ventilation tubing, and the purchase or rental of a gasoline-powered centrifugal blower capable of delivering approximately 500 cubic feet of air per minute at the lower level is recommended. The operator has investigated to some extent the availability and cost of such equipment, but not thoroughly enough.

Metal pipe, new or used, is scarce and might not be available. Flexible tubing for the entire distance might have to be substituted. It would be preferred to rent a blower for the short period of exploration; however, the purchase of a used blower would be considered if the price and capacity were suitable. The amendment should be drawn up allowing the purchase or rental of such equipment but the details--price, type, condition, et cetera--should be approved beforehand by the Region IV Field Team.

R. L. Bolmer

R. L. Bolmer

bam



Plan of the 150-ft level, Blackhawk Shaft
Showing present (——) and proposed (- - -) work.

CHEROKEE MINES, INC.
Larimer Co., Colo.
DMA 1702 X
Contract Idm E-61

June 25, 1952

Memorandum

To: Mr. A. H. Koschmann

From: Truman H. Kuhn

Subject: DMA Docket 1702X, Cherokee Mine (Copper King Mine, Black Hawk Mine), Larimer County, Colorado

On June 18, 1952, I visited the Cherokee Mine, Larimer County, Colorado, (DMA 1702X) with Mr. T. A. Sackett, the operator. The new shaft at the Cherokee Mine is almost completely lagged and little can be seen in the shaft. Mr. Kenneth Baker of the Atomic Energy Committee mapped the shaft during sinking and his maps and sections also were examined.

Shaft elevations are confusing. The 100-foot level of DMA reports is the same as the 108-foot level on AEC maps. The elevations in this memorandum follow DMA usage.

In general the new vertical shaft explored an easterly striking, steeply dipping vein containing varying amounts of pitchblende. Maps by Baker show the vein to be cut off in the western section of the shaft on the 100-foot level by a steep, northeasterly trending, mineralized cross fault. The base of the zone of uranium mineralization can be seen in the southeastern corner of the shaft at approximately the 125-foot level.

A station has been cut on the 150-foot level and several strong, but barren, faults encountered. The location and the dip and strike of

DEPARTMENT OF THE INTERIOR
JUL 28 1952

the major fault on the 150-foot level indicates that it is the cross fault mapped by Baker on the higher levels.

Based on incomplete geologic evidence there are two possible explanations for the lack of ore on the 150-foot level:

1. The vein may be offset by the cross fault, as shown by Baker, and in that case the vein on the hanging wall side of the fault should be approximately 10 feet east of the present workings on the 150-foot level. Nothing is known of the movement along the fault, but if the vein is found on the 150-foot level the foot wall portion of the cross fault should be prospected for the faulted vein segment.

2. The cross fault and vein may be part of a common mineralized zone that flattens appreciably near the 150-foot level. Possibly uranium mineralization is present only in the steep portion of the structure and the flatter portions are barren.

Since ore is known to be present a short distance above the 150-foot level, the following recommendations are made for further exploration:

Extend the workings on the 150-foot level along the northeasterly trending cross fault for 10 to 20 feet until a safe shaft pillar is established. Raise 10 to 20 feet along either the cross fault or the southeasterly striking vein (if found) until ore is encountered. Drift easterly on a sublevel near the bottom of the ore to obtain the horizontal extent of the shoot. If the mineralized vein is found on the 150-foot level, the drifting should be done on the 150-foot level rather than on a sublevel.

Because the geology is not definitely known, a definite exploration program cannot be suggested. However, the above recommendations will apply equally well to the two interpretations of the geology if the added information obtained by drifting is used to govern exploration work.

Ventilation will be necessary as the workings progress further from the shaft.

/s/ Truman H. Kuhn

approved
A. H. Koschmann
6/30/52

July 2, 1952

Memorandum

To: Mr. A. H. Koschmann

From: Truman H. Kuhn

Subject: DMA Docket 1702X, Cherokee Mine (Copper King Mine, Black Hawk Mine), Larimer County, Colorado

This memorandum should be attached to my June 25, 1952, statement regarding the Cherokee Mine.

On July 1, 1952, I revisited the Cherokee Mine, Larimer County, Colorado, (DMA Docket 1702X) with Messrs. Bolmer, U. S. B. M.; Foran, AEC; Derzay, AEC; and Sackett, the operator. The purpose of the visit was to examine recent advance on the 150-foot level and consider Mr. Sackett's proposed amendment to his present contract.

The strong fault zone exposed in the station, on the 150-foot level, had been followed easterly for an additional 8 to 10 feet. The fault zone still is barren of uranium or sulphide mineralization. Portions of the shaft were re-examined and again it was noted that, because of the steep southerly dip of the vein, the lowest exposure of the zone of uranium mineralization was in the southeasterly corner of the shaft at approximately the 125-foot level.

The additional information does not materially change the recommendations in my June 25, 1952, memorandum. However, in order to

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 28 1952

avoid misunderstanding, following are joint recommendations prepared by Mr. Bolmer of the U. S. Bureau of Mines and myself:

1. Extend the 150-foot level easterly to a point approximately 18 feet from the shaft.

2. Raise from this point on the exposed structure approximately 15 feet, or until ore is encountered.

3. Sublevel drift easterly from the top of the raise 100 feet, or to the limits of mineralization, whichever occurs first.

COPY

T. H. SACKETT
COUNTY SURVEYOR
Fort Collins, Colorado

Residence -231 South Grant Street
Phone 839-W

County Garage Office Building
Phone 505

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

Dear Mr. King:

In regard to our Exploration Contract Idm-E61 Docket DMA 1702X. In attempting to carry out the drifting program on the 150 foot level of our shaft, which we had anticipated would be along the vein we find that changes have occurred since the vein left the shaft at the 135 foot level. We do not find the uranium values have carried down in what appears to be the vein on the 150 foot level. We have decided that it would be best to drift Easterly from the station three or four rounds and then raise up to the level at which the ore is known to be. We would then begin drifting on the vein at that level making use of a slusher which we have to pull the muck to a chute in the raise. Mr. Kuhn of the USGS visited the mine Wednesday of this week and his conclusion was that this program would be advisable. In carrying out this program we will without doubt be forced to provide ventilation in the drift and raise by means of a blower and a combination of metal and canvas tubing.

We are therefore requesting that our contract be amended to provide for drifting Southeasterly from the 150 foot station about twelve feet and raising to the vein about fifteen feet or until the ore is again picked up and then drifting at that level the 100 feet provided for in our contract.

Also we are requesting an amendment permitting us to purchase the necessary 200 feet of metal air pipe to carry air from a blower to the foot of the shaft and then 100 feet of canvas or flexible air pipe to carry the air into the raise and drift also a blower to be driven by a gasoline motor on the surface. (We own a gas engine which can be used for power to drive the blower). We have been quoted a price of 205.00 on a new coppus blower and have information on a used fan at about $60.00. This may still be available. Metal tubing 8" in dia. is quoted to us at 75 to 80 cents per foot. Canvas tubing comes at about $1.00 per foot. Ten inch tubing has been recommended as being more efficient.

Yours very truly, ,

Cherokee Mines

/s/ T. H. Sackett Pres.
T. H. Sackett
231 S. Grant St.
Fort Collins, Colo.

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

224 New Customhouse
Denver 2, Colorado

April 23, 1952

Memorandum

To: C. O. Mittendorf, Acting Administrator
Defense Minerals Exploration Administration

From: Executive Officer, Field Team, Region IV

Subject: Amendment to Contract I-DMA-E61, Docket DMA 1702X, Cherokee Mines

Enclosed are the original and two copies of an amendment to Contract I-DMA-E61, Docket 1702X.

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, for
J. H. East, Jr.

Enclosures

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
APR 28 1952

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

224 New Customhouse
Denver 2, Colorado

April 7, 1952

Memorandum

To: Frank E. Johnson, Chairman, Operating Committee
Defense Minerals Exploration Administration

From: Executive Officer, Field Team, Region IV

Subject: Amendment to Contract Idm-E61, Docket DMA 1702X, Cherokee Mines.

The last paragraph of the above amendment has been voided in accordance with the instructions in your air mail letter dated March 27, 1952.

W. H. King
W. H. King, for
J. H. East, Jr.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
WASHINGTON
APR 10 1952

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

224 New Customhouse
Denver 2, Colorado

MAR 1 1952

March 12, 1952

Memorandum

To: C. O. Mittendorf, Acting Administrator, Defense Minerals Exploration Administration

From: Executive Officer, Field Team, Region IV

Subject: Amendment to Contract Idm-E61, Docket 1702X, Cherokee Mines

Enclosed are six copies of an amendment to the above contract, which have been signed by T. H. Sackett, President, Cherokee Mines, and the Executive Officer, Region IV. We are sending all copies of this amendment to you because it involves the expenditure of $10,000.00 additional.

When Tom C. Stanford, Docket DMA 1107, Forest Home Mine, requested an amendment to provide for additional funds and additional work we sent a copy of our engineer's memorandum recommending the work and suggested that the request for an amendment be approved. You returned all copies of the memorandum to this office and stated that the preparation of such an amendment was within the authority delegated to the Region IV office and recommended that we prepare the amendment. This amendment has not yet been processed because Stanford has not received his lease on the additional ground required.

Our understanding is that it is within the authority delegated to Region IV to process amendments involving additional funds provided the total amount of Government participation does not exceed $25,000.00. In this case, the original contract was for $14,000.00, and with this amendment it will total $24,000.00. We are sending all copies of this amendment to you so that you may arrange to have additional funds encumbered for this contract.

This amendment provides for sinking the shaft and drifting on the 150 foot level. This work is necessary to properly explore this project. As soon as the additional funds are encumbered, kindly return three copies of this amendment to this office for distribution. Prompt action on this amendment would be appreciated because the operator will soon be out of funds and it is desirable that the operation continue without interruption.

J. H. East, Jr.

J. H. East, Jr.

Enclosures

700
FILE COPY
SURNAME:

Docket

Mr. Hoffhine

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

AIRMAIL

MAR 2 7 1952

Mr. J. . East, Jr.
Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMA-1702X
(Uranium)
Contract No. Idm-E61
Cherokee Mines,
Larimer County, Colorado

Dear Mr. East:

We are returning herewith three copies of Amendment No. 4 for attachment to your field and applicant's copies of the captioned contract. It is noted that the contract amount is increased by $10,000, or from $14,000 to $24,000, which increase is within your delegated authority. Accordingly, the additional funds will be provided for.

The last paragraph of subject amendment is somewhat amoiguous. It is suggested that you delete said clause from your copies and initial same. We will do likewise with the copies here upon receipt of word from you that the field copies have been corrected (by deletion of paragraph) and initialed by both parties.

Sincerely yours,

3/27

(Signed) FRANK E. JOHNSON
(JHB)

Chairman, Operating Committee
Defense Minerals Exploration
Administration

Enclosures 3

EWEllis/gla 3-26-52
Copies to: Administrator's Reading File
Docket
Operating Committee
Messrs. Chambers, Rm. 2612
Ellis, Rm. 4060

Ernest Wm. Ellis
3-25-52
12:50

3/25/52
gla

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 25 1952

DN 235 BUREAU MINES 3-25-52 10-50 AM

ERNEST WM. ELLIS, DMEA

REFERRING TO YOUR EXXX REQUEST FOR A BREAKDOWN OF $10,000 REQUESTED BY CHEROKEE MINES DMA 1702X, IDM-E61 -- 15 FEET OF SHAFT SINKING AT $100 PER FOOT $1500.00, 150 FEET OF CROSSCUTTING AND DRIFTING AT $40 A FOOT $6,000, ? CUTTING STATION $1000.00, PURCHASE OF HOIST CABLE, RAIL, PIPE, $300, RENTAL DRILL AND EQUIPMENT $300, SUPERINTENDENT 4 MONTHS $900.

J H EAST JR.

Denver, Colorado

MAR 25 1 23 PM '52

BUREAU OF MINES
MAIL ROOM
WASHINGTON, D. C.

Cherokee Mines

15 ft. shaft @ $100 =	$1500
[illegible]	500
Hoist 30 ft last @ 25 =	750
100 ft. drifts @ 25 =	2500
Equipment	140
3 assessments @ 65 =	195
	5585

3/21/52

Jack East will send in breakdown of the $10,000. Note wording of last paragraph of amendment

[illegible]

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

224 New Customhouse
Denver 2, Colorado

February 25, 1952

Memorandum

To: C. O. Mittendorf, Acting Administrator
Defense Minerals Exploration Administration

From: Executive Officer, Field Team, Region IV

Subject: Amendment to Contract Idm-E61, Docket DMA 1702X, Cherokee Mines

Enclosed is the original and two signed copies of an amendment to the above contract. Copies of this amendment have been given to the operator, the Fiscal Officer, Region IV, and a copy has been retained for our files.

for W. H. Kerr
J. H. East, Jr.

Enclosures

A.C.
2-11-52

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

224 New Customhouse

Denver 2, Colorado

February 5, 1952

Memorandum

To: C. O. Mittendorf, Acting Administrator, Defense Minerals Exploration Administration

From: Executive Officer, Field Team, Region IV

Subject: Amendment to Contract Idm-E61, Docket DMA 1702, Cherokee Mines

Enclosed are the original and two copies of an amendment to the above contract.

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

J. H. East, Jr.

J. H. East, Jr.

Enclosures

Defense Minerals Administration
FEB 11 1952

OFFICE OF THE ADMINISTRATOR

Mr. Ellis — Mails & Files Br.

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

DEPARTMENT OF THE INTERIOR
RECEIVED
DEC 17 1951
Defense Minerals Administration,
Production Expansion Division,

224 New Customhouse
Denver 2, Colorado

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 17 1951

December 12, 1951

Memorandum

To: C. O. Mittendorf, Director, Production Expansion Division
Defense Minerals Administration

From: Executive Officer, DMA Field Team, Region IV

Subject: Amendment to Contract I-DMA-E61, DMA Docket 1702X, Cherokee Mines

Enclosed are the original and two copies of an amendment to the above contract which provides for the rental of one Vulcan Iron Works single drum mine hoist, with the rental to apply on the purchase price.

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

Paul T. Allsman

P. T. Allsman, for
J. H. East, Jr.

Enclosures

400

FILE COPY

SURNAME:

Ellis
Mittendorf (for)

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

SEP 28 1951

Contract Service Section
General Accounting Office
Washington 25, D. C.

Re: Docket No. DMA-1702
Cherokee Mines
Exploration Project Contract
Idm-E61
Amended September 24, 1951

Gentlemen:

Enclosed for recording in your office is the original of the amended Exhibit A to the Exploration Project Contract between the operator named in the above reference and the Government of the United States.

Sincerely yours,

C. O. Mittendorf (J. W.) 9.28

C. O. Mittendorf, Director
Production Expansion Division

Enclosure-1

EWEllis/jem
9/28/51

cc to: Adm. Reading File
Reports & Records
Messrs. Mittendorf, Olund
Mr. Ellis
Field Team, Reg. IV
Docket

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

PLED

224 New Customhouse
Denver 2, Colorado

September 24, 1951

Memorandum

To: C. O. Mittendorf, Director, Production Expansion Division
Defense Minerals Administration

From: Executive Officer, DMA Field Team, Region IV

Subject: DMA Docket 1702, Contract Idm-E61, T. H. Sackett, Cherokee Mines

Enclosed herewith are original and two signed copies of an amendment to Contract Idm-E61, DMA Docket 1702, for the Cherokee Mines.

One copy has been sent to the operator, one copy has been delivered to the Fiscal Office, and we have retained one copy for our files.

J. H. East, Jr.

J. H. East, Jr.

Enclosures

DEFENSE MINERALS ADMINISTRATION WASHINGTON, D.C.
SEP 27 9 25 AM '51

OFFICIAL FILE COPY

To	Init.	Date
400	O.E.C.	9-27
210		

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

FILE COPY
SURNAME:

Ellis
Olund
Mittendorf
Schroeder

AUG - 7 1951

My dear Senator Johnson:

I am pleased to report to you that the Defense Minerals Administration of this Department has recently entered into a contract with Cherokee Mines, operating in your state for the exploration of possible sources of uranium.

The contract provides that the Government will participate in the expense of this work up to 90% of the cost thereof.

This type of assistance is provided for under Section 303 of the Defense Production Act.

The Defense Minerals Administration will be glad to furnish you any further details you may desire regarding the matter.

Sincerely yours,

(sgd) R. D. Searles

(Acting) Secretary of the Interior

Hon. Edwin Johnson
United States Senate
Washington 25, D. C.

Identical letter to:
Hon. Eugene Millikin
Mr. William S. Hill

EWEllis/jem
7-25-51

cc to: Secy's Reading File
Admin Reading File
Mr. Mittendorf-Mr. Olund
Mr. Ellis
Reports & Records

RETURN TO THE BUREAU OF MINES

8 6

FILE COPY
SURNAME:

Ellis
Olund
Mittendorf

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

August 1, 1951

A.E.C.

Mr. Frank McAtee, Jr.
Contract Service Section
General Accounting Office
Washington 25, D.C.

Re: Docket DMA- 1702X
Exploration Project Contract
Idm-E61
Cherokee Mines
Fort Collins, Colorado

Dear Mr. McAtee:

Enclosed for recording in your office is the original, signed copy of an Exploration Project Contract executed between the operator named in the above reference and the Government of the United States.

Sincerely yours,

C. O. Mittendorf 8/3 cc

C. O. Mittendorf, Director
Production Expansion Division

Enclosure-1

EWEllis/jem

cc to: Adm. Reading File
Mr. Mittendorf-Mr. Olund
Mr. Bourret
Mr. Hosted - AEC
Mr. Lyons
Mr. Ellis
Reports & Records

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

224 New Customhouse
Denver 2, Colorado

July 20, 1951

Memorandum

To: C. O. Mittendorf, Director, Production Expansion Division
Defense Minerals Administration

From: Executive Officer, DMA Field Team, Region IV

Subject: Exploration Project Contract I-DMA-E61, DMA Docket 1702X, Cherokee Mines, Larimer County, Colorado

Enclosed herewith are original and two copies of contract as listed above.

The operator has received his copy and we have retained two copies in this office, one for the DMA files and one for the Fiscal Office.

J. H. East, Jr.
J. H. East, Jr.
Executive Officer
DMA Field Team, Region IV

Enclosures

ld

cc: DMA subject, contract & chron.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
Denver
JUL 27 1951
Executive Secretary

FILE COPY
SURNAME:

Ellis
Olund
Mittendorf
Bourret
Hosted
Ron

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

JUL 18 1951

AIR MAIL

Mr. J. H. East, Jr.,
Executive Officer
DMA Field Team, Region IV
224 New Custombouse Building
Denver 2, Colorado

Re: Docket No. DMA-1702X
Cherokee Mines
231 South Grant Street
Fort Collins, Colorado

Dear Mr. East:

Enclosed find six (6) copies of the Cherokee Mines exploration project contract.

This contract has been signed and given a project number (Idm-E61) with effective date as shown.

Kindly have the contract signed by the Applicant in the presence of yourself or other member of your Region IV office. There are to be no alterations in said contract.

Upon completion of signatures one copy is to be given the Contractor and one copy retained by your office. The original and three copies are to be returned to the Production Expansion Division of DMA upon receipt of which a copy will be forwarded by the Washington Finance Division to the Regional Finance Officer for your area.

Sincerely yours,

Dmr 1702

Enclosures - 6
APPROVED:
Tom Lyon
Tom Lyon

Chairman, Coordinating Committee
Lowell B. Moon

Member, Bureau of Mines
Olaf N. Rove

Member, Geological Survey

C. O. Mittendorf, Director
Production Expansion Division

EWEllis/bih
cc to: Messrs. Admr's Reading File
Mittendorf-Olund
Reports & Records
Lyon Bourret
Moon Hosted-AEC
Rove EWEllis
FILES

858

FILE COPY
SURNAME:

Guthrie

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

July 13, 1951

Memorandum

To: C. O. Mittendorf

From: J. L. Hofflund

Subject: Cherokee Mines exploration contract -- Docket No. DMA-1702X

The contract in the captioned case is approved as to form and legality subject to proper execution by the prospective operator, and the attachment to the contract at that time of a certificate signed by the Secretary of the prospective operator verifying the authority of the individual who signs the contract to bind the trust.

The contract should be dated at the time it is signed by the Government.

Your file is returned herewith.

J. L. Hofflund

J. L. Hofflund
General Counsel

Attachment

RRGuthrie/ema

Copy to: L. F. Strobel
R. R. Guthrie
J. L. Hofflund
Chron.
Files

DMA-1702

252

FILE COPY
SURNAME:

Gordon
Bowyer
Hosted

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

June 27, 1951

Memorandum

To: Director, Production Expansion Division

From: Director, Supply Division

Subject: Cherokee Mines
Larimer County, Colorado
Uranium - DMA docket 1702x

Under date of June 14, 1951, Cherokee Mines submitted the subject exploration project, DMA-1702x, requesting a project in the sum of $14,000.00 for a government participation of $12,600. (90%). Applicant is prepared to invest $1,400.

The following factors have been carefully considered and weighed in reviewing this application:

1. Refer MO-5, Sec. 7 (Criteria)

(a) Additional domestic sources of uranium are desired.
(b) Presence of uranium bearing ore has been demonstrated. The property has been examined and is recommended by S.R. Page and V.E. McKelvey of the U.S.G.S. and C.C. Towle and J. O. Hosted, A. E. C.
(c,d,e,f,) Manpower, equipment and supplies are available, and good roads lead to the property. Mine water is sufficient for the project. Power is supplied by internal combustion engines.

(g) The manager, T. H. Sackett, is well qualified to direct and carry out the program.

2. The ground to be included in the project consists of one claim, the Blackhawk Number One Mining Lode, located in the Prairie Divide Mining District, Larimer County, Colorado. It is owned by applicant. There are no claims, liens nor encumbrances against the property.

3. The project can be started almost immediately and completed within six months from time of approval.

DMA 1702

4. The project consists of sinking the present winze below the 60 foot level a distance of 75 feet to a total depth of 150 feet below surface; making stations and crescents to the vein (if vein leaves winze) at the 100 foot and 150 foot levels; drifting along vein on 100 foot and 150 foot levels to total of 100 feet on each level.

5. Estimated costs for the entire six months project are as follows:

Repairs to existing facilities	$ 100.00
Sinking 75 feet of winze plus one station @$80 per ft.	6,000.00
Station and sump on 150 foot level	1,000.00
200 feet of drifting @$20 per ft.	4,000.00
Rental of pump (50% applies on purchase)	480.00
Crosscutting as may be necessary and contingencies	2,420.00
Total cost of project	$14,000.00

Therefore, it is recommended that the Production Expansion Division negotiate a formal contract which will permit the applicant to undertake the following specific exploration, along the lines described above:

(a) Repair existing facilities, structures and buildings.
(b) Sink winze 75 feet, cut two stations and sump.
(c) Crosscut to vein and drift 100 ft. each of two levels
(d) Submit map and report following completion of project.

Tom Lyon, Director
Supply Division

Attachment

Recommendation approved.
Production Expansion Division

WBourret/mh
cc: Adm. Asso. File
Strobel
Lyon
Bourret
Hosted, USGS
Field Team, IV
Files

FILE COPY
SURNAME:

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

June 21, 1951

Mr. T. H. Sackett,
President and Manager
231 South Grant Street
Fort Collins, Colorado

Subject: DMA-1702X
Re: Exploration Loan -
Blackhawk Number one
Mining Lode

My dear Mr. Sackett:

Receipt is acknowledged of your application and attachments of June 14, 1951 for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-1702X and referred to Mr. Weston G. Bourret, Acting Chief, Minor and Rare Metals Branch on June 18, 1951.

In any future correspondence relating to your application, kindly refer to DMA-1702X.

Sincerely yours,

LANDON F. STROBEL
jc

Landon F. Strobel
Executive Secretary

L. F. Strobel:jc
cc: Strobel
File
Bourret
Lyon

DMA 1702X

6/5/51

Defense Minerals Administration

Review of Application for Exploration Assistance

Fill out the full form and return to the very MD.

Docket No. 1702-X

Commodity Uranium

Total Amount

Govt. Participation

1. Name and Address of Applicant Cherokee Mines

2. Location of Property Fort Collins, Colorado

3. Mineral or metal Uranium Is it listed in Section 9 of MO-5? Yes

If not, application will be rejected.

4. Geologic probability of discovery—based on data in application (question #16, 17, 18, 20 and 22)*

Mines or Survey reports, etc., do you rate chances:

a) Good ✓

b) Poor

c) None

d) Don't know—needs field examination

e) Is there an alternative and favorable project?
(If so, attach an explanation)

5. Is the applicant's right to the property clearly stated?
(question 5, 6, 7)*

6. If applicant is a lessee, is a copy of the lease attached?

Does the lease have sufficient time to run to cover a future productive period?

*question numbers are those of MF-103

7. Are subordination agreements necessary?_____

a) MF-201?_____

b) MF-202_____

8. From the data presented, does the proposed project appear feasible from the point of view of:

a) Available manpower_____

b) Equipment and supplies_____
(Question 14 plus general knowledge of availability)*

c) Accessibility (question 12)*_____

d) Water (question 13)*_____

e) Power (question 13)*_____

Is a field check needed on any of these points?_____

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* Yes

Mrs. Sackett is well qualified to direct + carry out the program

Is a field check needed on this point?_____

10. Exhibit A. (questions 21 and 22)*

a) Is the project adequately described?_____

If not, are there sufficient data given so that you can describe the project?_____ If so, attach a draft.

b) Is there an adequate map or sketch of the proposed work?_____

c) Is the proposed work "exploration" under the definition of Section 8, MO-5?_____

If not, what part of it is?_____

Is this part a worthwhile exploration project?_____

d) Are the cost estimates detailed?_____

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data?_____ If so, attach a draft.

e) Are the cost estimates reasonable?_____

f) Should more information be requested from applicant?_____

g) Is a field examination necessary to complete Exhibit A?_____

11. Exhibit B (question 23-d)*

a) Is it applicable?_____

b) If so, are sufficient data furnished?_____ If so, attach a draft.

c) Is a field check needed?_____

12. Exhibit C (question 23-e, f and g)*

a) Is it applicable?_____

b) Sufficient data?_____ If so, attach a draft.

c) Are rents and charges reasonable?_____

d) Is a field check needed?_____ _____

13. Exhibit D (question 23-a, b)*

a) Are there sufficient data?_____

b) Is the schedule adequate for the work proposed?_____

c) Is the schedule excessive for the work proposed?_____

d) Are the proposed wages and salaries reasonable?_____

e) Is a field check needed?_____

14. Exhibit E (question 23-c)*

a) Is it applicable? _____

b) Sufficient data? _____

c) Reasonable? _____

d) Field check needed? _____

15. In your judgment, can the proposed work be done in the proposed time? Yes

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation. ✓

17. ~~If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question?~~

Examined and recommended by
L. R. Page, U.S.G.S.
V. E. McKelvey U.S.G.S.
C. C. Towle, AEC
J. O. Hosted AEC.

Reviewed by: J. O. Hosted

Date 6/26/57

97692