MME Form 9
Rev. Mar. 59

UNITED STATES
DEPARTMENT OF THE INTERIOR
Office of Minerals Exploration

OFFICIAL DOCKET FILE

Contract No. 14-23- 2226 Docket No. MME- 6440

Application
- [x] Denied
- [ ] Withdrawn

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

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

Folder No. 1:

Left Side

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

Right Side

- [ ] Project Summary (final)
- [ ] Work Completed Analysis (final)
- All other material filed in chronological order including the following reports if checked:
- [ ] Field Team Semiannual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [x] Operator's monthly reports and all attachments
- [x] On-site Exam. Report (Tab) June 1966
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No. _____: Reports
- [ ] Analysis of Semiannual Inspection Reports
- [ ] Project Summary (Interim) by MME Engineers

Right Side

- [ ] Field Team Semiannual Report for Certified Project
- [ ] Field Team Interim Reports
- [ ] Operator's Monthly Reports with Transmittal, Narrative and Maps

Folders No. 2 : Maps (Use pocket folder or envelope)

Folders No. _____: Settlement Sheets

Folders No. _____: Drill Logs

Folders No. _____: Royalty Material

52615

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
8/22/67	RM Smith	120S
8/22/67	Kirberno	120K
		110
		220

AIRMAIL

AUG 22 1967

MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Gentlemen:

Reference is made to your completed exploration contract with the Government.

We sincerely regret that the work performed did not result in a certification of possible production under the provisions of the contract. In the absence of such certification, the Government 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.

We appreciate your interest and participation in the OME exploration program.

Sincerely yours,

FRANK E. JOHNSON (gla)

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Mr. and Mrs. Harry L. Larson, Creede, Colorado 81130
Mineral County Mining & Milling, 13741 Thunderbord Dr. - Apt2C
Seal Beach Calif. 90740

Director's reading file
Division File
Econ. Geol. File
MMerithew/mm (5/19/67)

Br. of Budget & Finance
OME Docket
OME Reading
120M
Region III

23267

MME Form 7
(2/63)

OFFICIAL FILE C

Date	Surname	
4/13/67	RMSmith	
4/14/67	Kirkemo	1
		1
		22
		120

April 13, 1967

Memorandum

To: The File

From: R. M. Smith

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Justification for Denial of Supplemental Application

After completing all of the work under the contract (four drill holes) the Operator applied for additional OME assistance in a $296,250.00 project to crosscut and drift below the showings in the holes and also to drift below reported showings in the Upper and Lower Bird Creek Tunnels. A total of 5,025 feet of crosscut and drift is proposed.

This new application (March 20, 1967) proposes virtually the same work requested in the original application (April 2, 1965) which was denied without prejudice for lack of geological evidence of favorable targets. A modest drilling project commensurate with the limited evidence available was approved later (September 8, 1966) under Contract 2226.

Justification by the Applicant for the work now proposed consist of four main points:

1. Veins are known to exist and their locations are established by geochemical, geophysical, and drilling methods.

2. There is no reason to expect the veins to be different in mineral content from others in the Creede area where ore has been found.

3. "Wherever drilling failures of this kind have been followed by physical exploration, ore bodies have been found." (See Operator's Final Report, p. 1.)

4. Old workings are hopelessly caved, so the only practicable exploration is by new crosscutting and drifting.

Results of the OME drilling were disappointing. Very little core was recovered in the critical areas and the best assay was 0.5 oz. Ag/ton. The results are summarized as follows:

Hole 1 - S. 75 W. -45° Collar Elev. 10,562
167-192.5 Structures 2 and 4 Ag 0.2-0.5
376-398 Smuggler vein Au. tr., Ag. tr.-0.2
Total depth - 775

Hole 2 - N. 75 E -60° Collar Elev. 10,595
217-236 Smuggler and No. 4 veins Au. tr., Ag. tr.-0.1
373-407 Structure No. 2 Au. Tr., Ag. 0.2, Cu 0.03
430-435 Bleached zone Cu 0.6%
Total depth 477

Hole 3 - S. 75 W. -45° Collar Elev. 10,520
47- 61 Morning, et al., veins Au tr., Ag 0.5
101-102 " " " Zn tr., Ag 0.4
382-397 Structure No. 2 Au tr., Ag 0.2-0.4
604-626 Smuggler vein Au 0, Ag 0-0.02
733-740 Structure No. 4 Au 0, Ag 0.01, Cu 0.03
Total depth 800

Hole 4 - S. 75 W. -45° Collar Elev. 10,542
31-36 Structure No. 2 Au. tr., Ag. 0.2
300-308 Smuggler vein Au. tr., Ag. 0.4 cu. 0.05
537-539 Structure No. 4 No assay
Total depth 600

All of the drilling was in the Snowshoe Mountain porphyry.

These results do not justify additional exploration. The mitigating fact that core recovery was poor permits but does not demand optimism.

The OME Field Officer after consulting with T. A. Steven, concluded that there is not sufficient geological evidence to warrant a project of the magnitude proposed, but that if the Applicant performs the initial crosscutting or rehabilitation and (a) demonstrates lateral persistence of the Smuggler vein into the area of the proposed portal, or (b) demonstrates the existence of mineralization - not necessarily ore - in this area, then the proposed project might be seriously considered. He recommends that the application be denied without prejudice. I concur in his recommendation.

R. M. Smith

R. M. Smith

cc: Director's Reading
Econ. Geol.
Division
OME Reading
Smith

RMSmith/gla/mm (4/13/67)

UNITED STATES DEPARTMENT OF THE INTERIOR

OFFICE OF SURVEY AND REVIEW
AUDIT OPERATIONS
WASHINGTON, D.C.

Report of Review-Contract 2226
Docket No. OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Report Issued: May 1967

An examination of the disbursement records in the Branch of Budget and Finance, Administrative Division, U.S. Geological Survey and a review of the Office of Minerals Exploration contract files pertaining to the subject minerals exploration project was made at Washington, D.C. on April 28, 1967.

The exploration work provided for in this contract consisted of diamond core drilling 4 holes having a total depth of approximately 2,650 feet. The work was performed during the period September through November 1966, and the Operator has submitted a final report dated January 31, 1967, as required by the terms of the contract. Settlements have been made for costs claimed by the Operator and accepted by the OME Field Officer, Region III, Denver, Colorado, as conforming with the contract provisions as follows:

Item	Claimed and Accepted Costs		
	No. of Units	Rate	Amount
Category (1) Independent Contracts			
Diamond core drilling (BX or larger)			
0-250' depth	981'	$5.90	$5,787.90
250-500' Do.	975'	6.40	6,240.00
500-750' Do.	600'	6.95	4,170.00
750-800' Do.	75'	7.55	566.25
Totals-Core drilling	2,631'		$16,764.15
Bulldozing	7 hours	12.50	87.50
Mobilization and demobilization			500.00
Overburden drilling	70'	8.00	560.00
Cement, etc.			18.10
Reaming and casing			209.00
Cementing and redrilling	35 hours	13.00	455.00
Surveying	7 hours	13.00	91.00
Total-Category (1)			$18,684.75

Item	Claimed and Accepted Costs		
	No. of Units	Rate	Amount
Category (2) Personal Services			
Supervisor, geologist, engineer	3 mos.	$750.00	$2,250.00
Outside Consultant	6 days	75.00	450.00
Carpenter	18 hours	2.50	45.00
Total-Category(2)			$2,745.00
Category (3) Operating Materials and Supplies			
Cardboard core boxes	265	1.00	$265.00
Sample bags	40	.10	4.00
Total-Category(3)			$269.00
Category (7) Miscellaneous			
Samples assayed	40	various	$171.50
Transportation of samples			70.00
Consultant's travel expenses	1100 miles	.10	110.00
Consultant's per diem	4 days	16.00	64.00
Accounting and office expense	3 mos.	50.00	150.00
FICA payroll taxes, insurances, etc.			375.00
Total-Category(7)			$940.50
Category (6) New Buildings			
Core storage shed			$60.20
Total Claimed and Accepted Costs			$22,699.45
Government Participation @75%			$17,024.59
Less: Amount withheld pending audit			200.00
Payments to Operator to date			$16,824.59

This review disclosed that the core drilling was to be performed using BX standard or BX wire line equipment with permission to reduce the holes to AX standard core size with the approval of the Government. All of the drilling was accomplished with BX or larger equipment, however, the charges claimed for Government participation

were based on the contract rates for BX which were lower than the rates actually paid for the larger equipment.

The review also disclosed that a total of 2,650 feet of core drilling was performed whereas the claimed and accepted costs detailed above indicate that only 2,631 feet have been included for Government participation. The difference of 19 feet is applicable to hole No. 2. That hole was drilled NX size to 231 feet and BX size beyond. Claimed and accepted costs include charges for the first 231 feet of the hole and for the footage beyond 250 feet.

It would appear that the Operator is entitled to claim an **additional** amount of $84.07 representing the Government's 75 percent participation in the acceptable cost of 19 feet of additional BX drilling at the contract rate of $5.90 per foot.

No other exceptions are taken to the settlement made with the Operator as a result of our audit review.

C. E. Fisher, Auditor

Reviewed by:

Dwight E. Savage, Audit Operations
Office of Survey and Review

Government's copy

MME Form 50
July 1965

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

EXPLORATION CONTRACT
(Long Form)

Docket No.	Commodity	Contract No.	County	State
OME -6440	Silver	2226	Mineral	Colorado

It is agreed SEP 8 1966 (Date), between the United States of America, acting through the Department of the Interior, U. S. Geological Survey, hereinafter called the "Government," and

MK EXPLORATION COMPANY, a Colorado corporation

whose mailing address is 2955 Cherryridge Road, Englewood, Colorado 80110, hereinafter called the "Operator," as follows:

ARTICLE 1. Authority and scope.--(a) This contract entered into under the authority of Public Law 701, 85th Cong., 2d sess. (72 Stat. 700; 30 U.S.C. § 641 - 646), consists of this form, the attached Annex I (land description), Exhibit A (work and costs), and the maps and documents listed. The work is a search for new or unexplored deposits of the commodity designated above. The Operator shall begin the work on or before 8 Sept. 1966 (Date), and, subject to the provisions of Article 9 and Exhibit A, shall either have completed the work within 12 months from the date of the contract or shall have incurred allowable costs (see Article 6) in a sum not less than the total cost set forth in Exhibit A.

(b) The total allowable cost of the work set forth in Exhibit A is $ 31,080.00. The Government will contribute 75 percent of the allowable costs as they are incurred, in a total sum not in excess of $ 23,310.00 in accordance with the provisions of Articles 3, 4, 5, and 6. "Costs incurred" means costs that have been paid or have become due and payable, or that the Government determines have become obligations.

(c) Interest computation.--Simple interest at the rate of 7 ½ percent shall accrue from the dates Federal funds are made available until the period specified for payment of royalty expires, or until the amount of Federal funds contributed is fully repaid with interest.

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

ARTICLE 2. Operator's right in land.--(a) The Operator represents and undertakes that Annex I correctly describes the land which is the subject of this contract and the nature of the Operator's right of property and possession therein (whether as owner, lessee, or otherwise), and that such right, title, or interest is subject only to the following claims, liens, or encumbrances:

See Annex I

(b) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above and (if the Operator does not hold the legal title) the lien agreement of any holder of the legal title of the land (lessor, seller, optionor, etc.) are attached as follows:

See Annex I

(c) The Operator shall preserve and maintain his right, title, or interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. The Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a royalty on production and liens for the payment thereof. Two true copies of such instrument shall be furnished to the Government. If the Government's rights to royalty as provided in Article 7 have been terminated, the provisions of this paragraph (c) shall become inapplicable.

ARTICLE 3. Performance of the work.--(a) Operator's responsibility.--The work shall be performed diligently, efficiently, in a workmanlike manner in accordance with good mining standards, and in compliance with State laws governing health, safety, and liability insurance covering employment. The Operator shall provide suitable and adequate equipment, facilities, materials, supplies, and labor to complete the work as specified in Article 1(a).

(b) Independent contracts.--To the extent that the allowable costs are estimated in Exhibit A with express reference to performance by independent contractors on a unit-price basis (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations), the work may be so performed (see Article 6(a), Category (1)). Any such independent contract shall refer to some specific and identifiable part of the work, and shall be subject to all of the pertinent terms and conditions of this exploration contract; but the Government shall not be considered a party thereto, and its rights under this contract, including the right to terminate its contributions, shall not be affected thereby. Regardless of the provisions of any such independent contract, the Government will participate in payments to the independent contractor only as to work performed in accordance with the provisions of this exploration contract, and only to the extent that the Government deems the unit prices for the work under the independent contract to be reasonable.

(c) Government may inspect.--The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract and production operations during the period that royalty is payable to the Government. The Operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 4. Contribution by the Government.-- The Government will make its contribution on the basis of the monthly vouchers referred to in Article 5(b), but all payments by the Government are provisional only, subject to audit. Until the account between the Operator and the Government is finally audited and settled and the Operator's final report has been received, the Government may withhold such sums as are necessary to protect its interests. The Government may make payments for the account of the Operator directly to independent contractors and suppliers rather than to the Operator.

ARTICLE 5. Reports, accounts, audits.--(a) Operator's records.--The Operator shall keep suitable records and accounts of the work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine all pertinent books, documents, papers, and records of the Operator. If work under this contract is carried on in conjunction with any other operations, or if labor, supervision, services, materials, supplies, equipment, facilities, or other requirements for carrying on the work are also used in connection with other operations, the costs shall be segregated and accounted for on a basis and by methods and accounts that are satisfactory to and approved by the Government.

(b) Monthly reports.--The Operator shall provide the Government with four copies of monthly reports in three sections as follows:

(1) Operator's Monthly Voucher claiming costs for work performed;

(2) Operator's Progress Report showing the number of units of the various types of work performed; and

(3) a narrative report of the work performed during the reporting period, including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground.

(Forms for reporting under (1) and (2) above will be provided by the Government; however, the original of the Operator's Monthly Voucher shall be supported by documentary evidence, such as certified copies or transcripts of payrolls and invoices, for all costs claimed under Article 6 (a) (1).)

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

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

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

ARTICLE 6. Costs.--(a) Allowable costs.--The allowable costs of the work to which the Government will contribute are limited to:

(1) the necessary, reasonable, and direct actual costs that are estimated in Exhibit A by categories as specified in this article; and

(2) fixed costs for units of work to be performed (per foot, per hour, etc.) agreed upon in lieu of actual costs and set forth in Exhibit A.

The Government will not contribute to costs under any category or subcategory omitted from the estimate of costs in Exhibit A. Any excess over any estimate which is indicated as the maximum of any category, subcategory, or item, either as to requirement or related cost; any excess over a fixed unit cost; and any excess over the total allowable cost of the work are not allowable. The Operator shall incur such excesses for his own account without contribution by the Government, but the Operator is not obligated to incur more than his agreed percentage of the total allowable cost of the work.

Any category or subcategory or element thereof not designated as a maximum in this article, or in Exhibit A may be exceeded, provided that the total allowable cost of the work, which is a maximum, is not exceeded.

CATEGORY (1)--INDEPENDENT CONTRACTS.--(See Article 3(b)). The total of this category and the average unit cost estimated for each type of work to be performed under an independent contract are maximums.

CATEGORY (2)--PERSONAL SERVICES.

Subcategory (a)--Supervision and Technical Services--All elements of this subcategory (number of supervisors, technicians, outside consultants, periods of employment, rates of pay, and total) are maximums.

Subcategory (b)--Labor.

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

CATEGORY (4)--OPERATING EQUIPMENT.

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

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

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

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

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

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

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

CATEGORY (7)--MISCELLANEOUS.--Includes requirements and costs that do not fall within any of the first six categories, such as repairs other than initial and maintenance of operating equipment, analytical work, prints and other reproductions, accounting, Operator's share of payroll taxes, liability insurance covering employment, travel, and communications.

(b) Nonallowable costs.--In addition to the limitations imposed by paragraph (a) of this Article 6 the Government will not contribute to the following costs:

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

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

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

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

(c) Reductions in costs.--The Operator shall account for and give the Government credit for any incidental benefits, credits, or money received in the ordinary course of business in prosecuting the work (as by salvage or sale of materials or equipment, furnishing of room or board, furnishing of power or services to third persons, rebates or discounts on purchases, etc.), in the same ratio in which the Government contributes to costs; and such amounts shall be treated as a reduction in costs incurred so that they are available for use within the limit of the original total cost. The provision does not apply to receipts from production which are subject to the Government's royalty under the provisions of Article 7.

ARTICLE 7. Repayment by Operator.--(a) Certification.--If the Government considers that mineral or metal production from the land covered by the contract may be possible as a result of the exploration work, it shall so certify in writing to the Operator at any time not later than six months after a sufficient final report and final accounting (see Article 5) have been furnished.

(b) Royalty on production.--The Operator, whether or not the producer (for example, if the Operator either transfers or does not retains his interest in the land), shall pay to the Government a royalty on all minerals and metals mined or produced from the land as follows:

(1) irrespective of any certification of possible production--from the date of the contract until the lapse of the time within which the government may issue such certification or until the total net amount contributed by the Government is fully repaid with interest, whichever occurs first; or

(2) if the Government issues a certification of possible production--for a period of ten years from the date of the contract, or until the total net amount contributed by the Government is fully repaid with interest, whichever occurs first.

(c) Payment of royalty.--(1) The Government's royalty shall be five percent of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrate, metal or equivalent), at the point of delivery (the f.o.b. point); except, that charges of the buyer arising in the regular course of business and shown as deductions on the buyer's settlement sheets (such as treatment processes performed by the buyer, sampling and assaying to determine the value of the production sold, and freight payable by the buyer to a carrier (not the Operator or producer)), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. No costs of the Operator or Producer are deductible in arriving at the "gross proceeds" as that term is here used.

The term "treatment processes" means those processes (such as milling, concentrating, smelting, refining, or equivalent, but excluding fabricating or manufacturing) applied to the crude ore or other production after it is extracted from the ground to put it into a commercially marketable form.

(2) The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be.

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

(e) Lien for payment.--To secure the payment of royalty (see Article 7(b)), the Operator hereby grants to the Government a lien upon his interest in the land and upon any production of minerals and metals therefrom until the royalty claim is extinguished by lapse of time or is fully paid.

(f) Notice to purchasers.--The Operator or producer shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Government, and this estimate shall be final and binding upon the Operator or producer.

(g) No obligation to produce.--Nothing in this contract shall be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

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

ARTICLE 8. Interests in purchased property.--(a) Title and ownership.--All costs under this contract shall be incurred by the Operator in the Operator's own name and for the Operator's own account; but any property acquired to the cost of which the Government contributes shall belong to the Operator and the Government jointly in proportion to their respective contributions although title thereto shall be taken in the name of the Operator.

(b) Preservation of property.--Until the final disposal of any property in which the Government has an interest, the Operator shall preserve and protect same for the best interest of the Government, and any reasonable and necessary cost thereof will be treated as an allowable cost of the exploration. After the completion of the work, termination of the Government's obligation to contribute, or when such property is not being used for the work, the Operator shall not use it elsewhere without the written consent of the Government and without paying a reasonable rental to be fixed by the Government for its proportionate interest.

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

(d) Default of the Operator re disposal.--If within 90 days after the completion of the work, termination of the Government's obligation to contribute to costs, or after the property is no longer needed for the work, the Operator has failed to sell or otherwise liquidate or dispose of any property in which the Government has an interest, the Government, at any time prior to final settlement under the contract, may:

(1) in writing extend the time within which the Operator must dispose of or liquidate the property;

(2) by written notice to the Operator, place upon such property what it determines to be a fair valuation thereof, not in excess of the cost less 1.66 percent per month from the date such property was purchased under this contract to the termination of said 90-day period; and such property shall thereupon be considered and accounted for as having been purchased by the Operator at the valuation so fixed by the Government; and

(3) enter and take possession of such property wherever it may be found, and remove and dispose of it for the joint account of the parties.

ARTICLE 9. Termination of the Government's obligations.--(a) If the Government determines that operations at any time have failed to achieve anticipated results and further work is not justified, the Government may give the Operator written notice thereof, and thereupon:

(1) the Government shall be free of all obligation to contribute to costs not then incurred other than such as may be allowable under the provisions of the contract as necessary and incidental to final accounting and reporting; and

(2) the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to final accounting and reporting.

(b) If the Government determines that the Operator is in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon:

(1) the Government shall be relieved of all obligation to contribute to costs not incurred when the notice was given, other than such as may be allowable by the provisions of the contract as necessary and incidental to final accounting and reporting; and

(2) the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to final accounting and reporting.

The Government may also avail itself of any other remedy the law may provide for breach of contract, including the right to rescind the contract and to demand repayment of all moneys contributed by the Government under the contract.

(c) The giving of any notice by the Government under the provisions of this Article 9 shall not affect the Government's rights as provided for in the contract with respect to royalty and liens to secure the payment thereof, and such rights shall be fully preserved.

(d) The determinations of the Government are subject to appeal under Article 13.

ARTICLE 10. Notices to be given by the Government may be delivered to the Operator, or may be sent by certified mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 11. Officials not to benefit.--No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 12. Nondiscrimination in Employment. The provisions respecting nondiscrimination in employment which are required by section 301 of Executive Order 10925, dated March 6, 1961 as amended and supplemented are attached hereto as Exhibit B and are hereby incorporated in and made a part of this contract.

ARTICLE 13. Disputes.--Any dispute arising under this contract which is not disposed of by agreement shall be decided by the Director, U. S. Geological Survey, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Operator. The decision of the Director, U. S. Geological Survey, shall be final and conclusive unless, within 30 days from the date of receipt of such copy, the Operator mails or otherwise furnishes to the Director, U. S. Geological Survey, a written appeal addressed to the Secretary of the Interior. The decision of the Secretary or his duly authorized representative for the determination of such appeals shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence.

The term "Director, U. S. Geological Survey," as used herein includes his duly authorized representative.

ARTICLE 14. Work Hours Act of 1962 - Overtime Compensation.--This contract, to the extent that it is of a character specified in the Work Hours Act of 1962 (Public Law 87-581, 76 Stat. 357-360) and is not covered by the Walsh-Healey Public Contracts Act (41 U.S.C. 35-45), is subject to the following provisions and to all other provisions and exceptions of said Work Hours Act of 1962.

(a) Overtime requirements.--No Operator or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic to be employed on such work in excess of eight hours in any calendar day or in excess of forty hours in any workweek unless such laborer or mechanic receives compensation at a rate of not less than one and one-half times his basic rate of pay for all hours worked in excess of eight hours in any such calendar day or in excess of forty hours in any such workweek, as the case may be.

(b) Violations; liability for unpaid wages; liquidated damages.--In the event of any violation of the clause set forth in subparagraph (a) of this paragraph, the Operator and any subcontractor responsible therefor shall be liable to any affected employee for his unpaid wages. In addition, such Operator and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for

liquidated damages. Such liquidated damages shall be computed, with respect to each individual laborer or mechanic employed in violation of the clause set forth in subparagraph (a) of this paragraph, in the sum of $10 for each calendar day on which such employee was required or permitted to work in excess of eight hours or in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (a) of this paragraph.

(c) Withholding for unpaid wages and liquidated damages.--The U. S. Geological Survey may withhold or cause to be withheld, from any moneys payable on account of work performed by the Operator or subcontractor, such sums as may administratively be determined to be necessary to satisfy any liabilities of such Operator or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (b) of this paragraph.

ARTICLE 15. Copeland (Anti-Kickback) Act--Nonrebate of wages.--The regulations of the Secretary of Labor applicable to contractors and subcontractors (29 CFR, Part 3), made pursuant to the Copeland Act, as amended (40 U. S. C. 276c) and to aid in the enforcement of the Anti-Kickback Act (18 U. S. C. 874) are made a part of this contract by reference. The Operator will comply with these regulations and any amendments or modifications thereof and will be responsible for the submission of affidavits required of independent contractors thereunder. The foregoing shall apply except as the Secretary of Labor may specifically provide for reasonable limitations, variations, tolerances, and exemptions.

ARTICLE 16. Changes and added provision.--

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

MK EXPLORATION COMPANY
(Operator)

By [signature]

Title President

By [signature]
Acting DIRECTOR, U.S. GEOLOGICAL SURVEY

Appd. Sol. Office
Long
Kirkham 9-7-66
Erickson 9-7-66
Meyer 9/7

I, Geraldine McKinley (Name), certify that I am the Secretary secretary of the corporation named as Operator herein; that Frank McKinley (Name), who signed this contract on behalf of the Operator, was then President (Title) of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

[CORPORATE SEAL]

EXPLORATION CONTRACT
MK EXPLORATION COMPANY
OME-6440

ANNEX I

The land referred to in Article 2 of the contract consists of 8 patented claims, known as the Bird Creek Mine group, 8 unpatented claims known as the Larson group, 22 unpatented claims adjacent to or overlapping the above-mentioned groups, and the patented Big Spar Claim, all within secs. 22, 23, 25, 26, 27, and 35, T. 40 N., R. 1 W. (unsurveyed), in the Royal Arch mining district, Mineral County, Colorado.

All claims pertaining to the contract are shown on Figure 1, entitled, "Claim Map of the Spar City Area, showing MK Exploration Company Owned and Leased Property," which is attached and made part hereof.

The Bird Creek Mine group listed below is held under an "Option to Purchase Mining Claims" from the Mineral County Mining and Milling Company, dated January 8, 1965, and recorded in Book 110-J, page 188, Mineral County Court House, Creede, Colorado.

Claim No.	Patent Survey No.
Smuggler	16670
Smuggler No. 1	16670
Percent No. 1	16670
Big Percent	16670
Little Percent	16670
Percent No. 12	19538
Percent No. 15	19538
World	8294

Lien and Subordination Agreements, dated March 20, 1965, covering the above-listed claims is attached and made part hereof.

The Larson group of unpatented claims listed below is held under an "Option to Purchase Mining Claims" from Harry L. Larson and Mary L. Larson, dated February 15, 1965, and recorded in Book 110-J, page 189, Mineral County Court House, Creede, Colorado. The claims are recorded as follows:

Claim Name	Book	Page
Royal Basin No. 1	4B	272
Royal Basin No. 2	4B	272
Royal Basin No. 3	4B	271
Little Anna	4	194
Laura Etta	4B	307
Laura Etta Extension	4B	319
Theresa	4B	555
Columbine	4B	555

Lien and Subordination Agreements, dated March 17, 1965, covering the above-listed claims is attached and made part hereof.

Unpatented lode claims, A-1 through A-22, adjacent to or overlapping the aforementioned two groups of claims and an undivided 3/4 interest in the patented Big Spar Claim, Patent Survey No. 7795, are owned by the MK Exploration Company. These claims are recorded in Book 110-J, page 171, Mineral County Court House, Creede, Colorado.

MME Form 52
Jan. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

FOR GOVERNMENT USE ONLY	
Operator	
Docket No. OME –	
Contract No. 14-23-090–	2226
Contract Date	SEP 8 1966

LIEN AND SUBORDINATION AGREEMENTS[1]

To the United States of America:

That certain land in the County of Mineral, State of Colorado, described ~~as follows~~[2] in an Option to Purchase Mining Claims (Short Form) dated January 8, 1965, and recorded in Book 110-J, page 188, official records of said County

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

MK Exploration Company, a Colorado corporation[3]

hereinafter called the "Operator". In consideration for and as an inducement to the Government executing the Contract, the undersigned:

1. (a) Being the owner of an interest in the land, hereby grants to the Government a lien upon all of his right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of the royalty on production provided for by the Contract, and agrees if the Operator's interest should be surrendered or terminated at any time prior to the expiration of the rights of the United States under said Contract to pay royalty to the Government according to the terms of said Contract; or

~~(b) Being the holder of a claim, lien, or encumbrance against the land, hereby subordinates his claim, lien, or encumbrance in and against the land and in any production therefrom to the rights of the Government under the Contract with respect to royalty on production and liens to secure same.~~[4]

2. Undertakes and agrees that property in which the Government may acquire an interest or equity under the Contract may be dismantled, severed from the land, and removed as may be provided in the Contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned.

3. Represents and undertakes that there is no claim, lien, or encumbrance upon the undersigned's right, title, claim, or interest in or against the land other than the following: (If "none" insert the word "none". Do not leave blank.)

none

1/ Production from the land is not required, and in the absence of production there is no obligation to pay royalty to the Government.

2/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in Book _____, Page ____, official records of said county". If (b) is used, the book and page of recordation must be inserted above. If the space provided is insufficient, use an Annex and refer to the Annex in the space.

3/ Insert name exactly as it appears in the Application MME Form 40.

4/ Subparagraph 1(a) does not apply to the holder of a claim, lien, or encumbrance.

4. Undertakes and agrees (a) neither to commit any act nor assert any claim in conflict with the provisions of this Agreement; and (b) to give advance notice of the Government's rights under this agreement to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, claim, or interest in or against the land or any production therefrom, furnishing the Government with two true copies of such notice; and

5. Consents to all amendments (including an agreement of termination) and assignments of the Contract without notice thereof, and undertakes and agrees that this agreement shall extend and apply thereto.

6. Added provisions ____ none ____ (State "None" or "See Annex No. ____".)

Dated this 20th day of March, 1965.

MINERAL COUNTY MINING & MILLING COMPANY

By Walter V. Riddell (Seal)
Walter V. Riddell, President

13741 Thunderbird Dr - Apt 2C (Street)
Seal Beach, California (City & State)

(Seal) (Street) (City & State)

(Seal) (Street) (City & State)

(Seal) (Street) (City & State)

(Seal) (Street) (City & State)

(Seal) (Street) (City & State)

I, Mary A. Riddell (Name), certify that I am the Assistant Secretary (Title—Secretary, etc.) of the corporation named herein; that Walter V. Riddell (Name), who signed this agreement was then President (Title—Pres., Vice-Pres., etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

Mary A. Riddell
(Corporate Seal)
Mary A. Riddell

MME Form 52
Jan. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

OR GOVERNMENT USE ONLY
Operator
Docket No. OME –
Contract No. 14-23-090– 2226
Contract Date SEP 8 1966

LIEN AND SUBORDINATION AGREEMENTS[1]

To the United States of America:

That certain land in the County of Mineral, State of Colorado, described ~~as follows~~[2] in an Option to Purchase Mining Claims (Short Form) dated February 15, 1965, and recorded in Book 110-J at page 189, official records of said County

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

MK EXPLORATION COMPANY, a Colorado corporation[3]

hereinafter called the "Operator". In consideration for and as an inducement to the Government executing the Contract, the undersigned:

1. (a) Being the owner of an interest in the land, hereby grants to the Government a lien upon all of his right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of the royalty on production provided for by the Contract, and agrees if the Operator's interest should be surrendered or terminated at any time prior to the expiration of the rights of the United States under said Contract to pay royalty to the Government according to the terms of said Contract; or

~~(b) Being the holder of a claim, lien, or encumbrance against the land, hereby subordinates his claim, lien, or encumbrance in or against the land and in any production therefrom to the rights of the Government under the Contract with respect to royalty on production and liens to secure same.~~[4]

2. Undertakes and agrees that property in which the Government may acquire an interest or equity under the Contract may be dismantled, severed from the land, and removed as may be provided in the Contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned.

3. Represents and undertakes that there is no claim, lien, or encumbrance upon the undersigned's right, title, claim, or interest in or against the land other than the following: (If "none" insert the word "none". Do not leave blank.)

none

Harry L. Larson

1/ Production from the land is not required, and in the absence of production there is no obligation to pay royalty to the Government.

2/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in Book _____, Page ____, official records of said county". If (b) is used, the book and page of recordation must be inserted above. If the space provided is insufficient, use an Annex and refer to the Annex in the space.

3/ Insert name exactly as it appears in the Application MME Form 40.

4/ Subparagraph 1(a) does not apply to the holder of a claim, lien, or encumbrance.

4. Undertakes and agrees (a) neither to commit any act nor assert any claim in conflict with the provisions of this Agreement; and (b) to give advance notice of the Government's rights under this agreement to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, claim, or interest in or against the land or any production therefrom, furnishing the Government with two true copies of such notice; and

5. Consents to all amendments (including an agreement of termination) and assignments of the Contract without notice thereof, and undertakes and agrees that this agreement shall extend and apply thereto.

6. Added provisions none (State "None" or "See Annex No. ____".)

Dated this 17 day of March, 1965.

Harry L. Larson (Seal)	Creede, Colorado	(Street) (City & State)
Mary L. Larson (Seal)	Creede, Colorado	(Street) (City & State)
(Seal)		(Street) (City & State)
(Seal)		(Street) (City & State)
(Seal)		(Street) (City & State)
(Seal)		(Street) (City & State)

I, _____ (Name), certify that I am the _____ (Title—Secretary, etc.) of the corporation named herein; that _____ (Name), who signed this agreement was then _____ (Title—Pres., Vice-Pres., etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

_____ (Corporate Seal)

EXPLORATION CONTRACT
MK EXPLORATION COMPANY
OME-6440

EXHIBIT A

The purpose of this project is to explore for silver-bearing ore deposits occurring in veins near fault intersections in volcanic rocks along the south flank of the Creede caldera.

General Provisions

The work shall be performed by diamond core drilling from the surface.

No work shall be performed within 200 feet of the exterior boundaries of the property.

Necessary access roads and drill sites shall be prepared by using an Allis Chalmers HD-11 bulldozer or equivalent size of any other make.

All holes shall be cased through overburden and completed with BX standard or equivalent core size wireline equipment. The holes may be reduced to AX standard core size with the approval of the Government.

Significantly mineralized core shall be split and one split assayed for gold and silver. Where indicated by the mineralization, the core may be assayed also for lead and zinc, and for copper. The other split shall be stored in proper sequence with the unsampled core. No sample shall represent a core length greater than five feet.

Facilities shall be provided for recovering drill sludges. Sludge samples shall be retained when drilling in significantly mineralized formations.

Core from the diamond drilling shall be stored in boxes identified as to hole number with markers in the core sections indicating the depth represented. Sludge samples shall be stored in suitable containers also properly marked and identified as to source and location. The stored core and sludge samples shall be retained for Government inspection and possible use. With prior Government approval, the Operator may dispose of the core and sludge samples.

True copies of assay certificates of all samples shall be submitted with the Operator's monthly report which also shall include a map or sketch showing the work completed during the reporting period.

and the locations of all samples taken. The map or sketch also should show the general geological formations and structures traversed by the drill holes.

All drill holes shall be logged geologically and copies of the logs of the completed holes shall likewise be submitted with the Operator's monthly report.

The Operator shall provide such supervisory and technical services as may be required to complete the work in a satisfactory manner.

The location, direction, and extent of each work item shall be subject to prior Government approval. The Government will not participate in the costs incurred for incomplete holes or casing left in holes at the request of the Operator.

Description of the Work

The work shall consist of bulldozing necessary access roads and drill sites, and drilling four diamond core holes to be located approximately as indicated on Figure 2, entitled "Map Showing Proposed Exploration MK Exploration Company, Mineral County, Colorado," attached and made part hereof.

The approximate bearing, inclination, and length of each hole are indicated below.

Hole No.	Bearing	Inclination	Proposed Length
1	S. 74° W.	-45°	775'
2	N. 74° E.	-60°	475'
3.	S. 74° W.	-45°	800'
4	S. 75° W.	-45°	600'

Reasonable variance from the above description, depending upon topographical and geological features, may be made by the Operator with prior approval of the Government.

Estimated Cost of Work

Actual Costs

Category (1) Independent Contracts

Bulldozing - Access roads and drill sites 40 hours @ $12.50/hr	$ 500.00
Mobilization and demobilization of drilling and auxiliary equipment and personnel	500.00

Overburden drilling - 100 feet @ $8.00/ft.		$ 800.00	
Diamond core drilling - 2,650 feet		16,876.25	
Bedrock to 250 feet, 1,000 feet -			
BX Standard or BX wire line @ $5.90/ft AX Standard @ $5.25/ft			
250 feet to 500 feet, 975 feet -			
BX Standard or BX wire line @ $6.40/ft. AX Standard @ $5.70/ft.			
500 feet to 750 feet, 600 feet -			
BX Standard or BX wire line @ $6.95/ft. AX Standard @ $6.35/ft.			
750 feet to 800 feet, 75 feet -			
BX Standard or BX wire line @ $7.55/ft. AX Standard @ $7.10/ft.			
Cement, drill mud, additives and hole plugging agents		1,000.00	
Reaming and casing, 100 hours @ $13.00/hr		1,300.00	
Cementing and redrilling, 200 hours @ $13.00/hr.		2,600.00	
Surveying with in-hole instrument		716.00	
32 hours @ $13.00/hr.	$416.00		
Instrument rental and transportation	300.00		$24,292.25

Category (2) Personal Services

None except:

Subcategory (a) Supervision and Technical Services

1 - Supervisor-geologist-engineer, 3 months @ $750.00/mo.	$2,250.00

1 - Outside geological consultant 6 days @ $75.00/day	450.00	
Subcategory (b) Labor		
Carpenter, 64 hours @ $2.50/hr	160.00	$ 2,860.00
Category (3) Operating Materials and Supplies		
None except:		
Cardboard core boxes, 265 @ $1.00/each	$265.00	
Sample bags, 500 @ $0.10/each	50.00	315.00
Category (6) New Buildings, Fixtures and Installations		
None except:		
Core storage shed (10' x 12')	$100.00	100.00
Category (7) Miscellaneous		
None except:		
500 samples assayed for gold and silver @ $3.00/sample	$1,500.00	
250 samples assayed for lead and zinc @ $4.00/sample	1,000.00	
100 samples assayed for copper @ $1.50/sample	150.00	
Transportation of samples	70.00	
Consultant's travel expenses Denver, Colorado to Bird Creek property and return, 3 round trips, 1,650 miles @ $0.10/mile	165.00	
Consultant's per diem, 6 days @ $16.00/day	96.00	
Accounting and office expenses, 3 months @ $50.00/mo.	150.00	
F. I. C. A. payroll taxes, insurance, etc.	375.00	3,506.00
Total Estimated Actual Cost (rounded)		$31,080.00

SUMMARY

Total Estimated Cost of Project	$31,080.00
Government Participation @ 75%	$23,310.00

EXHIBIT B

NONDISCRIMINATION IN EMPLOYMENT

(Section 202, Executive Order 11246, September 24, 1965)

"During the performance of this contract, the contractor agrees as follows:

'(1) The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
'(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.
'(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
'(4) The contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
'(5) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
'(6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
'(7) The contractor will include the provisions of Paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, That in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.'"

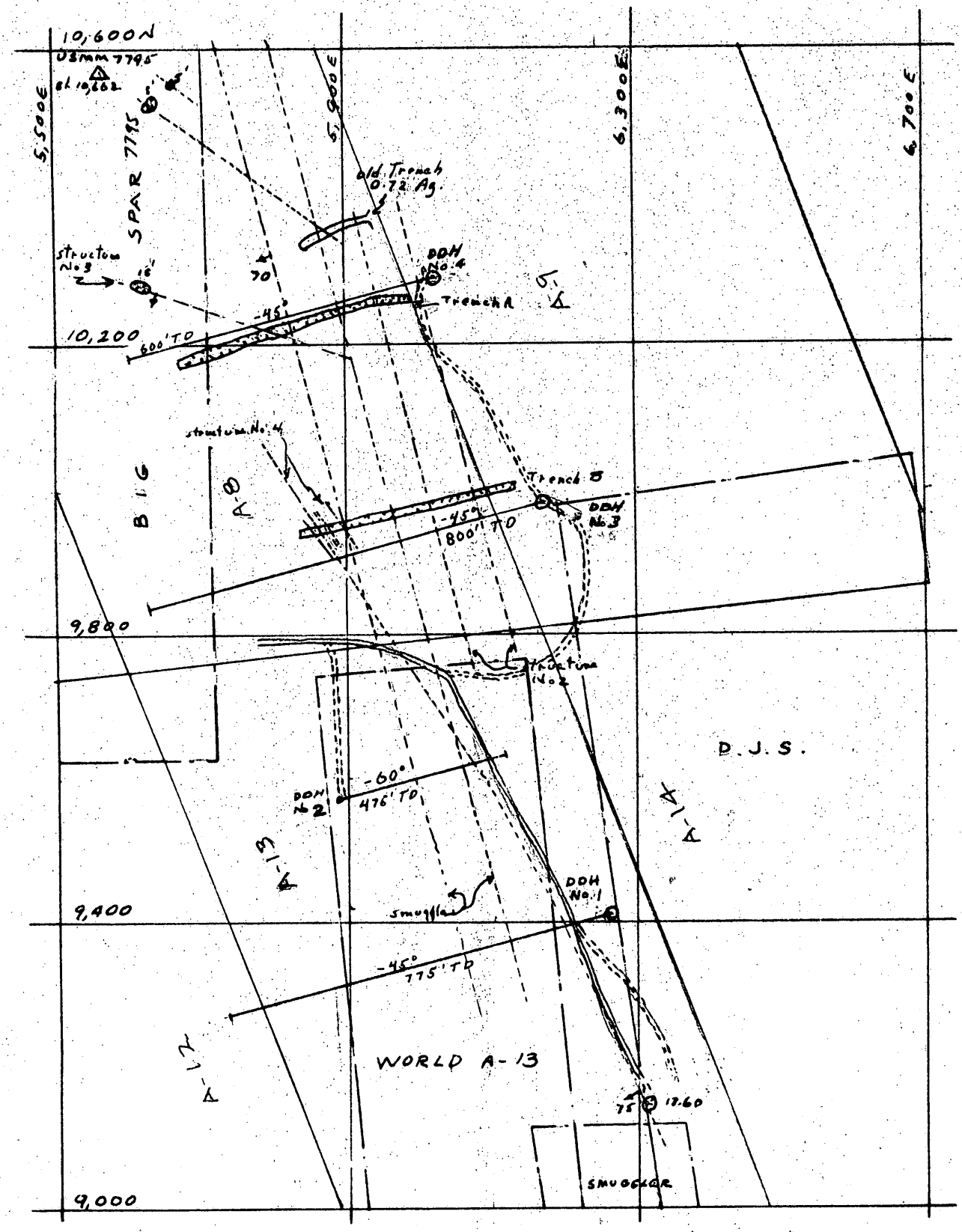
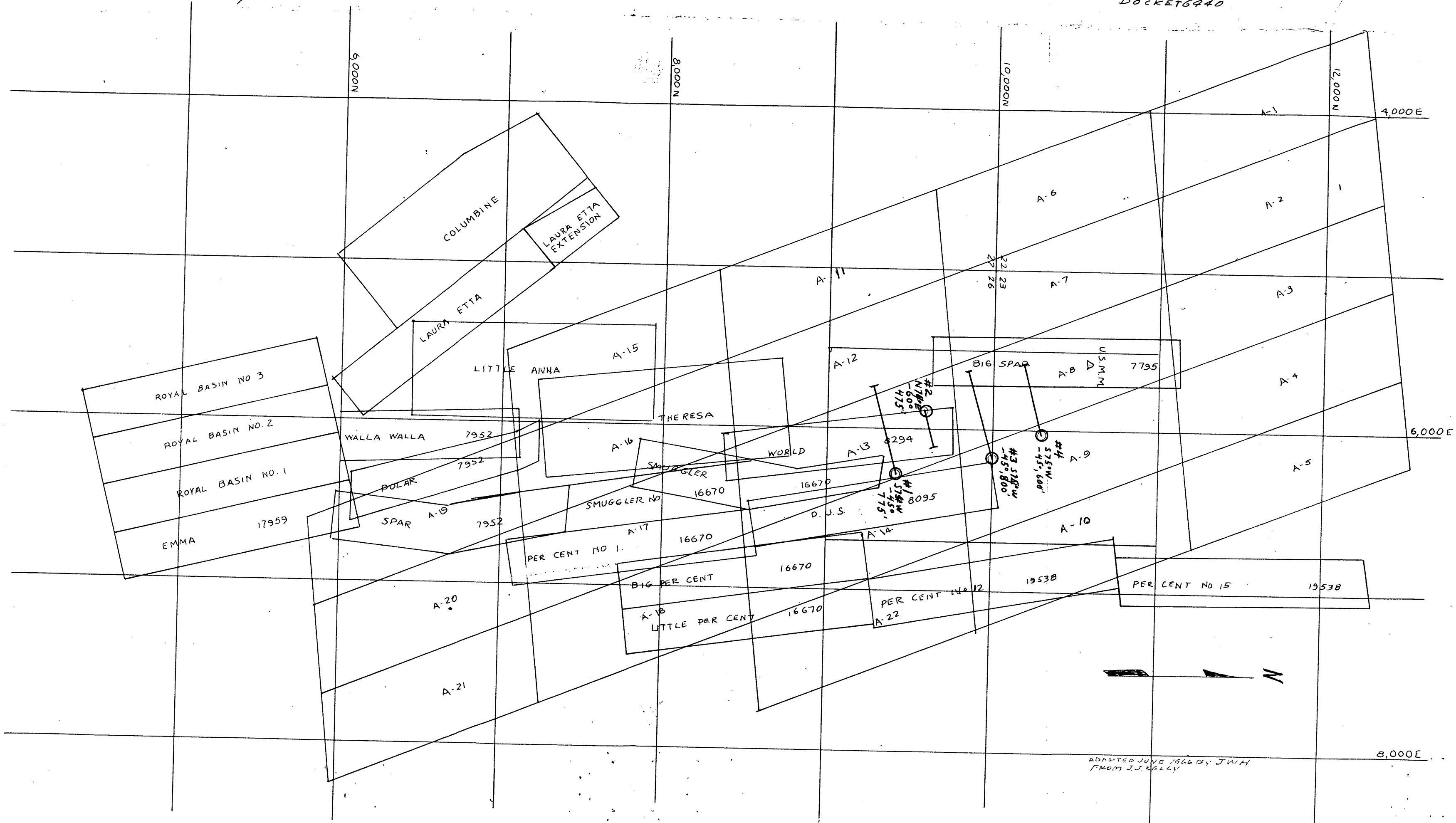


FIGURE 2 -- MAP SHOWING PROPOSED EXPLORATION
MK EXPLORATION COMPANY
MINERAL COUNTY, COLORADO
SCALE 1" = 200'

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

OFFICE OF MINERALS EXPLORATION
DOCKET 6440



ADAPTED JUNE 1966 BY: JWH
FROM J.J. KELLY

FIGURE 1 CLAIM MAP OF THE SPAR CITY AREA, MINERAL COUNTY, COLORADO
SHOWING
MK EXPLORATION COMPANY OWNED AND LEASED PROPERTY
SCALE 1" = 500'

500 0 500 1000
FEET

OFFICIAL COPY
O. M. E.
RECEIVED
APR 11 1966
INITIALS | CODE
170
Smith

MK EXPLORATION COMPANY
2955 Cherryridge Road
Englewood, Colorado
80110

April 6, 1966

Mr. Frank E. Johnson
Chief, Office of Minerals Exploration
Geological Survey
Washington 25, D. C.

AMENDED APPLICATION

Dear Mr. Johnson:

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Enclosed are two copies of MME Form 40 which you requested. Also enclosed are the letters from the banks and a financial statement.

It is virtually impossible to get the bids which you requested for the bulldozer work for the reason that there are no bulldozer contractors in the immediate area. The costs included in the application are based on the charges which would be made by Mineral County to do the work with their equipment. These costs are probably substantially less than an independent contractor would charge. ?

Hole No. 1 will be moved to Coordinate ~~60285E~~ 6285E and 9420N. Hole No. 3 will be moved to Coordinate ~~60190E~~ 6190E and 9995N.

Master reports by 8/11/66 phone

If there is further information which you require, please advise.

Yours very truly,

MK EXPLORATION COMPANY

President

FMMcKinley/sg
encls. - as stated

MME Form 40
Jan. 65

Budget Bureau No. 42-R1508
Approval expires Dec. 31, 1968

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Amended Application

Pursuant to Public Law 85–701 (72 Stat. 700; 30 U.S.C. 641)

NAME OF APPLICANT *(Full legal name and mailing address as they should appear on contract if one is executed.)*

MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER: 6440

DATE RECEIVED: 4/1/66 (Amended)

REGION: III

DIVISION CODE:

BUSINESS ORGANIZATION *(Check one)*

- INDIVIDUAL [ ]
- CORPORATION [X]
- PARTNERSHIP [ ]
- OTHER *(Specify)* [ ]

STATE IN WHICH FIRM IS ORGANIZED: Colorado

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE
Frank M. McKinley	2955 Cherryridge Road Englewood, Colo. 80110	Pres.
John J. Kelley	16 W. 13th Avenue Denver, Colo. 80204	Vice Pres.
Geraldine H. McKinley	2955 Cherryridge Road Englewood, Colo. 80110	Secretary-Treasurer

MINERAL(S) FOR WHICH YOU WISH TO EXPLORE: Silver

ESTIMATED COST OF PROJECT: $ 31,947.50

PROPERTY NAME	LOCATION COUNTY	STATE
Bird Creek Mine	Mineral	Colorado

GENERAL INSTRUCTIONS

Before filling out this application, please read the *OME Regulations for Obtaining Federal Assistance in Financing Explorations for Mineral Reserves* (30 CFR Chap. III). To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit two copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 2, existing mine workings and geology in item 3, and the proposed exploration work in item 5. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 3(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Office of Minerals Exploration, Department of the Interior,* ~~Washington, D.C., or with the nearest OME Field Office.~~ Washington, D. C., 20242, or with the nearest OME Field Office.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief, and that he would not ordinarily undertake the proposed exploration under current conditions and circumstances at his sole expense.

April 6, 1966
DATED

BY *(Signature)*

President - MK Exploration Company
TITLE

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense. U. S. Code, Title 18, Sec. 1001.

INFORMATION REQUIRED WITH THIS APPLICATION

1. Financial Eligibility:

(a) Submit evidence of efforts made within 90 days preceding the filing of this application to obtain credit from your bank of account and at least one other banking institution or other private source of credit. Such evidence shall include true copies of correspondence which show: (1) date of loan request, (2) amount and terms requested, (3) proposed use of loan funds, and (4) the replies from credit sources. If the loan was offered under terms which you consider unreasonable, state why you consider them so.

(b) List names and addresses of affiliated, parent, or controlling companies or organizations and state extent and nature of their interest.

(c) State how you propose to furnish your share of the cost of the exploration work.

2. Applicant's Rights in Land:

(a) State your interest in the land and mineral rights, whether owner, lessee, purchaser under contract, or other. If you are not the owner, submit one true copy of the lease, contract, or other document (with address of owner) under which you control the property. Describe all liens, mortgages, or other encumbrances on the land and state book and page number and official place where recorded.

(b) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all adjacent land which you own or control. Describe any part of the land or workings which should not be subject to Government royalty and liens. If the land consists of unpatented claims, state book and page number for each recorded location notice, including amended locations, and official place where recorded. State all the names by which you know the property.

(c) For all land or mineral rights encumbered or not owned, submit five copies of Lien and Subordination Agreements on MME Form 52. If the agreements cannot be obtained, state reasons and provide copies of letters of refusal.

3. Physical Description:

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the land. Include existing mine workings and all production facilities.

(b) State your interest, if any, in operations described in (a).

(c) State, if you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves, giving quantities and grades and sampling methods used. Support your statement with copies of assay certificates and assay maps if available.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations if known, and type of deposit (vein, bedded, etc.).

(f) State your reasons for expecting to find ore, and if you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates.

(g) Send with your application at least *two* copies of all geologic or engineering reports, assay maps, or technologic information which you have, indicating whether you require their return.

4. Accessibility of Property:

(a) To aid the OME representative who may examine the property, state name and address of person who will meet him; give directions for reaching the property; and describe accessibility of property and of any mine workings.

(b) Name the shipping and supply points and state the distances to the property.

5. Exploration Work:

(a) Describe fully the proposed exploration work giving individual footages and sizes of openings *for each item of work.* Use narrative, maps, plans, and sections as necessary. Show location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to *land boundaries* or to the closest identifiable corner.

(b) If an access road must be built, show the proposed location on the property map and state the length, type and construction methods proposed.

(c) If an OME contract is executed, state how soon thereafter work would be started and finished. State your anticipated average daily or monthly rate of progress for each type of work.

6. Experience:

State your operating experience and background to conduct this exploration work and also that of the person who will supervise the work.

7. Estimate of Costs:

Furnish detailed estimates of the necessary costs *for each item of the work proposed in 5(a)* under the headings listed below with a total for each heading and the estimated total cost of the work. Costs for any work to be performed by an independent contractor should be listed separately under category (a) below. Costs for any work that is not to be performed by an independent contractor should be listed under categories (b) through (g).

(a) Independent contracts. State the total cost of any proposed independent contract for all or any part of the work, and the number of units and the unit cost for each type of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, or per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. (*Note*—If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. The cost of supervision, engineering and geological services, outside consultants, and labor should be itemized by numbers and classes of employees; rates of wages, salaries or fees; and periods of employment. State whether these services are available.

(c) Operating materials and supplies. List items of material and supplies giving quantity and cost of each. Include under this heading power, water, and fuel, and units of equipment and tools costing less than $50 each.

(d) Operating equipment. List items of equipment and tools costing $50 or more per unit. Give specifications and indicate how each item is to be acquired—i.e., rented, purchased or provided by the applicant. If rented or purchased, state the estimated rental or purchase price. If furnished by the applicant, state condition and present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of *initial* rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant which will be used in the exploration work.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration work, stating specifications and cost including labor, materials, and supervision.

(g) Miscellaneous. Describe the type and estimate the cost of repairs and maintenance of the operating equipment listed in 7(d). Do not repeat initial repairs listed in 7(e). Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories. [*Note*—The Government will not contribute to costs incurred before the date of the contract, or to costs of or incident to: (1) acquiring, using, or possessing land and any existing improvements, facilities, buildings, installations, and appurtenances, or the depreciation and depletion thereof; (2) general overhead, corporate management, interest and taxes (other than payroll and sales taxes); (3) insurance (other than employees' liability insurance); and (4) damages to persons or property (other than authorized repair to or replacement of equipment or other property used in the work).]

2955 Cherryridge Road
Englewood, Colorado
April 1, 1966

Mr. Willard F. Bozett
Vice President
Colorado National Bank
Terminal Annex Box 5168
Denver, Colorado 80217

Dear Mr. Bozett:

We hereby submit for your consideration our application for a loan in the amount of $23,960.00.

The loan proceeds would be used for exploration of a group of patented and unpatented mining claims in the Royal Arch Mining District near Spar City, about 14 miles south of Creede, Colorado, known as the Spar City prospect. Preliminary geological and geophysical investigations have been made and we would undertake the diamond drilling program to confirm the geological inferences obtained. The program contemplated is estimated to cost $31,947.50 of which $23,960.00 would be provided by the loan and the balance from equity capital to be raised by us. The loan proceeds would be advanced as required to carry out the project but only as our own funds are made available.

Inasmuch as we would not be in a position to repay the loan except out of production from the property in the event the exploration is successful, we would ask that there be no corporate liability for the loan, but that principal and interest be repayable only out of some reasonable percentage of the first net smelter returns on ore produced from the property. In this connection we are advised that the property owners would subordinate their interests in the property to the loan.

In our opinion the property has excellent prospects for production of silver, lead and zinc. Please advise us whether or not you would be interested in considering a loan upon terms as outlined above. We will be glad to provide you with further information as to the description of the property, present geological information, and our specific exploration plans. We would also want to discuss with you the interest rate and the appropriate percentage of net smelter returns to be committed for payment of the loan.

Yours very truly,

MK EXPLORATION COMPANY

Frank McKinley

President

FMMcKinley/sg

THE
COLORADO NATIONAL BANK OF DENVER
SEVENTEENTH STREET AT CHAMPA • DENVER, COLORADO 80202 • PHONE 222-9311

April 4, 1966

Mr. Frank McKinley, President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado

Dear Mr. McKinley:

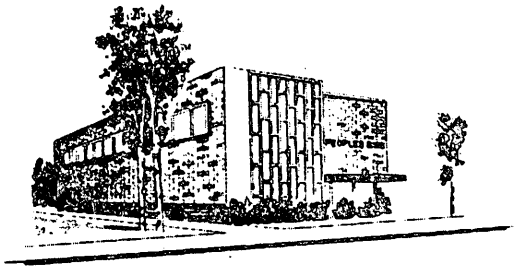
With reference to your letter of April 1, 1966, and your application for a loan in the amount of $23,960.00 for exploration of patented and unpatented mining claims in the Royal Arch Mining District near Creede, Colorado, we wish to advise you that this Bank is not in a position to make loans of this type at the present time.

Very truly yours,

H. Kountze, Jr.

H. Kountze, Jr.
Vice President

HKJr:hc



the Peoples Bank
Member F.D.I.C.
9635 MONTVIEW BLVD.
EMpire 4-2621
AURORA, COLORADO

April 6, 1966

Mr. Frank M. McKinley, President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado

Dear Mr. McKinley:

In reply to your letter of April 1, 1966, regarding your loan application for $23,960.00, for a program of mining and exploration near Creede, Colorado, we regret to inform you that we are not in a position to grant this type of loan.

Very truly yours,

H. J. Bleakley
PRESIDENT

HJB:lr

2955 Cherryridge Road
Englewood, Colorado
April 1, 1966

Mr. H. J. Bleakley
Peoples Bank
9635 Montview
Aurora, Colorado

Dear Mr. Bleakley:

We hereby submit for your consideration our application for a loan in the amount of $23,960.00.

The loan proceeds would be used for exploration of a group of patented and unpatented mining claims in the Royal Arch Mining District near Spar City, about 14 miles south of Creede, Colorado, known as the Spar City prospect. Preliminary geological and geophysical investigations have been made and we would undertake the diamond drilling program to confirm the geological inferences obtained. The program contemplated is estimated to cost $31,947.50 of which $23,960.00 would be provided by the loan and the balance from equity capital to be raised by us. The loan proceeds would be advanced as required to carry out the project but only as our own funds are made available.

Inasmuch as we would not be in a position to repay the loan except out of production from the property in the event the exploration is successful, we would ask that there be no corporate liability for the loan, but that principal and interest be repayable only out of some reasonable percentage of the first net smelter returns on ore produced from the property. In this connection we are advised that the property owners would subordinate their interests in the property to the loan.

In our opinion the property has excellent prospects for production of silver, lead and zinc. Please advise us whether or not you would be interested in considering a loan upon terms as outlined above. We will be glad to provide you with further information as to the description of the property, present geological information, and our specific exploration plans. We would also want to discuss with you the interest rate and the appropriate percentage of net smelter returns to be committed for payment of the loan.

Yours very truly,

MK EXPLORATION COMPANY

President

FMMcKinley/sg

FORM **1120-S**

U.S. Treasury Department
Internal Revenue Service

U.S. SMALL BUSINESS CORPORATION RETURN OF INCOME

FOR CALENDAR YEAR 1965 or other taxable year beginning November 1, 1964, and ending October 31, 1965

1965

A. Date of election as small business corporation: NOVEMBER 1964

B. Business Code No. (See page 4 of instructions.): 1020

C. Total assets from line 13 Sch. L (See instruction N): $14858.52

PLEASE TYPE OR PRINT

Name: MK Exploration Company

Number and street: 2955 Cherryridge Road

City, town, State, and Postal ZIP code: Englewood, Colorado

D. County in which located: Arapahoe

E. Employer identification number: TO BE APPLIED FOR

IMPORTANT—All applicable lines and schedules must be filled in. If the lines on the schedules are not sufficient, see instruction M.

Taxpayer elects to defer exploration expenses until minerals are sold.

GROSS INCOME	1. Gross receipts or gross sales ..... Less: Returns and allowances	
	2. Less: Cost of goods sold (Schedule A) and/or operations (attach schedule)	
	3. Gross profit	
	4. Dividends	
	5. Interest on obligations of the United States and U.S. instrumentalities	
	6. Other interest	
	7. Rents	
	8. Royalties	
	9. Gains and losses (separate Schedule D, Form 1120-S)—	
	(a) Net short-term capital gain reduced by any net long-term capital loss	
	(b) Net long-term capital gain reduced by any net short-term capital loss	
	(c) Net gain (loss) from sale or exchange of property other than capital assets	
	10. Other income (attach schedule)	
	11. Total income, lines 3 through 10	None
DEDUCTIONS	12. Compensation of officers (Schedule E)	
	13. Salaries and wages (not deducted elsewhere)	
	14. Repairs (do not include cost of improvements or capital expenditures)	
	15. Bad debts (Schedule F if reserve method is used)	
	16. Rents	
	17. Taxes (Schedule G)	
	18. Interest	
	19. Contributions (Schedule H)	
	20. Losses by fire, storm, shipwreck, other casualty, or theft (attach schedule)	
	21. Amortization (attach schedule)	
	22. Depreciation (Schedule I)	
	23. Depletion (attach schedule)	
	24. Advertising	
	25. (a) Pension, profit-sharing, stock bonus, annuity plans (see instructions)	
	(b) Other employee benefit plans (see instructions)	
	26. Other deductions (Schedule J)	
	27. Total deductions in lines 12 through 26	None
	28. Taxable income, line 11 less line 27	None

SIGNATURE AND VERIFICATION (See instruction F)

Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief it is true, correct, and complete. If prepared by a person other than taxpayer, his declaration is based on all information of which he has any knowledge.

CORPORATE SEAL

11/4/66 (Date) — J. J. K. (Signature of officer) — Sec. (Title)

Date — Individual or firm signature of preparer — Address

Schedule A.—COST OF GOODS SOLD (Where inventories are an income-determining factor) (See instruction 2)

1. Inventory at beginning of year		5. Total of lines 1 through 4	
2. Merchandise bought for manufacture or sale		6. Less: Inventory at end of year	
3. Salaries and wages		7. Cost of goods sold (enter here and on line 2, page 1)	
4. Other costs per books (attach schedule)			

Schedule E.—COMPENSATION OF OFFICERS (See page 3 of instructions)

1. Name, address, and social security number of officer	2. Title	3. Time devoted to business	Percentage of corporation stock owned		6. Amount of compensation	7. Expense account allowances
			4. Common	5. Preferred		
Total compensation of officers (enter here and on line 12, page 1)						

Schedule F.—BAD DEBTS—RESERVE METHOD (See instruction 15)

1. Taxable year	2. Trade notes and accounts receivable outstanding at end of year	3. Sales on account	4. Gross amount added to reserve	5. Amount charged against reserve	6. Reserve for bad debts at end of year
1960					
1961					
1962					
1963					
1964					
1965					

Schedule G.—TAXES (See instruction 17)

Explanation	Amount
Total (enter here and on line 17, page 1)	

Schedule H.—CONTRIBUTIONS (See instruction 19)

Name of organization and date paid	Amount
Contributions carryover (see instructions)	
Total contributions (enter here and on line 19, page 1, subject to 5 percent limitation)	

Schedule I.—DEPRECIATION (See instruction 22)

Taxpayers using Revenue Procedure 62-21, in column 3 state the cost or other basis of assets held at end of year. Column 2 is not applicable to Revenue Procedure 62-21.

1. Group and guideline class or description of property	2. Date acquired	3. Cost or other basis	4. Depreciation allowed or allowable in prior years	5. Method of computing depreciation	6. Life or rate	7. Depreciation for this year
1. Total additional first-year depreciation (do not include in items below) →						
Buildings						
Furniture and fixtures						
Transportation equipment						
Machinery and other equipment						
Other (specify)						
2. Totals						
3. Less: Amount of depreciation claimed in Schedule A and elsewhere on return						
4. Balance—Enter here and on line 22, page 1						

SUMMARY OF DEPRECIATION

	Straight line	Declining balance	Sum of the years-digits	Units of production	Additional first-year (section 179)	Other (specify)	Total
1. Under Rev. Proc. 62-21							
2. Other							

Schedule J.—OTHER DEDUCTIONS (See general instruction L and specific instruction 26)

		Total (enter here and on line 26, page 1) . .	

Schedule K.—SHAREHOLDER'S SHARE OF INCOME (See page 3 of instructions)

Computation of Corporation's Undistributed Taxable Income

1. Taxable income (from line 28, page 1) . . . . . .
2. Less: Money distributed as dividends out of earnings and profits of the taxable year . . . . . .
3. Corporation's undistributed taxable income . . . . . .

Schedule of Distribution and Income

1. Name and address of each shareholder (If return of shareholder is filed in another Internal Revenue District, specify district)	Social security number	2. Stock ownership		
		Number of shares	Period held	
			From	To
(a)				
(b)				
(c)				
(d)				
(e)				
(f)				
(g)				
(h)				
(i)				
(j)				
Totals				

Continuation of Schedule of Distribution and Income

3. Percentage of time devoted to business		4. Compensation	5. Dividends		6. Share of undistributed taxable income or net operating loss	7. Share of long-term capital gain	8. Dividends entitled to exclusion	9. Amount taxable as ordinary income	10. Nondividend distributions	
			Dates	Amounts					Date	Amount
(a)										
(b)										
(c)										
(d)										
(e)										
(f)										
(g)										
(h)										
(i)										
(j)										
Totals										

F. Date incorporated 10/24/64

G. Did the corporation at the end of the taxable year own directly or indirectly 50 percent or more of the voting stock of a domestic corporation? Yes ☐ No ☒ (For rules of attribution, see section 267(c)).
If the answer is "Yes," attach separate schedule showing: (a) name, address, and employer identification no.; and (b) percentage owned.

H. Did the corporation derive more than 80% of its gross receipts from sources outside the United States? . . . . . Yes ☐ No ☒

Did the corporation derive more than 20% of its gross receipts from royalties, rents, dividends, interest, annuities, and sales or exchanges of stock or securities (gross receipts from sales or exchanges being taken into account for purposes of this question only to the extent of gains therefrom) . . . . . Yes ☐ No ☒

I. Did the corporation during the taxable year have any contracts or subcontracts subject to the Renegotiation Act of 1951? Yes ☐ No ☒
If "Yes," enter the aggregate gross dollar amount billed during the year. . . . . $

J. Amount of taxable income (or loss) for: 1962 $ NONE; 1963 $ NONE; 1964 $ NONE

K. Refer to page 4 of instructions and state the:
Principal business activity Exploration for Ores
Principal product or service Exploration

L. Did you claim a deduction for expenses connected with: (If answer to any question is "Yes," check applicable boxes within that question.)
(1) A hunting lodge ☐, working ranch or farm ☐, fishing camp ☐, resort property ☐, pleasure boat or yacht ☐, or other similar facility ☐? (Other than where the operation of the facility was the principal business.) Yes ☐ No ☒
(2) The leasing, renting, or ownership of a hotel room or suite ☐, apartment ☐, or other dwelling ☐, which was used by customers or employees or members of their families? (Other than use by employees while in business travel status.) Yes ☐ No ☒
(3) The attendance of your employees' families at conventions or business meetings? Yes ☐ No ☒
(4) Vacations for employees or members of their families? (Other than amount reported on Form W-2.) Yes ☐ No ☒

M. Were you liable for filing Forms 1096 and 1099 or 1087 for the calendar year 1965? . . . . . Yes ☐ No ☒
If "Yes," where were they filed? . . . . . .

N. Was there any substantial change in the manner of determining quantities, costs, or valuations between opening and closing inventory? . . . . . Yes ☐ No ☒
If "Yes," attach explanation.

Schedule L.—BALANCE SHEETS (See instructions)

ASSETS	Beginning of taxable year (A) Amount	Beginning of taxable year (B) Total	End of taxable year (C) Amount	End of taxable year (D) Total
1. Cash				
2. Notes and accounts receivable				
(a) Less allowance for bad debts				
3. Inventories				
4. Investments in Government obligations				
5. Other current assets (attach schedule)				
6. Loans to shareholders				
7. Other investments (attach schedule)				
8. Buildings and other fixed depreciable assets				
(a) Less accumulated depreciation				
9. Depletable assets				
(a) Less accumulated depletion				
10. Land (net of any amortization)				
11. Intangible assets (amortizable only)				
(a) Less accumulated amortization				
12. Other assets (attach schedule)				
13. Total assets		None		
LIABILITIES AND CAPITAL				
14. Accounts payable				
15. Mtges., notes, bonds payable in less than 1 yr.				
16. Other current liabilities (attach schedule)				
17. Loans from shareholders				
18. Mtges., notes, bonds payable in 1 yr. or more				
19. Other liabilities (attach schedule)				
20. Capital stock				
21. Paid-in or capital surplus				
22. Surplus reserves (attach schedule)				
23. Earned surplus & undivided profits accumulated				
24. Shareholders' undistributed taxable income				
25. Total liabilities and capital		None		

Schedule M.—RECONCILIATION OF TAXABLE INCOME

Itemized entries made below must be identified by account

1. Net income per books	None	9. Income recorded on books this year not included in this return (itemize)	
2. Contributions in excess of 5% limitation			
3. Insurance premiums paid on the life of any officer or employee where the corporation is directly or indirectly a beneficiary			
4. Unallowable interest expense			
5. Excess of capital losses over capital gains			
6. Taxable income not recorded on books this year (itemize)			
		10. Deductions in this tax return not charged against book income this year (itemize)	
7. Expenses recorded on books this year not deducted in this return (itemize)			
		11. Total of lines 9 and 10	None
8. Total of lines 1 through 7	None	12. Taxable income (line 8 less line 11)	None

★★★★ U.S. GOVERNMENT PRINTING OFFICE : 1965—O—780-722

M K EXPLORATION COMPANY
Balance Sheet - October 31, 1965

Supporting Schedule L - Form 1120-S

Assets	
Cash	$ 570.19
Mining Claims	255.00
Exploration Expenses	11,733.33
Organizational Expenses	300.00
Options to purchase	2,000.00
Total Assets	$14,858.52

Liabilities & Capital	
Accounts Payable	$14,848.52
Capital Stock Issued	10.00
Total Liabilities & Capital	$14,858.52

M.N. Exploration Company
Balance Sheet - February 28, 1966

Assets	
Cash	51160
Mineral Claims - Big Star Lode	255
Exploration Expenses - Big Star Lode	1066158
Exploration Expense - Cuchillo, New Mexico	113034
Organizational Expenses	300
Options to Purchase	2000
Total Assets	1485852
Liabilities & Capital	
Accounts Payable - Frank McKinley	540845
Accounts Payable - John Kelley	944007
Capital Stock Issued	10
Total Liabilities & Capital	1485852

Form AR-1d

DO NOT TEAR ALONG THIS FOLD

FILE EARLY—AVOID PENALTY—ACCEPTABLE FOR FILING JANUARY 2ND

STATE OF COLORADO

1965 ANNUAL REPORT — COLORADO CORPORATION

DUPLICATE

THIS IS YOUR COPY

INDICATE CORRECT MAILING ADDRESS HERE →

MK EXPLORATION COMPANY
c/o FRANK M. McKINLEY
2955 CHERRY RIDGE ROAD
ENGLEWOOD, COLO

Annual Report Filing Fee	$	5.00
Penalty	$	
License Tax	$	10.00
Total Amount Due	$	15.00

THIS REPORT WILL BE RETURNED FOR INCOMPLETE OR INCORRECT PARAGRAPHS.
Please read carefully Instructions on Pages 1 - 3 - 4.

ANNUAL REPORT, PROPERLY EXECUTED, MUST BE FILED WITH THE SECRETARY OF STATE BETWEEN JANUARY 1ST AND MAY 1ST.

The ORIGINAL copy (white) together with your remittance must be returned for permanent filing.
The DUPLICATE copy (pink) is YOUR copy.

The Annual Report filing fee is $5.00. For amount of your LICENSE TAX, which is payable AT THE TIME the Annual Report is filed, see the TAX SCHEDULE on Page Three.

CURRENT Annual Report is not acceptable until DELINQUENT Annual Report plus penalty is filed.

A PENALTY OF $10.00 must be paid on a DELINQUENT Annual Report. DELINQUENT May 2nd.
PLEASE read INSTRUCTIONS on Page Three for guidance in preparing this form.

Pursuant to the provisions of the Colorado Corporation Act, the undersigned corporation hereby submits the following Annual Report:

FIRST: The name of the corporation is MK EXPLORATION COMPANY

SECOND: It is incorporated under the laws of COLORADO

THIRD: The ADDRESS of the registered office in Colorado is 2955 CHERRYRIDGE ROAD ENGLEWOOD, COLORADO

FOURTH: The NAME of the registered agent in COLORADO at such address is FRANK M. McKINLEY

FIFTH: Address of place of business 2955 CHERRYRIDGE ROAD ENGLEWOOD, COLORADO

SIXTH: The character of the business in which it is actually engaged, in the State of Colorado, briefly stated is EXPLORATION OF MINERALS

SEVENTH: The names and respective addresses of its CURRENT directors and officers are:

OFFICERS

	NAME	STREET ADDRESS — CITY — STATE
President	FRANK M. McKINLEY	2955 CHERRYRIDGE ROAD - ENGLEWOOD, COLO.
Vice-President	JOHN J. KELLEY	1801 ARAPAHOE ST. - GOLDEN, COLO.
Secretary	GERALDINE H. McKINLEY	2955 CHERRYRIDGE ROAD - ENGLEWOOD, COLO.
Treasurer	GERALDINE H. McKINLEY	

DIRECTORS

NAME (Law requires minimum of 3)	STREET ADDRESS — CITY — STATE
FRANK M. McKINLEY	2955 CHERRYRIDGE ROAD - ENGLEWOOD, COLO.
JOHN J. KELLEY	1801 ARAPAHOE ST - GOLDEN, COLO.
GERALDINE H. McKINLEY	2955 CHERRYRIDGE ROAD - ENGLEWOOD, COLO.

EIGHTH: The aggregate number of shares AUTHORIZED, itemized by classes, par value of shares, shares without par value and series, if any, within a class is: (State as of December 31, 1964).

NUMBER of shares AUTHORIZED	Class	Series	Par Value per Share or statement that Shares are without Par Value
50,000	COMMON		$ 1.00

NINTH: The aggregate number of ISSUED shares, itemized by classes, par value of shares, shares without par value and series, if any, within a class is: (State as of December 31, 1964).

NUMBER of shares ISSUED	Class	Series	Par Value per Share or statement that Shares are without Par Value
10	COMMON		$ 10.00

TENTH: The amount of stated capital on December 31, 1964 was (Instruction #6—Page 4) $ 10.00

ELEVENTH: A statement showing with reasonable detail the assets and liabilities as of December 31, 1964, or the fiscal year ending in 1964, is as follows: (See Instruction #3—Page 3). A balance sheet is preferred and may be attached if this space is not sufficient. General statements declaring the corporation is "solvent"—"assets exceed liabilities"—etc., do not comply with the statute and will not be accepted.

ASSETS	
MINING CLAIMS	$ 355.00
EXPLORATION EXPENSES	4188.87
ORGANIZATIONAL EXPENSES	200.00
OPTIONS TO PURCHASE	2000.00
TOTAL ASSETS	$ 6643.87
LIABILITIES & CAPITAL	
ACCOUNTS PAYABLE	$ 6633.87
CAPITAL STOCK ISSUED	10.00
	$ 6643.87

TWELFTH: The Annual Report filing fee of $5.00 together with the franchise tax of $ 10.00 is paid herewith. (See Instructions 4 & 5—Page 3).

THIRTEENTH: This report is made under the penalties prescribed in (CRS 1953—31-36-12).

Dated APRIL 29, 1965

MK EXPLORATION COMPANY
(Exact Corporate Name)

(Signature of Executive Officer) (Title)

INSTRUCTIONS

(Colorado Revised Statutes 1953—Chapter 31 as Amended)

1. This report must be filed between January 1 and May 1 of each year by every corporation incorporated to do business in Colorado. The Secretary of State is required by law to RETURN every report which does not conform to the Colorado Statutes—i.e. if the Report contains an INCOMPLETE or INCORRECT PARAGRAPH.

2. Every corporation incorporated to do business in Colorado is required to designate a registered office in Colorado and a registered agent at such office.

3. All information shall be CURRENT—EXCEPT Paragraphs 8, 9, 10 and 11 which shall be as of December 31, 1964. The Financial Statement required in Paragraph 11 must reflect a period ending in 1964.

4. This report must be accompanied by payment of a filing fee of $5.00 payable to the Secretary of State of Colorado.

5. The franchise tax computed at the following rates, must be paid AT THE TIME the Annual Report is filed. COMPUTE TAX ON AUTHORIZED Capital Stock as of December 31, 1964.

TAX SCHEDULE

IF THE AUTHORIZED CAPITAL STOCK IS:	THE TAX IS:
$50,000 or Less	$ 10.00
Over $50,000 including $150,000	20.00
Over $150,000 including $250,000	40.00
Over $250,000 including $500,000	65.00
Over $500,000 including $1,000,000	100.00
Over $1,000,000	250.00

For the purpose of computing this tax, stock WITHOUT PAR VALUE shall be valued at $1.00 per share.

AMENDMENT TO

OME - 6440 (silver)

MK Exploration Company

Bird Creek Mine

Mineral County, Colorado

March 17, 1966

~~OFFICIAL~~
COPY
O. M. E.
RECEIVED
MAR 24 1966
INITIALS | CODE

INTRODUCTION

This document is submitted as an Amendment to the April 2, 1965 Application of MK Exploration Company, OME-6440 (silver), and Supplement of August 3, 1965 thereto. Its purpose is to explore by core drilling and to confirm at depth below the surface the structures and mineralization discovered by mapping and trenching in the summer of 1965, as described in the aforementioned Supplement.

I FINANCIAL ELIGIBILITY

A. Applicant has applied to its bankers for financing the execution of the project covered by its OME Application and has been advised that funds will not be available from these usual sources for the work, as evidenced by letters in Exhibit 1.

B. None

C. Sufficient funds as needed will be made available from private sources to meet Applicant's share of the cost.

II APPLICANT'S RIGHTS IN LAND

No change.

III PHYSICAL DESCRIPTION

A. Information has been developed through research in County records and the Colorado State Historical Museum that the Headlight Mine was one of the early producers of high grade silver ore in the district. By plotting the location of this unpatented claim, it is obvious that the shaft located at 6,260 E, 9,340 N is the Headlight shaft, on whose dump ore assaying 17.60 ounces of silver per ton was found. This is a strong, well mineralized vein which, as stated in the Supplement, can be traced through the west end of Trench "B" where it was called Structure No. 4.

B. No change.

C. No change.

D. No change.

E. No change.

F. By way of brief review and more detailed explanation of interpretation of the work performed in the summer of 1965, four significant structures bearing measurable silver were outlined by tranching and mapping. Trenches and dumps of old workings and test pits in the target area mostly show evidence that the openings were in Creede formation, and vein mineralization was limited to jasper, amethyst, manganese oxide, quartz and barite. Those dumps showing little or no Creede formation, however, contained sulphides of lead and zinc along with the other vein minerals. None of the old openings is more than an estimated 50 feet deep and all are caved except one, which is an untimbered shaft.

The Creede formation is known to form a wedge between Fisher Mountain and Snowshoe Mountain Quartz Latites in this locality and it occupies most of the surface in the area of the target. It appears to be absent at the Headlight shaft, however. Here the vein is obvious in the shaft walls and sulphides are prominent on the dump.

It is also well understood from the work of Steven and Ratte (U.S. Geol. Survey Prof. Paper 487) and Steven (U.S. Geol. Survey Prof. Paper 475-D) that the important mineralization was deposited in faults active after deposition of the Creede formation. Had the Creede formation in the target area been composed of competent rocks, therefore, it would have been broken in the later faulting and mineralization would have taken place there as well as in the Snowshoe Mountain (below) and Fisher Mountain (above). The Creede is not competent in this locality, however. It consista of interbedded tuffaceous clays and ash beds that are obviously too elastic to fracture in the faulting process, and which remained to form an impervious barrier to rising solutions in the subsequent period of mineralization. Only the earliest phases of hydrothermal activity penetrated the formation in the form of seepage into the clays, which accounted for the jasper-barite float found in the soil and vein discoloration observed in the walls of trenches.

Inasmuch as sulphides and good silver values are evident from Showshoe Mountain vein outcrops, and from Fisher Mountain outcrops where the Creede is believed to be absent (vicinity of the Emma mine), there is no reason that they should not occupy the same fractures

where those fractures pass beneath the Creede. Further proof of this condition is evidenced by observations in freshly dug trenches, assays of the leakage showing measurable silver, and the grouping of these data into bands or trends that reflect the structure beneath. Moreover, it is reasonable to expect that such a damming off of rising mineralizing solutions will result in a concentration of mineralization beneath the Creede, giving rise to larger and richer ore bodies there than where the Creede is absent.

The Creede formation can not be excessively thick in the target area. The Upper Bird Creek (a little higher than the surface of the target area) encountered Creede somewhere in its workings because it is found on the dump. However, none is found on the dump of the Lower Bird Creek, 400 feet lower than the target surface, and which had a 300-foot high raise. Exposures immediately to the north, east and south are Snowshoe Mountain Quartz Latite. The 30- to 40-foot shafts in the area are all in Creede but it is believed that the east ends of the trenches were going out of it. The maximum thickness likely is estimated to be 75 feet and the average about 30 feet.

Since all old workings in the district in which the foregoing deductions could be confirmed are presently inaccessible, additional geologic knowledge of the property will have to result from subsurface investigation. Through the drilling work outlined in this Amendment, Applicant is confident sufficient evidence of the presence of a substantial silver deposit will result that further exploration by underground methods will be justified.

G. No change.

IV ACCESSIBILITY OF PROPERTY

No change.

V EXPLORATION WORK

A. This Amendment proposes to confirm at depth by core drilling, the structures and mineralization evidenced by work performed on the surface.

Exhibit 3 of this Amendment is a revision of Exhibit 2 of the Supplement, upon which the core drilling program

has been superimposed in plan. It shows the relationship of holes to previously determined structures and mineralization. Exhibit 2 of this Amendment (in four sheets) is a detailed profile through each hole to show the length and inclination of bore and its relationship to the structures it is expected to encounter.

The Headlight vein can be seen to have a westerly dip of 70° at the shaft and an old map of the Bird Creek workings shows a westerly dip for the Smuggler structure of about 75°. Based on these data a general westerly dip of 70° for all structures has been assumed in preparing Exhibit 2.

Two brief tables summarize the scope and expected accomplishment of the drilling program:

SUMMARY OF PROPOSED DRILLING

Hole No.	Inclination	Total Depth
1	-45°	775'
2	-60°	475'
3	-45°	800'
4	-45°	600'

APPROXIMATE VERTICAL DEPTH

SURFACE TO STRUCTURE INTERCEPT (FEET)

Hole No.	Smuggler	No. 2	No. 3	No. 4
1	585 - 730	320 - 470	_____	265
2	100 - 165	215 - 285	_____	180
3	470 - 580	280 - 380	_____	585
4	270 - 380	30 - 170	440	_____

Holes will be drilled for BX core size and maximum effort will be made for best possible core recovery. Cores will be split and assayed for silver and gold and, where mineralization so indicates, for copper, lead and zinc also. Sludge samples will be collected to match core samples and will be substituted for lost cores or used as a check on core assays. Cores will be stored in boxes, 10 feet per box, in a shed to be built near 5,600 E, 9,800 N.

B. Access roads will be constructed to drill sites

as shown on Exhibit 3. Approximately 1,300 feet of crude road sufficient for moving rigs and supplying them will be constructed by dozer. They are planned for minimum cost and least surface and vegetation disturbance in the heavily wooded, rough terrain.

C. The Emma road can be cleared of snow early in May, 1966, and surveying and access construction can be completed immediately thereafter, allowing drilling to start on or before June 1, 1966.

VI EXPERIENCE

No change.

VII ESTIMATE OF COSTS

A. Independent Contracts

Bids not available

Dozer for road construction: estimated 40 hours @ $12.50 (A-C HD-11 to be contracted from Mineral County) $500.00

Core drilling: bids from core drilling companies are presented in Exhibit 4. Since these bids were offered at unit prices for unspecified quantities, each has been calculated to a standard basis, using uniform estimates for variable or unknown quantities, to arrive at an overall unit cost per foot for drilling. The lowest of these is presented here.
2,650 feet @ $ 8.77 23,227.25

Total of Independent Contracts $23,727.25

B. Personal Services

Surface surveying to establish horizontal and vertical control of drill hole collars and to align holes.
3 days @ $100.00 . . . . . $300.00

Services to construct 10'x12' core storage shed.
64 carpenter hours @ $2.50 . . . . . $160.00

Geologic services to supervise and administer program, log and split cores, submit assays, interpret geologic findings, prepare reports. The program will consume approximately 75 days for which the geologist-manager-consultant will average 4 hrs. per day of 2-shift drilling.

37.5 days @ $100.00 $3,750.00

Total of Personal Services $4,210.00

The above services are available.

C. Operating Materials and Supplies

Cardboard core boxes, 10 feet core per box @ $1.00 per box, or $.10 per foot of core.

2,600 feet @ $.10 . . . . . $260.00

Sample bags, packaging materials for mailing $100.00

Total, Operating Materials and Supplies $360.00

D. Operating Equipment

None required.

E. Initial Rehabilitation and Repairs

None required.

F. New Buildings, Fixtures, Installations

Materials for constructing core storage shed, 10'x12', 2x4 framing and corrugated iron sheeting and roof, one door, no windows. Building will be equipped with storage racks for sludge samples and core boxes, and work bench for splitting and examining core.

Total, New Buildings, Fix., Inst. $100.00

G. Miscellaneous

Analytical work: 500 samples will be assayed for gold and silver and approximately 250 of these will also be assayed for lead and zinc; 100 may be assayed for copper. Prices used are published prices of Colorado Assaying Company, Denver, Colo.

500 @ $3.00	$1,500.00	
250 4.00	1,000.00	
100 1.50	150.00	

Total of analytical work $2,650.00

Drafting and map reproduction, typing and stenographic work, telephone, sample shipping to assayer, and other incidental costs.
3 months @ $300.00 . . . . . $900.00

Total of Miscellaneous $3,550.00

TOTAL ESTIMATED COST OF PROJECT $31,947.25

Exhibit 1

THE
COLORADO NATIONAL BANK OF DENVER
SEVENTEENTH STREET AT CHAMPA • DENVER, COLORADO 80202 • PHONE 222-9311

March 16, 1966

Mr. Frank McKinley, President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado

Dear Mr. McKinley:

With reference to your letter of March 15, 1966, and your application for a loan in the amount of $250,000.00 for exploration of patented and unpatented mining claims in the Royal Arch Mining District near Creede, Colorado, we wish to advise you that this Bank is not in a position to make loans of this type at the present time.

Very truly yours,

Willard F. Bozett
Vice President

WFB:hc

2955 Cherryridge Road
Englewood, Colorado
March 15, 1966

Mr. Willard F. Bozett
Vice President
Colorado National Bank
Terminal Annex Box 5168
Denver, Colorado 80217

Dear Mr. Bozett:

COPY

We hereby submit for your consideration our application for a loan in the amount of $250,000.

The loan proceeds would be used for exploration of a group of patented and unpatented mining claims in the Royal Arch Mining District near Spar City, about 14 miles south of Creede, Colorado, known as the Spar City prospect. Preliminary geological and geophysical investigations have been made and we would undertake a tunneling, cross-cutting and raising project to confirm the geologic inferences obtained. The program contemplated is estimated to cost $330,000 of which $250,000 would be provided by the loan and $80,000 would be from the equity capital to be raised by us. The loan proceeds would be advanced as required to carry out the project but only as our own funds are made available.

Inasmuch as we would not be in a position to repay the loan except out of production from the property in the event the exploration is successful, we would ask that there be no corporate liability for the loan, but that principal and interest be repayable only out of some reasonable percentage of the first net smelter returns on ore produced from the property. In this connection we are advised that the property owners would subordinate their interests in the property to the loan.

In our opinion the property has excellent prospects for production of silver, lead and zinc. Please advise us whether or not you would be interested in considering a loan upon terms as outlined above. We will be glad to provide you with further information as to the description of the property, present geological information, and our specific exploration plans. We would also want to discuss with you the interest rate and the appropriate percentage of net smelter returns to be committed for payment of the loan.

Yours very truly,

MK EXPLORATION COMPANY

President

FMcKinley/sg

the Peoples Bank
Member F.D.I.C.
9635 MONTVIEW BLVD.
EMpire 4-2621
AURORA, COLORADO

March 16, 1966

Mr. Frank McKinley
M K Exploration Company
2955 Cherryridge Road
Englewood, Colorado

Dear Mr. McKinley:

Thank you for submitting to us your application for a loan in the amount of $250,000.00.

We regret to advise you that our bank does not make loans for mining and exploration work, or neither do we lend on mining property. We certainly could not make a loan where we would have to rely on a contingent factor to collect the money.

Very truly yours,

H. J. Bleakley

H. J. Bleakley
PRESIDENT

HJB:lr

2955 Cherryridge Road
Englewood, Colorado
March 15, 1966

Mr. H. J. Bleakley
Peoples Bank
9635 Montview
Aurora, Colorado

Dear Mr. Bleakley:

COPY

We hereby submit for your consideration our application for a loan in the amount of $250,000.00.

The loan proceeds would be used for exploration of a group of patented and unpatented mining claims in the Royal Arch Mining District near Spar City, about 14 miles south of Creede, Colorado, known as the Spar City prospect. Preliminary geological and geophysical investigations have been made and we would undertake a tunneling, cross-cutting and raising project to confirm the geologic inferences obtained. The program contemplated is estimated to cost $330,000, of which $250,000 would be provided by the loan and $80,000 would be from the equity capital to be raised by us. The loan proceeds would be advanced as required to carry out the project but only as our own funds are made available.

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In our opinion the property has excellent prospects for production of silver, lead and zinc. Please advise us whether or not you would be interested in considering a loan upon terms as outlined above. We will be glad to provide you with further information as to the description of the property, present geological information, and our specific exploration plans. We would also want to discuss with you the interest rate and the appropriate percentage of net smelter returns to be committed for payment of the loan.

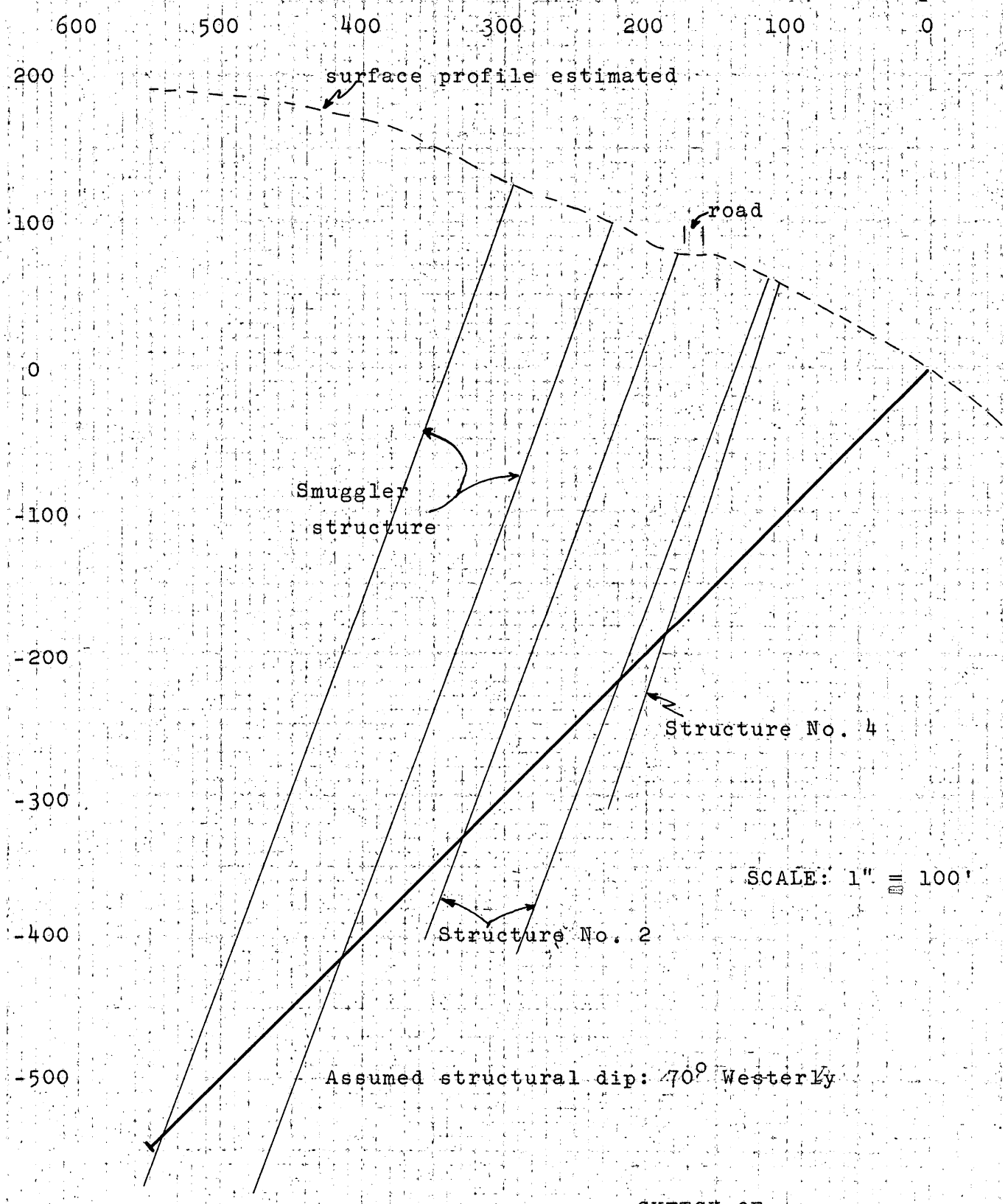
Very truly yours,

MK EXPLORATION COMPANY

President

FMcKinley/sg

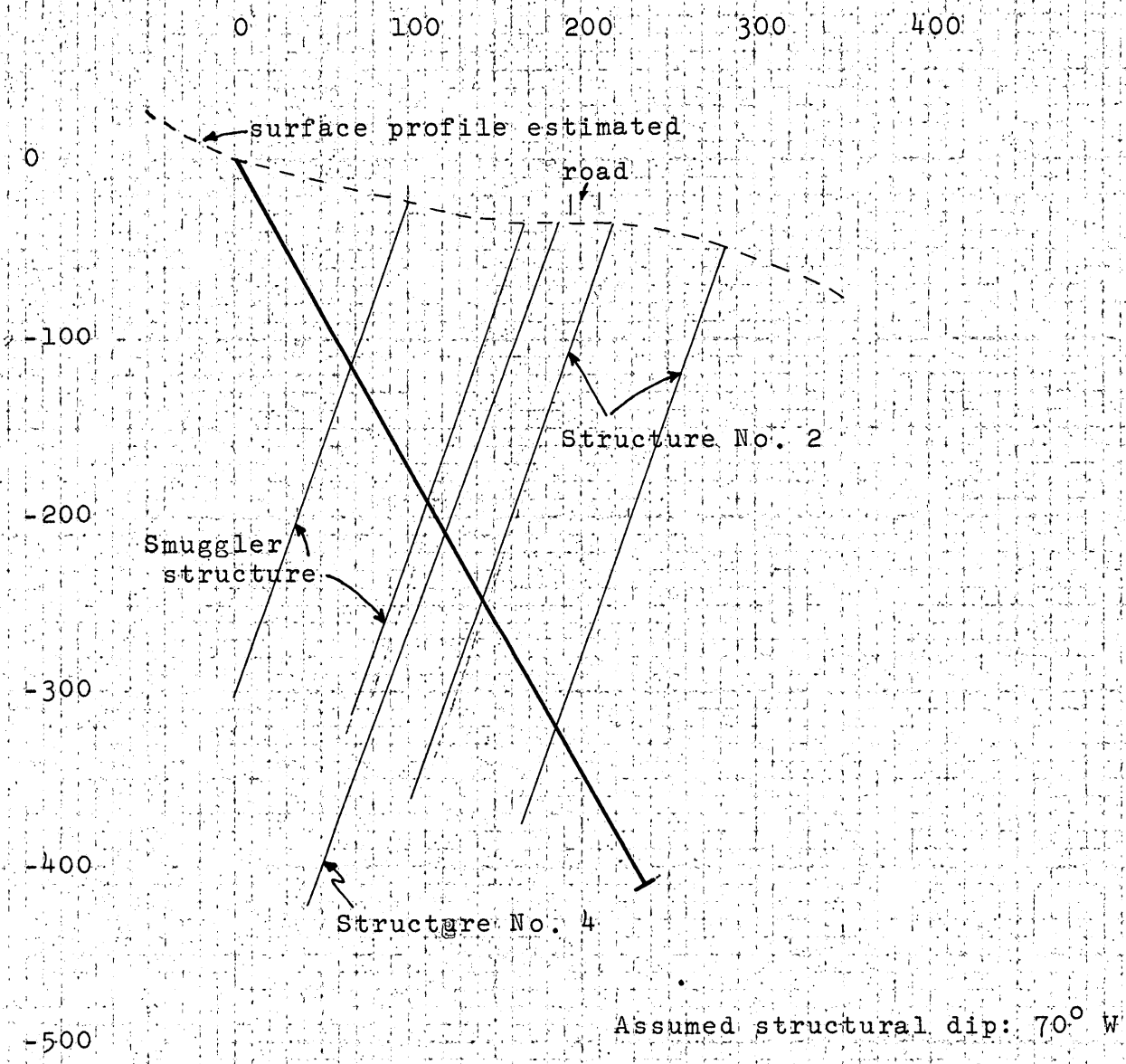
Exhibit 2



Ref.- Amendment to OME 6440 - MK Exploration Co. - Bird Creek Mine - Mineral County, Colo. March 17, 1966

SKETCH OF PROPOSED DDH No. 1
Inclination: -45°
T.D.: 775'

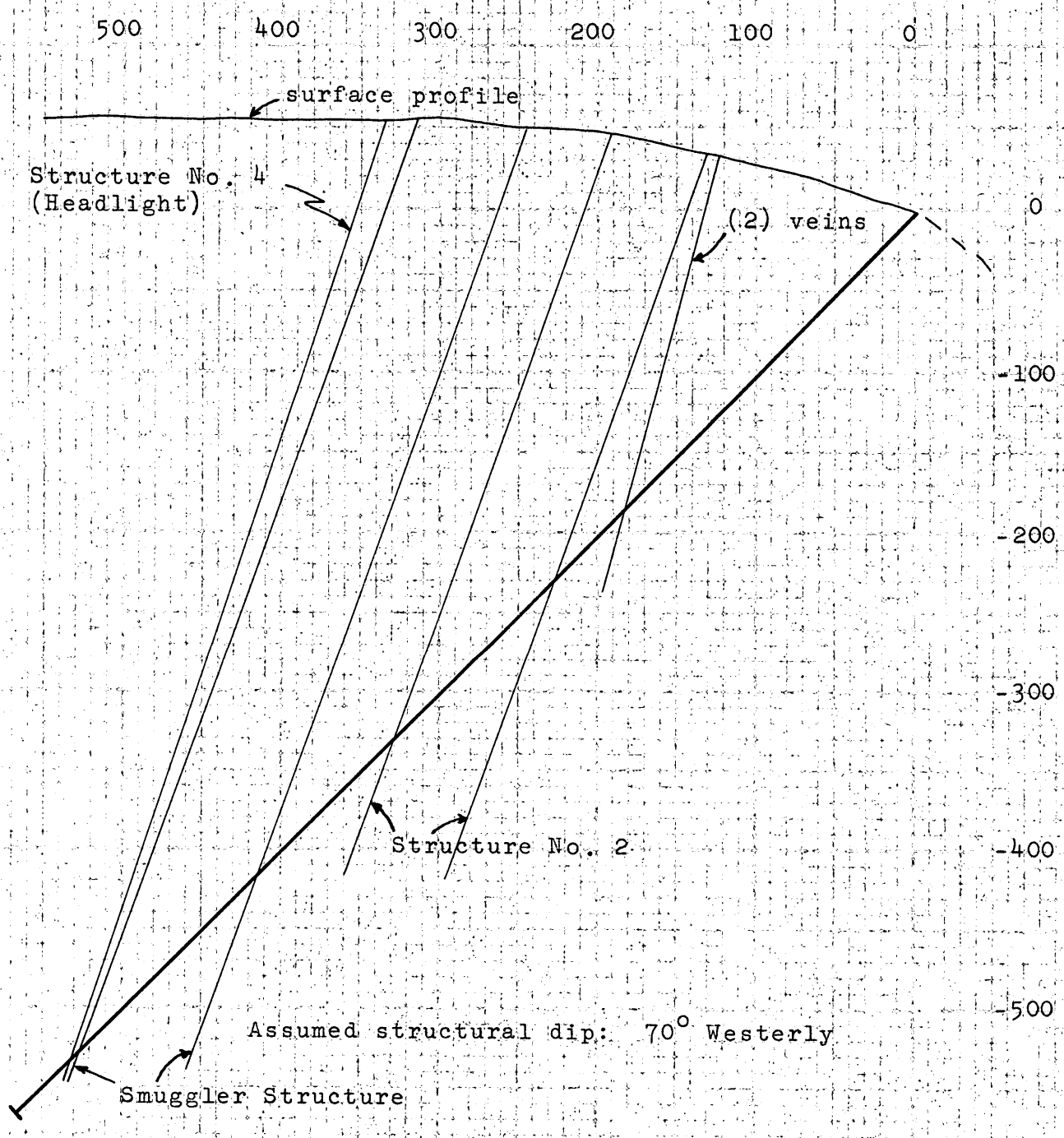
EXHIBIT 2-A



Ref. - Amendment to
OME 6440 - MK Exploration
Company - Bird Creek Mine -
Mineral County, Colo.
March 17, 1966

SKETCH OF
PROPOSED DDH No. 2
Inclination: -60°
T.D.: 475'
Scale: 1" = 100'

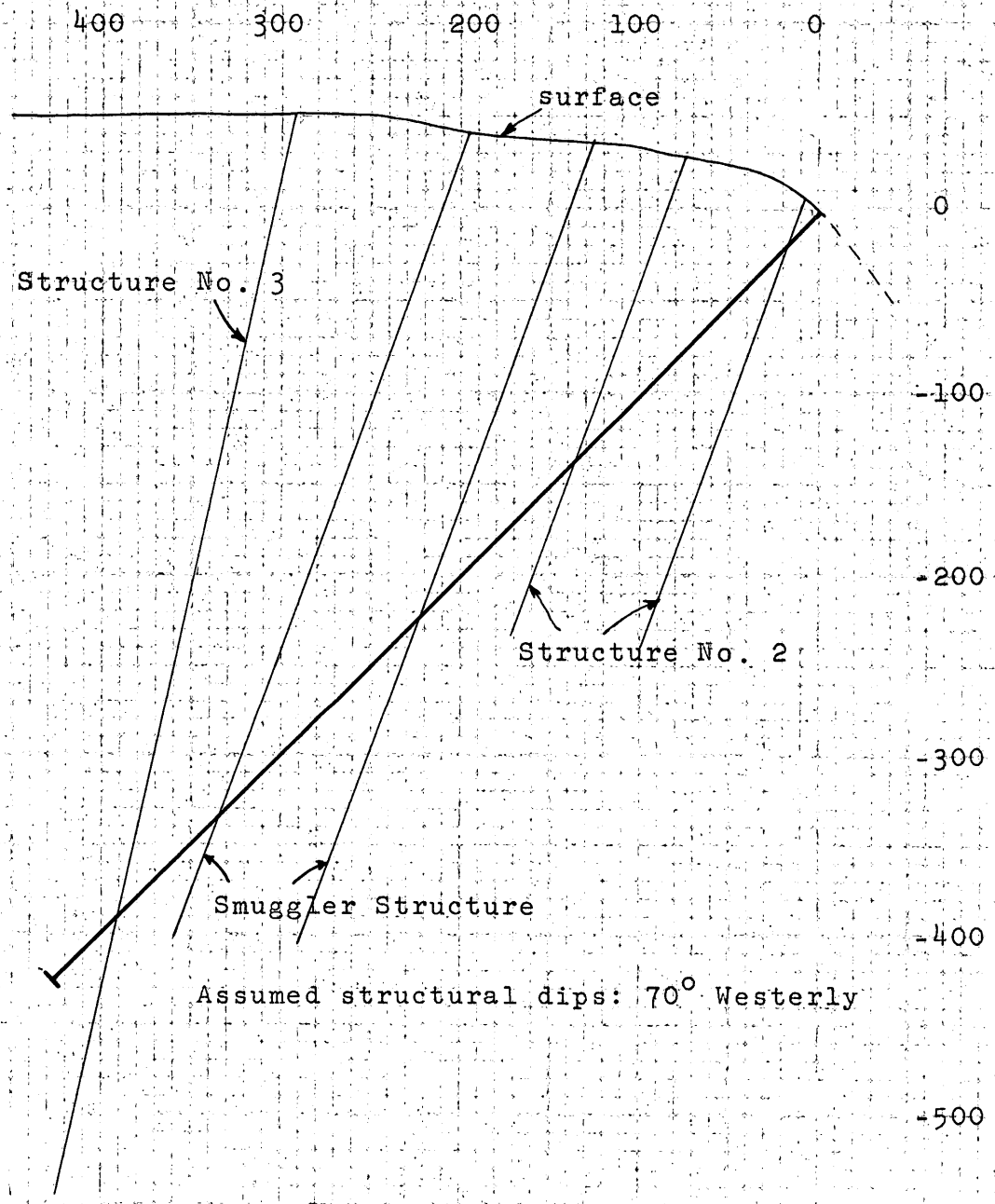
EXHIBIT 2-B



Ref. - Amendment to
OME 6440 - MK Exploration
Company - Bird Creek Mine -
Mineral County, Colorado
March 17, 1966

SKETCH OF
PROPOSED DDH No. 3
Inclination: -45°
T.D.: 800'
Scale: 1" = 100'

EXHIBIT 2-C



Ref.: - Amendment to
OME 6440 - MK Exploration
Company - Bird Creek Mine -
Mineral County, Colo.
March 17, 1966

SKETCH OF
PROPOSED DDH No. 4
Inclination: -45°
T.D.: 600'
Scale: 1" = 100'

EXHIBIT 2-D

Exhibit 3

Exhibit 4

MAC PHERSON DRILLING COMPANY

(SUMMARY OF COSTS)

DRILLING COSTS.	
Overburden	
4 holes @ 25'/hole; 100' @ $8.00	$800.00
Bedrock to 250'	
4 holes @ 225'/hole; 900' @ $5.90	5,310.00
250' to 500'	
3 holes @ 250'/hole + 1 hole @ 225' 975' @ $6.40	6,240.00
500' to 800'	
1 hole @ 275' + 1 hole @ 300' + 1 hole @ 100'; 675' @ $6.95*	4,691.25
Total cost of drilling	$17,041.25
ASSOCIATED COSTS.	
Mobilization	500.00
Reaming: Est. 300' @ $3.70**	1,110.00
Cementing: Est. 200 hrs. @ $13.00	2,600.00
Est. cement or mud	1,000.00
Hole Surveying: Est. 32 hrs. @ $13.00	416.00
(Eastman) Instrument rental, 5 periods @ $50 plus $50 transportation	300.00
Other Standby: Est. 20 hrs. @13.00	260.00
Water hauling: No charge	
Total associated costs	$6,186.00
TOTAL COST OF CONTRACT	$23,227.25
COST PER FOOT (2,650 feet)	$8.77

* No quotation was furnished beyond 750 feet.
** No quotation furnished; Boyles' quotation used.

Consideration Schedule

Diamond core drilling Project

Spar City, Colorado

To: Mr. J. J. Kelly, & Associates
i6 West 13th, Ave
Denver, Colorado 80204

From: MacPherson Drilling Co.
601 N. 2nd, Street
P. O. Box 1167
Montrose, Colorado 81401

Gentlemen:

In consideration for such drilling on a Surface project near Spar City, Colorado. MacPherson Drilling Co. undertakes to perform such drilling under the terms and for the fees setforth herein. And, Mr. J. J. Kelly, & associates agrees to pay MacPherson Drilling Co. the rates which follow for the purpose indicated.

Overburden

From surface to bedrock, Cased @ $ 8.00 per ft

Core drillng rates

Footage	Rate per ft. coring		
	NX-NXWL	BX-BXWL	AX
From bedrock to a depth of 250 ft.	$ 6.40	$ 5.90	$ 5.25
From 251 ft.to a depth of 500 ft.	7.10	6.40	5.70
From 501 ft.to a depth of 750 ft.	7.70	6.95	6.35

Mobilization and including Demobilization of drilling equipment, drill personnel, and all auxilliary equipment required to complete the holes to the required depth for a lump sum of $500.00.

Labor and equipment furnished by Contractor to cementing and drilling out cement, reaming of holes for casing, setting casing and recovery of casing from drill holes on completion of drilling, surveying of holes with Tro*Pari Inst., or other work Company may wish Contractor to perfrom with his equipment and drill personnel shall be at an hourly rate of $13.00 per crew hr. so used.

Supplies, such as drilling mud, cement or cement substitutes, core boxes and sample sacks shall be charged to Company at Cotractor's cost F.O.B. job site. Casing or pipe left in holes and not recoverable shall be charged to Company at Contractor's replacement cost F. O. B. job site.

Contractor shall furnishe all drilling equipment, drill personnel, water truck, pickup for trasnportation, and all auxilliary equip. necessary to complete holes to the required depth. maintain and keep in force for the duration of the drilling program insurance required by the State of Colorado. and the Contractor's code.

Company shall make roads and drill sites suitable for the moving of equipment, furnish water for drilling free of charge to Contractor. However, Contractor shall transport drilling water by truck to the drill site at his own expense. Company shall furnish engineering services in connection with drilling operations, and furnish Contractor the necessary permits if required to work on the property and the moving of his equipment and drill personnel to and from the property.

March 17, 1966

Respectfully submitted,

M. MacPherson

Malcolm MacPherson

BOYLES BROS. DRILLING COMPANY

(SUMMARY OF COSTS)

DRILLING COSTS.	
Overburden	
4 holes @ 25 ft./hole; 100' @ $7.90	$790.00
Bedrock to 250'	
4 holes @ 225 ft./hole; 900' @ $6.90	6,210.00
250' to 500'	
3 holes @ 250 ft./hole + 1 hole @ 225' 975 ft. @ $7.40	7,215.00
500' to 800'	
1 hole @ 275' + 1 hole @ 300' + 1 hole @ 100'; 675' @ $8.10	5,467.50
Total cost of drilling	$19,682.50
ASSOCIATED COSTS.	
Mobilization	350.00
Reaming: Est. 300' @ $3.70	1,110.00
Cementing: Est. 200 hrs. @ $12.00	2,400.00
Est. cement or mud	1,000.00
Hole Surveying: Est. 32 Hrs. @ $12.00	384.00
(Eastman) Instrument rental, 5 periods @ $50 plus $50 transportation	300.00
Other Standby: Est. 20 hrs. @ $12.00	240.00
Water hauling: 3 mos. @ $190 plus 1000 miles @ $.12	690.00
Total Associated Costs	$6,474.00
TOTAL COST OF CONTRACT	$26,156.50
COST PER FOOT (2,650 feet)	$9.87

DIAMOND CORE DRILLING
DIAMOND DRILLING EQUIPMENT
GROUTING
FOUNDATION TESTING
MINING
QUARRYING
SHAFT SINKING
TUNNEL DRIVING
MINE PLANT DESIGN
AND FABRICATION

Boyles Bros. DRILLING COMPANY

CONTRACTORS-ENGINEERS-GEOLOGISTS

2960 W. 7th Avenue
DENVER, COLORADO 80204
Phones: 255-9244
255-0855

General Offices and Plant
1624 Pioneer Road P. O. Box 58
SALT LAKE CITY, UTAH 84110
Phone 487-7595

BRANCH OFFICES
PHOENIX
RENO
SPOKANE
DENVER
SACRAMENTO
SANTIAGO, CHILE
LIMA, PERU

March 4, 1966

Mr. John S. Kelley
Exploration Service
16 West Thirteenth Avenue
Denver, Colorado

Dear Sir:

We estimate the following schedule of charges for core drilling approximately 3100 linear feet near Creede, Colorado for M. K. Exploration Company at the Spar City Property.

1.	Mobilization of men and equipment,		$350.00
2.	Drilling overburden, per foot,		$ 7.90
	Drilling bedrock:	NX size	BX size
	Bedrock to 250, per foot,	$ 7.40	$ 6.90
	250 to 500, per foot,		7.40
	500 to 800, per foot,		8.10
3.	Reaming, all sizes, per linear foot,		$ 3.70
4.	Cementing, plus cost of cement or mud, per hr.		$12.00
5.	Surveying, plus cost of instrument, per hr.		$12.00
6.	Cardboard core boxes to hold 10 feet of core, each,		$ 1.00
7.	Standby, if requested, per hour,		$10.60

8. Water hauling would be charged at our cost of truck rental rate of $190.00 per month, plus .12¢ per mile. We would expect to use drill helper as driver, but should this interfere with drilling operations and require a driver, his wages plus payroll taxes would be charged to your account.

Charges for survey instrument are $50.00 for a five day minimum and $7.00 per day thereafter, plus shipping charges.

BOYLES BROS. DRILLING CO.

Should this meet with your approval we would appreciate immediate notification to enable us to schedule equipment and crews. Thank you for your consideration of our Company.

Very truly yours,

BOYLES BROS. DRILLING COMPANY

George E. Lensch

George E. Lensch, District Manager

GEL/eg

SUPPLEMENT TO
ORIG. APPLICATION

SUPPLEMENT TO
OME - 6440 (Silver)
MK Exploration Company -
Bird Creek Mine,
Mineral County, Colorado

OFFICIAL COPY
O. M. D.
RECEIVED
AUG 9 1965
INITIALS | CO. E
120M
120

MK EXPLORATION COMPANY
2955 Cherryridge Road
Englewood, Colorado

August 3, 1965

Mr. Frank E. Johnson
Acting Director
Office of Mineral Exploration
Department of the Interior
Washington, D. C.

Re: OME-6440 (Silver) - MK Exploration Company - Bird Creek Mine, Mineral County, Colorado

Dear Mr. Johnson:

Submitted herewith is supplemental geologic data and revisions to the original program of exploration set forth in our current O. M. E. -6440, as recommended by you in your letter of June 29, 1965.

New letters from banks have not been included here, since they were provided with the original application. If they should be required, however, we will obtain and forward them promptly on your advice.

In order that we may have this project under cover before snowfall, your early consideration of the application will be appreciated.

Very truly yours,

MK EXPLORATION COMPANY

President

FMcKinley/sg
encl.

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EXHIBITS

1. ASSAYS FROM EMMA MINE
2. GEOLOGIC MAP OF REVISED TARGET AREA
3. TRENCH DETAILS
4. PORTAL SITE PLAN
5. EXPERIENCE RECORD OF RICHARD R. LEHMAN
6. MISCELLANEOUS UNIT COSTS

I. FINANCIAL ELIGIBILITY

No change.

II. APPLICANT'S RIGHTS IN LAND

No change.

III. PHYSICAL DESCRIPTION

A. No change

B. No change

C. No change

D. No change

E. Information contained in original application is supplemented by a more detailed geologic map of the revised target area, Exhibit 2, attached. By concentration of efforts in a small locality, 1500 to 2500 feet south of the proposed portal location on the Smuggler structure, it has been possible, through the use of old mine workings and new trenching to identify four (4) distinct structures on surface. Their presence is evident from alteration, barite, manganese oxides, quartz and jasper, and measurable silver in assayed samples.

The area considered as a target for this exploration extends 1000 feet southward from the vicinity of U.S.M.M. 7795, on the Smuggler structure, and has a width of 200 feet or more on each side of that feature. A number of samples have been assayed, with results as shown on Exhibits 2 and 3.

Tr – 0.X oz Ag consistent

F. A general geologic reconnaissance over the entire area of the property shows a repetition of the nearly parallel strands

or veins within the gross north-south trend of major structure, with numerous crossing veins of various strikes, similar to those mapped in the target area. There are more than 200 shallow test workings on the property, all of them caved, slumped in, untimbered or filled with ice at present. The dumps of short tunnels and test pits usually show gangue minerals (barite and quartz), while shafts over 50 feet deep generally have some sulphides on their dumps.

A log of shipment assays in the possession of Mr. John Jackson of Creede contains the record of a leaser who worked the Emma mine in 1905-1907. A copy made by Mr. Jackson is presented in Exhibit 1. There is no indication of the tonnage represented or what part of the mine the ore came from, but in Applicant's opinion, the assays represent wagon load lots and the ore came from well above the bottom levels. From the dump, the Emma had more lead at depth than is shown by these assays and dewatering would be a difficult problem with only a whim for bailing.

The value of these data to this exploration program is, of course, their documentary proof of the presence of silver. While the Emma mine is not in the target area, or on the structure of present primary concern, the "plumbing systems" are undoubtedly connected and Applicant can find no reason to think that the Emma, Bird Creek or any other ore deposit in the mountain is an isolated or anomalous condition. The structures were all interconnected, open fissures at the time of ore deposition and the mineralizing

solutions had to move through them from points of entrance to points of exit, depositing their ore minerals whenever temperature, pressure and space conditions were favorable.

A vein was prospected by several shafts and trenches about 400 feet south of the Upper Bird Creek portal, in an area of thin soil cover. Its dumps all contain barite, sphalerite and galena, and the line of shafts have a strike of S 76° W, making the vein cross the Smuggler south of the Bird Creek workings. The Upper Bird Creek dump itself has similar ore on it and some pieces are large enough to see the banded structure characteristics of fissure filling. The vein of the D. J. S. claim strikes S 9° W and its shaft dumps show similar ore. An open untimbered shaft beside the road, immediately south of the target area, has a barite-galena-sphalerite vein (assaying 17.60 oz. of silver per ton) striking N 34° W and passing through the west end of Trench "B". Barite was found farther east in Trench "B" and doubtless is the surface expression of similar veins. Dumps of prospects in the northern part of the target area, on the Smuggler and Structures Nos. 2 and 3, show similar indications of vein presence. All of these data lead to the inevitable conclusion that the plumbing systems of all of these veins are interconnected and there is no reason to think that the Smuggler or any other one of them should have been excluded from the mineralizing process. Determination of the intensity, extent and value of that mineralization is the objective of this exploration.

The practice of core drilling has become such a standard procedure in most mining districts that it is often thought to be the only tool for locating and evaluating structure. In the Creede district it may locate structure by loss of circulation and bit pressure, but it will not evaluate and generally will not even prove the presence of ore. Inability to recover core is discouraging, but to lose both core and sludge makes the hole worthless for evaluation. This is what happens in the district and the net result of core drilling is knowledge of the location of structure.

The Emperius mine tried core drilling many years ago and gave it up quickly when neither core nor sludge could be recovered. In the 1961 exploration of Bulldog Mountain the operator's core drilling experience of several thousand feet of hole was a history of repeated grouting, coring the cement, grouting, etc., trying to at least get some sludge to assay. The ore was found by tunneling into the mountain. Another company is currently drilling in the district with the same experience, except that it ignores grouting and simply pushes on through the structure zone without recovering core, sludge or information. At Spar City the location of structures has already been established in the target area and no further enlightenment could be expected from drilling.

Longhole drilling from underground is a different matter, however. It is an inexpensive means of keeping track of the location and direction of parallel veins and observing wallrock

geology, and for those purposes it is a valuable tool.

In June and July of 1965 two trenches were excavated across the target locality and an opening was made across the Smuggler structure at the portal site to prove its presence at these places. The work was performed with a nearly-new Allis Chalmers HD-11 dozer. The location of the portal trench is shown on the Portal Site Plan, Exhibit 4, and the trenches in the target locality are shown on Exhibit 2, with their details on Exhibit 3.

TRENCH "A" - This trench was sited to cross both the Smuggler and another south-trending structure to the east which, for the purpose of identification, will be called Structure No. 2. Numerous veins of various strikes were known to exist in the locality, as determined from S. P. and projections from old workings, float, etc., but a third important trend, Structure No. 3, was evident from shafts south of U.S.M.M. 7795, with a strike of about S 70° E.

Considerable difficulty was encountered in digging the trench through a very tough, thick blanket of clay covering the Smuggler and Structure No. 3, and efforts to extend the trench westward to expose all of Structure No. 3 had to be abandoned. However, alteration extending upward from the veins into the clay had caused a conspicuous discoloration that made the vein locations stand out noticeably during the digging process, confirming earlier projections. Subsequently, pits were dug by hand as deep as possible into the trench floor at locations where veins were believed to exist, and

their bottoms were sampled. Those results are shown on Exhibit 3.

Although in two instances quartz-barite veins were visible in the pit bottoms, for the most part vein indications consisted of jasper-barite float in the topsoil over the clay (some pieces weighed about 200 pounds), clay discoloration and altered latite. There could be no expectation that substantial silver or any sulphides would be encoutered under these circumstances, but barite, hydrothermal alteration and measurable silver confirm presence of the veins.

TRENCH "B" - This trench was sited to align the Smuggler and Structure No. 2, and to expose additional geologic evidence of the strengths of these features. Correlation of data with the first trench is easily possible, with the heavy tough clay to the west and the oxidized material to the east.

During digging it was again possible to see numerous veins through colors and alteration, but more barite was noted in this case, particularly in Structure No. 2. Here the structure was more resistant to weathering and its shearing characteristics are conspicuous. Wider and stronger barite stringers are evident and from the eastern edge of the shear, soil creep has laid some of the barite out horizontally to the east.

The Smuggler structure is less noticeable in this trench because of a mud-filled fracture striking obliquely across the floor, making sample sites difficult to locate. Otherwise, the

material encountered correlated with the same structure in the first trench. Another structure, No. 4, was discovered in the west end of the trench. Several veins in it are visually identifiable in the walls and floor and its strike correlates with an open shaft at the south end of the target area where the vein can be observed in the shaft walls.

PORTAL TRENCH - In 1964 the location of the Smuggler was established by map projection and S. P. A trench was dug across the trend at that point to establish its exact position for locating the adit portal. After excavation had progressed to a depth of 20 feet and it became hazardous to personnel and equipment, the digging was haulted. A vein was identified to the east of the anomaly, and over the anomaly altered fragments of latite were found. However, since the vein itself could not be exposed, the Portal Site Plan provides for entrance into the mountain obliquely to the structure for an underground intersection.

Conclusions from surface investigations. - Not only has the location and persistance of the Smuggler structure been established in the target area, but 3 additional significant structure discoveries have been confirmed in that locality. Each is characterized by parallel veins that can either be seen or be identified by sampling of altered material. It is typical in the district that some of the individual veins within a structure will coalesce downward, but others will retain their individuality. Applicant has observed this

in the Emperious and Monon Hill mines where more than one vein of structure was commercial. Doubtless Spar City will be similar.

The parallelism of the Smuggler and Structure No. 2 shown on Exhibit 2 is probably an erroneous result of restricted mapping. The strikes of observable structure confirm that alignment and there is a definite zone of country rock between them in Trench "B", but they probably join or cross to the north or south, or both.

The lack of high silver values on test pit dumps and in new trenches is not surprising. Except at the point of discovery the Amethyst vein has no silver values at bedrock. The OH vein can be found on surface by alteration indications only; there are no silver values at bedrock. Trenches over the Bulldog and related veins have never sampled above 1 oz. Ag per ton, either in the 1961 project or in current work. Significant silver values just do not reach the surface in the Creede district.

IV. ACCESSIBILITY OF PROPERTY

There is no change from original application.

V. EXPLORATION WORK

A. Applicant proposes to drive a 6' x 8' tunnel for 2,500 feet along the Smuggler structure for longitudinal exploration, and to explore laterally by 6' x 8' crosscuts a total of approximately 1000 feet making a total of 3,500 feet of 6' x 8' opening. Applicant also plans to drill about 1000 feet of longholes, each 50 to 75 feet deep to test the walls of the structure traversed, at points to be determined after tunneling has progressed sufficiently to judge advantageous locations for them. Although the position and lengths of crosscuts is shown specifically on the exploration plan (superimposed on the geologic map, Exhibit 2), Applicant desires that he be allowed latitude in siting of crosscuts and in their lengths so that he can make changes from this plan to take fullest advantage of knowledge developed by future surface and underground studies during progress of the work.

The elevation of the proposed portal is approximately 9,900 feet and the elevation of the target area ranges from 10,500 to 10,600 feet, making the available backs over the tunnel 600 to 700 feet. It can be stated with reasonable certainty that there has never been a penetration below surface in the target area of more than 50 feet, so unquestionably none of the ore has been mined out in advance of this exploration.

The need to explore this prospect at maximum attainable depth has been discussed previously. There are physical factors, however, that also control the location of a portal. The northwest, north and eastern sides of the target area are bordered by rockslides extending for 800 to 1000 feet, almost to the Bird Creek road in places. A portal and its access in the rockslide would be exceptionally expensive and hazardous to construct and maintain. From south of the rockslide on the west a longer tunnel than the one proposed would be needed to give half the backs the Smuggler route will provide, and from south of the rockslide on the east a shorter tunnel might be constructed, but it will give less backs, it will be inaccessible in winter, and will be subject to snowslides. Points in favor of the Smuggler route are:

1. It provides the topographically lowest possible portal site and will give deepest penetration and maximum backs in the target locality.

2. It is the shortest route via vein to the target.

3. The route is on a vein structure known to have had ore farther south. It provides an opportunity for mineralization for the entire length of the opening.

4. With the parallelism of veins found on survace and the cross-fracturing shown on Exhibit 2, the gross Smuggler structure is very large by any standard of comparison, and a tunnel along its strike provides innumerable opportunities for lateral exploration, possibly on crossing veins.

5. The portal site is more accessible than any other possibility on the mountain. It apparently is not in a snow slide area since there is no visible sign of old slides in its vicinity.

The provision for longholing is made in order to test the zone close to the tunnel for the presence of parallel structure that may also be mineralized. Trenching on surface has shown existence of such features there and they are common in the district. Whether they continue downward as individual veins, as they did in the Monon Hill mine, or whether they coalesce downward is not known at Spar City, but longholing will answer that question and contribute materially to the information gained through tunneling. No separate cost provision is made for drilling these holes, as Applicant expects to divert efforts of various personnel from normal tasks to do the work. Drilling will be by jackleg and the steel and bits used in the tunneling work.

B. A change has been made in the portal and road plans from the original application, to make better use of existing terrain. The amount of work involved is illustrated on the Portal Site Plan, Exhibit 4, Applicant has learned from spring thaws and summer rains that graded earth becomes an impassable road surface on Fisher Mountain, and rock surfacing is essential to the utilization of roads.

Snow removal will also be important to the project. Mineral County officials and workmen are most cooperative in maintaining public facilities, but it will be impossible for them to open roads

early enough for the day shift to drive to work, and they are not allowed to plow private roads at all. The only solution is for Applicant to retain plowing equipment for his own use. A provision is made in par. VII for rental of a D-7 dozer for 6 months for this purpose.

C. Weather permitting, the work can commence immediately upon execution of an OME contract. About one month will be required to accomplish enough surface preparation (earth work and building construction) to start underground work and 12 months will be needed for tunneling, crosscutting and longholing. The underground estimate is based on 2 shifts per day averaging 13 feet of progress per day, plus 15% additional days for dump construction when needed, making turns underground, laying switches, timbering, longholing, etc. No allowance is made in the estimate for lost shifts due to weather and impassable roads. Longholing will proceed concurrently with the other work.

VI. EXPERIENCE

The management, engineering and geologic investigations of the project will be performed by John J. Kelley, whose experience record was submitted with the original application. His duties and responsibilities and the time required of him in the capacity of consulting engineer were amplified in a letter from Applicant to Mr. Hugh M. Connors, OME, Denver, Colorado, dated May 24, 1965.

Under the present concept of Applicant execution of work, rather than contracting the job with an independent mining contract, Applicant

has selected Richard R. Lehman to fill the position of foreman in supervision of the work on a full time basis. A brief resume of his experience is attached as Exhibit 5. Mr. Lehman is considered by most local mine management as the best possible mine boss for Creede operations. Applicant has employed him both as a miner and supervisor in other operations and has found him exceptionally satisfactory in both capacities.

VII. ESTIMATE OF COSTS

A. Independent Contracts. None

B. Personal Services

1. Management, engineering and geologic consulting by John J. Kelley, whose proposal for this work was included in original application.

13 months @15 days/mo.	@$100/day out	$ 19,500.00

2. Direct supervision by Richard R. Lehman full time:

13 months	@$900/mo.	11,700.00

3. One mechanic:

13 months @25 days/mo.	@$28/day: 325 days	9,100.00

4. Six miners:

12 months @25 days/mo.	@$32/day: 300 days	57,600.00

5. One mucker:

13 months, @25 days/mo.	@$22/day: 325 days	7,150.00
Total of personal services		$105,050.00

C. Operating Materials and Supplies. (See Exhibit 6, Miscellaneous Unit Costs)

Track, 3500 feet underground plus 500 feet on dump	
4,000 ft. @$2.25	$ 9,000.00
6 Track Switches @$150.00	900.00
Timber - Estimate 50% of tunnel and 20% of crosscuts	
will require timbering - 1450 ft @$6.30	9,135.00
Explosives - 3500 ft. @$8.50 ?	29,750.00
Drill steel and bits - 3500 ft. @$1.70	5,950.00
Fuel - Compressor & Generator	
12-1/2 months @4,000 gal/mo. - 50,000 gallons	
@$0.17	8,500.00
Space Heating - 9 months @$25/mo.	225.00
D-7 Dozer - 6 months @590 gal/mo.	
3,000 gal @$0.17	510.00
Pick-up truck - 13 months 1,000 mi/mo.	
100 gallons @$0.35	455.00
Lubricants for operating equipment	500.00
1,000 lbs. nails @$14.00 cwt.	140.00
Ventilation pipe - 3500 ft. @$2.63	9,205.00
Compressed air & water pipe 3500 ft. @$1.13	3,955.00
5 - 4" air valves @$36.00	180.00
5 - 2" water valves @$16.00	80.00

Equipment and tools under $50.00 each (Includes picks, shovels, track jack, hammers, moilles, axes, pick and axe handles, rake, wheelbarrow, saws, hoses, air and water fittings, manifolds, and shop tools)	$ 1,000.00
Power - By generator shown in par. D below.	
Water - To be hauled from local creek until supply is developed underground.	
Miscellaneous engineering tools and supplies	100.00
Total Operating Materials and Supplies	$79,585.00

D. Operating Equipment

1. To be rented:

1 D-7 dozer, 6 months @$700.00	$ 4,200.00
Moving: Est. 500 mi. @$1.00	500.00
1 Pipe groover @$120/yr. (Victaulic)	120.00
1 600-cfm. compressor, 13 months @$800	10,400.00
(Denver Air Machinery rental-purchase)	
1 4-wheel drive pick-up truck, 13 months @$140	1,820.00
(Four Wheel Drive Rentals, Broomfield, Colo.)	
1 Set mining machinery and equipment	
13 months @$250.00	3,250.00

1 - 1-1/2 ton Atlas motor w/2 batteries & charger
2 - Wheatlamp chargers, 6-lamp
12 - 49'er Wheatlamps
1 - Eimco Model 12-B loader
1 - 21" Joy Axivane fan
2 - 350-gal. water tanks (150 psi.) stationary
2 - Cleveland jackleg drills

200 feet air drill hose
200 feet water hose
1 - 750-gal. ASTM tested air receiver
2 - Remmington air saws
Miscellaneous spare parts, tools and supplies

This group of equipment is in storage in Idaho Springs, Colorado. It is all in useable condition without repair but motor batteries and mine lamps are deteriorated. The mucker will have to be converted to 24" from 18". The drills have had considerable use and their maintenance will be high. Applicant believes that the set will be useful in starting this operation but motor, mucker and drills should be replaced by a larger motor and mucker and 2 new drills. The set can then remain on the job in a stand-by capacity, and be available to drive crosscuts concurrently with the tunnel if practical.

Total of operating equipment rentals	$20,290.00

2. To be purchased:

1 - Diesel generator set, 110/220 v, 30 Kw, used if available - Price new (Waukesha)	$ 4,500.00
1 - Tramming motor, min. 3 ton, max. 5 ton, used (Machinery Center, Salt Lake City)	7,000.00
1 - Eimco 21-B loader, used (Union Supply, Denver)	3,000.00
10 - 24" gauge rocker dump cars, 32 to 36 cu.ft. cap., used (Est. $400 ea. if they can be found)	4,000.00

1 - 300-gal. water tank, light weight, for haulage, used. Est.	$ 150.00
1 - Gasoline operated pump for filling tank, used. Est.	150.00
1 - Arc welder, Hobart G 261, new (U. S. Welding, Denver)	1,500.00
2 - 1-1/2 ton chain hoists, used, with rails, Est.	200.00
1 - Set office equipment: 2 desks, 2 chairs, 1 drafting table with tracing window in top, 1 drafting stool, 1 calculator, 1 typewriter (manual) and 1 photo copier, all used. Est.	1,000.00
2 - Ingersol Rand telescopic jackleg drills, new JR 300 R @$1,340.00 each (Colorado Builders Supply, Denver)	2,680.00
1 - Blasting machine, 50 cap capacity, new (Tomkins Hardware, Creede)	165,00
1 - Card car pass, used if available. Price, new. (Card)	650.00
1 - Atlas Copco bit sharpener, new. (Atlas Copco)	350.00
1 - Jimcrow for 30# rail, new (Card)	75.00
Total cost of operating equipment purchases	$25,420.00

E. Initial Rehabilitation & Repairs

No existing buildings, fixtures or installations presently exist at the site. It is estimated, however, that $2,500.00 (not otherwise provided for) will be required to transport purchased and rented equipment from their present locations to the job, and to convert the 12-B mucker to 24" gauge.

F. New Buildings, Fixtures, Installations.

It is estimated that portal site preparation and road construction will cost $4,615.00. For quantities and unit prices see Exhibit 4.

The project will require 5 surface structures, all to be constructed new, since there are no existing facilities. They are: a shop building, a change room-office building, a shelter for compressor and generator, an explosives magazine, and a sheltered charging station. Labor for erection of these structures will require 2 carpenters for 50 days each at a daily rate of $26. Total labor cost will be $2,600.00.

The shop building will be 16' x 24', have a concrete floor with track connecting to mine trackage, and will be insulated and heated. It will have an overhead door at the track entrance, one walk-in door and 2 windows. A building of the same dimensions and construction, with 2 walk-in doors and two windows, and a partition will serve as a change room-office facility. Prefabricated metal buildings can be purchased, delivered to the site, floors, heaters and partitions added, for a total materials cost of both buildings of $4,000.00.

The shelter for the compressor and generator will be 16' x 20'. It will have a concrete floor, metal shed roof and no heater or insulation. The walls will be framed to provide doorways on one side and the other 3 sides will be hinged panel construction so they can be opened for maximum ventilation. The materials cost of this facility will be $750.00.

Colorado Mining laws require that explosives magazines be constructed "of brick, soft rock, cinder block or wood packed with sawdust and reasonably bulletproof." Doors must be 2" wood covered with 3/8" steel plate. Such a structure for this project will be 10' x 10' x 8' high. The walls will be sand-filled frame or cinder block, the roof and floor wood. Materials will cost $300.00.

The charging station shelter will be constructed adjacent to the portal entrance where a side track will provide a standing place for exchanging and charging batteries of motors. About $400.00 for materials, including wiring, will be required.

Total cost of new buildings, fixtures, installations $8,050.00

G. Miscellaneous

1. Repairs and Maintenance

D-7 Dozer	$ 600.00
Pickup service and repair $7.50/mo.	100.00
Compressor $50.00/mo.	650.00
Generator $25.00/mo.	325.00
Replacement battery for 1-1/2 ton Atlas motor (only if required) (Gould National Battery Co.)	1,185.00

Replacement of batteries on 6 Wheatlamps (King & East, Denver) $19.95 ea.	$ 119.70
Replacement parts for Wheatlamps	50.00
12-B Loader	250.00
2 - Cleveland drills	1,000.00
2 - Remington saws	100.00
2 - I-R drills (advice of I-R representative)	2,000.00
3-5 ton motor	250.00
21-B Loader	300.00
10 mine cars	500.00
Total cost of repairs and maintenance	$7,429.70

2. Analytical work.

Applicant intends to cut a channel sample every 10 feet in the face or back of the openings whenever in vein material and to sample car tops of vein muck, making a composite muck sample of each three rounds. These, plus samples of veins cut by crosscuts will be assayed for Au, Ag, Pb, Zn and Cu at a cost of $9.50 each. It is estimated that a total of 400 samples of this kind will be taken and their assaying cost will be $3,800.00.

Applicant also plans to assay long hole sludge every 4 feet and expects to assay selected rocks and samples, a total of 300 samples, for silver only, at the rate of $2.50 each. Assaying of this category will cost $750.00

Total cost of analytical work	$4,550.00

3. Accounting - 13 months @$50.00 $ 650.00

4. Workmen's Compensation Insurance

State Compensation Insurance Fund rate is $4.21 per

$100.00 of each man's pay on the first $100 earned per week. To be covered will be: the foreman, mechanic, 6 miners, mucker and 2 temporary carpenters. The total man-weeks worked will be 501; $4.21/week, the cost will be $2,109.21

5. Payroll Taxes

Unemployment Compensation - 3.1% on first $3,000.00 annual wages per man. Taxable payroll in 1965 will be $25,000.00 and 1966 it will be $27,000.00.

Total F.U.T.A. tax will be $1,612.00

FICA - 3.625% on first $5,200.00 earned per man per year. Assuming the job will start by September 1, 1965, the taxable payroll for 1965 will be $25,600.00 and for 1966, $46,550.00.

Total FICA tax will be $2,615.00

6. Miscellaneous

Map reproduction, typing and stenography, telephone, postage, etc., estimated at $200.00 per month.

Total Cost of miscellaneous $2,600.00

7. Sales Taxes

From the foregoing outline of costs, $118,000.00 will be spent as taxable expenditures, at the Colorado sales tax rate of 3%.

Total cost of Colorado Sales Tax $3,540.00

EXHIBIT 1

From Assay Record of Mr. Wallace Leary
Del Norte, Colo.

Emma Mine Lease - Assay record April 1, 1905
To July 31, 1907

Exhibit 1

date -	ag	au	pb
Dec. 12, 1905	4.	0.04	tr
16	21.	0.04	"
16	29.	0.05	"
16	12.	0.03	"
16	28.	0.04	"
23	26.	0.05	1.5 %
23	31.	0.06	2.
30	29.	0.05	—
30	35.	0.06	—
30	11.	—	—
30	6.	—	—
January 6, 1906			
6	21.	0.04	tr
8	45.	0.06	"
(Chapman) 12	31.	—	—
18	(22.-27.-9.-5.)	—	—
19	(10. 12.)	—	—

Eilers Smelter #1 return # 5323	ag	au	pb
Feb. 3, 1906	18.	.04	1.2
	(26.5-45.)		
5, 1906	38.5	0.06	2.5
12 "	(14.-113.-25)	—	1.8
16 "	(12.-24.-39)	—	—
16 "	(37.-56.)	—	—
Mar. 1. "	(17.-18.-23.-8.-6.)	—	—
8. "	(13.-27.5)		
15. "	(18.-10.-34.-29.)	—	—
31. "	(20.-39)		
April 3, 1906	(38.-8.4)	—	—
19, "	(15.-31.)		—
May 1, "	14.		
June 1, "	12.	0.02	—
" "	10.	tr.	—

Last entry

EXHIBIT 2

EXHIBIT 3

EXHIBIT 4

EXHIBIT 5

Exhibit 5

Experience Record
of
RICHARD R. LEHMAN
Creede, Colorado

EDUCATION:

Grade school - 8 years
High School - 4 years
Correspondence Courses: ICS Course, Mine surveying and mapping. NIA course in Journalism.

EXPERIENCE:

Oliver Mining Co., Hibbing, Minnesota. Mining iron ores--top slice method. Not sure of time. A month or two in 1929. Underground helper.

Worked for a short time in Golden Rod #7, Pitcher, Oklahoma. Lead-Zinc. 1929 and 1930. Mucker.

Colorado Fuel and Iron Corp. at Wagon Wheel Mine. Fluorspar. Underground helper and miner. 1934 for about 4 months.

1934-1942. Emperius Mining Co., Creede, Colorado. Miner, Shift boss, Surveyor.

1942-1945. USNR. GM 1/c Seabee Asiatic Pacific area. Driller, powderman, surveyor.

1945 - 1951. Emperius Mining Co. Contract Miner

1951 - 1953. TOC Development Co. Operations Supt. Exploring properties in the King Solomon mining district, Creede, Colorado.

1954 - 1962. Emperius Mining Company. General Foreman. Duties: direction of all mining activities, buying of supplies, directing haulage, planning development and exploration.

1962 - 1964. Humphreys Engineering Co. Lead miner, alternate foreman.

1964 for 2 months. Denver-Golden Corp. Contract Miner, Golden, Colorado

1965-present Homestake Mining Company, Creede, Colorado, Contract Miner.

EXHIBIT 6

Exhibit 6

MISCELLANEOUS UNIT COSTS

EXPLOSIVES - 40 holes per round, 6' deep, 240 feet of holes. Electric caps of different delays have different prices, but $0.35 is used as an average. Cost for caps will be $14.00 per round, or $2.33 per foot of tunnel.

150 lbs. of dynamite (DuPont 618-B) per round will be used at a cost of $24.50 per cwt. (Tomkins Hardware, Creede). Dynamite cost per round will be $36.75; per foot of tunnel, $6.13. Cost of explosives per foot of tunnel will be $8.46, say $8.50.

DRILL STEEL AND BITS - Comsumption of bits and steel will, of course, depend upon rock conditions, machine performance, compressed air available, miners' skill and proper sharpening. It is doubtful if chisel bits will be satisfactory in the ravelly ground expected. They will simply corkscrew into the rock and create numerous problems in pulling steel and loading rounds. A 4-point bit on sectional steel will be used.

Bits will give 50 feet of drilling per sharpening and 10 sharpenings per bit, or 500 feet of drilling. Atlas Copco quotes them at $17.45 ea. in quantities of 50 or more, $19.40 ea. for 10 to 50, and $21.55 ea. singly. At 240 feet of drilling per 6' round, a bit will drill 2.08 rounds or 12 feet of tunnel. The bit cost per foot of tunnel will be $1.45.

TIMBER - Based on $0.07 per bf. quoted by O. W. Jackson Lumber Co., South Fork, Colorado. A drift set requires 3-8" x 8" - 10' and

6 - 3" x 12" - 5', totaling 250 bf. To this add an estimated 200 bf. of blocking, making a total of 450 bf. per 5' of drift, lagged over back only. At the quoted price the materials cost per foot of tunnel will be $6.30.

FUEL - Diesel: A 600 cfm compressor will burn 10 gal. per hour under full load, at 80% usage, 65 gal. per shift. The 30 Kw generator will burn 25 gal. per shift. Total diesel consumption will be 90 gal. per shift, 180 gal. per day. Price quoted by Tomkins Hardware is $0.17 a gallon, delivered, and they will furnish a 1,000 gal. tank for storage. Cost per day will be $30.60, per month is $765.00. By way of comparison, the Bulldog project, with identical size equipment, is burning 4,000 gal. per month in 2-shift operation, with their generator running 3 shifts. That figure is acceptable for estimating purposes.

Space heating: An estimate of $25.00 per month is reasonable for bottled gas for space heat for the 2 buildings. LPG cost $0.17 per gallon at Creede and includes the use of tanks. Although some space heat is used most summer months after sundown, 9 mos. @$25.00 is a fair average of this fuel cost.

TRACK - Ties: 6" x 6" x 42". Use 1 every 3 feet of track. Based on timber price, $0.75 each, or $0.25 per foot of track.

Rail: 30#, $180.00 per ton delivered in 28-ton lots (Tomkins Hardware). 1 ton makes 100 feet of track.

Splice bars: 67 pair per 1000 feet of track @$0.70 per pair. (CF&I)

Bolts: 5/8" x 2-1/2" in 200# kegs; .513 kegs per 1000 feet of track. Price is $21.35 per cwt. (CF&I)

Spikes: 1/2" x 4" in 200# kegs; 3.54 kegs per 1000 feet of track. Price is $14.13 per cwt. (CF&I)

For estimating, use $2.00 per foot of track for rail and accessories, or $2.25 with ties included.

Switches: Price depends upon radius of curvature and length of frog. Card quotes $150.00 each for the shortest radius and frog they make in standard production, F.O.B. Denver, Colorado.

PIPE - Lightwall with rolled ends for Victaulic fittings. Quoted by Tomkins Hardware @$0.55 per foot for 4", estimate 2" @$0.35 per foot, in random 20' to 21' lengths, delivered to the mine. Couplings: 4" @$2.90 and 2" @$1.45 each. Including couplings, pipe cost is: 4" - $0.70; 2" - $0.43. Cost of air and water line together, at the mine is $1.13 per foot.

VENTILATION PIPE - National Air Duct Co., Denver, quotes 24", 22 ga. @$2.14 per foot, couplings @$2.47 each, making pipe in a 20-foot lengths $2.27 per foot. Add $0.06 per foot for adhesive and tape, and $0.30 for freight. Cost of line per foot will be $2.63.

MK EXPLORATION COMPANY
2955 Cherryridge Road
Englewood, Colorado 80110

April 2, 1965

OFFICIAL COPY
O. M. E.
RECEIVED
APR 19 1965
INITIALS/CODE

Director
Office of Mineral Exploration
Department of The Interior
Washington, D. C.

Dear Sir:

Submitted herewith is our application for O. M. E. financial assistance in the exploration for silver-lead-zinc ores at Spar City, Royal Arch Mining District, Mineral County, Colorado.

The MK Exploration Company will appreciate your early consideration of its Application.

Respectfully,

MK EXPLORATION COMPANY

President

FMcKinley/sg

MME Form 40
July 1962

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

Budget Bureau No. 42–R1368
Approval expires Dec. 31, 1963

ORIGINAL COPY RECEIVED APR 2 1965 INITIALS CODE

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Pursuant to Public Law 85–701 (72 Stat. 700; 30 U.S.C. 641)

ORIGINAL APPLICATION

NAME OF APPLICANT *(Full legal name and mailing address as they should appear on contract if one is executed.)*

MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER: 6440
DATE RECEIVED: 4-19-65
REGION: III
DIVISION CODE:

BUSINESS ORGANIZATION *(Check one)*

- INDIVIDUAL ☐
- CORPORATION ☐
- PARTNERSHIP ☐
- OTHER *(Specify)* ☐

STATE IN WHICH FIRM IS ORGANIZED: Colorado

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE
Frank M. McKinley	(Same as Applicant)	President
Geraldine H. McKinley	" "	Vice President
John J. Kelley	1801 Arapahoe Street, Golden, Colorado	Secretary

MINERAL(S) FOR WHICH YOU WISH TO EXPLORE: Silver, Lead, Zinc

ESTIMATED COST OF PROJECT: $ 365,220.00

PROPERTY NAME	LOCATION COUNTY	STATE
Spar City	Mineral	Colorado

GENERAL INSTRUCTIONS

Before filling out this application, please read the *OME Regulations for Obtaining Federal Assistance in Financing Explorations for Mineral Reserves* (30 CFR Chap. III). To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit two copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 2, existing mine workings and geology in item 3, and the proposed exploration work in item 5. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 3(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Office of Minerals Exploration, Department of the Interior, Washington 25, D. C., or with the nearest OME Field Office.*

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief, and that he would not ordinarily undertake the proposed exploration under current conditions and circumstances at his sole expense.

April 2, 1965
DATED

BY *(Signature)*

President
TITLE

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense. U. S. Code, Title 18, Sec. 1001.

INFORMATION REQUIRED WITH THIS APPLICATION

1. Financial Eligibility:

(a) Submit evidence of efforts made within 90 days preceding the filing of this application to obtain credit from your bank of account and at least one other banking institution or other private source of credit. Such evidence shall include true copies of correspondence which show: (1) date of loan request, (2) amount and terms requested, (3) proposed use of loan funds, and (4) the replies from credit sources. If the loan was offered under terms which you consider unreasonable, state why you consider them so.

(b) List names and addresses of affiliated, parent, or controlling companies or organizations and state extent and nature of their interest.

(c) State how you propose to furnish your share of the cost of the exploration work.

2. Applicant's Rights in Land:

(a) State your interest in the land and mineral rights, whether owner, lessee, purchaser under contract, or other. If you are not the owner, submit one true copy of the lease, contract, or other document (with address of owner) under which you control the property. Describe all liens, mortgages, or other encumbrances on the land and state book and page number and official place where recorded.

(b) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all adjacent land which you own or control. Describe any part of the land or workings which should not be subject to Government royalty and liens. If the land consists of unpatented claims, state book and page number for each recorded location notice, including amended locations, and official place where recorded. State all the names by which you know the property.

(c) For all land or mineral rights encumbered or not owned, submit five copies of Lien and Subordination Agreements on MME Form 52. If the agreements cannot be obtained, state reasons and provide copies of letters of refusal.

3. Physical Description:

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the land. Include existing mine workings and all production facilities.

(b) State your interest, if any, in operations described in (a).

(c) State, if you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves, giving quantities and grades and sampling methods used. Support your statement with copies of assay certificates and assay maps if available.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations if known, and type of deposit (vein, bedded, etc.).

(f) State your reasons for expecting to find ore, and if you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates.

(g) Send with your application at least *two* copies of all geologic or engineering reports, assay maps, or technologic information which you have, indicating whether you require their return.

4. Accessibility of Property:

(a) To aid the OME representative who may examine the property, state name and address of person who will meet him; give directions for reaching the property; and describe accessibility of property and of any mine workings.

(b) Name the shipping and supply points and state the distances to the property.

5. Exploration Work:

(a) Describe fully the proposed exploration work giving individual footages and sizes of openings *for each item of work.* Use narrative, maps, plans, and sections as necessary. Show location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to *land boundaries* or to the closest identifiable corner.

(b) If an access road must be built, show the proposed location on the property map and state the length, type and construction methods proposed.

(c) If an OME contract is executed, state how soon thereafter work would be started and finished. State your anticipated average daily or monthly rate of progress for each type of work.

6. Experience:

State your operating experience and background to conduct this exploration work and also that of the person who will supervise the work.

7. Estimate of Costs:

Furnish detailed estimates of the necessary costs *for each item of the work proposed in 5(a)* under the headings listed below with a total for each heading and the estimated total cost of the work. Costs for any work to be performed by an independent contractor should be listed separately under category (a) below. Costs for any work that is not to be performed by an independent contractor should be listed under categories (b) through (g).

(a) Independent contracts. State the total cost of any proposed independent contract for all or any part of the work, and the number of units and the unit cost for each type of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, or per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. (*Note*—If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. The cost of supervision, engineering and geological services, outside consultants, and labor should be itemized by numbers and classes of employees; rates of wages, salaries or fees; and periods of employment. State whether these services are available.

(c) Operating materials and supplies. List items of material and supplies giving quantity and cost of each. Include under this heading power, water, and fuel, and units of equipment and tools costing less than $50 each.

(d) Operating equipment. List items of equipment and tools costing $50 or more per unit. Give specifications and indicate how each item is to be acquired—i.e., rented, purchased or provided by the applicant. If rented or purchased, state the estimated rental or purchase price. If furnished by the applicant, state condition and present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of *initial* rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant which will be used in the exploration work.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration work, stating specifications and cost including labor, materials, and supervision.

(g) Miscellaneous. Describe the type and estimate the cost of repairs and maintenance of the operating equipment listed in 7(d). Do not repeat initial repairs listed in 7(e). Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories. [*Note*—The Government will not contribute to costs incurred before the date of the contract, or to costs of or incident to: (1) acquiring, using, or possessing land and any existing improvements, facilities, buildings, installations, and appurtenances, or the depreciation and depletion thereof; (2) general overhead, corporate management, interest and taxes (other than payroll and sales taxes); (3) insurance (other than employees' liability insurance); and (4) damages to persons or property (other than authorized repair to or replacement of equipment or other property used in the work).]

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EXHIBITS

1, 2, 3, and 4 - Correspondence with Credit Sources

5 - Purchase Contract with Mineral County Mining and Milling Company

6 - Purchase Contract with Harry L. and Mary L. Larson

7 - Claim Map of Applicant's Lands

8 - Legal Descriptions of Applicant's Lands

9, 10 and 11 - Subordination Agreements with Property Owners

12 - Report of Examination, Spar City property of the MK Exploration Co.

13 - Art. 146 in U.S. Geol. Survey Prof. Paper 475-D, Pages D-123 to D-127

14 - Property Location Map

15 - Topographic Map

16 - Exploration Plan Map

17 - Experience Record of John J. Kelley

18 - Bids by Independent Contractors

19 - Proposal for Personal Services

APPLICATION FOR FINANCIAL ASSISTANCE

IN MINERALS EXPLORATION

INTRODUCTION

This application by the MK Exploration Company, Applicant, a Colorado corporation, is for assistance in the exploration of the Spar City area, Royal Arch Mining District, Mineral County, Colorado, in which it is believed that commercial deposits of silver-lead-zinc may be found. Pursuant to the regulations of the Office of Minerals Exploration, Department of Interior, United States of America, these attachments to M. M. E. Form 40 cover, to the best of our knowledge, the information required.

I. FINANCIAL ELIGIBILITY

A. Applicant proposes to explore geologic targets in the vicinity of Spar City, Approximately 14 miles south of Creede, Colorado, for commercial deposits of silver-lead-zinc. Recognizing that such an undertaking has inherent in it a degree of risk greater than that normally assumed by private exploration companies, Applicant would not normally undertake such exploration as its sole expense under current economic conditions.

MK Exploration Company has approached its bankers as to the availability of funds from commercial sources. Such funds are not available from the usual sources of finance, as evidenced by letters, Exhibits 1, 2, 3, and 4 attached.

B. None

C. MK Exploration Company will make available from private sources as required sufficient funds to carry Applicant's share of the project.

II. APPLICANT'S RIGHTS IN LAND

A. MK Exploration Company has contractural rights in the following two groups of claims (purchase contracts are attached as Exhibits 5 and 6,) and contracts are recorded in the Mineral County Court House at Creede, Colorado:

The Bird Creek Mine group from Mineral County Mining and Milling Company, recorded Book 110-J, Page 188:

Claim Name	Patent Survey No.
Smuggler	16670
Smuggler No. 1	16670
Per Cent No. 1	16670
Big Per Cent	16670
Little Per Cent	16670
Per Cent No. 12	19538
Per Cent No. 15	19538
World	8294

The Larson group (unpatented from Harry L.and Mary L. Larson, recorded Book 110-J, Page 189:

Royal Basin No. 1	Laura Etta
Royal Basin No. 2	Laura Etta Extension
Royal Basin No. 3	Theresa
Little Anna	Columbine

Additionally, MK Exploration Company owns the following land received from John J. Kelley, recorded at the Mineral County Court House, Creede, Colorado:

> Twenty-two unpatented lode claims, A-1 through A-22, adjacent to or overlapping the aforementioned groups, recorded in Book 110-J, Page 171.

An undivided 3/4 interest in and to the Big Spar Lode Mining Claim, Patent Survey No. 7795, recorded Book 110-J, Page 171.

A claim map of these holdings is attached as Exhibit 7. There are no liens, mortgages or other encumbrances on the land.

B. Legal description of Applicant's property is shown in Exhibit 8 attached.

C. Lien and Subordination Agreements from property owners on MME Form 52 are attached as Exhibits 9, 10, and 11. Four copies of each agreement are in Application Copy No. 1 and one copy of each agreement is in Application Copy No. 2.

III. PHYSICAL DESCRIPTION

A. No mining or exploration work is presently being conducted on or near Applicant's property. While a number of shallow test pits, shafts and short tunnels were opened on the property in the 1890's, only a few were significant in size. All of the known workings are described on pages 11 through 16 in the enclosed Report of Examination, dated January 15, 1965, Exhibit 12.

B. None

C. Unknown

D. Unknown

E. A description of the areal geology is given by Thomas A. Steven of the U. S. Geological Survey in the following reference, a copy

of which is attached as Exhibit 13:

> Steven, Thomas A., 1964. Geologic Setting of the Spar City District, San Juan Mountains, Colorado: Art. 146 in U. S. Geol. Survey Prof. Paper 475-D, Pages D-123 to D-127.

Mr. Steven has devoted more than ten years to the study of the Creede district and surrounding area and has succeeded in determining the age relationship of faulting to economic mineralization. He concluded that the setting at Spar City is comparable to that of the Creede district where substantial ore bodies have been found.

In 1964 Applicant examined the Spar City area with the objective of determining the feasibility of an exploration program aimed at finding silver ore. The conclusions of that study (Exhibit 12) indicated confirmation of Mr. Steven's fault systems, the presence of silver mineralization in the property, and the probability that ore deposits will be found at a depth in excess of 400 feet.

F. Major south- and west-trending faults junction to create the necessary openings for movement of mineralizing solutions, both in the principal faults themselves and in the numerous minor fractures related to such an intersection. Their presence has been confirmed by self potential survey investigations.

The age of activity of these fault systems has been established as comparable to that which provided favorable sites for ore deposits in the Creede district north of Spar City. The occurrence of barite, jaspery quartz and manganese oxides in the gangues, and moderate silver values found on prospect dumps and in float on Applicant's property indicate that the openings were driven in the upper portions of original deposits and that the ore bodies will occur somewhat deeper. Applicant proposes, therefore, to investigate these structures at the maximum practical depth attainable. where?

G. Two copies of Report of Examination, Spar City Property of the MK Exploration Company, dated January 15, 1965, by John J. Kelley are enclosed with this application as Exhibit 12. Their return is not required.

IV. ACCESSIBILITY OF PROPERTY

A. The OME representative will be guided to the property by the following individual:

John J. Kelley
Exploration Services
16 W. 13th Avenue
Denver, Colorado 80204

Business Telephone: 222-4379
Residence Telephone: 279-3166

The property is reached by traveling south from Creede 1 mile to the Creede Airstrip, then west 4 miles to the road junction at the Rio Grande River. Turn south and follow the road to Spar City, 9 miles. A location

map showing the route from Creede is attached as Exhibit 14.

A public road south of Lime Creek crosses the north end of Applicant's land and access to the interior is by two mine roads (see Topographic Map, Exhibit 15.).

In September of 1964 only one opening was accessible, the Denver Tunnel on the west side of the property. All other tunnels and shafts were caved or closed with ice.

B. The town of Creede, 14 miles by road from the property, is the nearest shipping and supply point. It is served by a standard gauge branch line of the Denver & Rio Grande Railroad and has adequate siding and loading facilities.

Creede has been an active mining community since the earliest silver discoveries in that part of Colorado and local business enterprises are prepared to furnish all needed mining supplies.

Adequate labor is available locally and REA single-phase power has been extended to the Spar City resort. Three-phase power is available at Creede. Ample water for mining purposes is present on the property.

V. EXPLORATION WORK

A. Applicant has knowledge of previous core drilling efforts conducted in similar rock and vein conditions at the Emperious Mine and on Bulldog Mountain near Creede. In both instances the results have been disappointing as to the information obtained for the cost of the work. Veins

are generally permeable breccias, vuggy and cavernous. Cementing was excessive, circulation and sludge were frequently lost and core recovery was poor, especially in vein material. Similar conditions are anticipated at Spar City. A shaft opening is also considered impractical inasmuch as it would have to be sunk approximately 850 feet from an inaccessible location in order to reach the primary target.

Applicant plans, therefore, to drive a tunnel from the lowest feasible portal site, southwesterly for approximately 300 feet to the south-trending Smuggler structure, then southerly along that structure to Target No. 1, a total tunnel length of 4000 feet. ? About midway along the tunnel route, Applicant plans to explore by crosscuts the vein structures indicated by self potential surveys for a total of 500 feet of crosscut headings, and to explore above the tunnel level by three 150-foot ? raises up-dip on the structure at points to be determined during the progress of the other work. The tunnel will be 8 feet by 9 ? feet in section to provide room for ventilation piping, timbering where necessary, and drainage, but crosscuts will be restricted to 5 feet by 7 feet in section. Raises will be driven 5 feet by 5X9 12 feet.

The Exploration Plan Map, Exhibit 16, shows the location of the proposed tunnel with respect to the Smuggler (south-trending) structure, other veins found by self potential investigations, claim locations and old workings.

B. The existing public road at the north end of the property has been sketched on the Exploration Plan Map, Exhibit 16, and the location of a necessary mine road to the portal site has been added. Approximately 900 feet of road construction will be required. The work will consist of rough grading by dozer and finished grading and ditching by motor grader. No initial surfacing is planned.

C. Work will commence immediately upon execution of a contract. Approximately 2 weeks will be consumed in road construction, portal site preparation and mobilization of equipment and personnel for the project. Twelve to eighteen months will be required to complete all of the work.

It is anticipated that tunneling will be conducted on a 2-shift per day basis, with an average rate of progress of 13 feet per day. Cross-cutting will proceed at the rate of 10 feet per day and will in part be executed concurrently with the tunneling. Raises will be driven at the rate of 5 feet per day, 2-shift basis, but this work will also be conducted in part concurrently with the tunneling.

VI. EXPERIENCE

The management, engineering and geologic investigation connected with this project will be performed by John J. Kelley. His experience record is attached as Exhibit 17.

VII. ESTIMATE OF COSTS

In so far as possible all work will be performed by independent contractors. Snow cover prevented examination of the site by contractors at the time their bids were prepared, and consequently their proposals (Exhibit 18) are understandably higher than should be expected for the work. Applicant's familiarity with mining operations in Colorado in general and the Creede area particularly, and the personal knowledge of members of Applicant's organization of actual costs for work of this nature, provide Applicant with realistic, reliable data upon which to base cost estimates. Applicant is convinced that the unit price estimates applied to the various categories of work described in paragraph VII, A, below are reasonable and just, that accomplishment of the work will cost as much as the amount estimated, and that to pay more than the estimated amount would be an unnecessary expenditure of funds.

A. Independent contracts

1. Estimate of Tunneling Cost

Tunnel specifications provide for the following:

a. Minimum size of opening, 8' wide by 9' high above track.

b. Timbering as required by good mining practice and State Mine Inspector. Drift sets will be minimum of 8" x 8" and all lagging will be 3" and will be blocked to ribs and back to fill void between lagging and rock face.

(1) Saddle sets may be used in place of 3-piece sets if approved by State Mine Inspector, but must be so installed that posts may be added to support ends of stulls without moving ventilation piping. Stulls will be not less than 8" x 8".

(2) No cap or stull will be installed to provide less than a minimum clearance to top of rail of 8' 0". When posts are used they will be so installed as to allow a minimum of 6' 0" clearance across tunnel.

c. Drill rounds will be so designed and fired as to give minimum shattering effect to ribs and back of opening. Perimeter holes on ribs and back will be drilled as nearly parallel to axis of tunnel as possible and will be fired last preceding lifters.

d. Track will be 30-pound or heavier rail, 24" gauge, and rail joints will be even and smooth at top and inside edge of rail. Ties will be 4" x 6" x 42" as minimum dimensions and will be laid on center-line intervals of 36" or less. Center-line of track will be equi-distant from ribs of opening, posts of drifts sets, etc.

Switches will be of standard manufacture, without modification, as described in C. S. Card Iron Works Bulletin TE-1 or equal, and will be complete, including slide plates and switch stand.

e. Grade of track in tunnel will be 0.5%.

f. Rounds will be so designed, drilled and shot as to provide an adequate drainage ditch on one side for substantial quantities of water. It is preferable, however, to not muck out ditch until water is encountered.

g. Piping for compressed air line in tunnel will be nominal 6", 6.625" O.D., and will be Southwestern Lightwall electric resistance-weld line pipe, Grade B or equal. Victaulic fittings and couplings will be used throughout. The pipe will be securely fastened to the wall or timber approximately 4 feet above the track.

h. Piping for water line will be the same as for compressed air line but will be nominal 2" diameter, 2.375" O.D., and it will also be securely fastened to the same wall as the compressed air line, approximately 12" below compressed air piping.

i. Ventilation piping will be 20" diameter, 22 gauge, spiral construction, of a style normally used in mine

ventilation, and equal to that furnished by Robinson Sheet Metal Co. of Grants, New Mexico, or National Air Duct Co. of Denver, Colorado, for that purpose. It will be securely fastened to timber or back of tunnel, on the side opposite compressed air and water lines. The bottom of the vent line will be not less than 6' 0" higher than top of rail of the track. The edge of the vent pipe on the tunnel center-line side will not project to less than 15" from the center line of the track.

The purpose of the foregoing specification is to keep the ventilation piping as far out of the way as possible to avoid interference with haulage, movement of equipment, etc. Exceptions to this specification will occur if it should be necessary to cross the tunnel or side drifts with the vent tube.

It is estimated that the tunnel will be constructed at a cost of $60 per foot, for 4,000 feet . . . $240,000

2. Estimate of Crosscutting Cost

Crosscuts will be driven according to the same specifications as the tunnel, except that their dimensions will be 5' wide by 7' 6" high. Their grades will not exceed 0.5%.

The contractor may, at his option, slush the crosscut muck to the tunnel for loading, drive the crosscuts with loader and shuttle buggy, or provide a turn from the tunnel and drive these openings with rail equipment. It is not contemplated that compressed air and water lines will be left in the crosscuts. If timbering is required it will be so installed as to provide 5' clearance inside posts and 7'6" from floor to caps or stulls (7' above rail). Ventilation piping will not be less than 8" diameter and will be left in place, with a blast gate at the branch from the main ventilation trunk. If track is not laid the floor will be cleaned of all loose muck.

Approximately 500 feet of crosscuts will be driven at an estimated cost of $55 per foot $27,500

3. Estimate of Raising Cost

Three raises, each 150 feet up-dip are planned. Their specifications are as follows:

a. Raise openings will be driven 5' x 12' in the face as minimum dimensions. They will be timbered into 2 compartments, using not less than 8" x 8" timber and 3" lagging, to provide a muck compartment approximately 5' x 5', and a manway approximately

6' x 5'. The manway will be securely timbered with stulls, posts and spreaders to provide safe and durable access and will include timber slide and ladders offset according to requirements of the State Mine Inspector.

b. Two-inch air line, 1" water line and 8" ventilation piping will be required for this work and will be left, along with ladders and timber slides, in the manways.

It is estimated that raising will cost $110 per foot, for 450 feet $49,500

4. Estimate of Timbering Cost

The cost of timbering in raises is included in the estimated cost of raise construction, and it is not anticipated that any timbering will be required in the crosscuts. It is to be expected, however, that considerable timbering will be required in the tunnel. To reduce the cost of this item it is planned that, if it becomes evident that more than 25% of the tunnel length will have to be timbered, an alternate route for the tunnel will be adopted. The alternate route will be a series of gentle curves in the tunnel permitting the tunnel to be driven in the walls of

the structure, crossing the vein every 200 to 300 feet. While this is less desirable than driving the entire distance on the vein for 100% evaluation, it is a compromise with excessive timbering costs.

Anticipating that 1000 feet of tunnel timbering may be required, either 3-piece sets or saddle sets, it is estimated that this item will cost $12 per foot of tunnel $12,000

5. Estimate of Road Construction Cost

The required access road to the portal site will be approximately 900 feet long. To assure serviceability in the exceptionally severe winter weather normally experienced at Spar City, it is intended that this access road be constructed on grades of 7% or less, the road bed itself be not less than 24 feet wide, and that it be ditched adequately for spring run-off.

It is estimated that 3000 cubic yards of dirt and 500 cubic yards of rock will have to be excavated in road construction, at the following costs:

3,000 CY dirt @$0.80	$2400
500 CY rock @$2.50	1250

Estimate of road construction cost $3,650

6. Estimate of Portal Site Excavation Cost

It is estimated that in preparing the portal site for driving the tunnel, 2000 cubic yards of dirt and 200 cubic yards of rock will have to be excavated at the following costs:

2000 CY dirt @$1.00	$2000
200 CY rock @$3.50	700

Estimated cost of portal site excavation . . . $2700 ?

Total Estimate of Independent Contracts . . . $335,350

B. Personal Services

Applicant has agreed with John J. Kelley to supervise the work and perform all management, engineering and geologic duties. He will work a minimum of 12 days per month and furnish his own traveling and living expenses, insurance and taxes, for a total fee of $100 per day. This item is estimated to cost $1500 per month, ? or $22,500 for the project. He will furnish surveying assistants at the rate of $2.00 per man-hour, including taxes and insurance. It is estimated that 20 shifts of surveying assistance will be required at a total cost of $320 for the project. For Mr. Kelley's proposal, see Exhibit 19.

C. Operating Materials and Supplies

All cost for small tools, power, fuel, etc. are included in Independent Contract estimates.

D. Operating Equipment

All operating equipment for this project is included in Independent Contract estimates.

E. Initial Rehabilitation and Repair

Not applicable.

F. New Buildings, Fixtures, Installations

Not applicable.

G. Miscellaneous

Analytical work - assaying

300 samples @$13.50 (Au, Ag, Pb, Zn, Cu)	$4,050

Travel and mileage allowances - not applicable.

Workmen's compensation and employees liability insurance - not applicable.

Pay roll taxes - not applicable.

Miscellaneous - printing of reports, drafting and map reproduction, typing and stenographic work, telephone and unforeseeable contingencies, $200 per month . . . $3,000 ?

TOTAL ESTIMATED COST OF PROJECT:

Independent Contracts	$335,350
Personal Services	22,820
Miscellaneous	7,050
	$365,220

2955 Cherryridge Road
Englewood, Colorado
March 8, 1965

North Denver Bank
3400 West 38th Avenue
Denver, Colorado 80211

Gentlemen:

We hereby submit for your consideration our application for a loan in the amount of $250,000.

The loan proceeds would be used for exploration of a group of patented and unpatented mining claims in the Royal Arch Mining District near Spar City about 14 miles south of Creede, Colorado, known as the Spar City prospect. Preliminary geological and geophysical investigations have been made and we would undertake a tunneling, cross-cutting and raising project to confirm the geologic inferences obtained. The program contemplated is estimated to cost $330,000, of which $250,000 would be provided by the loan and $80,000 would be from the equity capital to be raised by us. The loan proceeds would be advanced as required to carry out the project but only as our own funds are made available.

Inasmuch as we would not be in a position to repay the loan except out of production from the property in the event the exploration is successful, we would ask that there be no corporate liability for the loan, but that principal and interest be repayable only out of some reasonable percentage of the first net smelter returns on ore produced from the property. In this connection we are advised that the property owners would subordinate their interests in the property to the loan.

In our opinion the property has excellent prospects for production of silver, lead and zinc. Please advise us whether or not you would be interested in considering a loan upon terms as outlined above. We will be glad to provide you with further information as to the description of the property, present geological information, and our specific exploration plans. We would also want to discuss with you the interest rate and the appropriate percentage of net smelter returns to be committed for payment of the loan.

Very truly yours,

MK EXPLORATION COMPANY

President

FMcKinley/sg

NORTH DENVER BANK
3400 WEST 38TH AVENUE PHONE: 433-6781
DENVER, COLORADO, 80211

March 9, 1965

MK Exploration Company
Attention Frank McKinley, President
2955 Cherryridge Road
Englewood, Colorado

Dear Mr. McKinley:

We thank you for your letter of March 8th applying for a loan of $250,000.00.

We regret to advise you that we would be unable to make a loan on mining property as security. Our past experience has indicated that there is great hazard as to whether or not there could be sufficient sales of ore to repay the loan and we would be unable to take the risk inherant in this type of transaction.

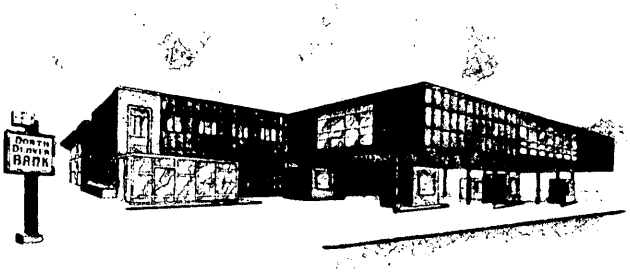
Accept our appreciation for bringing the matter to our attention.

Sincerely yours,

C. G. Theodoran

C. G. Theodoran
Vice President

CGT:vs



2955 Cherryridge Road
Englewood, Colorado
March 8, 1965

The Peoples Bank
9635 Montview Boulevard
Aurora, Colorado

Gentlemen:

We hereby submit for your consideration our application for a loan in the amount of $250,000.

The loan proceeds would be used for exploration of a group of patented and unpatented mining claims in the Royal Arch Mining District near Spar City, about 14 miles south of Creede, Colorado, known as the Spar City prospect. Preliminary geological and geophysical investigations have been made and we would undertake a tunneling, cross-cutting and raising project to confirm the geologic inferences obtained. The program contemplated is estimated to cost $330,000, of which $250,000 would be provided by the loan and $80,000 would be from the equity capital to be raised by us. The loan proceeds would be advanced as required to carry out the project, but only as our own funds are made available.

Inasmuch as we would not be in a position to repay the loan except out of production from the Property in the event the exploration is successful, we would ask that there be no corporate liability for the loan, but that principal and interest be repayable only out of some reasonable percentage of the first net smelter returns on ore produced from the property. In this connection we are advised that the property owners would subordinate their interests in the property to the loan.

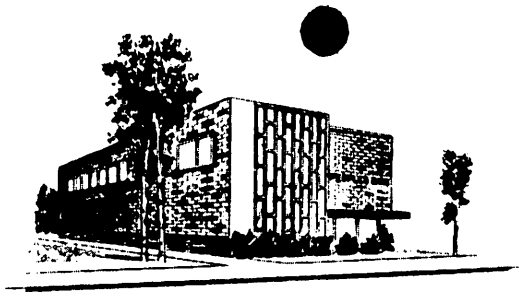
In our opinion the property has excellent prospects for production of silver, lead and zinc. Please advise us whether or not you would be interested in considering a loan upon terms as outlined above. We will be glad to provide you with further information as to the description of the property, present geological information, and our specific exploration plans. We would also want to discuss with you the interest rate and the appropriate percentage of net smelter returns to be committed for payment of the loan.

Very truly yours,

MK EXPLORATION COMPANY

President

FMcKinley/sg



the Peoples Bank
Member F.D.I.C.
9635 MONTVIEW BLVD.
EMpire 4-2621
AURORA, COLORADO

March 9, 1965

Mr. Frank McKinley, President
MK Exploration Co.
2955 Cherryridge Rd.
Englewood, Colorado

Dear Mr. McKinley:

This is in reply to your letter, dated March 8, 1965, concerning a loan, for mining purposes, in the amount of $250,000.00.

I am sorry to state that we are unable to grant a loan using mining property as the security for such a loan. There would have to be a terrifically high percentage of guaranty of sales of the ore to make payment on the loan and it would be impossible to grant a loan of this amount considering the risk involved.

I wish to thank you for allowing us the privilege of giving consideration to the matter.

Very truly yours,

H. J. Bleakley
President

B/s

OPTION TO PURCHASE MINING CLAIMS
(short form)

In consideration of the payment of $2,000, receipt of which is hereby acknowledged, MINERAL COUNTY MINING & MILLING COMPANY, a Colorado corporation, herewith grants to MK EXPLORATION COMPANY, a Colorado corporation, an option to purchase the following mining claims:

Group A:

The following patented mining claims known as the Bird Creek Mining Claims:

Smuggler
Smuggler No. 1
Percent No. 1
Big Percent
Little Percent
Percent No. 12
Percent No. 15

An undivided 21/24 interest in the WORLD mining claim, Survey No. 8294

Group B:

The following unpatented lode mining claims:

Smuggler Nos. 2-5, inclusive
Percent No. 2
Percent No. 3
Percent No. 10

Whatever right, title and interest Mineral has in remaining 3/24 of the WORLD mining claim, Survey No. 8294

The purchase price and the terms for payment together with other agreements between the parties are contained in that certain Option to Purchase Mining Claims dated October 6, 1964, from Mineral County Mining & Milling Company to Frank M. McKinley, the rights and privileges of Frank M. McKinley having been subsequently assigned to MK Exploration Company. The said Option to Purchase Mining Claims provides, among other things, that the said Option to Purchase Mining Claims shall terminate if the purchase price has not been paid in full within 60 days after September 15, 1976.

This Option to Purchase Mining Claims (short form) is executed for purposes of recording to give notice of the interest of MK Exploration Company in the said mining claims, and does not in any way alter, amend or modify the terms, conditions and undertakings set forth in the Option to Purchase Mining Claims dated October 6, 1964.

Dated this 8th day of January, 1965.

MINERAL COUNTY MINING & MILLING COMPANY

By Walter V. Riddell
President

Attest:

Mary A. Riddell
Assistant-Secretary

MK EXPLORATION COMPANY

By Frank M. McKinley
President

Attest:

John J. Kelly
Secretary

STATE OF CALIFORNIA)
) ss.
COUNTY OF Orange)

The foregoing instrument was acknowledged before me this 12th day of February, 1965 by Walter V. Riddell as President of Mineral County Mining & Milling Company, a corporation.

My commission expires Oct. 22, 1967.

Thomas N. Moon
Notary Public
Thomas N. Moon

STATE OF COLORADO)
CITY AND) ss.
COUNTY OF DENVER)

The foregoing instrument was acknowledged before me this 8th day of January, 1965 by Frank M. McKinley as President of MK Exploration Company, a corporation.

My commission expires December 18, 1968.

Sandra C. Graham
Notary Public

OPTION TO PURCHASE MINING CLAIMS
(Short Form)

For a valuable consideration, receipt of which is hereby acknowledged, HARRY L. LARSON and MARY L. LARSON of Creede, Colorado, herewith grant to MK EXPLORATION COMPANY, a Colorado corporation, an option to purchase the following mining claims:

Name of Claim	Location Certificate Recorded Book	Page
Royal Basin No. 1	4B	272
Royal Basin No. 2	4B	272
Royal Basin No. 3	4B	271
Columbine	4	194
Laura Etta	4B	307
Laura Etta Extension	4B	319
Little Anna	4B	555
Theresa	4B	555

The purchase price and the terms for payment together with other agreements between the parties are contained in that certain Option to Purchase Mining Claims dated February 15, 1965, from Harry L. Larson and Mary L. Larson to MK Exploration Company. The said Option to Purchase Mining Claims provides, among other things, that the said Option to Purchase Mining Claims shall terminate if the purchase price has not been paid in full by November 1, 1976.

This Option to Purchase Mining Claims (Short Form) is executed for purposes of recording to give notice of the interest of MK Exploration Company in the said mining claims, and does not in any way alter, amend or modify the terms, conditions and undertakings set forth in the Option to Purchase Mining Claims dated February 15, 1965.

Dated this 15 day of February, 1965.

Harry L. Larson
Harry L. Larson

Mary L. Larson
Mary L. Larson

MK EXPLORATION COMPANY

By [illegible]
President

Attest:

John J. Kelley

STATE OF COLORADO }
COUNTY OF MINERAL } ss.

The foregoing instrument was acknowledged before me this 15 day of February, 1965, by Harry L. Lawson and Mary L. Lawson.

My commission expires With office.

Ellse Rogers
Notary Public
Mineral County Clerk.

STATE OF COLORADO }
CITY AND }
COUNTY OF DENVER } ss.

The foregoing instrument was acknowledged before me this 23rd day of February, 1965, by Frank E. McKinley as President of Mt Exploration Company, a corporation.

My commission expires My Commission expires December 18, 1968.

Sandra Jo Graham
Notary Public

RECEIVED
FEB 23 1965
Ack. ____

Return to:
Holland & Hart
500 Equitable Bldg.
Denver 2, Colo.

EXHIBIT 8

LEGAL DESCRIPTIONS OF APPLICANT'S LANDS

SMUGGLER - Mineral Survey No. 16670 - Beginning at Cor. No. 1, whence the NW corner of Sec. 26, T 40 N, R 1 W, bears N 45° 41' W 2105.96 feet, thence S 9°52' W 704.96 feet to Cor. No. 2, thence N 85°20' W 300.00 feet to Cor. No. 3, thence N 9°52' E 970.00 feet to Cor. No. 4, thence N 10°23' W 527.94 feet to Cor. No. 5, thence S 85°20' E 205.08 feet to Cor. No. 6, thence S 10°23' E 801.27 feet to Cor. No. 1, the point of beginning.

SMUGGLER NO. 1 - Mineral Survey No. 16670 - Beginning at Cor. No. 1, whence the NW corner of Sec. 26, T 40 N, R 1 W, bears N 45°41' W 2105.96 feet and U.S.L.M. No. 7795 bears N 24°45' W 2247.60 feet, thence N 84°33' W 299.67 feet to Cor. No. 2, thence S 8°25' E 1132.77 feet to Cor. No. 3, thence S 84°33' E 299.67 feet to Cor. No. 4, thence N 8°25' W 1132.77 feet to Cor. No. 1, the point of beginning.

PER CENT NO. 1 - Mineral Survey No. 16670 - Beginning at Cor. No. 1, whence U.S.L.M. No. 7795 bears N 24°45' W 2247.60 feet and the NW corner of Sec. 26, T 40 N, R 1 W, bears N 45°41' W 2105.96 feet, thence N 79°42' E 300.18 feet to Cor. No. 2, thence S 8°25' E 1500.00 feet to Cor. No. 3, thence S 79°42' W 300.18

feet to Cor. No. 4, thence N 8°25' W 1500.00 feet to Cor. No. 1, the point of beginning.

BIG PER CENT - Mineral Survey No. 16670 - Beginning at Cor. No. 1, whence U.S.L.M. No. 7795 bears N 46°06' W 1888.70 feet and the NW corner of Sec. 26, T 40 N, R 1 W, bears N 69° 00' W 2063.76 feet, thence S 81°35' W 285.00 feet to Cor. No. 2, thence S 8°25' E 1500.00 feet to Cor. No. 3, thence N 81°35' E 285.00 feet to Cor. No. 4, thence N 8° 25' W 1500.00 feet to Cor. No. 1, the point of beginning.

LITTLE PER CENT - Mineral Survey No. 16670 - Beginning at Cor. No. 1, whence U.S.L.M. No. 7795 bears N 46°06' W 1888.70 feet and the NW corner of Sec. 26, T 40 N, R 1 W, bears N 69°00' W 2063.76 feet, thence N 81°35' E 285.00 feet to Cor. No. 2, thence S 8°25' E 1500.00 feet to Cor. No. 3, thence S 81°35' W 285.00 feet to Cor. No. 4, thence N 8°25' W 1500.00 feet to Cor. No. 1, the point of beginning.

PER CENT NO. 12 - Mineral Survey No. 19538 - Beginning at Cor. No. 1, whence U.S.L.M. No. 7795 bears S 81°28'40" W 1105.61 feet and the NW corner of Sec. 26, T 40 N, R 1 W, bears S 66°07'40" W 1813.10 feet, thence N 81°36' E 300.18 feet to Cor. No. 2, thence S 10°22' E 1500.00 feet to Cor. No. 3, thence

S 81°36' W 300.18 feet to Cor. No. 4, thence N 10°22' W 1500.00 feet to Cor. No. 1, the point of beginning.

PER CENT NO. 15 - Mineral Survey No. 19538 - Beginning at Cor. No. 1, whence U.S.L.M. No. 7795 bears S 81°29'20" W 1223.96 feet and the NW corner of Sec. 26, T 40 N, R 1 W, bears S 67°04' W 1927.46 feet, thence N 81°36' E 302.76 feet to Cor. No. 2, thence N 0°43' W 1500.00 feet to Cor. No. 3, thence S 81°36' W 302.72 feet to Cor. No. 4, thence S 0°43' E 1500.00 feet to Cor. No. 1, the point of beginning.

WORLD - Mineral Survey No. 8294 - Beginning at Cor. No. 1, whence the NW corner of Sec. 26, T 40 N, R 1 W, bears N 32°28' W 1939.90 feet, thence N 86°15' E 295.76 feet to Cor. No. 2, thence N 7°52' W 1394.70 feet to Cor. No. 3, thence S 86°15' W 295.76 feet to Cor. No. 4, thence S 7°52' E 1394.70 feet to Cor. No. 1, the point of beginning.

ROYAL BASIN NO. 1 - Unpatented - Beginning at Cor. No. 1, which is Cor. No. 2 of the Emma Lode Mining Claim, Mineral Survey No. 17959, thence S 76° W 300 feet to Cor. No. 2, thence S 17° E 1500 feet to Cor. No. 3, thence N 76° E 300 Feet to Cor. No. 4, which is Cor. No. 3 of the Emma Lode Mining Claim, thence N 17° W 1500 feet to Cor. No. 1, the point of beginning. Location is recorded in Book 4-B, Page 271, Mineral County, Colorado.

ROYAL BASIN NO. 2 - Unpatented - Beginning at Cor. No. 1, whence Cor. No. 2 of the Emma Lode Mining Claim, Mineral Survey No. 17959 bears N 76° E 300 feet, thence S 76° W 300 feet to Cor. No. 2, thence S 17° E 1500 feet to Cor. No. 3, thence N 76° E 300 feet to Cor. No. 4, which is also Cor. No. 3 of the Royal Basin No. 1 lode claim, thence N 17° W 1500 feet to Cor. No. 1, the point of beginning. Location is recorded in Book 4-B, Page 272, Mineral County, Colorado.

ROYAL BASIN NO. 3 - Unpatented - Beginning at Cor. No. 1, whence Cor. No. 2 of the Emma Lode Mining Claim, Mineral Survey No. 17959, bears N 76° E 600 feet, thence S 76° W 300 feet to Cor. No. 2, thence S 17° E 1500 feet to Cor. No. 3, thence N 76° E 300 feet to Cor. No. 4, thence N 17° W 1500 feet to Cor. No. 1, the point of beginning. Location is recorded in Book 4-B, Page 272, Mineral County, Colorado.

LITTLE ANNA - Unpatented - Beginning at Cor. No. 1, whence the SW corner of the Walla Walla Lode Mining Claim, Mineral Survey No. 7952, bears S 3° W 450 feet, thence west 600 feet to Cor. No. 2, thence north 1500 feet to Cor. No. 3, thence east 600 feet to Cor. No. 4, thence south 1500 feet to Cor. No. 1, the point of beginning. Location is recorded in Book 4-B, Page 555, Mineral County, Colorado.

LAURA ETTA - Unpatented - Beginning at Cor. No. 1, whence a white spruce tree 13" diameter blazed and marked "IBH to SW Cor. No. 1 Laura Etta Lode" bears S 27°30' W 9 feet, thence N 50° E 300 feet to Cor. No. 2, thence N 40°W 1500 feet to Cor. No. 3, thence S 50° W 300 feet to Cor. No. 4, thence S 40° E 1500 feet to Cor. No. 1, the point of beginning. Location is recorded in Book 4-B, Page 307, Mineral County, Colorado.

LAURA ETTA EXTENSION - Unpatented - Beginning at Cor. No. 1, which is identical with Cor. No. 4 of the Laura Etta lode claim, whence a balsam tree 10" in diameter and blazed and marked "LBH to Cor. No. 1 Laura Etta Extension" bears S 13° E 13.11 feet, thence N 50° E 300 feet to Cor. No. 2, not set being inaccessible, whence witness corner, a post 4"x4"x3' at foot of cliff bears S 50° W 50 feet, thence N 40° W 500 feet to Cor. No. 3, thence S 50° W 300 feet to Cor. No. 4, thence S 40° E 500 feet to Cor. No. 1, the point of beginning. Location is recorded in Book 4-B, Page 319, Mineral County, Colorado.

THERESA - Unpatented - Beginning at Cor. No. 1, whence Cor. No. 5 of the Spar Lode Mining Claim, Mineral Survey No. 7952, bears N 55° E 160 feet, thence S 85° W 600 feet to Cor. No. 2, thence N 5° W 1500 feet to Cor. No. 3, thence N 85° E 600 feet to Cor. No. 4, thence S 5° E 1500 feet to Cor. No. 1, the point of

beginning. Location is recorded in Book 4-B, Page 555, Mineral County, Colorado.

COLUMBINE - Unpatented - Beginning at Cor. No. 1, which is identically the same as Cor. No. 4 of the Laura Etta lode mining claim, the same being a post 4"x4"x3' set in a substantial mound of stone and easily identified, thence S 40° E 1000 feet to Cor. No. 2, thence S 50° W 600 feet to Cor. No. 3, thence N 40° W 1000 feet to Cor. No. 4, thence N 30° W 500 feet to Cor. 5, thence N 50° E 600 feet to Cor. No. 6, thence S 30° E 500 feet to Cor. No. 1, the point of beginning. Location is recorded in Book 4, Page 194, Mineral County, Colorado.

BIG SPAR - Mineral Survey No. 7795 - Beginning at Cor. No. 1, whence the NW corner of Sec. 26, T 40 N, R 1 W, bears S 20°02'11" W 1197.15 feet, thence S 0°23' E 1500.00 feet to Cor. No. 2, thence N 89°37' E 300.00 feet to Cor. No. 3, thence N 0°23' W 1500.00 feet to Cor. No. 4, thence S 89°37' W 300.00 feet to Cor. No. 1, the point of beginning.

A-1 - Unpatented - Beginning at Cor. No. 1, whence U.S.L.M. "No. 7795" bears S 68°30' E 1111.03 feet, thence S 84° 00' W 550.00 feet to Corner No. 2, thence N 22°00' W 700.00 feet to center side line corner, thence N 22°00' W 700.00 feet to Cor. No. 3,

thence N 84° 00' E 550.00 feet to corner No. 4, thence S 22° 00' E 700.00' to center side line corner, thence S 22° 00' E 700.00 feet to Corner No. 1, the point of beginning. From Corner No. 1 the SE Corner of Section 22, T 40 N, R 1 W, bears S 25°36' E 1082.95 feet. Location is recorded in Book 6-C, Page 110, Mineral County, Colorado.

A-2 - Unpatented - Beginning at Cor. No. 1, whence U.S.L.M. "No. 7795" bears S 68° 30' E 1111.03 feet, thence N 22° 00' W 700 feet to the center side line corner, thence N 22° 00' W 700 feet to Corner No. 2, thence N 84° 00' E 550 feet to Corner No. 3, thence S 22° 00' E 700 feet to center side line corner, thence S 22° 00' E 700 feet to Corner No. 4, thence S 84° 00' W 550 feet to Corner No. 1, the point of beginning. From Corner No. 1 the SE Corner of Sec. 22, T 40 N, R 1 W, bears S 25° 36' E 1082.95 feet. Location recorded in Book 6-C, Page 111, Mineral County, Colorado.

A-3 - Unpatented - Beginning at Cor. No. 1, whence U.S.L.M. "No. 7795" bears S 6°35' W 525.76 feet, thence S 84°00' W 550 feet to Corner No. 2, thence N 22°00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 3, thence N 84°00' E 550 feet to Corner No. 4, thence S 22°00' E 700 feet to center side line corner, thence S 22° 00' E 700 feet to

Corner No. 1, the point of beginning. From Corner No. 1, the SW corner of Sec. 23, T 40 N, R 1 W bears S 29°50' W 1258.72 feet. Location is recorded in Book 6-C, Page 112, Mineral County, Colorado.

A-4 - Unpatented - Beginning at Corner No. 1, whence U.S.L.M. "No. 7795" bears S 6° 35' W 525.76 feet, thence N 22°00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 2, thence N 84° 00' E 550 feet to Corner No. 3, thence S 22° 00' E 700 feet to center side line corner, thence S 22° 00' E 700 feet to Corner No. 4, thence S 84° 00' W 550 feet to Corner No. 1, the point of beginning. From Corner No. 1 the SW Corner of Sec. 23, T 40 N, R 1 W bears S 29°50' W 1258.72 feet. Location is recorded in Book 6-C, Page 113, Mineral County, Colorado.

A-5 - Unpatented - Beginning at Corner No. 1, whence U.S.L.M. "No. 7795" bears S 46°20' W 839.54 feet, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 2, thence N 84° 00' E 550 feet to Corner No. 3, thence S 22° 00' E 700 feet to center side line corner, thence S 22°00' E 700 feet to Corner No. 4, thence S 84° 00' W 550 feet to Corner No. 1, the place of beginning. From Corner No. 1 the SW Corner of Sec. 23, T 40 N, R 1 W bears S 45°15' W 1642.00 feet. Location is recorded in Book 6-C, Page 114, Mineral County, Colorado.

A-6 - Unpatented - Beginning at Cor. No. 1, whence U.S.L.M. "No. 7795" bears S 68° 30' E 1111.03 feet, thence S 22° 00' E 700 feet to center side line corner, thence S 22° 00' E 700 feet to Corner No. 2, thence S 84° 00' W 550 feet to Corner No. 3, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 4, thence N 84° 00' E 550 feet to Corner No. 1, the point of beginning. From Corner No. 1 the SW Corner of Section 22, T 40 N, R 1 W bears S 25° 36' E 1082.95 feet. Location is recorded in Book 6-C, Page 115, Mineral County, Colorado.

A-7 - Unpatented - Beginning at Cor. No. 1, whence U.S.L.M. "No. 7795" bears S 68° 30' E 1111.03 feet, thence N 84° 00' E 550 feet to Corner No. 2, thence S 22° 00' E 700 feet to center side line corner, thence S 22° 00' E 700 feet to Corner No. 3, thence S 84° 00' W 550 feet to Corner No. 4, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 1, the place of beginning. From Corner No. 1 the SE Corner of Sec. 22, T 40 N, R 1 W bears S 25° 36' E 1082.95 feet. Location is recorded in Book 6-C, Page 116, Mineral County, Colorado.

A-8 - Unpatented - Beginning at Corner No. 1, whence U.S.L.M. "No. 7795" bears S 6° 35' W 525.76 feet, thence S 22° 00' E 700 feet to

center side line corner, thence S 22°00' E 700 feet to Corner No. 2, thence S 84° 00' W 550 feet to Corner No. 3, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 4, thence N 84° 00' E 550 feet to Corner No. 1, the place of beginning. From Corner No. 1 the SW corner of Sec. 23, T 40 N, R 1 W bears S 29°50' W 1258.72 feet. Location is recorded in Book 6-C, Page 117, Mineral County, Colorado.

A-9 - Unpatented - Beginning at Corner No. 1, whence U.S.L.M. "No. 7795" bears S 6° 35' W 525.76 feet, thence N 84° 00' E 550 feet to Corner No. 2, thence S 22° 00' E 700 feet to center side line corner, thence S 22° 00' E 700 feet to Corner No. 3, thence S 84° 00' W 550 feet to Corner No. 4, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 1, the place of beginning. From Corner No. 1 the SW Corner of Sec. 23, T 40 N, R 1 W bears S 29° 50' W 1258.72 feet. Location is recorded in Book 6-C, Page 118, Mineral County, Colorado.

A-10 - Unpatented - Beginning at Corner No. 1, whence U.S.L.M. "No. 7795" bears S 46° 20' W 839.54 feet, thence N 84°00' E 550 feet to Corner No. 2, thence S 22° 00' E 700 feet to center side line corner, thence S 22° 00' E 700 feet to Corner No. 3, thence S 84°00' W

550 feet to Corner No. 4, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 1, the place of beginning. From Corner No. 1 the SW Corner of Sec. 23, T 40 N, R 1 W bears S 45°15' W 1642.00 feet. Location is recorded in Book 6-C, Page 119, Mineral County, Colorado.

A-11 - Unpatented - Beginning at Corner No. 1, whence U.S.L.M. "No. 7795" bears N 0°24' W 2188.57 feet, thence S 84°00' W 550 feet to Corner No. 2, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 3, thence N 84° 00' E 550 feet to Corner No. 4, thence S 22°00' E 700 feet to center side line corner, thence S 22°00' E 700 feet to Corner No. 1, the place of beginning. From Corner No. 1 the NW Corner of Sec. 26, T 40 N, R 1 W bears N 19° 44' W 1720.60 feet. Location is recorded in Book 6-C, Page 120, Mineral County, Colorado.

A-12 - Unpatented - Beginning at Corner No. 1, whence U.S.L.M. "No. 7795" bears N 0° 24' W 2188.57 feet, thence N 22° 00' W 700 feet to center side line corner, thence N 22°00' W 700 feet to Corner No. 2, thence N 84° 00' E 550 feet to Corner No. 3, thence S 22° 00' E 700 feet to center side line corner, thence S 22°00' E 700 feet to Corner No. 4, thence S 84°00' W 550 feet to Corner No. 1, the place of Beginning. From Corner No. 1, the NW

Corner of Sec. 26, T 40 N, R 1 W bears N 19° 44' W 1720.60 feet. Location is recorded in Book 6-C, Page 121, Mineral County, Colorado.

A-13 - Unpatented - Beginning at Corner No. 1, whence U.S.L.M. "No. 7795" bears N 28° 08' W 2352.03 feet, thence S 84°00' W 550 feet to Corner No. 2, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 3, thence N 84° 00' E 550 feet to Corner No. 4, thence S 22° 00' E 700 feet to center side line corner, thence S 22° 00' E 700 feet to Corner No. 1, the place of beginning. From Corner No. 1 the NW corner of Sec. 26, T 40 N, R 1 W bears N 48°04' W 2251.40 feet. Location is recorded in Book 6-C, Page 122, Mineral County, Colorado.

A-14 - Unpatented - Beginning at Cor. No. 1, whence U.S.L.M. "No. 7795" bears N 28° 08' W 2352.03 feet, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 2, thence N 84° 00' E 550 feet to Corner No. 3, thence S 22° 00' E 700 feet to center side line corner, thence S22° 00' E 700 feet to Corner No. 4, thence S 84° 00' W 550 feet to Corner No. 1, the place of beginning. From Corner No. 1 the NW corner of Sec. 26, T 40 N, R 1 W bears N 48°

04' W 2251.40 feet. Location is recorded in Book 6-C, Page 123, Mineral County, Colorado.

A-15 - Unpatented - Beginning at Corner No. 1, whence U.S.L.M. "No. 7795" bears N 0° 24' W 2188.57 feet, thence S 22° 00' E 700 feet to center side line corner, thence S 22° 00' E 700 Feet to Cor. No. 2, thence S 84° 00' W 550 feet to Corner No. 3, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 4, thence N 84° 00' E 550 feet to Corner No. 1, the point of beginning. From Corner No. 1, the NW corner of Sec. 26, T 40 N, R 1 W bears N 19° 44' W 1720.60 feet. Location is recorded in Book 6-C, Page 124, Mineral County, Colorado.

A-16 - Unpatented - Beginning at Cor. No. 1, whence U.S.L.M. "No. 7795" bears N 0° 24' W 2188.57 feet, thence N 84° 00' E 550 feet to Corner No. 2, thence S 22° 00' E 700 feet to center side line corner, thence S 22° 00' E 700 feet to Corner No. 3, thence S 84° 00' W 550 feet to Corner No. 4, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 1, the place of beginning. From Corner No. 1 the NW corner of Sec. 26, T 40 N, R 1 W bears N 19° 44' W 1720.60 feet. Location is recorded in Book 6-C, Page 125, Mineral County, Colorado.

A-17 - Unpatented - Beginningat Cor. No. 1, whence U.S.L.M. "No. 7795" bears N 28° 08' W 2352.03 feet, thence S 22° 00' E 700 feet to center side line corner, thence S 22° 00' E 700 feet to Cor. No. 2, thence S 84° 00' W 550 feet to Corner No. 3, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 4, thence N 84° 00' E 550 feet to Cor. No. 1, the place of beginning. From Corner No. 1 the NW corner of Sec. 26, Y 40 N, R 1 W bears N 48° 04' W 2251.40 feet. Location is recorded in Book 6-C, Page 126, Mineral County, Colorado.

A-18 - Unpatented - Beginning at Corner No. 1, whence U.S.L.M. "No. 7795" bears N 28° 08' W 2352.03 feet, thence N 84° 00' E 550 feet to Corner No. 2, thence S 22° 00' E 700 feet to center side line corner, thence S 22° 00' E 700 feet to Corner No. 3, thence S 84° 00' W 550 feet to Corner No. 4, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 1, the place of beginning. From Corner No. 1 the NW corner of Sec. 26, T 40 N, R 1 W bears N 48° 04' W 2251.40 feet. Location is recorded in Book 6-C, Page 127, Mineral County, Colorado.

A-19 - Unpatented - Beginning at Cor. No. 1, whence U.S.L.M. "No. 7795" bears N 17° 35' W 3597.35 feet, thence S 22° 00' E 700

feet to center side line corner, thence S 22° 00' E 700 feet to Corner No. 2, thence S 84° 00' W 550 feet to Corner No. 3, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 4, thence N 84° 00' E 550 feet to Corner No. 1, the place of beginning. From Corner No. 1 the NW corner of Sec. 26, T 40 N, R 1 W bears N 30° 01' W 3303.10 feet. Location is recorded in Book 6-C, Page 128, Mineral County, Colorado.

A-20 - Unpatented - Beginning at Cor. No. 1, whence U.S.L.M. "No. 7795" bears N 17° 35' W 3597.35 feet, thence N 84° 00' E 550 feet to Corner No. 2, thence S 22° 00' E 700 feet to center side line corner, thence S 22° 00' E 700 feet to Corner No. 3, thence S 84° 00' W 550 feet to Corner No. 4, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 1, the place of beginning. From Corner No. 1 the NW corner of Sec. 26, T 40 N, R 1 W bears N 30° 01' W 3303.10 feet. Location is recorded in Book 6-C, Page 129, Mineral County, Colorado.

A-21 - Unpatented - Beginning at Cor. No. 1, whence U.S.L.M. "No. 7795" bears N 25° 51' W 3746.79 feet, thence N 84° 00' E 550 feet to Corner No. 2, thence S 22° 00' E 700 feet to center side line corner, thence S 22° 00' E 700 feet to Corner No. 3, thence

S 84° 00' W 550 feet to Corner No. 4, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 1, the place of beginning. From Corner No. 1, the NW corner of Sec. 26, T 40 N, R 1 W bears N 38° 08' W 3562.34 feet. Location is recorded in Book 6-C, Page 130, Mineral County, Colorado.

A-22 - Unpatented - Beginning at Corner No. 1, whence U.S.L.M. "No. 7795" bears N 39° 24' W 2609.37 feet, thence N 22° 00' W 700 feet to center side line corner, thence N 22° 00' W 700 feet to Corner No. 2, thence N 84° 00' E 550 feet to Corner No. 3, thence S 22° 00' E 700 feet to center side line corner, thence S 22° 00' E 700 feet to Corner No. 4, thence S 84° 00' W 550 feet to Corner No. 1, the place of beginning. From Corner No. 1, the NW corner of Sec. 26, T 40 N, R 1 W bears N 56° 56' W 2652.17 feet. Location is recorded in Book 6-C, Page 131, Mineral County, Colorado.

OFFICIAL
COPY
O. M. E.
RECEIVED
APR 19 1965

INITIALS	CODE

REPORT OF EXAMINATION

SPAR CITY PROPERTY

OF THE

MK EXPLORATION COMPANY

January 15, 1965 John J. Kelley

OFFICIAL
COPY
O. M. E.
RECEIVED
APR 19 1965

INITIALS	CODE

Telephone AC 2-4379

EXPLORATION SERVICES

Professional and Technical Assistance to Consultants and Exploration Departments in the Mining and Petroleum Industries

Custom Mapping • Surveys • Data Reduction

16 W. 13th Ave. Denver 4, Colorado

January 15, 1965

MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Attention: Mr. Frank M. McKinley

Gentlemen:

Submitted herewith is my report of my examination of your Spar City property in Mineral County, Colorado.

I thank you for the opportunity of making this investigation and will be pleased to make available my services according to your future requirements.

Faithfully yours,

John J. Kelley

John J. Kelley
Geological Engineer

JJK:lc

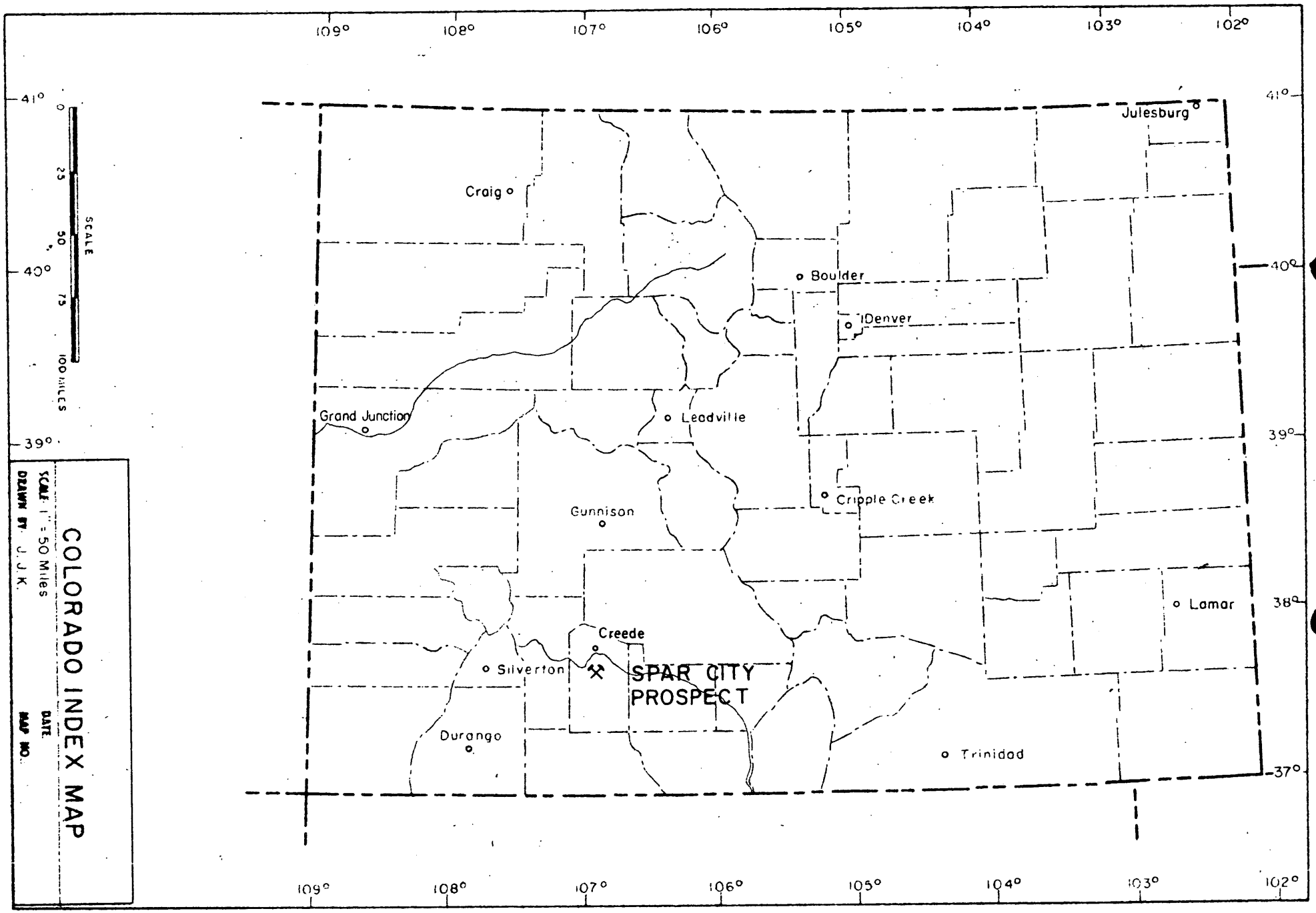
REPORT OF EXAMINATION

SPAR CITY PROPERTY

OF THE

MK EXPLORATION COMPANY

January 15, 1965 John J. Kelley



COLORADO INDEX MAP

SCALE: 1" = 50 Miles

DRAWN BY: J. J. K.

DATE:

MAP NO.

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I. TOPOGRAPHIC MAP	In pocket
II. CLAIM MAP	In pocket
III. DETAILS MAP	In pocket
IV. SELF POTENTIAL PROFILES	In pocket

ASSIGNMENT

Make an examination of the MK Exploration Company property at Spar City, Colorado, and advise as to the feasibility of an exploration project, the program to be followed and future land acquisition if so indicated.

CONCLUSIONS

A major south-trending fault, more than 7,000 feet in length, intersecting a major east-trending fault has provided numerous opportunities for localization of ore deposits, in the faults themselves and in the many associated fractures related to the intersection. Of the several early-day mining efforts in the area, only one reached a depth of more than 400 feet and it encountered substantial lead-silver ore. All other developments were limited to the upper 300 feet of their veins. Although some of these reportedly produced some ore, the larger ore bodies will be found deeper in the veins, below 400 feet. The property merits extensive exploration.

While further surface investigation will guide the extension of property boundaries and will locate numerous faults and fractures, it is doubtful if any ore deposits will be found by this approach alone.

Underground exploration aimed at the vicinity of known ore in the Smuggler vein, with plans for ultimate extension south and west underneath the Emma Mine, provides the most likely means of finding ore in the property.

development

RECOMMENDATIONS

on map submitted but no data

1. Open the old tunnel whose portal is at 11,200 N, 3,950 E and examine its suitability for a haulage tunnel. Compare the cost of its rehabilitation and extension (300 feet) to the Smuggler vein with the cost of a new tunnel (1,500 feet).

2. Drive southward on the Smuggler vein to Target No. 1, the vicinity of the Bird Creek mine workings. This will require a total of 4,000 feet of new tunnel or 3,000 feet of new tunnel and 1,700 feet of rehabilitation.

3. Extend the tunnel southward along the Smuggler structure to about 6,000 N, 7,100 E, then crosscut or drift on a westerly Emma vein to the area of the Emma shaft, Target No. 2. An additional 3,000 feet of workings will be required to reach this area.

4. Two property actions are indicated for the immediate future:

A. Locate additional claims to cover completely

the ground occupied by the Laura Etta, Columbine, Little Anna and Royal Basin group.

B. Locate 3 claims extending southward from A-19, A-20 and A-21.

LOCATION

The Spar City property of the MK Exploration Company is in the Royal Arch Mining District, Mineral County, Colorado. The claims adjoin the south side of the Creede caldera, 10 miles south of Creede (County seat), and are southeast of the village of Spar City in Secs. 22, 23, 26 and 27, T. 40 N., R. 1 W. (See Location Map, p. 4)

PROPERTY DESCRIPTION

(See Claim Map, in pocket) The groups of claims owned or controlled by the MK Exploration Company consist of 9 patented lodes and 30 unpatented claims forming a compact block of ground roughly 2,600 feet wide and 7,000 feet long. Currently efforts are being made to acquire the following missing parcels:

$\frac{1}{4}$ Interest in the Big Spar lode, Survey No. 7795

Walla Walla, Polar and Spar lodes, Survey No. 7952 Emma lode, Survey No. 17959

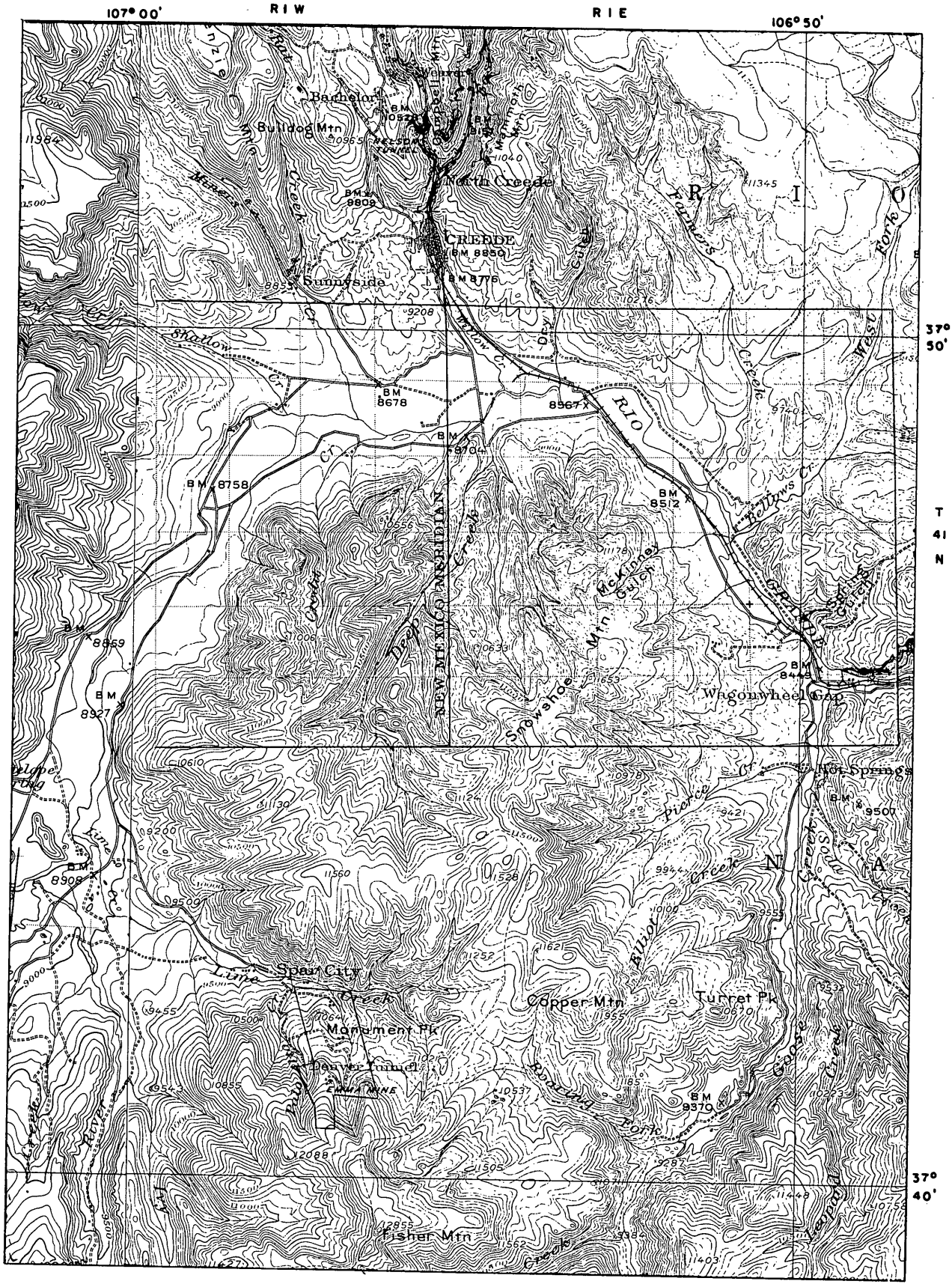

Figure 1

LOCATION MAP

SHOWING

MK EXPLORATION CO. PROPERTY

SCALE: 1/125,000 CONT. INT.: 100'

TO ACCOMPANY REPORT OF J. J. KELLEY TO MK EXPLORATION CO., DATED JANUARY 15, 1965

TOPOGRAPHY AND GROUND COVER

The Topographic Map (in pocket) is an enlargement of a portion of the Spar City Quadrangle map, which was prepared in 1957 from 1952 - 1954 photography. It was found to be reasonably accurate and any errors discovered have been attributed to road changes after the photographs were taken, or to the usual discrepancies encountered in a 10X enlargement.

The ground surface is very rough and vegetation is so thick that a sight of more than 75 feet is exceptional. There is an abundance of excellent timber for mine use covering most of the property.

Very few outcrops are found on the site. In general the bedrock is covered with landslides, glacial debris and soils ranging in thickness from a few feet to several tens of feet. Numerous prospect pits and shallow workings were found, some of which must have accounted for the reports of discoveries in the 1890's.

GEOLOGY

Attention is invited to the following reference, a copy of which is attached to this report (Appendix A) for the convenience of the reader:

Steven, Thomas A., 1964. Geologic Setting of the

Spar City District, San Juan Mountains, Colorado: Art. 146 in U. S. Geol. Survey Prof. Paper 475-D, Pages D-123 to D-127.

Mr. Steven determined that the mineralized area in the Spar City district is localized near the intersection of a major fault extending southward from the Creede caldera, with a major east-trending fault south of the Emma mine, with the known veins appearing to be along faults associated with this intersection. He compares the age of this activity favorably with similar faulting north of the caldera in the Creede district, where faults active at this time became the sites of extensive ore deposits. The exposed veins at Spar City display evidence of near-surface deposition and probably represent only the upper parts of the deposits. ?

It may be anticipated, then, that the extent and age of faulting is correct to accommodate mineral deposition at Spar. Enough work has been done in the district to indicate that economic mineralization is present, but except for the Smuggler (lower Bird Creek tunnel) none of it has gone deep enough to encounter a significant ore body.

Late in the 1964 field season an effort was made to determine the most feasible exploration approach for the discovery of ore deposits in and near the MK Exploration

Company property. Since sulphide bodies would probably not be found within 300 or more feet of the surface, geophysical tools were not expected to be helpful, except for tracing structure. Landslides and moraines indicated that a geochemical survey probably would be misleading or valueless. Because of heavy overburden, geologic mapping would add little to the information already published. Core drilling has been exceptionally expensive and fruitless in the Creede district due to open fractures and the vuggy character of the veins; a similar condition is expected at Spar. It was concluded, therefore, that self potential profiles surveyed in selected positions would show the continuity of structures not otherwise traceable on the surface, and would probably find additional structures that were not reflected by surface evidence. Testing of the structures for the presence of ore will have to be performed through underground openings.

SELF POTENTIAL SURVEYS

Self potential surveys were conducted with a Sharpe VP-6 Self Potential Unit. When it was found that anomalies were modest in their intensity, a variety of probe and station spacings were tried over known mineralized areas. The most satisfactory probe spacing appeared to

be 50 feet with stations 10 feet apart, and most of the work was performed on these intervals. The self potential work led to the following conclusions:

1. There are an exceptional number of oxidizing-reducing paths or fractures (veins) in the area.

2. The veins are persistent along their strikes and can be correlated from profile to profile with good survey control.

3. The intensity of the anomalies, as shown by the relatively weak potentials, suggests that the sulphide mineralization is too deep to find expression through this method, but the fracture pattern which may be the near-surface portion of deeper, mineralized vein systems is readily identified.

4. The trend of the fractures in the northern half of the property is largely northerly, while in the south, near the Emma mine, numerous easterly-trending veins were found crossing the northerly systems, confirming Steven's opinion that a southerly fault from the caldera intersects an easterly fault south of the Emma shaft.

5. The fractures found in the vicinity of the Emma mine were so numerous that careful survey control would be required to identify each. Since time and weather were factors in the conduct of the survey, an expedient was adopted to interpret and flag anomalies and their

strikes as they were discovered. These were mapped by compass and pace to provide a sketch of the vein pattern on which the Emma mine was probably founded, and are shown on the Details Map in the pocket.

Several self potential profiles are presented (Plate IV) to illustrate the frequency of fractures in the north central and southern portions of the property.

Whether the Smuggler vein is the major southerly fault suggested by Steven is questionable; his structure may parallel the Smuggler on the east. It is significant, however, that this vein is traceable on the surface for more than 7,000 feet by alignment of test pits, mine workings and self potential anomalies. Little of the ground east of the base line has been examined in this investigation but it should be thoroughly studied in conjunction with the underground exploration program.

HISTORY OF THE ROYAL ARCH MINING DISTRICT

Only spotty information about the history of the Spar City area has been developed, mostly from the "Creede Candle", the prominent newspaper of the county when Spar City was active. No authentic document, such as a smelter return, has been found.

The first discoveries of silver must have been made

about 1891 because the earliest reports of work and shipments appeared in 1892. By late '93 the shortage of capital and loss of the proposed railroad to Creede had weakened the economy of the camp, and in 1894 the population of Spar City had fallen to 180 from a high of 500. The post office was discontinued in 1896. In the 1920's the village of Spar City was acquired by a private club for a resort and still retains that status.

There have been many reports of high grade silver discoveries in float and near-surface operations. A few news items from the Candle are cited as examples:

September, 1892. A car was being loaded with $600 ore from the World Mine.

December, 1892. The Emma Mine has from 15 to 20 cars of ore on the dump that will run from 200 ounces up and will work all winter.

January, 1893. Major Burke has specimens from the Headlight, Morning, ... that assay 84 to 1252 ounces in silver. (The Morning was not patented and its area is covered by claims A-8 and A-9.)

November, 1893. Gold, silver, copper and lead are being shipped out of Spar.

January, 1894. A new streak in the Emma vein is heavy galena ore and runs 86 ounces silver and 45% lead.

DESCRIPTIONS OF OLD WORKINGS

Undoubtedly the early explorers of the district located their test pits from a study of vein float occurrence. In spite of the distortions that must have been introduced by glaciation and landslides, and the thick mantle covering most of the area, they were surprisingly accurate in sinking most of their test pits through the overburden to veins at bedrock. This has been satisfactorily confirmed by self potential anomalies ? and fragments of vein matter on the banks of the sluffed-in holes and trenches. In general, evidence of mineralization is more pronounced in the southern and eastern portions of the property than in the west central and northwestern parts.

There were two outstanding mine developments in the district, in addition to several tunnels and shallow shafts that probably produced small quantities of high grade silver ore. The Emma and Bird Creek mines both were known to be producers, although there is no record of their shipments, and both are caved beyond rehabilitation.

Bird Creek Mine. The Smuggler vein was developed through two tunnels, the upper about 700 feet long and the lower about 2,800 feet. A map furnished by the last

owner indicates about 400 feet of drift on the vein in the upper tunnel and a raise to the surface on the vein. The lower tunnel was driven south for 2,000 feet, almost directly under Bird Creek, then west 800 feet to cut the vein. The map and fragments of an old report indicate 200 feet of drift and a 300-foot raise on the vein from the lower tunnel. The raise was apparently an attempt to connect the two levels for ventilation.

An effort was made to reopen the lower tunnel about 1960 but after a few hundred feet the operator gave up. At the time this work started there were reportedly 100 tons of lead-silver ore on the dump, the remains from a dump robbing operation in the 1930's, which were buried with a dozer to improve access to the portal. Enough of that ore can still be found on the dump to confirm that lead-silver ore was produced from the tunnel.

A letter from Walter V. Riddell, President of Mineral County Mining and Milling Co., former owner of the Bird Creek Mine, states:

"I was in the mine when they were working on the upraise, and I can say that I saw the veins of ore as mentioned in the above statement of the old prospectus.

"I don't know much about the upper tunnel, but I do know about the ore found in lower tunnel. I am underlining the prospectus lines as to what I know to be a fact."

The prospectus referred to by Mr. Riddell is a partial copy of a document prepared for the purpose of inducing the combination of all of the ownerships on the mountain into a single company at the time the Bird Creek was in operation. The underlined portions were:

"Another tunnel was started about fifteen hundred feet down the mountain running due south two thousand feet, then west seven hundred and fifty five feet where the vein was again crosscut at a depth six hundred feet below the surface. This vein at this point measures twenty one (feet) between the walls. The mineral containing both silver and lead was encountered here and a drift was extended north for one hundred feet. Ore was found all the way which was from three to ten feet in thickness.

"An upraise was made fifty-five feet from the crosscut to a height of about three hundred feet. At a height of twenty feet eighteen inches of ore was discovered that assayed 59.5% lead, 20 oz. silver and .02 oz. gold. At a height of 90 feet ore was encountered that measured five feet three inches thick which assayed the same as above. Assay report follows:

No. 1, Silver - 20.4 oz. Gold - .02 Lead - 59.5%

No. 2, Silver - 19.8 oz. Gold - .02 Lead - 52.7%

"Another upraise was started just south of the crosscut which was run to a height of forty feet. This streak widened from the beginning to a width of eight feet at the top with the appearance of getting wider as the upraise is continued. All of this development was done on the hanging wall."

A survey was made to locate the raise to surface from the upper tunnel and the vein was traced north and south to the ends of the property. In an additional 1,000 to 1,500 feet southward it should intersect the east-trending fault indicated by Steven.

Emma Mine. No one has been found who has been in the Emma Mine, although several reliable individuals state that they have knowledge of ore having been hauled from the Emma dump in the 1930's. The dump has the appearance of having been picked over and scattered. Most of the vein material examined was from a near-surface occurrence, but evidence has been found to indicate the presence of lead and zinc in some of the veins. A few random pieces of vein material collected assayed 11.2 ounces in silver.

The mine was operated through a vertical shaft, the depth of which is not known. From the amount of cable left on the drum of the whim, it can not be more than

300 feet deep. There is no way to determine the direction or extent of the workings; the self potential profiles identified a number of faults in the vicinity of the shaft with a predominate easterly trend. Doubtless the workings were not deep enough to have reached the sulphide horizon reported from the Smuggler vein.

Denver Tunnel. On the topographic map an old caved tunnel on claim A-7 is identified as the Denver Tunnel. Local people, however, give the name to a tunnel whose portal is in a rockslide about 700 feet southeast of the Larson cabins in Palo Alto Creek. This one is open and was inspected. Several small veins were found crossing the tunnel and although no samples were taken for assay, no mineralization suggesting values was found. The tunnel appears to have been headed for the Emma shaft and if continued for 1,700 feet would have reached its objective, but only 400 feet below the collar.

Other Old Workings. East of the so-called Denver Tunnel are several adits dug into an east-west cliff face, all striking southerly. These are choked with ice at the portals but most of their dumps show signs that some ore sorting had been done.

A tunnel without a name was found starting on claim A-1 and bearing about S 67° E. An old map shows it to

? see pg 16

be about 1,650 feet long and from the size of the dump that is about correct. No sign of mineralization was found and the portal is caved for at least 150 feet. An interesting feature of this operation is a ditch from Palo Alto Creek and a water wheel near the portal to operate a blower for ventilation.

This tunnel appears to be in far enough to cut the smuggler vein. JJK.

A shaft about 50 feet deep beside the Emma Mine road on the A-14 claim is still open but there is no timber in it and the dump size suggests that the workings are meager. It can be seen from the sorting pile on the dump that the values were in barite and galena.

Respectfully submitted,

John J. Kelley

John J. Kelley

Registered Professional Engineer

Denver, Colorado

January 15, 1965

APPENDIX A

Article 146

GEOLOGIC SETTING OF THE SPAR CITY DISTRICT, SAN JUAN MOUNTAINS, COLORADO

By THOMAS A. STEVEN, Denver, Colo.

Work done in cooperation with the Colorado Metal Mining Fund Board

Abstract.—The district is along the south margin of the Creede caldera, near the intersection of a narrow graben cutting the core of the caldera and a reactivated fault along the margin of the caldera. The exposed veins appear to have been deposited in a near-surface environment and may represent the upper parts of the original vertical range of ore deposition.

The Spar City district, a small mineralized area along the south flank of the Creede caldera in the central San Juan Mountains, southwest Colorado (fig. 146.1), has been prospected sporadically since the early 1900's. Several mine workings were driven in the early days to explore some of the exposed veins in the district, and vein fragments containing galena, sphalerite, barite, manganese oxides, and jaspery to amethystine quartz are strewn over several of the old dumps. Systematic exploration, however, has been discouraged by thick soil and dense forest cover, and by widespread landslides and glacial drift. Recent regional geologic studies in and adjacent to the Creede caldera have outlined the geologic framework of the Spar City district, and although many specific details remain obscure, the additional knowledge should help guide future prospecting and exploration programs.

The mineralized area in the Spar City district is localized near the intersection of two differently trending structures that were active during volcanic activity, and the known veins appear to be along minor faults associated with this intersection. Mineralization took place late in the local sequence of volcanic and structural events, and was associated with or later than the last main period of faulting. Exposed veins were deposited in a near-surface environment.

The Creede caldera (Steven and Ratté, 1960) is a subcircular collapse structure 10 to 12 miles in diameter whose margin is clearly marked in the present topography for nearly 300° of arc by the valley of the Rio Grande and its tributaries (fig. 146.1). This caldera is the youngest of at least four separate overlapping cauldron structures that together caused an area at least 25 miles long and 5 to 15 miles wide in the central San Juan Mountains to subside now and again in response to voluminous ash-flow eruptions during middle or late Tertiary time (Steven and Ratté, 1963, and Art. 132). The last period of subsidence of the Creede caldera accompanied eruption of the Snowshoe Mountain Quartz Latite, a crystal-rich ash-flow tuff, largely densely welded, that consists of 40 to 60 percent phenocrysts in a drab gray to brownish matrix. The phenocrysts consist largely of intermediate plagioclase, with lesser biotite, clinopyroxene, hornblende, sanidine, and quartz. The Snowshoe Mountain Quartz Latite accumulated to a thickness of more than 6,000 feet within the caldera, but has not been recognized outside. Talus and landslide breccias from the walls of the caldera intertongue marginally with the Snowshoe Mountain and indicate that subsidence and accumulation were concurrent over an extended period of time.

Final subsidence of the Creede caldera left a flat-floored basin at or below the level of the present Rio Grande, and talus and rockfall breccias spread widely over the floor. Northwest-trending tangential grabens, now followed by the Rio Grande both upstream and downstream from the caldera, formed late in the period of subsidence, and some faults in the recurrently active Creede graben extending north-northwest from the

ART. 146 *IN* U.S. GEOL. SURVEY PROF. PAPER 475-D, PAGES D123-D127. 1964.

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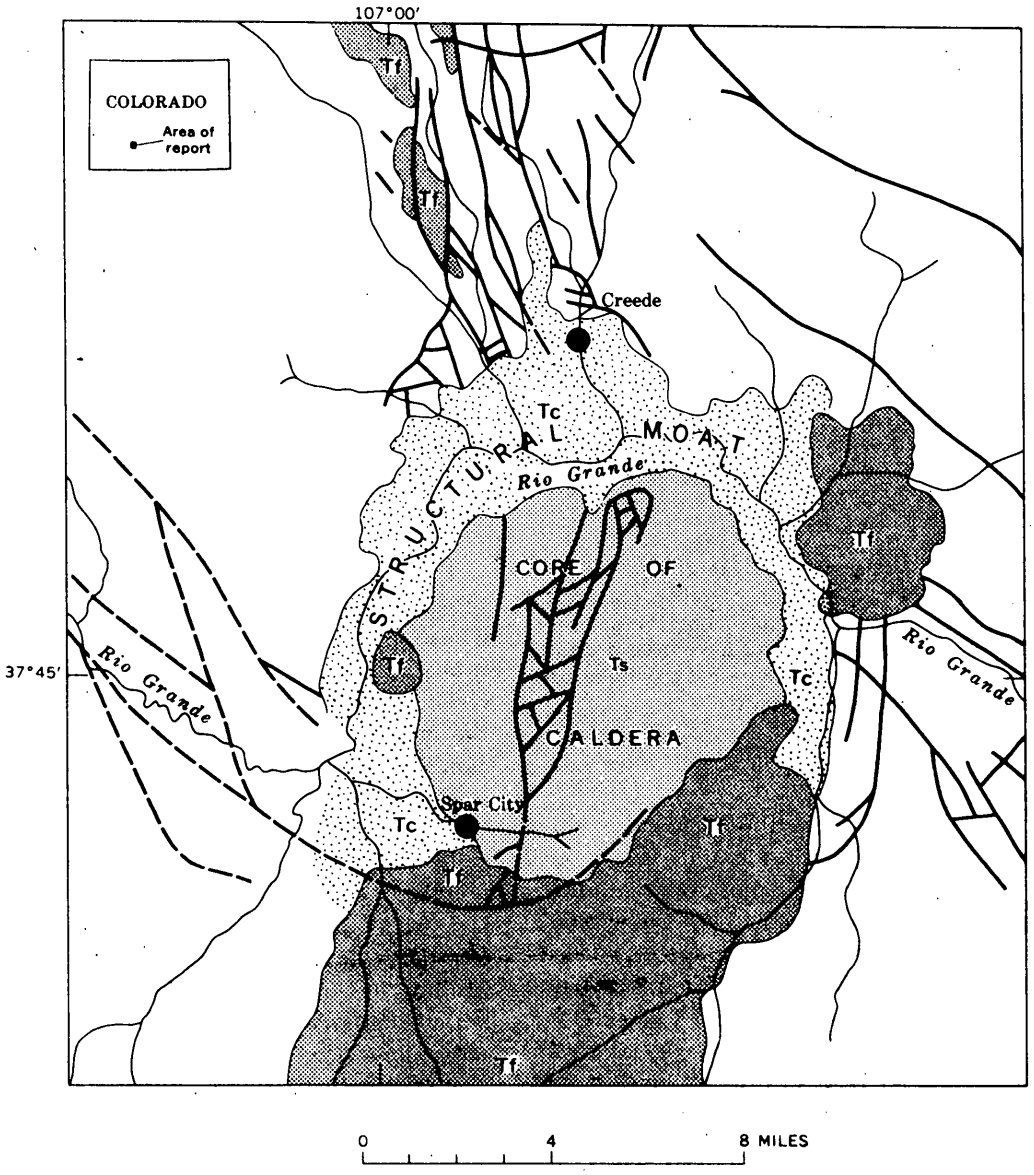


FIGURE 146.1—Geologic sketch map of the Creede caldera and adjacent areas. Snowshoe Mountain Quartz Latite (Ts) accumulated in core of caldera during subsidence. Sedimentary rocks of the Creede Formation (Tc) filled a structural moat around the domed core of the caldera, and viscous lava flows and breccias of Fisher Quartz Latite (Tf) were erupted locally around the margin of the caldera. Undifferentiated volcanic rocks that accumulated outside the caldera before and during subsidence are shown as blank. Contact lines indicate the general limit of distribution of the formations. Heavy lines are generalized faults, dashed where poorly known or hypothetical.

northern margin of the caldera may have been active at the same time.

The core of the Creede caldera was resurgently domed (Smith and Bailey, 1962) following final subsidence, and some parts near the center were uplifted more than 4,000 feet above a residual topographic moat left all around the margin. A complex keystone graben formed across the center of the core during doming; displacement in this graben was minor near the northern and southern margins of the caldera, but some blocks near the center are nearly 4,000 feet below equivalent rocks in the adjacent uplifted blocks.

Volcanic activity broke out around the margin of the caldera following doming, and viscous flows and domes of Fisher Quartz Latite formed several local accumulations, particularly along the south margin of the caldera (fig. 146.1). Concurrently, stream and lake sediments, volcanic ash, and travertine from mineral springs were deposited elsewhere around the caldera to form the Creede Formation.

The last major period of faulting known around the Creede caldera followed accumulation of the Fisher Quartz Latite and Creede Formation. Many of the faults that formed earlier during the period of recurrent volcanic eruptions and cauldron subsidence were reactivated at this time. Faults active at this time are economically significant, as the important ore deposits in the Creede district north of the caldera formed concurrently with or shortly following movement, and the active or recently active faults were favored sites for mineralization (Steven and Ratté, 1960). The mineral deposits in the Spar City district were formed at about the same time.

Erosion of the Creede Formation has reexposed the margin of the Creede caldera. Although the adjacent slopes have been considerably dissected, the original form of the domed caldera core, as well as other constructional landforms in adjacent areas can still be recognized in many places.

In detail, the Spar City district is localized near the intersection of a fault marking the southern extension of the core graben of the Creede caldera and a reactivated fault linking the northwest-trending tangential graben with the caldera margin (figs. 146.1 and 146.2). The exposed faults near the Bird Creek mine and Emma mine (fig. 146.2) all appear to be minor fractures subsidiary to larger faults that seem required under the adjacent landslide and moraine cover. At its southern end, the core graben changes southward from a wide zone of jumbled fault blocks between persistent marginal faults to a single fracture that can be followed closely north of Lime Creek, although it has not been seen in outcrop farther south. The position of the fracture shown in figure 146.2, adjacent to the mineralized area of the Spar City district, is hypothetical and depends strictly on projection from the well-defined trends farther north.

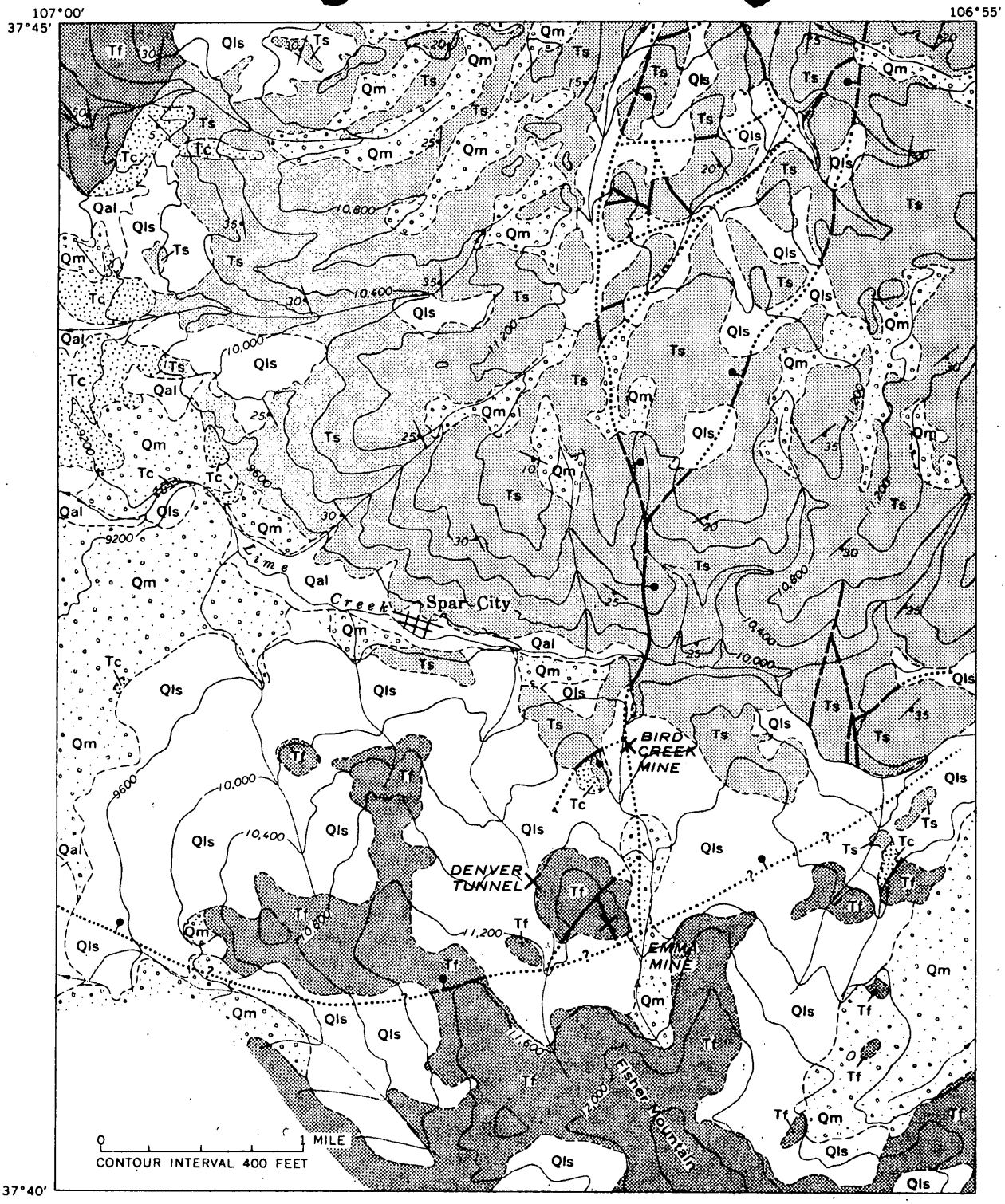
The arcuate but generally east-trending fault postulated to separate the mineralized area of the Spar City district from the top of Fisher Mountain to the south (fig. 146.2) also has not been seen in outcrop. A fault south of the Emma mine seems certainly required, however, by the relations of the distinctive coarsely porphyritic quartz latite flow that caps Fisher Mountain. The base of this flow is clearly exposed along the west side of the spur ridge extending north from the summit of Fisher Mountain. The base ranges generally from an elevation of 11,250 feet near the north end of the spur, to 11,400 feet near the south end. The same capping flow comprises all the island of outcrop containing the Emma mine and the Denver Tunnel a short distance northwest across the postulated fault; the flow extends as low as 10,750 feet near the Denver Tunnel, but the base is not exposed.

No bedrock is exposed where the hypothesized east-trending fault crosses the ridge extending northwest from the summit of Fisher Mountain, and no evidence either for or against the fault was seen in the soil or float that covers the ridge in this vicinity. Unbroken exposures of the capping flow, short distances north and south of the projected trend, limit the position of the fault to a span about 1,000 feet wide.

The east-trending fault required between the Emma mine area and the top of Fisher Mountain projects northwesterly toward the southwest margin of the tangential graben that extends northwestward from the Creede caldera (fig. 146.1). Overlap relations at the southeastern end of the graben clearly indicate that the graben formed before the Creede Formation and Fisher Quartz Latite were deposited, and thus the arcuate east-trending fault in the Spar City district appears to represent post-Fisher reactivation of older trends related to caldera subsidence.

The capping quartz latite flow on Fisher Mountain appears to have been the youngest lava flow deposited in this area. To the west, marginal breccias along the flank of this flow intertongue with sediments of the Creede Formation, and to the north a thin wedge of Creede Formation appears to separate the flow from the underlying Snowshoe Mountain Quartz Latite near the Bird Creek mine (fig. 146.2). All these younger rocks are cut by mineralized minor faults, indicating that late faulting and mineralization here as well as in the Creede district north of the caldera postdated accumulation of the Creede and Fisher.

The exposed veins must have been deposited very near the surface, as the youngest Tertiary rocks deposited in the area form the host rocks. The common occurrence of barite, manganese oxides, and dense jaspery quartz in the gangues further suggests a near-surface environment of deposition. Deductively it would seem more probable that the present exposures represent the upper rather than the lower parts of the original vertical range of ore deposition, and that somewhat deeper levels may be more favorable for the discovery of ore deposits.



EXPLANATION

Contact
Dashed where approximately located; short dashed where gradational or indefinite

Fault
Dashed where approximately located; dotted where concealed; queried where hypothetical. Bar and ball on downthrown side

Strike and dip of compaction foliation or bedding

FIGURE 146.2—Geologic map of the Spar City district, Colorado. Tertiary rocks: Ts, Snowshoe Mountain Quartz Latite (in core of caldera); Tf, Fisher Quartz Latite; Tc, Creede Formation (in structural moat). Quaternary rocks: Qm, moraine; Qls, landslide debris; Qal, alluvium. Base from U.S. Geological Survey topographic quadrangle: Spar City, 1957.

REFERENCES

Smith, R. L., and Bailey, R. A., 1962, Resurgent cauldrons—their relation to granitic ring complexes and large volume rhyolite ash-flow fields [abs.], *in* International symposium on volcanology, Japan: Internat. Assoc. Volcanology, 1962, p. 67–68.

Steven, T. A., and Ratté, J. C., 1960, Relation of mineralization to caldera subsidence in the Creede district, San Juan Mountains, Colorado: Art. 8 *in* U.S. Geol. Survey Prof. Paper 400-B, p. B14–B17.

——— 1963, Resurgent cauldrons in the Creede area, San Juan Mountains, Colorado [abs.]: Am. Geophys. Union 44th Ann. Mtg., April, 1963, Program, p. 112–113.

EXHIBIT 13

Article 146

GEOLOGIC SETTING OF THE SPAR CITY DISTRICT, SAN JUAN MOUNTAINS, COLORADO

By THOMAS A. STEVEN, Denver, Colo.

Work done in cooperation with the Colorado Metal Mining Fund Board

Abstract.—The district is along the south margin of the Creede caldera, near the intersection of a narrow graben cutting the core of the caldera and a reactivated fault along the margin of the caldera. The exposed veins appear to have been deposited in a near-surface environment and may represent the upper parts of the original vertical range of ore deposition.

The Spar City district, a small mineralized area along the south flank of the Creede caldera in the central San Juan Mountains, southwest Colorado (fig. 146.1), has been prospected sporadically since the early 1900's. Several mine workings were driven in the early days to explore some of the exposed veins in the district, and vein fragments containing galena, sphalerite, barite, manganese oxides, and jaspery to amethystine quartz are strewn over several of the old dumps. Systematic exploration, however, has been discouraged by thick soil and dense forest cover, and by widespread landslides and glacial drift. Recent regional geologic studies in and adjacent to the Creede caldera have outlined the geologic framework of the Spar City district, and although many specific details remain obscure, the additional knowledge should help guide future prospecting and exploration programs.

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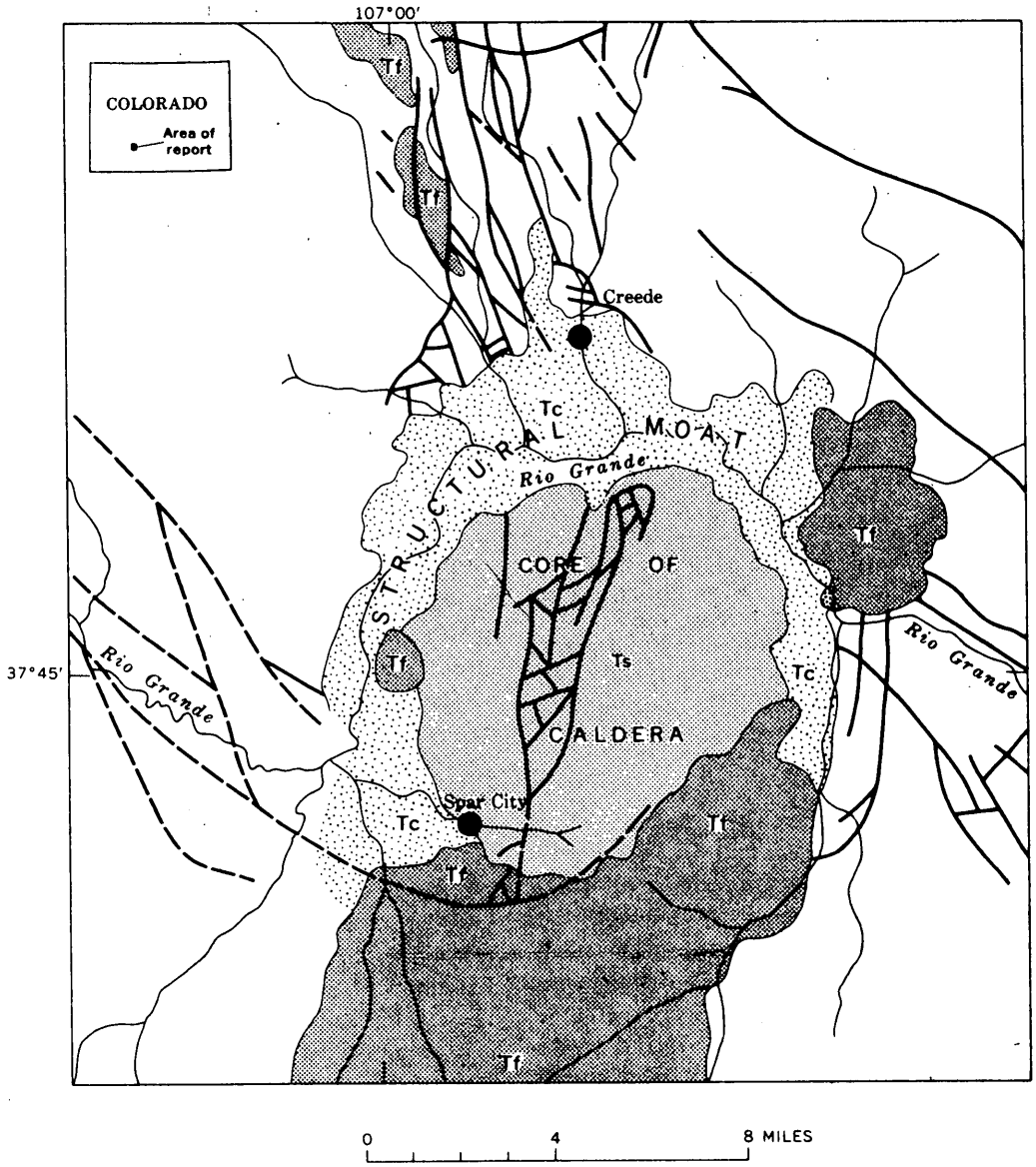

FIGURE 146.1—Geologic sketch map of the Creede caldera and adjacent areas. Snowshoe Mountain Quartz Latite (Ts) accumulated in core of caldera during subsidence. Sedimentary rocks of the Creede Formation (Tc) filled a structural moat around the domed core of the caldera, and viscous lava flows and breccias of Fisher Quartz Latite (Tf) were erupted locally around the margin of the caldera. Undifferentiated volcanic rocks that accumulated outside the caldera before and during subsidence are shown as blank. Contact lines indicate the general limit of distribution of the formations. Heavy lines are generalized faults, dashed where poorly known or hypothetical.

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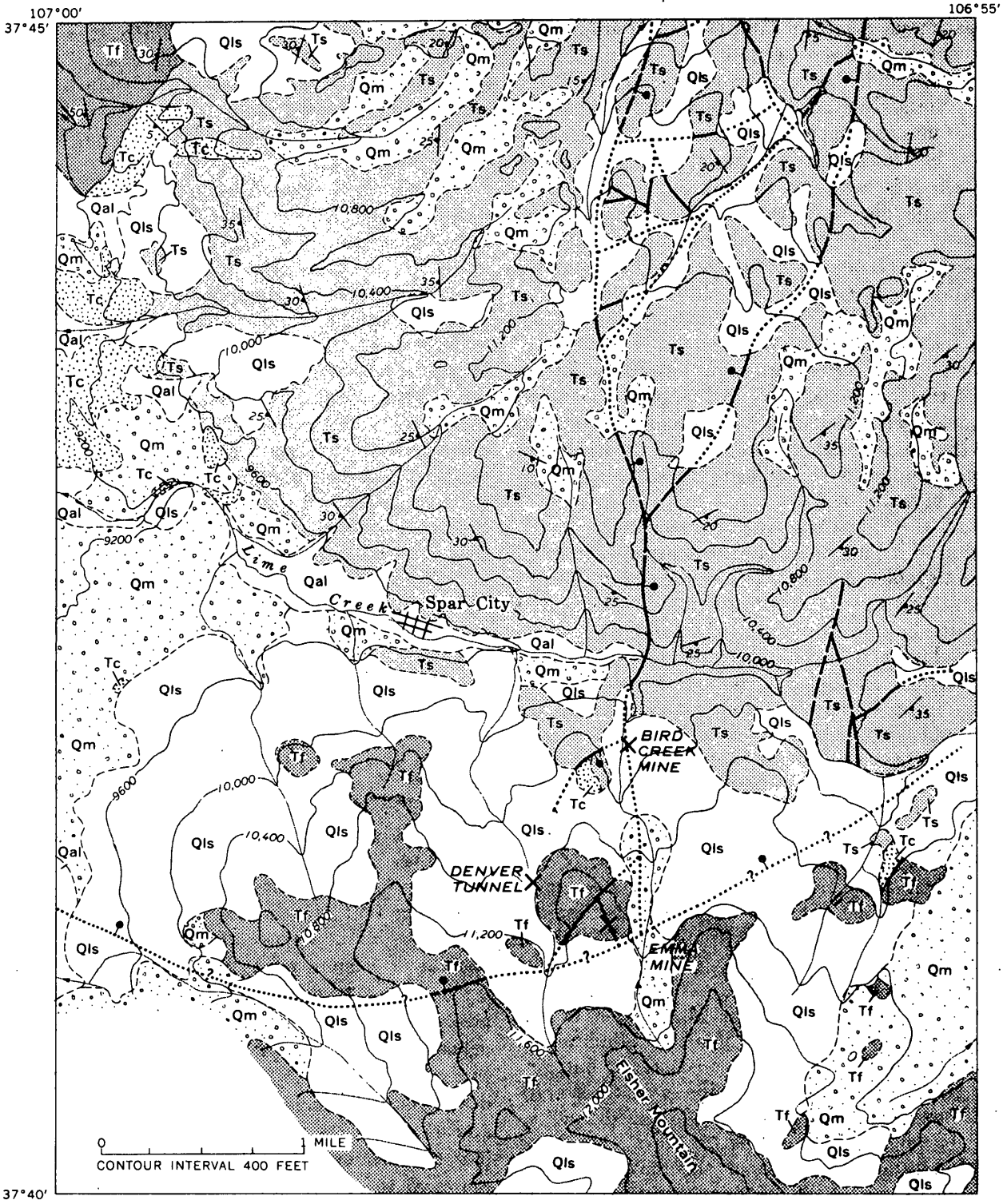

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FIGURE 146.2—Geologic map of the Spar City district, Colorado. Tertiary rocks: Ts, Snowshoe Mountain Quartz Latite (in core of caldera); Tf, Fisher Quartz Latite; Tc, Creede Formation (in structural moat). Quaternary rocks: Qm, moraine; Qls, landslide debris; Qal, alluvium. Base from U.S. Geological Survey topographic quadrangle: Spar City, 1957.

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——— 1963, Resurgent cauldrons in the Creede area, San Juan Mountains, Colorado [abs.]: Am. Geophys. Union 44th Ann. Mtg., April, 1963, Program, p. 112–113.

Telephone AC 2-4379

EXPLORATION SERVICES

Professional and Technical Assistance to Consultants and Exploration Departments in the Mining and Petroleum Industries

Custom Mapping • Surveys • Data Reduction

16 W. 13th Ave. Denver 4, Colorado

PERSONAL AND EXPERIENCE RECORD OF JOHN J. KELLEY

GENERAL:

Born August 21, 1916 - Glens Falls, New York
Married, 4 children
Good health, no handicaps

EDUCATION:

Completed high school Hudson Falls, N. Y., 1932
Attended Glens Falls Academy, Glens Falls, N. Y. - 1 yr.
Attended Georgetown University, Washington, D.C. - 1 yr.
Graduated Colorado School of Mines, Golden, Colo. - 1940
Degree: Geological Engineer
Graduate studies in geology at University of Colorado, Boulder, Colorado - 1940
Attended Colorado School of Mines part time in 1946 and 1947, taking graduate courses in geology and undergraduate work in mining engineering while a member of the faculty.

MEMBERSHIPS:

AIME Colorado Mining Association
Registered Professional Engineer, Colorado No. 1135

EMPLOYMENT:

1936 and 1937. Worked as a miner in numerous gold-silver mines in Colorado and at the Climax Molybdenum Mine, Climax, Colorado

Aug. 1940 to Mar. 1941. Factory Engineer, Gates Rubber Company, Denver, Colorado

Mar. 1941 to Feb. 1942. Computor and party chief, Brown Geophysical Company, Houston, Texas, performing gravity meter surveys in California

Feb. 1942 to Feb. 1946. Military service, Corps of Engineers. Served in European Theater 38 months. Held following positions: Bn. Adjutant, Co. Commander, Bn. Supply Officer, Regt'l Plans and Operations Officer, Regt'l Executive Officer. Rank at discharge, Lt. Col.

Feb. to July, 1946. Attended Colorado School of Mines

July 1946 to Mar. 1953. Director of Planning and Development, Colorado School of Mines. Duties included planning, design and construction of facilities for academic and administrative departments. In 1949 maintenance responsibilities were added.

1950 to present. Commenced doing consulting work in mining geology in 1950. By 1953 the practice required full time attention, and it continues to function under the name of Exploration Services. I have operated it as both a consulting and service organization to furnish technical and professional assistance to individuals and companies in the minerals industries. This has provided considerable experience in all operations connected with mining work. Those most frequently repeated are:

Geologic mapping
Mine examination and evaluation
Mine operation and management
Surveys - surface and underground
Property ownership investigations
Geophysical surveys - electrical, magnetic, electromagnetic, geochemical, gravity
Computing, compiling and processing all types of field data gathered in preparation for further study
Ore reserve determinations
Drill hole logging
Aeromagnetic survey compilation from raw data
Gravity survey recomputation and mapping

PARTIAL LIST OF COMPANIES SERVED SINCE 1950:

Globe Mining Company - ore reserves and development plan
Utah Construction & Mining Company - aeromagnetic compilations
Lucky Mc - ore reserves
Western Nuclear Corp. - open pit design, economic studies
Bear Creek Mining Company - geological and geophysical compilations and map studies over 13-year period
SNN Mining Company - engineering and mine management
Humphreys Engineering Company - examination and evaluation, engineering and mine management
E. J. Longyear Company - ore reserves, mine planning and development, arbitration deliberations, Tennessee phosphate reserve investigations
Thompson Creek Coal & Coke Corp. - engineering
The California Company - gravity recomputation and mapping
Continental Consolidated Corp. - blasting consultant for Phase II of Norad Project
Galxy Minerals Ltd. - geological and geophysical exploration in British Columbia
MK Exploration Company - geological and geophysical exploration, property acquisition, development planning and management

REFERENCES:

Mr. Ray E. Gilbert
District Geologist
Bear Creek Mining Co.
1498 S. Lipan Street
Denver, Colorado

Mr. R. C. Gebhardt
Dr. Lee Armstrong
E. J. Longyear Company
76 South 8th Street
Minneapolis, Minn.

Dr. Don A. Hansen
Senior Geophysicist
Utah Construction & Mining Co.
550 California Street
San Francisco, Calif.

Dr. Ralph C. Holmer
Director of Exploration
Kennecott Copper Corp.
Salt Lake City, Utah

Mr. Albert M. Keenan, Pres.
Thompson Creek Coal & Coke Corp.
Farmers Union Building
Denver, Colorado

Mr. Frank M. McKinley, V. Pres.
Humphreys Engineering Co.
910 American National Bank Bldg.
Denver, Colorado

Dr. Thomas E. Gillingham
615 Market Street
Oxford, Pennsylvania

Mr. Edwin H. Crabtree, Director
Colo. School of Mines Research Foundation
Golden, Colorado

Catalina Constructors, Inc.
8545 W. Colfax, Suite 15, Lakewood, Colorado

Refer all correspondence to: Post Office Box 15414
Lakewood, Colorado 80215
AC 303 — 238-1313

March 25, 1965

Exploration Services
16 W 13th Ave.
Denver, Colorado

Attention: Mr. John J. Kelley

Gentlemen:

In reference to your letter request of March 12, 1965, we offer the following unit prices for development work at your property holding near Spar City, Colorado:

Driving approximately 4,000 LF of 8' x 9' tunnel	$70.00 per LF
Driving approximately 400 LF of drifts	$65.00 per LF
Driving raises 3 each @ 150' - 70 degrees plus	$209.00 per LF
Timbering tunnel (8x8 posts)	$12.00 per LF
Portal excavation:	
Rock	$3.50 per CY
Dirt	$1.00 per CY
Road Excavation:	
Rock	$2.50 per CY
Dirt	$0.80 per CY

The above prices include cost for leaving 30# rail, 2" water line, 6" air line, and 20" vent line in place when job is completed.

We would be able to begin working as soon as weather permitted and project would be completed within 8 months after tunnel excavation is started. If bond is required, cost of bond would be for your account.

If any additional information is needed, please contact us.

Very truly yours,

CATALINA CONSTRUCTORS, INC.

H. A. Krueger
Vice President

HAK/ac

DIAMOND CORE DRILLING
DIAMOND DRILLING EQUIPMENT
GROUTING
FOUNDATION TESTING
MINING
QUARRYING
SHAFT SINKING
TUNNEL DRIVING
MINE PLANT DESIGN
AND FABRICATION

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CONTRACTORS-ENGINEERS-GEOLOGISTS

General Offices and Plant
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BRANCH OFFICES
PHOENIX
RENO
SPOKANE
DENVER
SACRAMENTO
SANTIAGO, CHILE
LIMA, PERU

F. E. PETERS
Manager—Mining Division

March 31, 1965

Exploration Services
16 West 13th Avenue
Denver, Colorado 80204

Attention: Mr. John J. Kelley

Gentlemen:

We are quoting prices on the exploration work of the M K Exploration Company at Spar, Colorado, 14 miles south of Creede, Colorado.

1. 4,000 feet of 8 x 9 tunnel -	$ 92.89/LF
2. 400 feet of 5 x 7 crosscut -	74.90/LF
3. 3 Raises 5 x 8 each, 150 feet -	122.00/LF

If timber is required for tunnel, crosscuts or raises, we will furnish and install all necessary timber for $0.13/B.F.

The above prices include us furnishing all necessary labor, equipment, materials and supplies except timber.

All air and water line, vent line and track will be left in place when contract is completed.

Very truly yours,

Frank E Peters

F. E. Peters

FEP:bg

QUAD CONSTRUCTION INC.

TUNNELING
SHAFT SINKING

5770 McINTYRE STREET
ROUTE 1, BOX 568A
GOLDEN, COLORADO

MINING
PLANT INSTALLATION

March 29, 1965

Exploration Services
16 West 13th Avenue
Denver 4, Colorado

Attn: Mr. John J. Kelley

Gentlemen:

We propose to do the exploration work at your Spar City, Colorado, mining property as follows:

Item 1. Portal excavation
a) Glacial Till - per Cu. Yd. $1.75
b) Rock Excavation - per Cu. Yd. $3.00

Item 2. Drive 4,000 ft. of 8' x 9' tunnel including furnish and install track (30 lb. rail with 4" x 6" native timber ties)
6" airline, 1" waterline, 20" ventilation pipe per lineal foot $107.00

Item 3. Drive 400 ft. of 5' x 7' crosscuts including no track or pipe. These are assumed to be crosscuts not more than 100 ft. long each and to be driven simultaneously with the tunnel.
per lineal foot $65.00

Item 4. Drive 3 two compartment raises 5' x 8' inside timber, each 150 ft. long
per lineal foot $61.00

Item 5. Furnish and install native timber sets in drifts and crosscuts and in raises. per 1000 bd. ft. $350.00

We have the experienced and competent personnel and the necessary equipment to start the work this coming summer, at which time we assume it is to be started.

Thank you for inviting us to bid.

Very truly yours,

Fred S. Haley

Fred S. Haley

FSH:K

Telephone AC 2-4379

EXPLORATION SERVICES

Professional and Technical Assistance to Consultants and Exploration Departments in the Mining and Petroleum Industries

Custom Mapping • Surveys • Data Reduction

16 W. 13th Ave. Denver 4, Colorado

March 25, 1965

MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Gentlemen:

In connection with your projected Spar City exploration program calling for 4000 feet of tunneling, some crosscutting and raising, I propose to act for you as manager-engineer-geologist in directing the work of the mining contractor, prepare and submit necessary reports, perform all surveying and mining engineering work required, and perform all of the geological duties at the rate of $100 per day. This quotation is based on a minimum of 12 days per month and includes the cost of my own transportation and living expenses, taxes, insurance, etc. When surveying assistants are required I will furnish the necessary personnel at the rate of $2.00 per man-hour, including taxes and insurance.

I estimate that 15 days per month of my time will be required and the job will be in construction for 15 months. For the project, then, you should allow $22,500 for my services, plus approximately $320 for surveying assistants.

Very truly yours,

John J. Kelley

John J. Kelley
Registered Professional
Engineer

JJK:w

IN REPLY REFER TO:

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

Office of Minerals Exploration
Building 53 Room 200

OFFICIAL COPY
JUN 21 1971

June 18, 1971

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Memorandum

To: Chief, Office of Minerals Exploration

From: Assistant Chief, Office of Minerals Exploration

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Transmitted herewith is the final field report on the above-stated contract.

William L. Emerick

William L. Emerick,
Assistant Chief,
Office of Minerals Exploration

Enclosure

FINAL FIELD REPORT - OME EXPLORATION PROJECT

By W. L. Emerick

June 18, 1971

1. OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Operator: MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Property: Consisted of 9 patented and 30 unpatented lode mining claims, including all rights thereto, in secs. 22, 23, 25, 26, 27, and 35, T. 40 N., R. 1 W. (unsurveyed), in the Royal Arch mining district, Mineral County, Colorado. A map showing the area of these 39 claims was attached to the contract.

Ownership: The Operator was in possession of (1) eight of the patented claims under the terms of an "Option to Purchase Mining Claims," dated January 8, 1969, from Mineral County Mining and Milling Company, the owners, (2) eight of the unpatented claims under the terms of an "Option to Purchase Mining Claims," dated February 15, 1965, from Harry L. Larson and Mary L. Larson, the owners, (3) an undivided 3/4 interest in one patented claim by ownership, and (4) 22 unpatented claims by right of location.

2. Purpose of Project: The purpose of the project was to explore by diamond core drilling from surface sites in volcanic rocks along the south flank of the Creede caldera for silver-bearing ore bodies occurring in veins near intersections of faults.

3. Contract: Dated September 8, 1966, for a term of 12 months.
Original contract amount - $31,000.00.
Government participation - 75 percent - $23,310.00.

Amendments - There were no amendments to the contract.

4. Project Work: Started September 8, 1966. A non-certification notice (closing letter), dated August 22, 1967, was sent to the Operator withdrawing the Government's claim or lien against the property described in the contract or any future production therefrom.

FINAL FLD. REPORT

Cost Items	Authorized Units	Authorized Rate	Authorized Amount	Completed Units	Completed Amount
Bulldozing access roads and drill sites	40 hours	$12.50/hr.	$500.00	7 hours	$87.50
Mobilization and demobilization of drilling equipment and personnel	1 -----	-----	$500.00	-----	$500.00
Overburden drilling	100 feet	$8.00/ft.	$800.00	70 feet	$560.00
Diamond core drilling (BX size or larger)	2,650 feet	-----	$16,876.25	-----	-----
0' - 250 feet depth	1,000 feet	$5.90/ft.	-----	981 feet	$5,787.00
250' - 500 feet depth	975 feet	$6.40/ft.	-----	975 feet	$6,240.00
500' - 750 feet depth	600 feet	$6.96/ft.	-----	600 feet	$4,170.00
750' - 800 feet depth	75 feet	$7.55/ft.	-----	75 feet	$566.25
Cement, drill mud, additives	- -----	-----	$1,000.00	-----	$18.10
Reaming and casing	- 100 hours	$13.00/hr.	$1,300.00	-----	$209.00
Cementing and redrilling	- 200 hours	$13.00/hr.	$2,600.00	35 hours	$455.00
In-hole surveying	- 32 hours	$13.00/hr.	$416.00	7 hours	$91.00
Instrument rental and transporation	- -----	-----	$300.00	-----	-----
Supervisor-engineer-geologist	- 3 months	$750.00/mo.	$2,250.00	3 months	$2,250.00
Outside Consultant	- 6 days	$75.00/day	$450.00	6 days	$450.00
Carpenter	- 64 hours	$2.50/hr.	$160.00	18 hours	$45.00
Cardboard core boxes	- 265 boxes	$1.00/each	$265.00	265 boxes	$265.00
Sample bags	- 500 bags	$0.10/each	$50.00	40 bags	$4.00
Core storage shed	- -----	-----	$100.00	----	$60.20
Assaying - Gold, silver, lead, zinc, and copper	- 500 samples	Various	$2,650.00	40 samples	$171.50

Cost Items (Continued)	Authorized Units	Authorized Rate	Authorized Amount	Completed Units	Completed Amount
Transportation of samples	-----	-----	$70.00	-----	$70.00
Consultant's travel expenses	1,650 miles	$0.10/mile	$165.00	1,100 miles	$110.00
Consultant's per diem	6 days	$16.00/day	$96.00	4 days	$64.00
Accounting and office expenses	3 months	$50.00/mo.	$150.00	3 months	$150.00
F.I.C.A. payroll taxes, insurance, etc.	-----	-----	$375.00		$375.00
Total Estimated Cost of Project -			$31,080.00		$22,699.45
Government Participation at 75 percent -			$23,310.00		$17,024.59
Paid to Operator -					$17,024.59

Effectiveness of the Work - The target areas were adequately explored.

Efficiency of Operation - The drilling of the four holes provided for in the contract was done efficiently and with a minimum of operating problems.

5. Reports:

Operator's Final Report - An acceptable Final Report dated January 31, 1967, was submitted by the Operator. The report was accompanied by an adequate supporting geologic map, cross sections through drill holes, and graphic logs for each drill hole.

Cost Review - A Report of Review was issued by the Office of Survey and Review in May 1967.

Final Audit - A final audit was not requested because no additional vouchers were submitted or paid after the Report of Review. The final voucher was paid on April 12, 1967.

Royalty Review - There was no production sold and no royalty was due the Government. A Royalty Review was not requested.

6. Project Results:

Discoveries	- The project work did not result in the discovery of a minable silver ore body.
Certification	- Inasmuch as no ore was discovered by the OME work, a certification of possible production was not issued.
Royalties	- No royalties were paid or due the Government.

7. Geologic Summary

- The ores are localized in veins near the intersection of two faults in a quartz latite flow rock on the south flank of the Creede caldera. The veins contain argentiferous galena, sphalerite, quartz, barite, and manganese oxide. Production records for the area are sparse and not very informative.

Office of Minerals Exploration

OFFICIAL COPY
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SEP 11 1967
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MK 120 K

September 8, 1967

Mr. John J. Kelley, Vice President
MK Exploration Company
General Delivery
Creede, Colorado 81130

Reference: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Dear John:

This letter is written in reply to your undated request, which was received in this office September 6, 1967, concerning disposition of diamond drill core.

I have contacted other Survey Geologists interested in the Creede and Spar City area and find that they presently have no need for the core obtained from the diamond drilling completed under the subject contract. I have also examined the core, therefore if it is of no further use to the MK Exploration Company, you now have permission to dispose of the core and sludge.

It has been a pleasure to work with you on the Office of Minerals Exploration program and hope that we can be of assistance to you at some later date.

Sincerely yours,

J. William Hasler

J. William Hasler
Field Officer, Region III

cc: Chief
Hasler chron
OME chron
2226

MK Exploration Company
General Delivery
Creede, Colorado

OME Region III
RECEIVED
SEP 6 - 1967
Denver, Colorado

Mr. J. William Hasler
Field Officer, Region III
Office of Minerals Exploration
Federal Center, Denver, Colorado 80225

Re: OME-6440 (Silver)
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Dear Mr. Hasler:

MK Exploration Company has decided that it has no further use for the cores presently being stored in Creede from the captioned contract. This letter is a request to OME for permission to dispose of the material.

Very truly yours,

John J. Kelley

John J. Kelley, V. Pres.
MK Exploration Company

JJK:k

Please reply to the above address.

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code

AUG 22 1967

AIRMAIL

Mr. and Mrs. Harry L. Larson

Creede, Colorado 81130

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Dear Mr. Larson:

Enclosed is a copy of a self-explanatory letter of today to the Operator under the subject contract.

This correspondence relates to the Lien and Subordination Agreements executed March 17, 1965, by you under the Office of Minerals Exploration program.

Sincerely yours,

FRANK E. JOHNSON (gla)

Frank E. Johnson
Chief, Office of
Minerals Exploration

Enclosure

cc: Director's Reading File
Division File
Econ. Geol. File
OME Docket
OME Reading File
Region III
120M

MMerrithew/mm (5/19/67)

23263

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code

AIRMAIL

AUG 22 1967

Mineral County Mining & Milling Company
13741 Thunderbird Drive, Apt. 2C
Seal Beach, California 90740

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Gentlemen:

Enclosed is a copy of a self-explanatory letter of today to the Operator under the subject contract.

This correspondence relates to the Lien and Subordination Agreements executed March 20, 1965, by Walter V. Riddell, president of your company, under the Office of Minerals Exploration program.

Sincerely yours,

FRANK E. JOHNSON (gfa)

Frank E. Johnson
Chief, Office of
Minerals Exploration

Enclosure

MMerrithew/mm (5/19/67)
cc: Director's Reading File
Division File
Econ. Geol. File
OME Docket
OME Reading File
Region III
120M

23263

Office of Minerals Exploration

July 21, 1967

OFFICIAL COPY
O. M. E.
RECEIVED
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Mr. John J. Kelley,
Vice President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Re: OME-6440 (Silver)
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Dear Mr. Kelley:

In reply to your letter of July 11, 1967, please pardon the delay as I have been in the field.

Since you are entitled to collect an additional $84.07 for 19 feet of drilling in Hole No. 2, it will be necessary to claim the fund on the regular OME forms MME 60 and 61 which are enclosed. Use the same procedure as you would on the other vouchers concerning the subject contract.

Sincerely yours,

J. William Hasler

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

Enclosures

cc: Chief, OME
Hasler chron
OME chron
2226

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
6/7/67	RM Smith	120
6/7/67	Kirkemo	120
		110
6/7	cac	220
		120M

JUN 7 1967

Memorandum

To: Chief, Branch of Budget and Finance

From: Chief, Office of Minerals Exploration

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Enclosed is a copy of a letter dated June 5, 1967, from the Field Officer, Region III, transmitting to the Operator a copy of the Report of Review issued in May 1967, on the subject contract, and a copy of said report.

The $200.00 being withheld from payment to the Operator should now be paid as recommended in the Field Officer's memorandum of June 5, copy enclosed.

FRANK E. JOHNSON

Frank E. Johnson

Enclosures-3

cc: Director's Reading File
Division File
Economic Geology File
OME Docket
OME Reading File
OME Region III

GLAult/a 6-7-67

23263

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration

OFFICIAL COPY
M. M. E.
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6 1967
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June 5, 1967

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

I have reviewed the Report of Review issued 1967 on the subject contract and concur in the facts stated in the report. I recommend the $200.00 as withheld, subject to transmittal of the said report, has been submitted and is found to be satisfactory.

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

Office of Minerals Exploration

June 5, 1967

Mr. Frank McKinley
2933 Cherryridge Road
Englewood, Colorado 80110

Re: OME-6440(Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Dear Mr. McKinley:

Transmitted herewith is the "Operator's Copy" of a Report of Review issued May, 1967. I have reviewed the report and concur in the facts as stated in the report. If, for any reason, you do not concur your copy of the report should be returned to this office with appropriate comments.

I have recommended payment of the $200.00 withheld pending the submittal of the operator's final report. The final operator's report has been transmitted to Washington, and was found to be satisfactory.

J. William Hasler
mc

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

cc: Chief (2) ✓
Hasler chron
OME chron
2226

m 7
3)

OFFICIAL FILE COPY

Date	Surname	Code
5/17	RM Smith	
5/17/67	KoDemo	

MAY 17 1967

Memorandum

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Enclosed are two copies of a Report of Review issued May 1967, on the subject contract.

If you concur in the facts as stated in this report, one copy should be sent to the Operator with any comments you may care to make, and the other copy retained for your files. As evidence of your concurrence, two copies of your letter transmitting the Operator's copy of the report should be furnished this office. If for any reason you do not concur, both copies of the report should be returned to this office with appropriate comments.

FRANK E. JOHNSON

Frank E. Johnson

Enclosures

cc: Director's Reading File
Division File
Econ. Geol. File
OME Docket
OME Reading File
130

MMerrithew/mm (5/17/67)

23263

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

90

MAY 8 1967

Memorandum

To: Director, U.S. Geological Survey

From: Assistant Director, Contract and Grant Audit
Audit Operations, Office of Survey and Review

Subject: Review of Contract 2226
Docket No. OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

OFFICIAL COPY
O. N. E.
RECEIVED
MAY 11 1967

Pursuant to a request dated April 4, 1967, from the Chief, Office of Minerals Exploration, we have made a cost review of Contract 2226, examining the contract and accounting records and files of OME and the Branch of Budget and Finance U.S. Geological Survey. Four copies of the report of review are attached.

The exploration work authorized by this contract has been completed and the Operator has furnished his final report provided for in the contract.

It was noted that $200.00 has been withheld from settlements with the Operator pending audit of the contract. Also, it was noted that the Operator has failed to claim $84.07 due as the Government's 75 percent share of cost of 19 feet of diamond drilling performed under the contract.

Donald R. Mayeey

Enclosures

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Form 7
(3)

OFFICIAL FILE COPY

Date	Surname	Code
4/7	RMSmith	
4/7/67	Kirkemo	
4/14	Johnson	
4/15	Fitzgerald	
4/16	Clyson	
4-17	Cole	

AIRMAIL

APR 17 1967

Mr. Frank M. McKinley, President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Dear Mr. McKinley:

Your supplemental application of March 20, 1967, for financial assistance in exploring the Smuggler, et al. veins by drifting below the segments drilled under the referenced contract, and by drifting below the segments exposed in the Bird Creek tunnels, has been carefully reviewed.

This review indicates that the probability of making a significant discovery of silver, gold, and copper on your property is not sufficiently promising to justify Government participation in the proposed project. We regret to inform you that your application is denied.

This denial is made without prejudice to the property and is based on the lack of sufficient favorable evidence to support the expectation of finding a commercial deposit commensurate with the high cost of the project. In spite of several instances in the Creede area where drilling failures were followed by discoveries of ore, this sequence of events is not so common that it can be adopted as a general rule.

If you perform additional work which discloses or indicates favorable geological targets where significant quantities of ore can be inferred, we shall be pleased to reconsider your application. For example, if you drive the initial 325 feet of crosscut or reopen the 1650-foot caved crosscut to expose the Smuggler vein, and if the vein indicates that exploration is warranted, an OME project might be justifiable.

23263

In these circumstances, you should submit the results of any new work, but a new application would not be required. If such work is completed before the expiration of the existing contract (Sept. 8, 1967) additional exploration, if approved, could be authorized by an amendment increasing the dollar amount of the contract. In the meantime we would appreciate a letter at your convenience informing us of your plans.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Division File
Econ. Geol. File
OME Docket
OME Reading File
Region III
Smith

RMSmith/mm (4/6/67)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration

OFFICIAL COPY
O. M. E.
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Apr 13 1967
INITIALS CODE

Memorandum April 12, 1967

To: Chief, OME

From: Field Officer, Region III

Subject: OME 6440 (Silver)
MK Exploration Co.
Bird Creek Mine
Mineral County, Colo.
Contract 2226

The operator completed four diamond drill holes on the subject property under OME Contract 2226 totaling some 2,701 feet, for a total approved cost of $22,714.45 to explore the downward extension of the Smuggler and indicated parallel veins, inferred from prior surface mapping and trenching.

The diamond drilling intersected the Smuggler vein at a maximum depth of 631 feet in drill hole No. 3 at an elevation of 10,090 feet above sea level at a depth of 475 feet below the outcrop. Structure Nos. 2 and 4 were penetrated at depths of 310 feet, 550 feet below their outcrops, respectively. The veins were traced southward by drill holes No. 4, 3, 2 and to drill hole No. 1, respectively. The deepest penetration was made in the most northerly drill, No. 4 showing that the Smuggler and associated veins are persistent for a horizontal distance in excess of 900 feet. Mineralized material was observed on the dump of the Headlight shaft that lies about 45 feet south of diamond drill hole No. 1. The material assayed 17.60 oz. Ag per ton and the structure in the Headlight shaft was as wide as 2 feet and contained barite, galena, and iron oxide. How deep?

Assay results from diamond drill sampling of the Smuggler, and associated structures were somewhat disappointing in that only one of the veins where penetrated by the diamond drilling assayed as much as 5.00 oz. silver per ton, and that was on structures 2 and 4 in diamond drill hole No. 1. This sample also assayed 5.85 percent lead, and 5.95 percent copper, however, in most instances silver assays showed from 0, to as much as 0.40 oz. silver per ton and averaged less than 0.20 oz. silver per ton. In several assays gold showed a trace. In only the one sample from the No. 2 and 4 structure was there any indication of possible ore grade material. The veins are mineralized, but not enough mineralized material was penetrated from which any ore reserves could be calculated, consequently there has not been enough silver found in significant quantities upon which to base a significant discovery. It is therefore recommended that the current contract be

terminated without certifying a discovery. The applicant has submitted his final report as prescribed by the contract and all other terms of the contract have been met. It might be wise for the OME to retain the split core for possible later use by other Survey personnel, that may be doing work in the area. A final field examination will be made at a later date.

J. William Hasler

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

cc: Chief, OME
Hasler chron
OME chron
2226

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration

OFFICIAL COPY
O. M. E.
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INITIALS | CODE
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Memorandum

April 12, 1967

To: Chief, OME

From: Field Officer, Region III

Subject: OME 6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

The MK Exploration Company, Denver, Colo., submitted an application March 20, 1967 to the Office of Minerals Exploration for financial assistance to further explore the Smuggler vein system by driving a crosscut from a portal located at coordinates 12, 030 N., 4, 188 E. (Exploration Plan and Geologic Maps accompanying application) for 325 feet then drift on the Smuggler vein, as indicated by a mercury anomaly shown as a result of geochemical work completed last season, for approximately 1,725 feet to penetrate Target area No. 1 which lies below the area drilled under the present contract, then continue drifting along the Smuggler vein for another 150.0 feet, through the drilled area, and crosscut to the Morning, No. 2 and No. 4 structures near drill holes 4, 3 and 2 to test them at greater depth. As this drilling proves favorable the drift will be driven an additional 1,150 feet southwestward along the Smuggler vein into the mineralized area, known as Target area 2, which lies below the Upper Bird Creek tunnel where it supposedly intersected the Smuggler vein. The exploration work is designed in 2 phases.

Phase I explores Target area I, and Phase II explores Target area 2. A total of 5,025 feet of drifting and crosscutting is estimated to complete the project. An estimated 500 feet of access road is also required as well as buildings and other installations. The total estimated cost of the project is $296,250.00

The project as proposed is not unlike the applicants original proposal. Easy access to the area is problematical, in that present access can be had only at elevations near 10,000 feet above sea level thus limiting operations to only the summer months, usually June through October, barring inclement weather.

In considering the applicants proposal, certainly the results of the contract (OME 2226) recently completed did not discover enough ore grade material to be encouraging. The only fact that was reasonably well established was that the Smuggler and associated veins do exist at depth and were traced southward from Drill hole No. 4 to Drill hole No. 1 for a distance of some 900 feet, at a maximum depth of 631 feet.

It is known that sulfides exist at the Emma mine at about (5,800 N.). See Exhibit No. 16, original application OME 6440. Sulfides exist in the vicinity of the Bird Creek underground workings (8,000-8,500 N.). Sulfides exist at the Headlight shaft (9,800 N.). See accompanying sketch. Hydrothermal alteration occurs along fractures in diamond drill holes as far as 10,500 N. Widespread barite on minor fractures shows in many outcrops from the Emma mine vicinity to the Mineral Monument, El. 10,662, at 10,600 N. Therefore, mineralization, not ore grade material, extends over a north-south extent of some 5,000 feet, and sulfides are known in places 4,380 feet south of this area.

A major question exists whether the Smuggler and related fractures in the Bird Creek-DD Hole area persist north of the northeast-trending fault that is believed to exist just south of the Mineral Monument knob. It is the opinion of the Field Officer, Region III that it is the responsibility of the applicant to prove its existence in this area, and to justify his projection of the "Smuggler" structure to the proposed portal area. What is the true significance of the mercury anomaly the applicant picked up in the proposed portal area?

Is the probable NE trending fault mineralized? If it exists, it should be, and could be more important than any of the north-trending cracks (Smuggler).

The applicant should ascertain answers to two questions. (1) Can the applicant demonstrate actual existence of mineralization (not ore) in the proposed portal area where the high mercury values were obtained, and (2) Can the applicant demonstrate lateral persistence of the north-trending Smuggler and related structures from the Target area I to the vicinity of the proposed portal. If the answer to both of these is yes, then a project should be proposed. If the answer to either one or the other is yes the project might be seriously considered.

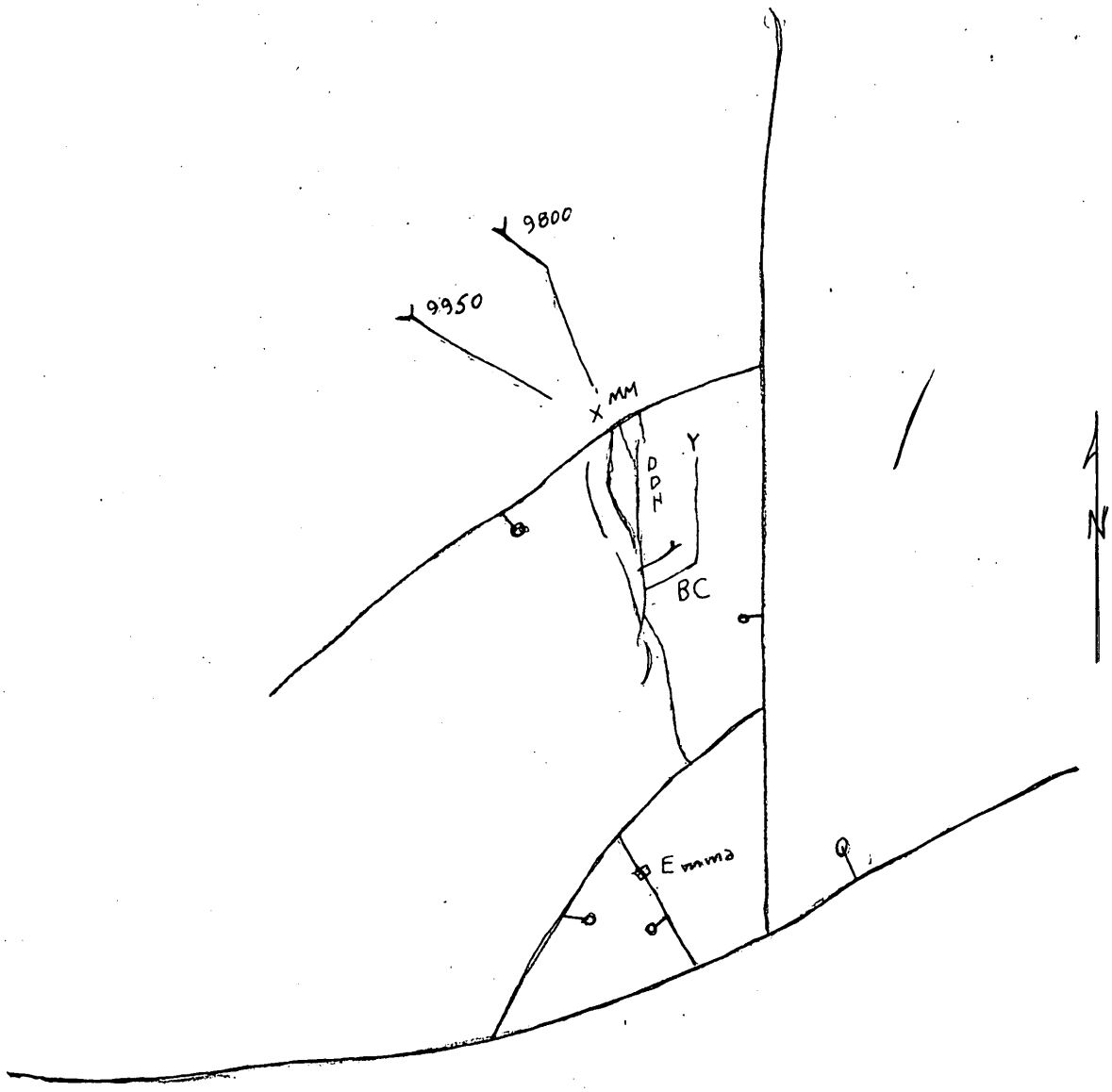
If the answer to both is no, then the additional question remains: is it a worthwhile gamble to put in a 1500-2000 foot tunnel, essentially dead work, to gain access to the northern limit of the 5,000 foot length area containing known mineralization.

If it is merely access to be gained why couldn't the old caved tunnel, at an elevation of approximately 9,950 feet be utilized? This tunnel has evidently already been driven below the Mineral Monument knob, according to data shown on Exhibit 16, original application. If the previous questions can be answered to the satisfaction of the OME then a project could be considered.

It is therefore recommended that the application be denied without prejudice, and that applicant be advised to first, get into the Target area No. 1 by way of the caved tunnel, or as stated previously, to determine the existence of northward extension of the Smuggler and related structures, and their continuity southward.

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

cc: Chief, OME
OME chron
Hasler chron
2226



GEOLOGIC MAP OF SPAR CITY AREA
SHOWING SMUGGLER VEIN SYSTEM
MINERAL CO., COLORADO

Adapted from Geologic Maps and Aerial Photographs
By T. A. Steven
4-6-67

Scale 1" = 20,000 ft.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration

March 28, 1967

OFFICIAL COPY
O. M. E.
RECEIVED
MAR 30 1967

INITIALS	CODE
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JJ	110
RMB	120

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Transmitted herewith are the original and two copies of MME Form 60 (Operator's Monthly Voucher), MME Form 61 (Operator's Progress Report) and Narrative Report for the month of December, 1966.

I certify that the information is complete and accurate to the best of my knowledge and belief.

J. William Hasler

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

3/31/67/Rmd.

MME FORM 60
SEPT. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

Last Monthly Report

Docket No. OME-6440
Contract No.
14-23-090- 2226
Contract Amount $31,080.00
Gov't. Participation % 75 $23,310.00
Mineral(s) Silver

OPERATOR'S MONTHLY VOUCHER

For Month of December 1966

Operator's Name MK Exploration Co.
Address 2955 Cherryridge Rd., Englewood, Colo

COST CATEGORIES	FOR OPERATOR'S USE: MONTHLY TOTAL	PREVIOUSLY REPORTED	TOTALS TO DATE	FOR GOVERNMENT APPROVAL ONLY: MONTHLY TOTAL	PREVIOUSLY REPORTED	TOTALS TO DATE
Fixed Unit Costs and Mobilization-Demobilization	250.00	500.00	500.00			
(1) Independent Contracts: Cementing & redrilling	—	455.00	455.00			
Bulldozing	—	87.50	87.50			
Cement materials	—	18.10	18.10			
Drilling: Conducting overburden	—	560.00	560.00			
Drilling: Bedrock - 250'	—	5787.90	5787.90			
250'-500'	—	6240.00	6240.00			
500'-750'	—	4170.00	4170.00			
750'-800'	—	566.25	566.25			
(2) Personal Services: Supervision & Technical	—	2250.00	2250.00			
Outside Consultants	—	450.00	450.00			
Labor	—	45.00	45.00			
(3) Operating Mat'l. & Supplies: Timber						
Explosives						
Pipe						
Rail						
Cardboard Core Boxes	—	265.00	265.00			
Sample Bags	—	15.00	15.00			
Reaming	—	209.00	209.00			
In-hole Surveying	—	91.00	91.00			
(4) Operating Equipment: Rental						
Purchase						
Depreciation						
(5) Initial Rehab. & Repairs: Buildings, Fixtures, etc.						
Operating Equipment						
(6) New Buildings, Fixtures, etc.	—	60.20	60.20			
(7) Miscellaneous: Repairs to Equipment						
Analytical Work	32.00	139.50	171.50			
Transp. of samples	—	70.00	70.00			
Acct. & Clerk	—	150.00	150.00			
Consultant's travel	—	110.00	110.00			
Consultant's per diem	—	64.00	64.00			
FICA taxes, ins., etc.	—	375.00	375.00			
TOTALS	282.00	22,428.45	22710.45			

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

Date Feb. 2, 1967 *Payee MK Exploration Co.

Per John J. Kelley Title V. Pres.

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

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

$ 211.50 14X0804

Signature JDM
(Authorized Certifying Officer)

Date APR 12 1967 Vou. No. 1973

(SEE REVERSE SIDE)

MME FORM 60
SEPT. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

Docket No. _____
Contract No.
14-23-090-_____
Contract Amount $ _____
Gov't. Participation % _____ $ _____
Mineral(s) _____

OPERATOR'S MONTHLY VOUCHER

For Month of _____

Operator's Name _____
Address _____

COST CATEGORIES	FOR OPERATOR'S USE			FOR GOVERNMENT APPROVAL ONLY		
	MONTHLY TOTAL	PREVIOUSLY REPORTED	TOTALS TO DATE	MONTHLY TOTAL	PREVIOUSLY REPORTED	TOTALS TO DATE
Fixed Unit Costs and						
(1) Independent Contracts:						
Bulldozing						
Drifting						
Crosscutting						
Drilling						
(2) Personal Services:						
Supervision & Technical						
Outside Consultants						
Labor						
(3) Operating Mat'l. & Supplies:						
Timber						
Explosives						
Pipe						
Rail						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehab. & Repairs:						
Buildings, Fixtures, etc.						
Operating Equipment						
(6) New Buildings, Fixtures, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Analytical Work						
Payroll Taxes						
Employee's Liability Ins.						
TOTALS						

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

Date _____ *Payee _____

Per _____ Title _____

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

A willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction is a criminal offense. (U.S. Code, Title 18, Sec. 1001.)

(INSTRUCTIONS ON REVERSE)

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

$ _____

Signature _____
(Authorized Certifying Officer)

Date _____ Vou. No. _____

(SEE OTHER SIDE)

Certification by Government Representative:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating an exploration project in accordance with the terms of Contract No. 2226

Signature J. William Hasler Title Field Officer Date 3/28/67

Approved by OME Executive Officer or Alternate:

Signature J. William Hasler Title Field Officer Date 3/28/67

OPERATOR'S MONTHLY REPORT

The Operator, under an Office of Minerals Exploration contract, is required to report monthly to the Government. The report consists of three parts.

FIRST, the Operator's Monthly Voucher on MME Form 60 listing the project costs incurred and claimed by the Operator is the voucher basis for payment of the Government's share of the cost.

SECOND, the Operator's Progress Report on MME Form 61 is a statistical report of the units and cost of of work performed under the contract.

THIRD, the Operator's Narrative Report is a concise description of the work performed, results accomplished, and any unusual situations encountered, illustrated and supported by engineering-geological maps or sketches, drill hole logs, assay reports, etc., as pertinent.

The Operator submits the original and four copies of each of the three sections of this report to the OME regional Executive Officer at the end of each month during the life of the contract.

PREPARATION OF OPERATOR'S MONTHLY VOUCHER, MME FORM 60

After all applicable spaces are filled in, the Operator or his agent must sign the certification in the lower left corner. Categories (2) through (7) apply to "Actual Cost" contracts only.

Under "Fixed Unit Costs" and Category (1) report, (a) the total fixed unit costs of work performed under contract provisions for contribution by the Government on a basis of "fixed unit costs"; and (b) the claimed costs of work performed on a unit-price basis by independent contractors.

Under Category (2) include the claimed costs of all payrolled and invoiced supervisory, technical, and labor personnel, except the costs for services applicable to Categories (5) and (6).

Under Category (3) include the claimed costs of all project materials and supplies other than those used for work under Categories (5) and (6).

Under Category (4) report claimed rentals on equipment belonging to a third party, claimed payments or obligations for payments on the Operator's purchase of equipment, and claimed depreciation for the use of Operator-owned equipment.

Under Categories (5) and (6) include all claimed costs of labor, supervision, technical services, operating materials and supplies, and all other items used in (5) the initial rehabilitation and repairs of existing buildings, fixtures, installations (exclusive of mine workings), and operating equipment; and (6) the installation or construction of new buildings, fixtures, and fixed improvements (exclusive of mine workings). Do not report these costs under Categories (2), (3), (4), and (7).

Under Category (7) include all miscellaneous claimed costs such as repairs (other than initial) and maintenance of equipment, sampling and analysis, travel, communication, accounting, office expenses, and the Operator's share of payroll taxes and insurance.

Except for amounts claimed under "fixed unit costs" provisions of the contract, all costs claimed in this voucher must be supported by documentary evidence consisting of: (a) certified copies or transcripts of payrolls which list each employee, wage rate, period of employment, gross earnings, itemized deductions, and net earnings; (b) original or certified copies of invoices, statements of accounts, or purchase orders which indicate items of materials or services, quantities, unit prices, total charges, and payment terms; and (c) certified memoranda of the Operator for such items as depreciation of Operator-owned equipment, unemployment taxes, and employee's liability insurance. The certification may be stated thus, "Certified True Copy (or Transcript)", followed by the signature of the Operator or his agent. One copy of each document should accompany the original of this voucher.

The requirement for submitting documentary evidence of claimed costs may be waived by the OME regional Executive Officer if he determines that it is impracticable for an Operator to submit this material. In any case of waiver of this requirement an "on-site" audit by an OME auditor is mandatory prior to payment of the final Operator's Monthly Voucher.

MME FORM 61
SEPT. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

Last monthly report

OPERATOR'S PROGRESS REPORT

For Month of DEC. 1966 Docket No. OME-6440

Operator's Name MK Exploration Co. Contract No. 14-23-090-2226

OPERATION	UNITS	FOR OPERATOR'S USE: UNITS THIS MONTH	UNITS TO DATE	COSTS TO DATE	FOR GOVERNMENT USE: APPROVED UNITS THIS MONTH	APPROVED UNITS TO DATE	APPROVED COSTS TO DATE
Mobilization - demobilize	Job	50%	100%	~~500.00~~		100%	~~500.00~~
~~Drifting~~ Building	$	—	87.50	87.50		87.50	87.50
Crosscutting							
Raising							
Shafts							
Winzes							
* Drilling - overburden	Ft.	—	70	560.00		70	560.00
~~Other Underground~~ Bedrock - 250'							
~~Drilling, Core Diamond~~ 250' - 500'	Ft.	—	981	5787.90		981	5787.90
~~Rotary~~ 500' - 750'	Ft.	—	975	6240.00		975	6,240.00
~~Drilling, Non-core Diamond~~ 750' - 800'	Ft.	—	600	4170.00		600	4170.00
Cement Matrix ~~Rotary~~	Ft.	—	75 10'	566.25		75	566.25
Cementing & redrilling ~~Chum~~ ~~Percussion~~	$	—	18.10	18.10		18.10	18.10
Reaming	Hr.	—	35	455.00		35	455.00
~~Miscellaneous~~	Ft.	—	55	209.00		55	209.00
Supervision - tech. & geologist consultant	Mo.	—	3	2250.00		3	2250.00
~~Roads and Trails~~ Labor	Day	—	6	450.00		6	450.00
~~Stripping~~ Cardboard core boxes	Hr	—	18	45.00		18	45.00
~~Trenching~~	ea	—	265	265.00		265	265.00
Test Pitting							
Inhole surveying ~~Other Surface Work~~ Sample Bags	Hr	—	7	91.00		7	91.00
~~Initial Rehabilitation and Repairs~~	ea	—	150	15.00			19.00
Rehabilitation of Mine Workings							
New Buildings, Fixtures, etc.	$	—	66.20	66.20			60.20
Operating Equipment Purchases							
Analytical Work Assays		32.00	171.50	171.50			171.50
From "Remarks" below				769.00			769.00
TOTAL TO DATE (per MME Form 60)							23,714.45

REMARKS

Transp. of samples	$	—	70.00	70.00
Consultant's travel	Mi	—	1100	110.00
Consultant's per diem	Day	—	4	64.00
Acty & off exp.	Mo	—	3	150.00
FICA payroll tax, ins, etc.	Job	—	1	375.00
				769.00

* All drilling BX core or larger

(Continue on back)

REMARKS

Operator's final report has been submitted consequently the $200.00 suspension is not warranted.

OVER

(Continue on back)

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

Date Feb 21 1967 Operator MK Exploration Co.

By John J. Kelley Title V. Pres

Willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction is a criminal offense. (U.S. Code, Title 18, Sec. 1001.)

I certify that the information above is complete and accurate to the best of my knowledge and belief.

Signature J. William Fasler

Title Field Office Government Representative

Date March 28 1967

INSTRUCTIONS ON REVERSE

Continue to hold
the $200 from
Nov. voucher
pending final
audit. R.M.S.

PART III

Month of December, 1966 Docket No. OME-6440

Operator - MK Exploration Co. Contract No. 14-23-090-2226

The only activity in the project for December, 1966 was the submission of four samples from Hole #3 for assay. These intercepts were identified in the November report as the Smuggler and Structure No. 4 but the core had not been sampled at that time. The assayer'd certificate is attached.

The work covered by this contract is now complete.

February 2, 1967 Operator - MK Exploration Co.

Per John J. Kelley Title V. Pres.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration

March 28, 1967

OFFICIAL COPY
O. M. E.
RECEIVED
MAR 30 1967

INITIALS	CODE
	120
	110
RMS	120
HK	

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Transmitted herewith are two copies of the final report on the above-mentioned contract. Since the operator has complied with regulations pertaining to the operator's final report, it is recommended that there be no suspension of funds pending the transmittal of the accompanying report.

J. William Hasler

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

FINAL REPORT TO OME

January 31, 1967 Docket No. OME-6440

Operator - MK Exploration Co. Contract No. 14-23-090-2226

CONCLUSIONS AND RECOMMENDATIONS

Results of the core drilling work performed under this OME contract are summarized as notably successful in confirming structures previously designated from surface investigations, the primary objective of the contract. The secondary objective was the detection of the presence of silver ore in those structures, if possible. As was expected, much of the core was not recovered from structure zones, vein matter being pushed aside by the bit or washed away by drill water, leaving only the harder, although altered, wall rock recoverable in the core barrel. Circulating fluids were always lost in the hole and no sludge was recovered for sampling. Nevertheless, the lack of positive information to assure the presence of ore in the veins cannot be interpreted as proof of the absense of ore.

Hydrothermal alteration and bleaching were always present in association with structure, and measurable silver halos were consistently detected in sections close to zones of missing core. Except in a few instances where the bit dropped a short distance through open fissures, the drill always was exerting pressure in passing through coreless reaches. The material penetrated was unrecoverable vein matter whose value can only be estimated on a basis of other experiences in the Creede area - wherever drilling failures of this kind have been followed by physical exploration, ore bodies have been found.

This, coupled with assurance of the presence of ore in the old workings (Upper and Lower Bird Creek mines) on the Smuggler vein, is a clear indication that the structures do contain ore, which will be found only by driving an opening for physical inspection. Accordingly, the operator recommends that a tunnel be opened along the Smuggler to the vicinity of the 1920-1930 production to explore this and other confirmed structures underground. He will shortly present a modification of his original OME application of April 2, 1965, with a request for assistance in that program.

OPERATORS FINAL REPT

Attached is a memorandum report of Mr. John S. Holland, Geologist, who consulted with the operator to advise during the work and render an independent interpretation of the results obtained.

REVIEW OF GEOLOGIC FINDINGS

The following drawings prepared to illustrate this discussion are appended:

Geologic Map, showing drill holes in plan, locations of geochemical profiles, and apexes of vein structures. but no dips

Cross Sections Through Drill Holes, showing engineering data and surface and geochemical profiles in relation to drill hole intercepts. Dips and Altitudes shown

Graphic Log for each drill hole, showing locations and assay results of sampling, descriptions of rocks penetrated, and feet of core recovered in each coring run. but no altitudes

Although not included in the contracted work, geochemical soil profiles were sampled over holes 1 and 2 and between 3 and 4. It was not practical to site profiles directly over holes 3 and 4 because of previous soil disturbance. A line was chosen between them and is used as an indication of the relationship of anomalies over both. The samples were analyzed with a Lemaire mercury detector and the results are plotted in parts per billion above the surface profile on the sheet of cross sections. An excellent correlation was found between anomalous samples, structure from previous surface mapping and structure located from drilling.

The Smuggler structure was known from old maps to dip westerly at about 70° and the other structures were expected to have similar attitudes. Inclinations of southwest holes were therefore limited to 45° to avoid deflection of holes down dip in the veins. For the same reason the northeast hole was held to 60° inclination. From the drilling it was found that structural dips ranged from 63° to 81°. The Smuggler was steeper at each end of the target area than in the center. Structure No. 2 was steeper in the heart of the area than at the south end; hole 4 was too shallow for a conclusion at the north. Plotting of apexes in plan on the geologic map shows also that the veins meander somewhat. It is encouraging that structural strikes and dips vary, enhancing opportunities for mineral deposition.

It cannot be stated with certainty whether the deepest

vein penetrations were in the oxidized zone, but presumably they were. The drilling established that the mountain is permeable and the target area is drained through fissures and fractures to at least 10,350 feet elevation. It is likely that the oxidized zone extends well beyond that depth. The Lower Bird Creek Tunnel is running a sizeable stream of water at about 10,200 feet but the Upper Bird Creek is likewise draining considerable water at 10,600 feet. Since no ore minerals were seen in the deeper intercepts and location of the present water table is uncertain, the horizon of supergene enrichment cannot now be predicted, except that it can be expected to lie immediately beneath the leached portion, perhaps 400 to 600 feet below the surface. = 10,000 to 10,200

Each of the holes cut the Smuggler structure. In hole 1, at 375-400 feet, the structure was nearly completely filled with travertine, bordered by chlorite and showing measurable silver. Core recovery was 88% in this intercept. In hole 2 the Smuggler was cut from 217 to 237 feet with 60% recovery. Travertine was agin present but the bit went through 2.5 feet of void in it. The lowest 5 feet of the intercept showed measurable silver in intensely fractured and altered wall rock. In hole 3 the Snuggler was found with no travertine present between 604 and 626 feet. Only 30% of the core was recovered. Hole 4 found this vein between 288 and 310 feet, with measurable silver in only 35% recovered core.

Travertine was found only in holes 1 and 2 and only in the Smuggler vein. Since travertine was deposited in Creede formation time, that part of the vein was in existance then. The fault was subsequently reactivated, however, to accommodate the mineral deposition known to have taken place farther south.

Structure No. 2 could not be separated from No. 4 in the first hole and is described with it below. In the second hole Structure No. 2 was detected at 373-407 feet by measurable silver in 25% recovery, with a significant copper halo in the footwall. In hole 3 the structure was cut at 382-392 feet where measurable silver occurred in baritic gangue. Hole 4 was collared in this structure so the penetration was very shallow. It was identified by barite, gouge, and a 0.20 silver assay at 31-36 feet.

Structure No. 3 could only have been cut by hole 4 and it could not be specifically identified there.

Structure No. 4 was found in hole 1 near 190 feet where a short section of core assayed good lead, zinc and silver from 90% core recovery. Silver was also detected in the footwall

and is either a halo of this structure or is related to Structure No. 2, which projects to this vicinity. Structure No. 4 and the Smuggler are so close together in hole 2 they could not be identified separately. In hole 3 this structure was found at 733-740 feet. It is not strong here but alteration and locally poor core recovery from 380-625 feet are evidence of general fracturing between two close, strong features - the Smuggler and Structure No. 2. A vein detected at 537 feet in hole 4 coincides with the projection of Structure No. 4.

A vein dug on by early prospectors was traced on surface from a shallow shaft about 100 feet northwest of the collar of hole 4 on the Morning claim, through the eastern ends of trenches A and B and the upper part of hole 3. The Morning vein and two southwest-trending veins exposed in Trench B were cut by the hole in its first 105 feet. Open fractures and silicification caused considerable difficulty in drilling. About 3% core recovered in one 18-foot reach left little to assay, but the ground-up fragments sampled 0.4 silver. Down hole from this zone, 14 feet of hole assayed 0.5 silver and at 100 feet, 5 feet assayed 0.5 silver. Structures of considerable size and character are evident here and their further investigation from underground is certainly indicated.

PROGRAM COSTS

The costs for the work as submitted on monthly vouchers were necessarily in accordance with the OME contract and do not correctly reflect the true cost of the project. Although the overall cost was approximately as estimated ($31,248.48 vs. $31,947.25), applicable OME funds amounted to only $17,032.84, 54.5% of the actual cost.

In the present period of accelerated exploration activity there are not enough core drillers to fill the need and operators are fortunate to find a contractor available in proper season. Four of the six months of drilling season for this program elapsed between field inspection and contract award and the low bidder was by then fully committed elsewhere for the year. The operator was forced to accept the only available contractor at a substantially higher unit price. Additionally, two rigs and crews were required to complete the project in the time remaining and consequently mobilization cost was much higher than anticipated.

Following is a comparison of application estimates with OME contract and actual costs, by categories established in the contract:

	CATEGORY	APPLICATION ESTIMATE	OME CONTRACT	ACTUAL COST
I	Independent Contracts			
	Bulldozing	$ 500.00	$ 500.00	$ 237.50 (1)
	Mobiliz. & demobiliz.	500.00	500.00	1,150.00
	Drilling & assoc. costs (3)	22,727.25 (18,227.25)	23,292.25 (2) (18,792.25)	22,613.10
II	Personal Services			
	Superv.-geol.-engr.	4,050.00	2,250.00	5,384.18
	Outside geol. consultant	___	450.00	500.00
	Carpenter	160.00	160.00	45.00
III	Operating Materials & Supplies			
	Cardboard core boxes	260.00	265.00	303.00
	Sample bags	100.00	50.00	15.00
VI	New Buildings, Fixtures and Installations			
	Core storage shed	100.00	100.00	60.20
VII	Miscellaneous			
	Analytical work	2,650.00	2,650.00	171.50
	Transp. of samples	(4)	70.00	70.00
	Consultant's travel exp.	____	165.00	110.00
	Consultant's per diem	____	96.00	64.00
	Accounting & office exp.	(4)	150.00	150.00
	FICA payroll taxes, ins., etc.	(5)	375.00	375.00
	Drafting, map reprod., etc.	900.00	___	(5)
		$31,947.25 (27,447.25)	$31,073.25 (26,573.25)	$31,248.48

(1) $150 was spent prior to contract date.

(2) Arithmetic error in contract, p. 3, Exhibit A; reads $24,292.25.

(3) Approximately $4,500 of associated costs of drilling (reaming, cementing, etc.) were not needed in performing work. Figures in ( ) reflect this difference.

(4) Included with Drafting, map reprod., etc.

(5) Included in Supervisor-geologist-engineer.

SUMMARY

There is no reason to expect the Spar City veins to be different in physical character and mineral content from all of the ore occurrences in the Bulldog, Amethyst and Solomon-Ridge Faults. The faults at Spar City were active during the economically important last period of faulting around the Creede caldera (Art. 146 in U. S. Geol. Survey Prof. Paper 475-D, pages D123-127. 1964) to provide sites for mineral deposition. The existence and location of fault structures has been established by earlier surface work and this drilling program. From old mine dumps and fragmentary reports, newspaper releases and personal correspondence of persons who were in the mines, as well as hydrothermal alteration and mineralization halos of silver and copper detected in this program, there can be no doubt that mineralization did take place in these structures, and that ore was produced from some of them. Since the vein matter cannot be recovered by coring, and accesses to old workings are hopelessly caved, discovery must result from underground investigation of the veins through new openings.

John J. Kelley

John J. Kelley
Vice President
MK Exploration Company

Denver, Colorado

January 31, 1967

MEMORANDUM

To: M.K. Exploration Company
From: John S. Holland
Date: December 29, 1966

Subject: Exploration Drilling, Spar City, Colorado

Summary

The modest drilling program completed on the Spar City claims has confirmed the existence at depth of the principal vein-zone structures identified and/or inferred from surface mapping and trenching. Mineral values in the small quantity of recovered core from the vein zone intersections were weak - to - negligible, however the abundance of alteration and gangue minerals suggests the probability that some sulphides were once present in the vein zones and, further, provide a basis for expectation that primary sulphide mineralization and perhaps some secondary enrichment may be expected at greater depth on the structures.

It is believed that the primary mineralization will be at depths which can be reached only with great difficulty and at high cost using core drilling. The low core recoveries achieved in the vein zones at the moderate depths encountered in the recent program mitigate against attempts to explore the veins at greater depths by drilling; it is evident that the next stage of investigation of these structures will require an adit driven southerly and so located as to provide access to all the principal vein-zone structures by short drill holes and/or crosscuts.

The Smuggler vein was found to be a persistent and recognizable structure, being intersected in all four holes. These four intersections, however, provided poor core recoveries yet the altered wall rocks, gangue mineral vein filling and low-grade silver-lead-zinc assays argue the possibility of a former presence of sulphides and perhaps more vein gangue minerals.

The other principal structures, identified by the Operator as Number 2, Number 3 and Number 4 exhibited characteristics similar to those of the Smuggler where intersected, namely highly altered wall rocks, poor core recovery, gangue minerals and minor metal values, however they are less readily identifiable throughout the full strike length drilled. Number

4 definately appears to be a split of the Smuggler. The trace of the intersection at depths below the oxidized and weathered are to provide an interesting target for later exploration. Perhaps the Smuggler and Number 2 remain essentially parallel and Number 4 crosses both at a flat angle in which case there would be two such areas of interest.

In a similar manner the northeasterly trending structures encountered in the upper 100 feet of hole 3 could provide loci for mineralization at the intersections with Smuggler and Number 2 structures provided they have the proper attitude and persistence.

Difficult terrain and limited funds have resulted in a modest program yet the results have been very encouraging. Smuggler and Number 2 structures exhibit strong persistence throughout a strike length of over 900 feet. These structures also persist to depth, unfortunately the depth of oxidation is greater than expected thus the original character of the veins remains unknown.

Additional drilling is not recommended at this time. The terrain is rugged and such that to reach the vein structures at significantly greater depths, that is in the primary zone would require holes of up to 2,000 feet in length. The difficulties encountered in completing the four holes of the present program plus expected poor core recovery would result in perhaps meager information at definate high cost.

At this stage it appears that the most prudent approach to additi-nal exploration work will be to go underground with a drift adit on the Smuggler or Number 2 structure. From the drift the other major structure and the various splits can be explored by cross-cuts and/or core drilling. The adit should be at an elevation where sulphide mineralization may be reasonably expected, based on the known occurrence of sulphides in the old and now inaccessible workings. A specific site selection will depend also on suitable access, dump room and property lines. Altitude?

.....

TEL. 244-3223

ROOT & SIMPSON, Inc.

METALLURGICAL CHEMISTS AND ASSAYERS

DENVER COLORADO 80201

P. O. BOX 2069

SPECIMEN ASSAY

ASSAYED FOR	MARKS
Exploration Services, Inc.	Rock

GOLD OZS. PER TON	SILVER OZS. PER TON	WET LEAD PER CENT	COPPER PER CENT	ZINC PER CENT	V_2O_5 PER CENT	U_3O_8 PER CENT	PER CENT	PER CENT
None	0.02		0.02	Hole #3	604-614			
None	None		0.02	Hole #3	614-624			
None	None		0.01	Hole #3	624-629			
None	0.01		0.03	Hole #3	734-740			

DATE 12/29/66 CHARGES $32.00

Root & Simpson, Inc.

GRAPHIC LOG - DDH NO. 2

MK EXPLORATION COMPANY, OPERATOR
SPAR CITY, MINERAL COUNTY, COLORADO
OME - 6440 (Silver)
Contract No. 2226

DIRECTION: N 75° E
INCLINATION: -60°
COORDS: 5862E, 9607N
DRILLED: Sept. 11-22, 1966

Description	Core Runs & Recovery	Depth 1" = 20'
Soil, clay and weathered Ts rocks (overburden)	13.0	0
Gray, fine-grained, weathered Tc or Ts, often clay in zones up to 2' long. Set 3" casing, start NX hole. Bit dropped 1.5' @ 26'.	4.0, 2.5, 5.0, 1.0, 4.5, 1.0, 1.5	Au-Tr Ag-0.20; Au-Tr Ag-Tr; 50 Au-Tr Ag-Tr
Gray and tan clay, no hard rock. Tc?	1.0, 1.5, 1.0	Au-Tr Ag-Tr
Tan and brown clay, streaked dark blue or black. Tc?	4.0	Au-Tr Ag-Tr Au-Tr Ag-Tr Au-Tr; Ag-Tr
Blue clay, soft, no rock. Tc?	10.0	
Tan & brown, alt. Ts, FeOX & MnO stained. Contains volcanic fragments up to 3/8", also alt.	9.0	
Mottled dk. gray latite with pink, red & dk. volcanic breccia frags. Feldspars alt. to calcite.	10.0	
Blue clay changing to sandy, FeOx-st. alt. latite. Alt. Ts, rubbly, mod. soft. Calcite streak @ 93'	10.0	
Greenish tan, alt. Ts. Rubbly in upper part, lg. alt. phenocrysts in lower, lttle calcite.	10.0	100
Intensely alt. Ts, lt. gray, core disintegrates		
Mottled, purplish-gray, rubbly Ts, mod. hard, no caldite	10.0	
Dk. gray, fine-grained, less rubbly Ts	3.0, 3.0, 8.0	
Lt. to med. gray, rubbly, alt. Ts. Core tends to disintegrate locally.	8.0, 10.0	
Med. gray, densely welded Ts. Alt. slight		150
Fine, tan sand	sand	Au-Tr; Ag-Tr
Med. gray, mod. to densely welded Ts, little rubble	6.0	
Mottled, dk. gray, slightly rubbly, less densely welded Ts. 0.5' clay 176.5 - 177.0. Calcite	4.0, 7.0	
Same as above, no clay. Poorly welded, alt. Ts. Much fine, reddish rubble, calcite	10.0	
Gray, densely welded, slightly alt. Ts por. Alt. intense @ 193'	7.0	
Vuggy, gray calcite.		Au-Tr; Ag-Tr; Au-Tr; Ag-Tr
Med. gray, intensely to mod. alt. Ts, slight to mod. calcite, core tends to disintegrate locally.	10.0, 4.0	200
Brown sand	sand	Au-Tr; Ag-Tr
Moderately welded, gray Ts, no rubble	3.0	Au-Tr; Ag-Tr
Mod. welded, gray Ts, alt. increasing. Core tends to disintegrate.	3.0	Au-Tr; Ag-Tr
Tan calcite containing disseminated, unidentifiable, black mineral. Bit dropped 2.5' @ 224'. Start BX hole @ 231'.	1.5, 2.0, 1.5	Au-Tr; Ag-Tr; Au-Tr; Ag-Tr; Au-Tr; Ag-Tr Zn-0
Gray, alt. Ts & clay. Core in small pieces.	2.5	Au-0.01; Ag-0.10
Gray & pinkish-gray, moderately welded and altered Ts. Mottled with brownish-black biotite and large, altered, white feldspar inclusions and phenocrysts.	7.0, 10.0, 1.0	250
Same as above but more pinkish, contains veinlets of dk. gray, fine-grained por. Densely welded & alt. Ts.	10.0	
Same as above without veinlets.	10.0	
Densely welded, pinkish- to lavender-gray, slightly alt. Ts. FeOX on joints & in halos. Vuggy, with barite, MnO (?), & FeOX lining vugs. Greenish-yellow staining on some fracts.	10.0, 10.0, 10.0	300
Densely welded Ts, gray, vuggy, FeOX & barite on joints & in vugs.	10.0	
Green por., mottled white	10.0	
Lt.- to med.-gray, slightly alt. Ts. FeOX stains. Minor barite @ 323.	1.0, 6.5, 2.0, 7.0	350
Light-gray Ts. May be bleached, FeOX staining. Sometimes pinkish- to purplish-gray. Hard.	4.0, 3.0, 7.0, 4.5, 1.0, 1.5, 1.5, 0.5, 0.5	Au-Tr; Ag-0.10 Cu-0.08; Au-Tr Ag-0.20 Cu-0.03; 400
Occasionally very dense, as @ 425'. Porphyritic, no rubble. More bleached & vuggy 437-442.	5.0, 3.0, 1.5, 5.0, 2.5, 5.0	Cu-0.20; Zn-0; Cu-0.05; Zn-0; Au-Tr; Ag-Tr Pb-0; Cu-0.60
1" seam reddish-brown mud @ 443'	2.0, 3.0, 5.0, 8.0, 3.0, 5.0, 8.0, 5.0	Cu-0.10; Zn-0; Cu-0.10; Zn-Tr; 450; 477

SMUGGLER & STRUCT. 4

STRUCTURE 2

EXPLANATION: Tc - Creede Formation
Ts - Snowshoe Mtn. Formation

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

Denver Federal Center-Building 25- Room 2284
Denver, Colorado 80225

January 16, 1967

OFFICIAL COPY
O. M. E.
RECEIVED
JAN 17 1967
MEMO CODE
FED 120
Rec'd 110
120K

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Transmitted herewith are the original and two copies of MME Form 60 (Operator's Monthly Voucher), MME Form 61 (Operator's Progress Report) and Narrative Report for the month of November, 1966.

I certify that the information is complete and accurate to the best of my knowledge and belief.

J. William Hasler

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

Enclosures

1/19/67 Rec'd

FORM 60
SEPT. 1960

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

OFFICE OF C. K. PRICE
FEB 9 1967
INITIALS

Docket No. OMF-1440
Contract No. 14-23-010-2226
Contract Amount $31,080.00
Gov'l. Participation $ 75 $23,310.00
Mineral(s) Silver

OPERATOR'S MONTHLY VOUCHER For Month of November 1966

Operator's Name MK Exploration Co
Address 2955 Cherryridge Rd, Englewood, Colo

COST CATEGORIES	FOR OPERATOR'S USE: MONTHLY TOTAL	PREVIOUSLY REPORTED	TOTALS TO DATE	FOR GOVERNMENT APPROVAL ONLY: MONTHLY TOTAL	PREVIOUSLY REPORTED	TOTALS TO DATE
Fixed Unit Costs and Mobilization	—	500.00	500.00			
(1) Independent Contracts: Cementing & redrilling	208.00	247.00	455.00			
Bulldozing	—	87.50	87.50			
Cement Mat'ls	5.55	12.55	18.10			
Drilling - overburden	—	560.00	560.00			
Bedrock - 250'	—	5787.90	5787.90			
Drilling 250' - 500'	921.60	5318.40	6240.00			
500' - 750'	1737.50	2432.50	4170.00			
750' - 800'	566.25	—	566.25			
(2) Personal Services: Supervision & Technical	250.00	1500.00	1750.00			
Outside Consultants	150.00	300.00	450.00			
Labor	—	45.00	45.00			
(3) Operating Mat'l. & Supplies: Timber						
Explosives						
Pipe						
Rail						
Cardboard Core Boxes	—	265.00	265.00			
Sample Bags	5.00	10.00	15.00			
Reaming	—	209.00	209.00			
In-hole surveying	—	91.00	91.00			
(4) Operating Equipment: Rental						
Purchase						
Depreciation						
(5) Initial Rehab. & Repairs: Buildings, Fixtures, etc.						
Operating Equipment						
(6) New Buildings, Fixtures, etc.	—	60.20	60.20			
(7) Miscellaneous: Repairs to Equipment						
Analytical Work	22.50	117.00	139.50			
Transportation of samples	30.00	40.00	70.00			
Payroll taxes Beta of OAP	50.00	100.00	150.00			
Employee liability ins.	—	110.00	110.00			
Consultant's travel	—	64.00	64.00			
Consultant's per diem	125.00	250.00	375.00			
FICA taxes, ins. etc.	4,571.40	18,107.05	22,678.45			
TOTALS						

Drilling - BX or larger

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

Date Dec. 15, 1966 *Payee MK Exploration Co

Per John J. Kelley Title V. Pres

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

A willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction is a criminal offense. (U.S. Code, Title 18, Sec. 1001.)

(INSTRUCTIONS ON REVERSE)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of $3420.30 - 14X0804
200.00 - 14X6875 (08)
$ 3,220.30

Signature John
(Authorized Certifying Officer)

Date FEB - 9 1967 Vou. No. 6159

(SEE OTHER SIDE)

MME FORM 60
SEPT. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

Docket No. _____
Contract No.
14-23-090-_____
Contract Amount $_____
Gov't. Participation % _____ $_____
Mineral(s) _____

OPERATOR'S MONTHLY VOUCHER

For Month of _____

Operator's Name _____
Address _____

COST CATEGORIES	FOR OPERATOR'S USE			FOR GOVERNMENT APPROVAL ONLY		
	MONTHLY TOTAL	PREVIOUSLY REPORTED	TOTALS TO DATE	MONTHLY TOTAL	PREVIOUSLY REPORTED	TOTALS TO DATE
Fixed Unit Costs and						
(1) Independent Contracts:						
Bulldozing						
Drifting						
Crosscutting						
Drilling						
(2) Personal Services:						
Supervision & Technical						
Outside Consultants						
Labor						
(3) Operating Mat'l. & Supplies:						
Timber						
Explosives						
Pipe						
Rail						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehab. & Repairs:						
Buildings, Fixtures, etc.						
Operating Equipment						
(6) New Buildings, Fixtures, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Analytical Work						
Payroll Taxes						
Employee's Liability Ins.						
TOTALS						

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

Date _____ *Payee _____

Per _____ Title _____

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

A willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction is a criminal offense. (U.S. Code, Title 18, Sec. 1001.)

(INSTRUCTIONS ON REVERSE)

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

$ _____

Signature _____
(Authorized Certifying Officer)

Date _____ Vou. No. _____

(SEE OTHER SIDE)

Certification by Government Representative:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating an exploration project in accordance with the terms of Contract No. 2226

Signature J. William Hasler Title Field Officer Date Jan 13, 1967

Approved by OME Executive Officer or Alternate:

Signature J. William Hasler Title Field Officer Date Jan 13, 1967

OPERATOR'S MONTHLY REPORT

The Operator, under an Office of Minerals Exploration contract, is required to report monthly to the Government. The report consists of three parts.

FIRST, the Operator's Monthly Voucher on MME Form 60 listing the project costs incurred and claimed by the Operator is the voucher basis for payment of the Government's share of the cost.

SECOND, the Operator's Progress Report on MME Form 61 is a statistical report of the units and cost of of work performed under the contract.

THIRD, the Operator's Narrative Report is a concise description of the work performed, results accomplished, and any unusual situations encountered, illustrated and supported by engineering-geological maps or sketches, drill hole logs, assay reports, etc., as pertinent.

The Operator submits the original and four copies of each of the three sections of this report to the OME regional Executive Officer at the end of each month during the life of the contract.

PREPARATION OF OPERATOR'S MONTHLY VOUCHER, MME FORM 60

After all applicable spaces are filled in, the Operator or his agent must sign the certification in the lower left corner. Categories (2) through (7) apply to "Actual Cost" contracts only.

Under "Fixed Unit Costs" and Category (1) report, (a) the total fixed unit costs of work performed under contract provisions for contribution by the Government on a basis of "fixed unit costs"; and (b) the claimed costs of work performed on a unit-price basis by independent contractors.

Under Category (2) include the claimed costs of all payrolled and invoiced supervisory, technical, and labor personnel, except the costs for services applicable to Categories (5) and (6).

Under Category (3) include the claimed costs of all project materials and supplies other than those used for work under Categories (5) and (6).

Under Category (4) report claimed rentals on equipment belonging to a third party, claimed payments or obligations for payments on the Operator's purchase of equipment, and claimed depreciation for the use of Operator-owned equipment.

Under Categories (5) and (6) include all claimed costs of labor, supervision, technical services, operating materials and supplies, and all other items used in (5) the initial rehabilitation and repairs of existing buildings, fixtures, installations (exclusive of mine workings), and operating equipment; and (6) the installation or construction of new buildings, fixtures, and fixed improvements (exclusive of mine workings). Do not report these costs under Categories (2), (3), (4), and (7).

Under Category (7) include all miscellaneous claimed costs such as repairs (other than initial) and maintenance of equipment, sampling and analysis, travel, communication, accounting, office expenses, and the Operator's share of payroll taxes and insurance.

Except for amounts claimed under "fixed unit costs" provisions of the contract, all costs claimed in this voucher must be supported by documentary evidence consisting of: (a) certified copies or transcripts of payrolls which list each employee, wage rate, period of employment, gross earnings, itemized deductions, and net earnings; (b) original or certified copies of invoices, statements of accounts, or purchase orders which indicate items of materials or services, quantities, unit prices, total charges, and payment terms; and (c) certified memoranda of the Operator for such items as depreciation of Operator-owned equipment, unemployment taxes, and employee's liability insurance. The certification may be stated thus, "Certified True Copy (or Transcript)", followed by the signature of the Operator or his agent. One copy of each document should accompany the original of this voucher.

The requirement for submitting documentary evidence of claimed costs may be waived by the OME regional Executive Officer if he determines that it is impracticable for an Operator to submit this material. In any case of waiver of this requirement an "on-site" audit by an OME auditor is mandatory prior to payment of the final Operator's Monthly Voucher.

MME. FORM 61
SEPT. 1950

1/19/67 RMC

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

OPERATOR'S PROGRESS REPORT

For Month of Nov., 1966 Docket No. OMIE-6440

Operator's Name MK Exploration Co. Contract No. 14-23-090-2226

OPERATION	UNITS	FOR OPERATOR'S USE: UNITS THIS MONTH	UNITS TO DATE	COSTS TO DATE	FOR GOVERNMENT USE: APPROVED UNITS THIS MONTH	APPROVED UNITS TO DATE	APPROVED COSTS TO DATE
Mobilization	Job	—	100%	500.00	250.00	500.00	500.00
Building	$	—	87.50	87.50	—	87.50	87.50
Crosscutting							
Raising							
Shafts							
Winzes							
* Drilling-Overburden							
Diamond Underground	Ft	—	70	560.00	—	70	560.00
Drilling Core Diamond 0'-250'	Ft	—	981	5787.90	—	981	5787.90
250'-500'	Ft	115	975	6240.00	144	975	6,240.00
500'-750'	Ft	250	600	4170.00	250	600	4,170.00
750'-800'	Ft	75	—	566.25	75	—	566.25
Cement Mat'ls	$	5.55	18.10	18.10	5.55	18.10	18.10
Cementing & Drilling	Hr	16	35	455.00	16	35	455.00
Reaming	Ft	—	55	209.00	—	55	209.00
Miscellaneous							
Supervision-Tech.	Mo	1	3	2250.00	1	3	2250.00
Geological Consultant	Day	2	6	450.00	2	6	450.00
Road & Trails							
Labor	Hr	—	18	45.00	—	18	45.00
Surveying							
Earthwork Core Boxes	ea	—	265	265.00	—	265	265.00
Trenching							
Test Pitting							
In-hole Surveying	Hr	—	7	91.00		7	91.00
Other Surface Work							
Search Bars	ea	50	150	15.00			15.00
Initial Rehabilitation and Repairs							
Rehabilitation of Mine Workings							
New Buildings, Fixtures, etc.	$	—	60.20	60.20			60.20
Operating Equipment Purchases							
Analytical Work Assays		22.50		139.50			139.50
From "Remarks" below				769.00			769.00
TOTAL TO DATE (per MME. Form 60)				22,678.45			22,678.45

REMARKS

Transp. of samples	$	30.00	70.00	70.00
Consultant's travel	Mi	—	1100	110.00
Consultants per diem	Day	—	4	64.00
Acct'g & off. exp.	Mo	1	3	150.00
FICA payroll tax, ins. etc.	Job	1/3	1	375.00
			Total	769.00

* All drilling BX or larger

(Continue on back)

REMARKS

Withold $200.00 pending final report.

(Continue on back)

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

Date Dec. 15, 1966 Operator MK Exploration Co.

By John J. Kelley Title V. Pres.

A willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction is a criminal offense. (U.S. Code, Title 18, Sec. 1001.)

I certify that the information above is complete and accurate to the best of my knowledge and belief.

Signature J. William Hasler

Title Field Office Government Representative

Date Jan. 13, 1967

(INSTRUCTIONS ON REVERSE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
U. S. Geological Survey
Branch of Budget and Finance
Washington, D. C. 20242

ADMINISTRATIVE SUSPENSION STATEMENT

Name and Address of Payee: MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado

Amount Claimed:	Differences (Explained Below)	Amount Approved
$4,571.40	$11.00	$4,560.40 3,220.30 Govt. Participation
Bu. Voucher No.	Payee's Invoice No. OME # 6440 Contract # 2226	Period November 1966

EXPLANATION

No supporting documents furnished for sample bags in excess of number of assays for September, October, and November 1966.

Claimed (September 66 voucher)	50 sample bags 19 assays 31 sample bags at .10 =	$ 3.10
Claimed (October 66 voucher)	50 sample bags 16 assays 34 sample bags at .10 =	3.40
Claimed (November 66 voucher)	50 sample bags 5 assays 45 sample bags at .10 =	4.50
Total Disallowed		$ 11.00
Withheld $200.00 pending receipt of final report		200.00
		$ 211.00

Any reclaim for items deducted must be supported by the original of this statement and submitted to the office shown above.

J. D. McAlister
Branch of Budget and Finance

[illegible]

[illegible] of November, 1966 Docket No. [illegible]

[illegible] - MK Exploration Co. Contract No. [illegible]

Core drilling under the contract was completed on November 20, 1966. In December all of the core of the project will be reviewed in preparation for the final report and a number of intervals not previously sampled will be split and analyzed.

Hole No. 2

Two additional samples of this core were taken in the Structure No. 2 zone: one in the interval 373'-378' and the other from 378'-407'. The latter was represented by 4.5 feet of core in 19 feet of hole but measurable silver was detected in both samples. The assay report is attached.

Hole No. 3

This hole was completed at 800 feet and its log is attached. Structure No. 2 was sampled between 382' and 392' and showed some silver. The Smuggler was encountered from 604' to 626' but its assays have not been returned as yet. Structure No. 4 was found between 733' and 740'. It has not yet been sampled.

Hole No. 4

The Smuggler interval, from 300' to 308', with only about 2 feet of core recovered, assayed 0.40 silver. Structure No. 4 was found at 537'.

December 15, 1966 Operator - MK Exploration Co.

Per John J. Kelly Title V. Pres.

MAPS: Graphic Log of Hole No. 3.

P. M. CRISMON, Pres.

CRISMON & NICHOLS

ASSAYERS AND CHEMISTS

220-231 SOUTH WEST TEMPLE STREET

SALT LAKE CITY, UTAH 84110

PHONE 363-7417

P. O. Box 1703

REPORT OF ASSAY

November 22, 1943

New Park Mining Co.- M. I. Exploration Co.

WE HAVE ASSAYED YOUR Silver SAMPLED AND FIND Ten TO CONTAIN AS FOLLOWS:

DESCRIPTION	NO.	OZS. GOLD PER TON	OZS. SILVER PER TON	PER CENT LEAD	PER CENT COPPER	PER CENT ZINC	PER CENT INSOL.	PER CENT IRON	PER CENT	VALUE OF GOLD PER TON
SPAR CITY										
Hole 2, 373'-378'	16	Trace	0.10		0.08					
" 2, 378'-407'	17	Trace	0.20		0.03					
" 3, 382'-387'	7	Trace	0.20		0.03					
" 3, 397'-392'	8	Trace	0.40		0.03					
" 4, 300'-308'	2	Trace	0.40		0.05					

REMARKS:

CRISMON & NICHOLS

By P. M. Crismon

CHARGES $ 22.50

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
2/3/67	R M Smith	120
2/3/67	Kirkham	120
"	Johnson	110
		120M

February 3, 1967

Memorandum

To: The File

From: R. M. Smith, Office of Minerals Exploration

Subject: OME-6440(Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

The four core-drill holes which comprised the entire OME project were completed in November 1966. Of the $31,080.00 authorized by the contract, $22,433.45 (subject to audit) was spent.

Results of the project are considered by the Operator to be favorable but inconclusive because the existence and locations of the Smuggler No. 2, No. 4, and "Trench B" veins are established, but core recovery was so poor that mineral content is not indicated by the few samples.

Drilling conditions imposed by the nature of the rock, the fracture zones, and the mineralization are similar to those in the nearby Bulldog Mountain area at Creede where both core and sludge are virtually unobtainable in the mineralized zones, but where significant ore bodies were discovered.

The implications of the results of this project should be discussed with Tom Steven and Bill Hasler who are familiar with all phases of the geology and exploration practices in these districts.

The drilling results are summarized as follows:

Hole 1 T. D. 664+ scales 788 Log 775

167 - 192.5 Structures 2 and 4 0.2 - 5.0 oz. Ag
376 - 398 Smuggler vein

Hole 2 T. D. 477 ✓

217 - 236 Smuggler and No. 4 veins
373 - 407 Structure 2 ?
430 - 435 Halo ? (0.6% Cu)

23263

Hole 3 T. D. 800

0 - 100	"Trench B" veins	
97 - 102		0.4 oz. Ag
604 - 626	Smuggler vein	
733 - 740	Structure No. 4	

Hole 4 T. D. 600

31 - 36	Structure 2	0.2 oz. Ag
300 - 308	Smuggler vein	0.4
537 - 600	Structure 4 et al.	

R M Smith

R. M. Smith

cc: Director's Reading File
Division File
Economic Geology File
OME File
OME Reading File
Mr. Smith

RMSmith/gla 2-3-67

Denver Federal Center-Bldg. 25-Rm. 2284
Denver, Colorado 80225

120 M
~~110~~
120 S
120 M

January 9, 1967

Mr. John J. Kelley, Vice President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Dear Mr. Kelley:

We received in this morning's mail your letter of December 15, 1966 enclosing November's vouchers MME Form 60, MME Form 61 and Operator's Narrative report on the above mentioned subject.

These vouchers will be forwarded to Washington for processing in the near future.

Sincerely yours,

J. William Hasler

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

Chief, OME
cc: Hasler chron
OME chron
2226

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration

December 5, 1966

OFFICIAL COPY
O. M. E.
RECEIVED
DEC 8 1966

INITIALS	CODE
	420
RC	110
Bm	120

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

During an interim examination on October 25, 1966 it was ascertained that the operator has complied with the provisions of the terms of the contract. The diamond drilling companies that provided bids for the contract were unavailable at the time the contract was executed, consequently Sprague and Henwood Drilling Company, Salt Lake City, Utah were employed. The drilling has been completed, NX size, as the drilling company felt that better core recovery could be obtained with MX size equipment. The Company is paying the difference in cost from the BX and/or AX specified in the contract and the NX size hole being drilled.

Drilling conditions in the Spar City area are similar, in fact nearly identical to drilling conditions in the nearby Bulldog Mountain at Creede in that the heavily barite bearing veins are vuggy and consequently do not core satisfactorily making it practically impossible to obtain even a minimum amount of core and/or sludge in the critical areas. About the only thing one can be reasonably certain of is, that these critical areas define the vein structures themselves. The enclosing volcanic rocks, the Snowshoe Mountain rhyolite respond well to average coring practice and high percentages of core are usually obtainable. (See report of examination on subject docket, pages 11 and 12).

At the time of the interim examination Diamond Drill Hole No. 1 had been completed and drilled to a depth of 477 feet, and Diamond Drill Hole No. 3 was down due to equipment failure, and Diamond Drill Hole No. 4 had reached a depth of 450 feet. The calcite vein reported by the operator at

a depth of 389 feet in hole No. 2 appears to be travertine rather than vein calcite, although it projects into the hanging wall of the Smuggler vein. Diamond Drill Hole No. 1 penetrated structures 2 and 4 as a series of barite veins in altered and bleached quartz latite between 167' and 192.5'. The Smuggler was penetrated between 376' and 398' with a true width of 12 feet.

Diamond Drill Hole No. 2 was completed to a depth of 477 feet. Two significant geological features were penetrated. One was the presence of a 12-foot (true width) structure from 217' to 236', characterized by alteration and clay on both walls and 11 feet of tan calcite between them. This coincides with original projections of the positions of the Smuggler vein and Structure No. 4, and fits the Mercury halo anomaly from a survey made this season. The second conspicuous feature is a zone of light- and pinkish-gray, bleach-appearing Snowshoes Mountain quartz latite extending from the calcite to the bottom of the hole. It is vuggy, iron-stained frequently baritic. Some copper values (0.60% Cu) was obtained over a distance of 5 feet, between 430-435 feet. From 378' - 397' only 2.5 feet of core were recovered from 19 feet of hole, from 399'- 405' only one foot of core was recovered. Doubtless the material drilled was ground up and washed away, and since this structure projects to the location of Structure No. 2, deductively only the wall rock near the vein(s) of the structure has been recovered in the core. Mineralization alteration and coring incompetence, coupled with the mercury halo, S. P. anomalies and last years' trenching results proves that Structure No. 2 is of considerable size, and consistency, and that it is mineralized.

Diamond drill hole No. 4 had been drilled to a depth of 450 feet at the time of the field examination. The collar of the hole was in Structure No. 2. The Smuggler structure was penetrated near 300 feet down the hole. Within the Smuggler structure only 1.5 feet of core was recovered in a 7-foot run. The porphyry near the Smuggler structure is altered and quite vuggy.

J. William Hosler

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
12/2		120
"	Johnson	110
12/2	Call	220
		120M

DEC 2 1966

Memorandum

To: Field Officer, Region III

From: Assistant Chief, Office of Minerals Exploration

Subject: Equal Employment Opportunity Under Government Contracts

In reference to the 10-question information form, dated September 8, 1966, on Docket OME-6440, Contract 2226, MK Exploration Company, enclosed with your memorandum of November 29, 1966, your attention is called to Mr. George C. Selfridge's memorandum of November 26, 1965, advising that submission of these forms is no longer needed. However, you still should distribute the posters and union notices to new contractors (see my memorandum to Field Officers of October 11, 1966) and report to the Bureau Compliance Officer - Contracts any violations of the spirit of the Equal Employment Opportunity program that may come to your attention.

For contracts in the amount of $100,000 or more, the Washington Office will forward the necessary information to the Operators of such contracts.

Harold Kirkemo (GLA)

Harold Kirkemo

cc: Director's Reading File
Division File
Economic Geology File
OME Docket 6440
OME Reading File
Mr. Kirkemo
130 (EEO File)

GLAult/a 12-2-66

23263

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration

November 29, 1966

Memorandum

To: Chief, OME

From: Field Officer

Subject: OME-6440 (Silver)
MK Exploration Company
Mineral County, Colorado
Contract 2226

Transmitted herewith are the original and two copies of the operator's monthly voucher, MME Form 60, operator's progress report, MME Form 61, and the narrative for the month of October, 1966 on the above-mentioned subject.

Also enclosed are invoices for expenditures to accompany the MK Exploration Company voucher for September 1966 as requested by Field Officer, Region III.

I certify that the foregoing are correct and just to my best judgement.

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

OFFICIAL COPY

OPERATOR'S MONTHLY VOUCHER

For Month of October 1966

Docket No. OME 6440
Contract No.
14-28-000-2226
Contract Amount $31,080.00
Gov't. Participation 75 $23,310.00
Mineral(s) Silver

Operator's Name M.K. Exploration Co.
Address 2955 Sheridan Rd, Englewood Colo 80110

COST CATEGORIES	FOR OPERATOR'S USE: MONTHLY TOTAL	PREVIOUSLY REPORTED	TOTALS TO DATE	FOR GOVERNMENT APPROVAL ONLY: MONTHLY TOTAL	PREVIOUSLY REPORTED	TOTALS TO DATE
Fixed Unit Costs and Mobilization	—	500.00	500.00			
(1) Independent Contracts:		143.00	247.00			
Cementing & redrilling	104.00					
Bulldozing	—	87.50	87.50			
Cement Matl's.	9.25	3.30	12.55			
Drilling - overburden	320.00	240.00	560.00			
Bedrock - 250'						
Drilling	2731.70	3056.20	5787.90			
250' - 500'	2144.00	3174.40	5318.40			
500' - 750'	1292.70	1139.80	2432.50			
(2) Personal Services:						
Supervision & Technical	750.00	750.00	1500.00			
Outside Consultants	150.00	150.00	300.00			
Labor	20.00	25.00	45.00			
(3) Operating Mat'l. & Supplies:						
Timber						
Explosives						
Pipe						
Rail						
Cardboard core boxes	15.00	250.00	265.00			
Sample bags	5.00	5.00	10.00			
Reaming	209.00	—	209.00			
In-hole surveying	91.00	—	91.00			
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehab. & Repairs:						
Buildings, Fixtures, etc.						
Operating Equipment						
(6) New Buildings, Fixtures, etc. Core storage	27.22	32.98	60.20			
(7) Miscellaneous:						
Repairs to Equipment						
Analytical Work	52.50	64.50	117.00			
Transp. of samples	20.00	20.00	40.00			
Acq. & rt. etc.	50.00	50.00	100.00			
Employee training						
Consultant's travel	55.00	55.00	110.00			
Consultant's per diem	32.00	32.00	64.00			
FICA taxes, ins. etc.	125.00	125.00	250.00			
TOTALS	8203.37	9903.68	18,107.05			

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

Date Nov. 22, 1966 *Payee M.K. Exploration Co.

Per John J. Kelly Title V. Pres

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

A willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction is a criminal offence. (U.S. Code, Title 18, Sec. 1001.)

(INSTRUCTIONS ON REVERSE)

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

$ 6152.53

14X0804

Signature (Authorized Certifying Officer)

Date DEC 12 1966 Vou. No. 4645

(SEE OTHER SIDE)

MME FORM 60
SEPT. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

Docket No. _____
Contract No.
14-23-090-_____
Contract Amount $ _____
Gov't. Participation % _____ $ _____
Mineral(s) _____

OPERATOR'S MONTHLY VOUCHER

For Month of _____

Operator's Name _____
Address _____

COST CATEGORIES	FOR OPERATOR'S USE			FOR GOVERNMENT APPROVAL ONLY		
	MONTHLY TOTAL	PREVIOUSLY REPORTED	TOTALS TO DATE	MONTHLY TOTAL	PREVIOUSLY REPORTED	TOTALS TO DATE
Fixed Unit Costs and						
(1) Independent Contracts:						
Bulldozing						
Drifting						
Crosscutting						
Drilling						
(2) Personal Services:						
Supervision & Technical						
Outside Consultants						
Labor						
(3) Operating Mat'l. & Supplies:						
Timber						
Explosives						
Pipe						
Rail						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehab. & Repairs:						
Buildings, Fixtures, etc.						
Operating Equipment						
(6) New Buildings, Fixtures, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Analytical Work						
Payroll Taxes						
Employee's Liability Ins.						
TOTALS						

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

Date _____ * Payee _____

Per _____ Title _____

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

A willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction is a criminal offense. [redacted]de, Title 18, Sec. 1001.)

(INSTRUCTIONS ON REVERSE)

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

$ _____

Signature _____
(Authorized Certifying Officer)

Date _____ Vou. No. _____

(SEE OTHER SIDE)

Certification by Government Representative:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating an exploration project in accordance with the terms of Contract No. 2226

Signature J. William Hasler Title Field Officer Date 11/28/66

Approved by OME Executive Officer or Alternate:

Signature J. William Hasler Title Field Officer Date 11/28/66

OPERATOR'S MONTHLY REPORT

The Operator, under an Office of Minerals Exploration contract, is required to report monthly to the Government. The report consists of three parts.

FIRST, the Operator's Monthly Voucher on MME Form 60 listing the project costs incurred and claimed by the Operator is the voucher basis for payment of the Government's share of the cost.

SECOND, the Operator's Progress Report on MME Form 61 is a statistical report of the units and cost of of work performed under the contract.

THIRD, the Operator's Narrative Report is a concise description of the work performed, results accomplished, and any unusual situations encountered, illustrated and supported by engineering-geological maps or sketches, drill hole logs, assay reports, etc., as pertinent.

The Operator submits the original and four copies of each of the three sections of this report to the OME regional Executive Officer at the end of each month during the life of the contract.

PREPARATION OF OPERATOR'S MONTHLY VOUCHER, MME FORM 60

After all applicable spaces are filled in, the Operator or his agent must sign the certification in the lower left corner. Categories (2) through (7) apply to "Actual Cost" contracts only.

Under "Fixed Unit Costs" and Category (1) report, (a) the total fixed unit costs of work performed under contract provisions for contribution by the Government on a basis of "fixed unit costs"; and (b) the claimed costs of work performed on a unit-price basis by independent contractors.

Under Category (2) include the claimed costs of all payrolled and invoiced supervisory, technical, and labor personnel, except the costs for services applicable to Categories (5) and (6).

Under Category (3) include the claimed costs of all project materials and supplies other than those used for work under Categories (5) and (6).

Under Category (4) report claimed rentals on equipment belonging to a third party, claimed payments or obligations for payments on the Operator's purchase of equipment, and claimed depreciation for the use of Operator-owned equipment.

Under Categories (5) and (6) include all claimed costs of labor, supervision, technical services, operating materials and supplies, and all other items used in (5) the initial rehabilitation and repairs of existing buildings, fixtures, installations (exclusive of mine workings), and operating equipment; and (6) the installation or construction of new buildings, fixtures, and fixed improvements (exclusive of mine workings). Do not report these costs under Categories (2), (3), (4), and (7).

Under Category (7) include all miscellaneous claimed costs such as repairs (other than initial) and maintenance of equipment, sampling and analysis, travel, communication, accounting, office expenses, and the Operator's share of payroll taxes and insurance.

Except for amounts claimed under "fixed unit costs" provisions of the contract, all costs claimed in this voucher must be supported by documentary evidence consisting of: (a) certified copies or transcripts of payrolls which list each employee, wage rate, period of employment, gross earnings, itemized deductions, and net earnings; (b) original or certified copies of invoices, statements of accounts, or purchase orders which indicate items of materials or services, quantities, unit prices, total charges, and payment terms; and (c) certified memoranda of the Operator for such items as depreciation of Operator-owned equipment, unemployment taxes, and employee's liability insurance. The certification may be stated thus, "Certified True Copy (or Transcript)", followed by the signature of the Operator or his agent. One copy of each document should accompany the original of this voucher.

The requirement for submitting documentary evidence of claimed costs may be waived by the OME regional Executive Officer if he determines that it is impracticable for an Operator to submit this material. In any case of waiver of this requirement an "on-site" audit by an OME auditor is mandatory prior to payment of the final Operator's Monthly Voucher.

MME FORM 61
SEPT. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

OPERATOR'S PROGRESS REPORT For Month of October 1966 Docket No. OME-6440

Operator's Name M.K. Exploration Co. Contract No. 14-23-090-2226

OPERATION	UNITS	FOR OPERATOR'S USE: UNITS THIS MONTH	UNITS TO DATE	COSTS TO DATE	FOR GOVERNMENT USE: APPROVED UNITS THIS MONTH	APPROVED UNITS TO DATE	APPROVED COSTS TO DATE
Mobilization	Job	—	100%	500.00	—	500.00	500.00
Bulldozing	$	—	87.50	87.50		87.50	87.50
Raising							
Shafts							
Winzes							
* Drilling - overburden	Ft	40	70	560.00	40	70	560.00
Other Underground							
Bedrock - 250'	Ft	463	981	5787.90	463	981	5,787.90
Drilling, Core-Diamond							
250' - 500' Rotary	Ft	335	831	5318.40	335	831	5,318.40
500' - 750'	Ft	186	350	2432.50	186	350	2,432.50
Drilling, Non-core-Diamond							
Cement Mat'ls Rotary							
Chum	$	9.25	12.55	12.55	9.25	12.55	12.55
Cementing & redrilling	Hr.	8	19	247.00	8	19	247.00
Reaming Percussion	Ft	55	55	209.00	55	55	209.00
Miscellaneous							
Supervision - Tech.	Mo	1	2	1500.00	1	2	1,500.00
Geological Consultant	Day	2	4	300.00	2	4	300.00
Roads and Trails							
Labor - carpenter	Hr	8	18	45.00	8	18	45.00
Stripping							
Cardboard core boxes	Ea.	15	265	265.00	15	265	265.00
Trenching							
Test Pitting							
In-hole surveying	Hr.	7	7	91.00	7	7	91.00
Other Surface Work							
Sample bags	Ea.	50	100	10.00			10.00
Initial Rehabilitation and Repairs							
Rehabilitation of Mine Workings							
New Buildings, Fixtures, etc.	$	27.22	60.20	60.20			60.20
Operating Equipment Purchases							
Analytical Work Assays		52.50	117.00	117.00			117.00
From "REMARKS" below				564.00			564.00
TOTAL TO DATE (per MME Form 60)				18,107.05			18,107.05

REMARKS

Transp. of samples	$	20.00	40.00	40.00
Consultant's travel	Mi	550	1100	110.00
Consultant's per diem	Day	2	4	64.00
Rotg & off. exp.	Mo.	1	2	100.00
F.I.C.A payroll tax, ins. etc.	Job	1/3	2/3	250.00
			Total	564.00

* All drilling BX or larger

(Continue on back)

REMARKS

(Continue on back)

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

Date Nov. 22, 1966 Operator M.K. Exploration Co.

Per John J. Kelly Title V. Pres.

A willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction is a criminal offense. (U.S. Code, Title 18, Sec. 1001.)

I certify that the information above is complete and accurate to the best of my knowledge and belief

Signature J. William Hasler

Title Field Officer
Government Representative

Date Nov 28, 1966

(INSTRUCTIONS ON REVERSE)

PART III

Month of October, 1966 Docket No. OME-6440

Operator - MK Exploration Co. Contract No. 14-23-090-2226

Core drilling progressed under the contract in October, with completion of Holes 1 and 4, and some progress was made in No. 3. It has never been possible in the entire program to sustain circulation for taking sludge samples.

A profile of the soil was sampled in September between holes 3 and 4 (see Sketch of Hole Locations) and the samples were analyzed for mercury content. Profiles could not be made closer to the holes because of soil disturbance and possible contamination. The profile is displayed over the surface elevation profiles on the attached sheet of cross sections, and shows a conformity of its anomalies with projections of structures based on 1965 trenching and mapping.

Hole No. 1

Hole No. 1 was completed at 775 feet (all NXWL) on Oct. 3 and the rig was moved to Site No. 4. The graphic log for this entire hole was presented with the September report and is not again included here. No significant structure was discovered in the last 111 feet of the hole.

The Assayer's report for samples taken between 376' and 398', vicinity of the Smuggler structure, is appended for the record.

This hole was surveyed for direction and inclination at 3 points. While the inclination measurements were consistent, direction measurements were so erratic as to be unbelievable, probably because of magnetite in the flows. When a survey instrument was not available at the time of completion of the other holes, it was felt that no valuable data were lost by not being able to survey them. Following are the measurements of this hole:

Depth	Strike	Inclination
600'	S 51° W	-46°
400'	S 30° W	-46°
200'	S 63° W	-45°

Hole No. 2

Additional samples were taken above and below the copper discovery at 430'-435' (assay report attached) to establish with certainty that a mineralization halo exists in the vicinity of Structure No. 2. Further sampling has been done up-hole but assays have not been reported at this time.

Hole No. 3

A graphic log is attached for that portion of Hole No. 3 completed through October. It has been a very difficult hole to drill and progress has been slow.

Without question a vein or series of veins were cut in the first 100 feet but so little core was recovered, and so much of that was cave material, a fair representation could not be obtained. The zone was characterized by intense silicification, generous barite, iron oxide staining, mud and gouge, 1.5' of bit drop at 58 feet, and constant caving. Casing was set to 75 feet and the hole continued NXWL size to 258 feet where tools lost in the hole forced the contractor to reduce to BXWL.

The structure represented in this upper portion of the hole is probably the SW-trending veins detected in the eastern end of Trench "B" in the 1965 work (see Exhibit 3, Amendment to OME-6440, March 17, 1966). Unfortunately, the strength and character of this structure was not apparent from the trenching and no hole was planned to test it at depth. If it crossed the range of Hole No. 2 it would have been in the area of Creede formation through which it would not have penetrated.

Hole No. 4

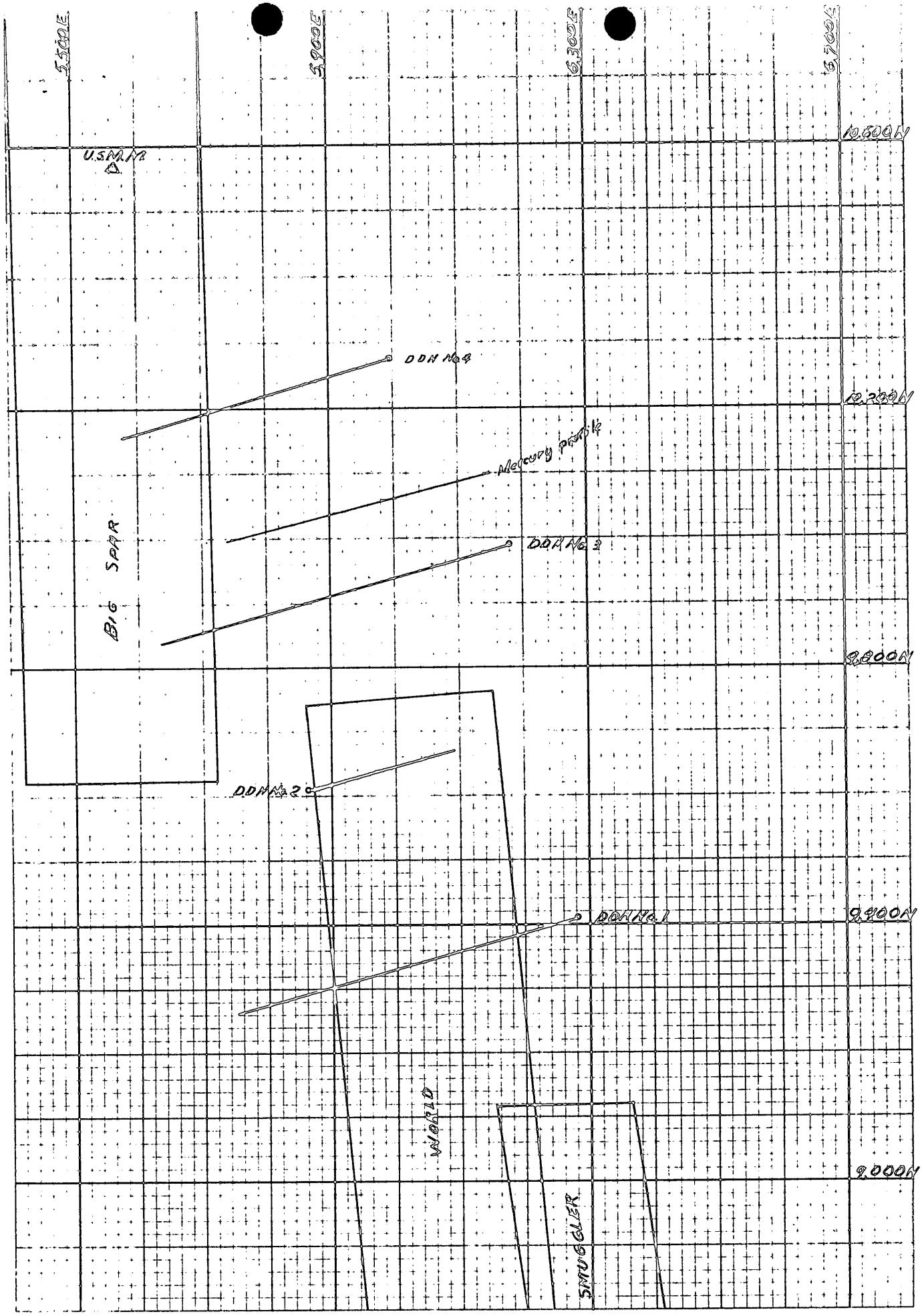
Hole No. 4 was collared on Oct. 7 and completed to 600 feet on Oct. 31. Its coordinates are: 5997 E, 10278 N. It was drilled S 75° W at an inclination of -45°. The sizes are NXWL to 241 feet and BXWL from there to 600 feet.

The collar is in the span of Structure No. 2 and a sample taken at 31'-36' confirms its presence. The Smuggler structure was cut near 300 feet of depth and other veins, including Structure No. 4, were cut near the bottom. Study and sampling of the core will continue but it is of interest at this time that no travertine or massive calcite was found in this hole.

November 22, 1966 Operator - MK Exploration Co.

Per Thomas J. Kelley Title V. Pres.

MAPS: Cross Sections and Graphic Logs of Holes 3 and 4, Sketch of Hole Locations



SKETCH OF HOLE LOCATIONS

1" = 200'

GRAPHIC LOG - DDH NO. 3

MK EXPLORATION COMPANY, OPERATOR

SPAR CITY, MINERAL COUNTY, COLORADO

OME - 6440 (Silver)

CONTRACT NO. 2226

DIRECTION: S 75° W

INCLINATION: -45°

COORDS: 6184E, 9991N

DRILLED: Sept. 30 to Nov. 20, 1966

Depth 1"=20'

Core Runs & Rec.

0.0 Overburden, no core.

Cased to 20', start NX.

Au-Tr Ag-Tr 0.5 Lt. gray Ts. Core in small pieces.

Au-Tr; Ag-0.4 0.5 Lt. gray Ts, weathered, soft and chalky. Core in small pieces, some gray mud.

Au-Tr Ag-0.5 50 Mod. welded, tan Ts. Partly leached, some cherty vein matter, FeOX stained and barite

Au-Tr. Ag-0.5 Au-Tr. Ag-0.5 Barite impregnated and silicified Ts. Dk to lt. gray, FeOX stained. Core in small pieces, some showing banding.

Mostly small, dk. brown and reddish brown pieces of silicified, baritic Ts. 1' of intensely bleached, baritic Ts at start.

Lt. gray, with blotchy, greenish-gray stained Ts por. Bleached, altered & baritic. FeOX stained.

Au-0.01 Cu-0.05 100 Ag-0.4 Zn-Tr. 0.5

More vuggy & baritic 115-117

Dk to med. gray Ts por. Barite on joints. Hard, densely welded, locally vuggy. FeOX staining & MnO (?) residue common.

Dk. & med. gray Ts por., mod. welded. Locally vuggy, frequent barite.

150

Tan-gray Ts por. Mod. vuggy & mod. FeOX staining, bleached

Dk. gray & rubbly 167'-173', bleached 173'-175'

Dk. to med. gray, rubbly Ts. Mod. welded and FeOX staining on joints. Some barite, locally vuggy.

Core in small pieces 193'-199'

200

Lavender, rubbly Ts, mod. to poorly welded.

Lt. pinkish gray Ts por. Vuggy, baritic, MnO (?) on joints. Moderately welded, slightly to unaltered.

Densely welded after 219', less baritic.

Less densely welded after 243', more baritic.

250

Start BX @ 258'

Greenish gray Ts por., mod. welded, alt. 0.5' tan & brown gouge @ 255'.

Color changes to med. gray with FeOx staining on joints @ 259'.

Color darkens, less densely welded after 267'.

Same as above, dk. to med. gray. Alteration increasing.

300

Barite & hematite 298'-300'

Med. & lt. gray Ts por., fresh appearing.

Bleached & in small pieces 310'-325'.

Less bleached 325'-329'. Bleaching resumes & small pieces continue.

R. CASTO P. M. CRISMON ORRIN FISHER HAROLD E. CULVER

CRISMON & NICHOLS

ASSAYERS AND CHEMISTS

PHONE EM 3-7417 229-231 SOUTH WEST TEMPLE STREET P. O. BOX 1708

REPORT OF ASSAY

SALT LAKE CITY, UTAH October 6, 1966

New Park Mining Co. - M. K. Exploration Co.

WE HAVE ASSAYED YOUR ten SAMPLES AND FIND them TO CONTAIN AS FOLLOWS:

DESCRIPTION	NO.	OZS. GOLD PER TON	OZS. SILVER PER TON	PER CENT LEAD	PER CENT COPPER	PER CENT ZINC	PER CENT INSOL.	PER CENT IRON	PER CENT	VALUE OF GOLD PER TON
SPAR CITY										
Hole 1 376-381	4	Trace	Trace							
" 1 381-386	5	Trace	0.20							
" 1 386-391	6	Trace	Trace							
" 1 391-396	7	Trace	0.20							
" 1 396-398	8	Trace	Trace							
" 3 20-27	1	Trace	Trace							
" 3 27-45	2	Trace	0.40							
" 3 47-52	3	Trace	0.50							
" 3 52-57	4	Trace	0.50							
" 3 57-61	5	Trace	0.50							

REMARKS: Hole 3, 27-45 was marked #27, but we thought this was probably a mistake so we numbered it #2

CHARGES $ 30.00

CRISMON & NICHOLS

BY P. M. Crismon

P. M. CRISMON, PRES.

CRISMON & NICHOLS

ASSAYERS AND CHEMISTS

229-231 SOUTH WEST TEMPLE STREET

PHONE 363-7417 | P. O. BOX 1708

REPORT OF ASSAY

SALT LAKE CITY, UTAH 84110 October 24, 1966

New Park Mining Co. - N. K. Exploration Co.

WE HAVE ASSAYED YOUR six SAMPLES AND FIND then TO CONTAIN AS FOLLOWS:

DESCRIPTION	NO.	OZS. GOLD PER TON	OZS. SILVER PER TON	PER CENT LEAD	PER CENT COPPER	PER CENT ZINC	PER CENT INSOL.	PER CENT IRON	PER CENT	VALUE OF GOLD PER TON
Spar City										
Hole 4 31'-35'	1	Trace	0.20							
" 3 97'-102'	6	0.01	0.40	None	0.05	Trace				35¢
" 2 420'-425'	16				0.20	None				
" 2 425'-430'	17				0.05	None				
" 2 435'-440'	18				0.10	None				
" 2 440'-445'	19				0.10	Trace				

REMARKS:

CHARGES $ 22.50

CRISMON & NICHOLS

BY P. M. Crismon

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration

November 4, 1966

OMEC
NOV 8 1966
RECEIVED
NOV 8 1966
MINERALS
JO 420
RMA 120

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract 2226

Transmitted herewith is an original and two copies of the subject operator's Monthly Voucher for the month of September, 1966, MME Form 60, and MME Form 61, Operator's Monthly Progress Report together with supporting documents, narrative, graphic Log of D.D.H. No. 1, graphic Log of D.D.H. No. 2, cross sections of Holes 1 and 2 and a sketch showing hole locations.

The operator does not presently have a billing from their geologic consultant, however during an interim inspection of the property on October 25, 1966, the operator was advised to obtain a billing. The operator has advised us today that a billing had been requested. I can attest to the fact that the claims for these services are approved expenses.

With regards to the diamond drilling: the estimates from the diamond drilling companies were requested for Bx Standard or Bx wireline, and Ax standard size holes. At the time of the execution of the contract the diamond drill companies that made the bids did not have equipment available, consequently Sprague and Henwood Drilling Company was engaged to perform the diamond drilling. They advised the operator that possibly better core recovery could be obtained if the holes were drilled Nx size. Thus far 932 feet of Nx hole has been drilled and 246 feet of Bx hole.

The operator has billed the Office of Minerals Exploration in each footage category at the Bx rate as specified in the contract, and will pay the difference between Bx and Nx costs themselves. I therefore recommend approval of the drilling costs listed in the operator's voucher.

J. William Harlow

MME FORM 60
SEPT. 1959

OFFICIAL COPY

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

Docket No. OME-6440
Contract No.
14-23-090- 2226
Contract Amount $ 31,080.00
Gov't. Participation % 75 $ 23,310.00
Mineral(s) Silver

OPERATOR'S MONTHLY VOUCHER

For Month of Sept. 1966

Operator's Name MK Exploration Co
Address 2955 Cherryridge Rd, Englewood, Colo. 80110

COST CATEGORIES	FOR OPERATOR'S USE: MONTHLY TOTAL	PREVIOUSLY REPORTED	TOTALS TO DATE	FOR GOVERNMENT APPROVAL ONLY: MONTHLY TOTAL	PREVIOUSLY REPORTED	TOTALS TO DATE
Fixed Unit Costs and						
(1) Independent Contracts:						
Cementing & redrilling	143.00	–	143.00			
Bulldozing	87.50	–	87.50			
Cement etc						
Drifting	3.30	–	3.30			
Drilling overburden						
Crosscutting	240.00	–	240.00			
Drilling BR-250'	3056.20	–	3056.20			
250'-500'	3174.40	–	3174.40			
500'-750'	1139.80	–	1139.80			
Mobilization	500.00	–	500.00			
(2) Personal Services:						
Supervision & Technical	750.00	–	750.00			
Outside Consultants	150.00	–	150.00			
Labor carpenter	25.00	–	25.00			
(3) Operating Mat'l. & Supplies:						
Timber						
Explosives						
Pipe						
Rail						
Cardboard core boxes	250.00	–	250.00			
Sample bags	5.00	–	5.00			
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehab. & Repairs:						
Buildings, Fixtures, etc.						
Operating Equipment						
(6) New Buildings, Fixtures, etc. core storage	32.98	–	32.98			
(7) Miscellaneous:						
Repairs to Equipment						
Analytical Work	64.50	–	64.50			
Payroll Taxes ins etc	125.00	–	125.00			
Transp. of samples Employee Liability Ins.	20.00	–	20.00			
Data & off exp	50.00	–	50.00			
Consultant's travel	55.00	–	55.00			
Consultant's per diem	32.00	–	32.00			
TOTALS	9903.68	–	9903.68			

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

Date Oct. 27, 1966 *Payee MK Exploration Co.

Per John J. Kelley Title V. Pres

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

A willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction is a criminal offense. (U.S. Code, Title 18, Sec. 1001.)

(INSTRUCTIONS ON REVERSE)

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

$ 7,240.26

14X0804

Signature (Authorized Certifying Officer)

Date NOV 16 1966 Vou. No. 3948

(SEE OTHER SIDE)

Certification by Government Representative:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating an exploration project in accordance with the terms of Contract No. 2226.

Signature J. William Hasler Title Field Officer Date Nov 2, 1966

Approved by OME Executive Officer or Alternate:

Signature J. William Hasler Title Field Officer Date Nov 2, 1966

OPERATOR'S MONTHLY REPORT

The Operator, under an Office of Minerals Exploration contract, is required to report monthly to the Government. The report consists of three parts.

FIRST, the Operator's Monthly Voucher on MME Form 60 listing the project costs incurred and claimed by the Operator is the voucher basis for payment of the Government's share of the cost.

SECOND, the Operator's Progress Report on MME Form 61 is a statistical report of the units and cost of of work performed under the contract.

THIRD, the Operator's Narrative Report is a concise description of the work performed, results accomplished, and any unusual situations encountered, illustrated and supported by engineering-geological maps or sketches, drill hole logs, assay reports, etc., as pertinent.

The Operator submits the original and four copies of each of the three sections of this report to the OME regional Executive Officer at the end of each month during the life of the contract.

PREPARATION OF OPERATOR'S MONTHLY VOUCHER, MME FORM 60

After all applicable spaces are filled in, the Operator or his agent must sign the certification in the lower left corner. Categories (2) through (7) apply to "Actual Cost" contracts only.

Under "Fixed Unit Costs" and Category (1) report, (a) the total fixed unit costs of work performed under contract provisions for contribution by the Government on a basis of "fixed unit costs"; and (b) the claimed costs of work performed on a unit-price basis by independent contractors.

Under Category (2) include the claimed costs of all payrolled and invoiced supervisory, technical, and labor personnel, except the costs for services applicable to Categories (5) and (6).

Under Category (3) include the claimed costs of all project materials and supplies other than those used for work under Categories (5) and (6).

Under Category (4) report claimed rentals on equipment belonging to a third party, claimed payments or obligations for payments on the Operator's purchase of equipment, and claimed depreciation for the use of Operator-owned equipment.

Under Categories (5) and (6) include all claimed costs of labor, supervision, technical services, operating materials and supplies, and all other items used in (5) the initial rehabilitation and repairs of existing buildings, fixtures, installations (exclusive of mine workings), and operating equipment; and (6) the installation or construction of new buildings, fixtures, and fixed improvements (exclusive of mine workings). Do not report these costs under Categories (2), (3), (4), and (7).

Under Category (7) include all miscellaneous claimed costs such as repairs (other than initial) and maintenance of equipment, sampling and analysis, travel, communication, accounting, office expenses, and the Operator's share of payroll taxes and insurance.

Except for amounts claimed under "fixed unit costs" provisions of the contract, all costs claimed in this voucher must be supported by documentary evidence consisting of: (a) certified copies or transcripts of payrolls which list each employee, wage rate, period of employment, gross earnings, itemized deductions, and net earnings; (b) original or certified copies of invoices, statements of accounts, or purchase orders which indicate items of materials or services, quantities, unit prices, total charges, and payment terms; and (c) certified memoranda of the Operator for such items as depreciation of Operator-owned equipment, unemployment taxes, and employee's liability insurance. The certification may be stated thus, "Certified True Copy (or Transcript)", followed by the signature of the Operator or his agent. One copy of each document should accompany the original of this voucher.

The requirement for submitting documentary evidence of claimed costs may be waived by the OME regional Executive Officer if he determines that it is impracticable for an Operator to submit this material. In any case of waiver of this requirement an "on-site" audit by an OME auditor is mandatory prior to payment of the final Operator's Monthly Voucher.

NOV 3 10 48 AM '66
RECEIVED
GEOLOGICAL SURVEY
BUDGET & FINANCE
4 2 6 9 8

MME FORM 61
SEPT. 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

OPERATOR'S PROGRESS REPORT For Month of Sept. 1966 Docket No. ONIE-6440

Operator's Name MK Exploration Co. Contract No. 14-23-090- 2226

OPERATION	UNITS	FOR OPERATOR'S USE: UNITS THIS MONTH	UNITS TO DATE	COSTS TO DATE	FOR GOVERNMENT USE: APPROVED UNITS THIS MONTH	APPROVED UNITS TO DATE	APPROVED COSTS TO DATE
Drifting							
Crosscutting							
Raising							
Shafts							
Winzes							
Drilling overburden ~~Other Underground~~ BR - 250'	Ft.	30	30	240.00	30	30	240.00
Drilling, Core-Diamond 250' - 500'	Ft.	518	518	3056.20	518	518	3,056.20
Rotary 500' - 750'	Ft.	496	496	3174.40	496	496	3,174.40
~~Drilling, Non-core-Diamond~~	Ft.	164	164	1139.80	164	164	1,139.80
Rotary							
Churn							
Mobilization ~~Percussion~~	Job	500.00	500.00	500.00	Job	Job	500.00
Cement materials ~~Miscellaneous~~	$	3.30	3.30	3.30	3.30	3.30	3.30
Cementing & redrilling	Hr	11	11	143.00	11	11	143.00
Roads and Trails	$	~~87.50~~ 7	~~87.50~~ 7	87.50	7	7	87.50
Stripping							
Supervision - Technical ~~Trenching~~	Mo	1	1	750.00	1	1	750.00
Geological Consultant ~~Test Pitting~~	Day	2	2	150.00	2	2	150.00
Labor - carpenter ~~Other Surface Work~~	Hr.	10	10	25.00	10	10	25.00
Cardboard core boxes ~~Initial Rehabilitation and Repairs~~	Ea	250	250	250.00			250.00
Sample bags ~~Rehabilitation of Mine Workings~~	Ea	50	50	5.00			5.00
New Buildings, Fixtures, etc.	$	32.98	32.98	32.98			32.98
Operating Equipment Purchases							
Analytical Work Assays				64.50			64.50
From "Remarks" below				282.00			282.00
TOTAL TO DATE (per MME Form 60)				9903.68			9,903.68

REMARKS

Transp. of samples	$	20.00	20.00	20.00
Consultant's travel	Mi	550	550	55.00
Consultant's per diem	Day	2	2	32.00
Acctg & off. exp	Mo	1	1	50.00
FICA tax, ins., etc.	Job	1/3	1/3	125.00
				282.00

(Continue on back)

REMARKS

(Continue on back)

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

Date Oct. 27, 1966 Operator MK Exploration Co

Per John J. Kelley Title V. Pres.

A willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction is a criminal offense. (U.S. Code, Title 18, Sec. 1001.)

I certify that the information above is complete and accurate to the best of my knowledge and belief.

Signature J. William Hester

Title Field Officer
Government Representative

Date Nov 2, 1966

(INSTRUCTIONS ON REVERSE)

REMARKS *(Cont.)*

REMARKS *(Cont.)*

INSTRUCTIONS FOR PREPARING OPERATOR'S PROGRESS REPORT, MME FORM 61

This report is the second of the three parts of the Operator's Monthly Report. Submit the original and four copies.

The cost for each operation should be the total of all claimed costs attributable to that type of work with two exceptions, namely—operating equipment purchased and analytical work which are stated separately. For example, drifting costs should be the total of all costs chargeable to drifting including supervision, technical services, timbering (if any), etc. Similarly, drilling costs should include the cost of cementing, reaming, core boxes, etc. This procedure of distribution holds whether the contract was written on an actual cost or a unit cost basis, or some combination of the two. Distribute the cost of such general items as supervision, equipment rented, etc. according to relative footages or on some other conventional basis. The item "Initial Rehabilitation and Repairs" covers all rehabilitation and/or repairs other than the rehabilitation of mine workings.

The item titled "Drilling, Non-core Percussion" includes all drilling performed with wagon, jack-hammer, stoper and mounted drills. The several items labelled "Other" are provided to take care of particular exploration operations not specified on this form.

RECEIVED
U.S. GEOLOGICAL SURVEY
10 48 AM '66
BUDGET & FINANCE
4260 68

UNITED STATES
DEPARTMENT OF THE INTERIOR
U. S. Geological Survey
Branch of Budget and Finance
Washington, D. C. 20242

ADMINISTRATIVE SUSPENSION STATEMENT

Name and Address of Payee: M.K. EXPLORATION CO.
2955 Cherryride Road
Englewood, Colo. 80110

Amount Claimed:	Differences (Explained Below)	Amount Approved
$9,903.68	$250.00	$9,653.68 $7,240.26 Govt. Share
Bu. Voucher No.	Payee's Invoice No.	Period
Docket # 6440	Contract # 2226	Sept. 1966

EXPLANATION

Mobilization - Disallowance of $250.00 Contract allows $500.00 for Mobilization, plus demobilization.

Any reclaim for items deducted must be supported by the original of this statement and submitted to the office shown above.

B. E. McFarlane
Branch of Budget and Finance

PART III

Month of September, 1966 Docket No. OME-6440

Operator - MK Exploration Co. Contract No. 14-23-090-2226

Prior to the effective date of the contract, September 8, 1966, the Operator had completed a portion of the road and drill site construction and part of the surface surveying for drill hole locations. Only 300 feet of dozer road was built under the contract.

Two drilling rigs with four crews are being used on the project. One rig has a pole type setup and due to space limitations at holes 1 and 4, this rig had to be used at the other sites. One and 4 are being drilled by an outfit with an attached hydraulic derrick.

No sludge could be recovered from the holes.

Hole No. 1

Hole No. 1 was collared on September 15 at coordinates: 6283 E, 9409 N. It has a direction of S 75° W, inclination of -45°. On September 30 it had a depth of 664 feet, all NXWL size. A graphic log of this hole is attached.

Structures 2 and 4 occur together at the location of Hole No. 1 where a series of barite veins in altered and bleached quartz latite occurred from 167' to 192.5'. The Smuggler structure was cut between 376' and 398', with the true width of overall structure 12 feet. From the original projection and mercury halo location of the apex, the Smuggler has a dip of 77° here.

The Smuggler has a hole intercept of 16.5 feet of hard, vuggy, tan calcite, with several feet of chlorite on either side. When wet with drill water the chlorite sections swelled (montmorillonite ?) and siezed the drill rods, forcing the contractor to cement the section. He was able to continue with NXWL hole, however.

This hole passed through Structure No. 2 at too high an elevation to expect significant, visible mineralization. Additional sampling is to be done later in the upper portion to detect mineralization halo conditions that doubtless exist here. The occurrence of galena, sphalerite and silver (see log) is important evidence as to the existance of vein conditions.

Hole No. 2

Hole No. 2 was collared at coordinates: 5862 E, 9607 N, on September 10. It has a direction of N 75° E, inclination -60°. Casing was set in bedrock at 20 feet and the hole was drilled NXWL to 231', where a twisted off bit and bad drilling conditions forced the contractor to case to that depth. The hole was then completed to 477 feet with BXWL size. Core recoveries, lengths of runs, geology, sample locations and results, etc. are shown on the graphic log attached. In two instances the bit dropped an appreciable distance: at 26 feet for 1.5 feet, and at 224 feet for 2.5 feet.

Two significant geological features were encountered. One was the presence of a 12-foot (true width) structure from 217' to 236', characterized by alteration and clay on both walls and 11 feet of tan calcite between them. This coincides with original projections of the positions of the Smuggler vein and Structure No. 4, and fits with the mercury halo anomaly from a survey made this season. The Smuggler and Structure No. 4 cannot be distinguished in the core or halo profile as separate features.

The second conspicuous feature is a zone of light- and pinkish-gray, bleached-appearing Snowshoe Mountain quartz latite extending from the calcite to the bottom of the hole. It is vuggy, iron oxide-stained, frequently baritic and, although no ore minerals could be seeen in it, the interval from 430' to 435' sampled 0.6% copper. Additional samples will be taken above and below this intercept to confirm copper occurrence and appraise its extent.

In this environment of mineralization, from 378' to 397' only 2.5 feet of core were recovered from 19 feet of hole, and again from 399' to 405' only one foot was recovered. Doubtless the material drilled was ground up and washed away, and since this feature projects to the location of Structure No. 2, deductively only the wall rock near the vein(s) of the structure has been recovered in the core.

Metallization, alteration and coring incompetence, coupled with the mercury halo profile, S. P. anomalies and last year's trenching results prove that Structure No. 2 is of considerable size and strength and that it is mineralized.

Hole No. 3

Hole No. 3 was collared at coordinates: 6184 E, 9991 N, on September 30. It has a direction of S 75° W, inclination of -45°. Circulation was lost immediately after setting casing at 20 feet. The hole had reached a depth of 37 feet at the end of the month, NXWL size.

A graphic log for this hole will be presented with the October report. The material encountered in bedrock was light-gray, weathered Snowshoe Mountain quartz latite. Only 0.5 feet of core was recovered from 20' to 27' and none from 27' to 37'.

October 27, 1966 Operator - MK Exploration Co.

Per John J Kelley Title V. Pres.

MAPS:

Graphic Log of DDH No. 1
Graphic Log of DDH No. 2
Cross Sections of Holes 1 and 2
Sketch showing hole locations

GRISWOLD & NICHOLS

ASSAYERS AND CHEMISTS

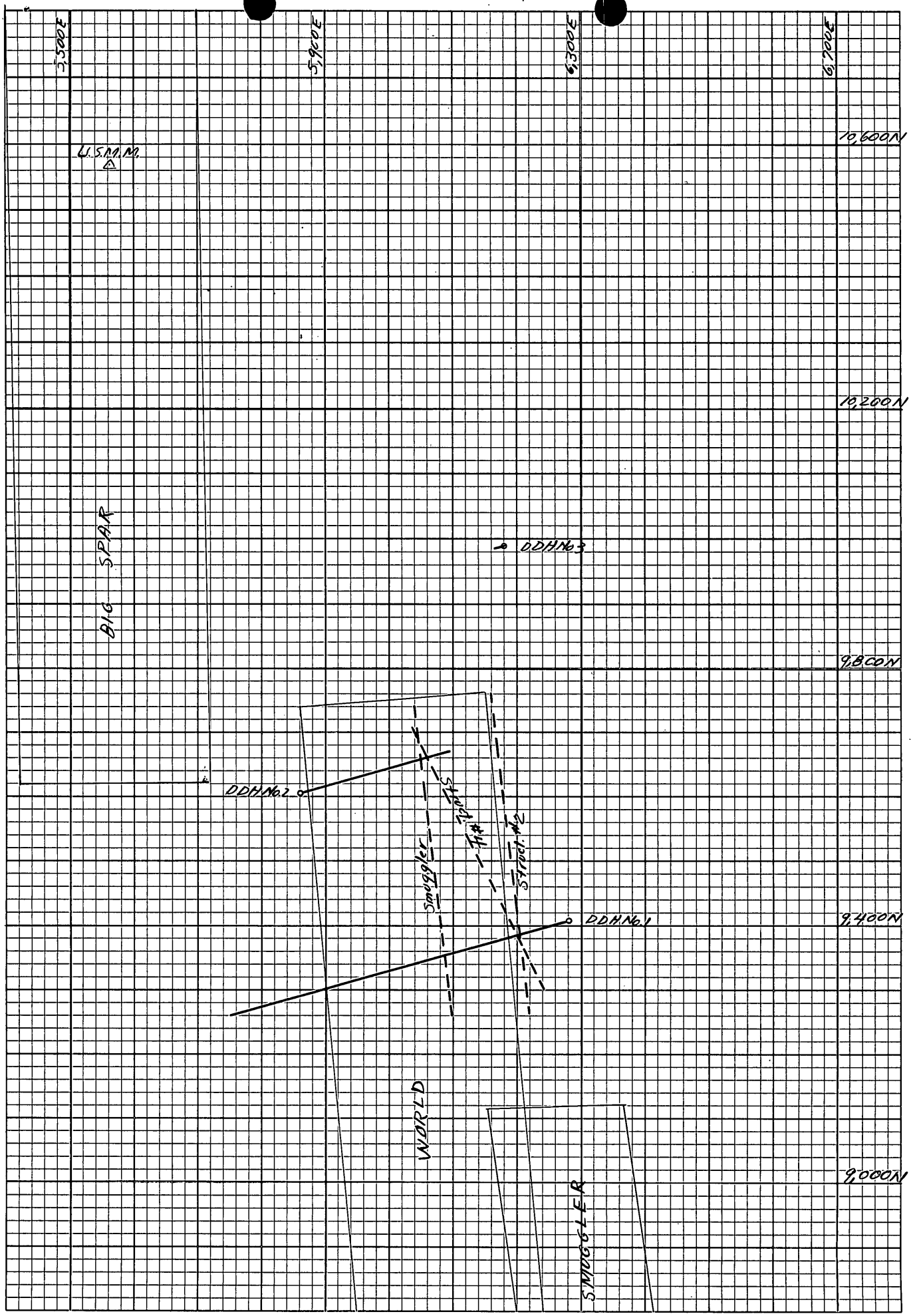
REPORT OF ASSAY

[illegible] 27, 1944

[illegible]	No.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]										
[illegible]										
[illegible]-147	1	Trace	0.20							
[illegible]-183.5	2	Trace	0.40							
[illegible]-192.5	3	Trace	5.00	5.85		5.95				
[illegible] 42										
[illegible]30	1	Trace	0.20							
[illegible]37	2	Trace	Trace							
[illegible]53	3	Trace	Trace							
[illegible]63	4	Trace	Trace							
[illegible]67	5	Trace	Trace							
[illegible]69	6	Trace	Trace							
[illegible]-157	6-A	Trace	Trace							
[illegible]-195	7	Trace	Trace							
[illegible]-198	8	Trace	Trace							
[illegible]-212	9	Trace	Trace							
[illegible]-217	10	Trace	Trace							
[illegible]-222	11	Trace	Trace							
[illegible]-227	12	Trace	Trace							
[illegible]-232	13	Trace	Trace			None				
[illegible]-237	14	0.01	0.10							
[illegible]-435	15	Trace	Trace	None	0.[illegible]					

REMARKS

CHARGES $ 64.50



10 Squares to the Inch

SKETCH SHOWING HOLE LOCATIONS 1"=200'

- - - - - - Approx. vein apices

GRAPHIC LOG - DDH NO. 2

MK EXPLORATION COMPANY, OPERATOR

SPAR CITY, MINERAL COUNTY, COLORADO

OME - 6440 (Silver)

Contract No. 2226

DIRECTION: N 75° E

INCLINATION: -60°

COORDS: 5862E, 9607N

DRILLED: Sept. 11-22, 1966

	Core Runs & Recovery	Depth 1" = 20'
Soil, clay and weathered Ts rocks (overburden)	13.0	0
Set 3" casing, start NX hole		
Gray, fine-grained, weathered Tc or Ts, often clay in zones up to 2' long	4.0	
Bit dropped 1.5' @ 26'.	2.5	Au-Tr Ag-0.20
	5.0	
	1.0	Au-Tr. Ag-Tr.
	4.5	
	1.0	
	1.5	50 Au-Tr. Ag-Tr.
Gray and tan clay, no hard rock. Tc?	1.0	
	1.5	
	1.0	Au-Tr.
Tan and brown clay, streaked dark blue or black. Tc?	4.0	Ag-Tr. Au-Tr
		Ag-Tr
		Au-Tr; Ag-Tr.
Blue clay, soft, no rock. Tc?	10.0	
Tan & brown, alt. Ts, FeOX & MnO stained. Contains volcanic fragments up to 3/8", also alt.	9.0	
Mottled dk. gray latite with pink, red & dk. volcanic breccia frags. Feldspars alt. to calcite.		
Blue clay changing to sandy, FeOx-st. alt. latite	10.0	
Alt. Ts, rubbly, mod. soft. Calcite streak @ 93'		
Greenish tan, alt. Ts. Rubbly in upper part, lg. alt. phenocrysts in lower, ltttle calcite.	10.0	100
Intensely alt. Ts, lt. gray, core disintegrates		
Mottled, purplish-gray, rubbly Ts, mod. hard, no caldite	10.0	
	3.0	
Dk. gray, fine-grained, less rubbly Ts	3.0	
	8.0	
Lt. to med. gray, rubbly, alt. Ts. Core tends to disintegrate locally.	8.0	
	10.0	150
Med. gray, densely welded Ts. Alt. slight		
Fine, tan sand	sand	Au-Tr; Ag-Tr
Med. gray, mod. to densely welded Ts, little rubble	6.0	
Mottled, dk. gray, slightly rubbly, less densely welded Ts. 0.5' clay 176.5 - 177.0. Calcite	4.0	
	7.0	
Same as above, no clay		
Poorly welded, alt. Ts. Much fine, reddish rubble, calcite	10.0	
Gray, densely welded, slightly alt. Ts por. Alt. intense @ 193'	7.0	
Vuggy, gray calcite.		Au-Tr; Ag-Tr. Au-Tr; Ag-Tr.
Med. gray, intensely to mod. alt. Ts, slight to mod. calcite, core tends to disintegrate locally.	10.0	200
	4.0	
Brown sand	sand	Au-Tr.; Ag-Tr.
Moderately welded, gray Ts, no rubble	3.0	Au-Tr.; Ag-Tr.
Mod. welded, gray Ts, alt. increasing. Core tends to disintegrate.	3.0	Au-Tr; Ag-Tr.
Tan calcite containing disseminated, unidentifiable, black mineral. Bit dropped 2.5' @ 224'. Start BX hole @ 231'.	1.5 2.0	Au-Tr; Ag-Tr. Au-Tr.; Ag-Tr.
Gray, alt. Ts & clay. Core in small pieces.	1.5 2.5	Zn-0 Au-0.01; Ag-0.10
	7.0	
Gray & pinkish-gray, moderately welded and altered Ts. Mottled with brownish-black biotite and large, altered, white feldspar inclusions and phenocrysts.	10.0	250
	1.0	
	10.0	
Same as above but more pinkish, contains veinlets of dk. gray, fine-grained por. Densely welded & alt. Ts.		
Same as above without veinlets.	10.0	
	10.0	
Densely welded, pinkish- to lavender-gray, slightly alt. Ts. FeOX on joints & in halos. Vuggy, with barite, MnO (?), & FeOX lining vugs. Greenish-yellow staining on some fracts.	10.0	
	10.0	300
	10.0	
Densely welded Ts, gray, vuggy, FeOX & barite on joints & in vugs.		
Green por., mottled white	10.0	
Lt.- to med.-gray, slightly alt. Ts. FeOX stains. Minor barite @ 323.	1.0	
	6.5	
	2.0	
	7.0	
		350
	4.0	
	3.0	
	7.0	
Light-gray Ts. May be bleached, FeOX staining. Sometimes pinkish- to purplish-gray. Hard.	4.5	
	1.0	
	1.5	
	1.5	400
	0.5	
	0.5	
	5.0	
Occasionally very dense, as @ 425'. Porphyritic, no rubble. More bleached & vuggy 437-442.	3.0	
	1.5	
	5.0	
	2.5	
	5.0	Au-Tr.; Ag-Tr. Pb-0; Cu-0.60
1" seam reddish-brown mud @ 443'	2.0	
	3.0	
	5.0	
	8.0	450
	3.0	
	5.0	
	8.0	
	5.0	477

EXPLANATION: Tc - Creede Formation
Ts - Snowshoe Mtn. Formation

Log data accompanying
Sept. monthly voucher

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

OFFICIAL BUSINESS

PAYMENT OF POSTAGE, $300
(PMGC)

Office of Minerals Exploration
Building 25-Room 2284

September 16, 1966

OFFICIAL COPY
O. M. E.
RECEIVED
SEP 19 1966

INITIALS	CODE
	1200
	110
	1208

Mr. Frank M. McKinley, President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Dear Mr. McKinley:

Enclosed is a 12-months supply of monthly report forms: MME Form 60 "Operator's Monthly Voucher" and MME Form 61 "Operator's Progress Report".

Article 5b of the subject contract states: "The Operator shall provide the Government with four copies of monthly reports in three sections as follows:

(1) Operator's Monthly Voucher claiming costs for work performed;

(2) Operator's Progress Report showing the number of units of the various types of work performed; and

(3) a narrative report of the work performed during the reporting period, including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government; however, the original of the Operator's Monthly Voucher shall be supported by documentary evidence, such as certified copies or transcripts of payrolls and invoices, for all costs claimed under Article 6(a) (1).)

Sincerely yours,

J. William Hasler

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

Chief, OME

cc: OME chron
Hasler chron
2226

IN REPLY REFER TO:

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

Office of Minerals Exploration
Building 25- Room 2284

September 15, 1966

OFFICIAL COPY
O. M. E.
RECEIVED
SEP 19 1966

INITIALS	CODE
gla	130
	120 m
JJ	110
RMS	130

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: OME Docket 6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract No. 2226

Transmitted herewith are the executed Government's and Budget and Finance's copies of the subject contract. I am retaining the Field Office's copy of the subject contract.

J. William Hasler

Office of Minerals Exploration
Building 25- Room 2284

September 13, 1966

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O. M. E.
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SEP 14 1966
INITIALS | CODE
HR | 120K

Mr. Frank McKinley, President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Contract No. 2226

Dear Mr. McKinley:

Enclosed are the original and two copies of a proposed contract for the subject mine. The contract consists of MME Form 50 (7 pages), Annex I (2 pages), 2 Lien and Subordination Agreements, Exhibit A (5 pages), Exhibit B (1 page), and two maps (Figures 1 and 2). Revised Figure 1 is to be added. All copies of the contract have been signed for the Government. The date for commencement of the work should be inserted.

If the proposed contract is satisfactory to you, all three copies should be signed by an authorized representative of the company.

Please be advised that the 7-1/4 percent interest accrues from the dates on which individual payments are made by the Government and like the principal is repayable from royalty on production.

If any part of the proposed contract does not have your approval, the original and all copies should be returned to this office together with the proposed changes for consideration.

Sincerely yours,

J. William Hasler

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

Enclosures

cc: Chief, OME ✓ OME chron Hasler chron OME-6440

Form 7

OFFICIAL FILE COPY

Date	Surname	Code
9/6	Kirkemo	
9-7	[illegible]	
9/7	[illegible]	
9/8	cac	2 112
		170 M

AIRMAIL

Memorandum

To: Field Officer, Region III

From: Acting Chief, Office of Minerals Exploration

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Enclosed are the original and three copies of a proposed contract for the subject mine. The contract consists of MME Form 50, (7 pages), Annex I (2 pages), 2 Lien and Subordination Agreements, Exhibit A (3 pages), Exhibit B (1 page), and two maps (Figures 1 and 2). Revised Figure 1 is to be added. All copies of the contract have been signed for the Government. The date for commencement of the work should be inserted. Also enclosed is an extra copy of the contract for field use.

If the proposed contract is satisfactory to you and the Applicant, all four copies should be signed by an authorized representative of the Applicant. Thereafter, please distribute the copies in the usual manner.

Please advise the Applicant that the 7½ percent interest accrues from the dates on which individual payments are made by the Government and like the principal is repayable from royalty on production.

If any part of the proposed contract does not have your approval or that of the Applicant, the original and all copies should be returned to this office together with the proposed changes for consideration.

Several minor corrections in the original print of Figure 1, "Claim Map of the Spar City Area . . ." have been brought to your attention. We have not received copies of the corrected map so in the interest of not further delaying preparation of the contract, please insert in proper sequence and attach to each copy of the contract a correct copy of Figure 1.

Harold Kirkemo

Harold Kirkemo

Enclosures

cc: Director's Reading File
Division File
Economic Geology File
OME Docket

OME Reading File
130
Kirkemo
HKirkemo/mm (9/6/66)

23263

MME FORM 6 REFERENCE SLIP

REV. 2-59 OFFICE OF MINERALS EXPLORATION

TO:	DATE	INITIALS
1. ~~Associate Solicitor, 6042~~		
2. Harold Kirkemo, 4460		
3.		
4.		
5.		

RECEIVED
AUG 30 1966
Division of Mineral Resources
General Legal Service

FROM: F. E. Johnson 8/26/66

FOR: Check items for action desired

x Action	____ Reply for signature of ____	
x Approval	____ Investigate	____ Surname
____ Comment	____ Recommendations	____ Signature
____ Conference	____ Rewrite	____ File
____ Instructions	Your information	

REMARKS:

H-66-2119.11

FROM SOLICITOR
SEP 6 1966
FOR SIGNATURE

INTERIOR DEPT.
AUG 29 1966
SOLICITOR

DUP. SEC., WASH., D.C. M56300-62

DRAFT
FEJohnson/bih
HKirkemo/gla

MME Form 50
July 1965

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

Docket copy
(Note "FEJ" on Annex I)

EXPLORATION CONTRACT
(Long Form)

Docket No.	Commodity	Contract No.	County	State
OME -6440	Silver		Mineral	Colorado

It is agreed _____ (Date), between the United States of America, acting through the Department of the Interior, U. S. Geological Survey, hereinafter called the "Government," and

MK Exploration Company, a Colorado corporation

whose mailing address is **2955 Cherryridge Road, Englewood, Colorado 80110**, hereinafter called the "Operator," as follows:

ARTICLE 1. Authority and scope.--(a) This contract entered into under the authority of Public Law 701, 85th Cong., 2d sess. (72 Stat. 700; 30 U.S.C. § 641 - 646), consists of this form, the attached Annex I (land description), Exhibit A (work and costs), and the maps and documents listed. The work is a search for new or unexplored deposits of the commodity designated above. The Operator shall begin the work on or before _____ (Date), and, subject to the provisions of Article 9 and Exhibit A, shall either have completed the work within 12 months from the date of the contract or shall have incurred allowable costs (see Article 6) in a sum not less than the total cost set forth in Exhibit A.

(b) The total allowable cost of the work set forth in Exhibit A is $31,~~400.00~~ 080.00. The Government will contribute 75 ~~50~~ percent of the allowable costs as they are incurred, in a total sum not in excess of $23,~~250.00~~ 810.00 in accordance with the provisions of Articles 3, 4, 5, and 6. "Costs incurred" means costs that have been paid or have become due and payable, or that the Government determines have become obligations.

(c) Interest computation.--Simple interest at the rate of _____ percent shall accrue from the dates Federal funds are made available until the period specified for payment of royalty expires, or until the amount of Federal funds contributed is fully repaid with interest.

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

ARTICLE 2. Operator's right in land.--(a) The Operator represents and undertakes that Annex I correctly describes the land which is the subject of this contract and the nature of the Operator's right of property and possession therein (whether as owner, lessee, or otherwise), and that such right, title, or interest is subject only to the following claims, liens, or encumbrances:

See Annex I

(b) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above and (if the Operator does not hold the legal title) the lien agreement of any holder of the legal title of the land (lessor, seller, optionor, etc.) are attached as follows:

See Annex I

(c) The Operator shall preserve and maintain his right, title, or interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. The Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a royalty on production and liens for the payment thereof. Two true copies of such instrument shall be furnished to the Government. If the Government's rights to royalty as provided in Article 7 have been terminated, the provisions of this paragraph (c) shall become inapplicable.

ARTICLE 3. Performance of the work.--(a) Operator's responsibility.--The work shall be performed diligently, efficiently, in a workmanlike manner in accordance with good mining standards, and in compliance with State laws governing health, safety, and liability insurance covering employment. The Operator shall provide suitable and adequate equipment, facilities, materials, supplies, and labor to complete the work as specified in Article 1(a).

(b) Independent contracts.--To the extent that the allowable costs are estimated in Exhibit A with express reference to performance by independent contractors on a unit-price basis (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations), the work may be so performed (see Article 6(a), Category (1)). Any such independent contract shall refer to some specific and identifiable part of the work, and shall be subject to all of the pertinent terms and conditions of this exploration contract; but the Government shall not be considered a party thereto, and its rights under this contract, including the right to terminate its contributions, shall not be affected thereby. Regardless of the provisions of any such independent contract, the Government will participate in payments to the independent contractor only as to work performed in accordance with the provisions of this exploration contract, and only to the extent that the Government deems the unit prices for the work under the independent contract to be reasonable.

(c) Government may inspect.--The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract and production operations during the period that royalty is payable to the Government. The Operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 4. Contribution by the Government.-- The Government will make its contribution on the basis of the monthly vouchers referred to in Article 5(b), but all payments by the Government are provisional only, subject to audit. Until the account between the Operator and the Government is finally audited and settled and the Operator's final report has been received, the Government may withhold such sums as are necessary to protect its interests. The Government may make payments for the account of the Operator directly to independent contractors and suppliers rather than to the Operator.

ARTICLE 5. Reports, accounts, audits.--(a) Operator's records.--The Operator shall keep suitable records and accounts of the work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine all pertinent books, documents, papers, and records of the Operator. If work under this contract is carried on in conjunction with any other operations, or if labor, supervision, services, materials, supplies, equipment, facilities, or other requirements for carrying on the work are also used in connection with other operations, the costs shall be segregated and accounted for on a basis and by methods and accounts that are satisfactory to and approved by the Government.

(b) Monthly reports.--The Operator shall provide the Government with four copies of monthly reports in three sections as follows:

(1) Operator's Monthly Voucher claiming costs for work performed;

(2) Operator's Progress Report showing the number of units of the various types of work performed; and

(3) a narrative report of the work performed during the reporting period, including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground.

(Forms for reporting under (1) and (2) above will be provided by the Government; however, the original of the Operator's Monthly Voucher shall be supported by documentary evidence, such as certified copies or transcripts of payrolls and invoices, for all costs claimed under Article 6 (a) (1).)

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

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

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

ARTICLE 6. Costs.--(a) Allowable costs.--The allowable costs of the work to which the Government will contribute are limited to:

(1) the necessary, reasonable, and direct actual costs that are estimated in Exhibit A by categories as specified in this article; and

(2) fixed costs for units of work to be performed (per foot, per hour, etc.) agreed upon in lieu of actual costs and set forth in Exhibit A.

The Government will not contribute to costs under any category or subcategory omitted from the estimate of costs in Exhibit A. Any excess over any estimate which is indicated as the maximum of any category, subcategory, or item, either as to requirement or related cost; any excess over a fixed unit cost; and any excess over the total allowable cost of the work are not allowable. The Operator shall incur such excesses for his own account without contribution by the Government, but the Operator is not obligated to incur more than his agreed percentage of the total allowable cost of the work.

Any category or subcategory or element thereof not designated as a maximum in this article, or in Exhibit A may be exceeded, provided that the total allowable cost of the work, which is a maximum, is not exceeded.

CATEGORY (1)--INDEPENDENT CONTRACTS.--(See Article 3(b)). The total of this category and the average unit cost estimated for each type of work to be performed under an independent contract are maximums.

CATEGORY (2)--PERSONAL SERVICES.

Subcategory (a)--Supervision and Technical Services--All elements of this subcategory (number of supervisors, technicians, outside consultants, periods of employment, rates of pay, and total) are maximums.

Subcategory (b)--Labor.

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

CATEGORY (4)--OPERATING EQUIPMENT.

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

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

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

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

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

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

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

CATEGORY (7)--MISCELLANEOUS.--Includes requirements and costs that do not fall within any of the first six categories, such as repairs other than initial and maintenance of operating equipment, analytical work, prints and other reproductions, accounting, Operator's share of payroll taxes, liability insurance covering employment, travel, and communications.

(b) Nonallowable costs.--In addition to the limitations imposed by paragraph (a) of this Article 6 the Government will not contribute to the following costs:

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

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

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

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

(c) Reductions in costs.--The Operator shall account for and give the Government credit for any incidental benefits, credits, or money received in the ordinary course of business in prosecuting the work (as by salvage or sale of materials or equipment, furnishing of room or board, furnishing of power or services to third persons, rebates or discounts on purchases, etc.), in the same ratio in which the Government contributes to costs; and such amounts shall be treated as a reduction in costs incurred so that they are available for use within the limit of the original total cost. The provision does not apply to receipts from production which are subject to the Government's royalty under the provisions of Article 7.

ARTICLE 7. Repayment by Operator.--(a) Certification.--If the Government considers that mineral or metal production from the land covered by the contract may be possible as a result of the exploration work, it shall so certify in writing to the Operator at any time not later than six months after a sufficient final report and final accounting (see Article 5) have been furnished.

(b) Royalty on production.--The Operator, whether or not the producer (for example, if the Operator either transfers or does not retains his interest in the land), shall pay to the Government a royalty on all minerals and metals mined or produced from the land as follows:

(1) irrespective of any certification of possible production--from the date of the contract until the lapse of the time within which the government may issue such certification or until the total net amount contributed by the Government is fully repaid with interest, whichever occurs first; or

(2) if the Government issues a certification of possible production--for a period of ten years from the date of the contract, or until the total net amount contributed by the Government is fully repaid with interest, whichever occurs first.

(c) Payment of royalty.--(1) The Government's royalty shall be five percent of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrate, metal or equivalent), at the point of delivery (the f.o.b. point); except, that charges of the buyer arising in the regular course of business and shown as deductions on the buyer's settlement sheets (such as treatment processes performed by the buyer, sampling and assaying to determine the value of the production sold, and freight payable by the buyer to a carrier (not the Operator or producer)), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. No costs of the Operator or Producer are deductible in arriving at the "gross proceeds" as that term is here used.

The term "treatment processes" means those processes (such as milling, concentrating, smelting, refining, or equivalent, but excluding fabricating or manufacturing) applied to the crude ore or other production after it is extracted from the ground to put it into a commercially marketable form.

(2) The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be.

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

(e) Lien for payment.--To secure the payment of royalty (see Article 7(b)), the Operator hereby grants to the Government a lien upon his interest in the land and upon any production of minerals and metals therefrom until the royalty claim is extinguished by lapse of time or is fully paid.

(f) Notice to purchasers.--The Operator or producer shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Government, and this estimate shall be final and binding upon the Operator or producer.

(g) No obligation to produce.--Nothing in this contract shall be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

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

ARTICLE 8. Interests in purchased property.--(a) Title and ownership.--All costs under this contract shall be incurred by the Operator in the Operator's own name and for the Operator's own account; but any property acquired to the cost of which the Government contributes shall belong to the Operator and the Government jointly in proportion to their respective contributions although title thereto shall be taken in the name of the Operator.

(b) Preservation of property.--Until the final disposal of any property in which the Government has an interest, the Operator shall preserve and protect same for the best interest of the Government, and any reasonable and necessary cost thereof will be treated as an allowable cost of the exploration. After the completion of the work, termination of the Government's obligation to contribute, or when such property is not being used for the work, the Operator shall not use it elsewhere without the written consent of the Government and without paying a reasonable rental to be fixed by the Government for its proportionate interest.

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

(d) Default of the Operator re disposal.--If within 90 days after the completion of the work, termination of the Government's obligation to contribute to costs, or after the property is no longer needed for the work, the Operator has failed to sell or otherwise liquidate or dispose of any property in which the Government has an interest, the Government, at any time prior to final settlement under the contract, may:

(1) in writing extend the time within which the Operator must dispose of or liquidate the property;

(2) by written notice to the Operator, place upon such property what it determines to be a fair valuation thereof, not in excess of the cost less 1.66 percent per month from the date such property was purchased under this contract to the termination of said 90-day period; and such property shall thereupon be considered and accounted for as having been purchased by the Operator at the valuation so fixed by the Government; and

(3) enter and take possession of such property wherever it may be found, and remove and dispose of it for the joint account of the parties.

ARTICLE 9. Termination of the Government's obligations.--(a) If the Government determines that operations at any time have failed to achieve anticipated results and further work is not justified, the Government may give the Operator written notice thereof, and thereupon:

(1) the Government shall be free of all obligation to contribute to costs not then incurred other than such as may be allowable under the provisions of the contract as necessary and incidental to final accounting and reporting; and

(2) the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to final accounting and reporting.

(b) If the Government determines that the Operator is in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon:

(1) the Government shall be relieved of all obligation to contribute to costs not incurred when the notice was given, other than such as may be allowable by the provisions of the contract as necessary and incidental to final accounting and reporting; and

(2) the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to final accounting and reporting.

The Government may also avail itself of any other remedy the law may provide for breach of contract, including the right to rescind the contract and to demand repayment of all moneys contributed by the Government under the contract.

(c) The giving of any notice by the Government under the provisions of this Article 9 shall not affect the Government's rights as provided for in the contract with respect to royalty and liens to secure the payment thereof, and such rights shall be fully preserved.

(d) The determinations of the Government are subject to appeal under Article 13.

ARTICLE 10. Notices to be given by the Government may be delivered to the Operator, or may be sent by certified mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 11. Officials not to benefit.--No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 12. Nondiscrimination in Employment. The provisions respecting nondiscrimination in employment which are required by section 301 of Executive Order 10925, dated March 6, 1961 as amended and supplemented are attached hereto as Exhibit B and are hereby incorporated in and made a part of this contract.

ARTICLE 13. Disputes.--Any dispute arising under this contract which is not disposed of by agreement shall be decided by the Director, U. S. Geological Survey, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Operator. The decision of the Director, U. S. Geological Survey, shall be final and conclusive unless, within 30 days from the date of receipt of such copy, the Operator mails or otherwise furnishes to the Director, U. S. Geological Survey, a written appeal addressed to the Secretary of the Interior. The decision of the Secretary or his duly authorized representative for the determination of such appeals shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence.

The term "Director, U. S. Geological Survey," as used herein includes his duly authorized representative.

ARTICLE 14. Work Hours Act of 1962 - Overtime Compensation.--This contract, to the extent that it is of a character specified in the Work Hours Act of 1962 (Public Law 87-581, 76 Stat. 357-360) and is not covered by the Walsh-Healey Public Contracts Act (41 U.S.C. 35-45), is subject to the following provisions and to all other provisions and exceptions of said Work Hours Act of 1962.

(a) Overtime requirements.--No Operator or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic to be employed on such work in excess of eight hours in any calendar day or in excess of forty hours in any workweek unless such laborer or mechanic receives compensation at a rate of not less than one and one-half times his basic rate of pay for all hours worked in excess of eight hours in any such calendar day or in excess of forty hours in any such workweek, as the case may be.

(b) Violations; liability for unpaid wages; liquidated damages.--In the event of any violation of the clause set forth in subparagraph (a) of this paragraph, the Operator and any subcontractor responsible therefor shall be liable to any affected employee for his unpaid wages. In addition, such Operator and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for

liquidated damages. Such liquidated damages shall be computed, with respect to each individual laborer or mechanic employed in violation of the clause set forth in subparagraph (a) of this paragraph, in the sum of $10 for each calendar day on which such employee was required or permitted to work in excess of eight hours or in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (a) of this paragraph.

(c) Withholding for unpaid wages and liquidated damages.--The U. S. Geological Survey may withhold or cause to be withheld, from any moneys payable on account of work performed by the Operator or subcontractor, such sums as may administratively be determined to be necessary to satisfy any liabilities of such Operator or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (b) of this paragraph.

ARTICLE 15. Copeland (Anti-Kickback) Act--Nonrebate of wages.--The regulations of the Secretary of Labor applicable to contractors and subcontractors (29 CFR, Part 3), made pursuant to the Copeland Act, as amended (40 U. S. C. 276c) and to aid in the enforcement of the Anti-Kickback Act (18 U. S. C. 874) are made a part of this contract by reference. The Operator will comply with these regulations and any amendments or modifications thereof and will be responsible for the submission of affidavits required of independent contractors thereunder. The foregoing shall apply except as the Secretary of Labor may specifically provide for reasonable limitations, variations, tolerances, and exemptions.

ARTICLE 16. Changes and added provision.--

_____

_____

_____

_____

Executed in quintuplicate the day and year first above written.

MK EXPLORATION COMPANY

_____
(Operator)

By_____

Title_____

THE UNITED STATES OF AMERICA

By_____
Director, U. S. Geological Survey

_____

I, _____, certify that I am the
(Name)

_____ secretary of the corporation named as Operator herein; that

_____, who signed this contract on behalf of the Operator, was then
(Name)

_____ of said corporation; that said contract was duly signed for
(Title)

and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

_____

 [CORPORATE SEAL]

DRAFT
FEJohnson/bih
HKirkamo/gla

Docket copy

HK

EXPLORATION CONTRACT
MK EXPLORATION CONTRACT COMPANY
CME-6440

ANNEX I

The land referred to in Article 2 of the contract consists of 8 patented claims, known as the Bird Creek Mine group, 8 unpatented claims known as the Larson group, 22 unpatented claims adjacent to or overlapping the above-mentioned groups, and the patented Big Spar Claim, all within secs. 22, 23, 25, 26, 27, and 35, T. 40 N., R. 1 W., (unsurveyed) in the Royal Arch mining district, Mineral County, Colorado.

All claims pertaining to the contract are shown on Figure 1, entitled, "Claim Map of the Spar City Area, showing MK Exploration Company Owned and Leased Property," which is attached and made part hereof.

The Bird Creek Mine group listed below is held under an "Option to Purchase Mining Claims" from the Mineral County Mining and Milling Company, dated January 8, 1965, and recorded in Book 110-J, page 188, Mineral County Court House, Creede, Colorado.

Claim No.	Patent Survey No.
Smuggler	16670
Smuggler No. 1	16670
Percent No. 1	16670
Big Percent	16670
Little Percent	16670
Percent No. 12	19538
Percent No. 15	19538
World	8294

Lien and Subordination Agreements, dated March 20, 1965, covering the above-listed claims is attached and made part hereof.

The Larson group of unpatented claims listed below is held under an "Option to Purchase Mining Claims" from Harry L. Larson and Mary L. Larson, dated February 15, 1965, and recorded in Book 110-J, page 189, Mineral County Court House, Creede, Colorado. The claims are recorded as follows:

Claim Name	Book	Page
Royal Basin No. 1	4B	272
Royal Basin No. 2	4B	272
Royal Basin No. 3	4B	271
Little Anna	4	194
Laura Etta	4B	307
Laura Etta Extension	4B	319
Theresa	4B	555
Columbine	4B	555

(Indent 10) Lien and Subordination Agreements, dated March 17, 1965, covering the above-listed claims is attached and made part hereof.

Unpatented lode claims, A-1 through A-22, adjacent to or overlapping the aforementioned two groups of claims and an undivided 3/4 interest in the patented Big Spar Claim, Patent Survey No. 7795, are owned by the MK Exploration Company. These claims are recorded in Book 110-J, page 171, Mineral County Court House, Creede, Colorado.

EXPLORATION CONTRACT
MK EXPLORATION COMPANY
OME-6440

EXHIBIT A

The purpose of this project is to explore for silver-bearing ore deposits occurring in veins near fault intersections in volcanic rocks along the south flank of the Creede caldera.

General Provisions

The work shall be performed by diamond core drilling from the surface.

No work shall be performed within 200 feet of the exterior boundaries of the property.

Necessary access roads and drill sites shall be prepared by using a bulldozer model A-C HD-11 or other suitable dozer of comparable size.

an Allis Chalmers bulldozer or equivalent size of any other make.

All holes shall be cased through overburden and completed with BX standard or equivalent core size wireline equipment. The holes may be reduced to AX standard core size with the approval of the Government.

Significantly mineralized core shall be split and one split assayed for gold and silver. Where indicated by the mineralization, the core may be assayed also for lead and zinc, and for copper. The other split shall be stored in proper sequence with the unsampled core. No sample shall represent a core length greater than five feet.

Facilities shall be provided for recovering drill sludges. Sludge samples shall be retained when drilling in significantly mineralized formations.

Core from the diamond drilling shall be stored in boxes identified as to hole number with markers in the core sections indicating the depth represented. Sludge samples shall be stored in suitable containers also properly marked and identified as to source and location. The stored core and sludge samples shall be retained for Government inspection and possible use. With prior Government approval, the Operator may dispose of the core and sludge samples.

True copies of assay certificates of all samples shall be submitted with the Operator's monthly report which also shall include a map or sketch showing the work completed during the reporting period and the locations of all samples taken. The map or sketch also should show the general geological formations and structures traversed by the drill holes.

All drill holes shall be logged geologically and copies of the logs of the completed holes shall likewise be submitted with the Operator's monthly report.

The Operator shall provide such supervisory and technical services as may be required to complete the work in a satisfactory manner.

The location, direction, and extent of each work item shall be subject to prior Government approval. The Government will not participate in the costs incurred for incomplete holes or casing left in holes at the request of the Operator.

Description of the Work

The work shall consist of bulldozing necessary access roads and drill sites, and drilling four diamond core holes to be located approximately as indicated on Figure 2, entitled "Map Showing Proposed Exploration MK Exploration Company, Mineral County, Colorado," attached and made part hereof.

The approximate bearing, inclination, and length of each hole are indicated below.

Hole No.	Bearing	Inclination	Proposed Length
1	S. 74° W.	-45°	775'
2	N. 74° E.	-60°	475'
3	S. 74° W.	-45°	800'
4	S. 75° W	-45°	600'

~~Profiles of each hole through projected geologic structures are shown on Figures 3, 4, 5, and 6 which are attached and made part hereof.~~

Reasonable variance from the above description, depending upon topographical and geological features, may be made by the Operator with prior approval of the Government. ~~The location and direction of any hole may be changed upon prior approval of the Government.~~

Estimated Cost of Work

Actual Costs

Category (1) **Independent Contracts**

Bulldozing - Access roads and drill sites

40 hours @ $12.50/hr.	$500.00	~~$500x00~~
Mobilization and demobilization of drilling and auxiliary equipment and personnel	500.00	
Overburden drilling - 100 feet @ $8.00/ft.	800.00	
Diamond core drilling - 2,650 feet	16,876.25	

Bedrock to 250 feet, 1,000 feet -

BX Standard or
BX wire line @ $5.90/ft.
AX Standard @ $5.25/ft.

250 feet to 500 feet, 975 feet -

BX Standard or
BX wire line @ $6.40/ft.
AX Standard @ $5.70/ft.

500 feet to 750 feet, 600 feet -

BX Standard or
BX wire line @ $6.95/ft.
AX Standard @ $6.35/ft.

750 feet to 800 feet, 75 feet -

BX Standard or
BX wire line @ $7.55/ft.
AX Standard @ $7.10/ft.

Cement, drill mud, additives and hole plugging agents	1,000.00
Reaming and casing, 100 hours @ $13.00/hr.	1,300.00
Cementing and redrilling, 200 hours @ $13.00/hr.	2,600.00

Surveying with in-hole instrument		716.00	
32 hours @ $13.00/hr.	$416.00		
Instrument rental and transportation	300.00		$24,292.25

Category (2) Personal Services

None except:

Subcategory (a) Supervision and Technical Services		
1 - Supervisor-geologist-engineer, 3 months @ $750.00/mo.	$2,250.00	
1 - Outside geological consultant, 6 days @ $75.00/day	450.00	
Subcategory (b) Labor		
Carpenter, 64 hours @ $2.50/hr.	160.00	$2,860.00

Category (3) Operating Materials and Supplies

None except:

Cardboard core boxes, 265 @ $1.00/each	$265.00	
Sample bags, 500 @ $0.10/each	50.00	$315.00

Category (6) New Buildings, Fixtures, and Installations

None except:

Core storage shed (10' x 12')	$100.00	$100.00

Category (7) Miscellaneous

None except:

500 samples assayed for gold and silver @ $3.00/sample	$1,500.00	

250 samples assayed for lead and zinc @ ~~$2.50~~ 4.00/sample	~~625.00~~ 1,000.00	
100 samples assayed for copper @ $1.50/sample	150.00	
Transportation of samples	70.00	
Consultant's travel expenses Denver, Colorado, to Bird Creek property and return, 3 round trips, 1,650 miles @ $0.10/mile	165.00	
Consultant's per diem, 6 days @ $16.00/day	96.00	
Accounting and office expenses, 3 months @ $50.00/mo.	150.00	
F.I.C.A. payroll taxes, insurance, etc.	375.00	~~$ 3,043.50~~ 3,505.00
Total Estimated Actual Cost (rounded)		~~$31,400.00~~ 31,080.00

S U M M A R Y

Total Estimated Cost of Project	~~$31,400.00~~ 31,080.00
Government Participation @ 75%	~~$23,250.00~~ 23,310.00

Surveying with in-hole instrument		716.00	
32 hours @ $13.00/hr.	$416.00		
Instrument rental and transportation	300.00		$24,292.25

Category (2) Personal Services

None except:

Subcategory (a) Supervision and Technical Services		
1 Supervisory-geologist-engineer, 3 months @ $750.00/mo.	$2,250.00	
1 Outside geological consultant, 6 days @ $75.00/day	450.00	
Subcategory (b) Labor		
Carpenter, 64 hours @ $2.50/hr.	160.00	2,860.00

Category (3) Operating Materials and Supplies

None except:

Cardboard core boxes, 265 @ $1.00/each	$265.00	
Sample bags, 150 (500) @ $0.10/each	~~15.00~~ (50.00)	~~280.00~~ (315.00)

Category (6) New Buildings, Fixtures, and Installations

None except:

Core storage shed (10' x 12')		100.00

Category (7) Miscellaneous

None except:

150 (500) samples assayed for gold and silver @ $3.00/sample	~~$450.00~~ ~~$450.00~~ (1,500.00)	

250 75 samples assayed for lead and zinc @ ~~$2.50~~ $4.00/sample	1,000.00 ~~187.50~~	
100 50 samples assayed for copper @ $1.50/sample	150.00 75.00	
Transportation of samples	70.00	
Consultant's travel expenses		
Denver, Colorado, to Bird Creek property and return, 3 round trips, 1,650 miles @ $0.10/mile	165.00	
Consultant's per diem, 6 days @ $16.00/day	96.00	
Accounting and office expenses, 3 months @ $50.00/mo.	150.00	3506.00
F.I.C.A. payroll taxes, insurance, etc.	375.00	3,843.50 1,568.50
Total Estimated Actual Costs (rounded)		$29,100.00 31,400.00

S U M M A R Y

Total Estimated Cost of Project	31,400.00 $29,100.00
Government Participation @ 75%	$21,825.00 23,250.00

MK EXPLORATION COMPANY
2955 Cherryridge Road
Englewood, Colorado

August 15, 1966

OFFICIAL
COPY
O. M. E.
RECEIVED
AUG 19 1966
INITIALS | CODE
| 120
| 110

Chief, Office of Minerals Exploration
U. S. Geological Survey
Interior Building
Washington, D. C. 20240

Dear Sirs:

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

I apologize that inadvertently the enclosed Subordination agreements lacked having the year stated. I have now had this done and hope that they are in order and will permit you to proceed with the processing of our application.

Yours very truly,

MK EXPLORATION COMPANY

President

FMcKinley/aeb

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
U. S. Geological Survey -- Denver Federal Center
Building 25- Room 2284
Denver, Colorado 80225

OFFICIAL COPY
O. M. E.
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~~170~~ M
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120 K

August 12, 1966

To: Chief, OME

From: Field Officer, Region III

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Enclosed are 8 copies of a figure showing the applicants' claims and the proposed locations of the 4 diamond drill holes recommended for execution of an OME contract on the subject property.

done HK { Please insert this as figure 2 in your copies of the Report of Examination and the additional five copies are for inclusion in the contract.

J. William Hasler

cc: Chief, OME
OME chron
Hasler chron
6440

MME FORM 6 REFERENCE SLIP

REV. 2 OFFICE OF MINERALS EXPLORATION

TO:	DATE	INITIALS
1. Mr. J. W. Hasler, Field Officer		
OME Region III,		
2. Denver, Colorado		
3.		
4.		
5.		
FROM: Harold Kirkemo	8/9/66	

FOR: Check items for action desired

____ Action ____ Reply for signature of ____

____ Approval ____ Investigate ____ Surname

____ Comment ____ Recommendations ____ Signature

____ Conference ____ Rewrite ____ File

____ Instructions ____ Your information

REMARKS:

Re: OME-6440 MK Exploration Company

In reference to our phone conversation of today, returned are the original and 3 copies of Lien and Subordination Agreements signed by Harry L. and Mary L. Larson, on which the year is to be inserted.

HK

INT.-DUP. SEC., WASH., D.C. M56300-62

U. S. Geological Survey -- Denver Federal Center
Building 25- Room 2284
Denver, Colorado

August 12, 1966

OFFICIAL COPY

Mr. Frank McKinley, President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Dear Mr. McKinley:

Enclosed are four copies of Office and Minerals Exploration MME Form 52, Lien and Subordination agreements that were executed by your company and Mr. Harry Larson. The forms were not properly executed as they lack the year on the opposite side.

Please insert the year and return them to Chief, Office of Minerals Exploration U. S. Geological Survey, Interior Building, Washington, D. C. 20240 so they may proceed with the review of your OME application.

Sincerely yours,

J. William Hasler

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

Enclosures

cc: Chief, OME
OME chron
Hasler chron
6440

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
U. S. Geological Survey - Denver Federal Center
Building 25 - Room 2284
Denver, Colorado 80225

OFFICIAL COPY
O. M. E.
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| 120 S

July 20, 1966

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: Report of Examination, OME Docket 6440 (Silver)
MK Exploration Company, Bird Creek Mine
Mineral County, Colorado

Transmitted herewith is an original and two copies of a report of examination on the subject property recommending approval for the proposed exploration work herein outlined.

cc: Original and two copies of report to Chief, OME
OME chron
Hasler chron
OME-6440

J. William Hasler

ON-SITE REPORT

UNITED STATES

DEPARTMENT OF THE INTERIOR

STEWART L. UDALL, SECRETARY

U. S. GEOLOGICAL SURVEY

OFFICE OF MINERALS EXPLORATION

REPORT OF EXAMINATION

REGION III

ORIGINAL COPY
RECEIVED
JUL 25 1966
MINERALS CO.

OME DOCKET 6440 (SILVER)

MK EXPLORATION COMPANY

BIRD CREEK MINE

MINERAL COUNTY, COLORADO

by

J. William Hasler

June 1966

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Emma mine	8
Denver tunnel	8
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Figure 1. Claim maps of the Spar City area, Mineral County, Colorado showing MK Exploration Company Leased property.

Figure 2. Map showing proposed exploration, MK Exploration Company, Mineral County, Colorado

Figure 3. Profile of proposed diamond drill Hole No. 1, Mineral County, Colorado

Figure 4. Profile of proposed diamond drill Hole No. 2, Mineral County, Colorado

Figure 5. Profile of proposed diamond drill Hole No. 3, Mineral County, Colorado

Introduction and summary

The MK Exploration Company applied to the Office of Minerals Exploration to explore for Silver in the Bird Creek Mine area in the Royal Arch Mining district, Mineral County, Colorado, by diamond drilling several mineralized structures at depth. The application was referred to the field and an examination was made on May 11, 1966 in company with Mr. John Kelley, the applicants representative.

The property

The Spar City property lies in the Royal Arch Mining district, Mineral County, Colorado, some 15 miles south of Creede, Colorado and lies in Secs. 22, 23, 25, and 27, T. 40 N., R. 1 W.

The property is fairly well accessible over gravelled county roads south of Creede, Colorado to near Spar City a distance of some 12 miles, thence by good Forest Service and privately bull-dozed roads an additional 3 miles to the property at an elevation of approximately 10,860 feet above sea level, between Palo Alto and Bird Creek. The town of Creede, Colorado is the nearest shipping and supply point, and is served by a standard gauge branch line of the Denver and Rio Grande Railroad.

The MK Exploration Company has contractural rights for the following two groups of claims, and contracts are recorded in the Mineral County Court House at Creede, Colorado:

The Bird Creek Mine group from Mineral County Mining and Milling Company, recorded in Book 110-J, page 188.

Claim Name	Patent Survey No.
Smuggler	16670
Smuggler No. 1	16670
Percent No. 1	16670
Big Percent	16670
Little Percent	16670
Percent No. 12	19538
Percent No. 15	19538
World	8294

The Larson Group (unpatented from Harry L. and Mary L. Larson, recorded in Book 110-J, p. 189).

Royal Basin No. 1	Laura Etta
Royal Basin No. 2	Laura Etta Extension
Royal Basin No. 3	Theresa
Little Anna	Columbine

Additionally, MK Exploration Company owns the following land received from John J. Kelley, recorded at the Mineral County Court House, Creede, Colorado.

Twenty-two unpatented lode claims A-1 through A-22 adjacent to or overlapping the afore mentioned groups recorded in Book 110-J, page 171.

An undivided 3/4 interest in and to the Big Spar Lode Mining claim. Patent Survey No. 7795 recorded in Book 110-J, page 171. Figure 11. There are no liens, mortgages or other encumberances on the land.

Lien and Subordination Agreements from property owners on MME Form 52 accompany the original application.

Geology and ore deposits[1]

The Spar City district, a small mineralized area along the south flank of the Creede caldera in the central San Juan Mountains, southwest Colorado has been prospected sporadically since the early 1900's. Several mine workings were driven in the early days to explore some of the exposed veins in the district, and vein fragments containing galena, sphalerite, barite, manganese oxides, and jaspery to amethystine quartz are strewn over several of the old dumps. Detailed systematic exploration however has been discouraged by thick soil and dense forest cover, and by widespread landslide and glacial drift. Recent regional geologic studies in and adjacent to the Creede caldera have outlined the geologic framework of the Spar City district, and although many specific details remain obscure, the additional knowledge should help guide future prospecting and exploration programs.

The mineralized area in the Spar City district is localized near the intersection of two differently trending structures that were active during volcanic activity, and the known veins appear to be along minor faults associated with this intersection.

In detail, the Spar City district is localized near the intersection of a fault marking the southern extension of the core of the graben of the Creede caldera and a reactivated fault linking the northwest-trending tangential graben with the caldera margins. The exposed faults near the Bird Creek mine and Emma mine all appear to be minor fractures subsidiary to larger faults that seem required under the adjacent landslide and moraine cover. At its southern end, the core graben changes southward from a wide zone of jumbled fault blocks between persistent marginal

faults to a single fracture that can be followed closely north of Lime Creek. The position of the fracture adjacent to the mineralized area of the Spar City district, is hypothetical and depends strictly on projection from the well-defined trends farther north. The arcuate but generally east-trending fault postulated to separate the mineralized area of the Spar City district from the top of Fisher Mountain to the south also has not been seen in outcrop. A fault south of the Emma mine seem certainly required, however, by the relations of the distinctive coarsely porphyritic quartz latite flow that caps Fisher Mountain. The base of this flow is clearly exposed along the west side of the spur ridge extending north from the summit of Fisher Mountain. The base ranges from an elevation of 11,250 feet near the north end of the spur, to 11,400 feet near the south end. The same capping flow comprises all the island of outcrop containing the Emma mine and the Denver Tunnel a short distance northwest across the postulated fault; the flow extends as low as 10,750 feet near the Denver Tunnel, but the base is not exposed.

The east-trending fault required between the Emma mine area and the top of Fisher Mountain projects northwesterly toward the southwest margin of the tangential graben that extends northwestward from the Creede caldera. Overlap relations at the southwestern end of the graben closely indicates that the graben formed before the Creede Formation and the Fisher Quartz Latite were deposited, and thus the arcuate east-trending fault in the Spar City district appears to represent post-Fisher reactivation of older trends related to caldera subsidence.

The capping quartz latite flow on Fisher Mountain appears to have been the youngest lava flow deposited in this area. To the west, marginal breccias along the flank of this flow intertongue with sediments of the Creede Formation, and to the north a thin wedge of Creede Formation appears to separate the flow from the underlying Snowshoe Mountain Quartz Latite near the Bird Creek mine. All these younger rocks are cut by mineralized minor faults, indicating that late faulting and mineralization here as well as in the Creede district north of the caldera postulated accumulation of the Creede and Fisher. The exposed veins must have been deposited very near the surface, as the youngest Tertiary rocks deposited in the area form the host rocks. The common occurrence of barite, manganese oxides, and dense jaspery quartz in the gangues further suggests a near-surface environment of deposition. Deductively it would seem more probable that the present exposures represent the upper rather than the lower parts of the original vertical range of ore deposition, and that somewhat deeper levels may be more favorable for the discovery of ore deposits.

1/ Steven, T. A., 1964, Geologic setting of the Spar City District, San Juan Mountain, Colorado. Art. 146 in U. S. Geol. Survey Prof. Paper 475-D, p. 123-127.

History of the Royal Arch Mining District

Only spotty information about the history of the Spar City area is presently available, and most of this material has been obtained from old newspaper records "Creede Candle". The first discoveries must have been made about 1891, and only sparse records up to 1894 were in existence. A note of December, 1892 stated "The Emma mine has from 15 to 20 cars of ore on the dump that will run from 200 ounces silver up and will work all winter. Another quote of January 1893 "Major Burke has specimens from the Headlight, Morning .... that assays 84 to 1252 ounces in silver" (The Morning was not patented and its area is covered by claims A-8 and A-9). A quote of January, 1894 "A new streak in the Emma vein is heavy galena ore and runs 86 ounces silver and 45 percent lead."

The Bird Creek mine.--The Smuggler vein was developed through two tunnels, the upper about 700 feet long and the lower about 2,800 feet. A map furnished by the last owner indicates about 400 feet of drift on the vein in the upper tunnel and a raise to the surface on the vein. The lower tunnel was driven for 2,000 feet almost directly under Bird Creek then west 800 feet to cut the vein.

There is an indication from old maps that there was 200 feet of drift along the vein and a 300 foot raise on the vein from the lower tunnel.

A prospectus referred to by a Mr. Ridell refers to a lower tunnel at a depth of 600 feet below the surface with workings on the vein that reported tremendous widths (21 feet) along the vein, as well as width only 18 inches across and assays reported from these areas as follows:

59.5 % lead	20 oz silver	.02 oz gold
59.5 % lead	20.4 oz silver	.02 oz gold
52.7 % lead	19.8 oz silver	.02 oz gold

Emma Mine

There are some scattered reports, mostly verbal that there was some production from the Emma mine in the 1930's. Dump material showed an assay of 11.2 ounces silver per ton. The mine was operated through a vertical shaft that appears to have been about 300 feet in depth. A self potential survey by the applicant identified a number of faults in the vicinity of the shaft with a predominant easterly trend. The working's were obviously not deep enough to have reached sulphide horizon reported from the Smuggler vein.

Denver Tunnel

The topographic map shows an old caved tunnel on the A-7 as being identified as the Denver Tunnel, however some local people give the Denver Tunnel name to a tunnel whose portal is in a rockslide some 700 feet southeast of the Larson cabins in Palo Alto Creek. Several small veins crosscut these workings but were not sampled as little mineralized material was observed. The tunnel appears to have been headed for the Emma shaft, and if it were continued for 1,700 feet would have reached its objective, 400 feet below the collar.

Other workings

A tunnel, not named, was found on claim A-1 and had a bearing of S. 67° E. and indications are that it was about 1,650 feet long. No sign of mineralized material was found on the dump.

A shaft about 50 feet deep beside the Emma mine road on the A-14 claim is still open. Material bearing galena and barite was found on the dump. The vein exposed in this shaft is about 18 inches wide and assayed 17.60 ounces silver.

Amended

Proposed Exploration

The applicant had proposed exploration work on two previous occasions and it was deemed advisable for him to do additional exploration work and to then submit a still much reduced exploratory program commensurate with the objectives involved and the geological probability of finding a significant discovery of silver ore. The application was resubmitted on April 6, 1966 and included an amended proposed exploration program consisting of diamond drilling to test a series of veins at depth. The application was referred to the field and an examination was made on May 11, 1966 by J. W. Hasler, accompanied by Mr. John J. Kelley, Vice-President of the applicant company.

By way of a brief review and more detailed explanation an interpretation of the work completed in 1965, four significant structures containing measureable silver were explored by trenching and mapping. Trenches and dumps of old workings and test pits in the target area mostly show that the openings are in the Creede Formation, and vein mineralization was limited to jasper, amethyst, manganese oxide, quartz and barite. The dump showing no material from the Creede Formation however contained sulfides of lead, and zinc along with other vein minerals such as quartz, jasper, barite manganese oxide.

The Creede Formation occurs as a wedge between Fisher Mountain and Snowshoe Mountain Quartz Latites in the immediate area and occupies most of the surface area in the target area, however it appears to be absent at the Headlight shaft.

Inasmuch as sulfides and fairly good silver values are evident in veins in the Snowshoe Mountain Quartz Latite and from Fisher Mountain Quartz Latite, there is a strong likelihood the fracturing and faulting extends below the Creede Formation (vicinity of the Emma mine). The veins exposed in the various trenches show measureable occurrences of silver indicating that perhaps the overlying Creede Formation had a damning effect in mineralizing solution causing deposition in the Snowshoe Mountains, Fisher Mountain latites immediately below the Creede Formation, indicating a possible strengthening at depth. Some indication and production of ore bearing is certain as the lower Bird Creek tunnels have other extensive workings, undoubtedly in the volcanic rocks underlying the Creede Formation, as indicated from early day records. The applicant proposes to explore these several veins exposed via trenching and geophysical methods at depth by diamond core drilling. Figures 1, 2, 3, 4 and 5. 6

The Headlight vein can be seen to have a westward dip of 70 degrees, some of the other structures appear to strike northwesterly and dip westerly at a steep dip as indicated in the trenches, however, it was extremely difficult to adequately expose the veins due to heavy surface cover. Four diamond drill holes are proposed to intersect these veins as summarized below:

Hole No.	Inclination	Proposed depth
1	-45°	775'
2	-60°	475'
3	-45°	800'
4	-45°	600'

Approximate vertical depth, surface to structure intercept (feet)

Hole No.	Smuggler	No. 2	No. 3	No. 4
1	585-730'	320-470'	-	265
2	100-165'	215-285'	-	180
3	470-580'	280-380'	-	585
4	270-380'	30-170'	440	-

Diamond drill holes will be drilled to obtain Bx size core and maximum effort will be made to obtain the best possible core recovery.* Cores will be split and assayed for silver, gold, and where mineralization so indicates, for copper, lead and zinc. Sludge samples will also be collected to match core samples and will be used to corroborate core and possibly compensate for loss of core if possible. Cores will be stored in boxes 10 feet per box and will be adequately stored for reference and study.

* Previous and present diamond core drilling in the Creede district (Bulldog Mountain) has proven most discouraging as the barite bearing veins do not lend to coring. The usual behavior of diamond drilling is a loss of circulation and bit pressure, and consequently little or no cuttings can be obtained from drilling in the vein itself, to say nothing of extremely poor, if any core recovery at all. Experience in attempting to recover circulation and core has proven fruitless in more cases than not.

The Emperius mine tried drilling many years ago and gave it up quickly when neither core nor sludge could be recovered. In the 1961 exploration project of Bulldog Mountain the operator's core drilling experience of several thousand feet of hole was a constant history of repeated grouting, coring the cement, etc., trying at least to get some sludge assay.

Current drilling for veins from underground stations from the Puzzle tunnel has proven much the same as the surface drilling did in the prior Bulldog Mountain OME project.

Conclusions and Recommendations

Geologic mapping by the U. S. Geological Survey and additional mapping, Self-Potential survey, and trenchings by the applicant has intersected the Smuggler vein, and several other mineral bearing veins that strike generally N. 15° W., and N. 57° W. and dip steeply to the west in the Spar City area, Mineral County, Colorado. The veins are similar in nature to the veins presently being explored (Bulldog Mountain) and mined, in the Creede district. The veins contain varying quantities of silver, abundant barite, some lead and manganese oxide and iron oxide. Reports of rich silver production from the neighboring mines have been obtained from old newspaper accounts and records in the County Court House indicate that the mines in the Spar City area were quite productive, (see pages this report), and limited sampling by the applicant shows interesting values, eg., an open shaft near proposed diamond drill No. 1, contained vein material as wide as 2 feet that assayed 17.60 oz. Ag, and many areas along the veins exposed in the trenches contained measurable silver.

A series of 52 shipments from the Emma mine by Mr. Wallace Leary, Del Norte, Colorado in 1905 and 1906 averaged 24.07 oz Ag., and ranged from 0 - 0.06 ounces Au per ton and from 0 - as much as 2.5 percent lead per ton.

Trenching across the Smuggler and the various other veins in the immediate area yielded silver values of interest. The silver values range from a trace to as much as 0.83 oz silver per ton, and the trenches appeared to have barely exposed the veins where they had to be stopped due to excessive depth and the likelihood of caving was great due to heavy overburden of rock and soil.

Trenches over the Bulldog Mountain and related veins at Creede did not sample above 1 ounce Ag per ton.

Although results of the preliminary exploration work done by the applicant to date are not absolutely conclusive, there is a strong indication that veins similar to those in Creede area may be discovered in the Spar City area as shown in the report herein, and though the chances of a significant discovery of silver ore by no means excellent, the Spar City ore appears to be a good geologic bet, and it is recommended that the proposed exploration work outlined herein be approved and that an OME contract be prepared and be executed to explore the Smuggler and adjacent veins on the applicant's property herein outlined.

Estimate of Costs

A. Independent Contracts

Dozer for road construction: estimated 40 hours at $12.50

(A-C HD-11) to be contracted from Mineral County . . . . . .$ 500.00

Diamond drilling costs

Overburden

4 holes at 25'/hole; 100' at $8.00	800.00

Bedrock to 250'

4 holes at 225'/hole; 900' at $5.00	5,310.00

250' to 500'

3 holes at 250'/hole + 1 hole at 225' 975' at $6.40	6,240.00

500' to 800'

1 hole at 275' + 1 hole at 300' + 1 hole at 100'; 675' at $6.95	4,691.25
Total cost of drilling	$17,041.25

Associated costs

Mobilization	500.00
Reaming: Est. 300' at $3.70**	1,110.00
Cementing: Est. 200 hrs. at $13.00	2,600.00
Est. cement or mud	1,000.00
Hole Surveying: Est. 32 hrs. at $13.00	416.00
(Eastman) Instrument rental, 5 periods at $50. plus $50 transportation	300.00
Other Standby: Est. 20 hrs. at $13.00	260.00
Water hauling: No charge	
Total associated costs	$6,186.00
Total cost of contract	$23,227.25

Cost per foot (2,650 feet) $8.77

* No quotation was furnished beyond 750 feet.
** No quotation furnished; Boyles' quotation used.

B. Personal Services

Surface surveying to establish horizontal and vertical control of drill hole collars and to align holes.

3 days at $100.00	$ 300.00

Services to construct 10'x12' core storage shed.

64 carpenter hours at $2.50	$ 160.00

Geologic consultant's services to supervise and administer program and split cores, submit assays, interpret geologic findings, prepare reports. The program will consume approximately 75 days for which the geologic consultant will average 4 hours per day of 2-shift drilling.

37.5 days at $75.00	$2,812.50
37.5 days at $16.00 per diem	600.00
Total of Personal Services	$3,872.00

The above services are available.

C. Operating Materials and Supplies

Cardboard core boxes, 10 feet core per box at $1.00 per box, or $.10 per foot of core. 2,600 feet at $.10	$ 260.00
Sample bags, packaging materials for mailing	$ 100.00
Total, Operating Materials and Supplies	$ 360.00

D. Operating Equipment

None required.

E. Initial Rehabilitation and Repairs

None required.

F. New Buildings, Fixtures, Installations

Materials for constructing core storage shed, 10'x12', 2x4 framing, and corrugated iron sheeting and roof, one door, no windows. Building will be equipped with storage racks for sludge samples and core boxes, and work bench for splitting and examining core.

Total, New Buildings, Fix., Inst. . . . . $ 100.00

G. Miscellaneous

Analytical work: 500 samples will be assayed for gold and silver and approximately 250 of these will also be assayed for lead and zinc; 100 may be assayed for copper. Prices used are published prices of Colorado Assaying Company, Denver, Colorado.

500 at	$3.00	$1,500.00
250	4.00	1,000.00
100	1.50	150.00

Total of analytical work $2,650.00

Drafting and map reproduction, typing and stenographic work, telephone, sample shipping to assayer, and other incidental costs.

3 months at $300.00 . . . . . $ 900.00

Total of Miscellaneous $3,650.00

Total Estimated Cost of Project $31,079.75

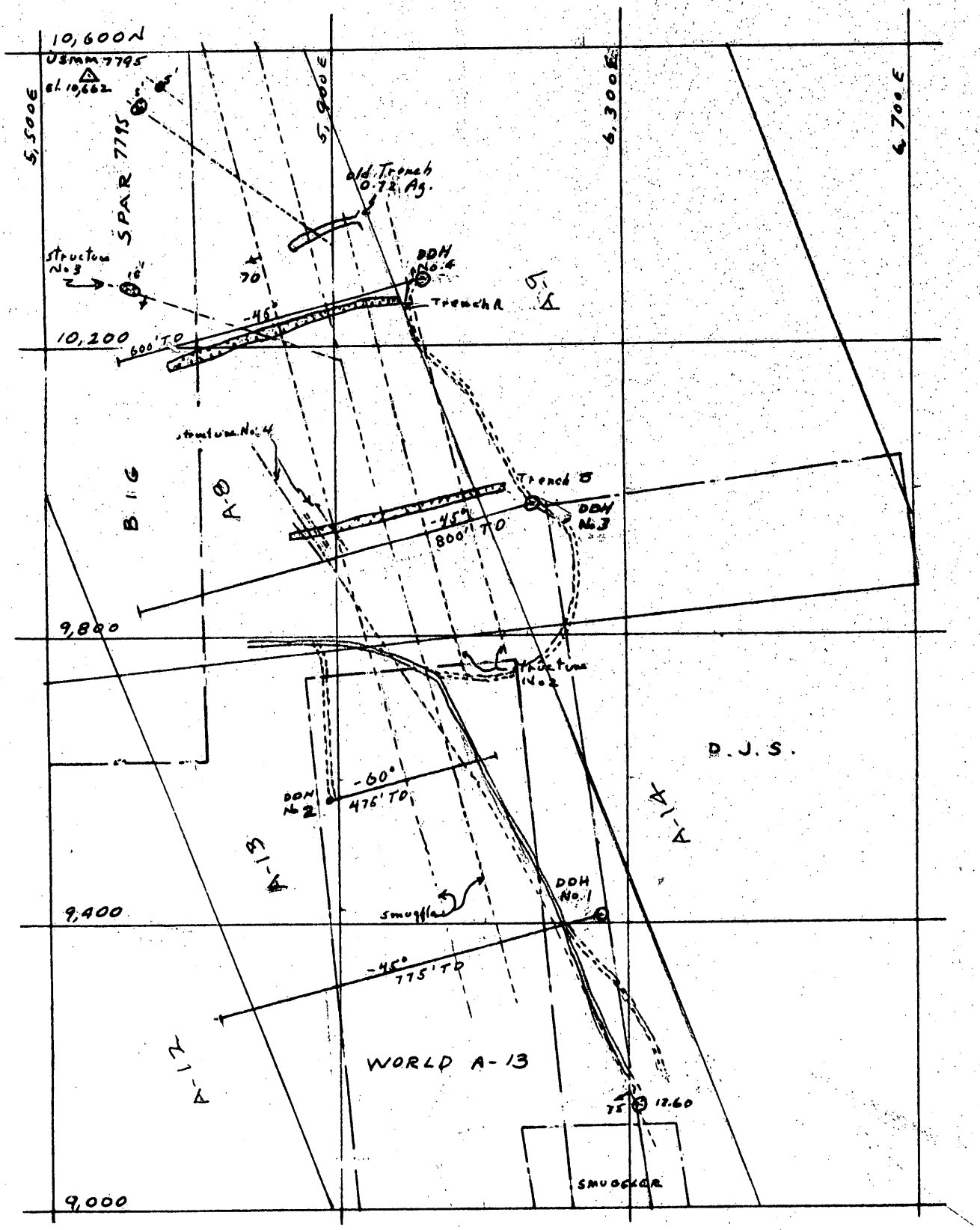

FIGURE 2--MAP SHOWING PROPOSED EXPLORATION
MK EXPLORATION COMPANY
MINERAL COUNTY, COLORADO
SCALE 1" = 200'

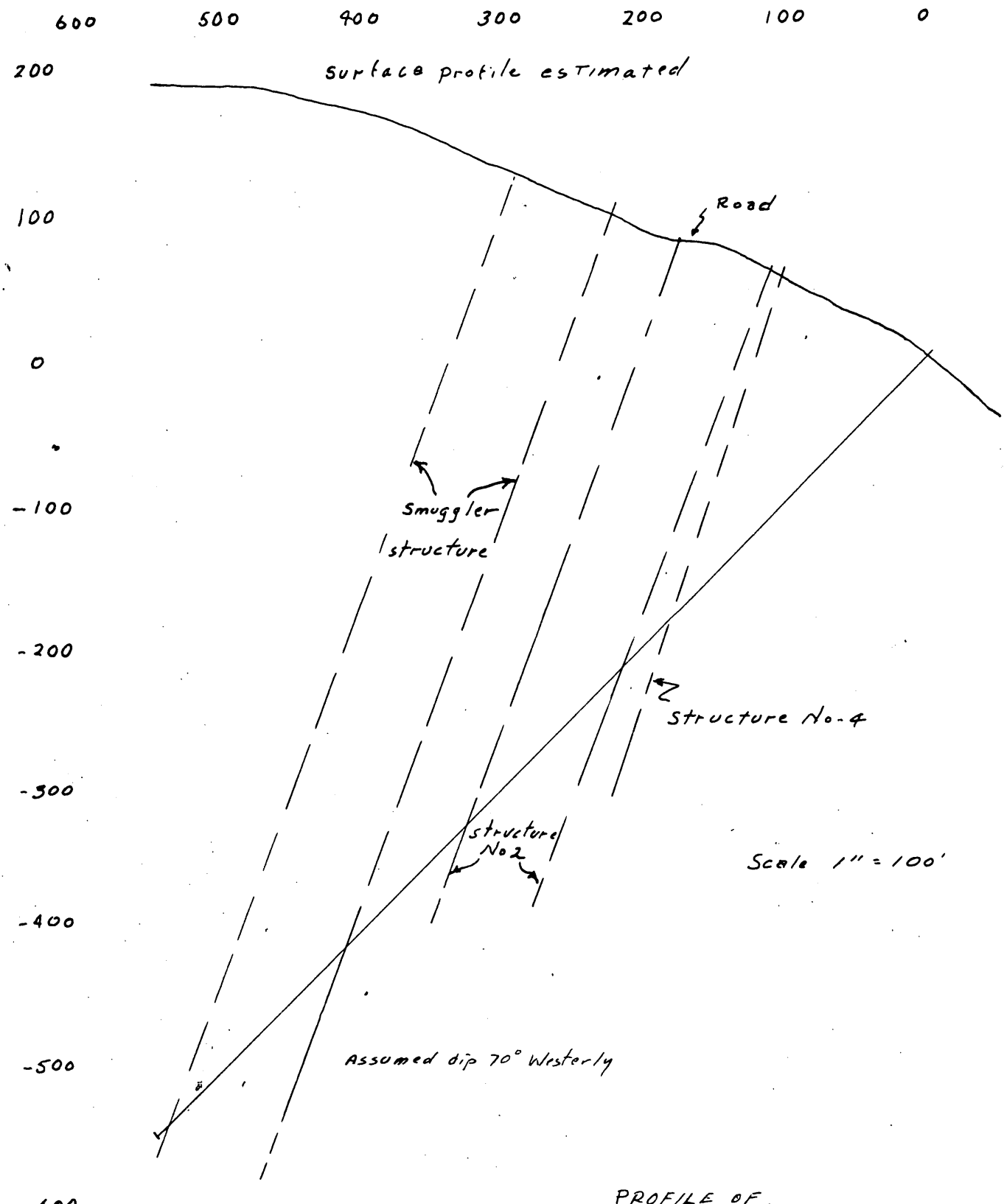

FIGURE 3
OME 6440 MK Exploration Co.
BIRD CREEK MINE
Mineral County, Colo.
JUNE 1966

PROFILE OF
PROPOSED DDH No. 1
Inclination -45°
T.D. 775'

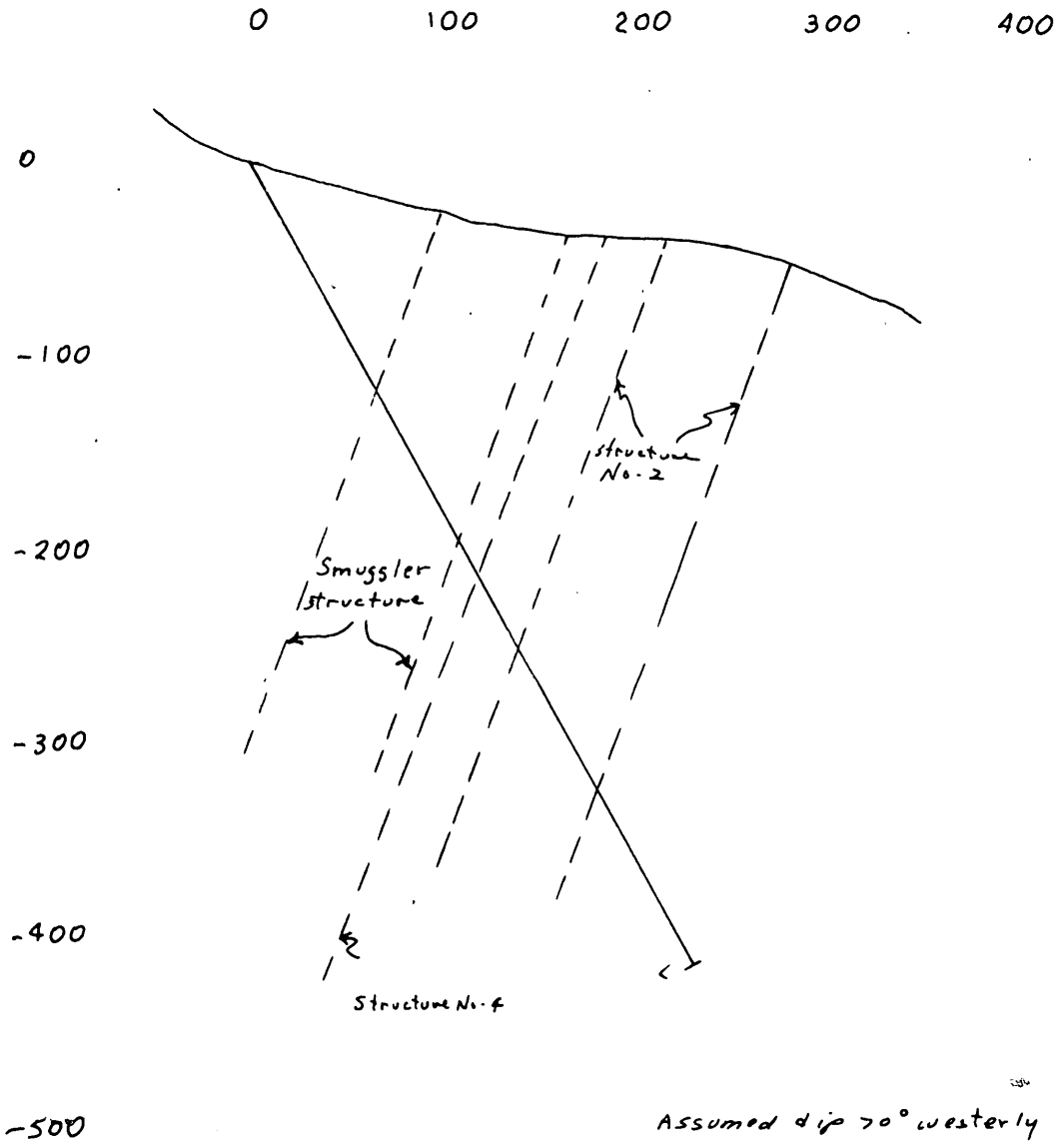

FIGURE 4

OME 6440 MK EXPLORATION CO.
BIRD CREEK MINE
Mineral County Colorado
JUNE 1966

PROFILE OF
PROPOSED DDH No. 2
Inclination -60°
T.D: 475'
Scale 1" = 100'

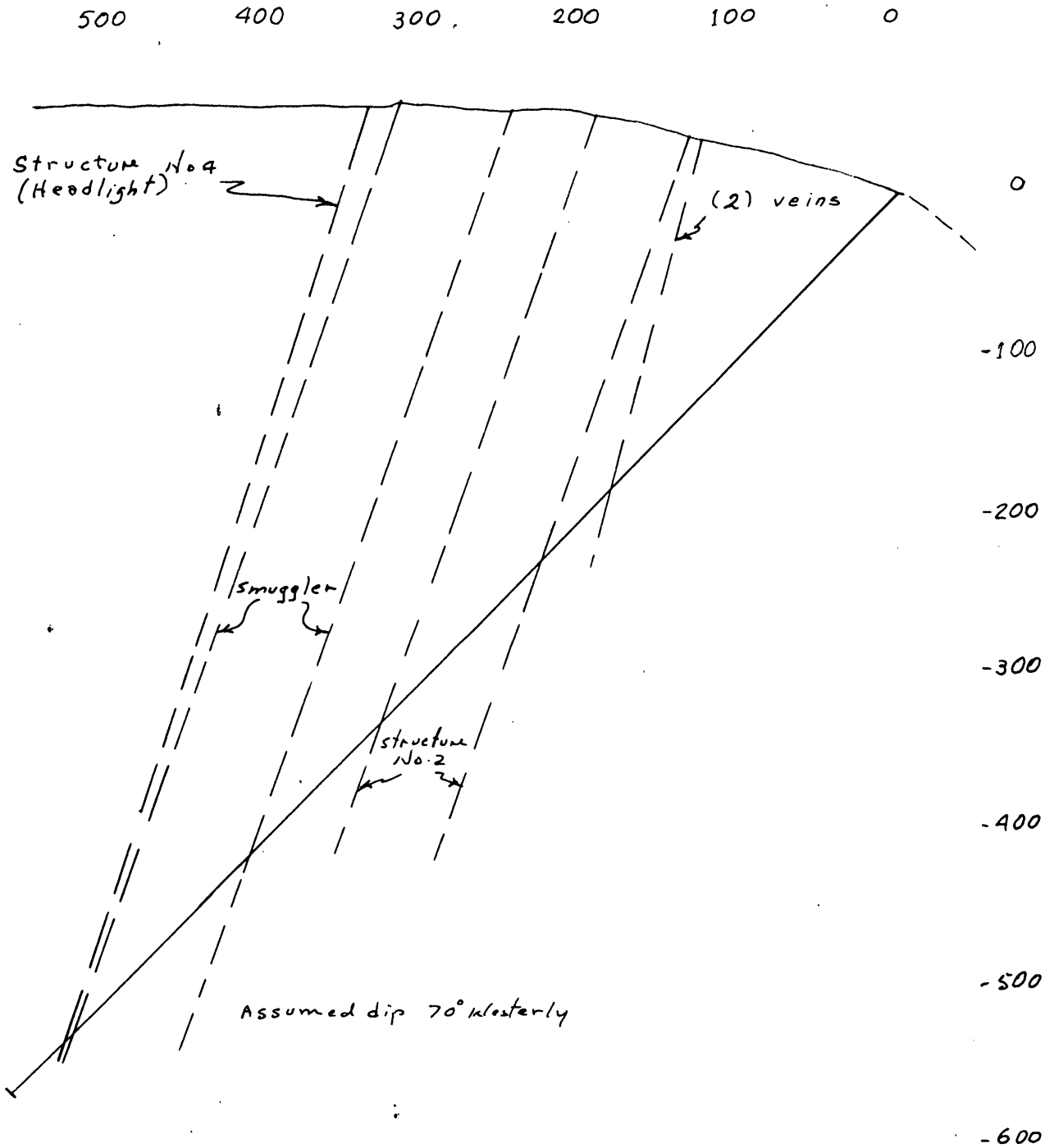

FIGURE 5

OME 6440 - MK EXPLORATION Co.
BIRD CREEK MINE
Mineral COUNTY, COLORADO,

JUNE 1966

PROFILE OF
PROPOSED DDH No. 3
Inclination -45°
T.D. 800'
Scale: 1" = 100'

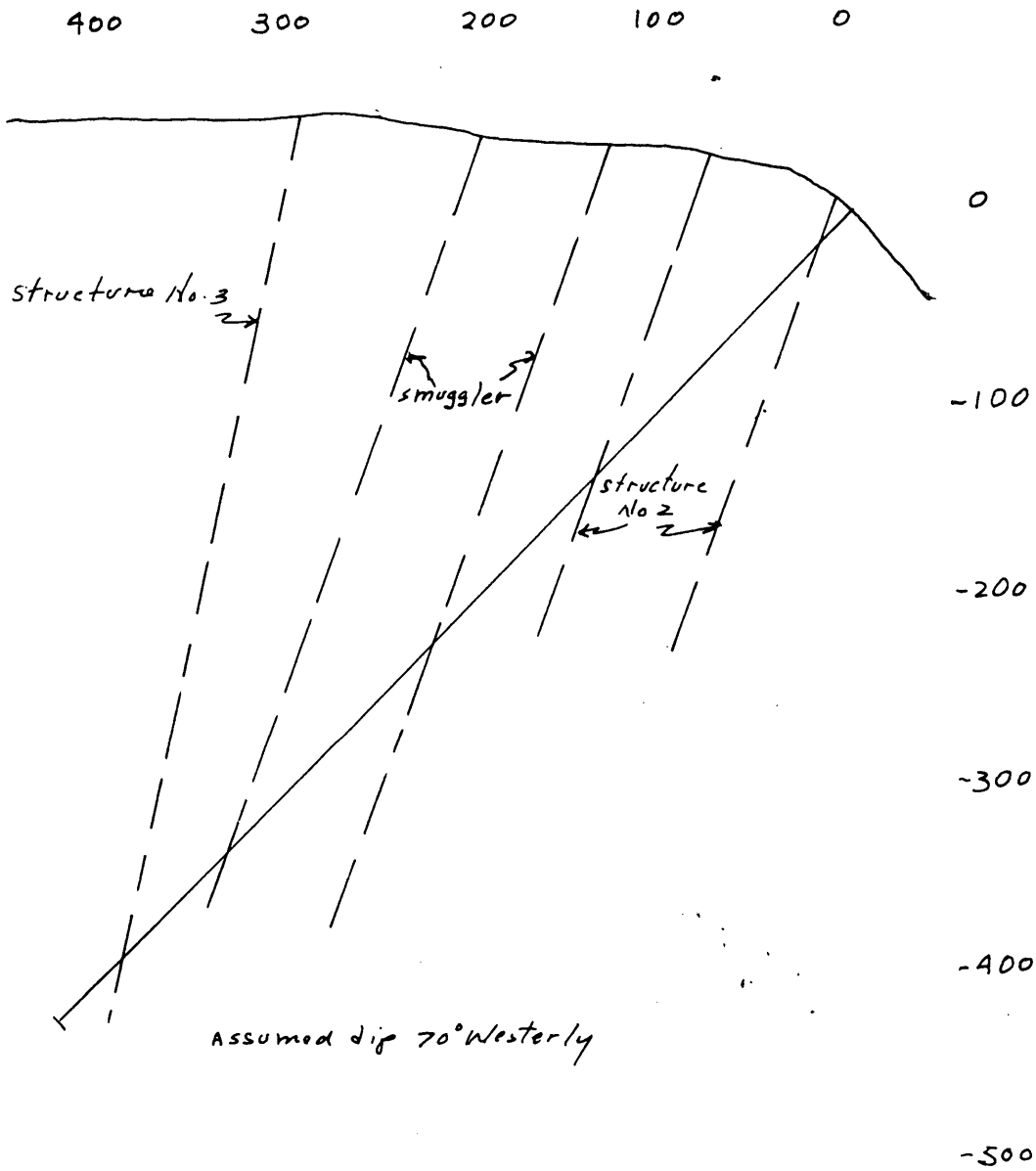

FIGURE 6

OME 6440 - MK EXPLORATION Co.
BIRD CREEK MINE
Mineral County, Colorado
June 1966

PROFILE OF
PROPOSED DDH No. 4
Inclination - 45°
T.D. 600'
Scale 1" = 100'

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
5/2	Johnson	
5/3	Kildsgaard	
5/3	Jewell	
5/4	Meyer	
5/9	Kirkwood	

MAY 4 1966

Hon. Roy H. McVicker
U. S. House of Representatives
Washington, D. C. 20515

Dear Mr. McVicker:

This is in response to your memorandum of April 25, 1966, to Congressional Liaison, Department of the Interior, enclosing a copy of a letter to you of April 20, 1966, from Mr. Frank A. McKinley of Englewood, Colorado, concerning the availability of funds for field examinations required on properties under consideration for financial assistance in minerals exploration.

Funds necessary for making field examinations under the minerals exploration program are provided as required. In view of the increased seasonal activity for minerals exploration, available funds for field examinations have recently been increased. The budget request for Fiscal Year 1967 provides for additional funds to administer the increased work-load in the minerals exploration program.

Because of the heavy backlog of prior applications, however, the Field Officers of the Office of Minerals Exploration are not always in a position to make a commitment to examine a particular property at the convenience of the applicant or a property at a high altitude where accessibility may be uncertain due to weather conditions.

You may be assured that every effort is being made to expedite field examinations of properties under consideration for exploration assistance.

The enclosure in your letter is returned as requested.

Sincerely yours,

Arthur A. Baker

Acting Director

Enclosure

cc: ~~Dixxxxxxx~~
General files
Division file
Director's chron. file
Economic Geology file
OME file
OME reading file

172111

Region III

FEJohnson/bih 5/2/66

23263

APR 22 1966

[illegible] Cherryridge Road
Englewood, Colorado 80110
April 20, 1966

The Honorable Roy McVicker
Longworth House Office Building
Room 1238
Washington, D. C. 20515

Sir:

It has come to my attention that although there are funds available through the Office of Minerals Exploration to grant loans for the exploration of certain mineral properties possessed of the proper geologic conditions, that no funds are available for travel and subsistence for geologists of that department for the necessary and required examination of the mineral properties under consideration. Therefore, in those cases where a field examination is required for approval or denial of an application, no answer can be given the applicant. It appears, therefore, that immediate action must be taken to provide the necessary funds for the examination by field personnel of those properties which merit such examination.

In the taxpayers of the home [illegible], it seems that ample provision has been made in many of the Great Society programs of ample funds to gild such programs. It is ridiculous that those programs of real merit, staffed by men of acknowledged competence, designed to be productive in all aspects of our economy and security, should be reduced to impotence by this type of incompetence in planning.

Although I have an OME application pending, I do not propose to speak only on behalf of it, but on behalf of the basic principles involved.

Yours very truly,

Fred M. McKinley

FMMcK:sc

OFFICIAL FILE COPY

Date	Surname	Code
3/3	Johnson	110
		220

May 3, 1966

Memorandum

To: Chief, Office of Minerals Exploration

From: Harold Kirkemo

Subject: Telephone inquiry from Congressman Aspinall's office

Mr. Green in the office of Congressman Wayne Aspinall called me on April 29, 1966, in behalf of Mr. Frank McKinley, who had written a letter to Mr. Aspinall urging adequate travel funds for OME Field Officers. Although Mr. McKinley has filed an application for OME assistance (OME-6440), his plea was to help the OME program and not to seek preferential treatment of his application through the Congressman.

I phoned Mr. J. W. Hasler, Field Officer, Region III, repeated Mr. Green's inquiry, and asked whether he had talked with McKinley recently about a field examination. He stated that McKinley had inquired on or about April 19 regarding a field examination. Hasler told him an examination would be made as soon as his schedule permitted and that his travel had to be carefully planned. Mr. McKinley is aware of the fact that Hasler is handling Region III alone and probably surmised that additional funds for travel would result in more field examinations. Mr. McKinley's letter to Congressman Aspinall was dated a day or so after his visit with Hasler.

I phoned Mr. Green after talking with Hasler and told him that funds are available for essential field examinations and that McKinley's property would be examined as soon as Hasler could schedule it. McKinley left for Canada on a two to three week trip shortly after visiting Hasler in mid-April so there is no urgency for the examination in the next week or so.

Harold Kirkemo

Harold Kirkemo

cc: J. W. Hasler
Director's Reading File
Division File
Economic Geology File
OME Reading File
Kirkemo

HKirkemo/mm (5/3/66)

23263

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
4/12	R.M. Smith	120
4/12	Kirkham	120
		110
4/12	CSC	220
		120M

Memorandum

APR 1 2 1966

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

The amended application of April 11, 1966, is enclosed and referred to Region III for a field examination if you consider it necessary and recommendations.

The original application for a $365.220,00 project and a supplemental application for a smaller ($269,965.00) project were both denied without prejudice on the grounds that geologic information was too meager and too generalized to indicate specific targets of a magnitude commensurate with the costs. In both denials we considered the Field Officer's memorandum of May 19, 1965, in which he reported Tom Steven's comments and belief ". . . that the area warrants exploration."

The recent amended application for a $34,947.50 drilling project contains little additional geologic information, but the size and type of the proposed project appear to us to be in keeping with the risk. In your report, please comment specifically on the probability of a discovery of silver by the proposed drilling.

If you recommend a contract, please let us have your views on the estimated cost of $12.50 per hour for bulldozing, and on the suitability of an HD-11 for the job, since bids for bulldozing are not available. Also, the Applicant should be informed that we cannot allow consulting fees in excess of the amount the Government would have to pay for similar services at the time the contract is written. In the past, this has been $65.00 for an 8-hour day.

FRANK E. JOHNSON

Frank E. Johnson

Enclosure

cc: Director's Reading File
Division File
Economic Geology File
OME File
OME Reading File
Mr. Smith
130

RMSmith/gla 4-12-66

23263

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
4/12	R. M. Smith	120
4/12	Kirkham	120
		110
		220
		120M

Mr. Frank M. McKinley
President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

APR 12 1966

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Dear Mr. McKinley:

Thank you for your letter of April 6, 1966, the accompanying application forms, and other documents that we requested on March 28.

The amended application for financial assistance in exploring the referenced mine area by diamond drilling has been reviewed by the Washington office and referred to Mr. J. W. Hasler, Field Officer, Region III, Office of Minerals Exploration, U. S. Geological Survey, Building 25, Denver Federal Center, Denver, Colorado 80225.

The Regional Office will notify you in case additional information concerning the application is needed.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Division File
Economic Geology File
OME File
OME Region III
OME Reading File
Mr. Smith

RMSmith/gla 4-12-66

23263

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
3/28	RMSmith	1205
		110

MAR 2 6 1966

Mr. Frank M. McKinley
President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Dear Mr. McKinley:

This will acknowledge receipt of your letter of March 22, 1966, submitting in duplicate an amended proposal for financial assistance to explore the Bird Creek mine in Mineral County, Colorado.

We regret that our letter of March 9 was not clear in stating that two completed application forms (MME Form 40) are required. A set of forms is enclosed for this purpose.

The bank correspondence enclosed with your amended application is not applicable to your amended proposal in that the loan requests were for $250,000, instead of 75 percent of $31,947.50, the amount of the amended proposal. Duplicate signed copies of the Applicant's letters to the banks and their replies are required. A recent financial statement of the MK Exploration Company also should be furnished.

At least two bids by independent contractors for the bulldozing work should be submitted.

Proposed holes 1 and 3 are collared on the D.J.S. patented claim near the west sideline. Can these holes be relocated on ground controlled by the Applicant, or alternatively can Lien and Subordination Agreements be obtained?

23263

This request for documents and information should not be construed as a commitment by the Government to grant an exploration contract.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

Enclosures

cc: Director's reading file
Division file
Economic Geology file
OME file
OME reading file
OME Region III

FEJohnson/RSmith/bih 3/28/66

M K EXPLORATION COMPANY
2955 Cherryridge Road
Englewood, Colorado

March 22, 1966

OFFICIAL COPY
O. M. E.
RECEIVED
MAR 24 1966
110
120

Mr. Frank E. Johnson
Chief, Office of
Minerals Exploration
United States Department of the
Interior
Washington 25, D. C.

Dear Mr. Johnson:

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado
Your letter of March 9, 1966

By this letter and the enclosed two (2) copies of the amendment to the original application and supplement we are asking you to again review this project.

We base this request on the geological information contained in the original application, the supplement and that contained in this amendment. Also, the program now is one of diamond drilling to determine continuity of structure and mineralization at depth. This program is much less costly than that originally proposed and will, we believe, provide sound information upon which to base a subsequent program.

Please advise if you need further information.

Yours very truly,

MK EXPLORATION COMPANY

President

FMcKinley/sg
encls.

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
3/4/66	Kirkemo	120
		110
		120

MAR 9 1966

Mr. Frank M. McKinley
President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Dear Mr. McKinley:

The following comments are offered in reference to your discussions last week with Mr. Kirkemo in New York about resubmitting your application for OME assistance to explore your property in the Spar City area and submitting an application to explore other prospects in the Creede district, Colorado.

We will be glad to consider an amended application or a new application if you have additional geological information to submit. This information must justify the proposed expenditure of Government funds. If an amended application is considered, reference may be made to information submitted with the original application, but bank letters and/or financial statements must be current within the time period specified in the application form. Lease and option agreements and other legal documents must be valid and in force. A new application would be required if you propose an exploration project on a new property.

With respect to financing your share of an OME contract, financial support from other sources is permissible under OME regulations providing you, as the Operator, retain controlling interest in the land involved in the exploration for the duration of the contract and do not surrender your responsibility for payment of royalty due the Government from any production within the time specified in the contract.

These comments and Mr. Kirkemo's remarks are not to be construed to commit the Government to grant an exploration contract.

Sincerely yours,

(signed) FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Division File
Economic Geology File
OME Docket
OME Reading Region III
Kirkemo 120M

HKirkemo/mm (3/9/66)

23263

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
8/31	Murphy	
	[illegible]	
9/2	Johnson	
9/2	Kirkgaard	
9/3	[illegible]	
		220

SEP 7 1965

Mr. Frank M. McKinley
President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Dear Mr. McKinley:

We have again carefully reviewed the subject application in the light of the supplemental data submitted with your letter of August 3, 1965. This review did not reveal any new evidence of sufficient promise to warrant Government participation in the proposed project. Under the circumstances, we can only reiterate the denial made in our letter of May 26, 1965.

Sincerely yours,

(signed) FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

GCSelfridge/FEJohnson/gla/mm (8/31/65)
cc to: Director's Reading File
Division File
Economic Geology File
OME File
OME Reading File
OME Region III w/cy of incoming letter and supplemental data
Mr. Selfridge (2)

23263

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
	[illegible]	
9/2	[illegible]	
9/7	[illegible]	

August 31, 1965

Memorandum

To: The File

From: F. M. Murphy, Mining Engineer

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Justification For Second Denial Of Application

The subject application was denied without prejudice on May 26. Mr. R. M. Smith wrote a justification dated May 25, 1965, for this denial. The denial stated a new application would be considered if additional favorable information which would indicate targets having a potential commensurate with the cost of their exploration became available.

On June 17 the Applicant wrote defending the application and OME replied June 29, 1965, stating it would hold the application open for 90 days pending receipt of additional geological information or of a modified project.

The Applicant submitted a supplement dated August 3, 1965, to the application. The new proposed work was decreased from 3,700 feet of drifting on the Smuggler vein to 2,500 feet, the crosscutting was increased from 800 feet to 1,000 feet, and the 3 raises were not listed. The estimated total cost of the revised program was $269,965 in comparison to the $365,220 estimated in the original application. The original No. 1 target, consisting of the area near the intersection of the upper and lower Bird Creek tunnels with the Smuggler vein, would be about 1,000 feet south of the end of the proposed drift on the vein.

In the supplementary information the Applicant shows the cross sections of two surface trenches, one about 700 feet and the other about 1,000 feet north of the project end of the drift. The Applicant indicates a number of structures as well as the Smuggler vein

in these cross sections, all showing silver values of less than an ounce. The Applicant states that silver values do not reach the surface in the district and believes the structures exposed in the trenches are favorable.

In Exhibit 16, Plate III, Exploration Plan Map, submitted with the original application, a caved tunnel starting from the A-1 claim is shown. This tunnel, or adit, was driven for 1,650 feet on a bearing of S. 67°E. at an elevation of approximately 9,950 feet. This adit should have traversed the Smuggler vein at a point about 400 feet north of the north trench and about 850 feet lower in altitude. In reference to this adit, Mr. John F. Kelley on Page 16 of his Report of Examination states that no significant sign of mineralization was found. This would indicate that the favorable structures as well as the Smuggler vein mentioned in the supplement were barren in the proposed exploration area or were not strong enough to reach it.

Since the new information submitted does not indicate a new favorable target area, it is recommended that the modified program be denied.

F M Murphy

F. M. Murphy

FMMurphy/mm
cc: Director's Reading File
Division File
Economic Geology File
OME File
OME Reading File

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
6/28	R.M. Smith	120
	[illegible]	120
6/28	[illegible]	110
		100
		220

JUN 2 9 1965

Mr. Frank M. McKinley
President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Dear Mr. McKinley:

Thank you for your letter of June 17, 1965, which contains additional background information in support of your contention that the proposed project is warranted.

Because we concur in most of your deductions based on general information, and because your letter contains no reference to specific information, we conclude that we have not been sufficiently clear on the kind of information needed to justify the proposed project.

Additional positive geologic information such as maps and samples of old workings along the Smuggler vein might be sufficient to indicate specific target areas at depth, or a program of surface trenching followed by core drilling might yield the necessary information. Although ore itself may not crop out, we would require geologic indications of ore along the Smuggler vein in the area to be explored in order to justify a project.

The Bird Creek mine may be sufficient evidence to justify a project in the mine area, but it is not sufficient to justify a 4,000-foot adit. In accordance with your wish to keep the application alive, we shall place it in our active file for 90 days pending receipt of additional geological information or of a modified project.

Sincerely yours,

(Signed) FRANK E. JOHNSON

Acting Director

RMSmith/mm (6/28/65
cc: Director's Reading File
Region III w/cy of incoming ltr
Docket

23263

MK EXPLORATION COMPANY
2955 Cherryridge Road
Englewood, Colorado

OFFICIAL
COPY
O. M. E.
RECEIVED
JUN 21 1965

INITIALS	CODE
RMS	120
	121

June 17, 1965

Mr. George Fumich, Acting Director
United States Department of
the Interior
Office of Minerals Exploration
Washington, D. C. 20025

Dear Mr. Fumich:

Re: Application No. OME-6440

Please be assured of my appreciation for your letter of June 11, 1965, which further explains your views regarding the subject application.

I shall attempt by this letter to submit sufficient affirmative background information to support my firm contention that the proposed project is sound.

I concur fully that the larger expenditure must be based on a larger anticipated target. It is my opinion that the anticipated target is of sufficient magnitude to warrant the proposed expenditure. In support of my contention that the proposed project is in a general area possessed of large targets and that this specific project area may well be possessed of a comparable size target, I submit the following. The production record of what is believed to be the longest continuously operated mine in Colorado discovered at Creede in the late 1800's with some production each year since comes to a total of approximately $100,000,000 at today's prices. As an indication of the ore values, it is important to realize that a great part of this production has been accomplished during periods of very depressed silver prices. The surface expressions of this ore body were very meager. In fact, had it not been for a very minor surface expression, it is likely that the entire ore body would remain hidden to this day. In this connection it can be said that the strike length of this structure has been developed only to a minor extent and that great potential still exists in this regard. I now refer specifically to the current exploration being conducted west of the Creede mine on the Bulldog Mountain property by the Homestake Mining Company. I am also thoroughly familiar

with this project in its inception and submit that the surface expressions here are no more encouraging than those at Bird Creek. The early-day prospectors and miners did not find encouraging mineralization at Bulldog, whereas there is recorded evidence that reasonably attractive silver mineralization was found at Bird Creek at the horizons which were probed. On the basis of present knowledge, the operating mine at Creede and developments at Bulldog must demonstrate that these strong structures contain large ore bodies when penetrated at the proper horizon. It is, therefore, reasonable to believe that the similarly strong structures at Bulldog may have the large potential to which you refer if they are explored at the proper horizon.

Bird Creek is undeniably a good prospect

Hope

Regarding the distance from Creede, as a factor I wish to submit a comparison in this respect to the Cda. district of Idaho with which I am also familiar. The truly bonanza mine (Sunshine) had little surface expression and did not become significantly productive until penetrated to the proper geological horizon. East of the Sunshine perhaps 7 miles the present Galena mine, also possessed of minor surface indications, was operated on a rather mediocre ore as to grade and tonnage in the 1920's and was apparently exhausted at reasonably shallow depth. In the late 40's, based solely on geological inference, the Galena shaft was sunk to a depth which was thought might be productive; and this mine, as you know, ranks high in silver production. Further, the Lucky Friday mine, presently a great silver producer, lies approximately 20 miles east of the Sunshine and 12 to 14 miles east of the Galena. The surface expressions here were also minor, but again, when penetrated at the proper horizon, highly important silver production has resulted. Too bad Bird Creek isn't 20 miles from Creed

had or to get ?

Recapping briefly to this point, I am stressing that the Creede and Royal Arch districts represent areas where ore bodies of substantial magnitude can be anticipated and also that the judicious use of present geological knowledge of the area and judicious use of our present tools permit the drawing of favorable conclusions regarding the potential of Bird Creek based on geological inference. I should like to add that the Cda. district is now witnessing multimillion-dollar programs based on this type of inference and deduction, and I submit the opinion that the future discovery and production of silver in nearly all areas will necessarily be based on this type of thinking. ✓

With a little work you could get the geologic info. needed to justify a project, e.g. "moderate" silver values are claimed, but you insist on being vague about where. I assume you don't know, and won't climb the hill to find out.

The following information may not be generally known and is submitted as a matter of interest. The Sunshine, Galena, and Lucky Friday were initially brought into production by competent and sincere but poorly financed groups. None of these properties had sufficient surface expression to interest the major financially strong firms. However, their success has spurred the major firms to the present multimillion-dollar programs. It may be that the expenditure of significant capital by major firms for silver exploration in Colorado will be triggered in a similar manner. This premise leads me to state that properly screened and managed O.M.E. projects may serve the dual purpose of (1) permitting sincere people of limited means to discover silver deposits of importance and (2) triggering the expenditure of significant funds in exploration by strong financial groups in areas where they are presently not active.

How about sincere people with valid targets?

The project as submitted to your office was carefully planned as the most efficient means of penetrating the Bird Creek structures at the proper horizon. The cost data were carefully prepared and are, in my opinion, realistic. I also would like very much to accomplish this work at significantly lower cost. However, an estimate of this kind must recognize all the factors involved. I would impress on you that, were this project approved, it would be conducted in a manner to obtain the greatest efficiency; and, in the event of any significant cost reduction, your office would be promptly advised.

I would very much like to keep this application before you.

Sincerely yours,

MK EXPLORATION COMPANY

Frank McKinley

President

FMcKinley/js

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
6/11	Johnson	110
		100
		220
6/11	R M Smith	

JUN 1 1 1965

Hon. Roy H. McVicker
U. S. House of Representatives
Washington, D. C. 20515

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Dear Mr. McVicker:

We have your letter of June 9, 1965, enclosing a copy of a letter to you, dated June 8, from Mr. Frank McKinley, President, MK Exploration Company, Englewood, Colorado, concerning the subject application.

This application was denied without prejudice to the property by letter to the Applicant dated May 26, 1965, because a careful study of all the information available did not indicate the probability of making a significant discovery by the proposed exploration. In our letter we suggested that the application could be reopened if additional favorable information could be furnished that indicated more specific targets for the exploration. Previously, our field representative had discussed the proposed exploration program with Mr. McKinley, explaining our objections to his proposal and suggesting the possibility of a more modest approach to exploring the property.

The Applicant's letter to us of May 24, 1965, was received after we had written to Mr. McKinley on May 24. The Applicant's letter did not contain any new information to justify altering our decision.

As you requested, a copy of our reply of this date to Mr. McKinley's letter of June 8 is enclosed.

We regret that we could not be of help to the Applicant in this instance. However, we would be glad to consider a new application for a modest program such as surface trenching and core drilling of favorable target areas if supported by additional geological information and realistic cost data.

FEJohnson/gla (6-11-65)
cc to: Director's Reading File
Docket
Region III
120M

Sincerely yours,

George Fumich, Jr. (gla)

Acting Director

Enclosure

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MMB (2)

JUN 1 1 1965

Mr. Frank M. McKinley
President
MK Exploration Company
2985 Cherryridge Road
Englewood, Colorado 80110

Re: OMX-4640 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Dear Mr. McKinley:

In your letter of June 6, 1965, you are correct in assuming that our letter denying the application was mailed prior to receipt of yours of May 24. Please be assured that if new information affecting our conclusions on the eligibility of the proposed project had been contained in your letter, we would have reconsidered your application and notified you immediately.

Our letter was specific in emphasizing that the denial was made without prejudice to the property and that additional favorable information could justify another application. We have no negative geological information on the property; but we do lack adequate positive information, either in your application, your supplemental letter, or in published information, to indicate that the geologic probability of a significant discovery warrants a project of the magnitude you propose.

The project proposed in the application is larger than average; it might be expected, therefore, to have targets that are larger than average. The meager extent of geological information on the specific area to be explored, however, does not indicate targets of large size, nor does it contain evidence to strengthen the speculation that the deposits are large.

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The proposed project could be accomplished for less money by reducing the costs to about those of other similar exploration projects, but our suggestions on how costs might be reduced have not been accepted.

We share your concern for the future supply of silver to meet the Nation's needs, and we accept the views of the many competent geologists who consider the Creede area to have a good potential for silver-lead. In addition, we concur in the opinion that the Royal Arch mining district warrants additional exploration, although we doubt that the results of current exploration at Creede, 10 miles from your property, is justification for the work you propose to do. The proposed work might be justified, however, by additional favorable information, or alternatively, a less costly project might be justified by the existing information.

We wish to confirm that we shall be pleased to consider a new application at any time additional favorable information becomes available.

Sincerely yours,

George Fumich, Jr.

Acting Director

RMSMith/mm (6/11/65)
cc: Director's Reading File
Region III,
w/cy of incoming ltr
Docket
120M
Re. McVicker

ROY H. McVICKER
2D DISTRICT, COLORADO

DISTRICT OFFICE:
BUILDING 40,
DENVER FEDERAL CENTER
DENVER, COLORADO 80215

Congress of the United States
House of Representatives
Washington, D.C. 20515

COMMITTEE ON
FOREIGN AFFAIRS

SUBCOMMITTEES:
INTER-AMERICAN AFFAIRS
NATIONAL SECURITY AND
SCIENTIFIC DEVELOPMENTS
AFFECTING FOREIGN POLICY

June 9, 1965

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Mr. George Fumich, Acting Director
Office of Minerals Exploration
Department of Interior
Washington, D.C.

Dear Mr. Fumich:

Enclosed is a thermo-faxed copy of a letter I have received from a constituent, Mr. Frank McKinley, President of the MK Exploration Company at Englewood, Colorado, regarding his application for exploration assistance.

Would you kindly advise me of the status of this application and furnish me a copy of your reply to Mr. McKinley.

Very truly yours,

Roy H. McVicker

Roy H. McVicker

RHM:sm
Enclosure

MK EXPLORATION COMPANY
2955 Cherryridge Road
Englewood, Colorado

June 8, 1965

Mr. George Fumich, Acting Director
United States Department of
the Interior
Office of Minerals Exploration
Washington, D. C. 20025

Dear Mr. Fumich:

Re: Application No. OME-6640

The subject application for exploration assistance was submitted to your Denver office April 2, 1965. I was then advised by your letter of May 3, 1965, that this application had been reviewed and referred to Mr. H. M. Connors in Denver. I met with Mr. Connors on May 17 for review of the questions which had been raised through your office and on May 24, I addressed a letter to him in reply to those questions. Your letter dated May 26, 1965, was surely composed prior to receipt in your office of my May 24 information.

I am of the opinion that you could not have properly passed on this application in your office prior to receipt of the information which I addressed on May 24. You make reference in your May 26 letter of other information available to you. Since this project is one of significant cost and one which, in the opinion of my engineers, could result in significant production, I think it only proper that any negative geological or engineering information which you have should, in all honesty, be made available to me. Generally it is accepted practice for geologists and engineers to make available to each other their opinions supported by their facts. The mining industry and several agencies of the United States Government, as you are aware, are deeply worried about the future supply of silver to meet the nation's needs and therefore, a project such as this becomes a matter of national concern and interest. I would go so far as to say that any project with a reasonable potential for the production of silver bears a strong relation to national strength and security.

I wish to add that the production history of the general area about which I am speaking is excellent and that the continuity of operations in this area has only an occasional equal in the United States. My point being that in this area when ore bodies are discovered they are of significant and important size and value.

Also, I wish to impress upon you that many competent geologists consider this to be one of the favorable areas in Colorado regarding the potential for silver and other mineral production. Also, I wish to impress upon you that the only current exploration program in the Creede area (one with which you are familiar) is showing very well and, in my opinion, had no stronger geological inference at its outset than the subject program about which I am writing.

As a matter of basic information and for future guidance, I ask how you define "A target with potential commensurate with the cost of exploration."

Stripping the application of a great deal of geological verbiage, the request is for exploration assistance in a virgin section of a district of excellent production history aimed at a specific target possessed of favorable geological elements. A target where honest and competent information states that good ore was seen at a specific horizon in the late twenties and abandoned due to economic conditions which prevailed for years. My information regarding this project leads me to believe that a prudent conclusion is that the potential is commensurate with the expected exploration costs. If this project is pursued and is successful it would result in important production and would stimulate other projects of this kind in a wide area of Colorado.

I am taking the liberty of addressing copies of this letter to Senator Peter Dominick, Senator Gordon Allott, Representative Wayne Aspinall and Representative Roy McVicker of Colorado, so they will be advised that efforts are being made to meet the silver production in the state they represent.

Yours very truly,

MK EXPLORATION COMPANY

President

FMcKinley/eg

cc: Senator Dominick
Senator Allott
Representative Aspinall
Representative McVicker

Mr. Smith

MK EXPLORATION COMPANY
2955 Cherryridge Road
Englewood, Colorado

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June 8, 1965

Mr. George Fumich, Acting Director
United States Department of
the Interior
Office of Minerals Exploration
Washington, D. C. 20025

Dear Mr. Fumich:

Re: Application No. OME-6640

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Yours very truly,

MK EXPLORATION COMPANY

President

FMcKinley/sg

cc: Senator Dominick
Senator Allott
Representative Aspinall
Representative McVicker

MK EXPLORATION COMPANY
2955 Cherryridge Road
Englewood, Colorado

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May 24, 1965

Hugh M. Connors

Mr. Hugh M. Connors
Office of Mineral Exploration
Denver Federal Center
Denver, Colorado

Dear Mr. Connors:

Re: OME-6440

Pursuant to our conference on May 17 regarding criticisms of our application for OME assistance in exploration for silver, the following supplementary information is furnished.

MAXIMUM GOVERNMENT PARTICIPATION

A criticism was made that the participation requested of OME was in excess of the maximum allowed. Applicant is aware that, "No single contract shall authorize Government participation in excess of $250,000." Applicant estimated the total cost of the project to be $365,000, recognizing that the difference between OME assistance and the total cost will have to be supplied from other sources. If you recognize it, we are content.

PROPERTY

Negotiations for acquisition of the remaining 1/4 interest in the Big Spar claim have been in progress for some time. If they fail to materialize, an effort will be made to obtain a subordination agreement from that owner. — O.K. ? However, it is not anticipated that any production will be had from the Smuggler vein where its apex falls within the side lines of the Big Spar. Only access through the claim to the target area farther south is contemplated and the 75% ownership of Applicant assures that right. The drift goes directly under the Big Spar Claim.

The nearest side line of the D J S claim is unquestionably east of the apex of the Smuggler vein, and D J S owners could not possibly have any benefit ? from a discovery resulting from the proposed tunnel. The course of the tunnel

G.C. Selfridge

shown on Exhibit 16 was made to coincide with the apex of the vein because there are no factual data existing from which the dip of the vein can be determined with a degree of certainty. Fragmentary data imply that the dip is westerly however, and consequently the true position of the tunnel will be west of the location at which it is shown, perhaps as much as 150 feet. Without apex rights the D J S owners could not benefit from this exploration. The D.J.S claim is desirable but not essential.

Efforts have been made to acquire the D J S claim in order to avoid the presence of an "island" of unowned ground in an otherwise completely covered tract. It was discovered that taxes are being paid by an heir, who states that she received an interest of questionable percentage from her mother, who in turn was one of many heirs to an estate that was never settled. In the practical sense, acquisition of this claim in the near future is unobtainable, and it is fortunate that the claim is not critical to Applicant's immediate program.

BACKS OVER TUNNEL

Below Lower Tunnel

A point of criticism was made that 4000 feet of tunnel is too great for only 250 feet of backs in the target area. The proposed tunnel will be 850 feet or more below the surface there. The Upper Bird Creek Tunnel penetrated the vein about 200 feet below the surface and just how much excavation of the vein was performed in its upper 200 feet is unknown. A map and fragmentary report furnished to Applicant by Mineral County Mining & Milling Company indicates 400 feet of drift on the vein and a raise to the surface. From the size of the dump no more than that amount of work was done. ?

The Lower Bird Creek Tunnel cut the vein 600 feet below the surface, from which about 200 feet of drifting was done and a raise was driven 300 feet, according to those documents. Another raise was driven 40 feet. The size of the lower dump confirms this information. The only person known to be now living who was ever in the lower tunnel is Mr. Walter V. Riddell, President of the aforementioned company, who has stated that he was in the mine at the time the raise was being driven and that no development work or mining was ever done from that tunnel except as just described. presumably because no ore was found.

From the foregoing discussion and the more detailed description incorporated in Mr. Kelley's report, Exhibit 12, it is reasonable to assume that no stoping was ever done on the Smuggler vein, and that the available

backs over the proposed tunnel are those to the surface, 850 feet, not just to the lower workings, as suggested in the criticism. situation is unchanged; 250 feet of backs below the explored area.

VALUE OF S. P. ANOMALIES

A criticism was made that the value of the S. P. anomalies is questionable since they do not indicate the presence of ore, only structure. Under the existing geologic circumstances no other geophysical tool can be expected to indicate the presence of ore, either. In this district ore will be found in vein structures and to know where the persistent structures are is the first step in finding the ore. A persistent vein that has shown evidence of near-surface vein mineral deposition at its apex, and has been penetrated at some depth where economic mineralization is indicated, is a good prospect for further exploration. Additional investigations by S.P. and other indirect methods - geophysical or geochemical - will add little if anything to the knowledge that presently exists. Examination of the vein by observation and sampling is the remaining step in confirmation of the presence of an ore body. Correct

If the Smuggler vein is shown to contain ore, then the other structures associated with it that were open in the mineralizing period should also contain ore. To be aware of the presence of additional veins, and to know that the direction and location of their trends suggest the likelihood that they are structurally associated with the Smuggler, strengthens the opinion that this locality holds a very substantial silver deposit, which could easily be done, but has NOT been done.

PERSONAL SERVICES

A criticism was made of the proposed "part time" employment of Mr. John J. Kelley in the performance of management, engineering and geologic duties, and that his fee was too high.

Applicant's concept of the execution of its exploration project is to enter into a contract with a reliable mining contractor to furnish the labor, equipment and superintendence for performance of the work, and Applicant will provide, through Mr. Kelley's efforts, the direction, of the contractor's activities, engineering and geological services, inspection, reporting, and in general, management of the program. He will be engaged in the capacity of a consultant, not a foreman, and for these duties his full time employment on the project is neither essential nor practical.

The application says Kelly will perform all the duties of manager, supervisor, engineer, and geologist in 12-15 days per month. If full-time supervision is to be provided, we are satisfied.

The normal fee for consultants of Mr. Kelley's professional stature is currently $150 per day in this region. Mr. Kelley reduced his usual fee by 1/3, and further agreed to absorb his own traveling and out-of-town expenses in accepting this position. The charges he proposes are fair and reasonable for the responsibilities involved. 2 or 3 days a month

Until such time as a contractor can be selected for performance of the job, the qualifications of individuals in his organization cannot be examined. His superintendent and lead men will have to be individuals acceptable to Applicant, however, and Applicant will reserve the right to require their replacement with men of Applicant's choice if not satisfied with their abilities.

WIDTH OF ROAD

We do not object to a portal site

The proposed road to the portal site was criticized as being too wide (24 feet). The purpose of the road is to gain sufficient topographic relief to start a dump for tunnel muck, to provide a flat surface for initial stockpiling of supplies, for shop, compressor, change room, etc. Over a distance of 400 feet immediately adjacent to the portal the road will have to be level to accommodate dump track. Until the dump has grown sufficiently to provide additional width for storage and facilities, a minimum of 24 feet is required for this purpose and a lane for vehicles to deliver supplies. Colorado Mining Laws prohibit construction of flammable buildings or storage of flammable materials within 100 feet of a mine portal. All surface shelters, diesel equipment and tanks, timber, ties, etc., must be located beyond that limit; 400 feet for storage, facilities and open ground is minimum.

We simply do not agree

The remaining 500 feet of road will be in curves and will follow the natural slope of the mountain to join with the existing Bird Creek road. It will have the maximum grade allowable under U.S. Forest Service specifications, 7%, and a 24-foot width is essential under the circumstances. When following the surface slope no embankment is created, as is in the case of following a contour where cut and fill takes place. Accumulated snowfall in the Spar City locality is generally more than 6 feet, and when there is no bank for pushing that much snow off the road, the road has to be wide enough to hold it. ? ?

SIZE AND COST OF TUNNEL

A point of criticism was that the proposed tunnel cross section of 8' x 9' was larger than necessary for exploration purposes and that its estimated cost of $60 per foot was excessive. Applicant contends that the tunnel proposed will be no more expensive to drive than one of smaller section and that the additional room will contribute materially to safety of workmen and ventilation of the openings, both important factors.

The rate of progress in driving the tunnel will be the main controlling factor in its cost. The same transportation and loading equipment will be used as would be in a smaller adit. The larger opening permits the use of a jumbo with larger machines to drill larger diameter ? holes and deeper rounds per set-up, faster, than can be achieved with feed leg drills required by the space limitations of a smaller tunnel. Jumbo drilling will contribute to smooth wall blasting techniques, thus reducing scaling, timbering and overbreak costs, while feed leg drilling defeats those techniques in back holes where it is most needed. An 8' x 9' tunnel smooth wall-blasted will generate little, if any, more muck than one of smaller section with its inherent overbreak.

Safety and ventilation are important factors in any underground operation. In this instance pedestrians and trains will be utilizing the tunnel at the same time and there has to be room for both of them. Of the six headings to be driven in the project, at least three will be in progress at the same time. Intra-shift blasting will be essential to efficient operation, requiring 7500 cubic feet of air per minute in ventilation. The tunnel has to be large enough to readily accommodate return flow air for quick removal of blasting smoke and gasses.

Cost per foot of driving the tunnel may be summarized in 4 categories:

Equipment cost	$14.00
Supplies	22.00
Labor, incl. Supt.	22.00
Miscellaneous - surface shelters, snow plowing, etc.	2.00
TOTAL	$60.00

We don't care how big the adit is, so long as the costs are in line with other operators.

In preparing the estimate of costs, Applicant made an extensive investigation of sources and prices for equipment and supplies for the project and is satisfied that no more accurate appraisal of the cost of these categories can be made. Only used machinery was considered except for cars, in which case none of suitable size and gauge could be found.

Investigation of the mine labor market from which this project will be supplied revealed that the two principal mine operators in the district are paying underground contracted labor, or a combination of contracted labor plus "company" time, at a rate equivalent to $4.25 per hour. To pay less than the accepted market price will simply leave the job unmanned. After adding the prorated cost of the superintendent, mechanic, taxes and insurance, labor for Applicant's project will cost $22 per foot.

SIZE AND COST OF RAISES

The proposed raises were criticized as too large and too expensive. Four important considerations governed the choice of size for raises - to provide a manway large enough to fulfill Colorado Mining Laws regarding ladderways, to permit longholing from the raises, to permit an ore pass compartment large enough to handle the muck broken in the rounds, and to provide enough room for safety of personnel.

Manway in the center with a chute on each side is more practical for future production.

With the raise 5' x 12' in the face, an untimbered section 5' x 5' can be left on one end for a muck pass. The 7' remaining will be occupied by timber, ladderway, slide and piping. After timbering along the muck pass (8" stulls and 3" lagging), stulling along the rib, and collar bracing (possibly with lagging on the hangingwall) between stulls, the manway will be 45" or less from hanging- to footwall and about 60" wide. The timber slide will occupy 30" and the ladderway 30". Colorado Mining Laws require a platform every 20 feet in the ladderway, staggering of ladders, and protection between ladderway and slide. These dimensions are the least practical and safe for the manway compartment.

The muck pass has to be large enough to hold the swollen muck from blasts or the timbering will be crushed. If the chute compartment has to be pulled down too low below the highest timbering to make room for muck,

concussion of cut holes can throw the upper timbers out of line and expensive repair is required. The alternative is to blast the raise in sections to create less muck in each shot, and that is an inefficiency contributing to higher cost. Also, the 5-foot dimension is the minimum in which longhole equipment can be set up and operated for testing hanging- and footwalls.

From the individual experiences of persons in Applicant's organization, with carefully kept cost records, Applicant knows that these raises will cost $110 per foot. Whereas we know that exploratory raises can be driven for half that price.

TIMBERING COST

$12 per foot of tunnel was considered too high for timbering. It may be anticipated that in the Smuggler structure the ground will be highly sheared, probably brecciated, and most likely wet. The hangingwall may be slabby. Where timbering is required, the back and probably the hanging wall will have to be lagged.

At $65 per thousand board feet, the materials cost alone for a 3-piece, 8" x 8", drift set and lagging to span 5 feet of tunnel length will be over $5 per foot. Labor is estimated at $3 per foot and blocking material at $4.? If this was an old, operating mine blocking material in the form of used and scrap timber would be readily available at no cost; in this instance, however, new timber will have to be used. We did not even mention this, but the A.F.O. points out that saddle sets in a standard size drift cost $6/ft.

6" COMPRESSED AIR LINES

An objection was made to the incorporation of a 6" compressed air line in the plan and that 4" would be adequate.

As stated before, at least 3 headings will be driven simultaneously at some periods of the project and at 10,000 feet elevation the demand for air will be as high as 1650 cfm. To put that much air through even a 6" line will cause a pressure drop of 21 psi and compressors will have to operate at 110 pounds. To reduce the size of the line will require an increase of input pressure to overcome the greater pressure drop, and the ultimate result will be compressor failure.

1 drill = 250 cfm max. at 90 lb/in²

750 cfm will lose 1.3 lb/in² per 1000 ft. of 4" pipe

The most remote XC is 2400 ft. from the portal:- Total loss 3.1 lbs.

Nothing in the application indicates that 1650 cfm is needed.

Many people falsely believe that a receiver added near the end of a long air line will compensate for weak delivery of air. This is true only if the receiver holds enough air to supply the demand throughout the peak load. A couple of machines consuming 500 cfm will drain most receivers in less than 2 minutes and from then on the receiver is no help until the demand drops enough to let the receiver refil. A receiver inside will enhance performance of drills and should be used anyhow, but it is no substitute for an adequate air line, without which the project cannot be prosecuted efficiently.

Yours very truly,

MK EXPLORATION COMPANY

President

FMcKinley/sg

The compressor capacity for 3 drills at 10,000 ft. alt. should be 900 c.f.m. Three drills at 250 cfm each = 750 cfm

Many people falsely believe that friction loss is based on compressor capacity instead of cfm delivered.

MME Form 7
(2/63)

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Date	Surname	Code
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	Selbredge	130
5/26	J Thum	110
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		220

MAY 2 6 1965

Mr. Frank M. McKinley
President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Re: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Dear Mr. McKinley:

Careful study of your application for financial assistance in exploring the referenced mine and of other information available to us indicates that the probability of disclosing significant ore reserves on the property is not sufficiently promising to justify Government participation in the proposed exploration. Accordingly, we regret to inform you that your application for exploration assistance is denied.

This denial, however, is made without prejudice to the property. If, at any time in the future, additional favorable information becomes available which indicates targets with potential comensurate with the cost of their exploration, we shall be pleased to consider a new application. Another application should refer to the present one, and need not repeat information already submitted, although new letters to two banks and the replies will be required.

Sincerely yours,

George Fumich, Jr.

Acting Director

RMSmith/mm (5/25/65)
cc: Director's Reading File
Region III
Docket
120M

23263

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
5/24	RM Smith	

May 25, 1965

Memorandum

To: The File

From: R. M. Smith

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Justification For Denial Without Prejudice

The purpose of the project proposed by the Applicant is to explore by:

Road construction, 900 ft. (3,500 cu. ft.)	$3,650
Portal site excavation, 2,200 cu. ft.	2,700
Crosscut adit to the Smuggler vein, 300 ft. @ $60	18,000
Drift along the Smuggler vein to Bird Creek mine, 3,700 ft. @ $60	222,000
Timber, 1,000 feet of drift @ $12	12,000
Crosscuts E & W from drift below S.P. anomaly, 500 ft. @ $55	27,500
Raises at 3 sites to be determined, 450 ft. @ $110	49,500
Assays, 300 for Au., Ag., Pb., Zn., Cu. @ $13.50	4,050
Supervision, geology, engineering (half-time)	22,820
Stenographic work, unforeseeable contingencies	3,000
To be completed in 15 months at a total cost of	$ 365,220

for lead- and silver-bearing ore bodies in and along the Smuggler vein, parallel veins, cross veins, and in minor fractures related to their intersections, particularly in two localities:

1. - 600 feet below Monument Peak where surface self-potential anomalies indicate one vein across and two veins parallel with the Smuggler (2,200 feet from the portal).

23263

2. - 200 feet below the Bird Creek Lower adit, (800 feet below the Bird Creek surface) where two samples from a raise above the Lower adit assayed as follows:

Width	Lead	Silver	Gold
18"	59.5%	20.4 oz.	0.02 oz.
63"	52.7%	19.8 oz.	0.02 oz.

in Tertiary formations unknown to or ignored by the Applicant but believed by T. A. Steven to be Snowshoe Mountain quartz latite at the level of the proposed adit, overlain by Fisher quartz latite in upper levels of the mine, both of which are in the Creede caldera just north of the south rim.

The Applicant expects to find ore in the two localities to be explored (or possibly anywhere along the Smuggler vein) because

(1) the ore bodies at Creede, 10 miles north, are in faults of the same age;

(2) barite, jasperoid, manganese oxide, and "moderate silver values" are found in unspecified locations on the Applicant's property;

(3) the old workings are assumed to be in the upper portions of the original deposits (topo ranges from 9,600' to 11,300' alt.);

(4) the proposed work is located at the maximum practical depth for an adit which is about 200 feet below the Bird Creek lower adit at an altitude of about 10,000 feet, although the exact alt. is not stated.

None of the foregoing reasons for expecting to find ore is a valid component of geologic inference in the process of identifying exploration targets. All but one of the targets of the proposed project are nebulous; they include ore bodies that might be found anywhere in the 4,000 feet of work along the Smuggler vein, but are not inferred to be at any particular spot owing to inadequate information which in turn is owing to thick soil and timber and very few exposures of the vein. The area indicated by the S.P. anomalies is 500 feet wide and 2,500 feet long where

anomalies indicate faults but do not indicate ore bodies and hence do not constitute specific targets. The Bird Creek mine, which is labeled "Target No. 1" on the Applicant's map, is the only specific target. Here the downward continuation of an ore deposit can be inferred in a fairly restricted area. However, the Applicant proposes simply to drift below the old workings without subsidiary crosscutting, raising, or drilling. Because this is the only specific target, the whole project can, in effect, be characterized as 4,000 feet of adit to get 200 feet of backs below a mine that produced very little. Other specific targets along the Smuggler vein would strengthen the project and these might be indicated by " . . . a few core drill holes or even surface trenching . . .," as suggested by the Acting Field Officer; but the Applicant has not responded to this suggestion.

may be 250'

The Government's share of the costs of the proposed project would be $273,915, which exceeds the lawful limit of $250,000 for an OME contract.

Although the proposed project could be accomplished for less money by reducing the size of openings and equipment, the Applicant has evidently elected to justify its high costs rather than to reduce them.

As pointed out by the Acting Field Officer, "The Government is being asked to spend too much money on an extensive exploration program based on information which is too meager . . ." On the other hand, he also points out that "Steven believes that the area warrants exploration."

I consider that both of these views are valid and recommend, therefore, that the application be denied without prejudice.

Roscoe M Smith

R. M. Smith

RMSmith/mm
cc: Director's Reading File
Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

Bldg. 20, Denver Federal Center
Denver, Colo. 80225

OFFICIAL COPY
O. M. E.
RECEIVED
MAY 20 1965

INITIALS	CODE
	120
	120

May 19, 1965

Memorandum

To: George C. Selfridge, Chief
Division of Exploration Operations
Washington, D. C. 80225

From: Acting Field Officer, OME, Region III

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

This responds to your memorandum of May 3, 1965 on the subject docket.

On May 13, 1965 I discussed this application with Tom Steven, U.S.G.S., who made the following comments:

1. In the third paragraph of your memorandum of May 3 you stated, "Moreover, the proposed project area is within the caldera as defined by the hypothetical fault whereas, in the Bulldog Mountain area near Creede, the formations within the caldera were found to be relatively unfavorable for the occurrence of ore. At Bulldog Mountain the favorable environment is considered to be hard, brittle rhyolite below a stratum of soft tuff which may have restricted the passage of mineralizing solutions to the rhyolite (OME-6143 and OME-6288)."

Tom Steven said that this is not applicable.

2. Steven believes the proposed adit level would probably be in the Snowshoe Mountain Quartz Latite. The upper levels would be in the Fisher Quartz Latite.

3. Steven said that heavy timber and soil cover the surface so there are few exposures.

4. Steven said he had no ideas regarding the value of the Self-Potential anomalies.

5. He also said that there is no doubt that the proposed area is mineralized and that the mineralization is typical of the Creede District. He said that surface mapping would be of no use and that none of the old workings are accessible.

6. Steven believes that the area warrants exploration.

The Applicants, Frank McKinley and John Kelley, came to the Region III OME office on May 17, 1965, and I discussed their proposed costs with them. I explained that we must be fair with everybody and we can't pay one contractor one price and pay double that price to a neighboring contractor for the same item. I mentioned their request for $12.00 a foot for saddle sets as an example. Ted Rizzi told me that at Bulldog Mountain-OME 6288 their cost of saddle sets was $6.00 a foot and he will soon request an Amendment for that amount.

Frank McKinley said he would write me a letter of justification of his proposed costs which I might not believe but I will forward it to you.

5/24/65 Wait for letter?

The Applicants stated that they will be unable to obtain the D.J.S. claim but could get the 1/4 interest in the Big Spar claim. = Essential (or L4S. Agmt.) — OK

Kelley stated that there are 850 feet of backs from the proposed adit to surface. He said a raise had been driven in ore from the Bird Creek Lower Tunnel but there had been no stoping. Too much definite proof is lacking. (acceptable without proof)

Correct: So what? only 200' of backs to B.C. lower adit

exaggeration 2 ounce assays does not indicate "ore"

Frankly, the best thing I see about this application is that Tom Steven believes the area is worth exploring. It strikes me as being a long-shot, especially at 75 percent Government participation.

The application states that the vein is traceable by open pits for 7,000 feet but fails to state the character of the vein at these pits and the amount of silver contained, if any. The Government is being asked to spend too much money on an extensive exploration program based on information which is too meager at this time. Perhaps a few core drill holes or even surface trenching would give us a better idea of the true value of the indicated target area.

Is this a recommendation?

Hugh M. Connors

Hugh M. Connors

H.M.C. (5-19-65)
cc: 6440
Chron

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
4/30	R M Smith	130
	Selfridge	130
5-3	[illegible]	110
	[illegible]	100
5/3	cae	220
		120 mc

MAY 3 1965

Mr. Frank M. McKinley
President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Re: OMK-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

Dear Mr. McKinley:

The application for assistance in exploring the subject property has been reviewed by the Division of Exploration Operations of the Office of Minerals Exploration and referred to Mr. H. M. Conners, Acting Field Officer, Office of Minerals Exploration, Region III, Bldg. 20, Federal Center, Denver, Colorado, 80225.

The Regional Office will notify you in case additional information concerning the application is needed.

Sincerely yours,

George Furnich, Jr.

Acting Director

MMerrithew/mm
4/30/65
cc: Director's Reading File
Region III
Docket

23263

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
4/30	R M Smith	120
		130
5/3		110
		100
		220
		120

MAY 3 1965

Memorandum

To: Acting Field Officer, Region III

From: Chief, Division of Exploration Operations

Subject: OME-6440 (Silver)
MK Exploration Company
Bird Creek Mine
Mineral County, Colorado

The application is referred to Region III for review, a field examination if you consider it necessary, and for recommendations.

Our review indicates that the probability of a discovery commensurate with the high cost of the proposed project does not warrant Government participation unless there is considerably more geologic justification than is submitted in the application and the cost is substantially reduced.

Part of the geologic justification for the proposed project is the proximity of a major east-trending border fault along the south rim of the Creede Caldera. According to Steven (p. D 125), this fault is only postulated and has not been actually observed. Moreover, the proposed project area is within the caldera as defined by the hypothetical fault whereas, in the Bulldog Mountain area near Creede, the formations within the caldera were found to be relatively unfavorable for the occurrence of ore. At Bulldog Mountain the favorable environment is considered to be hard, brittle rhyolite below a stratum of soft tuff which may have restricted the passage of mineralizing solutions to the rhyolite (OME-6143 and OME-6288). The present applicant does not state what formation is to be explored. Neither does it suggest whether the old workings are shallow because a different formation was encountered in depth, or because the richer oxide ore was bottomed.

Other geologic justifications are based upon the assumption that the old workings are in the upper portions of the original ore deposits, and upon the occurrence of barite, jaspereid, manganese

23263

oxide, and moderate silver values in unspecified locations on the surface. Although most of the proposed work is to be on the Smuggler vein, the surface exposures of this vein are not described, and no evidence of vertical zoning is mentioned in spite of a topographic relief of 1,700 feet.

The value of the Self-Potential anomalies is questionable since they do not indicate ore. Indications of structure in an area already known to be laced with structures may be of little value in the search for ore.

The Applicant has presented a good case against other, less costly, methods of exploration; but it has not shown clearly the value of the method proposed. If Target No. 1 (Bird Creek mine) is the principal target, then 4,000 feet of adit is excessive to get 200 feet of backs below the Bird Creek Lower Tunnel. We note that subsidiary exploration beyond simply drifting under the old workings is not planned.

Assuming satisfactory geologic justification for the proposed exploration, a project having specifications similar to those in OMK-6288, Contract 2166, may be warranted. Such a project would include reductions in the proposed width of roadway, in the size of drifts, raises, and air line, in the amount and rate for consulting services, and in the overall cost which is now larger than the lawful limit for an OMK project. We heartily concur in your preference for full-time supervision.

If you recommend a contract, the remaining 1/4 interest in the Big Spar claim should be obtained by the Applicant. The D.J.S. claim may be necessary to a contract since one side line is about 100 feet from the proposed drift. Lien and Subordination Agreements signed by the Applicant are not required. We are returning one set for the claims owned by MK Exploration Company.

George C. Selfridge (glc)

Enclosures

RMSmith/mm (4/30/65)
cc: Director's Reading File
Review Committee
Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
Bldg. 20, Denver Federal Center
Denver, Colo. 80225

AIR MAIL

April 19, 1965

Memorandum

To: George C. Selfridge, Chief
Division of Exploration Operations
Washington, D. C. 20240

From: Acting Field Officer, OME, Region III

Subject: Application for OME aid (Silver-lead-zinc)
MK Exploration Company
Spar City
Mineral County, Colorado

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O. M. E.
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120

Under separate cover I forwarded you one copy of the subject application for aid in the amount of $365,220.00.

The president of the applicant company is Frank McKinley, who was the original applicant on Bulldog Mountain-Humphreys Exploration Co., OME 6143, Contract 2130, and quit after Stage I.

It is noted that the applicant specifies a minimum size adit 8' wide by 9' high above track. I will recommend saddle sets only in drifting, and then only when conditions are favorable. I believe the State Mine Inspector will agree. I want the size of ditch to be specified in the contract, if one is made. I like a full time engineer or geologist for $900 a month instead of one for $1,500.00 a month who would be there 12 days. We only have one job in Region III now operating that has adequate supervision.

Hugh M. Connors

Hugh M. Connors

H. M. Connors (4-19-65)

cc: File

April 19, 1965

Mr. Frank M. McKinley, President
MK Exploration Company
2955 Cherryridge Road
Englewood, Colorado 80110

Subject: OME-6440

Dear Mr. McKinley:

Your application for exploration assistance, dated April 2, 1965 submitted to our office at Denver, Colorado has been assigned Docket Number OME - 6440.

Please identify all future correspondence relating to your application by this docket number.

Sincerely yours,

George C. Selfridge, Chief
Division of Exploration
Operations

Copy to Region III

GRAPHIC LOG - DDH NO. 4

MK EXPLORATION COMPANY, OPERATOR

SPAR CITY, MINERAL COUNTY, COLORADO

OME - 6440 (Silver)

CONTRACT NO. 2226

DIRECTION: S 75° W

INCLINATION: -45°

COORDS: 5997E, 10,278N

DRILLED: Oct. 7 to Oct 31, 1966

Depth 1" = 20'

Core Runs & Rec.

STRUCTURE 2

Au-Tr Ag-0.2

0 — 5.0 Weathered Ts, rubbly, baritic (overburden)

Start NX

4.0 — 1.0 Mod. welded, weathered Ts, dk. gray.

2.0 — 0.5 Poorly welded, rubbly Ts. Dk. gray, weathered for 1.5' of core and 0.5' massive barite.

Lt. gray, bleached Ts. Core in small pieces.

4.0 Dk. gray mud or gouge.

Int. alt., purplish gray, rubbly Ts. Gritty & clayey.

4.0 Blueish gray mud.

6.0 Int. alt., dk. gray, rubbly Ts. Feldspars alt. to chalky masses.

4.0

50 — 10.0 Dk. gray Ts por., fresh to bleached, pervaded by barite. Mod. welded, vuggy locally.

10.0

6.0

4.0

5.0

4.0

6.0 Dk., med. & lt. gray Ts por. Locally vuggy. Barite on joints & in vugs. Alt. slight to mod. Occasional FeOX staining.

3.0

100 — 9.0

10.0

1.0 Lt. gray, bleached, mod. welded Ts. Barite & FeOX staining.

10.0

4.0 Med. gray, mod. welded Ts.

0.5 Lt. gray, bleached Ts. Alt. & pervaded by barite. Generally FeOX stained, red mud on some jts. Core in small pcs.

3.0

2.0

6.0 Med. to dk. gray, densely welded Ts por. FeOX staining on joints.

3.0

150 — 3.5

3.5 Dk. gray, densely welded Ts por. Barite & FeOX stains on joints & in vugs. Alt. slight.

6.0

6.0

5.0

5.0

4.0

4.0

4.0

0.5

1.0 1.5 Hard, dk. brownish gray, densely welded Ts por. Barite after 185', bleached and pervasive barite after 189'. FeOX stained.

0.5 3.0

200 — 8.0

2.0

2.0

4.0

2.0

2.0 Lt. gray Ts por., mod. to den. welded. FeOX staining. Most of core in small pieces.

0.5

1.0 1.5

2.0 2.0

4.0 Med. gray, mod. welded Ts por., FeOX staining. 50% of core in small pieces.

5.0

1.5

1.0 Lt. gray Ts por. Core in small pcs. Start BX @ 240'.

5.0 Dk. to med. gray Ts por. FeOX on joints. Den. welded.

250 — 10.0 Med. gray Ts por. FeOX stained, baritic.

Med. to lt. gray Ts por. Vuggy, FeOX & barite in vugs.

10.0 FeOX diminishes with depth. Bleached & alt.

Alt. & bleaching lessen after 271'.

10.0

10.0 Core becomes pinkish gray after 281'.

2.0

5.0 Core in small pieces after 295'.

SMUGGLER

300 — 1.0

Au-Tr; Ag-0.40 Cu-0.05

1.5 Int. alt., yellow & pinkish gray Ts por., soft & vuggy. FeOX stained, core in small pieces.

2.0

7.0 Lt. gray Ts por., moderately alt.

3.0 1.5 Barite concentration @ 321'.

1.5 Alt. increases after 324'.

8.0 Lt. lavender Ts por., rubbly & poorly welded.

2.0 Yellowish & reddish brown & gray Ts por. Poorly welded, vuggy & alt. Some gritty gouge.

1.5

1.0 Lt. gray Ts por. Feldspars int. alt. locally, barite locally. Core in small pcs., disintegrated @ 349'.

0.5

350 — 1.0 1.5

1.5 2.0

1.0 Reddish Ts por., unalt. to slightly alt., mod. to densely welded.

4.0 Alt. increases & color is greenish gray after 359'.

2.0 Color lightens to lt. gray after 364', bleached.

5.0 Core 90% disintegrated after 367'.

2.0

10.0? Core in larger pcs. after 385', very bleached, some calcite. Color lt. pink.

7.0

Slightly less bleaching after 396'. Some barite, calcite & FeOX staining. Color pink.

400 — 10.0

9.0 Med. gray, mod. welded, only slightly alt. Ts por. FeOX and barite on joints.

2.0

0.25 More bleached, core in small pcs. after 415'.

2.0

2.0

4.0

0.5

3.0

2.0

1.0 Med. & lt. gray Ts por. Bleached & int. alt. Core in small pcs., disintegrated locally. Minor calcite.

2.0

450 — 4.0

5.0

9.0

1.5 FeOX stained 467'-470'.

5.0

10.0

8.0 Lt. gray, changing to med. & dk. gray, Ts por. Alt. & bleaching decreasing. Densely welded, calcite on fracts.

500 — 10.0 Color changed to med. gray @ 505'. Alt. & fragmentation of core increasing.

8.0

3.0 Color darkens, alt. decreases, more FeOX staining after 514'.

10.0

8.0 Calcite Xls. @ 534'.

STRUCTURE 4

1.0 Yellowish & pink-gray Ts por. Core in small pcs. Small vein. of?

8.0 Lt. & pinkish gray Ts por. Alt. decreasing with depth, only locally bleached.

550 — 10.0

10.0 Calcite & barite filling vugs after 567'.

3.0

0.5

8.0 Bleached after 573'.

7.0

9.0

600 — 3.0 Pink Ts por., FeOX stained. Alt. & bleached, core in small pieces, possible vein.

Ts = Snowshoe Mountain formation

GRAPHIC LOG - DDH NO. 4

MK EXPLORATION COMPANY, OPERATOR — DIRECTION: S 75° W

SPAR CITY, MINERAL COUNTY, COLORADO — INCLINATION: -45°

OME - 6440 (Silver) — COORDS: 5997E, 10,278N

CONTRACT NO. 2226 — DRILLED: Oct. 7 to Oct 31, 1966

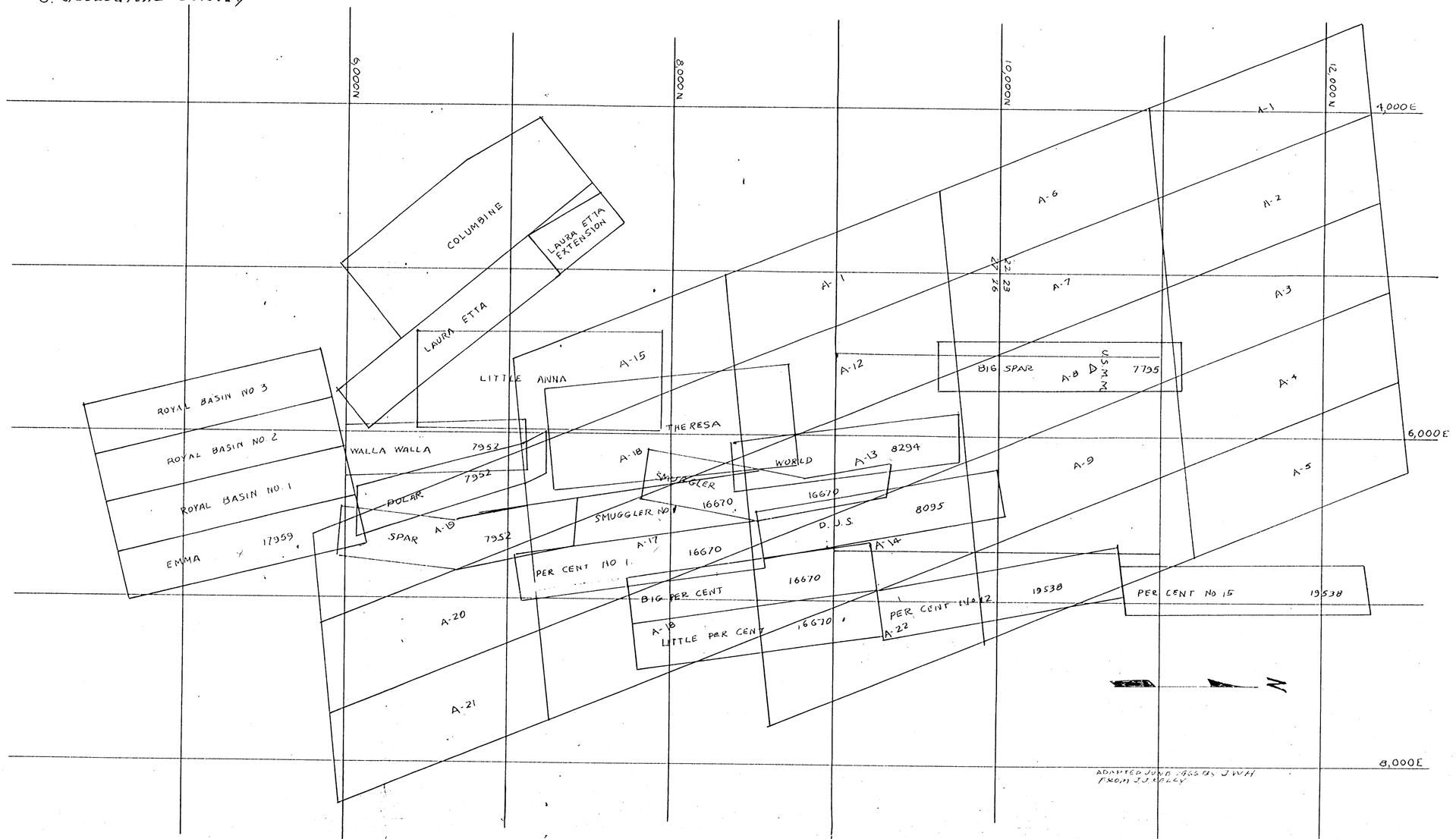
Depth 1" = 20'

Depth	Core Runs & Rec.	Description
0	5.0	Weathered Ts, rubbly, baritic (overburden)
	4.0	Start NX
	1.0	Mod. welded, weathered Ts, dk. gray.
	2.0	Poorly welded, rubbly Ts. Dk. gray, weathered for 1.5' of core and 0.5' massive barite.
	0.5	Lt. gray, bleached Ts. Core in small pieces.
	4.0	Dk. gray mud or gouge.
	4.0	Int. alt., purplish gray, rubbly Ts. Gritty & clayey.
	6.0	Bluish gray mud.
	4.0	Int. alt., dk. gray, rubbly Ts. Feldspars alt. to chalky masses.
50	10.0	Dk. gray Ts por., fresh to bleached, pervaded by barite. Mod. welded, vuggy locally.
	10.0	
	6.0	
	4.0	
	5.0	
	4.0	
	6.0	Dk., med. & lt. gray Ts por. Locally vuggy. Barite on joints & in vugs. Alt. slight to mod. Occasional FeOX staining.
	1.0	
100	9.0	
	10.0	
	1.0	Lt. gray, bleached, mod. welded Ts. Barite & FeOX staining.
	10.0	
	4.0	Med. gray, mod. welded Ts.
	0.5	Lt. gray, bleached Ts. Alt. & pervaded by barite. Generally FeOX stained, red mud on some jts. Core in small pos.
	1.0	
	2.0	
	6.0	Med. to dk. gray, densely welded Ts por. FeOX staining on joints.
	1.0	
150	1.5	
	1.5	Dk. gray, densely welded Ts por. Barite & FeOX stains on joints & in vugs. Alt. slight.
	6.0	
	6.0	
	5.0	
	5.0	
	4.0	
	4.0	
	4.0	
	0.5	
	1.0	
	1.5	Hard, dk. brownish gray, densely welded Ts por. Barite after 185', bleached and pervasive barite after 189'. FeOX stained.
	1.0	
200	8.0	
	2.0	
	2.0	
	4.0	
	2.0	Lt. gray Ts por., mod. to den. welded. FeOX staining. Most of core in small pieces.
	2.0	
	0.5	
	1.0	
	1.5	
	2.0	
	4.0	Med. gray, mod. welded Ts por., FeOX staining. 50% of core in small pieces.
	5.0	
	1.5	Lt. gray Ts por. Core in small pos. Start BX @ 240'.
	1.0	
	5.0	Dk. to med. gray Ts por. FeOX on joints. Den. welded.
250	10.0	Med. gray Ts por. FeOX stained, baritic.
	10.0	Med. to lt. gray Ts por. Vuggy, FeOX & barite in vugs. FeOX diminishes with depth. Bleached & alt.
		Alt. & bleaching lessen after 271'.
	10.0	
	10.0	Core becomes pinkish gray after 281'.
	2.0	
	5.0	Core in small pieces after 295'.
300	1.0	
	1.5	Int. alt., yellow & pinkish gray Ts por., soft & vuggy. FeOX stained, core in small pieces.
	2.0	
	7.0	Lt. gray Ts por., moderately alt.
	1.0	Barite concentration @ 321'.
	1.5	Alt. increases after 324'.
	1.5	
	8.0	Lt. lavender Ts por., rubbly & poorly welded.
	2.0	Yellowish & reddish brown & gray Ts por. Poorly welded, vuggy & alt. Some gritty gouge.
	1.5	
	1.0	Lt. gray Ts por. Feldspars int. alt. locally, barite locally. Core in small pos., disintegrated @ 349'.
	0.5	
350	1.5	
	2.0	
	1.0	Reddish Ts por., unalt. to slightly alt., mod. to densely welded.
	4.0	
	2.0	Alt. increases & color is greenish gray after 359'.
	5.0	Color lightens to lt. gray after 364', bleached. Core 90% disintegrated after 367'.
	2.0	
	10.0?	Core in larger pos. after 385', very bleached, some calcite. Color lt. pink.
	7.0	
400	10.0	Slightly less bleaching after 396'. Some barite, calcite & FeOX staining. Color pink.
	9.0	Med. gray, mod. welded, only slightly alt. Ts por. FeOX and barite on joints.
	8.0	
	0.25	More bleached, core in small pos. after 415'.
	2.0	
	2.0	
	4.0	
	0.5	
	1.0	
	2.0	
	1.0	Med. & lt. gray Ts por. Bleached & int. alt. Core in small pos., disintegrated locally. Minor calcite.
	2.0	
450	4.0	
	5.0	
	9.0	
	1.5	FeOX stained 467'-470'.
	5.0	
	10.0	
	8.0	Lt. gray, changing to med. & dk. gray, Ts por. Alt. & bleaching decreasing. Densely welded, calcite on fracts.
500	10.0	Color changed to med. gray @ 505'. Alt. & fragmentation of core increasing.
	8.0	
	1.0	Color darkens, alt. decreases, more FeOX staining after 514'.
	10.0	
	8.0	Calcite Xls. @ 534'.
	1.0	Yellowish & pink-gray Ts por. Core in small pos. Small vein.
	8.0	Lt. & pinkish gray Ts por. Alt. decreasing with depth, only locally bleached.
550	10.0	
	10.0	Calcite & barite filling vugs after 567'.
	1.0	
	0.5	
	8.0	Bleached after 573'.
	7.0	
	9.0	
600	1.0	Pink Ts por., FeOX stained. Alt. & bleached, core in small pieces, possible vein.

Ts = Snowshoe Mountain formation

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

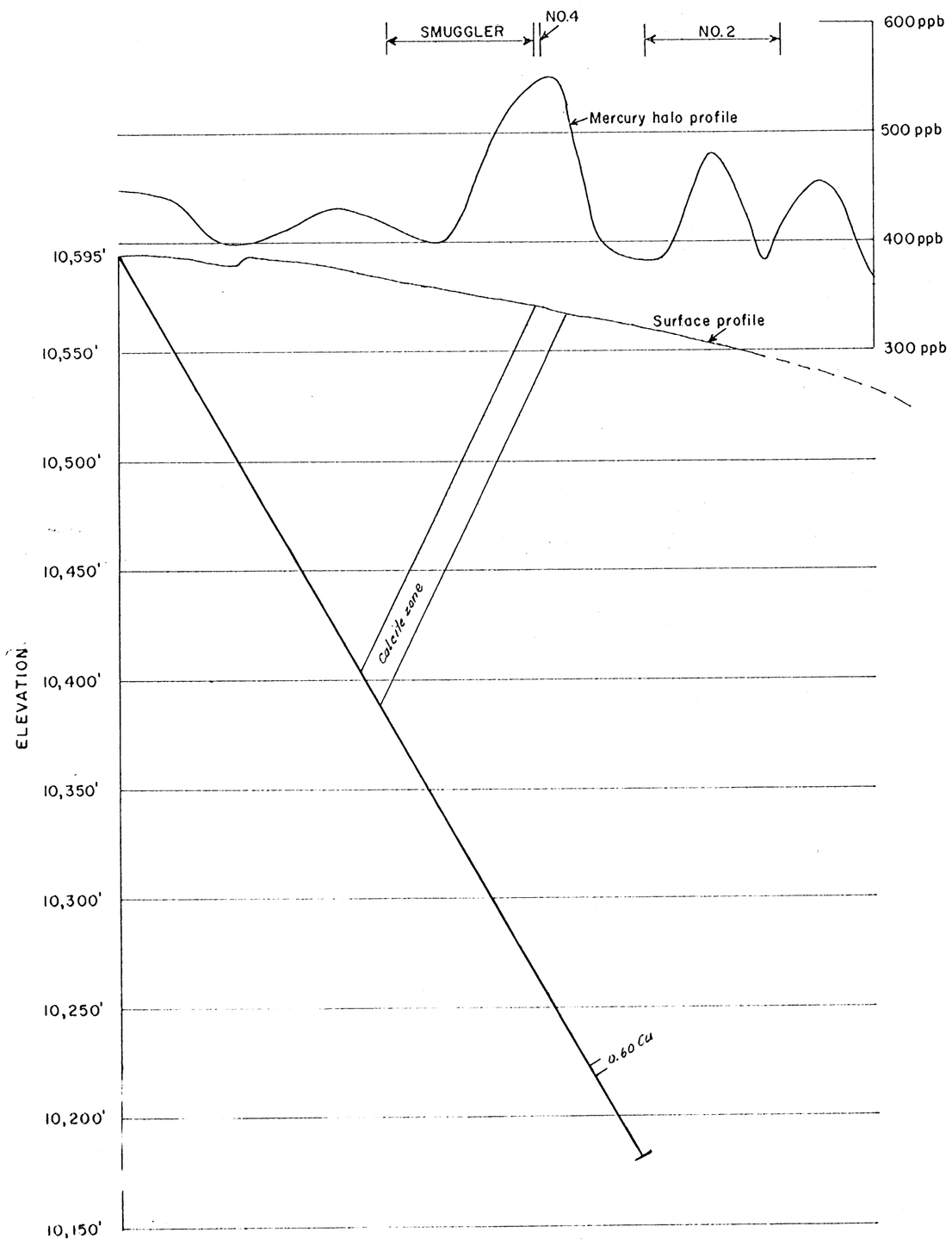
OFFICE OF MINERALS EXPLORATION
DOCKET 6440



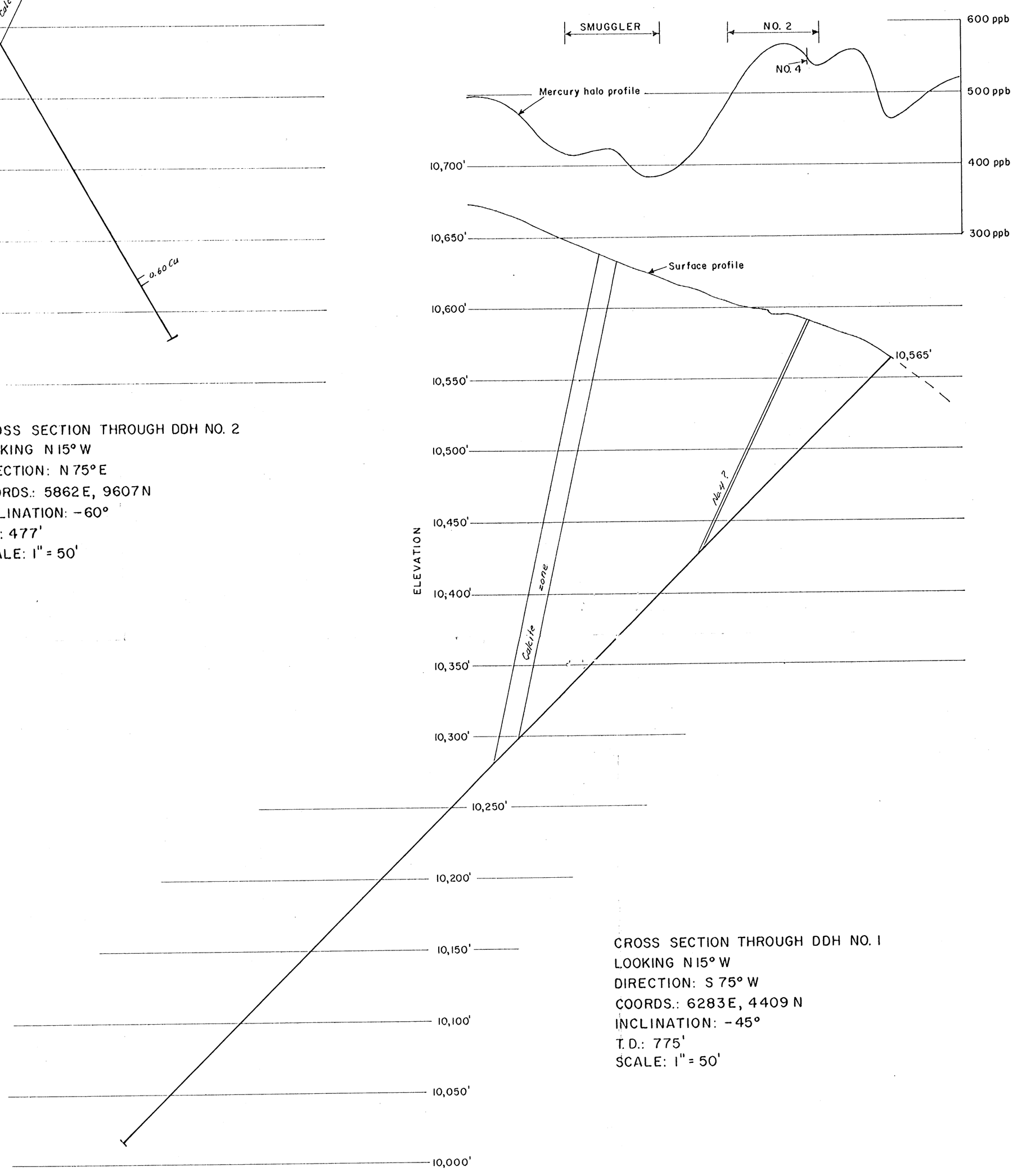
ADAPTED JUNE 1955 BY JWH
FROM J.J. KELLY

FIGURE 1 CLAIM MAP OF THE SPAR CITY AREA, MINERAL COUNTY, COLORADO
SHOWING
MK EXPLORATION COMPANY OWNED AND LEASED PROPERTY
SCALE 1" = 500'

500 0 500 1000
FEET



CROSS SECTION THROUGH DDH NO. 2
LOOKING N 15° W
DIRECTION: N 75° E
COORDS.: 5862 E, 9607 N
INCLINATION: -60°
T.D.: 477'
SCALE: 1" = 50'



CROSS SECTION THROUGH DDH NO. 1
LOOKING N 15° W
DIRECTION: S 75° W
COORDS.: 6283 E, 4409 N
INCLINATION: -45°
T.D.: 775'
SCALE: 1" = 50'

NOTES:

Structure locations from Exhibit 3, Amendment to OME-6440, dated March 17, 1966.
MK Exploration Co., Operator
Spar City, Mineral County, Colo.
OME 6440 (Silver)
Contract No. 2226
Sept., 1966

GRAPHIC LOG - DDH NO. 1

MK EXPLORATION COMPANY, OPERATOR

SPAR CITY, MINERAL COUNTY, COLORADO

OME - 6440 (Silver)

CONTRACT NO. 2226

DIRECTION: S 75° W

INCLINATION: -45°

COORDS: 6283E, 9409N

DRILLED: Sept. 13 to Oct. 3, 1966

Depth 1" = 20'

Core Runs & Rec.

0

5.0 Overburden to bedrock. Ts, weathered, purplish-gray.

Start NX @ 10'

8.0 Lt. to purplish-gray Ts. Slightly bleached 10'-12'

Ts alt. to gray clay

Lt. gray Ts por. Minor rubble, weathered or alt.

5.0 Med. to dk. gray, mod. welded Ts, slightly altered, very rubbly.

8.0

2.0

8.0 Pinkish to lt. gray, rubbly Ts, mod. alt. Barite on joint at 39'

1.0

50 — 2.0

6.0 Lt. gray, densely welded Ts. Barite and FeOX staining on joints. Less densely welded 52'-54'.

1.0

4.0 Lt. gray, chalky, mod. welded and alt. Ts.

1.5

3.0 Purplish to lt. gray, mod. welded, alt. Ts. FeOx on fracts. Core in small pos.

2.0

2.0

1.0

3.0 Purplish to lt. gray, mod. welded Ts. Porphyritic, only slightly rubbly. Core mostly in small pos.

4.0

4.0

3.0

2.0 Lt. gray Ts por. Alt. & chalky.

2.0

100 — Purplish, rubbly Ts. Barite & FeOX staining @ 104'.

10.0

5.0 Purplish to pinkish gray Ts por. Barite @ 105' & 112'.

6.0

5.0 Pinkish gray Ts. Rubbly, locally bleached & FeOX stained.

9.0

Mod. to densely welded, dk. gray Ts por.

8.0 Lt. & pinkish gray, mod. welded & slightly alt., rubbly Ts

150 — 7.0 Dk. & lt. gray, mod. to densely welded Ts por.

0.5

4.0 Purplish gray, mod. welded Ts por., locally alt. and locally rubbly. Barite @ 153' & 154'.

2.0

1.5

2.0 Au-Tr; Ag-0.20 Lt. gray, bleached & alt. Ts por., mostly densely welded.

8.0

5.0 Lt. & purplish gray Ts, mostly densely welded, barite veinlets 178'-181'.

Au-Tr; Ag-0.40

4.0

9.0 Purplish, rubbly Ts, moderately welded.

Au-Tr; Ag-5.00 Pb-2.25; Zn-2.25

Lt. gray, densely welded Ts. 0.5' barite @ 193'

Lavender, brecciated Ts. Barite on fracts. @ 197'.

200 — 9.0 Galena, sphalerite, barite vein, minor stibnite

Purplish to lt. gray, moderately to densely welded Ts por. Often rubbly, occasional MnO on fracts.

9.0

9.0

9.0 Lavender-, greenish and pinkish gray, poorly welded Ts, very rubbly. Locally altered. Clay seams @ 227' & 229'.

9.0

250 — 9.0

9.0 Core tends to disintegrate 264'-265'.

5.0

5.0

8.0

10.0

300 — 5.0

Med. to lt. gray, mod. alt. Ts por. with some rubble. Poorly to mod. welded.

Correction for error in driller's footage.

300 — 5.0

5.0

10.0

1.0

8.0

10.0 Purplish, reddish and dark gray Ts. Rubbly, moderately to densely welded, porphyritic

9.0

350 — 10.0

10.0

10.0

Au-Tr; Ag-Tr Chlorite & clay alteration from Ts rubble.

10.0

Au-Tr; Ag-0.20 Calcite replacing Ts rubble.

Au-Tr; Ag-Tr Tan calcite with minor chloritic clay stringers @ 386', 389', 391'-392'.

4.0

5.0

Au-Tr; Ag-0.20 Au-Tr; Ag-Tr Intensely alt. Ts rubble with 1.0' reddish calcite @ 395'.

400 —

10.0 Mod. alt. Ts por. & rubble, dk. gray.

10.0

10.0 Lt. gray, alt. & bleached Ts por., rubbly. Greenish cast to gray, locally purplish.

7.0

6.0

7.0

450 — 10.0 Same as above but less rubbly and no local purple color. Color is light lavender with greenish cast and slight FeOX staining on joints. Contains minute, black, unidentifiable mineral, possibly biotite.

9.0 Purplish & brownish gray, mod. welded Ts por. with waxy, green and dk. green mineral on joints.

10.0

9.0 Purplish Ts por. changing to lt. lavender. Barite and alt. feldspar on joints & in vugs.

10.0

500 — 10.0 Dk. gray Ts por., unaltered to slightly alt., mod. to densely welded. Barite seen only locally. Lightens in color to lavender.

1.0

10.0 FeOx staining and barite more prevalent 512'-514'. This core in small pos., vuggy.

Barite @ 519'

9.0

10.0

10.0 Med. to light gray Ts por., only minor rubble. Barite seen frequently on fracts. From 543'-547' core is badly broken & FeOx stained.

550 — 10.0

Very dk. gray Ts por. with occasional barite & FeOX seams

10.0 Lt., changing to very dk. gray Ts por., heavily FeOx stained. Core tends to disintegrate, altered.

3.0

7.0

10.0 Lt. gray, changing to lt. lavender, Ts por. Intensely alt. & with barite, 572'-574'. After 574', mod. alt., mod. to densely welded, locally FeOX stained, color darkening. Magnetite prevalent.

8.0

600 — 10.0

Core tends to disintegrate 605'-610'.

10.0

After 617, more green staining and waxy, green alt. feldspar.

10.0

1.5 0.5' clear calcite.

10.0 Poorly to mod. welded, lavender Ts por. Vuggy, FeOx staining & magnetite increased, feldspars alt.

1.0 Lt. gray, bleached, mod. welded Ts por.

9.0

Tan, vuggy Ts por. Heavily FeOX stained, core in many pos.

2.5

650 — 1.0

5.0 Lt., pinkish gray Ts por., easily broken. Mod. FeOX staining, appears bleached.

7.0

10.0

3.0 Lt. lavender Ts por. Vuggy, alt., FeOX stained, disintegrates locally. Narrow calcite stringers.

4.0

2.0

5.0

2.5 1.0

0.5 Lt. lavender-gray Ts, int. alt., highly baritic.

5.0

700 — 10.0 Med. to light lavender-gray, densely welded Ts with calcite stringers and some barite.

10.0

Narrow seam massive barite @ 717.5'.

9.0

10.0

4.0 Same material as above but 90% to 100% disintegrated to sandy mass, bleached.

6.0

750 — 5.0

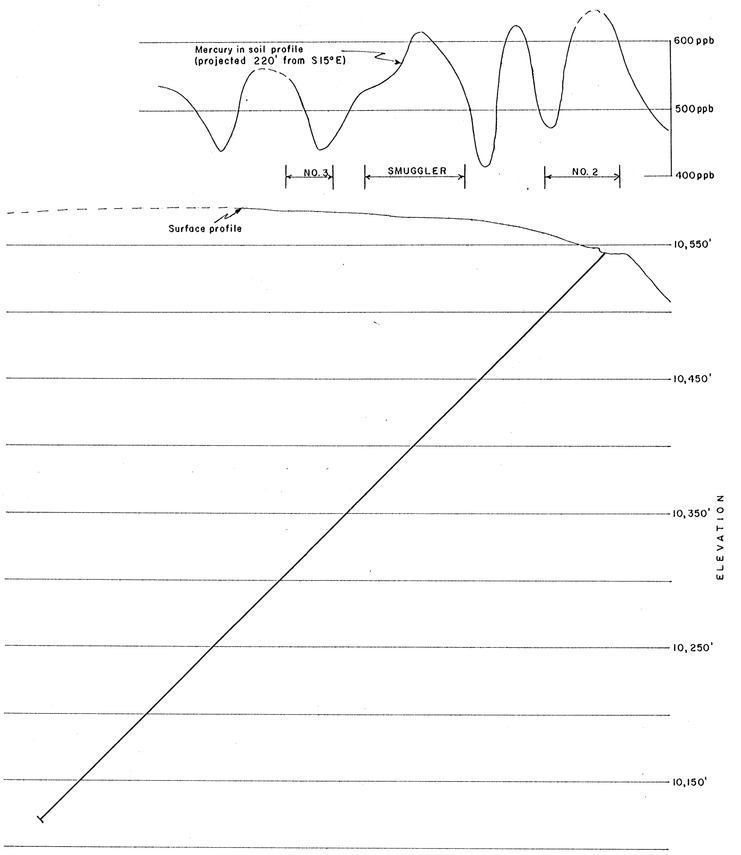
2.0

1.0

5.0

7.0 Lt. gray, bleached, mod. welded Ts por., soft.

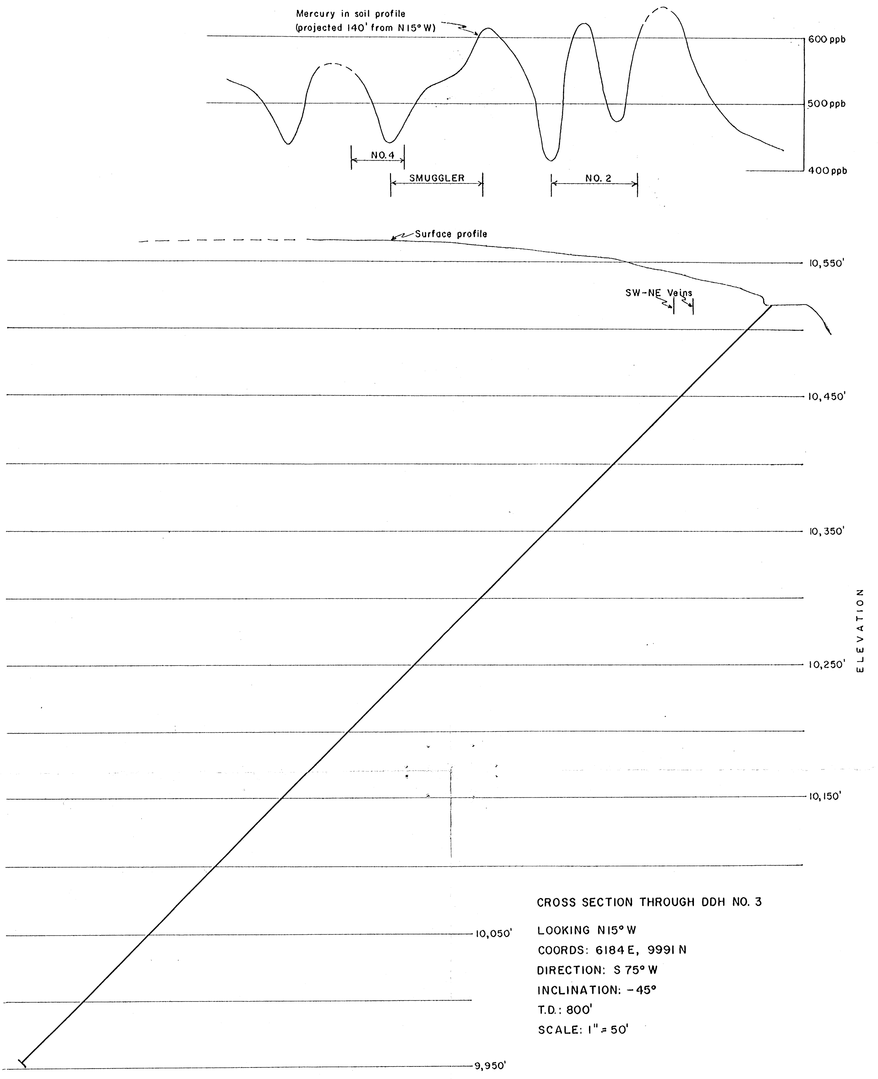
775



CROSS SECTION THROUGH DDH NO. 4

LOOKING N 15° W
COORDS: 5997 E, 10278 N
T.D.: 600'

DIRECTION: S 75° W
INCLINATION: -45°
SCALE: 1" = 50'



CROSS SECTION THROUGH DDH NO. 3

LOOKING N15° W
COORDS: 6184 E, 9991 N
DIRECTION: S 75° W
INCLINATION: -45°
T.D.: 800'
SCALE: 1" = 50'

NOTES:

Structure locations from Exhibit 3, Amendment to OME-6440, dated March 17, 1966.
MK Exploration Co., Operator
Spar City, Mineral County, Colo.
OME-6440 Contract No. 2226
Oct. - Nov., 1966

GRAPHIC LOG - DDH NO. 3

MK EXPLORATION COMPANY, OPERATOR — DIRECTION: S 75° W

SPAR CITY, MINERAL COUNTY, COLORADO — INCLINATION: -45°

OMG - 6440 (Silver) — COORDS: 6184E, 9991N

CONTRACT NO. 2226 — Altitude 177 — DRILLED: Sept. 30 to Nov. 20, 1966

Depth 1"=20'

Core Runs & Rec.

0.0 — Overburden, no core.

Cased to 20', start NX.

Lt. gray Ts. Core in small pieces.

Lt. gray Ts, weathered, soft and chalky. Core in small pieces, some gray mud.

Mod. welded, tan Ts. Partly leached, some cherty vein matter, FeOX stained and barite

Barite impregnated and silicified Ts. Dk to lt. gray, FeOX stained. Core in small pieces, some showing banding.

Mostly small, dk. brown and reddish brown pieces of silicified, baritic Ts. 1' of intensely bleached, baritic Ts at start.

Lt. gray, with blotchy, greenish-gray stained Ts por. Bleached, altered & baritic. FeOX stained.

More vuggy & baritic 115-117

Dk to med. gray Ts por. Barite on joints. Hard, densely welded, locally vuggy. FeOX staining & MnO (?) residue common.

Dk. & med. gray Ts por., mod. welded. Locally vuggy, frequent barite.

Tan-gray Ts por. Mod. vuggy & mod. FeOX staining, bleached

Dk. gray & rubbly 167'-173', bleached 173'-175'

Dk. to med. gray, rubbly Ts. Mod. welded and FeOX staining on joints. Some barite, locally vuggy.

Core in small pieces 193'-199'

Lavender, rubbly Ts, mod. to poorly welded.

Lt. pinkish gray Ts por. Vuggy, baritic, MnO (?) on joints. Moderately welded, slightly to unaltered.

Densely welded after 219', less baritic.

Less densely welded after 243', more baritic.

Start BX @ 258'

Greenish gray Ts por., mod. welded, alt. 0.5' tan & brown gouge @ 255'.
Color changes to med. gray with FeOx staining on joints @ 259'.
Color darkens, less densely welded after 267'.

Same as above, dk. to med. gray. Alteration increasing.

Barite & hematite 298'-300'

Med. & lt. gray Ts por., fresh appearing.

Bleached & in small pieces 310'-325'.

Less bleached 325'-329'. Bleaching resumes & small pieces continue.

Less bleached 352'-357'

Red mud 361'-362'

Reddish brown Ts por. changing to dk. tan & lt. gray, bleached & alt., vuggy rock. FeOX staining.

Barite occurs between 382' and 392'.

Lt. gray, intensely bleached & alt. Ts por.

Core often in small pieces 427'-447'

Less bleaching, darker gray after 447'. Rock becomes bleached & alt., permeable, with pervasive barite present after 455'. Core in small pieces.

No barite seen after 470'

Core is disintegrated 496'-504'.

Dk. to med. gray Ts por. pervaded by barite.

Intensely fractured, alt. & bleached 519'-547'

Mod. alt. after 547'

Red mud @ 565'
Color pinkish gray after 565', some rubble.

Int. alt. 594'-626', bleached & yellowish after 614', no rubble.

Yellow color lessening, color darkening & alt. decreasing after 626'. Local bleaching & yellowish staining only on & near fracts.

Rock fresh after 654'.

Pinkish gray, coarse-grained Ts por. with reddish rubble locally. Fresh to slightly alt., some calcite.

Slightly bleached 692'-709'. Reddish brown gouge 693'-694'.

Yellowish gray, int. alt. & bleached Ts por. Core in small pcs.

Brownish gray & reddish brown Ts por. Minor calcite, mod. fresh.

Bleached 733'-740'. Soft, int. alt., some crystalline calcite. Followed by 4' FeOX stained, mod. alt. Ts por.

Greenish gray Ts por., mod. fresh.

Greenish cast absent after 757'.

Int. alt. & mod. bleached 798'-800'

Ts - Snowshoe Mtn. Formation

GRAPHIC LOG - DDH NO. 3

MK EXPLORATION COMPANY, OPERATOR

SPAR CITY, MINERAL COUNTY, COLORADO

OME - 6440 (Silver)

CONTRACT NO. 2226

DIRECTION: S 75° W

INCLINATION: -45°

COORDS: 6185E, 9991N

DRILLED: Sept. 30 to Nov. 20, 1966

Depth 1"=20'

MORNING & NE-SW VEINS

STRUCTURE 2

SMUGGLER

STRUCTURE 4

Core Runs & Rec.

0.0 Overburden, no core.

Cased to 20', start NX.

Lt. gray Ts. Core in small pieces.

Lt. gray Ts, weathered, soft and chalky. Core in small pieces, some gray mud.

Mod. welded, tan Ts. Partly leached, some cherty vein matter, FeOX stained and barite

Barite impregnated and silicified Ts. Dk to lt. gray, FeOX stained. Core in small pieces, some showing banding.

Mostly small, dk. brown and reddish brown pieces of silicified, baritic Ts. 1' of intensely bleached, baritic Ts at start.

Lt. gray, with blotchy, greenish-gray stained Ts por. Bleached, altered & baritic. FeOX stained.

More vuggy & baritic 115-117

Dk to med. gray Ts por. Barite on joints. Hard, densely welded, locally vuggy. FeOX staining & MnO (?) residue common.

Dk. & med. gray Ts por., mod. welded. Locally vuggy, frequent barite.

Tan-gray Ts por. Mod. vuggy & mod. FeOX staining, bleached

Dk. gray & rubbly 167'-173', bleached 173'-175'

Dk. to med. gray, rubbly Ts. Mod. welded and FeOX staining on joints. Some barite, locally vuggy.

Core in small pieces 193'-199'

Lavender, rubbly Ts, mod. to poorly welded.

Lt. pinkish gray Ts por. Vuggy, baritic, MnO (?) on joints. Moderately welded, slightly to unaltered.

Densely welded after 219', less baritic.

Less densely welded after 243', more baritic.

Start BX @ 258'

Greenish gray Ts por., mod. welded, alt. 0.5' tan & brown gouge @ 255'.
Color changes to med. gray with FeOx staining on joints @ 259'.
Color darkens, less densely welded after 267'.

Same as above, dk. to med. gray, Alteration increasing.

Barite & hematite 298'-300'

Med. & lt. gray Ts por., fresh appearing.

Bleached & in small pieces 310'-325'.

Less bleached 325'-329'. Bleaching resumes & small pieces continue.

Less bleached 352'-357'

Red mud 361'-362'

Reddish brown Ts por. changing to dk. tan & lt. gray, bleached & alt., vuggy rock. FeOx staining.

Barite occurs between 382' and 392'.

Lt. gray, intensely bleached & alt. Ts por.

Core often in small pieces 427'-447'

Less bleaching, darker gray after 447'. Rock becomes bleached & alt., permeable, with pervasive barite present after 455'. Core in small pieces.

No barite seen after 470'

Core is disintegrated 496'-504'.

Dk. to med. gray Ts por. pervaded by barite.

Intensely fractured, alt. & bleached 519'-547'

Mod. alt. after 547'

Red mud @ 565'
Color pinkish gray after 565', some rubble.

Int. alt. 594'-626', bleached & yellowish after 614', no rubble.

Yellow color lessening, color darkening & alt. decreasing after 626'. Local bleaching & yellowish staining only on & near fracts.

Rock fresh after 654'.

Pinkish gray, coarse-grained Ts por. with reddish rubble locally. Fresh to slightly alt., some calcite.

Slightly bleached 692'-709'. Reddish brown gouge 693'-694'.

Yellowish gray, int. alt. & bleached Ts por. Core in small pcs.

Brownish gray & reddish brown Ts por. Minor calcite, mod. fresh.

Bleached 733'-740'. Soft, int. alt., some crystalline calcite. Followed by 4' FeOX stained, mod. alt. Ts por.

Greenish gray Ts por., mod. fresh.

Greenish cast absent after 757'.

Int. alt. & mod. bleached 798'-800'

Ts - Snowshoe Mtn. Formation

GRAPHIC LOG - DDH NO. 1

MK EXPLORATION COMPANY, OPERATOR

SPAR CITY, MINERAL COUNTY, COLORADO

OME - 6440 (Silver)

CONTRACT NO. 2226

DIRECTION: S 75° W

INCLINATION: -45°

COORDS: 6283E, 9409N

DRILLED: Sept. 15 to Oct. 3, 1966

Altitude ?

Depth 1" = 20'

Core Runs & Rec.

STRUCTURES 2 & 4

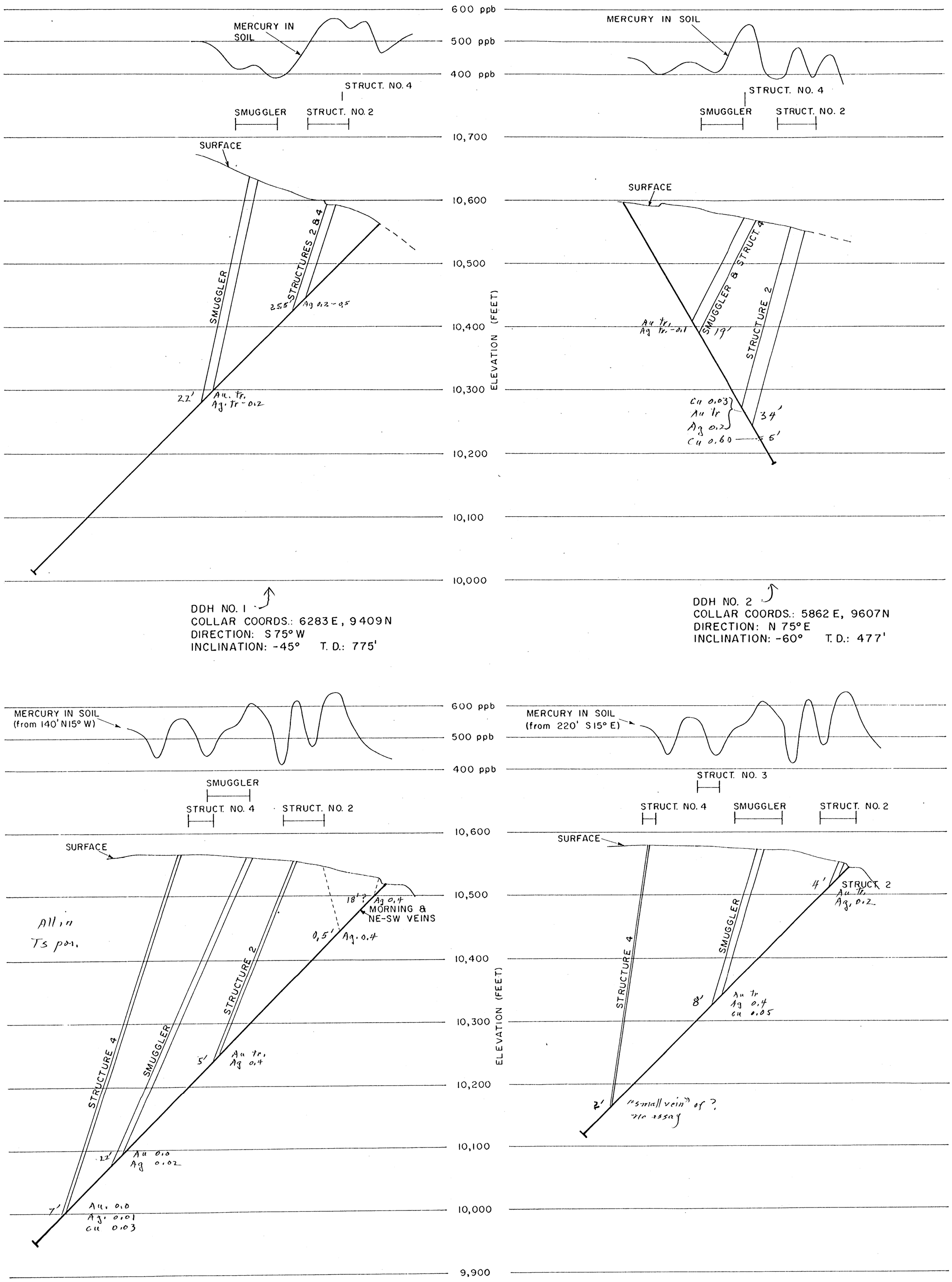
SMUGGLER

Depth	Description
0	
5.0	Overburden to bedrock. Ts, weathered, purplish-gray. Start NX @ 10'
8.0	Lt. to purplish gray Ts. Slightly bleached 10'-12' Ts alt. to gray clay
	Lt. gray Ts por. Minor rubble, weathered or alt.
5.0	Med. to dk. gray, mod. welded Ts, slightly altered, very rubbly.
8.0	
2.0	Pinkish to lt. gray, rubbly Ts, mod. alt. Barite on joint at 39'
8.0	
1.0	
50 2.0	Lt. gray, densely welded Ts. Barite and FeOX staining on joints. Less densely welded 52'-54'.
6.0	
1.0	
4.0	Lt. gray, chalky, mod. welded and alt. Ts.
1.5	Purplish to lt. gray, mod. welded, alt. Ts. FeOx on fracts. Core in small pcs.
3.0	
2.0	
2.0	
1.0	
3.0	Purplish to lt. gray, mod. welded Ts. Porphyritic, only slightly rubbly. Core mostly in small pcs.
4.0	
4.0	
3.0	
2.0	Lt. gray Ts por. Alt. & chalky.
2.0	
100	Purplish, rubbly Ts. Barite & FeOX staining @ 104'.
10.0	
5.0	Purplish to pinkish gray Ts por. Barite @ 105' & 112'.
6.0	
5.0	Pinkish gray Ts. Rubbly, locally bleached & FeOX stained.
9.0	
	Med. to densely welded, dk. gray Ts por.
8.0	Lt. & pinkish gray, mod. welded & slightly alt., rubbly Ts
150 7.0	Dk. & lt. gray, mod. to densely welded Ts por.
0.5	
4.0	
2.0	Purplish gray, mod. welded Ts por., locally alt. and locally rubbly. Barite @ 153' & 154'.
1.5	
2.0	
Au-Tr; Ag-0.20 8.0	Lt. gray, bleached & alt. Ts por., mostly densely welded.
5.0	Lt. & purplish gray Ts, mostly densely welded, barite veinlets 178'-181'.
Au-Tr; Ag-0.40 4.0	
Au-Tr; Ag-0.50; Cu-0.40; Pb-0.55 9.0	Purplish, rubbly Ts, moderately welded.
	Lt. gray, densely welded Ts. 0.5' barite @ 193'
200 9.0	Lavender, brecciated Ts. Barite on fracts. @ 197'. Galena, sphalerite, barite vein, minor stibnite
	Purplish to lt. gray, moderately to densely welded Ts por. Often rubbly, occasional MnO on fracts.
9.0	
9.0	
9.0	Lavender-, greenish and pinkish gray, poorly welded Ts, very rubbly. Locally altered. Clay seams @ 227' & 229'.
9.0	
250 9.0	
9.0	Core tends to disintegrate 264'-265'.
5.0	
5.0	
8.0	
10.0	
300 5.0	Med. to lt. gray, mod. alt. Ts por. with some rubble. Poorly to mod. welded.

Correction for error in driller's footage.

Depth	Description
300 5.0	
5.0	
10.0	
1.0	
8.0	
10.0	Purplish, reddish and dark gray Ts. Rubbly, moderately to densely welded, porphyritic
9.0	
350 10.0	
10.0	
10.0	
Au-Tr; Ag-Tr	
10.0	Chlorite & clay alteration from Ts rubble. Calcite replacing Ts rubble.
Au-Tr; Ag-0.20	
Au-Tr; Ag-Tr 4.0	Tan calcite with minor chloritic clay stringers @ 386', 389', 391'-392'.
Au-Tr; Ag-0.20	
Au-Tr; Ag-Tr 5.0	Intensely alt. Ts rubble with 1.0' reddish calcite @ 395'.
400	
10.0	Mod. alt. Ts por. & rubble, dk. gray.
10.0	
10.0	Lt. gray, alt. & bleached Ts por., rubbly. Greenish cast to gray, locally purplish.
7.0	
6.0	
7.0	
450 10.0	Same as above but less rubbly and no local purple color. Color is light lavender with greenish cast and slight FeOX staining on joints. Contains minute, black, unidentifiable mineral, possibly biotite.
9.0	Purplish & brownish gray, mod. welded Ts por. with waxy, green and dk. green mineral on joints.
10.0	
9.0	Purplish Ts por. changing to lt. lavender. Barite and alt. feldspar on joints & in vugs.
10.0	
500 10.0	Dk. gray Ts por., unaltered to slightly alt., mod. to densely welded. Barite seen only locally. Lightens in color to lavender.
1.0	
10.0	FeOx staining and barite more prevalent 512'-514'. This core in small pcs., vuggy.
	Barite @ 519'
9.0	
10.0	
10.0	Med. to light gray Ts por., only minor rubble. Barite seen frequently on fracts. From 543'-547' core is badly broken & FeOx stained.
550 10.0	Very dk. gray Ts por. with occasional barite & FeOX seams
10.0	Lt., changing to very dk. gray Ts por., heavily FeOx stained. Core tends to disintegrate, altered.
3.0	
7.0	
10.0	Lt. gray, changing to lt. lavender, Ts por. Intensely alt. & with barite, 572'-574'. After 574', mod. alt., mod. to densely welded, locally FeOX stained, color darkening. Magnetite prevalent.
8.0	
600 10.0	Core tends to disintegrate 605'-610'.
10.0	
	After 617, more green staining and waxy, green alt. feldspar.
10.0	
1.5	0.5' clear calcite.
10.0	Poorly to mod. welded, lavender Ts por. Vuggy, FeOx staining & magnetite increased, feldspars alt.
1.0	Lt. gray, bleached, mod. welded Ts por.
9.0	
650 2.5	Tan, vuggy Ts por. Heavily FeOX stained, core in many pcs.
1.0	
5.0	Lt., pinkish gray Ts por., easily broken. Mod. FeOX staining, appears bleached.
7.0	
10.0	
	Lt. lavender Ts por. Vuggy, alt., FeOX stained, disintegrates locally. Narrow calcite stringers.
3.0	
4.0	
2.0	
5.0	
2.0	
0.5 1.0	Lt. lavender-gray Ts, int. alt., highly baritic.
5.0	
700 10.0	Med. to light lavender-gray, densely welded Ts with calcite stringers and some barite.
10.0	
	Narrow seam massive barite @ 717.5'.
9.0	
10.0	
4.0	Same material as above but 90% to 100% disintegrated to sandy mass, bleached.
6.0	
750 5.0	
2.0	
1.0	
5.0	
7.0	Lt. gray, bleached, mod. welded Ts por., soft.
775	

Ts - Snowshoe Mtn. Formation



EXPLANATION

Structure locations from Exhibit 3, Amendment to OME 6440, dated March 17, 1966.

CROSS SECTIONS THROUGH DRILL HOLES

FINAL REPORT

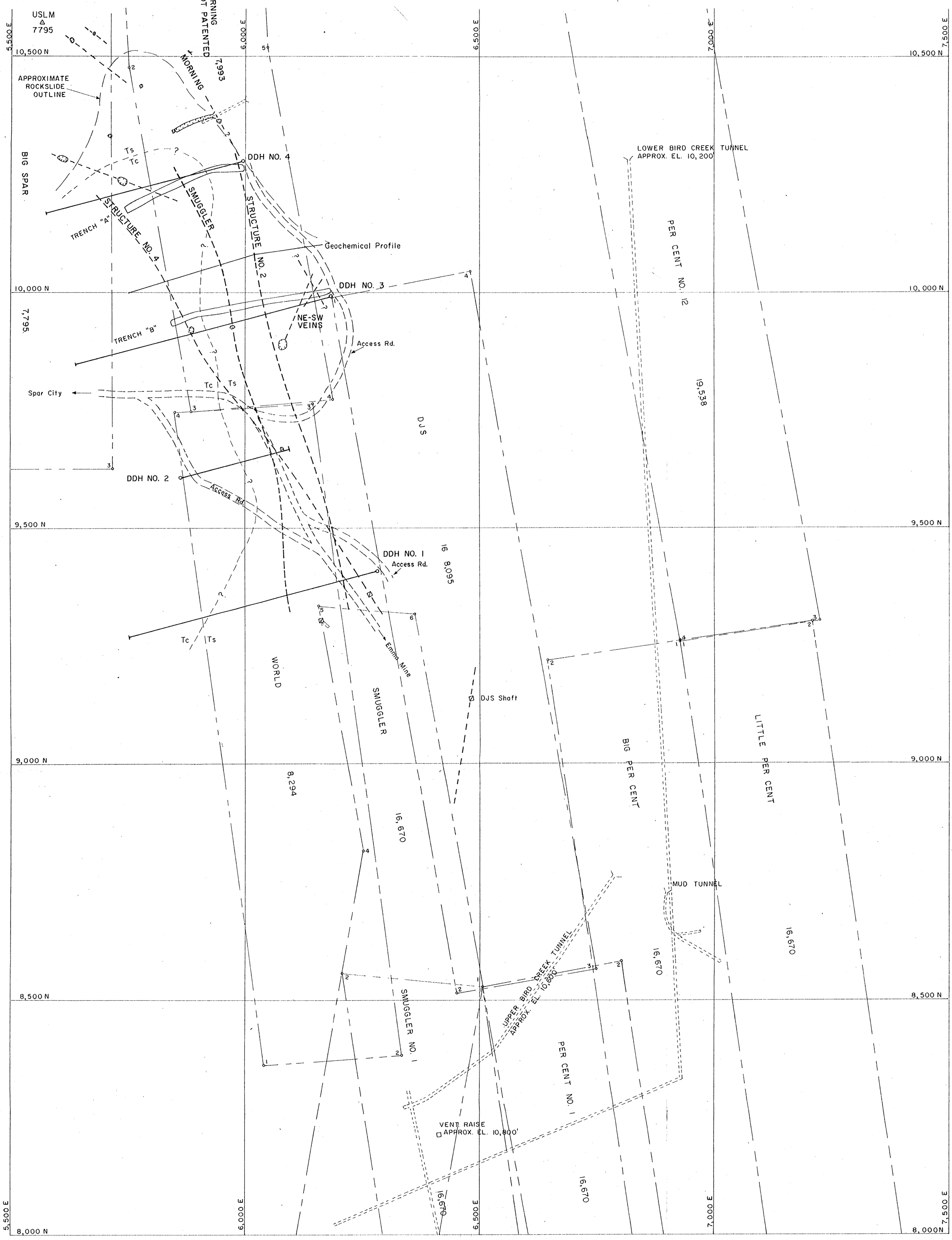
OME 6440 (SILVER) CONTRACT NO. 2226

SPAR CITY, MINERAL COUNTY, COLORADO

OPERATOR: MK EXPLORATION CO.

LOOKING N 15° W SCALES: 1" = 100'

JOHN J. KELLEY JANUARY, 1967



EXPLANATION

Tc Creede formation

Ts Snowshoe Mtn. formation

Vein apex - observed, or inferred from drilling and mercury halo anomalies.

Tunnels and drifts, from Mineral Survey Plats and Bird Creek Mining Co. map.

GEOLOGIC MAP OF OME TARGET AREA

SPAR CITY, MINERAL COUNTY, COLORADO

FINAL REPORT

OME 6440(SILVER) CONTRACT NO. 2226

OPERATOR: MK EXPLORATION CO.

SCALE: 1" = 100'

JOHN J. KELLEY JANUARY, 1967

ESTIMATES:

DOZER AT $ 12.50/HR	
ROAD CONST. & DUMP LEVELING - 60 HRS.	
PORTAL PREPARATION - 70 HRS.	
TOTAL DOZER	$ 1,625.00
450 CU. YDS. ROCK & GRAVEL SURFACING, DELIVERED & SPREAD	2,250.00
CLEARING BRUSH & TREES	750.00
TOTAL EST. SURFACE PREPARATION	$ 4,615.00

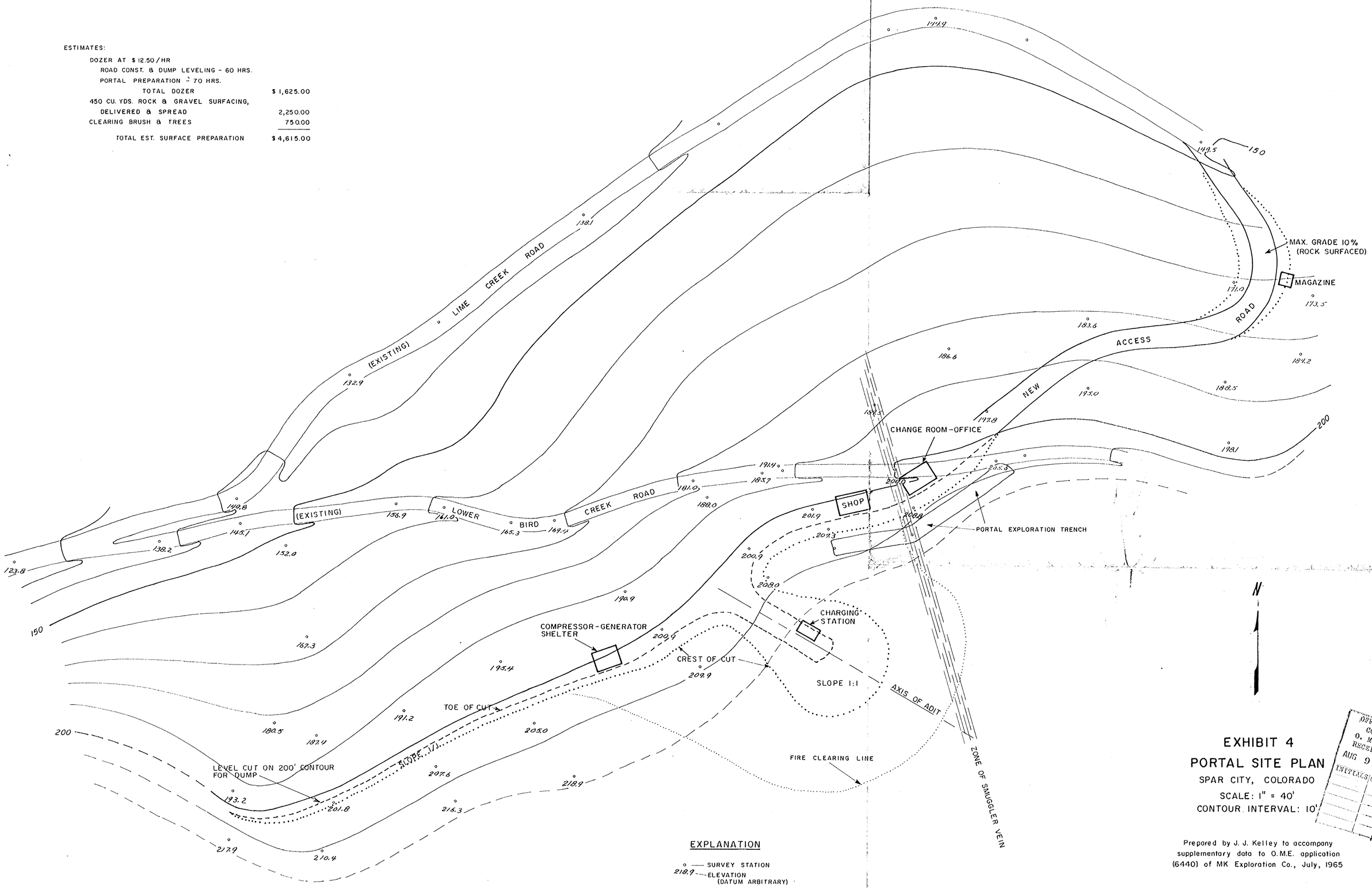


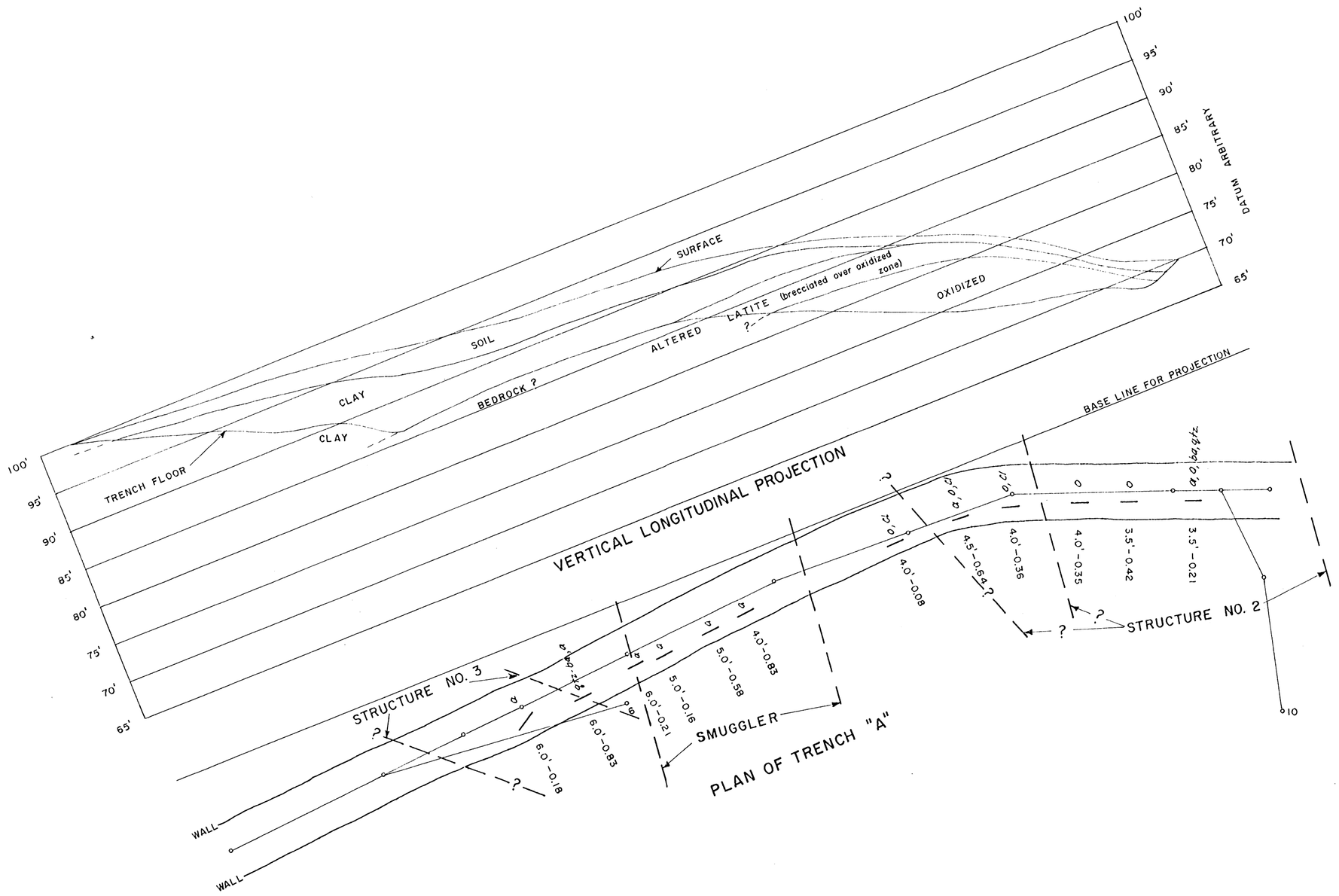
EXHIBIT 4
PORTAL SITE PLAN
SPAR CITY, COLORADO

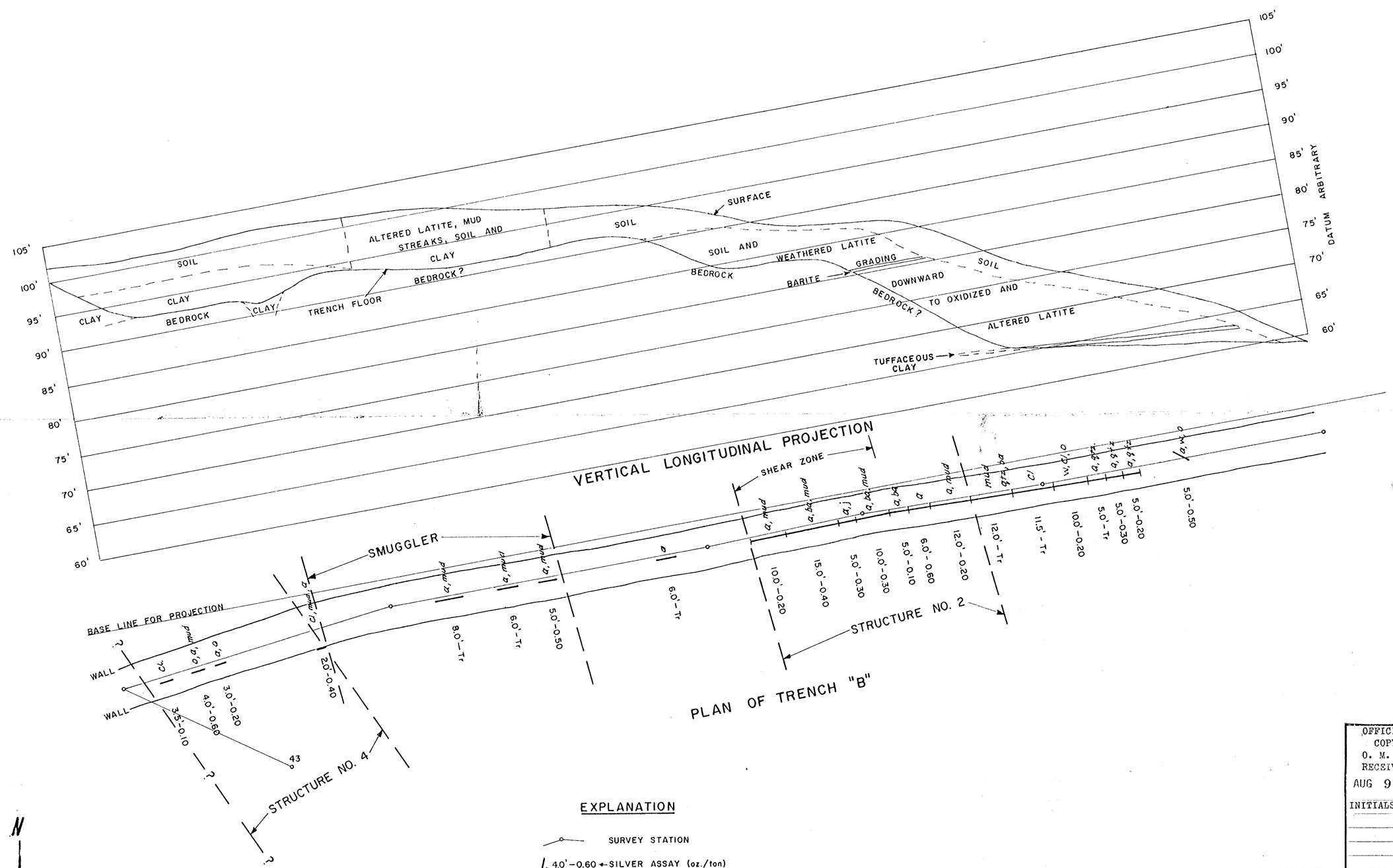
SCALE: 1" = 40'

CONTOUR INTERVAL: 10'

OFFICIAL COPY O. M. E. RECEIVED AUG 9 1965 INITIALS CODE

Prepared by J. J. Kelley to accompany supplementary data to O.M.E. application (6440) of MK Exploration Co., July, 1965





N

EXPLANATION

- SURVEY STATION
- 4.0'–0.60 ← SILVER ASSAY (oz./ton)
  - LENGTH OF SAMPLE
  - LOCATION OF SAMPLE
- *Cl* CLAY
- *a* HYDROTHERMAL ALTERATION (USUALLY CHLORITIZATION)
- *o* OXIDATION
- *w* WEATHERING
- *qtz.* QUARTZ
- *ba* BARITE
- *j* JASPER

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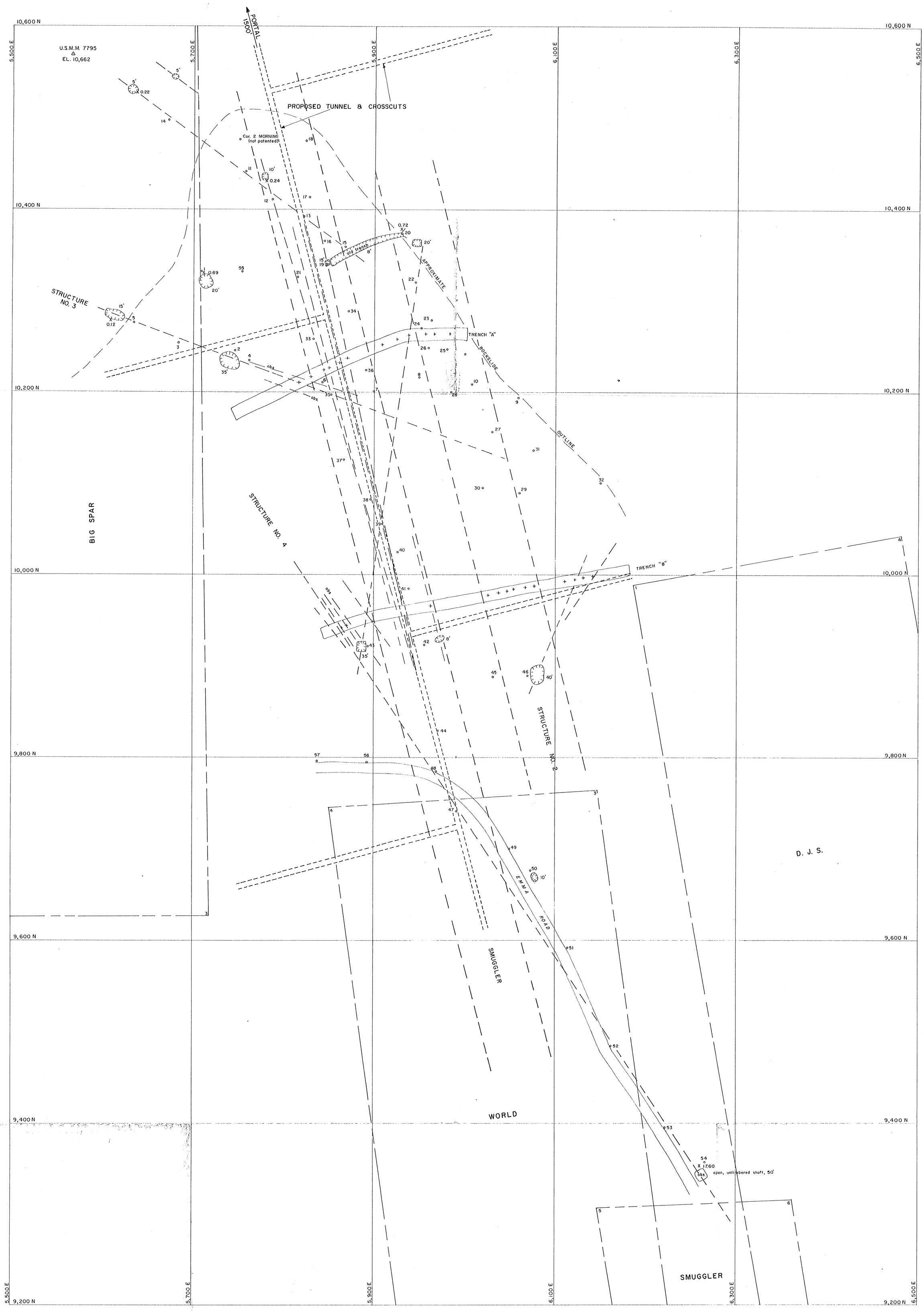
RECEIVED
AUG 9 1965
INITIALS | CODE

EXHIBIT 3
TRENCH DETAILS
SPAR CITY, COLORADO

SCALES: HORIZONTAL 1" = 20'
VERTICAL 1" = 10'

Prepared by J. J. Kelley to accompany supplementary data to O.M.E. application (6440) of MK Exploration Co., July, 1965



EXPLANATION

54 °	SURVEY STATION & NUMBER
obs	VEIN OBSERVED IN TRENCH, NOT SAMPLED
+	VEIN LOCATED IN TRENCH BY SAMPLING (SEE EXHIBIT 3 FOR ASSAYS)
X 17.60	LOCATION AND SILVER ASSAY OF PROSPECT DUMP SAMPLE
35'	CAVED PROSPECT PIT OR SHAFT & ESTIMATED DEPTH
— — —	VEIN LOCATIONS ESTABLISHED BY OBSERVATION AND PROJECTION, TRACING FLOAT, SAMPLING, ETC.
——— — —	PATENTED CLAIM BOUNDARY

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EXHIBIT 2

GEOLOGIC MAP OF REVISED TARGET AREA

SPAR CITY, COLORADO

SCALE: 1" = 40'

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