MME Form 9
Rev. Nov. 65

UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey

OFFICIAL DOCKET FILE

Contract No. 2259 Docket No. 6640

Application
- [ ] 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- [ ] Withdrawn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
- [ ] Closing Letter
- [x] Cost Audits August 1969
- [ ] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [✓] Contract Amendments #1
- [x] Contract with all exhibits and annexes 3-22-68
- [✓] Owner's Consent to Lien and Subordination Agreement
- [✓] 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
- [X] Final Field Team Report (Tab)
- [X] Operator's Final Report (Tab) 3/24/69
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [X] On-site Exam. Report (Tab) January/68
- [ ] 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. _____: Maps (Use pocket folder or envelope)

Folders No. _____: Settlement Sheets

Folders No. _____: Drill Logs

Folders No. _____: Royalty Material

72195-65

Increase Amendment 1 executed 10/24/68

from $88,580.00 to $113,680.00

an increase of $25,100.

Gov't Share - $18,750.00- increase

from $66,435.00 to $85,260.00

Mr Evans

Crested Butte, Colorado

8-0-303-349-5338

TOSCO MINES CORPORATION
18200 WEST HIGHWAY 72
GOLDEN, COLORADO 80401
303/279-7721

April 29, 1971

680 FIFTH AVENUE
NEW YORK, NEW YORK 10019

American Smelting and Refining Company
120 Broadway
New York, New York 10005

Attention: Mining Department

Re: Notice of Cancellation and Termination of Keystone Mining Lease, Dated April 1, 1963

Gentlemen:

TOSCO Mines Corporation, as Operator of the Keystone Mines Company Joint Venture (consisting of Mc&H, Inc., a Colorado corporation, and TOSCO Mines Corporation), hereby gives notice of cancellation and termination of the lease covering the Keystone Mine and related property and residences located in Gunnison County, Colorado, dated April 1, 1963, between American Smelting and Refining Company (ASARCO) and F. G. McFarland and S. R. Hullinger, dba McFarland and Hullinger, a partnership. That lease was subsequently assigned, with the consent of ASARCO, in order, to Mc&H, Inc., and to Keystone Mines Company, the joint venture described above. This notice is given pursuant to Article 15 of the subject lease and shall be effective 60 days after delivery. Enclosed for your files is a copy of a Consent to Cancellation executed by all parties previously having an interest in the subject lease.

Tax and insurance payments due under the lease have been paid as required by the Lease Agreement and all other requirements of the lease have been complied with. No other

Received 4/12/72
The Real Estate Corporation
letter 4/10/72

payments are due or will accrue between this notice and the termination date of the lease. Upon payment of 1971 real estate taxes, in 1972, please refund to Keystone Mines Company, any overpayment of taxes made during the term of the lease.

Very truly yours,

TOSCO MINES CORPORATION

Charles F. Jurgens

Assistant Secretary

CFJ/jw
Enc.

cc: ASARCO
605 Crandall Building
10 West 1st South
Salt Lake City, Utah 84101

ASARCO
Northwestern Mining Department
P. O. Box 440
Wallace, Idaho 83873

McFarland & Hullinger
P. O. Box 238
Tooele, Utah 84074

CONSENT TO CANCELLATION AND TERMINATION OF LEASE

Each of the undersigned hereby acknowledges that they have received notice of intent to cancel the mining lease, dated April 1, 1963, between American Smelting and Refining Company and Keystone Mines Company (as assigned through McFarland and Hullinger, a partnership; and Mc&H, Inc., a Colorado corporation), and hereby disclaim and release any interest in such lease, and consent to the termination and cancellation of such lease by TOSCO Mines Corporation, acting as operator of Keystone Mines Company, a joint venture.

April 23, 1971
Date

McFarland and Hullinger,
a partnership

By N. R. Hullinger
Partner

April 23, 1971
Date

Mc&H, Inc.

By N. R. Hullinger

April 29, 1971
Date

TOSCO Mines Corporation

By H. Michael Spence

Walt Woods — 12/7/69
Office of Minerals Exploration

FIRST SUPPLEMENTAL JOINT VENTURE AGREEMENT
OF
KEYSTONE MINES COMPANY

THIS FIRST SUPPLEMENTAL JOINT VENTURE AGREEMENT, entered into as of the 1st day of December, 1969, by and between Mc AND H, INC., a Colorado corporation, hereinafter referred to as "Mc and H, Inc.," and TOSCO MINES CORPORATION, a Colorado corporation, hereinafter referred to as "TOSCO Mines."

W I T N E S S E T H:

WHEREAS, the Parties hereto entered into a Joint Venture Agreement dated April 1, 1969, the name of the venture being Keystone Mines Company, which agreement shall hereinafter be referred as as the "Joint Venture Agreement"; and

WHEREAS, the Joint Venture Agreement was amended by an agreement entitled Amendment to Joint Venture Agreement of Keystone Mines Company dated as of April 2, 1969, which amendment is hereinafter referred to as the "Amendment to Joint Venture Agreement"; and

WHEREAS, in satisfaction of the capital comm[illegible] imposed upon each by the Joint Venture Agreement and the Amendment to Joint Venture Agreement, Mc and H, Inc. has contributed to the Joint Venture the agreement, rights,

Rec'd. 3/18/71 with F.O. memo

leases, contracts, and other property described in Appendix A to the Joint Venture Agreement at an agreed value of $1.00, and an undivided fifty percent (50%) interest in the personal property, equipment, material, supplies and other property described in Appendix B to the Joint Venture Agreement, which interest had an agreed value of $34,373.72; and TOSCO Mines has contributed to the capital of the Joint Venture $292,626.28 in cash and an undivided fifty percent (50%) interest in the property described in Appendix B, which interest had an agreed value of $34,373.72; and

WHEREAS, in addition, each of the Parties hereto has contributed $50,193.13 to the capital of the Joint Venture; and

WHEREAS, Mc and H, Inc., desiring to accelerate the generation of cash from operations of the Keystone Mine for the purpose of minimizing the obligation of the Joint Venturers to make additional contributions, pursued the mining of ore below the 1,670 level of the Keystone Mine in preference to developmental work at the 1,370 and 1,670 levels agreed upon by the Parties; and

WHEREAS, the performance of such work did not result in the generation of additional cash, did in fact reduce

the funds available for development work, delayed the developmental work contemplated by the Joint Venture Agreement, and prevented its completion within the proposed budget; and

WHEREAS, because of increased demands upon its cash resources by other commitments, Mc and H, Inc. wishes to be relieved of its obligation to contribute additional capital to the Joint Venture; and

WHEREAS, Mc and H, Inc. had, prior to April 1, 1969, expended in the acquisition and development of the property described in Appendix A the sum of $299,626.28 and had, for financial accounting purposes and tax purposes, amortized such expenditures during prior operations, and

WHEREAS, the parties hereto desire to make the statement of capital accounts herein more clearly correspond to the prior accounting practice of Mc and H, Inc. and sound accounting principles, and

WHEREAS, the Parties desire to amend the terms of such Joint Venture Agreement in the manner hereinafter provided,

NOW, THEREFORE, in consideration of the mutual covenants herein contained, the Parties hereto agree to amend the Joint Venture Agreement to read as follows, which shall be here-

after known as the First Supplemental Joint Venture Agreement and shall supersede, for all purposes, the Joint Venture Agreement and all amendments thereto:

ARTICLE I

DEFINITIONS

As used in this Agreement:

1.1 "Accounting Procedure" means the Accounting Procedure described in Appendix C to the Joint Venture Agreement.

1.2 "ASARCO" means American Smelting and Refining Company, a New Jersey corporation.

1.3 "Keystone Property" means the patented and unpatented mining claims described in Appendix A to the Joint Venture Agreement.

1.4 "Mill" means the structures, equipment, machinery, and facilities used or usable in connection with the milling of ore, including those now located on the Keystone Property, or any other structures, equipment, machinery, and facilities used or usable in connection with the milling of ore which may become Venture Property.

1.5 "Mine" means the underground workings now or hereafter existing on the Keystone Property, or on any other property which may become Venture Property, and the structures, equipment, machinery, and facilities of

any kind located upon the lands now or at any time controlled by the Joint Venture and which may be used or usable in connection with the mining of ore from lands controlled by the Venture.

1.6 "Non-Operator" means a Party other than Operator.

1.7 "Operator" means the Party at any time acting pursuant to the provisions of Article V.

1.8 "Party" means a party to this Agreement.

1.9 "Venture" means the joint venture provided for in this Agreement.

1.10 "Venture Account" means the account of the Venture.

1.11 "Venture Property" means any and all real and personal property of every kind and nature, tangible and intangible, including leasehold and other contractual rights, improvements thereon and fixtures thereto, contributed to the Joint Venture by the Parties or hereafter acquired by the Joint Venture, including the property described in Appendices A and B to the Joint Venture Agreement.

ARTICLE II

ORGANIZATION

2.1 Name of Joint Venture. The name of the Venture shall be:

KEYSTONE MINES COMPANY

with any changes thereof or variations therein which may be necessary to comply with statutory requirements in any state in which the Venture may do business.

2.2 Purpose of the Venture. The purpose of the Venture is to explore for, mine, mill, and market mineral products.

2.3 Location of Principal Place of Business. The location of the principal place of business of the Venture shall be the Keystone Property in Gunnison County, Colorado.

2.4 Term. The primary term of the Venture (hereinafter referred to as "Primary Term") shall be for a period of fourteen (14) years, from the 1st day of December, 1969, unless earlier dissolved in accordance with the provisions of Article VII; provided, that the Venture may

continue for five (5) successive extended terms (hereinafter referred to as "Extended Terms") of two (2) years each unless at least sixty (60) days prior to the end of the Primary Term or any Extended Term one party shall have given notice to the other that the Joint Venture shall not continue beyond the then current term.

ARTICLE III

CAPITAL

3.1 Contributions to Capital. The Parties hereto each have made the contributions to the capital of the Joint Venture required by the Joint Venture Agreement, as amended.

3.2 Additional Capital Contributions. Mc and H, Inc. does not desire to make additional capital contributions to the Joint Venture and is therefore relieved of any further obligation therefor. TOSCO Mines shall make such additional contributions as it, in its sole discretion, shall deem necessary to provide the Joint Venture with working capital. In the event that TOSCO Mines shall make such additional capital contributions, TOSCO Mines shall be entitled to recover one hundred fifty percent (150%) of the amount of

such additional capital contributions from the profits or the proceeds from the liquidation of assets of the Joint Venture prior to the distribution of any sums to either of the Joint Venturers under the provisions of Article IV hereof.

3.3 Equipment and Supplies. As of December 1, 1969, Mc and H, Inc. withdrew from the capital of the Joint Venture an undivided fifty percent (50%) interest in certain equipment, machinery, fixtures, tools and supplies described in the list attached hereto as Exhibit A (hereinafter referred to as "equipment and supplies"), which were on hand at the mine and mill site and had an agreed value as of such date of $[illegible]. By bill of sale of even date herewith, Mc and H, Inc. has sold, assigned, and transferred its title to such equipment and supplies to TOSCO Mines as of December 1, 1969 in consideration of the agreement of TOSCO Mines, which it hereby evidences, to pay to Mc and H, Inc. $[illegible], representing the value of its interest in such equipment and supplies, without interest, on or before December 1, 1971, or on dissolution of the Joint Venture, whichever event occurs first. TOSCO

Mines' obligation to make such payment has been guaranteed by The Oil Shale Corporation, a Nevada corporation, by an agreement of even date herewith, a copy of which is attached hereto as Exhibit B. TOSCO Mines agrees to sell, as of December 1, 1969, to the Joint Venture an undivided fifty percent (50%) interest in the equipment and supplies described in Exhibit A for a purchase price of [illegible] Dollars ($[illegible]). The purchase price for such equipment shall be payable on or before December 1, 1970, or upon dissolution of the Joint Venture, whichever event first occurs. No interest shall accrue on account of such purchase price from December 1, 1969 until due date, but if such amount is not paid when due, interest shall accrue on the account at [illegible] percent ([illegible]%) per annum.

3.4 Distribution of Asarco Lease. Upon dissolution of the Joint Venture and liquidation of its assets, all right, title and interest of the Joint Venture in the Asarco Lease shall be reassigned by the Joint Venture to Mc and H, Inc., as a return of a portion of its capital contribution, at an agreed value of One Dollar ($1.00).

ARTICLE IV

PROFITS AND LOSSES

4.1 Profits. Subject to the provisions of Subsections 3.2 and 3.3 hereof, the Parties hereto shall be entitled to share in the profits and the proceeds from the liquidation of the assets of the Joint Venture in the percentages and at the times hereinafter specified:

Share of Distribution	TOSCO Mines	Mc and H, Inc.
of first $100,000:	85%	15%
of next $200,000:	80%	20%
of next $200,000:	75%	25%
of next $200,000:	70%	30%
of all amounts thereafter:	60%	40%

4.2 Time of Distributions. Distributions of amounts under Subsection 4.1 shall be made at dissolution and, prior to dissolution, at least annually (commencing December 1, 1970) to the extent that the Operator deems that funds are available in excess of projected capital and expense requirements of the Joint Venture; provided, that in making each such partial distribution TOSCO Mines shall account for prior partial distributions on a cumulative basis, so that on final distribution each Party shall have received in the aggregate the share of the total distributions set forth in Subsection 4.1 to the extent this is possible; and provided

further, that in no case shall a Party be required to restore to the capital of the Joint Venture any portion of a distribution which would not have been distributable to it had all distributions been made at one time.

4.3 Losses. Until such time as the capital account of Mc and H, Inc., other than that part of such account attributable to the Asarco Lease, is exhausted, all losses, expenses and deductions of the Joint Venture shall be allocated among the Parties equally; thereafter all losses, expenses and deductions shall be allocated solely to TOSCO Mines. It is understood that, for financial accounting purposes, prior to the beginning of commercial operations, the costs of exploratory and development expense, less proceeds of the sale of production, are to be capitalized until the commencement of commercial operations. Commerical operations will be regarded as having commenced when the principal activity of the mine becomes the production of developed ore, as opposed to the development of additional ores for mining, or when a major portion of the mineral production is obtained from workings other than those opened for the purpose of development.

ARTICLE V

OPERATOR

5.1 Operator. TOSCO Mines shall act as Operator for the Joint Venture, and shall have the rights and duties prescribed in this First Supplemental Joint Venture Agreement.

5.2 Obligation to Continue Exploration and Development Work. Notwithstanding the right of Operator to dissolve the Joint Venture on thirty (30) days' written notice under the provisions of Article VII hereof, Operator shall nevertheless be required to expend the sum of 55,000.00 _____ Dollars ($_____) for exploration and development of the Mine, including but not limited to expenditures for mining labor, mining supplies, exploratory drilling, geological consultants, surveying of the Mine, mineralogical studies to improve mill performance, and appropriate administrative costs. In the event that Operator ceases development operations prior to the expenditure of such amount, then the difference between the amounts so expended and _____ 55,000.00 _____ Dollars ($_____) shall be regarded as capital owned fifty percent (50%) by Mc and H, Inc. and fifty percent (50%) by TOSCO Mines.

5.3 Powers and Duties of Operator. Operator shall cause all work, development, mining, authorized exploration, and other operations to be carried out in a careful and

miner-like manner, and shall conform in all respects to applicable laws, regulations or orders of Federal, State and local governments and authorities. Without limitation of the foregoing, Operator shall:

5.3.1 Conserve and maintain in good repair the Venture Property and keep the same free of liens and encumbrances, except as otherwise mutually agreed and except for liens contested in good faith by Operator.

5.3.2 Prepare and file returns for and pay in a timely manner all taxes, assessments and governmental charges on the Venture Property or business of the Joint Venture.

5.3.3 Obtain and keep in force the insurance set forth in Appendix F to the Joint Venture Agreement and such other insurance as may be agreed upon from time to time.

5.3.4 Observe and enforce all applicable laws and regulations relating to safety, pollution and conservation.

5.3.5 Keep full and adequate records of operations and books of account, and render accounts of the income, expenses and finances of the Joint Venture in accordance with the Accounting Procedure.

5.3.6 Maintain in force and comply with the terms of all leases and agreements comprised in the Venture Property.

5.3.7 Secure and keep in force all necessary permits, authorizations and licenses.

5.3.8 Keep Non-Operator informed of the status and progress of operations and of any significant occurrences or matters relevant to the business of the Joint Venture.

5.3.9 Permit representatives of Non-Operator to observe and inspect the Venture Property and operations being conducted thereon; provided, however, that such representatives shall comply with Operator's safety regulations and directions; and further provided that Non-Operator shall indemnify Operator and hold it harmless from claims or suits for personal injury or property damage by such representatives unless caused by Operator's gross negligence or willful act.

ARTICLE VI

RECORDS AND ACCOUNTS

6.1 Books and Records. The Operator shall keep accurate books and records reflecting the Joint Venture's business in accordance with generally accepted accounting principles as applied to the mining industry and the Accounting Procedure, showing all of the Joint Venture's assets and liabilities, receipts and disbursements, profits and losses, the capital contributions of and distributions to the Parties,

and all transactions entered into by the Joint Venture. The books and records and all files of the Joint Venture shall be kept by the Operator at the Operator's office located near Denver, Colorado, and the Parties and their representatives shall at all reasonable times have free access thereto for the purpose of inspecting or copying the same. The books of the Joint Venture shall be kept on a calendar year basis.

6.2 Audits and Reports. The books of the Joint Venture shall be audited as of the close of each calendar year by such independent certified public accountants as may be agreed upon from time to time by the Parties, and a copy of the audit reports of such accountants, which shall include a balance sheet as of the end of the calendar year and a statement of profit and loss for such calendar year, shall be furnished by the Operator to all Parties within sixty (60) days after the close of the calendar year. In addition to the above-described audit reports, the Operator shall provide the other Party (a) monthly reports prepared in connection with a wage bonus system of mine operation, (b) with quarterly balance sheets and profit and loss statements, (c) reports of operations, smelter settlement sheets, purchase and paying reports

and (d) such other information, reports or documents normally prepared in connection with mining or milling operations.

6.3 Organization Expense. Each Party hereto shall bear all expenses incurred by it in the preparation of this First Supplemental Joint Venture Agreement, including legal fees.

ARTICLE VII

DISSOLUTION

7.1 Events of Dissolution: The Joint Venture shall be dissolved upon the happening of any one of the following events, each of which is hereinafter called "an event of dissolution":

7.1.1 The expiration of the Primary Term or any Extended Term of the Joint Venture after the giving of the notice provided for in Section 2.4, or the expiration of the fifth Extended Term.

7.1.2 The election of TOSCO Mines to dissolve the Joint Venture, notice of which election shall have been given thirty (30) days prior to the effective date.

7.2 Procedure Upon Dissolution. Upon the occurrence of an event of dissolution, the Operator shall proceed promptly to wind up the business of the Joint Venture and liquidate and distribute its assets in accordance with the following provisions:

7.2.1 The winding up of the Joint Venture's affairs and the liquidation and distribution of its assets shall be conducted and managed exclusively by the Operator, which is hereby authorized to do any and all things it may deem necessary or convenient for those purposes.

7.2.2 The liabilities of the Joint Venture shall be paid in the order provided by law; and after the payment or discharge of all of the Joint Venture's known debts and liabilities (other than those represented by the interests of the Parties in its assets) or provision for the payment or discharge thereof, the Parties shall be entitled to share in the proceeds of liquidation of the Joint Venture's remaining assets as provided in Articles III and IV hereof. Except as provided in Subsection 3.3 hereof, each Party shall look solely to the assets of the Joint Venture

for the return of its respective capital contributions, and, if the assets of the Joint Venture remaining after the payment or discharge or provisions for the payment or discharge of its other debts and liabilities are insufficient to return the capital contributions of the Parties, neither of them shall have any recourse against the assets of the other Party on account of capital contributions. In the distribution of assets, Operator shall have the right to make distributions in cash or in kind, or partly in cash and partly in kind, where, in its sole discretion, Operator finds that the sale of any asset may be imprudent or contrary to the desires of the distributee.

ARTICLE VIII

ASSIGNMENT OF INTERESTS

8.1 Preferential Right of Purchase. If either Party desires to sell its interest in the Venture, the selling Party shall first give the other Party (hereinafter referred to as "Non-Selling Party"), a written notice of an offer to

sell its interest in the Venture, which offer shall describe the purchase price, manner and time of payment, and all other terms and conditions of the proposed sale; provided, that in no event shall such terms require the payment of the proposed purchase price until one hundred twenty (120) days after the acceptance of the offer to sell. Non-Selling party shall have forty five (45) days from the date the notice of offer to sell was given within which to accept such offer. Acceptance of the offer shall be made in writing in the same manner as is provided in Article XI hereof for the giving of notice. If Non-Selling Party shall not have accepted the offer within forty five (45) days of the notice of the offer to sell, then Selling Party shall be free to sell its interest in the Venture at a price and on terms and conditions not less favorable than those contained in the offer to sell. If Selling Party shall have failed to enter into a binding agreement to sell its interest in the Venture at a price and upon terms and conditions which are not less favorable than the price, terms and conditions contained in the offer to sell within one hundred eighty (180) days of the notice of offer to sell, then Selling Party shall have no right to

sell its interest in the Venture until it shall have first reoffered the interest to the Non-Selling Party at the same or such other price and on terms and conditions as it may then deem appropriate.

ARTICLE IX

REPRESENTATIONS OF Mc AND H, INC.

9.1 Representations. Mc and H, Inc. represents and warrants as follows:

9.1.1 Corporate Status and Ownership. It is a corporation duly organized and in good standing under the laws of Colorado and qualified to do business in the State of Colorado, and its capital stock having the power to vote for the election of directors is owned only by F. G. McFarland and S. R. Hullinger.

9.1.2 ASARCO Lease and Smelting Agreement. Appendix D to the Joint Venture Agreement is a true and correct copy of a Mining Lease originally entered into by ASARCO as Lessor, and F. G. McFarland and S. R. Hullinger, dba McFarland & Hullinger, a partnership, as Lessee, as of April 1, 1963 (hereinafter referred to as the "ASARCO Lease"). Appendices D-1, D-2, and D-3 are amendments of the ASARCO Lease dated July 22, 1963.

December 17, 1963, and December 1, 1964 respectively. Appendix E to the Joint Venture Agreement is a true and correct copy of an Agreement between F. G. McFarland and S. R. Hullinger, dba McFarland & Hullinger as Seller, and ASARCO as Buyer, as of April 4, 1963. Such Lease and Agreement are in full force and effect, and no party thereof is in default thereunder or has breached the same; and the said Mining Lease and Agreement have not been modified except as set forth above.

9.1.3 Title to Lands and Personalty. F. G. McFarland and S. R. Hullinger have no reason to doubt the representations made by ASARCO that the patented mining claims, unpatented mining claims and other real property described in Appendix A to the aforesaid Mining Lease of April 1, 1963 are owned by ASARCO sixty percent (60%) and by Park City Consolidated Mines Company forty percent (40%), free of adverse claims and interests and of liens and encumbrances, except the lien of taxes not yet due and payable, and except for the lien given to secure an OME loan on which there was due as of October 31, 1969 a balance of $85,260.00 in principal, with unpaid interest accrued to October 31, 1969 of $2,302.04 at the rate of 7¼% per annum.

7½

which loan is payable only out of production from the Mining Property, and are validly leased under the aforesaid Mining Lease as heretofore amended and assigned. All equipment, supplies, buildings and improvements located thereon on April 1, 1969 were owned by the owners of the claims and real property and leased under the aforesaid Mining Lease or were owned by F. G. McFarland and S. R. Hullinger.

9.1.4 Proceedings. There are no actual or threatened proceedings or enforcement actions by any Federal, State or local authorities against it, F. G. McFarland or S. R. Hullinger affecting the Venture Property, or against the Mine, Mill or other facilities included in the Venture Property, and, to the best of the knowledge and belief of F. G. McFarland and S. R. Hullinger, none of them are in violation of any applicable statute, regulation, order or decree with respect thereto.

9.1.5 Litigation. There are no pending or threatened actions, suits or litigation relating to the Venture Property or operations conducted thereon.

ARTICLE X

REPRESENTATION OF TOSCO MINES

TOSCO Mines represents and warrants that it is a corporation duly organized and in good standing under the laws of Colorado and its capital stock having the power to vote for the election of directors is owned only by The Oil Shale Corporation, a Nevada corporation.

ARTICLE XI

NOTICES

All notices provided for herein shall be in writing and shall be deemed to have been given when delivered in person to an officer of the Party to which given, or when mailed by certified or registered mail, deposited in the United States mails, postage prepaid, as follows:

11.1 If to Mc and H, Inc., to:

Mc and H, Inc.
Box 238
Tooele, Utah 84074

or at such other address as Mc and H, Inc. from time to time designates by notice to the other Party.

11.2 If to TOSCO Mines, to:

TOSCO Mines Corporation
18200 West Highway 72
Golden, Colorado 80401
Attention: Vice President

with a copy to:

TOSCO Mines Corporation
c/o The Oil Shale Corporation
680 Fifth Avenue
New York, New York 10019
Attention: Executive Vice President

or at such other addresses as TOSCO Mines from time to time designates by notice to the other Party.

ARTICLE XII

EXECUTION OF OTHER DOCUMENTS

The Parties agree to sign any documents and do any and all other things which may be required to accomplish the formation of the Venture contemplated by this Agreement and to assure its continued existence for the term hereinabove provided for and any additions thereto, and to comply with the statutory requirements of any states in which it may do business.

ARTICLE XIII

PRIOR AGREEMENTS AND AMENDMENTS

This Agreement contains all representations and agreements between the Parties hereto, supersedes all prior agreements of the Parties with respect to the subject matter hereof, and shall not be amended except in writing signed by all the Parties.

ARTICLE XIV

SUCCESSORS AND ASSIGNS

Except as herein otherwise specifically provided, this Agreement shall inure to the benefit of and shall be binding upon the successors or assigns of the Parties and such successors and assigns shall become Parties hereto.

ARTICLE XV

15.1 When necessary for proper construction, the masculine of any word used in this Agreement shall include the feminine and neuter gender thereof and the singular the plural, and vice versa.

15.2 The headings of the Articles, Sections, Subsections

and paragraphs herein are for convenience only and shall not affect the construction hereof.

15.3 This Agreement shall be construed in accordange with the laws of the State of Colorado.

15.4 It is the intention of the Parties to enter into a joint venture and this Agreement is in no way to be construed as creating a mining partnership under Colorado law.

ARTICLE XVI

COUNTERPARTS

This instrument is prepared in multiple counterparts for convenience in execution and each counterpart shall be deemed as an original and when taken together they shall constitute the agreement of the Parties.

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the day and year first above written.

Mc AND H, INC.

By _____ President

ATTEST:

_____ Secretary

TOSCO MINES CORPORATION

By _____ President

ATTEST:

_____ Secretary

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 1969, by _____ as _____ President and _____ as _____ Secretary of Mc AND H, INC., a Colorado corporation.

WITNESS my hand and official seal.

My commission expires: _____

_____
Notary Public

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 1969, by _____ as _____ President and _____ as _____ Secretary of TOSCO MINES CORPORATION, a Colorado corporation.

WITNESS my hand and official seal.

My commission expires: _____

_____
Notary Public

OME Region III
RECEIVED
NOV 12 1969
Denver, Colorado

DPL

JOINT VENTURE AGREEMENT

OF

KEYSTONE MINES COMPANY

between

Mc AND H, INC.

and

TOSCO MINES CORPORATION

Dated as of April 1, 1969

See F.O.'s memo 11/12

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JOINT VENTURE AGREEMENT
of
KEYSTONE MINES COMPANY

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JOINT VENTURE AGREEMENT

of

KEYSTONE MINES COMPANY

THIS AGREEMENT, entered into as of the 1st day of April, 1969, by and between Mc AND H, INC., a Colorado corporation, hereinafter referred to as "Mc and H, Inc.," and TOSCO MINES CORPORATION, a Colorado corporation, hereinafter referred to as "TOSCO Mines,"

W I T N E S S E T H:

The Parties hereto, in consideration of the mutual covenants herein contained, hereby establish and enter into a joint venture for the purpose and upon the terms and conditions hereafter set out.

ARTICLE I

DEFINITIONS

As used in this Agreement:

1.1 "Accounting Procedure" means the Accounting Procedure attached hereto as Appendix C.

1.2 "ASARCO" means American Smelting and Refining Company, a New Jersey corporation.

1.3 "Keystone Property" means the patented and unpatented mining claims described in Appendix A hereto.

1.4 "Mill" means the structures, equipment, machinery, and facilities used or usable in connection with the milling of ore, including those now located on the Keystone Property, or any other structures, equipment, machinery, and facilities used or usable in connection with the milling of ore which may become Venture Property.

1.5 "Mine" means the underground workings now or hereafter existing on the Keystone Property, or on any other property which may become Venture Property, and the structures, equipment, machinery, and facilities of any kind located upon the lands now or at any time controlled by the Venture and which may be used or usable in connection with the mining of ore from lands controlled by the Venture.

1.6 "Non-Operator" means a Party other than Operator.

1.7 "Operator" means the Party at any time acting pursuant to the provisions of Article III.

1.8 "Party" means a party to this Agreement.

1.9 "Venture" means the joint venture provided for in this Agreement.

1.10 "Venture Account" means the account of the Venture.

1.11 "Venture Property" means any and all real and personal property of every kind and nature, tangible and intangible, including leasehold and other contractual rights, improvements thereon and fixtures thereto, contributed to the Venture by the Parties or hereafter acquired by the Venture, including the property described in Appendices A and B attached hereto.

ARTICLE II

ORGANIZATION

2.1 Name of Joint Venture. The name of the Venture shall be:

KEYSTONE MINES COMPANY

with any changes thereof or variations therein which may be necessary to comply with statutory requirements in any state in which the Venture may do business.

2.2 Purpose of the Venture. The purpose of the Venture is to mine, mill, and market mineral products from the Keystone Property; and may, by agreement of the Parties, include additional related activities of exploration, development, and acquisition of mining properties.

2.3 Location of Principal Place of Business. The location of the principal place of business of the Venture shall be the Keystone Property in Gunnison County, Colorado.

2.4 Term. The primary term (hereinafter referred to as "Primary Term") of the Venture shall be for a period of fourteen (14) years from and after the 1st day of April, 1969, unless earlier dissolved in accordance with the provisions of Article VII; provided, that the Venture may continue for five (5) successive extended terms (hereinafter referred to as "Extended Terms") of two (2) years each unless at least sixty (60) days prior to the end of the Primary Term or any Extended Term one Party shall have given notice to the other that the Venture shall not continue beyond the then current term.

ARTICLE III

CAPITAL, PROFITS AND LOSSES

3.1 Contributions to Capital. The Parties agree that each shall contribute the sum of Three Hundred Thirty Four Thousand Dollars ($334,000) to the capital of the Venture at the times and in the manner hereinafter provided, which sums are sometimes referred to herein as "original capital

commitments" of the Parties.

3.2 Manner and Time of Making Capital Contributions.

3.2.1 Upon the signing of this Agreement, Mc and H, Inc. shall contribute, or cause to be contributed, to the Venture:

(a) the agreements, rights, leases, contracts, and other property described in Appendix A attached hereto; and

(b) the personal property, equipment, materials, supplies and other property described in Appendix B attached hereto.

It is agreed between the Parties that the property described in Appendices A and B is of a total value of Three Hundred Sixty Eight Thousand Seven Hundred Forty Seven and 44/100 Dollars ($368,747.44), and that in order to equalize the contributions of the Parties, M and H, Inc. shall immediately withdraw from the capital of the Venture the amount of Thirty Four Thousand Seven Hundred Forty Seven and 44/100 Dollars ($34,747.44).

3.2.2 TOSCO Mines shall pay to the Venture the sum of Three Hundred Thirty Four Thousand Dollars ($334,000) at the

following times and in the following manner:

(a) $99,747.44 in cash upon the signing of this Agreement; and

(b) the balance of $234,252.56 shall be paid by TOSCO Mines in monthly installments equal to the Disbursements (as defined in the Accounting Procedure) made by the Venture during the preceding month, which installments shall be paid to the Venture in accordance with the Accounting Procedure. No interest shall accrue on any deferred payments to be made by TOSCO Mines except as expressly provided in the Accounting Procedure with respect to late payments.

3.3 Additional Contributions.

3.3.1 Until such time as the original capital commitment by TOSCO Mines shall have been expended in payment of the expenses incurred by the Venture in the operation of the business contemplated hereby, neither Party shall be obliged to contribute any additional capital to the Venture. Thereafter the expenses for the conduct of the Venture business

shall be paid out of Venture profits, income, gains and credits, advances from the Parties to the Venture, or by additional capital contributions to be made equally by the Parties as they shall from time to time mutually agree.

3.4 Interests in Capital. Except as provided in Section 7.2, the interests of the Parties in the capital of the Venture shall be:

TOSCO Mines	50%
Mc and H, Inc.	50%

Additions to and withdrawals from the capital accounts of the Parties shall be made pro rata in accordance with the proportionate interests of each in the capital of the partnership.

3.5 Interests in Profits, Income, Gains and Credits, and in Losses, Expenses and Deductions. The profits, income, gains and credits, and losses, expenses and deductions of the Venture will be allocated between the Parties as follows:

TOSCO Mines	50%
Mc and H, Inc.	50%,

except that for tax purposes, until such time as TOSCO Mines shall have paid in its original capital commitment of Three

Hundred Thirty Four Thousand Dollars ($334,000), all losses, expenses and deductions incurred by the Venture shall be allocated to TOSCO Mines. Thereafter the losses, expenses and deductions of the Venture shall be allocated equally between the Parties.

ARTICLE IV

OPERATIONS

4.1 Operator. One Party shall act as Operator for the Venture, and shall have the rights and duties prescribed in this Agreement.

4.1.1 Mc and H, Inc. is hereby designated Operator, and shall serve as Operator during the first seven (7) years of the Primary Term and thereafter during the balance of the Primary Term and each Extended Term unless, not more than ninety (90) nor less than sixty (60) days prior to the expiration of the first seven (7) years of the Primary Term or the expiration of the Primary Term or of any Extended Term, TOSCO Mines shall have given notice to Mc and H, Inc. that TOSCO Mines desires to become Operator, in which case TOSCO Mines shall become Operator effective on the first day of the next seven (7) years or the Extended Term, as the case may be.

4.1.2 Notwithstanding the provisions of subsection 4.1.1, TOSCO Mines may at any time become Operator in place of Mc and H, Inc. by giving notice of its intent to become Operator on a date set forth in such notice, which shall be not more than ninety (90) nor less than thirty (30) days after the effective date of such notice, upon or after the occurrence of any of the following events:

(a) The death, or adjudication of incompetency of, or the incurrence of disability which prevents the performance of the duties required hereunder and which may reasonably be expected to continue for six (6) months by, either F. G. McFarland or S. R. Hullinger after the other shall have died, be adjudicated a mental incompetent, or incurred such a disability which exists at the time of the death, adjudication of incompetency, or pending the disability of the other.

(b) Any one, two or all of Mc and H, Inc., F. G. McFarland, or S. R. Hullinger shall file a voluntary petition in bankruptcy or be adjudicated a bankrupt; file a petition or

answer seeking reorganization, composition or other rearrangement of affairs under the bankruptcy laws; make or permit an assignment of his assets for the benefit of creditors; a trustee or receiver is appointed for his business and assets on petition of a creditor or creditors, and such trustee or receiver is not discharged and such petition dismissed within sixty (60) days after appointment of such trustee or receiver.

(c) Mc and H, Inc. shall fail to provide the personal supervisory services of either F. G. McFarland or S. R. Hullinger necessary or appropriate to the performance of its duties as Operator.

(d) F. G. McFarland and S. R. Hullinger, or either of them, and the executors, administrators, spouse or lineal descendants of the other shall cease to own or control, in the

aggregate, a majority of the capital stock of Mc and H, Inc. entitled to vote for the election of directors.

(e) All or any portion of the interest of Mc and H, Inc. in the Venture shall be assigned to another person voluntarily, involuntarily, or by operation of law.

(f) Mc and H, Inc. shall breach any provision of this Agreement and, if such breach consists of failure to account or to pay money, shall fail to correct such breach within ten (10) days following notice by TOSCO Mines of the existence of such breach, or, in the case of any other breach susceptible of cure, shall not fully cure and correct such breach within thirty (30) days following written notice by TOSCO Mines of the existence and nature of such breach. In the case of any breach not reasonably susceptible

of cure, no notice of breach need be given under this paragraph 4.1.2(g) but the notice prescribed in subsection 4.1.2 shall describe such breach.

4.1.3 In the event of a change of Operator, the Party originally acting as Operator shall render all necessary assistance and cooperation to the Party becoming Operator and shall surrender to the Party becoming Operator all Venture Property, bank accounts, accounts receivable, original records and books of account relating to the Venture (keeping such copies of such records and books as it may see fit), and any and all other items or matters belonging or relating to the Venture; and shall make, execute and deliver all transfers and assignments necessary to transfer and deliver all Venture Property, bank accounts, accounts receivable, records and books of account, and other items and matters to the Party becoming Operator. Upon a change of Operator, the Party originally acting as Operator shall not be relieved of responsibility to account, or of responsibility for any acts or omissions during its term as Operator.

4.2 <u>Powers and Duties of Operator</u>. Operator shall cause all work, development, mining, authorized exploration,

and other operations to be carried out in a careful and miner-like manner, and shall conform in all respects to applicable laws, regulations or orders of Federal, State and local governments and authorities. Without limitation of the foregoing, Operator shall:

4.2.1 Conserve and maintain in good repair the Venture Property, and keep the same free of liens and encumbrances, except as otherwise mutually agreed and except for liens contested in good faith by Operator.

4.2.2 Prepare in consultation with Non-Operator and file returns for and pay in a timely manner all taxes, assessments and governmental charges on the Venture Property or business of the Venture.

4.2.3 Obtain and keep in force the insurance set forth in Appendix F and such other insurance as may be agreed upon from time to time.

4.2.4 Observe and enforce all applicable laws and regulations relating to safety, pollution and conservation.

4.2.5 Keep full and adequate records of operations and books of account, and render accounts of the income, expenses and finances of the Venture in accordance with the Accounting Procedure.

4.2.6 Maintain in force and comply with the terms of all leases and agreements comprised in the Venture Property.

4.2.7 Secure and keep in force all necessary permits, authorizations and licenses.

4.2.8 Consult with Non-Operator and keep it fully informed of the status and progress of operations and of any significant occurrences or matters relevant to the business of the Venture, including, but not limited, to proposals for adjustments in the terms, conditions or arrangements for the employment of personnel, wages, bonuses and other employee relations and benefits.

4.2.9 Permit representatives of Non-Operator to observe and inspect the Venture Property and operations being conducted thereon; provided, however, that such representatives shall comply with Operator's safety regulations and directions; and further provided that Non-Operator shall

indemnify Operator and hold it harmless from claims or suits for personal injury or property damage by such representatives unless caused by Operator's gross negligence or willful act.

4.3 Plan of Development. Appendix G attached hereto sets forth the general outline of expected operations during the Primary Term. It is recognized that various circumstances may arise which would make it prudent to vary or alter these expected operations. Subject to such circumstances, it is the intention of the Parties that Operator be generally guided by the provisions of Appendix G.

4.4 Quarterly Mining Plans and Budgets. On or before August 15, 1969, and on or before the fifteenth day preceding the first day of each calendar quarter thereafter, Operator shall submit to Non-Operator, for its acceptance and approval, a Mining Plan and Budget for the quarter, hereinafter called "Budget." The Budget for the two quarters commencing April 1 and July 1, 1969 is attached hereto as Appendix H and are hereby approved. Each Budget shall set forth and describe the mining, milling, operating, and development work proposed by Operator for the quarter, including available details of locations, nature, timing, purpose and anticipated results

of the work and estimates of production, but shall not include an amount for exploration expenditures in excess of Twenty Five Thousand Dollars ($25,000) unless such excess has been agreed upon by the Non-Operator. Each Budget shall set forth and itemize the anticipated costs and expenditures of operation, anticipated income, and cash flow for the quarter. Each Budget shall be subject to the approval of Non-Operator. Operator will not proceed with the work proposed in any Budget until it has obtained the approval of Non-Operator. If Operator shall not have received written advice from Non-Operator that it disapproves of any item in any Budget prior to the commencement of the quarter covered by such Budget, it shall be deemed conclusively to have received approval of Non-Operator and shall be authorized to proceed with the work described in such Budget. No work shall be done or Venture monies expended otherwise than in accordance with an approved Budget, except as otherwise from time to time specifically agreed, and except for expenditures for maintenance and conservation of Venture Property, including payments required by leases or agreements.

Operator shall have sole discretion in the carrying out of approved operations subject to this Agreement and the applicable approved Budget. No capital expenditure in excess of Five Thousand Dollars ($5,000) shall be made without approval of Non-Operator.

4.5 Disposition of Tangible Personal Property. Venture Property consisting of tangible personal property shall not be sold, assigned, encumbered or otherwise transferred by Operator without the consent of Non-Operator, except for sale of ore and other products, and disposal of items of property having a value of less than Two Thousand Dollars ($2,000) in the ordinary course of the business of the Venture.

4.6 Distribution of Cash. All funds of the Venture shall be used in connection with its business and, except to the extent they are so used or are required to meet anticipated capital requirements of the Venture, they shall be distributed quarterly to each Party in the proportions agreed upon in Article III.

4.7 Services and Compensation. F. G. McFarland and S. R. Hullinger shall devote so much of their time and

services as may be required for the conduct of Venture business and shall be entitled to reimbursement for all out-of-pocket expenses incurred by them in the management and operation of the business of the Venture, but they shall not be entitled to receive any compensation for their services. Out-of-pocket expenses shall be deemed to include extra-clerical expenses provided by personnel not on the payroll of either Party or their affiliates, and meals, lodging, travel and entertainment expenses reasonably necessary for the conduct of the business of the Venture.

ARTICLE V

EXPLORATION AND ACQUISITION

5.1 Exploration and Exploratory Development. Exploration and exploratory work shall not be included in any quarterly Budget and shall not be conducted by the Venture except within the limits provided in Section 4.4. Either Party may at any time propose the conduct of such work within the limits of the Keystone Property by giving written notice of its proposal, specifying the nature of the work, the location or locations of the work, the personnel, equipment and methods to be used, the estimated time of commencement and duration of the work,

and the estimated itemized costs thereof. The Party receiving such notice may elect to join in the proposed work by giving notice thereof within sixty (60) days. In the event of such election, the work shall proceed only in accordance with the proposal, unless otherwise agreed. If no election to join is made, the proposing Party may, but shall not be obligated to, proceed with the work in accordance with the proposal and not otherwise, which work shall be carried out by the Operator, if Operator so desires, under the general direction and at the sole cost and expense of the proposing Party. If Operator declines to carry out such work, Non-Operator or its designee may proceed to conduct the proposed work. In either case, whether carried out by Operator or Non-Operator, the work shall be conducted without hampering for the Venture Account or impairment of the Venture's ability to meet its obligations under the Mining Lease. At the conclusion of any exploration or exploratory development work, Operator shall submit a detailed written report thereof to the Parties, including a report on all matters covered in the proposal, the results, assays, and analyses of the work, and the itemized cost thereof.

5.2 Rights in Single Party Exploration. A Party not electing to join in proposed exploratory work (hereinafter called "Non-Joining Party") shall have no right to share in the profits resulting from the production of reserves rendered accessible by such work, and the proposing Party may produce such ore for its own account and at its sole cost and expense, without interference with the operations of the Venture, and subject to proper and adequate accounting and payment for the use of equipment, machinery and supplies owned by the Venture in such production; provided, however, that at least sixty (60) days prior to the commencement of production of such reserves, it shall give to the Non-Joining Party notice of its intent to produce. If, prior to the commencement of such production, the Non-Joining Party shall notify the proposing Party in writing of its election to join proposing Party in the work theretofore carried out by it alone, the reserves rendered accessible by the work of proposing Party shall become Venture Property as soon thereafter as proposing Party shall have recovered from the profits derived from the production of such reserves, after deduction of an appropriate charge for Federal and State corporate income taxes attributable to the net income derived therefrom without regard for income or loss from any other source, two hundred percent (200%)

of the total costs incurred by proposing Party in exploring and developing such reserves from commencement of single party operations to receipt of notice from Non-Joining Party that it elects to join. Until the recovery of two hundred percent (200%) of such costs, any costs incurred in the working of such reserves in excess of revenues shall remain for the account of proposing Party and shall be added to the aggregate costs to be recovered by it before such reserves become Venture Property.

5.3 Acquisitions. No mining claims, reserves, or other interests in real property or ore shall be acquired for the Venture Account except by mutual consent, and any such property shall thereafter become Venture Property and shall be in all respects subject to this Agreement. If, during the term of this Agreement, either Party (hereinafter called the "Acquiring Party") acquires any mining claims, reserves, or other interests in real property within five (5) miles of the adit of the Keystone mine, it shall promptly give notice thereof to the other Party setting forth the interest acquired (and, if different therefrom, the interest available for transfer to the

Venture), its location and extent, and its cost. On request therefor, the Acquiring Party shall furnish to the other Party any and all information within its control relating to the acquisition and the interest acquired. The Party receiving such notice may elect to have the Venture acquire the interest available for transfer to the Venture by giving notice to the Acquiring Party of its election, accompanied by payment of one-half (1/2) the cost of acquisition, within one hundred twenty (120) days of the notice of acquisition, and such interest shall be transferred by the Acquiring Party to the Venture and shall become Venture Property subject to all the terms of this Agreement. If the Party receiving notice of acquisition fails to elect as provided above, the Acquiring Party shall hold its interest for its own account, free and clear of this Agreement, notwithstanding any other provisions of this Agreement.

ARTICLE VI

RECORDS AND ACCOUNTS

6.1 Books and Records. The Operator shall keep accurate books and records reflecting the Venture's business in accordance with generally accepted accounting principles as applied to the mining industry and the Accounting Procedure, showing all of the Venture's assets and liabilities, receipts and disbursements, profits and losses, the capital contributions of and distributions to the Parties, and all transactions entered into by the Venture. The books and records and all files of the Venture shall be kept by the Operator at the principal place of business of the Venture or at the Operator's office located in or near Salt Lake City, Utah, or Denver, Colorado, and the Parties and their representatives shall at all reasonable times have free access thereto for the purpose of inspecting or copying the same. The books of the Venture shall be kept on a calendar year basis, beginning on April 1, 1969.

6.2 Audits and Reports. The books of the Venture shall be audited as of the close of each calendar year by such certified public accountants as may be agreed

upon from time to time by the Parties, and a copy of the audit reports of such accountants, which shall include a balance sheet as of the end of the calendar year and a statement of profit and loss for such calendar year, shall be furnished by the Operator to all Parties within sixty (60) days after the close of the calendar year. In addition to the above-described audit reports, the Operator shall provide the other Party (a) with semi-monthly reports prepared in connection with a wage bonus system of mine operation, (b) with monthly balance sheets and profit and loss statements, (c) reports of operations, smelter settlement sheets, purchase and paying reports and (d) such other information, reports or documents normally prepared in connection with mining or milling operations. Operator shall supplement each such report with such oral or written amplification or explanation as is necessary to answer questions or requests of Non-Operator.

6.3 Organization Expense. Each Party hereto shall bear all expenses incurred by it prior to the execution of this Agreement in connection with the organization of the Venture, including legal and accounting fees.

ARTICLE VII

DISSOLUTION

7.1 Events of Dissolution. The Venture shall be dissolved upon the happening of any one of the following events, each of which is hereinafter called "an event of dissolution":

7.1.1 The expiration of the Primary Term or any Extended Term of the Venture after the giving of the notice provided for in Section 2.4, or the expiration of the fifth Extended Term.

7.1.2 The transfer of the interest of any Party in violation of Article VIII; provided, however, that this provision shall in no way limit the right available to the other party to receive damages as the result of such wrongful transfer and to such other remedies as may otherwise be available at law or in equity.

7.1.3 The agreement of the Parties to dissolve the Venture.

7.1.4 The bankruptcy, retirement, or resignation of either Party.

7.2 Rights upon Dissolution. In the event of the dissolution of the Venture by reason of an event of dissolution

prior to the full payment of the original capital commitment of TOSCO Mines, the obligation of TOSCO Mines to make contributions shall be limited to one hundred percent (100%) of obligations and liabilities of the Venture theretofore accrued and actual expenses of dissolution, until TOSCO Mines' capital contribution aggregates Three Hundred Thirty Four Thousand Dollars ($334,000), after which the Parties shall bear obligations, liabilities and expenses of the Venture equally. Under such circumstances, TOSCO Mines shall be entitled to receive in distribution a share of the net assets of the Venture determined by dividing the aggregate capital contributions of TOSCO Mines by the aggregate capital contributions of both Parties.

7.3 Procedure Upon Dissolution. Upon the occurrence of an event of dissolution, the Operator (or if Operator is unwilling or unable to act, Non-Operator) shall proceed promptly to wind up the business of the Venture and liquidate and distribute its assets in accordance with the following provisions:

7.3.1 The winding up of the Venture's affairs and the liquidation and distribution of its assets shall be

conducted and managed exclusively by the Party hereinabove provided, which is hereby authorized to do any and all things it may deem necessary or convenient for those purposes. Whether any assets of the Venture shall be liquidated through sale or shall be distributed to the Parties in kind shall in each case be a matter for the discretion of such Party.

7.3.2 The liabilities of the Venture shall be paid in the order provided by law; and after the payment or discharge of all of the Venture's known debts and liabilities (other than those represented by the interests of the Parties in its assets) or provision for the payment or discharge thereof, the Parties shall be entitled to receive their proportionate interest in the Venture's remaning assets or its share of the proceeds thereof. If any property or interest therein shall be distributed in kind, undivided interests in such property or interests corresponding to the respective interests of the Parties in the capital of the Venture shall be assigned to the Parties entitled thereto. Each Party shall look solely to the assets of the Venture for the return of its respective capital contributions, and, if the assets

of the Venture remaining after the payment or discharge or provisions for the payment or discharge of its other debts and liabilities are insufficient to return the capital contributions of the Parties, neither of them shall have any recourse against the assets of the other Party on account of capital contributions.

ARTICLE VIII

ASSIGNMENT OF INTERESTS

8.1 Right to Assign Venture Property. Neither Party shall have the right to assign, transfer, or otherwise dispose of Venture Property or any interest therein without the prior written consent of the other Party, except as otherwise provided in this Article and in Article IV.

8.2 Preferential Right of Purchase. If either Party desires to sell its interest in the Venture, the selling Party shall first give the other Party (hereinafter referred to as "Non-Selling Party"), a written notice of an offer to sell its interest in the Venture, which offer shall describe the purchase price, manner and time of payment, and all other terms and conditions of the proposed sale; provided, that in no event shall such terms require the payment of the proposed

purchase price until one hundred twenty (120) days after the acceptance of the offer to sell. Non-Selling party shall have forty five (45) days from the date the notice of offer to sell was given within which to accept such offer. Acceptance of the offer shall be made in writing in the same manner as is provided in Article XII hereof for the giving of notice. If Non-Selling Party shall not have accepted the offer within forty five (45) days of the notice of the offer to sell, then Selling Party shall be free to sell its interest in the Venture at a price and on terms and conditions not less favorable than those contained in the offer to sell. If Selling Party shall have failed to enter into a binding agreement to sell its interest in the Venture at a price and upon terms and conditions which are not less favorable than the price, terms and conditions contained in the offer to sell within one hundred eighty (180) days of the notice of offer to sell, then Selling Party shall have no right to sell its interest in the Venture until it shall have first reoffered the interest to the Non-Selling Party at the same or such other price and on terms and conditions as it may then deem appropriate.

8.3 Merger, Consolidation, Etc. TOSCO Mines may sell, transfer, or assign its interest in the Venture to a purchaser of substantially all its assets and the assets of its parent, or to a corporation wholly owned by its parent, or in connection with a merger, consolidation or reorganization of it and its parent. Mc and H, Inc. may sell, transfer or assign its interest in the Venture to a corporation, the stock of which is owned by F. G. McFarland and S. R. Hullinger, or by either of them, and the executors, administrators, spouse, or lineal descendants of the other, or to a corporation wholly owned by such a corporation.

8.4 Prohibition of Other Assignments. Except as hereinabove provided, neither Party shall sell, assign, or transfer its interest in the Venture without the prior written consent of the other Party.

ARTICLE IX

TRUCKING

9.1 Trucking by F. G. McFarland and S. R. Hullinger. Operator may contract with F. G. McFarland and S. R. Hullinger (hereinafter in this Article IX called "Mc and H Truckers") to transport ore and other products of the Venture, provided that:

9.1.1 Mc and H Truckers shall secure and keep in force insurance satisfactory to Non-Operator, all necessary permits, authorizations and licenses, and shall transport in a good and dependable manner; and

9.1.2 Mc and H Truckers shall at all times transport for the Venture at rates not more and on terms and conditions not less favorable than those available to the Venture from any other responsible person, firm or corporation in the transportation business.

ARTICLE X

REPRESENTATIONS OF Mc AND H, INC.

10.1 Representations. Mc and H, Inc. represents and warrants as follows:

10.1.1 Corporate Status and Ownership. It is a corporation duly organized and in good standing under the laws of Colorado and qualified to do business in the State of Colorado, and its capital stock having the power to vote for the election of directors is owned only by F. G. McFarland and S. R. Hullinger.

10.1.2 ASARCO Lease and Smelting Agreement. Appendix D is a true and correct copy of a Mining Lease

originally entered into by ASARCO as Lessor, and F. G. McFarland and S. R. Hullinger, dba McFarland & Hullinger, a partnership, as Lessee, as of April 1, 1963 (hereinafter referred to as the "ASARCO Lease"). Appendices D-1, D-2, and D-3 are amendments of the ASARCO Lease dated July 22, 1963, December 17, 1963, and December 1, 1964 respectively. Appendix E is a true and correct copy of an Agreement between F. G. McFarland and S. R. Hullinger, dba McFarland & Hullinger as Seller, and ASARCO as Buyer, as of April 4, 1963. Such Lease and Agreement are in full force and effect, and no party thereto is in default thereunder or has breached the same; and the said Mining Lease and Agreement have not been modified except as set forth above.

10.1.3 Title to Lands and Personalty. F. G. McFarland and S. R. Hullinger have no reason to doubt the representations made by ASARCO that the patented mining claims, unpatented mining claims and other real property described in Appendix A to the aforesaid Mining Lease of April 1, 1963 are owned by ASARCO sixty percent (60%) and by Park City Consolidated Mines Company forty percent (40%), free of adverse claims and interests and of liens and encumbrances,

except the lien of taxes not yet due and payable, and except for the lien given to secure an OME loan on which there was due as of February 1, 1969 a balance of $84,396.18 in principal, not including interest which accrues at the rate of 7½% per annum, which loan is payable only out of production from the Mining Property, and are validly leased under the aforesaid Mining Lease as heretofore amended and assigned. All equipment, supplies, buildings and improvements located thereon on April 1, 1969 were owned by the owners of the claims and real property and leased under the aforesaid Mining Lease or were owned by F. G. McFarland and S. R. Hullinger.

10.1.4 Prior Expenditures. F. G. McFarland and S. R. Hullinger have expended for development, exploration and maintenance of the aforesaid property in excess of Three Hundred Thirty Four Thousand Dollars ($334,000).

10.1.5 Proceedings. There are no actual or threatened proceedings or enforcement actions by any Federal, State or local authorities against it, F. G. McFarland or S. R. Hullinger affecting Venture Property, or against the Mine, Mill or other facilities included in Venture Property,

and, to the best of the knowledge and belief of F. G. McFarland and S. R. Hullinger, none of them are in violation of any applicable statute, regulation, order or decree with respect thereto.

10.1.6 Litigation. There are no pending or threatened actions, suits or litigation relating to the Venture Property or operations conducted thereon.

ARTICLE XI

REPRESENTATION OF TOSCO MINES

TOSCO Mines represents and warrants that it is a corporation duly organized and in good standing under the laws of Colorado and its capital stock having the power to vote for the election of directors is owned only by The Oil Shale Corporation, a Nevada corporation.

ARTICLE XII

NOTICES

All notices provided for herein shall be in writing and shall be deemed to have been given when delivered in person to an officer of the Party to which given, or when mailed by certified or registered mail, deposited in the United States mails, postage prepaid as follows:

10.1 If to Mc and H, Inc., to:

Mc and H, Inc.
Box 238
Tooele, Utah 84074

or at such other address as Mc and H, Inc. from time to time designates by notice to the other Party.

10.2 If to TOSCO Mines, to:

TOSCO Mines Corporation
18200 West Highway 72
Golden, Colorado 80401
Attention: Vice President

with a copy to:

TOSCO Mines Corporation
c/o The Oil Shale Corporation
680 Fifth Avenue
New York, New York 10019
Attention: Executive Vice President

or at such other addresses as TOSCO Mines from time to time designates by notice to the other Party.

ARTICLE XIII

EXECUTION OF OTHER DOCUMENTS

The Parties agree to sign any documents and do any and all other things which may be required to accomplish the formation of the Venture contemplated by this Agreement and to assure its continued existence for the term hereinabove provided for and any additions thereto, and to comply with

the statutory requirements of any states in which it may do business.

ARTICLE XIV

PRIOR AGREEMENTS AND AMENDMENTS

This Agreement contains all representations and agreements between the Parties hereto, supersedes all prior agreements of the Parties with respect to the subject matter hereof, and shall not be amended except in writing signed by all the Parties.

ARTICLE XV

SUCCESSORS AND ASSIGNS

Except as herein otherwise specifically provided, this Agreement shall inure to the benefit of and shall be binding upon the successors or assigns of the Parties and such successors and assigns shall become Parties hereto.

ARTICLE XVI

CONSTRUCTION

14.1 When necessary for proper construction, the masculine of any word used in this Agreement shall include the feminine and neuter gender thereof and the singular the plural, and vice versa.

14.2 The headings of the Articles, Sections, Subsections

and paragraphs herein are for convenience only and shall not affect the construction hereof.

14.3 This Agreement shall be construed in accordance with the laws of the State of Colorado.

14.4 It is the intention of the Parties to enter into a joint venture and this Agreement is in no way to be construed as creating a mining partnership under Colorado law.

ARTICLE XVII

COUNTERPARTS

This instrument is prepared in multiple counterparts for convenience in execution and each counterpart shall be deemed as an original and when taken together they shall constitute the agreement of the Parties.

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the day and year first above written.

Mc AND H, INC.

ATTEST:

By _____ President

_____ Secretary

TOSCO MINES CORPORATION

ATTEST:

By _____ President

_____ Secretary

STATE OF Utah)
) ss.
COUNTY OF Salt Lake)

The foregoing instrument was acknowledged before me this 19th day of May, 1969, by A. R. Wellinger _____ as — President and Carter R. Kinsler as — Secretary of Mc AND H, INC., a Colorado corporation.

WITNESS my hand and official seal.

My commission expires: 6/22/69

Andrew Strait
Notary Public

STATE OF Colorado)
) ss.
COUNTY OF Denver)

The foregoing instrument was acknowledged before me this 5th day of May, 1969, by Robert B. Crookston as Vice President and Douglas E. Nelson as _____ Secretary of TOSCO MINES CORPORATION, a Colorado corporation.

WITNESS my hand and official seal.

My commission expires: June 4, 1970

James M. Hoot
Notary Public

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
9/22/69	Kirkemo	120
		220
	Long	140
	Appd. Sol. Office	
10/7	Peterson	
		~~120M~~
		120
		220

UNITED STATES OF AMERICA
CERTIFICATION OF POSSIBLE PRODUCTION
UNDER AN EXPLORATION CONTRACT

McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Pursuant to Article 6 of the referenced contract, as amended, the Government hereby certifies that mineral or metal production may be possible as a result of the exploration work.

Therefore, royalties shall be paid to the Government as provided in the contract on all production from the land described in the contract from March 22, 1968, to March 22, 1978, or until the total amount contributed by the Government under the contract ($85,260.00) is fully repaid with interest at the rate of 7½ percent per annum, whichever occurs first. The payment of royalties is secured by a lien upon the land and upon any production therefrom.

Royalty payments should be made in favor of the U. S. Geological Survey and mailed or delivered to the Field Officer, Office of Minerals Exploration, Region III, Room 203, Building 53, Denver Federal Center, Denver, Colorado 80225. Each payment should be accompanied by two copies of settlement sheets or other suitable sales evidence showing the date of sale, name of the purchaser, the quantity and grade of the production sold, the price per unit, and the gross proceeds and allowable deductions therefrom. The purchaser should be notified of the Government's royalty on production and directed to pay the royalty, computed as provided in the contract, directly to the Government.

The Field Officer should be promptly notified upon the commencement of any production and upon any extended cessation thereof. Production unsold or unused six months after extraction from the ground should be reported promptly to the Field Officer.

RECEIVED
OCT 1969
Division of Mineral Resources
and General Legal Services

Attention is specifically invited to the provisions of Article 2(c) of the contract referring to the preservation of the Government's royalty rights. Two true copies of any instrument transferring, surrendering, or encumbering any of said rights shall be furnished to the Field Officer.

Dated this 10th day of October, 1969.

THE UNITED STATES OF AMERICA

Harold Kirkemo

Chief, Office of Minerals Exploration
U. S. Geological Survey

cc: Director's Reading File
Mineral Resources
Branch of Budget & Finance
Assoc. Sol.--Room 6554
OME docket
OME Region III
OME Reading File
Mr. Kirkemo
130 (2)

GLAult/a 7-22-69

I-C-DC-OME-20-69

Docket copy

UNITED STATES
DEPARTMENT OF THE INTERIOR

Office of Survey and Review

Audit Operations

OFFICIAL
COPY
O. M. E.
RECEIVED
SEP 2 1969

INITIALS	CODE
gla	130
	120
HK	~~120~~

Report of Review-Contract 2259
Docket No. OME-6640 (Silver)
McFarland and Hullinger (Operator)
Gunnison County, Colorado

Washington, D.C.
August 1969

On August 7, 1969, we reviewed the contract files of the Office of Minerals Exploration (OME) pertaining to their minerals exploration contract No. 2259 with McFarland and Hullinger, a partnership, and examined the related disbursement records in the Branch of Budget and Finance, Administrative Division, Geological Survey.

The contract was awarded on March 22, 1968, for $88,580, the total estimated cost of the project, with OME participation on a 75-percent basis or not to exceed $66,435. Amendment No. 1, October 24, 1968, increased the total estimated project cost to $113,680, OME participation $85,260. The contract, as amended, provided for exploring the Union and Keystone veins on the 1370 Level of the Keystone Mine by crosscutting, drifting, and raising for silver-bearing ore bodies in or near the veins in the Mesaverde Formation of Cretaceous Age.

Repayment of the disbursed Federal funds plus simple interest at 7½ percent was to be made on the basis of established royalties of all minerals and metals produced from the land during the exploratory operations and for a period of ten years from the date of the contract should a certification of possible production be issued by OME. Work under the contract started on April 9, 1968, and was completed at the end of February 1969.

The OME inspector, in his final inspection report of May 20, 1969, stated that it was evident that reserves of ore grade material had been discovered as a result of exploration work incurred under the contract and that they can be further developed and mined at a profit. He recommended that a certification of discovery be declared.

Eleven vouchers have been submitted to OME totaling $113,680 and $85,260 reimbursed to the operator for the OME participation on the 75-percent basis. We believe that the claimed and accepted costs are proper under the terms of the contract. The units of work authorized and paid are summarized on Exhibit I.

C. D. Bauer
Regional Director

EXHIBIT I

Summary of Contract Terms, Accepted Costs and Unexpended Balance

Fixed Unit Costs 1/	Authorized Amounts	Accepted Costs	Unexpended Balance
Crosscutting and drifting 2000 feet at $45.90/ft.	$ 91,800	$ 97,358	$(5,558)
Timbering crosscut and drift 200 feet at $6.45/ft.	1,290	334	956
Raising, including timbering 300 feet at $43.50/ft.	13,050	11,561	1,489
Assaying 300 samples Determinations for silver $1.75, Lead $2.25, zinc $2.75, copper $1.75	2,540	1,419	1,121
Snow removal, HD-21 bulldozer with operator, 200 hours at $25/hr.	5,000	3,008	1,992
Total Costs	$113,680	$113,680	$ -
Government Participation 75%	$ 85,260	$ 85,260	$ -

1/ Includes all costs not individually listed such as labor, materials, supplies, equipment, supervision, professional services, office expenses, taxes, and insurance. The Government retains no equity in any of the equipment or materials used.

Government's copy

EXPLORATION CONTRACT
McFARLAND AND HULLINGER
OME-6640

AMENDMENT 1

It is agreed this 24th day of October, 1968, between the United States of America, acting through the Department of the Interior, U. S. Geological Survey, hereinafter called the "Government," and McFarland and Hullinger, hereinafter called the "Operator," that Exploration Contract 2259 (OME-6640), dated March 22, 1968, is amended effective September 26, 1968, as follows:

1. In Article 1 of the Contract, the estimated total cost of the work is increased from $88,580.00 to $113,680.00 and the amount of Government participation at 75 percent is increased from $66,435.00 to not in excess of $85,260.00.

2. In Exhibit A the first paragraph is revised to read as follows:

"The purpose of this project is to explore the Union and Keystone veins on the 1370 Level of the Keystone Mine by crosscutting, drifting, and raising for silver-bearing ore bodies in or near the veins in the Mesaverde Formation of Cretaceous age."

3. In Exhibit A under the heading Description of the Work the entire section is revised to read as follows:

"Union vein -- Starting approximately at mine coordinates N. 12,740, E. 8690 on the 1370 level, crosscut about 550 feet in a southwesterly direction to the Union vein and drift northwesterly about 900 feet. Raises spaced not less than 100 feet apart may be driven on mineralized showings which warrant exploration above the 1370 level."

"Keystone vein -- Starting at mine coordinates N. 12,965, E. 8,638, extend the drift on the vein northwesterly approximately 550 feet. Raises spaced not less than 100 feet apart may be driven on mineralized showings which warrant exploration above the 1370 level."

"The locations of the crosscut and drifts allowable on the contract are shown in red on Figure 2 (revised) entitled 'Proposed Exploration on the 1370 level, Keystone Mine, Gunnison County, Colorado' which is attached hereto and made part hereof."

"Additional exploration within the limits of available funds may be undertaken as warranted with the prior approval of the Government confirmed by letter."

4. In Exhibit A under the heading Estimated Costs of the Project, the Fixed Unit Costs[1/], are revised to read as follows:

Crosscutting and drifting, 2,000 feet @ $45.90/foot (rounded)	$91,800.00
Timbering crosscut and drift, 200 feet @ $6.45/foot (rounded)	1,290.00
Raising, including timbering, 300 feet @ $43.50/foot	13,050.00
Assaying 300 samples Determinations for silver ($1.75), lead ($2.25), zinc ($2.75), copper ($1.75) (rounded)	2,540.00
Snow removal, HD-21 bulldozer with Operator 200 hours @ $25.00/hour	5,000.00
Total Estimated Fixed Unit Costs	$113,680.00
Government Participation @ 75 percent	$ 85,260.00

1/ Includes all costs not individually listed such as labor, materials, supplies, equipment, supervision, professional services, office expenses, taxes, and insurance. The Government retains no equity in any of the equipment or materials used.

This amendment shall not be construed to increase the fixed unit cost of any item of work.

Executed in quadruplicate the day and year first above written.

THE UNITED STATES OF AMERICA

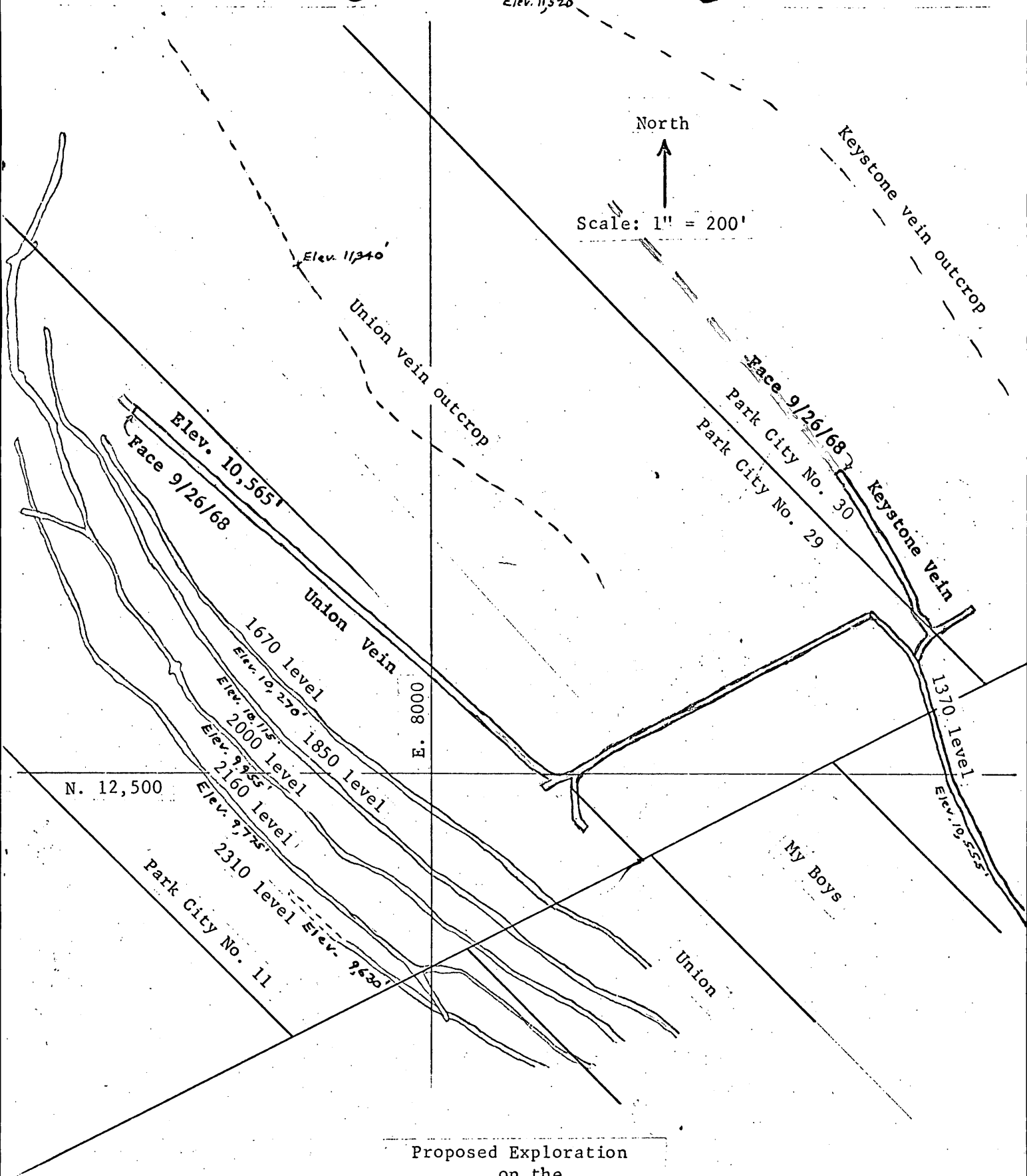
By Arthur A. Baker
Acting Director, U. S. Geological Survey

McFARLAND AND HULLINGER

By Fayette G. McFarland
Fayette G. McFarland, partner

Sidney R. Hullinger
Sidney R. Hullinger, partner

Long
App'd. Sol. Off.
Johnson
Kilsgaard
Hupp



Proposed Exploration
on the
1370 Level, Keystone Mine
Gunnison County, Colorado

Figure 2
(Revised)

UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey

Federal Center, Denver, Colorado 80225

Office of Minerals Exploration
Building 53 Room 203

October 9, 1968

Memorandum

To: The File

From: Assistant Chief, Office of Minerals Exploration

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Justification for Amendment No. 1

This amendment provides for exploration work on the Keystone vein in addition to the Union vein, and increases the total value of the contract by $25,100 (from $88,580.00 to $113,680.00) and the Government's share $18,750.00 (from $66,435.00 to $85,260.00).

OME's financial position in March 1968, when the contract was executed with the Operator, did not permit inclusion of work on both the Union and Keystone veins, so the target (Union vein) appearing to offer the best possibilities for a significant discovery was selected for contract work. The Operator on its own account crosscut to and drifted on a vein, which is tentatively identified as the Keystone vein, at the same time that OME contract work on the Union vein was in progress.

The results to date of work by the Operator on the Keystone vein have been very encouraging. The average assay value of 19 samples averaging 3.0 feet in width taken along 200 feet of drift was 4.62 ounces silver, 7 percent lead, 0.983 percent copper and 8.2 percent zinc.

The results of work on the Union vein have not been as encouraging. Several ore shoots were disclosed along a strike length of about 900 feet. The assay values of samples from the mineralized sections are in the range of 1.1 - 3.6 oz. silver, 1.1 - 4.72 percent lead, 0.26 - 0.37 percent copper, and 3.04 - 3.98 percent zinc across an average width of about 3.5 feet. There is a chance for an improvement in grade above the 1370 level because of more favorable conditions in the enclosing sedimentary rocks, and a raise will be driven to explore this possibility.

Inclusion of work on the Keystone vein in the OME contract will ensure the possibility of a significant discovery being made. I concur in the Field Officer's recommendation to provide for work on the Keystone vein.

Harold Kirkemo

Harold Kirkemo

MME Form 51
July 1965

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
U. S. Geological Survey

Government's Copy

OME Region III
RECEIVED
MAR 25 1968
Denver, Colorado

EXPLORATION CONTRACT
(Short Form)

Docket	Commodity	Contract No.	County	State
OME-6640	Silver	2259	Gunnison	Colorado

It is agreed MAR 22 1968 (Date), between the United States of America, acting through the Department of the Interior, U. S. Geological Survey, hereinafter called the "Government," and

McFarland and Hullinger, a partnership

,

whose mailing address is P. O. Box 238, Tooele, Utah 84074, hereinafter called the "Operator," as follows:

ARTICLE I. 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 April 10, 1968 (Date), and, subject to the provisions of Article 7 and Exhibit A, shall complete the work within 12 months from the date of the contract.

(b) The description of the work and the fixed cost for each unit of work to be performed (per foot of drilling, per foot of drifting, per hour of operations, etc.) are hereby agreed upon as specified in Exhibit A. The estimated total cost of the work is $88,580.00 The Government will contribute ~~50~~ 75 percent of the total fixed unit costs of the work performed, not in excess of $66,435.00 in accordance with the provisions of Articles 4 and 5.

(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 rights 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 6 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) 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. To the extent that amounts in excess of fixed unit costs or in excess of the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such amounts for his own account without contribution by the Government. The Government will not contribute to the cost of any work performed prior to the date of this contract. 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 units of 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.

(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.)

(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 unit costs thereof.

(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 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. 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 retain 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 6(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 7. 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 pay on account of units of work not then performed; 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 pay on account of units of work not performed when the notice was given, 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 7 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 11.

ARTICLE 8. 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 9. 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 10. 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 11. 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 12. 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 13. 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 14. Changes and added provisions.--

Executed in quintuplicate the day and year first above written.

McFARLAND AND HULLINGER
(Operator)

By Fayette G. McFarland
Fayette G. McFarland, partner

Title Sidney R. Hullinger
Sidney R. Hullinger, partner

THE UNITED STATES OF AMERICA

By Arthur A. Baker
Acting Director, U.S. Geological Survey
Office of Minerals Exploration

Appd. Sol. Office Long Skirhamo Johnson Kilpatrick

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]

EXPLORATION CONTRACT
McFARLAND AND HULLINGER
OME-6640

ANNEX I

The land, including all rights thereto, referrred to in Article 2 of the contract consists of 8 patented and 23 unpatented lode mining claims in secs. 30 and 31, T. 13 S., R. 86 W., sec. 6, T. 14 S., R. 86 W., and sec. 36, T. 13 S., R. 87 W., 6th Principal Meridian, Elk Mountain and Ruby Mining Districts, Gunnison County, Colorado. It is shown in heavy outline on Figure 1, entitled "Map Showing Operator's Property Rights, Keystone Mine, Gunnison County, Colorado" attached and made part hereof.

The patented lode mining claims are as follows:

Name	Survey No.
Berrien	3738
Furniture Boy	3739
Crested Butte Extension	4472
My Boys (northern 500 feet)	6523
Union (northern 500 feet)	6523
Park City No. 11	20825
Park City No. 29	20825
Park City No. 30	20825

The unpatented lode mining claims are recorded in the Office of the Gunnison County Recorder at Gunnison, Colorado as follows:

Name	Book	Page
Park City 6	255	516
Park City 7	255	516
Park City 8	255	517

Name	Book	Page
Park City 9	255	517
Park City 10	255	518
Park City 12	255	519
Park City 13	255	519
Park City 14	255	520
Park City 15	255	520
Park City 16	255	521
Park City 17	255	521
Park City 18	255	522
Park City 19	255	522
Park City 27	255	526
Park City 28	255	527
Park City 31	255	528
Park City 32	255	529
Park City 33	255	529
Park City 34	255	530
Park City 35	255	530
Park City 36	255	531
Park City 37	255	531
Park City 39	255	532

The Operator is in possession of the patented and unpatented claims under terms of a Mining Lease, dated April 1, 1963, from American Smelting and Refining Company. American Smelting and Refining Company

owns a sixty percent interest in the land, and is the Manager of the remaining forty percent interest in the land which is owned by Park City Consolidated Mines Company.

Lien and Subordination Agreements executed by the owners of the claims, American Smelting and Refining Company and Park City Consolidated Mines Company, are attached hereto and made a part hereof.

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–
Contract Date

LIEN AND SUBORDINATION AGREEMENTS[1]

To the United States of America:

That certain land in the County of Gunnison, State of Colorado, described as follows:[2] as described in Mining Lease dated April 1, 1963 between American Smelting and Refining Company, Lessor, and F. G. McFarland and S. R. Hullinger D/B/A McFarland & Hullinger, Lessees. Said lease is recorded in Book 402, Page 216, Gunnison, Colorado. F.G. McF. 3-29-68

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

McFarland & Hullinger [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

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 18th day of March, 19 68.

American Smelting and Refining Company — 120 Broadway (Street) — New York, New York 10005 (City & State)

By: C E Nelson (Seal)
Vice President

ATTEST: Harold Howe (Seal)
Secretary

(Street)
(City & State)

(Seal)

(Street)
(City & State)

(Seal)

(Street)
(City & State)

(Seal)

(Street)
(City & State)

(Seal)

(Street)
(City & State)

(Seal)

I, Harold Howe (Name), certify that I am the Secretary (Title—Secretary, etc.) of the corporation named herein; that C. E. Nelson (Name), who signed this agreement was then Vice-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.

(Corporate Seal)

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–
Contract Date

LIEN AND SUBORDINATION AGREEMENTS[1]

To the United States of America:

That certain land in the County of Gunnison, State of Colorado, described as follows:[2] as described in Mining Lease dated April 1, 1963 between American Smelting and Refining Company, Lessor, and F. G. McFarland and S. R. Hullinger D/B/A McFarland & Hullinger, Lessees. Said lease is recorded in Book 402, Page 216, Gunnison, Colorado. F.G. McF. 3-28-68 S.R.H. " " "

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

McFarland & Hullinger [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

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, 19 68.

Park City Consolidated Mines Co. — 68 S. Main Street (Street)
George C. Maw (Seal) — Salt Lake City, Utah (City & State)
Vice President

_____ (Street)
_____ (Seal) _____ (City & State)

_____ (Street)
_____ (Seal) _____ (City & State)

_____ (Street)
_____ (Seal) _____ (City & State)

_____ (Street)
_____ (Seal) _____ (City & State)

_____ (Street)
_____ (Seal) _____ (City & State)

I, J. W. Chadwick (Name), certify that I am the Secretary-Treasurer (Title—Secretary, etc.) of the corporation named herein; that George C. Maw (Name), who signed this agreement was then Vice 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.

J. W. Chadwick
(Corporate Seal)

EXPLORATION CONTRACT
McFARLAND AND HULLINGER
OME-6640

EXHIBIT A

The purpose of this project is to explore the Union Vein on the 1370 Level of the Keystone Mine by crosscutting, drifting, and raising for silver-bearing ore bodies in or near the vein in the Mesaverde Formation of Cretaceous age.

General Provisions

All significantly mineralized areas intersected by underground workings shall be sampled and assayed. A reprentative bulk sample may be collected from each round broken in mineralized rock. Channel or chip samples shall be cut normal to the trends of the mineralized areas at intervals of not more than 5 feet. Each sample shall be split and one split assayed for silver, lead, zinc, and, if warranted by inspection, for copper. The remainder of each sample shall be stored and labeled in a suitable container for Government inspection and possible use. With prior Government approval, the Operator may dispose of the stored samples.

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

Air lines shall be not less than 3-inch diameter, water lines not less than 1-inch diameter, and mine rails not less than 20-pound size. The workings shall be ventilated using not less than 12-inch diameter vent pipe.

All crosscuts, drifts, and raises shall be not less than 5 by 7 feet in cross section in the clear of timber and shall be timbered as necessary. Drift sets shall be of not less than 8- by 8-inch timber, or equivalent round timber. Raises shall be divided into a manway and chute by a row of 8- by 8-inch stulls with 3-inch thick lagging on the chute side.

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

The Government will not contribute to the cost of workings closer than 100 feet to the outer boundary of the project area.

The location, direction, and extent of each work item shall be subject to Government approval.

Description of the Work

The work shall consist of crosscutting to, drifting on, and, if warranted, raising on the Union vein on the 1370 level of the Keystone mine. It is estimated that about 555 feet of crosscut, 1,000 feet of drift, and two raises totalling 200 feet will be required. It is estimated that about 156 feet of crosscut and drift will require timber support.

Starting approximately at mine coordinates N. 12,740, E. 8690 on the 1370 level, crosscut about 555 feet in a southwesterly direction to the Union vein, and drift about 1,000 feet along the Union vein. Raises may be driven on mineralized showings which warrant exploration above the 1370 level.

The approximate locations of the crosscut and drift, and the tentative locations of the raises are shown in plan view on Figure 2, entitled "Proposed Exploration on the 1370 Level, Keystone Mine Gunnison County, Colorado" which is attached hereto and made part hereof.

Additional exploration within the limits of available funds may be undertaken as warranted with the prior approval of the Government confirmed by letter.

Estimated Costs of the Project

Fixed Unit Costs 1/

Crosscutting and drifting, 1,555 feet @ $45.90/foot (rounded)	$71,375.00
Timbering crosscut and drift, 156 feet @ $6.45/foot (rounded)	1,005.00
Raising, including timbering, 200 feet @ $43.50/foot	8,700.00

Assaying, 300 samples Determinations for silver ($1.75), lead ($2.25), zinc ($2.75), copper ($1.75)	$ 2,500.00
Snow removal, HD-21 bulldozer with Operator 200 hours @ $25.00/hour	5,000.00
Total Estimated Fixed Unit Costs	$88,580.00
Government Participation @ 75 percent	$66,435.00

1/ Includes all costs not individually listed such as labor, materials, supplies, equipment, supervision, professional services, office expenses, taxes, and insurance. The Government retains no equity in any of the equipment or materials used.

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.

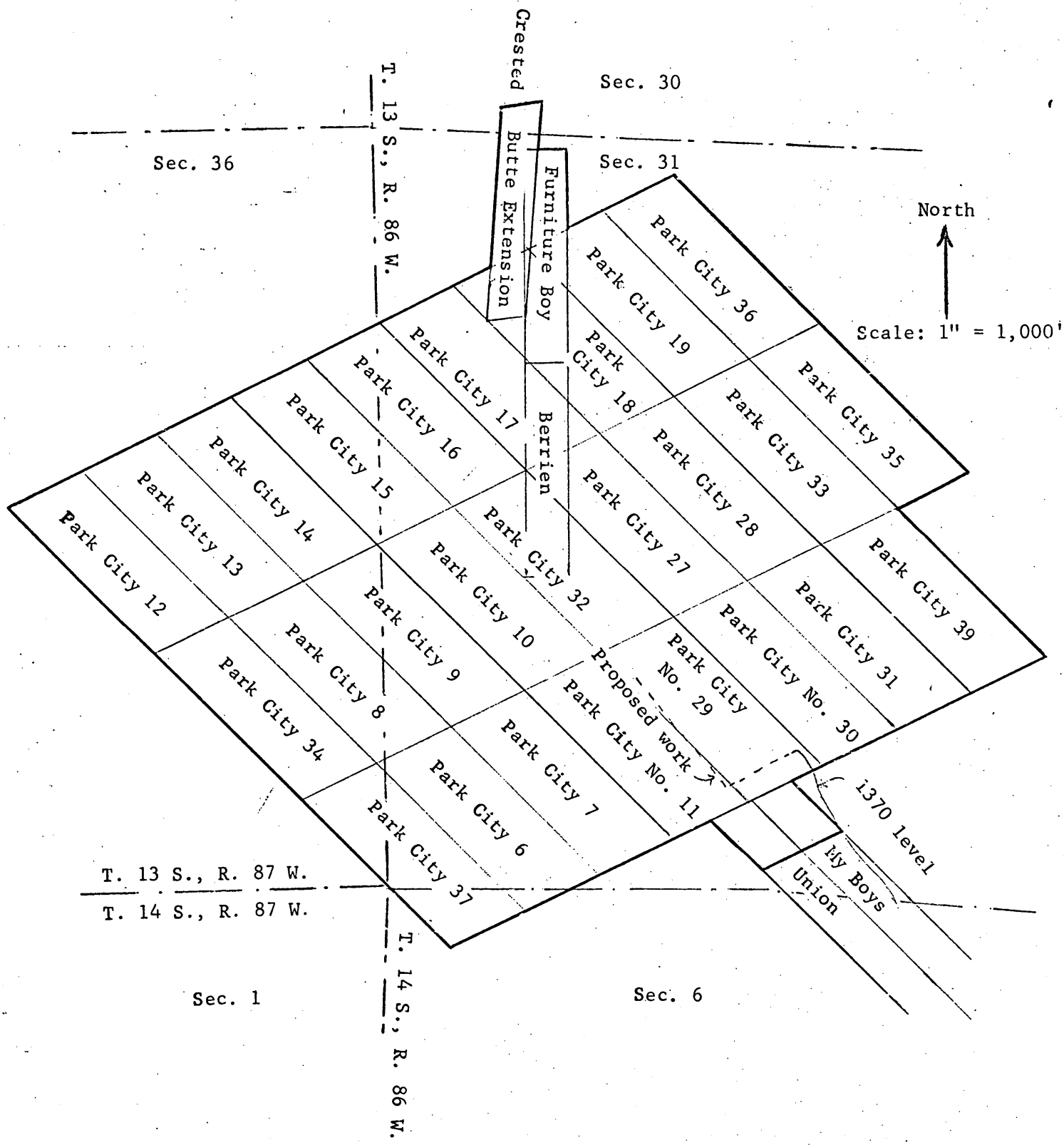
'(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments 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.'"

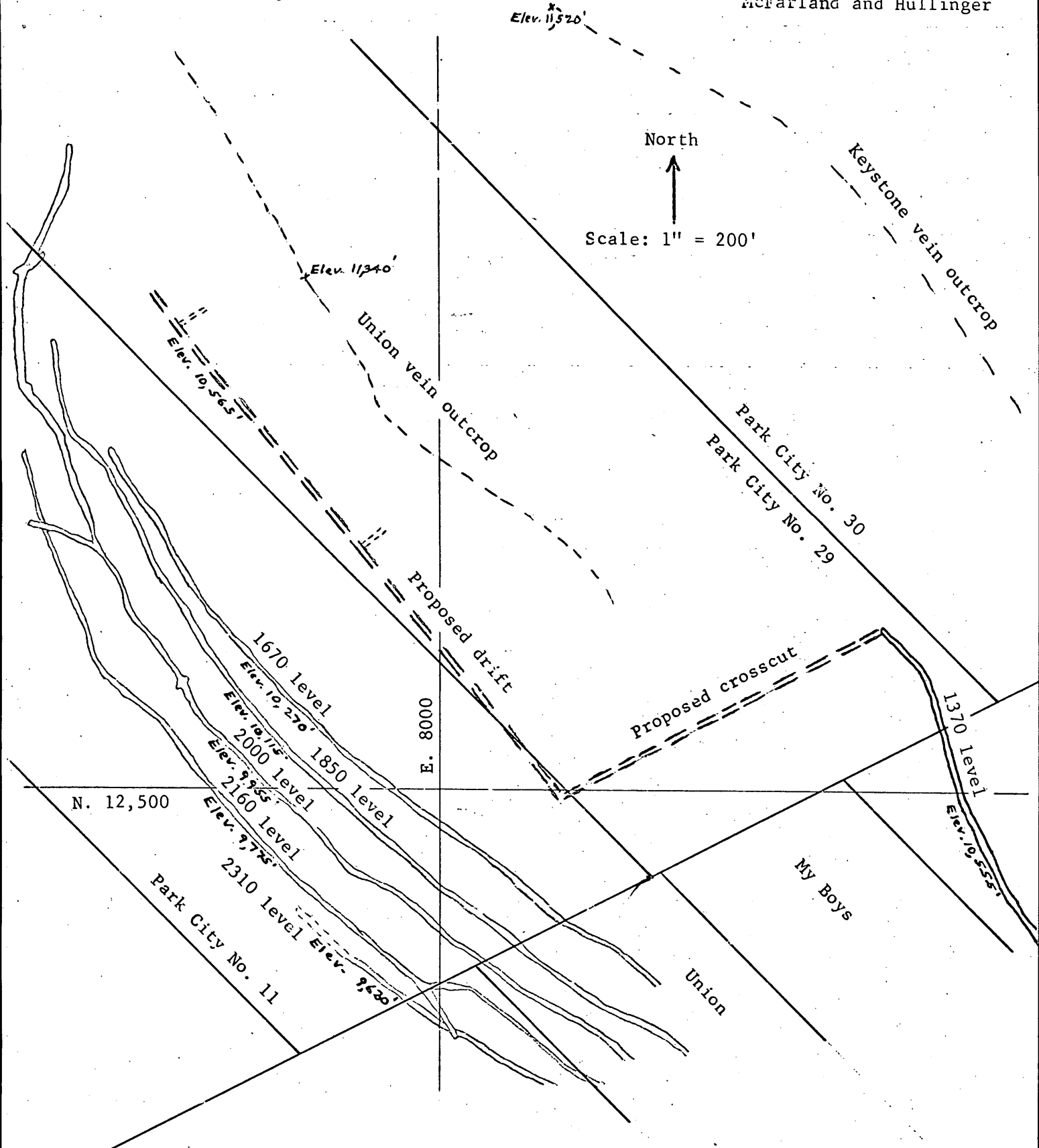


Map Showing
Operator's Property Rights
Keystone Mine
Gunnison County, Colorado

Figure 1

U. S. Geological Survey
Office of Minerals Exploration

OME-6640
McFarland and Hullinger



Proposed Exploration
on the
1370 Level, Keystone Mine
Gunnison County, Colorado

Figure 2

Addendum No. 3 to MME
Docket No. 6640 (Silver)

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Answers to Questions on MME Form 40

1. **Financial Eligibility:**

   (a) See Item 1-(a) attached.

   (b) American Smelting and Refining Company, 120 Broadway, New York 5, New York, owns a sixty percent (60%) Undivided interest in land; Park City Consolidated Mines Company, 600 Crandall Building, Salt Lake City 1, Utah, owns forty percent (40%) interest.

   (c) Through partnership cash funds.

2. **Applicant's Rights in Land:**

   (a) Lessee of Property -- See Item 2-(a) attached "True Copy of Lease". No known leins, mortages or other encumbrances exist.

   (b) The proposed project area would include Patented lode mining claims Park City No. 29 - Survey No. 20825, Park City No. 30 - Survey No. 20825, Park City No. 11 - Survey No. 20825, Furniture Boy - Survey No. 3739, Berrien - Survey No. 3738, the northern 500 feet of My Boys - Survey No. 6523, the northern 500 feet of Union - Survey No. 6523, and Crested Butte Extension - Survey No. 4472.

   The proposed project area would also include Unpatented lode mining claims Park City Nos. 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 27, 28, 31, 32, 33, 34, 35, 36, 37 and 39.

   Recordation data on unpatented claims within the project area are outlined as follows:

Name of Claim	Book	Page
Park City No. 6	255	516
Park City No. 7	255	516
Park City No. 8	255	517
Park City No. 9	255	517
Park City No. 10	255	518
Park City No. 12	255	519
Park City No. 13	255	519
Park City No. 14	255	520
Park City No. 15	255	520
Park City No. 16	255	521

-continued-

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

Name of Claim	Book	Page
Park City No. 17	255	521
Park City No. 18	255	522
Park City No. 27	255	526
Park City No. 28	255	527
Park City No. 31	255	528
Park City No. 32	255	529
Park City No. 33	255	529
Park City No. 34	255	530
Park City No. 35	255	530
Park City No. 36	255	531
Park City No. 37	255	531
Park City No. 39	255	532

All claims recorded in Gunnison County Recorder's Office, Gunnison, Colorado. Affidavits of labor and improvements are duly filed to date.

By elevation, no vertical boundaries would be restricted or subordinated within the proposed OME project area. (See Exhibit F).

All adjacent land owned are shown on attachment 2-(b). The property is known only as the "Keystone".

F. G. McFARLAND
TOOELE, UTAH
Phone – Tooele 882-1243

S. R. HULLINGER
TOOELE, UTAH
Phone – Tooele 882-1344

McFARLAND AND HULLINGER

MINING • ORE HAULING • CONTRACTING

PHONE 882-0103
P. O. BOX 238
TOOELE, UTAH 84074

February 23, 1968

Tooele Branch
First Security Bank of Utah, N. A.
Tooele, Utah

Gentlemen:

A request was made to your Bank on June 2, 1967, for a loan in the amount of $320,000.00 for exploration and development work at the Keystone Mine located near Crested Butte, Colorado.

No collateral was offered on this loan request because of our credit record standing with your Bank. After your refusal to make the loan as requested, we applied through the government OME program to help us finance the proposed exploration program. After some nine (9) months of negotiations and waiting, the government has given favorable consideration to a lesser program of exploration amounting to $88,500.00, of which their participation of 75% amounts to $66,375.00.

During the past eight (8) months we have suffered extreme adverse financial effects from the smelter strike which has not only interrupted our mining operations, but trucking operations as well, along with extremely high local, state and federal taxes. Further, our maintenance and exploration preparatory work at the Keystone Mine has consumed some $50,000.00 while awaiting the final approval of our OME loan application which initially was $320,000.00 and has now been offerred for consideration by the Government in the amount of $88,500.00.

We would appreciate very much your kind attention to this matter, outlining if the loan is available, and upon what terms you are considering.

Very truly yours,

McFarland & Hullinger

F. G. McFarland
Partner

FGMcF/mm

First Security Bank of Utah
NATIONAL ASSOCIATION

TOOELE OFFICE

TOOELE, UTAH
February 23, 1968

McFarland and Hullinger
P.O. Box 238
Tooele, Utah 84074

Gentlemen:

We have duly considered your request for a loan in the amount of $88,500.00 for exploration and development work on the Keystone Mine, and have respectfully declined same for the reasons mentioned to you in our conversation today. This reject will have no adverse affect whatsoever on your credit record.

What Reasons?

If we can be of any further assistance to you in this matter, kindly advise.

Very truly yours,

Kenneth W. Dean
Vice President

KWD:lr

F. G. McFARLAND
TOOELE, UTAH
Phone – Tooele 882-1243

S. R. HULLINGER
TOOELE, UTAH
Phone – Tooele 882-1344

McFARLAND AND HULLINGER

MINING • ORE HAULING • CONTRACTING

PHONE 882-0103
P. O. BOX 238
TOOELE, UTAH 84074

February 23, 1968.

Walker Bank and Trust Company
P. O. Box 1169
Salt Lake City, Utah 84110

Gentlemen:

A request was made to your Bank of June 2, 1967, for a loan in the amount of $320,000.00 for exploration and development work at the Keystone Mine located near Crested Butte, Colorado.

No collateral was offered on this loan request because of our credit record standing with your Bank. After your refusal to make the loan as requested, we applied through the government OME program to help us finance the proposed exploration program. After some nine (9) months of negotiations and waiting, the government has given favorable consideration to a lesser program of exploration amounting to $88,500.00 of which their participation of 75% amounts to $66,375.00.

During the past eight (8) months we have suffered extreme adverse financial effects from the smelter strike which has not only interrupted our mining operations, but trucking operations as well, along with extremely high local, state and federal taxes. Further, our maintenance and exploration preparatory work at the Keystone Mine has consumed some $50,000.00 while awaiting the final approval of our OME loan application which was initially $320,000.00 and has now been offered for consideration by the government in the amount of $88,500.00.

We would appreciate very much your kind attention to this matter, outlining if the loan is available, and upon what terms you are considering.

Very truly yours,

McFarland and Hullinger

F. G. McFarland
Partner

FGMcF/mm

HEAD OFFICE

WALKER BANK & TRUST COMPANY

ESTABLISHED 1859 MEMBER FEDERAL RESERVE SYSTEM

SALT LAKE CITY, UTAH

February 27, 1968

McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

Gentlemen:

We acknowledge receipt of your request to consider a loan to your partnership for $88,500 for the purpose of exploration and development work on the Keystone Mine located near Crested Butte, Colorado.

We appreciate very much the fine relationship we have had with your partnership and we have been, on occasions, willing to make you loans for your general operation and for equipment. However, it has not been the practice of our bank to make loans for the purpose of exploration and development and we regret to advise that we will be unable to make a loan to you for this purpose.

Very truly yours,

F. J. Cowan
Vice President

js

McFARLAND AND HULLINGER

BALANCE SHEET

End of Taxable Year - December 31, 1967

ASSETS

Current Assets		
Cash in Bank	$ 187,774.54	
Savings Account	105,109.00	
Accounts Receivable (Advances to Employees)	13,000.42	
Notes Receivable	63,300.47	
Total Current Assets		$ 369,184.43
Fixed Assets		
Cash Deposits - Insurance	$ 13,051.01	
Ore Hauling Permits	28,620.27	
Mining Stock	71,400.40	
Oil Well Share	10,010.00	
U.S. Job Corps	1,174.54	
Total Fixed Assets		124,256.22
Real Estate and Mining Property		
Mines	$ 8,814.06	
Real Estate	113,110.49	
Total Real Estate and Mining Property		121,924.55
Prepaid Expenses		
Interest Reserve		13,692.95
Operating Equipment		2,683,114.18
Total Assets		$ 3,312,172.33

LIABILITIES

Current Liabilities	
State Sales Tax	$ .12
Fixed Liabilities	
Contracts - Equipment	107,068.26
Reserves	
Depreciation	1,676,868.74
Net Worth	1,528,235.21
Total Liabilities	$ 3,312,172.33

McFARLAND AND HULLINGER

BALANCE SHEET

End of Taxable Year - December 31, 1967

ASSETS

Current Assets		
Cash in Bank	$ 187,774.54	
Savings Account	105,109.00	
Accounts Receivable (Advances to Employees)	13,000.42	
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Mining Stock	71,400.40	
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Total Fixed Assets		124,256.22
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Mines	$ 8,814.06	
Real Estate	113,110.49	
Total Real Estate and Mining Property		121,924.55
Prepaid Expenses		
Interest Reserve		13,692.95
Operating Equipment		2,683,114.18
Total Assets		$ 3,312,172.33

LIABILITIES

Current Liabilities	
State Sales Tax	$ .12
Fixed Liabilities	
Contracts - Equipment	107,068.26
Reserves	
Depreciation	1,676,868.74
Net Worth	1,528,235.21
Total Liabilities	$ 3,312,172.33

McFARLAND AND HULLINGER

BALANCE SHEET

End of Taxable Year - December 31, 1967

ASSETS

Current Assets		
Cash in Bank	$ 187,774.54	
Savings Account	105,109.00	
Accounts Receivable (Advances to Employees)	13,000.42	
Notes Receivable	63,300.47	
Total Current Assets		$ 369,184.43
Fixed Assets		
Cash Deposits - Insurance	$ 13,051.01	
Ore Hauling Permits	28,620.27	
Mining Stock	71,400.40	
Oil Well Share	10,010.00	
U.S. Job Corps	1,174.54	
Total Fixed Assets		124,256.22
Real Estate and Mining Property		
Mines	$ 8,814.06	
Real Estate	113,110.49	
Total Real Estate and Mining Property		121,924.55
Prepaid Expenses		
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F. G. McFARLAND
TOOELE, UTAH
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McFARLAND AND HULLINGER

MINING • ORE HAULING • CONTRACTING

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P. O. BOX 238
TOOELE, UTAH 84074

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Crested Butte, Colorado
February 15, 1968

Mr. Frank E. Johnson, Chief
Office of Minerals Exploration
United States Department of Interior
Washington 25, D. C.

SUBJECT: OME-6640 (Silver)

Dear Mr. Johnson:

Enclosed herewith is a revised property subordination description along with a new property map outlining the subject application boundaries as proposed by your department through Mr. J. William Hasler, OME Field Officer in Denver, Colorado.

As per your departments request, some thirty-one (31) patented and unpatented lode mining claims are included in the subordination agreement. It is my understanding in talking to you and members of your staff that the attached property may include additional stages of OME participation if the initial stage of exploration proves successful and further work is warranted.

It is our sincere hope that after some eight (8) months of negotiations with your department that the attached data (Addendum No. 3), will bring the subject application to a successful conclusion.

Sincerely yours,

MCFARLAND & HULLINGER

Max T. Evans, Supt.
Keystone Mine

MTE/js
Encl.

Addendum No. 3 to OME
Docket No. 664(Silver)

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Answers to Questions on MME Form 40

1. Financial Eligibility:

(a) See Item 1-(a) attached.

(b) American Smelting and Refining Company, 120 Broadway, New York 5, New York, owns a sixty percent (60%) Undivided interest in land; Park City Consolidated Mines Company, 600 Crandall Building, Salt Lake City 1, Utah, owns forty percent (40%) interest.

(c) Through partnership cash funds.

2. Applicant's Rights in Land:

(a) Lessee of Property -- See Item 2-(a) attached "True Copy of Lease". No known leins, mortages or other encumbrances exist.

(b) The proposed project area would include Patented lode mining claims Park City No. 29 - Survey No. 20825, Park City No. 30 - Survey No. 20825, Park City No. 11 - Survey No. 20825, Furniture Boy - Survey No. 3739, Berrien - Survey No. 3738, the northern 500 feet of My Boys - Survey No. 6523, the northern 500 feet of Union - Survey No. 6523, and Crested Butte Extension - Survey No. 4472.

The proposed project area would also include Unpatented lode mining claims Park City Nos. 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 27, 28, 31, 32, 33, 34, 35, 36, 37 and 39.

Recordation data on unpatented claims within the project area are outlined as follows:

Name of Claim	Book	Page
Park City No. 6	255	516
Park City No. 7	255	516
Park City No. 8	255	517
Park City No. 9	255	517
Park City No. 10	255	518
Park City No. 12	255	519
Park City No. 13	255	519
Park City No. 14	255	520
Park City No. 15	255	520
Park City No. 16	255	521

-continued-

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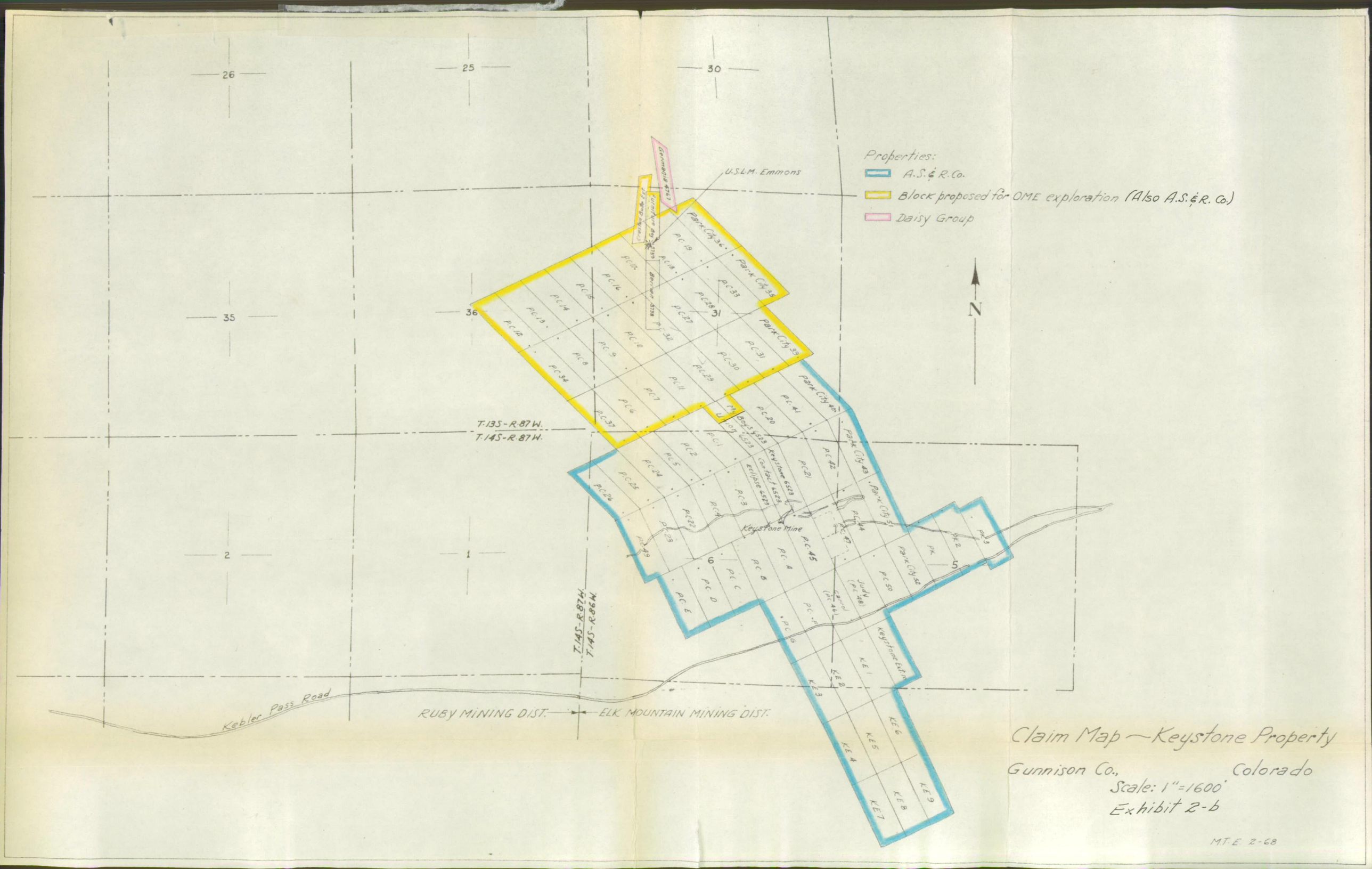
Tooele, Utah

Name of Claim	Book	Page
Park City No. 17	255	521
P.C. No. 19 → Park City No. 18	255	522
Park City No. 27	255	526
Park City No. 28	255	527
Park City No. 31	255	528
Park City No. 32	255	529
Park City No. 33	255	529
Park City No. 34	255	530
Park City No. 35	255	530
Park City No. 36	255	531
Park City No. 37	255	531
Park City No. 39	255	532

All claims recorded in Gunnison County Recorder's Office, Gunnison, Colorado. Affidavits of labor and improvements are duly filed to date.

By elevation, no vertical boundaries would be restricted or subordinated within the proposed OME project area. (See Exhibit F).

All adjacent land owned are shown on attachment 2-(b). The property is known only as the "Keystone".



Claim Map — Keystone Property

Gunnison Co., Colorado

Scale: 1" = 1600'

Exhibit 2-b

MT-E 2-68

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

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APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Answers to Questions on MME Form 40

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(c) Through partnership cash funds.

2. Applicant's Rights in Land:

(a) Lessee of Property -- See Item 2-(a) attached "True Copy of Lease". No known leins, mortages or other encumbrances exist.

(b) The proposed project area would include Patented lode mining claims Park City No. 29 - Survey No. 20825, Park City No. 30 - Survey No. 20825, unpatented lode mining claims Park City No. 27, Park City No. 32, and the southern portion of Patented lode mining claim Berrien - Survey No. 3738. The southern portion is defined as that part of the Berrien claim located south of the North end line of claim Park City No. 27. Also, the northern 300 feet of Patented lode mining claim My Boys - Survey No. 6253 as defined: Commencing from the NW corner 320 feet N64°E to the NE corner, thence S46°E 300 feet to the SE corner, thence S64°W 320 feet to the SW corner, thence N46°W 300 feet to point of beginning.

By elevation, no vertical boundaries would be restricted within the proposed OME project area.

Recordation data on unpatented claims within the project area:

Name of Claim	Book	Page
Park City No. 27	255	526
Park City No. 32	255	529

All claims recorded in Gunnison County Recorder's Office, Gunnison, Colorado.

All adjacent land owned are shown on attachment 2-(b). The property is known only as the "Keystone".

-continued-

2 - mailed in envelope underneath

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

2. continued

(c) Not applicable.

3. Physical Description:

(a) The land proposed for exploration adjoins the Keystone Mine which has very extensive underground workings. (See Exhibits A and B). Underground mining operations were active at the Keystone Mine by American Smelting and Refining Company during 1955-1957. McFarland and Hullinger took over the property in 1963 and commenced mining and milling operations which have continuously been sustained and are currently active to date.

Production facilities include a complete mining and milling unit as follows:

office building, assay laboratory, engineering office, repair shops, compressor building, warehouse, "dry" changeroom, truck shop, 300 ton per day crushing and flotation mill facilities, complete line of mining equipment such as Mancha tram motors, Atlas tram motors, drilling machines, mucking machines, diamond core drill, underground hoist with skip and etc.

(b) Mine Superintendent.

(c) Keystone Mine -- Total Production through 8-67:

Dry Tons Ore		Ag. oz.	Cu. %	Zn. %	Pb. %
Heads	455,473	5.64	.72	5.56	2.62
Pb. Con.	29,634	72.88	7.42	7.48	37.94
Zn. Con.	42,667	3.60	1.26	49.76	.38
Tails	383,173	.66	.14	.56	.17

Silver production from the Keystone Mine totals 2,569,084 ounces through August 1967. Copper production totals 6,600,294 pounds through the same period. Mining and milling operations were shut down at the Keystone Unit on August 28, 1967 for lack of developed ore reserves.

(d) The unique habits of structural and lithalogic control related to ore deposition in the Keystone Mine makes the estimate of accurate ore reserves difficult. Since the initial OME application submittal was made in June, a higher grade stope of ore was encountered on the 2310 level. Therefore, probable remaining ore reserves in the sulphide zone, if fully developed, would approximate 18,000 tons. The bulk of these reserves are located on and above the 2460 and 2310 levels.

-continued-

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P. O. Box 238
Tooele, Utah

3. (d) continued

The average grade of known reserves from cumulative mine and mill data would be as follows:

Ag. oz. 5.17, Cu. % .58, Zn. % 6.00, Pb. % 2.80

Probable oxide ore reserves which would require milling separately from the sulphide ores have been placed at 60,000 tons. The bulk of oxide reserves are located in old workings which would require much costly rehabilitation and development work to recover. Average grade of the oxide reserves would be as follows:

Ag. oz. 7.57, Cu. % 1.15, Zn. % 6.71, Pb. % 2.87

Sampling methods used in the Keystone Mining operations are composed of car grab samples, face channel samples, mill automatic sampler and mill hand grab samples.

The tenor of the ores in the Keystone Mine, notably silver, are much higher in the upper workings of the mine. (See Exhibit E).

(e) The Keystone Mine is developed on the Keystone and Union veins which strike northwesterly and dip from 60 to 75 degrees southwesterly. The Union vein which is a branch or hanging wall split from the Keystone vein, has the steeper dip. Ore mineralization and stoping areas have persisted along the Keystone vein for a strike length of over 3,000 feet and have been mined down dip for a distance of 1,150 feet. The Union vein has been mined along strike for a distance of 1,500 feet and over a dip length of 700 feet. (See Exhibits B and C).

Host rock for ore deposition is the Cretaceous Mesa Verde formation composed of sandstones, shales and coal, according to the U.S.G.S. However, no coal beds have been encountered in the underground workings to date.

Both veins vary in width from less than one foot to over 15 feet and contain ore in distinct shoots. Ore minerals in both veins appear similar and are composed of argintiferous galena, marmatitic zinc and chalcopyrite, in a gangue of quartz, pyrite, pyrhotite, and rhodochrosite.

(f) Geological mapping and reconaissance surface surveys have revealed the presence of two mineralized vein structures located northwesterly from the Keystone Mine workings in unexplored virgin ground. The two vein structures appear to correlate with the dip and strike projections of the productive Keystone and Union veins in the Keystone Mine workings. American Smelting and Refining Company core drilled an angle hole in the southern end of Park City 17 claim and penetrated three feet of vein ore between 276 and 279 feet of depth. The ore assayed as follows according to mine maps and records:

Interval	Au. oz.	Ag. oz.	Cu. %	Zn. %	Pb. %
276-279'	.015	5.0	2.1	---	---

-continued-

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Tooele, Utah

3. (f) continued

Since the initial OME application was submitted on June 13, 1967, extensive surface exploration work involving sixteen (16) dozer trench excavations, geologic mapping, sampling, assaying and ~~new~~ map preparations have been completed on the proposed OME project area. (See Exhibits AA and BB)

Extensive vein ore mineralization with pronounced continuity is now exposed on two separate parallel vein structures. The former Berrien vein, now known to be correlative with the Union vein is delineated by surface trenches over a strike length of 2,850 feet. The Keystone vein outcrop has now been mapped and sampled over a strike length of 500 feet. Both end projections of the Keystone vein outcrop are mask by deep talus cover.

Due to climatic conditions, including heavy snowfall and rains in the general area, especially in the higher elevations of the Red Lady Basin, much oxidation and leaching of the veins are present. Boxwork pseudomorph structures after pirmary sulphide deposition are widespread throughout the veins. Only remanent amounts of base and precious metals have been left in tact. Indicative of the oxidation and leaching effects present are surface vein samples Nos. K-8 and K-9 which were taken from the vein directly above the ore intercept in F.B. Drill Hole No. 1. A substantial increase in the elements silver and copper were encountered at depth on the vein compared to assay values on the surface outcrop.

Samples taken from trenches and vein outcrops extending from 63N. area for a strike distance of some 1,900 feet northward show silver values greater than the average mined to date from the Keystone Mine. An arithmetic average of 25 oxidized and leached surface samples show 6.644 ounces of silver per ton.

The recent surface exploration work completed has greatly substantiated the presence and continuity of two well defined ore bearing vein structures in the area proposed for OME financial aid.

Potential ore reserves calculated for the project area are classified in the Inferred Category and the basis for such reserves are shown on Exhibit B-B and outlined as follows:

Inferred Reserves Union and Keystone Vein Zones	
Union Vein	326,400 tons
Keystone Vein	397,300 tons
Total Reserves	723,700 tons*

Estimate Basis:

Union Vein	
Strike Length	1700 feet max.
Width	4.0 feet
Dip Lengths	(Max. 1030 ft.)(See Exhibit BB) (Min. 250 ft.)
Tonnage Factor	10 ft^3/ton

-continued-

3. (f) continued

Keystone Vein	
Stike Length	1520 feet max.
Width	4.0 feet
Dip Lengths	(Max. 1110 ft.) (See Exhibit BB)
	(Min. 235 ft.)
Tonnage Factor	10 ft^3/ton

*Total inferred reserves have included a 25% dilution factor for barren zones and unmineable widths.

Grade:
Based on an arithmetic average of 25 oxidized and leached surface vein samples taken from the Union and Keystone vein structures, an average of 6.644 ounces of silver was obtained with practically all of the copper and zinc values removed by oxidation and leaching.

It is therefore reasonable to assume that the tenor of the ore under the zone of oxidation would increase in the fugitive elements silver, copper and zinc. On this basis, the expected grade of ore on both veins would be as follows:

Ag. oz.	Cu. %	Zn. %	Pb. %
8.30	1.00	5.49	2.13

The above expected grade is based in part on 455,473 tons of ore mined from the Keystone operation which has yielded to date 2,569,084 ounces of silver and 6,600,000 pounds of copper. Also, the expected grade is based on several thousand tons of silver, copper, zinc, lead ore mined from the Daisy mine located directly north of the proposed project area. (See Exhibit B-B)

The existing modern 300 ton per day selective flotation mill located at the Keystone Mine is the prime factor in profitably operating the Keystone Unit. Two concentrates are shipped; 1) a silver, copper, lead, and 2) a zinc concentrate. Without such milling facilities available, the vein type ore deposits on the Keystone property could not be worked on a profitable basis because of long truck and rail distances to the nearest smelter for treatment of raw ore.

(g) Copies attached (in pocket). Do not require their return.

4. Accessibility of Property:

(a) Max T. Evans will meet the OME representative at the Keystone Mine office located two miles by gravel road westerly from the town of Crested Butte, Colorado. As the Keystone Mine is currently in operation, most of the underground workings and surface areas are accessible for examination.

-continued-

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

4. continued

(b) One shipping point is currently being used: Denver and Rio Grande railhead at Salida, Colorado. Trucking distance from Crested Butte to Salida is 90 miles. The major supply point is Denver, Colorado, a distance of 230 miles from Crested Butte.

5. Exploration Work:

Since the initial OME application submittal was made an alternate program is proposed to do all exploratory work from the existing 1370 Level. This working level will yield a greater ore tonnage reserve, due to a lower elevation, and the level is currently rehabilitated and in good working condition. By using the 1370 Level, road construction and the collaring of a new portal site would be alleviated.

Project A - Union Vein

Crosscut by drifting southwesterly from existing 1370 level drift face 555 feet to intersect the down dip projection of surface ore showing in dozer trenches. Drift Union Vein northwesterly 1700 feet under continuous surface ore exposures.

Proposed raise footage amounting to 400 feet is considered important to explore the vein up dip at various intervals for at least 100 feet above the level.

A 250 foot inclined diamond drill hole is also proposed to be drilled from the northern face of proposed 1370 Union Vein drift to test down dip potential of surface vein ore showing at Sample Location SU22 and 23.

Project B - Keystone Vein

Crosscut by drifting northeasterly from 1370 level 400 feet to intersect the down dip projection of the Keystone Vein zone showing at the surface. Drift the Keystone Vein zone and related ore northwesterly for a distance of 2000 feet. Advance 500 feet of raises at regular intervals to explore the vein up dip above the level.

A diamond drill hole 850 feet in depth is proposed to be drilled northeasterly from the northern most face of 1850 level of the Keystone Mine to test the down dip potential of ore showing at the surface on the Keystone Vein. This hole will also test the Union Vein if an abrupt steepening or reversal of dip occurs at depth. This hole will be within the proposed OME project area some 450 feet lower in elevation than the 1370 Level.

Contingent diamond drilling amounting to 915 feet is proposed to test foot and hanging wall vein splits on the proposed drifting projects and to concur results of preliminary drilling and geologic structural problems that may arise during the exploration work.

-continued-

Received Oct. 2, 1987

McFarland & Hullinger
P.O. Box 238
Tooele, Utah

4. continued

(b) Two shipping points are currently being used. (1) Denver and Rio Grande railhead at Salida, Colorado. Trucking distance from Crested Butte to Salida is 90 miles. (2) Denver and Rio Grande railhead at Montrose, Colorado. Trucking distance from Crested Butte to Montrose is 90 miles. The major supply point is Denver, Colorado, a distance of 230 miles from Crested Butte.

5. Exploration Work:

Since the initial OME application submittal was made an alternate program is proposed to do all exploratory work from the existing 1370 Level. This working level will yield a greater ore tonnage reserve, due to a lower elevation, and the level is currently rehabilitated and in good working condition. By using the 1370 Level, road construction and the collaring of a new portal site would be alleviated.

Project A - Union Vein

Crossbut by drifting southwesterly from existing 1370 level drift face 555 feet to intersect the down dip projection of surface ore showing in dozer trenches. Drift Union Vein northwesterly 1700 feet under continuous surface ore exposures.

Proposed raise footage amounting to 500 feet is considered important to explore the vein up dip at various intervals for at least 100 feet above the level.

A 250 foot inclined diamond drill hole is also proposed to be drilled from the northern face of proposed 1370 Union Vein drift to test down dip potential of surface vein ore showing at Sample Location SU 22 and 23.

Project B - Keystone Vein

Crossbut by drifting northeasterly from 1370 level 400 feet to intersect the down dip projection of the Keystone Vein zone showing at the surface. Drift the Keystone Vein zone and related ore northwesterly for a distance of 2000 feet. Advance 600 feet of raises at regular intervals to explore the vein up dip above the level.

A diamond drill hole 850 feet in depth is proposed to be drilled northeasterly from the northern most face of 1850 level of the Keystone Mine to test the down dip potential of ore showing at the surface on the Keystone Vein. This hole will also test the Union Vein if an abrupt steepening or reversal of dip occurs at depth. This hole will be within the proposed OME project area some 450 feet lower in elevation than the 1370 Level.

-continued-

See page received 10/3/67

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

5. continued

The exploration projects, as proposed, may be subject to revision, change, or alternate plans as work progresses to obtain the maximum ore reserves possible.

6. Experience:

McFarland and Hullinger have had over 30 years experience in the mining business. They are currently engaged in active mining operations in Arizona, Colorado and Utah. They have successfully repaid in full a former DMEA loan on the Ophir Mine in Tooele County, Utah. (See attached True Copy).

American Smelting and Refining Company have indicated they would support the exploration venture with surface geophysical surveys.

Max T. Evans, superintendent of the Keystone Mine, would supervise the proposed exploration work. He is a technical school graduate with B. S. and M. S. degrees in mining geology. He has had over 17 years experience in mining and exploration work throughout Western United States and Alaska.

Received Oct. 3, 1967

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

5. (Project B) continued

Contingent diamond drilling amounting to 200 feet is proposed to test foot and hanging wall vein splits on the proposed drifting projects.

The exploration projects, as proposed, may be subject to revision, change, or alternate plans as work progresses to obtain the maximum ore reserves possible.

6. Experience:

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See page received 10/3/67

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

SUMMARY OF PROJECT COST ESTIMATE

1370 Level	Vein Zone	Drift Footage (6' x 7-1/2')	Est. Cost/ft.	Cost
Project A	Union	555 ft. X-Cut		
		10% timbered (55.5 ft.)	58.85	$ 3,266.18
		90% w/o timber (499.5 ft.)	52.40	26,173.80
Project A	Union	1700 ft. North		
		10% timbered (170.0 ft.)	58.85	10,004.50
		90% w/o timber (1530.0 ft.)	52.40	80,172.00
			Union Drifts.....	$119,616.48
Project B	Keystone	400 ft. X-Cut		
		10% timbered (40.0 ft.)	58.85	$ 2,354.00
		90% w/o timber (360.0 ft.)	52.40	18,864.00
Project B	Keystone	2000 ft. North		
		10% timbered (200.0 ft.)	58.85	11,770.00
		90% w/o timber (1800.0 ft.)	52.40	94,320.00
			Keystone Drifts.....	$127,308.00
		Timbered Raises (5' x 7')		
Projects A & B	Keystone & Union	900 ft.	48.61	$ 43,749.00
			Total Raising.....	$ 43,749.00
		Diamond Core Drilling (EX Size)		
Projects A & B	Keystone & Union	2015 ft.	4.70	$ 9,470.50
			Total Drilling.....	$ 9,470.50
		Total Project Drifting, Raising and Diamond Drilling.....		$300,143.98

Assaying Samples for Gold, Silver, Copper, Lead and Zinc
575 Samples @ $10/sample ..... $ 5,750.00

Snow Removal from Access Road to 1370 Level as needed
(HD-21 Dozer w/operator: est. time 400 hrs. @ $25/hr.) ..... $ 10,000.00

TOTAL PROJECT... $315,893.98

7. continued

(e) Initial Rehabilitation and Repairs (none)

(f) New Buildings, Fixtures and Installations (none)

(g) All equipment in good condition--monthly estimate of repairs shown in Item 7-(c). Deduct 5% of total for buildings and shop repairs.

Received Oct. 3, 1969

McFarland & Hullinger
P.O. Box 238
Tooele, Utah

SUMMARY OF PROJECT COST ESTIMATE

1370 Level Project	Vein Zone	Drift Footage (6' x 7-1/2')	Est. Cost/ft.	Cost
	Union	555' S.W. X-Cut Drift		
		10% timbered (55.5 ft.)	65.40	$ 3,629.70
		90% w/o timber (499.5 ft.)	59.00	29,470.50
	Union	~~1700'~~ 800 N.W. Drift		
		10% timbered (170.0 ft.)	65.40	11,118.00
		90% w/o timber (1530.0 ft.)	59.00	90,270.00
			Union Drifts.....	$134,488.20
	Keystone	400' N.E. X-Cut Drift		
		10% Timbered (40.0 ft.)	65.40	$ 2,616.00
		90% w/o timber (360.0 ft.)	59.00	21,240.00
	Keystone	~~2000'~~ 1000 N.W. Drift		
		10% timbered (200 ft.)	65.40	13,080.00
		90% w/o timber (1800 ft.)	59.00	106,200.00
			Keystone Drifts..	$143,136.00
		Timbered Raises (5' x 7')		
	Keystone & Union	~~900'~~ 450	52.00	$ 46,800.00
			Total Raising...	$ 46,800.00
		Diamond Drilling EX Size		
	Keystone & Union	~~2015'~~ 1000'	4.70	$ 9,470.05
			Total Drilling...	$ 9,470.05
			TOTAL PROJECT	$333,894.24

7. continued

(e) Initial Rehabilitation and Repairs (none)

(f) New Buildings, Fixtures and Installations (none

(g) All equipment in good condition--monthly estimate of repairs shown in Item 7-(c). Deduct 5% of total for buildings and shop repairs.

See page 2
received 10/3/67

HEAD OFFICE

WALKER BANK & TRUST COMPANY

ESTABLISHED 1859 MEMBER FEDERAL RESERVE SYSTEM

SALT LAKE CITY, UTAH

June 5, 1967

Att. Item 1 - (a)

McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

Gentlemen:

We acknowledge receipt of your letter of June 2, 1967 requesting that we consider a loan to your Partnership in the amount of $320,000.00 for the purpose of exploration and development work on the Keystone Mine.

We appreciate very much the fine relationship we have had with your firm over the past years, but regret to advise you that it has not been the policy of our bank to make loans for the purpose requested.

Very truly yours,

F. J. Cowan
Vice President

js

Received Oct. 3, 1967

First Security Bank of Utah
NATIONAL ASSOCIATION

TOOELE OFFICE

TOOELE, UTAH
June 8, 1967

McFarland and Hullinger
P.O. Box 238
Tooele, Utah 84074

Gentlemen:

We have duly considered your request for a loan in the amount of $320,000.00 for exploration and development work on the Keystone Mine, and have respectfully declined same for the reasons mentioned to you in our conversation today. This reject will have no adverse affect whatsoever on your credit record.

If we can be of any further assistance to you in this matter, kindly advise.

Very truly yours,

Kenneth W. Dean
Vice President

KWD:lr
Encl.

Received Oct. 3, 1967

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.
RECEIVED
JUL 12 1967
INITIALS | CODE

July 11, 1967

Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: Application for financial assistance to explore for silver at the Keystone Property, Gunnison County, Colorado

Transmitted herewith is an application from McFarland and Hullinger, Tooele, Utah who have applied for financial assistance in Minerals Exploration to explore for silver along the Union vein, and the Keystone vein northwest, to explore the possible extension of the vein from their known outcrops and stoped areas.

The veins have previously been explored under DMEA docket 3866 (Lead-Zinc-Copper), Contract Idm. E-903. The work was completed, certified and has paid off its lien in full, under a contract with the American Smelting and Refining Company.

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

Enclosures

MME Form 40
Jan. 65

Budget Bureau No. 42-R1306
Approval expires Dec. 31, 1968

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

OFFICIAL FILE COPY
RECEIVED
JUL 12 1967
OFFICE OF MINERALS EXPLORATION

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

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.)*

McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER: 6640
DATE RECEIVED: 7-12-67
REGION: III
DIVISION CODE:

BUSINESS ORGANIZATION *(Check one)*

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

STATE IN WHICH FIRM IS ORGANIZED: Utah

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE
Fayette G. McFarland	P.O. Box 238, Tooele, Utah	Partner and Co-Owner
Sidney R. Hullinger	P.O. Box 238, Tooele, Utah	Partner and Co-Owner

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

ESTIMATED COST OF PROJECT: $ 333,421.00

PROPERTY NAME	LOCATION COUNTY	STATE
Keystone	Gunnison	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., 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.

McFarland and Hullinger

June 13, 1967
DATED

F. G. McFarland
BY *(Signature)*

Partner
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).]

INT.-DUP. SEC., WASH., D.C

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Answers to Questions on MME Form 40

1. Financial Eligibility:

   (a) See Item 1-(a) attached.

   (b) American Smelting and Refining Company, 120 Broadway, New York 5, New York, owns a sixty percent (60%) Undivided interest in land; Park City Consolidated Mines Company, 600 Crandall Building, Salt Lake City 1, Utah, owns forty percent (40%) interest.

   (c) Through partnership cash funds.

2. Applicant's Rights in Land:

   (a) Lessee of Property -- See Item 2-(a) attached "True Copy of Lease". No known leins, mortages or other encumbrances exist.

   (b) The proposed project area would include Patented lode mining claims Park City No. 29 - Survey No. 20825, Park City No. 30 - Survey No. 20825, unpatented lode mining claims Park City No. 27, Park City No. 32, and the southern portion of Patented lode mining claim Berrien - Survey No. 3738. The southern portion is defined as that part of the Berrien claim located south of the North end line of claim Park City No. 27. Also, the northern 300 feet of Patented lode mining claim My Boys - Survey No. 6253 as defined: Commencing from the NW corner 320 feet N64° E to the NE corner, thence S46° E 300 feet to the SE corner, thence S64° W 320 feet to the SW corner, thence N46° W 300 feet to point of beginning.

   By elevation from datum mean sea level, the project area would include all lands described above from the rail elevation (10,543.8 feet) at the 1370 Level Portal to the surface.

   Recordation data on unpatented claims within the project area:

Name of Claim	Book	Page
Park City No. 27	255	526
Park City No. 32	255	529

   All claims recorded in Gunnison County Recorder's Office, Gunnison, Colorado.

   All adjacent land owned are shown on attachment 2-(b). The property is known only as the "Keystone".

-continued-

First Security Bank of Utah
NATIONAL ASSOCIATION

TOOELE OFFICE

TOOELE, UTAH
June 8, 1967

McFarland and Hullinger
P.O. Box 238
Tooele, Utah 84074

Gentlemen:

We have duly considered your request for a loan in the amount of $320,000.00 for exploration and development work on the Keystone Mine, and have respectfully declined same for the reasons mentioned to you in our conversation today. This reject will have no adverse affect whatsoever on your credit record.

No request ltr.

If we can be of any further assistance to you in this matter, kindly advise.

Very truly yours,

Kenneth W. Dean
Vice President

KWD:lr
Encl.

F. G. McFARLAND
TOOELE, UTAH
Phone – Tooele 882-1243

S. R. HULLINGER
TOOELE, UTAH
Phone – Tooele 882-1344

McFARLAND AND HULLINGER

MINING ° ORE HAULING ° CONTRACTING

PHONE 882-0105
P. O. BOX 238
TOOELE, UTAH 84074

June 1, 1967

Main Office
Walker Bank & Trust Company
P. O. Box 1169
Salt Lake City, Utah 84110

Attention: Mr. Cowan

Gentlemen:

We are submitting for a loan on the Keystone Mine. The loan is for exploration and development work, as per our detailed summary attached. The amount needed to do the work is $ 320,000.00.

We would appreciate your giving this matter your immediate attention.

Very truly yours,

McFarland and Hullinger

S. R. Hullinger
Partner

FGMcF/mm

HEAD OFFICE

WALKER BANK & TRUST COMPANY

ESTABLISHED 1859 MEMBER FEDERAL RESERVE SYSTEM

SALT LAKE CITY, UTAH

June 5, 1967
Att. Item 1-(a)

McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

Gentlemen:

We acknowledge receipt of your letter of June 2, 1967 requesting that we consider a loan to your Partnership in the amount of $320,000.00 for the purpose of exploration and development work on the Keystone Mine.

Regular Collins? O.K.

We appreciate very much the fine relationship we have had with your firm over the past years, but regret to advise you that it has not been the policy of our bank to make loans for the purpose requested.

Very truly yours,

F. J. Cowan
Vice President

js

F. G. McFARLAND
TOOELE, UTAH
Phone – Tooele 882-1243

S. R. HULLINGER
TOOELE, UTAH
Phone – Tooele 882-1344

McFARLAND AND HULLINGER

MINING ° ORE HAULING ° CONTRACTING

PHONE 882-0103
P. O. BOX 238
TOOELE, UTAH 84074

June 1, 1967

Main Office
Walker Bank & Trust Company
P. O. Box 1169
Salt Lake City, Utah 84110

Attention: Mr. Cowan

Gentlemen:

We are submitting for a loan on the Keystone Mine. The loan is for exploration and development work, as per our detailed summary attached. The amount needed to do the work is $ 320,000.00.

We would appreciate your giving this matter your immediate attention.

Very truly yours,

McFarland and Hullinger

S. R. Hullinger
Partner

FGMcF/mm

MCFARLAND & HULLINGER

BALANCE SHEET

PERIOD ENDING MAY 31, 1967

Current Assets		
Cash in Bank	145,593.46	
Savings Account	105,109.00	
Accounts Receivable (Advances to Employees)	89,512.00	
Notes Receivable	63,564.07	
Total Current Assets		403,778.53
Fixed Assets		
Cash Deposits-Incurance	13,051.01	
Ore Hauling Permits	28,620.27	
Mining Stock	71,400.40	
Oil Well Share	10,010.00	
Cash Investors Syndicate	58,388.01	
Chickamona Syndicate	5,400.00	
Total Fixed Assets		186,869.69
Real Estate and Mining Property		
Mines	5,318.98	
Real Estate	119,806.85	
Total Real Estate and Mining Property		125,125.83
Prepaid Expenses		
Interest Reserve		12,655.97
Operating Equipment		2,744,387.84
Total Assets		3,472,817.86

LIABILITIES

Current Liabilities	State Sales Tax	61.21
Fixed Liabilities		
	Contracts-Equipment	108,992.59
Reserves		
	Payroll Taxes	7,916.77
	Depreciation	1,621,260.28
Net Worth		1,734,587.01
Total Liabilities		3,472,817.86

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

MINING LEASE

Att. Item 2-(a)

THIS MINING LEASE, made and entered into as of this First day of April, 1963, regardless of the actual times of signing and acknowledgement, between AMERICAN SMELTING AND REFINING COMPANY, a New Jersey Corporation, Lessor, and F. G. McFARLAND and S. R. HULLINGER, dba McFARLAND & HULLINGER, a partnership, of Tooele City, Tooele County, State of Utah, Lessee.

WITNESSTEH:

Article 1. Grant of Lease and Description of the Property. Lessor, in consideration of the payments and royalties herein reserved and of the covenants herein to be performed by Lessee, and the further consideration of Ten Dollars ($10.00) paid by Lessee to Lessor, receipt of which is hereby acknowledged, does hereby lease, let and demise unto Lessee, the following properties:

(a) The mining property known as the Keystone Mine, situate in the Elk and Ruby Mining Districts, Gunnison County, Colorado, and more particularly described in Appendix "A" hereto attached and made a part hereof by reference, together with all buildings and other improvements situated upon the property, including the mill, with all fixtures, machinery, equipment and supplies presently located thereon.

(b) Also, eight (8) residential structures located in Crested Butte, Gunnison County, Colorado, together with the rents, if any, derived therefrom. Said houses are also described in Appendix "A" hereto attached.

It is agreed that within the next thirty (30) days, the parties will make and sign a written inventory of the machinery and equipment, tools and supplies, as well as household goods, now situated upon the leased properties. The Lessee agrees to maintain the machinery and equipment and all buildings herein leased in a condition of reasonable repair, and turn the same back to Lessor at the expiration of this agreement in a condition of repair as it now is, with only ordinary and reasonable wear and depreciation being excepted; and provided further, that in the event any equipment or machinery depreciates to a point where, in the opinion of the Lessee, further repairs are unwarranted and replacement is necessary, then in that event it is agreed the Lessor will be so notified in writing and such equipment or machinery will be turned over to the Lessor at the property. Lessee at Lessee's expense, will replace the same and all property so replaced will be and remain the property of Lessee, and on termination of this agreement will be and is subject to removal as herein provided.

Salt Lake City, Utah
July 22, 1963

MEMORANDUM FOR
MR. L. K. NICHOLSON, JR.:

KEYSTONE UNIT
McFARLAND & HULLINGER LEASE

Reference is made to Keystone Document No. 24 whereby $2,000 rental charge is to start July 1st. McFarland & Hullinger have had unanticipated mechanical and other difficulties at the property, including much worse conditions in the caved portion of the 2000 level than was foreseen. It has been checked with Mr. Pope in the New York office that we may postpone start of rental charges for two and one-half months, that is, until the 16th of September.

Original signed by
J. F. FROST
J. F. FROST

JFF:bm
cc: H.L.Goodenough
D.J.Pope
McFarland & Hullinger

RECEIVED
JUL 24 1963

(c) It is agreed that while Lessee is in possession and operation of the said mining property, as provided in this lease agreement, any mining claims located or otherwise acquired by or for Lessee within a radius of five (5) miles of the Keystone No. 1 adit shall at that time become the property of the Lessor and come under and within all the terms of this agreement. Lessee will promptly execute and deliver quitclaim deed to Lessor of all Lessee's interest in said claims; provided, however, that Lessee may acquire such surface rights outside the limits of the above described property as in Lessee's judgment may be necessary or convenient for the operation of the property.

(d) It is understood between the parties that Lessor owns a sixty percent (60%) interest in the above described property, and Park City Consolidated Mines Company owns a forty percent (40%) interest, and Lessor is the appointed Manager thereof.

Article 2. Term of Lease. The term of this lease shall be ten (10) years from the date hereof, unless sooner terminated in the manner hereinafter provided.

Article 3. Possession and Control of Property. Lessee shall have, and he is hereby given and granted the sole right to enter into the property and conduct mining operations, and to remove and sell the ores therein mined, subject to the provisions hereinafter set forth. Upon execution of this agreement by both parties, Lessor shall give to each tenant in possession of the aforesaid residences, a thirty (30) day legal notice to vacate the same.

Article 4. Rental and Royalties.

(a) Commencing on the first day of July, 1963, Lessee shall pay Lessor a rental of Two Thousand Dollars ($2,000.00) per month, due on or before the 10th day of each and every month during this lease.

If for any calendar month during this lease, Lessee, because of depressed metal prices or labor disturbances, is unable profitably to produce and sell ores from the property, and does not, on that account, operate the said mill at any time in that month, the above rental shall be reduced to One Thousand Dollars ($1,000.00) for each such month.

(b) In addition to the above rental, Lessee shall pay to Lessor a royalty of ten percent (10%) of the net smelter returns on all ores produced and sold by Lessee from the demised premises. "Net smelter returns" shall here mean the net amount received from the smelter, after freight charges, in payment for ores and concentrates produced and sold by Lessee from the property, less an amount for transportation cost from mill to the railhead at the rate of $6.00 per dry ton of material shipped to the smelters.

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

(c) If the combined average New York lead quotation and the East St. Louis quotation for prime western zinc as given in the E & M J Metal & Mineral Markets for any month during this lease exceed 29¢ per pound, the royalty for ores sold in such month shall be increased to 17-1/2% of net smelter returns.

(d) In the event any premium metal payments or government subsidies are paid on any ore mined from the demised premises, then, unless prohibited or limited by law or government regulation, Lessee shall pay to Lessor a percentage of such premium metal payment or government subsidy equal to the royalty percentage applied upon the net smelter returns of such ore as herein set forth.

(e) This lease agreement is subject to the existing loan, Docket No. 3866, made by the D.M.E.A. (U.S. Government agency) upon a designated portion of the leased premises, and secured by a royalty of five percent (5%) on all ores shipped therefrom until the loan is repaid. Lessor is responsible for this loan and will pay the same. Lessee agrees to furnish Lessor monthly report of data necessary to calculate D.M.E.A. royalty.

(f) Lessee, not less than every six (6) months of this lease, shall pay Lessor for all supplies consumed or used by Lessee. Payment shall be at Lessor's cost.

Article 5. Royalty Settlement Date. Royalty payments shall be made to Lessor by the purchaser of the ores or concentrates at the time settlement is made to Lessee for each shipment. Each settlement shall be accompanied by a duplicate liquidation or settlement sheet on all ores or concentrates sold. Lessor and Lessee shall give the said purchaser written instructions in accord with this provision.

Article 6. Marketing of Products. Products of the Property shall be sold by Lessees to Lessor and shall be shipped, in the case of lead concentrates, f.o.b. El Paso plant of Lessor, and in the case of zinc concentrates, f.o.b. Amarillo, Texas plant of Lessor, unless otherwise mutually agreed to. The settlement terms shall be as proposed under date of January 28, 1963 as outlined under the heading "Keystone Mine, Crested Butte, Colorado - Proposed Terms for Purchase Lead & Zinc Concentrates," prepared by Reed F. Welch and transmitted to McFarland & Hullinger by his letter of January 28, 1963. Other terms of the agreement for the sale of such products by Lessees to Lessor shall be in accordance with the standard form of ore or concentrate purchase contract used by Lessor as of the date of this mining lease. Modification or changes in the proposed terms can be made by mutual agreement.

Article 7. Manner of Work. The Lessee agrees to cause all work, development and mining to be done in a careful and miner-like manner and to conform in all respects with the mining laws and regulations of the State of Colorado. Lessee will maintain the premises in good repair, reasonable wear and tear excepted. Lessee agrees to perform all required annual assessment work on the unpatented claims covered by this agreement, and will furnish

Lessor with all necessary information to make and file proofs of labor on all said unpatented claims at least thirty (30) days in advance of such filing date, and Lessor agrees to make and file all proofs of labor as required by law to hold all of said claims.

Article 8. Records and Inspection. Lessee's maps and records of all mining operations upon the demised premises pertinent to the computation of royalties, shall be available for Lessor's inspection upon request, but not more often than once each month; and the Lessor may enter said property at all reasonable times for the purpose of inspecting the same, and Lessee shall facilitate such inspection in every reasonable way, but Lessor shall enter upon said demised property at Lessor's own risk and so as not to hinder unreasonably the operations of Lessee; and the Lessor shall indemnify and hold harmless the Lessee from any damage, claim or demand by reason of injury to or the presence of the Lessor or the Lessor's officers, agents, representatives, licensees, or guests or any of them on the demised premises or approaches thereto. If this agreement is terminated for any reason, Lessee shall, within three (3) months following such termination, furnish Lessor with all factual geologic, engineering and assay maps and sections of the demised premises, which shall include the location, direction and attitude of all exploratory drill holes drilled by Lessee. Lessee shall also furnish from time to time copies of geologic and assay logs of such exploratory drill holes.

Article 9. Protection from Liens and Damages. The Lessee shall keep the demised premises and the whole and every part thereof free and clear of liens for labor done or work performed upon the demised premises or materials furnished to Lessee for the development or operation thereof under this lease while the same is in force and effect, and will save and keep harmless the Lessor, their officers and employees, from all costs, loss or damage which may arise by reason of injury to any persons employed by the Lessee in or upon the demised premises or any part thereof, or, except as provided in Article 8 hereof, which may arise by reason of injury to any persons or damage to any property as the result of any work or operations of the Lessee or of his possession and occupancy of the demised premises. A lien upon the property shall not constitute a default if the Lessee in good faith disputes the validity of the claim, in which event the existence of the lien shall constitute a default only from and after the validity of the lien has been adjudicated.

Lessee shall keep the premises posted to give notice of its possession and responsibility under this lease.

Lessee agrees to carry with an insurance company approved in writing by Lessor, liability insurance in the amounts of $100,000/200,000 public liability and $50,000 property damage covering their operations and possession of the demised property.

In lieu of fire and comprehensive insurance upon Lessor's property herein leased, including both real and personal property, Lessee shall pay Lessor the sum of Two Hundred Ten dollars ($210.00) per month, payable quarterly, while this lease is in effect and commencing on the date of this agreement. Lessor shall be under no obligation to repair or rebuild, in case of any damage or loss from any cause which would be covered by such insurance. Lessee will provide and pay for such insurance on their own property placed on the premises as Lessee deems necessary.

In particular, Lessee will save and keep harmless the Lessor, their officers and employees, from any claims, liability or loss arising from any real or asserted pollution or contamination of water or water source or supply resulting from Lessee's operations under this lease, and for a period of nine months after its termination.

Lessee shall make frequent, adequate tests of the mine and to determine the presence and concentration of methane gas, and take necessary safety precautions if such is discovered within the leased premises.

Article 10. Taxes. The Lessee shall be charged with all general property taxes assessed as a nonproducing mine against the Lessor's ownership in the demised premises during the term of this lease and with taxes assessed as a producing mine as a result of Lessee's operation of the demised premises. To this end, beginning with January, 1964, Lessee shall during January of each year this lease is in effect, deposit with Lessor at its Salt Lake Office, an amount equal to the taxes which would be assessed as a nonproducing mine upon the demised premises, based on the tax rate for that year. In addition, Lessee shall authorize the smelters and ore purchasers who purchase ores, concentrates, or minerals to deduct one and one half percent (1.5%) of the net smelter returns of all such material sold from the demised premises or from Lessee's mill, and remit such amounts directly to Lessor at its Salt Lake Office. From the amounts so deposited by Lessee and deducted by the smelters or ore purchasers, Lessor shall pay the general property taxes before they become delinquent. It is understood that taxes based on assessment as a producing mine do not fall due until the second year after the year in which production is had. Promptly after the amount of such taxes is determined, Lessor shall remit to Lessee any excess of monies so deposited and so received from smelters and ore purchasers, or bill Lessee for any deficiency.

Lessor shall be charged with its proportion, based on the royalties hereinabove reserved, of taxes based on assessment as a producing mine, and of any production, severance or similar or other excise taxes, and, except in the case of taxes based on assessment as a producing mine, Lessee shall advance such proportion and be reimbursed therefor.

The Lessee shall pay before they are delinquent all taxes levied or assessed against any and all personal property, machinery and equipment placed upon said demised premises by the Lessee during the term of this lease, and also such taxes levied or assessed against all personal property of the Lessor located on the demised premises.

Article 11. State and Federal Laws. Lessee shall comply with the Workmen's Compensation Laws of Colorado and with Social Security, Unemployment Insurance and all other state and federal laws relating to Lessee's operations and shall save Lessor harmless from any claim for damages or liability by reason thereof.

Article 12. Power Deposit Refund. Lessor will continue to receive and retain the refunds as they fall due from the power line deposit Lessor has made relative to the demised property.

Article 13. Development Work. During this lease, the Lessee will use reasonable efforts, in conformity with economic mining practice, to maintain proven ore reserves at their present level.

Article 14. Forfeiture Clause. The failure of the Lessee to make or cause to be made any of the payments herein provided for or to keep or perform any agreement on Lessee's part to be kept or performed according to the terms and provisions of this agreement, shall, at the election of the Lessor, work a forfeiture hereof; provided, however, that in the event of a default on the part of the Lessee, and the election of the Lessor to terminate this agreement on account thereof, the Lessor shall give to the Lessee a written notice of its intention to declare a forfeiture of this agreement and to terminate the same on account thereof, specifying the particular default or defaults relied upon by it, and the Lessee shall have thirty (30) days after receipt of such notice in which to make good such default or defaults, in which event, there shall be no forfeiture therefor; and provided further, that in the case of default in the payment of rentals, royalties or the deposit due for taxes, referred to above, Lessee shall have only five (5) days after receipt of such notice in which to make good such default or defaults. Waiver or failure to give notice of a particular default or defaults shall not be construed as condoning any subsequent default.

Article 15. Cancellation. Notwithstanding any provision herein to the contrary, the Lessee may at any time upon sixty days written notice to the Lessor, cancel and terminate this lease. Upon such cancellation and termination of this lease, the Lessee shall make and complete the payments which have already accrued at the date of such cancellation and termination.

Article 16. Surrender of Property. In the event of a valid forfeiture, cancellation or other termination of this lease, the Lessee shall surrender to the Lessor peaceable possession of the demised premises in good order and shall deliver to Lessor a written relinquishment thereof.

Article 17. Removal of Equipment. The Lessee shall have and is hereby given and granted, two (2) months after a valid forfeiture, cancellation or other termination of this agreement to remove from said property, all warehouse stocks, merchandise, materials, tools, hoists, compressors, engines, motors, equipment, pumps, transformers, electrical accessories, metal or wooden tanks, pipes and connections, mine cars and any and all machinery, fixtures and furnishings erected or placed in or upon said property by Lessee, provided that such right of removal shall not extend to buildings, machinery foundations, and underground tracks, and mine timbers in place unless Lessor shall have given its previous written consent thereto. If Lessee is hampered by snowdrifts, washouts, inclement weather, or other climatic conditions, from completing the removal of said equipment within the time specified, then the Lessor agrees to extend the time by a reasonable period if requested by the Lessee.

Article 18. Notices. Any notices to be given hereunder shall be considered as delivered forty-eight (48) hours after the same shall have been deposited in the United States mail, duly registered, with postage thereon prepaid. All notices given shall be addressed to the following addresses:

If to Lessor, Attention Mining Department
120 Broadway
New York 5, New York

and

605 Crandall Building
Salt Lake City 1, Utah

and if to Lessee, Box 238
Tooele, Utah

Said addresses for receiving notices may be changed by either party upon five (5) days previous written notice to the other party.

Article 19. Assignment. Lessee may not assign this lease without the written permission of Lessor previously had and obtained. Lessee may sublet any part of the leased premises, except the mill, provided the sublease shall automatically terminate upon termination of this agreement. Any sublease shall be subject to all of the terms of this agreement, including royalty payments.

Article 20. Inurement. These presents shall inure to the benefit of and be binding upon the respective successors and assigns of the parties hereto.

Article 21. Construction. Titles to the respective articles hereof shall not be deemed a part of this lease, but shall be regarded as having been used for convenience only.

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

AMERICAN SMELTING AND REFINING COMPANY

By _____
Vice President

LESSOR

F. G. McFarland

S. R. Hullinger

LESSEES

STATE OF NEW YORK)
: ss.
COUNTY OF NEW YORK)

The foregoing instrument was acknowledged before me this 15th day of March, 1963, by ADIN A. BROWN, Vice President of the American Smelting and Refining Company, Lessor.

CLARE A. BAIONE
Notary Public, State of New York
No. 24-0133975 Qualified in Kings Co.
Cert. filed in New York County
Commission Expires March 30, 1965

_____
NOTARY PUBLIC
Residing in New York, New York

STATE OF UTAH)
: ss.
COUNTY OF Tooele)

On this 9th day of March, 1963, personally appeared before me F. G. McFARLAND and S. R. HULLINGER, two of the signers of the foregoing instrument, who duly acknowledged to me that they executed the same.

_____
NOTARY PUBLIC
Residing in Tooele Utah

12/18/66

APPENDIX A

Mining Lease, April 1, 1963, between American Smelting and Refining Company and F. G. McFarland and S. R. Hullinger.

PATENTED CLAIMS

NAME	SURVEY NO.	ACREAGE
Bernien	3738	10.33
Furniture Boy	3739	10.33
Crested Butte Extension	4472	9.41
My Boys	6523	10.33
Union	6523	10.33
Keystone	6523	10.33
Contact	6523	10.33
Eclipse	6523	10.33
Jimmy	20749	20.66
Keystone Mill Site	20750	4.91
Contact Mill Site	20750	4.91
Park City No. 1 lode	20825	19.336
Park City No. 11 lode	20825	19.480
Park City No. 20 lode	20825	19.480
Park City No. 29 lode	20825	19.480
Park City No. 30 lode	20825	19.480
	Total,	209.456

The following property in Crested Butte, Colorado:

Lots 17 to 29, both inclusive, Block 8, and the West 12-1/2 feet of Lot 30, Block 8, including six residences and all other improvements thereon, Town of Crested Butte, County of Gunnison, State of Colorado

The East one-half of Lot 20 and all of Lots 21 and 22, including a residence and all other improvements thereon, Block 24, Town of Crested Butte, County of Gunnison, State of Colorado.

Lots 12 and 13 in Block 28, together with residence and all other improvements thereon, Town of Crested Butte, County of Gunnison, State of Colorado

UNPATENTED CLAIMS

NAME			NAME			NAME		
Park	City	2	Park	City	26	Park	City	A
"	"	3	"	"	27	"	"	B
"	"	4	"	"	28	"	"	C
"	"	5	"	"	31	"	"	D
"	"	6	"	"	32	"	"	E
"	"	7	"	"	33	"	"	F
"	"	8	"	"	34	"	"	G
"	"	9	"	"	35	Keystone	Extension	1
"	"	10	"	"	36	"	"	2
"	"	12	"	"	37	"	"	3
"	"	13	"	"	39	"	"	4
"	"	14	"	"	40	"	"	5
"	"	15	"	"	41	"	"	6
"	"	16	"	"	42	"	"	7
"	"	17	"	"	43	"	"	8
"	"	18	"	"	44	"	"	9
"	"	19	"	"	46 - Carol	"	"	10
"	"	21	"	"	47 - Frankie	PK		
"	"	22	"	"	48 - Judy	PK 2		
"	"	23	"	"	49	PK 3		
"	"	24	"	"	50			
"	"	25	"	"	51			
			"	"	52			

Approximate acreage of unpatented claims is 1349 acres.

UNPATENTED PLACER CLAIM

Jerry No. 1 (Area is covered by above listed claims.)

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

AFFIDAVIT OF LABOR AND IMPROVEMENTS
Att. Item 2-(b)

STATE OF COLORADO)
) ss.
COUNTY OF GUNNISON)

Before me, the subscriber, personally appeared J. F. Frost, who being duly sworn, saith that at least One Hundred and no/100 dollars' worth of work or improvements were performed or made upon or for the benefit of each of the following claims:

Location Certificate recorded in records of said County:

Name of Claim	Book	Page
Frankie Lode	255	395
Carol "	255	394
Judy "	255	395
Jerry No. 1 Placer	260	68
Keystone Extension 4 Lode	328	481
Keystone Extension 5 "	328	483
Keystone Extension 6 "	328	485
Keystone Extension 7 "	328	487
Keystone Extension 8 "	328	489
Keystone Extension 9 "	328	491
Keystone Extension 10 "	328	493

situated in the Elk & Ruby Mining Districts, County of Gunnison, State of Colorado, such expenditure made by or at the expense of McFarland & Hullinger, Lessee, on behalf of the owners, American Smelting and Refining Company and also Park City Consolidated Mines Company, for the year ending 12 o'clock meridian September 1, 1966, and for the purpose of holding said claims. Such expenditure made between the first day of September 1965 and the first day of September 1966.

_____

Subscribed and sworn to before me this _____ day of _____ 1966.

_____

_____

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

AFFIDAVIT OF LABOR AND IMPROVEMENTS

STATE OF COLORADO)
) ss.
COUNTY OF GUNNISON)

Before me, the subscriber, personally appeared J. F. Frost, who being duly sworn, saith that at least One Hundred and no/100 dollars' worth of work or improvements were performed or made upon or for the benefit of each of the following claims:

Location Certificate recorded in records of said County:

Name of Claim	Book	Page
Park City 2 Lode	255	514
Park City 3 "	255	514
Park City 4 "	255	515
Park City5 "	255	515
Park City 6 "	255	516
Park City 7 "	255	516
Park City 8 "	255	517
Park City 9 "	255	517
Park City 10"	255	518
Park City 12"	255	519
Park City 13"	255	519
Park City 14"	255	520
Park City 15"	255	520
Park City 16"	255	521
Park City 17"	255	521
Park City 18"	255	522
Park City 19"	255	522
Park City 21"	255	523
Park City 22"	255	524
Park City 23"	255	524

situated in the Elk & Ruby Mining Districts, County of Gunnison, State of Colorado, such expenditure made by McFarland & Hullinger, Lessee, on behalf of the owners, American Smelting and Refining C ompany and also Park City Consolidated Mines Company, for the year ending 12 o'clock meridian September 1, 1966, and for the purpose of holding said claims. Such expenditure made between the first day of September 1965 and the first day of September 1966.

_____

Subscribed and sworn to before me this _____ day of _____ 1966.

_____

_____

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

AFFIDAVIT OF LABOR AND IMPROVEMENTS

STATE OF COLORADO)
) ss.
COUNTY OF GUNNISON)

Before me, the subscriber, personally appeared J. F. Frost, who being duly sworn, saith that at least One Hundred and no/100 dollars' worth of work or improvements were performed or made upon or for the benefit of each of the following claims:

Location Certificate recorded in records of said County:

Name of Claim	Book	Page
Park City 24 Lode	255	525
Park City 25 "	255	525
Park City 26 "	255	526
Park City 27 "	255	526
Park City 28 "	255	527
Park City 31 "	255	528
Park City 32 "	255	529
Park City 33 "	255	529
Park City 34 "	255	530
Park City 35 "	255	530
Park City 36 "	255	531
Park City 37 "	255	531
Park City 39 "	255	532
Park City 40 "	255	532
Park City 41 "	255	533
Park City 42 "	255	533
Park City 43 "	255	534
Park City 44 "	255	534
Park City 45 "	255	535
Park City 46 "	255	535

situated in the Elk & Ruby Mining Districts, County of Gunnison, State of Colorado, such expenditure made by or at the expense of McFarland & Hullinger, Lessee, on behalf of the owners, American Smelting and Refining Company and also Park City Consolidated Mines Company, for the year ending 12 o'clock meridian September 1, 1966, and for the purpose of holding said claims. Such expenditure made between the first day of September 1965 and the first day of September 1966.

_____

Subscribed and sworn to before me this _____ Day of _____ 1966.

_____

_____

McFarland & Hullinger
P. O. Box 238
Tooele, Utah.

AFFIDAVIT OF LABOR AND IMPROVEMENTS

STATE OF COLORADO)
) ss.
COUNTY OF GUNNISON)

Before me, the subscriber, personally appeared J. F. Frost, who being duly sworn, saith that at least One Hundred and no/100 dollars' worth of work or improvements were performed or made upon or for the benefit of each of the following claims:

Location Certificate recorded in records of said County:

Name of Claim	Book	Page
Park City 47 Lode	255	535
Park City 48 "	255	536
Park City 49 "	255	537
Park City 50 "	255	537
Park City 51 "	255	538
Park City 52 "	255	539
Park City A "	255	539
Park City B "	255	539
Park City C "	255	540
Park City D "	255	540
Park City E "	255	541
Park City F "	255	541
Park City G "	255	542
Keystone Extension 1 Lode	269	111
Keystone Extension 2 "	269	112
Keystone Extension 3 "	269	111
PK Lode	260	223
PK 2 "	260	265
PK 3 "	260	266

situated in the Elk & Ruby Mining Districts, County of Gunnison, State of Colorado, such expenditure made by or at the expense of McFarland & Hullinger, Lessee, on behalf of the owners, American Smelting and Refining Company and also Park City Consolidated Mines Company, for the year ending 12 o'clock meridian September 1, 1966, and for the purpose of holding said claims. Such expenditure made between the first day of September 1965 and the first day of September 1966.

_____

Subscribed and sworn to before me this _____ day of _____ 1966.

_____

_____

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

2. continued

(c) Not applicable.

3. Physical Description:

(a) The land proposed for exploration adjoins the Keystone Mine which has very extensive underground workings. (See Exhibits A and B). Underground mining operations were active at the Keystone Mine by American Smelting and Refining Company during 1955-1957. McFarland and Hullinger took over the property in 1963 and commenced mining and milling operations which have continuously been sustained and are currently active to date.

Production facilities include a complete mining and milling unit as follows:

office building, assay laboratory, engineering office, repair shops, compressor building, warehouse, "dry" changeroom, truck shop, 300 ton per day crushing and flotation mill facilities, complete line of mining equipment such as Mancha tram motors, Atlas tram motors, drilling machines, mucking machines, diamond core drill, underground hoist with skip and etc.

(b) Mine Superintendent.

(c) Keystone Mine -- Total Production through 4-67:

Dry Tons Ore		Ag. oz.	Cu. %	Zn. %	Pb. %
Heads	436,054	5.69	.73	5.54	2.60
Pb. Con.	28,182	74.01	7.53	7.49	37.80
Zn. Con.	40,782	3.65	1.28	49.72	.38
Tails	367,090	.67	.14	.56	.17

Silver production from the Keystone Mine totals 2,481,147 ounces through April 1967. Total value of crude ore produced to date at current full market quote is $15,341,687. Current daily production of crude ore being mined and milled is 240 tons per day on a two shift basis, six days per week.

(d) The unique habits of structural and lithologic control related to ore deposition in the Keystone Mine makes the estimate of accurate ore reserves difficult. Probable reserves in the sulphide zone that are currently being mined and milled would approximate 14,000 tons. The bulk of these reserves are located in the deeper portion of the mine on and above the 2310 and 2460 levels.

-continued-

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

3. (d) continued

The average grade of known reserves from cumulative mine and mill records and assay data would be as follows:

Ag. oz. 3.60, Cu. % .56, Zn. % 6.00, Pb. % 2.80.

Probable oxide ore reserves which would require milling separately from the sulphide ores have been placed at 60,000 tons. The total weighted average grade from hand channel samples is:

Ag. oz. 7.57, Cu. % 1.15, Zn. % 6.71, Pb. % 2.87.

Sampling methods used in the Keystone Mining operations are composed of car grab samples, face channel samples, mill automatic sampler and mill hand grab samples.

The tenor of the ores in the Keystone Mine, notably silver, are much higher in the upper workings of the mine. (See Exhibit E).

(e) The Keystone Mine is developed on the Keystone and Union veins which strike northwesterly and dip from 60 to 75 degrees southwesterly. The Union vein which is a branch or hanging wall split from the Keystone vein, has the steeper dip. Ore mineralization and stoping areas have persisted along the Keystone vein for a strike length of over 3,000 feet and have been mined down dip for a distance of 1,150 feet. The Union vein has been mined along strike for a distance of 1,500 feet and over a dip length of 700 feet. (See Exhibits B and C).

Host rock for ore deposition is the Cretaceous Mesa Verde formation composed of sandstones, shales and coal, according to the U. S. G. S. However, no coal beds have been encountered in the underground workings to date.

Both veins vary in width from less than one foot to over 15 feet and contain ore in distinct shoots. Ore minerals in both veins appear similar and are composed of argintiferous galena, marmatitic zinc and chalcopyrite, in a gangue of quartz, pyrite, pyrhotite, and rhodochrosite.

(f) Geological mapping and reconaissance surface surveys have revealed the presence of two mineralized vein structures located northwesterly from the Keystone Mine workings in unexplored virgin ground. The two vein structures appear to correlate with the dip and strike projections of the productive Keystone and Union veins in the Keystone Mine workings. American Smelting and Refining Company core drilled an angle hole in the southern end of Park City 17 claim and penetrated three feet of vein ore between 276 and 279 feet of depth. The ore assayed as follows according to mine maps and records:

Bonnie Vein

Interval	Au. oz.	Ag. oz.	Cu. %	Zn. %	Pb. %
276-279'	.015	5.0	2.1	---	---

-continued-

3. (f) continued

(See Exhibit A).

Some 2,000 feet southeasterly from the drill hole are two surface excavations on the same vein structure which show strong hydrothermal alteration and ore mineralization. The surface position of this mineralized vein structure is some 1,000 feet up dip and north of any known ore shoots in the Keystone Mine. The surface vein ties in well with the Union vein in the Keystone Mine. A dump grab sample of the surface vein assayed as follows:

Au. oz.	Ag. oz.	Cu. %	Zn. %	Pb. %
Tr.	16.6	0.10	0.05	4.2

The width of the surface vein exposed is four feet and is composed of vein quartz with limonite in box work pseudomorphs after sulphides. The vein is intensely oxidized and no doubt base and precious metals have migrated in solution.

Two mineralized vein surface exposures, located some 800 feet easterly and essentially parallel to the above vein, were found on claims Park City 30 and Park City 27. Vein ore float also prevails on the surface some 400 feet northwestward from the vein outcrop in claim Park City 30. Mine assays on these outcrops are shown on Exhibit B.

In summary, five areas northwestward from the Keystone Mine show strong evidence of vein ore mineralization over a strike distance of 2,800 feet in unexplored virgin ground. Based upon the past production and mode of ore deposition in the Keystone Mine, the proposed area for exploration appears worthy for additional silver ore reserves, along with the associated base metals present.

(g) Copies attached (in pocket). Do not require their return.

4. <u>Accessibility of Property:</u>

(a) Max T. Evans will meet the OME representative at the Keystone Mine office located two miles by gravel road westerly from the town of Crested Butte, Colorado. As the Keystone Mine is currently in operation, most of the underground workings and surface areas are accessible for examination.

(b) Two shipping points are currently being used. (1) Denver and Rio Grande railhead at Salida, Colorado. Trucking distance from Crested Butte to Salida is 90 miles. (2) Denver and Rio Grande railhead at Montrose, Colorado. Trucking distance from Crested Butte to Montrose is 90 miles. The major supply point is Denver, Colorado, a distance of 230 miles from Crested Butte.

-continued-

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

5. **Exploration Work:**

(a) **1013 Level Project**

hole cut Berrien vein — not the Union vn.

Drift 2,055 feet on newly proposed 1013 Level, following the Union vein zone northerly below mineralized vein outcrops and towards ore showing in core drill hole. (See Exhibits B and D). From a point 2,000 feet northerly from the 1013 Level portal entry, crosscut easterly by 400 feet of drifting to intersect the down dip projection of surface vein ore showing on the Keystone vein zone. Drift south along vein zone for 500 feet and north for 500 feet to explore the potential of the vein. (See Exhibits B and D).

Proposed raise footage amounting to 700 feet is considered important to test the up dip potential of the vein structure at various intervals for at least 100 feet above the level.

1370 Level Project

Advance by a cross cut drift from the north end of 1370 Level, 400 feet to down dip projection of surface vein mineralization showing on the Keystone vein. Drift the Keystone vein 800 feet northerly. Advance 200 feet of raises to test up dip potential of vein. (See Exhibits B and D).

(b) Access roads. Rehabilitation, grading, and widening of switchbacks would be required on 3,000 feet of existing access road above the 1370 Level portal. New access road construction would be required amounting to 700 feet to the 1013 Level portal site from existing access road. Construction would be 14 feet in width on a 4% grade level dirt fill.

Dozer excavation to expose vein down hill from outcrop to the proposed 1013 Level portal site would also be required.

(c) Work would commence within ten days upon approval of OME contract. Exploration work under contract would be completed within two years. Anticipated monthly drifting advance would approximate 300 feet per month on two drift headings. Anticipated raise advance would be 200 feet per month.

6. **Experience:**

McFarland and Hullinger have had over 30 years experience in the mining business. They are currently engaged in active mining operations in Arizona, Colorado and Utah. They have successfully repaid in full a former DMEA loan on the Ophir Mine in Tooele County, Utah. (See attached True Copy).

-continued-

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

OCT [illegible]

F. G. McFarland and S. R. Hullinger, Partners
P. O. Box 238
Tooele, Utah

Re: DMEA-3517 (Lead-Zinc)
McFarland and Hullinger
Ophir Mine
Tooele County, Utah
Contract Idm-E875

Gentlemen:

Thank you for repaying in full the Government's participation of $43,790.35 in the subject exploration contract for lead-zinc. As a result of the repayment, the Government retains no lien or claim against the property or on any future production therefrom.

We appreciate your interest and participation in the DMEA exploration program. Unless you have some objection we plan to give the following statement to the press for release on November 1:

REPAYMENT COMPLETED ON AN EXPLORATION ASSISTANCE CONTRACT

F. G. McFarland and S. R. Hullinger, partners in an exploration assistance contract administered by the Office of Minerals Exploration, have completed repayment of $43,790.35, the Department of the Interior announced today.

According to George Fumich, Jr., Director of the Office of Minerals Exploration, McFarland and Hullinger entered into a contract with the Defense Minerals Exploration Administration in 1955 to explore for lead-zinc at the Ophir Mine in Tooele County, Utah, and completed the work in 1957. The property was leased from the U. S. Smelting Refining and Mining Company of Salt Lake City, Utah.

Sincerely yours,

George Fumich Jr.
Director

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

6. continued

American Smelting and Refining Company have indicated they would support the exploration venture with surface geophysical surveys. ?

Max T. Evans, superintendent of the Keystone Mine, would supervise the proposed exploration work. He is a technical school graduate with B. S. and M. S. degrees in mining geology. He has had over 17 years experience in mining and exploration work throughout Western United States and Alaska.

-continued-

MINING EXPERIENCE

The following is a brief history and summary of mine leasing and contracting conducted by McFarland and Hullinger. In every instance, with the exception of the Maybe Mine and the mine contracting from Anaconda Company, we have taken over mines which the holding companies have been unable to operate at a profit.

We attribute our ability to operate at a profit, where larger companies fail, to the following:

Lower overhead costs.
Less labor and labor union troubles.
More personal contact with our employees.
Incentive labor program based on production and grade of ore.

We are of the opinion that in the selection of employees, the small organizations have a decided advantage in screening and selecting personnel, and as a result have fewer agitators and non-producers than companies which hire on a much larger scale.

Prior to 1935, F.G. McFarland and S. R. Hullinger worked as muckers, miners and contract miners in the Ophir and Camp Floyd Mining Districts, Tooele County, Utah for the following mining firms:

Ophir Hill Consolidated Mining Company
Geysor Marion Mining Company
Mono-Kearsarge Mining Company
L. K. Requa, West Mercur Mines
Ophir Development Company

The partnership of F. G. McFarland and S. R. Hullinger, D/B/A Mc Farland and Hullinger originated in Ophir, Utah in April of 1935. Since that time we have successfully leased and contracted as follows:

1. Open pit and underground leases for Snyder Mines at Mercur, Utah.

2. Shaft sinking and drifting under contract for American Smelting and Refining Co., at the Cleveland Mine, Montello, Nevada.

3. Leasing and contracting for United States Smelting, Refining and Mining Company at Hidden Treasure Mine in Dry Canyon, Utah.

4. Leasing and contracting for Ophir Development Company in the Ophir Mine at Ophir, Utah.

MINING EXPERIENCE

5. Contracted 600 feet of shaft and approximately 700 feet of drift for Plumbic Mines Company, Marysvale, Utah.

6. Completed a contract with Alex McDonald of Anaconda Copper Mining Company for the development work at the Golden King Mine at Wenatchee, Washington. During the life of this contract we completed approximately 700 feet of shaft and 10,000 feet of drifting and crosscutting. After this job was completed, we were sent by Anaconda Copper Mining Company to the Santa Rosa Mine near Darwin, California where we completed 1500 feet of drifting and crosscutting.

7. Contracted 400 foot inclined shaft and 800 foot drift for American Smelting and Refining Company at Minnietta Mine near Trona, California.

8. We have completed driving a 1600 foot tunnel prospecting for Uranium 62 miles west of Blanding, Utah.

9. We have, for the past 20 years, supplied the American Smelting and Refining Company and Kennecott Copper Corporation at Garfield, Utah, with low grade flux ores, and have in this period produced over 1,259,281 tons, the bulk of this tonnage being taken from properties owned by Park Utah Mines Company and the United Park City Mines Company, at Park City, Utah.

10. Also, at the present time we are operating under lease from the United States Smelting, Refining and Mining Company, the Ophir Mine at Ophir, Utah.

MINING EXPERIENCE

Following are some of our leased property operations:

Hidden Treasure Mine at Stockton, Utah, a lead-zinc mine owned by the United States Smelting, Refining and Mining Company, Newhouse Building, Salt Lake City, Utah, Oscar Glaeser, General Manager, 1947 thru 1953.

Wet Tons produced 34,846.38 Royalty paid $439,040.89

Ophir Mine at Ophir, Utah, a lead-zinc mine owned by the United States Smelting, Refining and Mining Company, Newhouse Building, Salt Lake City, Utah, Oscar Glaeser, General Manager, 1949 thru 1958.

Wet tons produced 88,664.47 Royalty paid $173,320.73

The same Ophir Mine, owned by the United States Smelting, Refining and Mining Company, Newhouse Building, Salt Lake City, Utah, Benton Boyd, General Manager, 1960 thru 1966. We are presently mining 125 tons daily.

Wet tons produced 154,727.45 Royalty paid $558,362.79

Continental Mine at Vanadium, New Mexico, a copper mine owned by the United States Smelting, Refining and Mining Company, Newhouse Building, Salt Lake City, Utah, Oscar Glaeser, General Manager, 1956 thru 1958.

Wet tons produced 149,614.85 Royalty paid $ 97,019.28

Maybe Mine at White Canyon, Utah, a uranium mine owned by E. G. Hall and K. R. Bailey, Monticello, Utah, 1955 thru 1957.

Wet tons produced 48,370.91 Royalty paid $401,636.59

San Xavier Mine in the Pima Mining District, Arizona, owned by the Eagle Picher Mining Company, Miami, Oklahoma, O. A. Rockwell, President, 1955 thru 1960.

Wet tons produced 81,176.885 Royalty paid $432,671.43

Purchased, developed and sold Old Dick Mine at Bagdad, Arizona.

Johnson Camp Mine and Mill, Dragoon, Arizona, a copper-zinc mine owned by Cyprus Mines Corporation, 523 West Sixth Street, Los Angeles, California, Paul W. Allen, Vice-President, 1960 thru 1962. Mined and milled at the rate of 200 tons daily.

Total tons produced 206,040.96 Royalty paid $208,884.93

Keystone Mine and Mill, Crested Butte, Colorado, a lead, zinc, silver and copper mine, owned by the American Smelting and Refining Company, 500 Crandall Building, Salt Lake City, Utah, Frank Frost, Regional Manager. We are presently mining and milling 300 tons per day.

Tons produced to Dec. 31, 1966 - 284,720.11 Royalty paid $545,592.72, plus $2,000.00 per month rental on mill.

MINING EXPERIENCE

Commercial mine, Skull Valley, Arizona, leased from Phelps Dodge Corporation, Douglas, Arizona, W. W. Little, General Manager. Mining, crushing and hauling siliceous flux copper ore. We are currently operating.

Tons produced to Dec. 31, 1966 - 54,020.92 Royalty paid $ 44,954.56.

7. continued

(e) Initial Rehabilitation and Repairs (none)

(f) New Buildings, Fixtures and Installations (none)

(g) All equipment in good condition -- monthly estimate of repairs shown in Item 7-(c). Deduct 5% of total for buildings and shop repairs.

DETAILED LABOR COST/SHIFT

Miner:

Day Shift	Base Hourly Pay	$ 2.46	
	Base Daily Pay	19.68	
	Overtime	1.64	
	Direct Labor Cost	$ 21.32	$ 21.32
	F.I.C.A. Tax	4.40%	.94
	State Unemployment Tax	.50	.11
	Federal Unemployment Tax	.40	.09
	Compensation Insurance	3.84	.82
	Group Insurance	1.27	.26
	Holiday & Vacation	3.50	.75
		13.91%	
	Indirect Labor Cost		$ 2.97
	Total Labor Cost Per Shift		$ 24.29
Night Shift	Base Hourly Pay	$ 2.51	
	Base Daily Pay	20.08	
	Overtime	1.68	
	Direct Labor Cost	$ 21.76	$ 21.76
	Indirect Labor Cost @ 10.41%		2.27
	Total Labor Cost Per Shift		$ 24.03

	Base Hourly Pay	Base Daily Pay
Skip Tender	$ 2.46	$ 19.68
Hoistman	2.46	19.68
Electrician	2.76	22.08
Mechanic	2.76	22.08
Warehouse Man	2.76	22.08
Carpenter	2.76	22.08
Mucker (day shift)	2.31	18.48
Mucker (night shift)	2.36	18.88

SUMMARY OF PROJECT COST ESTIMATE

	Vein Zone	Drift Footage (6' x 7-1/2')	Est. Cost Per Foot		Cost
1013 Level Project	Union	2055 ft. North			
		10% timbered (205 ft.)	$65.40		$ 13,407
		90% w/o timber (1850 ft.)	59.00		109,150
	Keystone	400 ft. X-Cut			
		10% timbered (40 ft.)	65.40		2,616
		90% w/o timber (360 ft.)	59.00		21,240
	Keystone	500 ft. North			
		10% timbered (50 ft.)	65.40		3,270
		90% w/o timber (450 ft.)	59.00		26,550
	Keystone	500 ft. South			
		10% timbered (50 ft.)	65.40		3,270
		90% w/o timber (450 ft.)	59.00		26,550
					$206,053
		Timbered Raises (5' x 7')			
	Keystone & Union	700 ft.	52.00		36,400
				Total...	$242,453
1370 Level Project		Drift Footage (6' x 7-1/2')			
	Keystone	400 ft. X-Cut			
		10% timbered (40 ft.)	65.40		$ 2,616
		90% w/o timber (360 ft.)	59.00		21,240
	Keystone	800 ft. North			
		10% timbered (80 ft.)	65.40		5,232
		90% w/o timber (720 ft.)	59.00		42,480
					$ 71,568
		Timbered Raises (5' x 7')			
	Keystone	200 ft.	52.00		10,400
				Total...	$ 81,968
				Total (Drift & Raise).....	$324,421

Estimated Excavation Time & Cost

	Hours	Rate Per Hr.		
Rehabilitate 3000 feet existing road with HD-21 dozer w/ripper	160	$30.00		$ 4,800
Construct 700 ft. new access road to 1013 Level Portal Site	40	30.00		1,200
Dozer excavation to follow vein downhill to 1013 Level Portal Site	100	30.00		3,000
			Total...	$ 9,000
			ALL IN TOTAL...	$333,421

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

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

F. E. PETERS
Manager—Mining Division

June 20, 1967

McFarland and Hollinger
Box 238
Tooele, Utah

Gentlemen:

The following is our proposal to do drifting for you at the Keystone Mine.

We will furnish labor, equipment, and supplies to drive the drift rock section on the 10,900 ft. level for $75.78/ft. We will timber 10% on 5-ft. sets of timber for $97.86/ft. We will drive two raises on the 10,900 ft. level, stulled with manway and lag on skip side, for $147.50/ft. The same prices apply for doing drifting and raising on the 10,600 ft. level.

Thank you for the opportunity to submit our proposal.

Very truly yours,

Frank E Peters

Frank E. Peters
Manager, Mining Division

FEP/jas

HAROLD B. SPENCER, PRESIDENT
JAMES QUIGLEY, VICE-PRESIDENT
ROBERT E. WATT, SEC'Y-TREASURER

P. O. BOX 290
TELEPHONE 433-6876
AREA CODE 801

CENTENNIAL DEVELOPMENT COMPANY

MINING ENGINEERS AND CONTRACTORS

EUREKA, UTAH

June 8, 1967

McFarland and Hullinger
Tooele, Utah

Gentlemen:

In accordance with a request by Mr. Max Evans we are pleased to submit the following figures for your proposed drift work at your Keystone Mine, Crested Butte, Colorado:

Owner to Supply

Portal faced off, access road completed and maintained clear of snow to portal, use of dry and shop, power and compressed air, pipe, vent pipe rail and timber delivered to portal.

Contractor to Supply

Supervision, labor, insurance and all fringes, mine cars, muckers, locomotives, drills and small tools and access vehicles and all operating supplies, excluding those in the preceding paragraph, and including, but not limited to drill steel, repair parts and explosives.

1013 Level (New Portal)

3,254 ft.	6' x 7-1/2' Drift on Union Vein, $55.00 per ft.		
	3,254 ft. @ $55.00		$178,970.00
400 ft.	6' x 7-1/2' Crosscut to Keystone Vein, $50.00 per ft.		
	400 ft. @ $50.00		20,000.00

1013 Level (New Portal) (Cont'd.)

1,000 ft.	6' x 7-1/2' Drift on Keystone (2 heading), $50.00 per ft.		
	1,000 ft. @ $50.00	$ 50,000.00	
700 ft.	5' x 7' Raises, maximum height, 100 ft., $45.00 per ft.		
	700 ft. @ $45.00	31,500.00	
	Timber in Raises, Drifts and Crosscuts (furnished by owner, installed by contractor), $150.00 per MBF.		
	Estimated 25,000 BF required.		
	25 MBF @ $150.00	3,750.00	
	Sub-Total		$284,220.00

1370 Level (Approximately 1,500 Feet From Portal)

400 ft.	Crosscut to Vein, $55.00 per ft.		
	400 ft. @ $55.00	$ 22,000.00	
800 ft.	Drifting (2 headings), $50.00 per ft.		
	800 ft. @ $50.00	40,000.00	
200 ft.	Raises (maximum height 100 ft.), $45.00 per ft.		
	200 ft. @ $45.00	9,000.00	
	Timber (furnished by owner, installed by contractor), $150.00 per MBF.		
	Estimated 5,000 BF required.		
	5 MBF @ $150.00	750.00	
	Sub-Total		71,750.00
	Total - Both Projects		$355,970.00

We appreciate the opportunity of making this estimate. While these prices cannot be firm they are realistic and based on a start in good weather. If you proceed with the project we would welcome the opportunity to look at the project on the site and to work with you on the most economical and efficient way of carrying it out.

Very truly yours,

Centennial Development Company

James Quigley

James Quigley

JQ/ce

COST COMPARISON SHEET

CONTRACT BID PROPOSALS

McFARLAND & HULLINGER OPERATORS

Boyles Bros. (1)		Centennial Develop. Co. (2)			McFarland & Hullinger (3)	
Drifting:	Drift Cost Per Foot:	**Drifting:**		Drift Cost Per Foot:	**Drifting:**	Drift Cost Per Foot:
6 x 7-1/2 ft. drifts w/o timber	$ 75.78	6 x 7-1/2 ft. drifts w/o timber	53.12		6 x 7-1/2 ft. drifts w/o timber	$ 58.95
		Operating mat. & supplies	7.16			
		Labor-elect., comp. man, & carpt.	4.31	$ 64.59		
6 x 7-1/2 ft. drifts w/timber	$ 97.86	6 x 7-1/2 ft. drifts w/timber	53.12		6 x 7-1/2 ft. drifts w/timber	$ 65.40
		Operating mat. & supplies	13.61			
		Labor-elect., comp. man, & carpt.	4.31	$ 71.04		
Raising:	Raise Cost Per Foot:	**Raising:**		Raise Cost Per Foot:	**Raising:**	Raise Cost Per Foot:
5 x 7 ft. Raise w/timber	$147.50	5 x 7 ft. Raise w/timber	45.00		5 x 7 ft. Raise w/timber	$ 52.05
		Timber installation	10.35			
		Our timber cost	4.83			
		Operating supplies	5.41			
		Labor-elect., comp. man, & carpt.	4.31	$ 69.90		

(1) Bid proposal basis that Boyles furnish everything needed.

(2) Bid proposal basis that Centennial furnish everything except: power and compressed air, pipe, vent pipe, rail and timber delivered to portal.

(3) Cost estimate based on McFarland & Hullinger doing their own work. Figures derived from current Keystone Mine costs, including all direct and indirect charges, supervision and A. O. & H. (See detailed cost sheet enclosed.)

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

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, $300
(PMGC)

✓ AR 4/4/79

United States Department of the Interior

GEOLOGICAL SURVEY
Box 25046
Denver Federal Center
Denver, Colorado 80225
Stop 933

IN REPLY REFER TO:

April 2, 1979

MEMORANDUM

TO : Chief, Office of Mineral Exploration

FROM : Field Officer, Region III

SUBJECT: OME 6640 Silver
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contact 2259

Mr. Max Bergendahl, AMAX Exploration, Inc., obtained the material they requested to have duplicated pertaining to the subject docket. They will return the applicant's application material to this office after they have duplicated it.

I duplicated the correspondence here, so as to retain the original letters. I have requested two copies of the agreement of lease and option between AMAX, and U.S. Energy Corp. and Crested Butte Silver Mining, Incorporated. Upon receipt of these, I will forward you one copy and retain one for our files here.

J. William Hasler

J. William Hasler

HK 4/4/79

AMAX

EXECUTIVE OFFICES
4704 HARLAN STREET, DENVER, COLORADO 80212
(303) 433-6151

AMAX EXPLORATION, INC.

A SUBSIDIARY OF AMAX INC.
12620 WEST CEDAR DRIVE, P.O. BOX C
LAKEWOOD, COLORADO 80226 (303) 985-8701

March 30, 1979

Mr. Harold Kirkemo, Chief
Office of Minerals Exploration
U.S. Geological Survey, Mail Stop 953
Reston, Virginia 22092

Dear Kirk:

Many thanks for your prompt response to my request for release of data on OME-6640, Keystone Mine, Gunnison County, Colorado.

We appreciate the courteous cooperation from both you and Bill Hasler.

Sincerely,

AMAX EXPLORATION, INC.

Max Bergendahl

M. H. Bergendahl

MHB:mjb

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VA. 22092

March 21, 1979

Mr. M. H. Bergendahl
AMAX Exploration, Inc.
12620 West Cedar Drive
P.O. Box C
Lakewood, Colorado 80226

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Dear Max:

I note your letter of March 9, 1979, requesting information on the subject docket.

The arrangement for AMAX to obtain copies from J. W. Hasler, and for AMAX to make copies at its own expense is satisfactory. In fact, it is a faster procedure than to obtain copies from this office.

Best of luck with the Keystone mine.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo, Chief
Office of Minerals Exploration

Copy to: J. W. Hasler

One Hundred Years of Earth Science in the Public Service

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VA. 22092

March 13, 1979

Mr. M. H. Bergendahl
AMAX Exploration, Inc.
12620 West Cedar Drive
P.O. Box C
Lakewood, Colorado 80226

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Dear Mr. Bergendahl:

In reply to your letter of March 9, 1979, Mr. Kirkemo is out of town for the next week and on his return he will take immediate action on your request for permission to release data pertaining to the subject property to AMAX.

You will be hearing from us shortly.

Sincerely yours,

Gail P. Wiegand

Gail P. Wiegand, Secretary
Office of Minerals Exploration

One Hundred Years of Earth Science in the Public Service

Rec'd 3/15/79

United States Department of the Interior

GEOLOGICAL SURVEY
Box 25046
Denver Federal Center
Denver, Colorado 80225
Stop 933

IN REPLY REFER TO:

March 13, 1979

MEMORANDUM

TO : Chief, OME

FROM : Field Officer, Region III

SUBJECT: OME 6640 (Silver)
McFarland Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Mr. Willem Lodder, Regional Manager, Western Exploration, and Mr. Ed Torgersen and Max Bergendahl of AMAX were in my office March 9, 1979, and requested permission to see documents pertaining to the subject docket.

Pursuant to a letter dated June 3, 1977, to me from John L. Larsen, President of U.S. Energy Corporation giving us permission to let any representative of AMAX Exploration see documents pertaining to this loan I guided Mr. Lodder and Mr. Torgersen through the file material.

They were most interested in past production, settlement sheets, correspondence, and information pertaining to ore reserves, grade of ore, etc. I think AMAX is having some second thinking concerning the values of silver, lead, and zinc in the Keystone Mine. As you recall I queried the AMAX people about producing from the 1370 level during my inspection in 1976, and they just said no, as their main interest then was, of course, the molybdenum. There may, however, be some stipulation regarding mining in the agreement that we are not aware of.

What with the current blasts from the dumb Crested Butte hippies, environmentalists and a few townspeople, for the most part, about how mining will ruin their life style as Climax has elsewhere, so they say. Climax may be thinking that it will be best to just mine the silver lead and zinc ore from underground at the Keystone mine and slide more gently into the molybdenum area under Mt. Emmons in Red Lady Basin. There has been much state and national TV coverage about the Crested Butte area this past month. In fact the opposition is becoming more concentrated and the news media is eating it up.

I advised Mr. Lodder to officially request the following data from you. I can reproduce the correspondence here but not the applicant's application report. They could borrow it, duplicate the material and return it to me here.

I have never received a copy of the lease and option agreement between U.S. Energy Corp-Crested Butte Silver Mining, Inc. and AMAX. I assume you received a copy after my request to them dated February 23, 1977. Gail informed me on 12th of March 1979, that you have not received a copy yet. I talked with Max Evans, yesterday, then called AMAX, and they said they will furnish us a copy of the lease agreement.

The AMAX people would also like to obtain a copy of DMEA contract Idm-E 903, docket number 3866, American Smelting and Refining Co. Keystone Mine, Gunnison County, Colo. I have obtained the material from archives, and can make it available to them. They can do all of their own duplicating or at least the portions they are interested in. They are making a detailed study as to the economics of mining to ascertain its actual marketability at current cost and prices.

Enclosed is the list of material they would like duplicated.

J. William Hasler

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

Enclosure

COPIES OF CONTRACT CORRESPONDENCE

Memo to Chief from Field Officer

Region III	dated	July 22, 1976
	dated	August 5, 1974
	dated	August 13, 1969
	dated	May 26, 1969
	dated	May 20, 1969
	dated	April 25, 1969

Letters to Mr. S. L. Larsen and Park City Consolidated Mines March 30, 1978.

ROYALTY CORRESPONDENCE

Memo to Field Officer Region III from Chief dated October 10, 1967

Memo to File from Assistant Chief dated August 4, 1967

COPY OF OPERATOR APPLICATION REPORT

OME 6640, McFarland Hullinger

COPY OF REPORT OF EXAMINATION OME 6640

Contract 2259 January 1969 by J. W. Hasler

COPY OF DMEA 3866 - ASANCO Contract

Idm E-903

MEMO TO Chief from Field Officer Region III dated February 5, 1969

Letter to Max Evans from Frank Johnson dated October 3, 1968.

Rec'd 3/13/79

AMAX

EXECUTIVE OFFICES
4704 HARLAN STREET, DENVER, COLORADO 80212
(303) 433-6151

AMAX EXPLORATION, INC.

A SUBSIDIARY OF AMAX INC.
12620 WEST CEDAR DRIVE, P.O. BOX C
LAKEWOOD, COLORADO 80226 (303) 985-8701

March 9, 1979

Mr. Harold Kirkemo
Chief Office of Minerals Exploration
U.S. Geological Survey, Mail Stop 953
Reston, Virginia 22092

Re: Keystone Mine, Crested Butte,
Gunnison Co., Colorado

Dear Mr. Kirkemo:

As a principal in an agreement with U.S. Energy Corp. on the subject property, we have become involved with certain legal proceedings pertinent to the activities of U.S. Energy Corp.

In order to establish our position and relationships with U.S. Energy Corp., it is necessary for us to obtain information on the O.M.E. transactions on the Keystone property.

In a letter to J. W. Hasler dated June 3, 1977, U.S. Energy gave permission to O.M.E. to release any data pertaining to the subject property to AMAX.

Accordingly, we request your permission for J. W. Hasler to allow AMAX to copy the documents on the attached list.

Sincerely,

Max Bergendahl

M. H. Bergendahl

MHB/cdg
Enclosure

April 23, '79

Kirk:

For your information on AMAX Crested Butte Mt Emmons project - They are way ahead of Crested Butte's mayor —

member 1979 COLORADO PRESS ASSOCIATION

PILOT

Vol. 7 No. 22 Award-Winning Newspaper of Mt. Crested Butte, Colorado April 13, 1979

AMAX Mill Site Claims

In a new development, AMAX, Inc. has filed 950 mill site claims covering 4750 acres in the Alkali Basin.

The claims involve Forest Service land that would be used for mill and tailings sites under AMAX's preferred proposal for developing the Mt. Emmons mine.

According to old federal law, companies have the right to stake mill site claims on public land in order to construct mills to be used for processing ore. Each mill site claim is limited to five acres and no compensation to the public is required.

Like so many of the laws that pertain to mining, the mill site claim laws are antiquated in that they pertain to a scale of mining operation that no longer exists. The original concept was that a five acre plot would be entirely adequate for milling and related activities. In today's world of massive mine development, however, a five acre plot is woefully inadequate. This is the reason that AMAX felt compelled to file for 950 contiguous claims.

The filing actually represents a back up position.

Some time ago, AMAX notified the Forest Service that it would prefer to gain title to the involved land by means of a land trade. Under that procedure, AMAX would buy private land and then trade it to the Forest Service in exchange for the mill and tailings sites.

From the mining company's point of view, the land trade is cleaner because it involves only one administrative decision on the part of the Forest Service. There is a possibility, however, that that one decision could be negative.

Accordingly, AMAX External Affairs Officer Art Biddle points out that "the main purpose behind the filings is to give us an interim position" while we're waiting for a final resolution of the land trade.

Biddle also confirms that the 4750 acres being claimed is somewhat in excess of the actual land that will be required. "We need the extra space," he explained, "in order to have flexability and to put things where we want them."

Very few multiple mill site claims of the type AMAX has filed have actually been taken to patent (outright ownership of the claim site). Informed observers have suggested that the reason for this might be that there is a question as to the legality of filing literally hundreds of claims for use as a large scale mill and tailings area.

Biddle, however, reports that recent rulings by the Department of the Interior seem to uphold the right of a company to use multiple claims of this sort.

He also comments that it may not be necessary to have the claims patented in order to use them for mill and tailings operations.

When querried about the scale of the filing, Biddle confirmed that it was large. He pointed out, however, that he knew of other multiple filings involving 400 to 500 claims.

All this notwithstanding, AMAX still hopes that they will eventually be able to acquire the land through a land trade rather than having to resort ot the mill site claims.

AMAX: Proposed Summer Operation Plans

AMAX has released the details of it's modest plan of Operations covering the 1979 season.

The Plan includes:

--Drilling in the proposed Alkali Creek for hydrological investigations required for environmental

water treatment facility which will be used to clean up the effluent flowing into Coal Creek.

Prior to the treatment process itself, surge ponds are required to smooth out flow surges due to process requirements, changing

AMAX's preferred proposal for developing the Mt. Emmons mine.

According to old federal law, companies have the right to stake mill site claims on public land in order to construct mills to be used for processing ore. Each mill site claim is limited to five acres and no compensation to the public is required.

Like so many of the laws that pertain to mining, the mill site claim laws are antiquated in that they pertain to a scale of mining operation that no longer exists. The original concept was that a five acre plot would be entirely adequate for milling and related activities. In today's world of massive mine development, however, a five acre plot is woefully inadequate. This is the reason that AMAX felt compelled to file for 950 contiguous claims.

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AMAX has released the details of it's modest plan of Operations covering the 1979 season.

The Plan includes:

--Drilling in the proposed Alkali Creek for hydrological investigations required for environmental baseline studies.

--Drilling of a proposed mine site for environmental baseline studies.

--Drilling two exploration holes in Wolverine Basin and in the Keystone Mine area.

--Water treatment construction activities at the old Keystone Mine.

--According to AMAX officials, no more that one hundred workers will be involved in the operations at any one time.

Perhaps the most visable activity involves the construction of support ponds needed for the operation of the Lectroclear water treatment facility which will be used to clean up the effluent flowing into Coal Creek.

Prior to the treatment process itself, surge ponds are required to smooth out flow surges due to process requirements, changing minewater conditions and allow for retention capacity in the vent of treatment plant shutdowns due to power outages, equipment maintenance, etc.

A equalization pond will also be constructed during 1979 in the former Ryan's Camp area, an area disturbed by previous activities.

An additional emergency surge pond will be constructed in a former borrow pit area as shown on the attached maps. Construction of the pond will require the removal of approximately 60,000 cubic yards of additional material from the borrow pit in order to achieve an adequately sized emergency surge pond.

This additional earthen material will be utilized to cover the Keystone tailing ponds to an adequate depth. According to AMAX covering of the existing tailing ponds is necessary in order to avoid pollution of surface runoff from the ponds.

Mineral Activity

METALS

The Crested Butte area, located on the northwest edge of the Colorado Mineral Belt, has produced base and precious metal ores since the 1800's.

Zinc, lead and silver ores have been the main products, with copper minerals and gold-bearing iron sulfides as secondary outputs.

The metallic ore deposits in the Ruby Range are associated with a north-south trending system of faults and igneous intrusions. Ore deposits in the Elk Mountains to the northeast are associated with igneous intrusions, faults and remnants of sedimentary rocks occurring as "xenoliths," or foreign bodies, in the intrusion.

The U. S. Geological Survey has delineated three areas of high metallic mineral potential in the Crested Butte vicinity in its study of the mineral potential of the RARE II areas in Colorado.

One area extends north from the southern end of the Ruby Range along the crest and eastern slope of the Ruby Range to Lead King Basin on the north and Rustler's Gulch on the northeast. A smaller area of high mineral potential includes an area of mineralized dikes associated with the Whiterock Mountain intrusive northeast of Gothic.

Another large area of high metal potential extends from Taylor Canyon on the south to the Gunnison-Pitkin County line on the north. The latter area was delineated to include a north-south trending belt of mineralized sedimentary rocks. Very little current exploration activity is occurring in this area.

To a large extent, the geologic features responsible for localizing past exploration and mining for lead, zinc and silver are the same features presently of intense interest for molybdenum exploration.

The mineralization is there, awaiting only favorable economic conditions for development.

URANIUM

Uranium potential in the metal mining area around Crested Butte is considered to be very low by the Department of Energy.

In contrast, the area south and east of Crested Butte has extremely high potential for economic uranium deposits. A belt of radioactive granites and associated sedimentary rocks extends from the Jack's Cabin area north of Almont, southeastward to the Continental Divide near Marshall Pass. Uranium mineralization in this whole region is enriched along northwest trending fault zones, especially where sedimentary rocks are in fault contact with igneous rocks.

The Homestake body near Marshall Pass is of this type.

Mineralized fault zones with sedimentary limestones in contact with granite are the targets for Rocky Mountain Energy's efforts at Gold Ridge in 1979 and were the target for Mineral Exploration's drilling program in 1978 near Jack's Cabin.

These targets were initially defined through geochemical sampling and radiation measurements by exploration companies and by the Department of Energy under the N.U.R.E. Program.

The potential for two or three major uranium mines similar to Homestake's in this radioactive belt appears very good. The Rocky Mountain Energy area on Taylor River District and the Wyoming Fuel Corporation area on Cebolla District appear to be the hottest prospects at present.

COAL

High-grade bituminous and anthracite coal occur in minable

CURRENT EXPLORATION ACTIVITY

Name	Location	Element(s)	Drilling Program
METALS			
1 — AMAX	Mt. Emmons	Mo	18 holes in 77-78 2 holes in 79
	Ruby Irwin	Mo	1 hole in 78
	Copper Creek	Mo	1 hole in 79 (?)
	North Pole Basin (White River N.F.)	Mo	1 hole in 79
2 — ASARCO	Crystal Canyon (White River N.F.)	Mo, base metals	1 hole in 79
3 — Duval	Paradise Basin	Mo	1 hole in 78
	Location not yet det'd, probably Mt. Bellview	Mo	1 hole in 79 with Noranda
4 — Freeport	Rock Creek (White River N.F.)	Mo, base metals	1 hole in 79
5 — Robert Hall	Elk Basin	Mo, base metals	1 hole in 79
6 — Minerals Exploration (Union Oil Subsdy.)	Augusta Mt.	Mo, base metals	1 hole in 79
7 — Noranda	Mt. Bellview	Mo	1 hole in 77-78
	Location not yet det'd, probably Mt. Bellview	Mo	1 hole in 79 with Duval
8 — Phelps-Dodge	Lake Irwin	Mo, base metals	1 hole in 78
URANIUM	Baxter Basin	Mo, base metals	1 hole in 78 1 hole in 79
1 — EXXON	Dinner Station	U	3 holes in 77
2 — Minerals Exploration (Union Oil Subsdy.)	Jack's Cabin	U	12 holes in 78
3 — Rocky Mt. Energy	Gold Ridge	U	11 holes in 79

HISTORICALLY PRODUCING MINES

Name	Location	Element(s)	Last Known Producing Date
Daisy	Redwell Basin	Pb, Zn, Cu	
Domingo	Baxter Basin	Pb, Zn	Late 1800's
Forest Queen	Copley Lake	Ag, Cu, Pb, Zn	

metal potential extends from Taylor Canyon on the south to the Gunnison-Pitkin County line on the north. The latter area was delineated to include a north-south trending belt of mineralized sedimentary rocks. Very little current exploration activity is occurring in this area.

To a large extent, the geologic features responsible for localizing past exploration and mining for lead, zinc and silver are the same features presently of intense interest for molybdenum exploration.

Mineral targets for subsurface exploration have been defined on the basis of past mining activity, surface geology, chemical analysis of water and rock samples and gravity and magnetic studies to detect buried intrusive rocks. The igneous intrusions are the source for the mineralizing solutions which form ore deposits; current deep drilling activity is therefore directed toward probing the root zones of these intrusives in the hopes of finding large ore deposits.

Intrusives of current interest include the Augusta Mountain stock, the Paradise stock, the Mt. Belleview felsite porphyry plug, the Mt. Emmons felsite porphyry plug, the Whiterock Mountain stock and several other unnamed intrusives.

Likewise, small patches of sedimentary rocks in the Elk Mountains north and east of Gothic have been recognized since early mining days as important ore deposits. These sedimentary rocks are believed to have reacted almost like "sponges," soaking up the mineralizing solutions contributed by the igneous intrusions.

In addition to the usual lead, zinc, silver and copper minerals, some of these sedimentary deposits contain appreciable amounts of cobalt and nickel.

An estimate of future mining activity in the Crested Butte area is impossible to make, but there is certainly strong potential for two or three more large metal mines within the next 20 years in the Crested Butte/Gothic/Marble area.

panies and by the Department of Energy under the N.U.R.E. Program.

The potential for two or three major uranium mines similar to Homestake's in this radioactive belt appears very good. The Rocky Mountain Energy area on Taylor River District and the Wyoming Fuel Corporation area on Cebolla District appear to be the hottest prospects at present.

COAL

High-grade bituminous and anthracite coal occur in minable quantities in the Mesa Verde formation west of Crested Butte.

Coal was actively mined in Crested Butte until 1954 by Colorado Fuel & Iron Corporation. Other formerly active mines include the Smith Hill Mine on Anthracite Mesa and the Peanut Mine on the Slate River just north of Crested Butte.

Current coal mining activity is restricted to one small underground mine (the N. U. Mine) in the Ohio Creek Valley.

Reserves of minable coal are estimated by the U. S. Geological Survey to be about 18 million tons. Inadequate transportation facilities is the main factor holding back coal development near Crested Butte. Improved transporation resulting from metal mining activity could cause renewed interest in the Crested Butte coal resources.

OIL AND GAS

There are a few oil and gas leases on parts of the Crested Butte area underlain by sedimentary rocks, but in general, prospects for oil and natural gas are very marginal.

A little natural gas has been produced from fractures in the Mancos shale in the vicinity of Ohio Creek, but is not present in commercial quantities. For the most part, the local sedimentary rocks have been so highly metamorphosed and recrystallized that they are no longer suitable as reservoir rocks for petroleum or natural gas.

1 — EXXON	Dimer Station		
2 — Minerals Exploration (Union Oil Subsdy.)	Jack's Cabin	U	12 holes in 78
3 — Rocky Mt. Energy	Gold Ridge	U	11 holes in 79

HISTORICALLY PRODUCING MINES

Name	Location	Element(s)	Last Known Producing Dat
Daisy	Redwell Basin	Pb, Zn, Cu	
Domingo	Baxter Basin	Pb, Zn	Late 1800's
Forest Queen	Copley Lake	Ag, Cu, Pb, Zn	
Horace Porter	Whiterock Mountain	Pb, Ag, Cu, Ni, Co	
Keystone	Mt. Emmons	Pb, Zn	1976
Luona	Teocalli Mountain	Pb, Ag, Cu, Ni, Co	
Painter Boy	Elkton	Pb, Ag, Au	1964
Standard	Elk Basin	Pb, Zn, Ag	1964
Sylvanite	Copper Basin	Ag	

Ag — Silver
Au — Gold
Co — Cobalt
Cu — Copper
Mo — Molybdenum
Ni — Nickel
Pb — Lead
Zn — Zinc

GEOTHERMAL

The potential for geothermal energy is largely untested, and no energy companies have expressed interest in leasing or drilling in the area.

The nearest area of active geothermal interest is at Waunita Hot springs, 40 miles southeast of Crested Butte. Indications of geothermal potential in the Crested Butte area are restricted to three hot springs -- one in the Conundrum Creek Valley in the Maroon-Snowmass Wilderness, and two in Cement Creek Valley southeast of Crested Butte.

Temperatures of the underground reservoirs supplying these springs have been estimated by the Colorado Geological Survey and are believed far too low for the area ever to have any potential for generating electricity.

OME 6640
Keystone Mine

CONTROVERSIAL MT. EMMONS

AMAX Defends Project Plans

By BRUCE WILKINSON
Denver Post Business Writer

Representatives from AMAX Inc. appeared in Denver Tuesday to defend their plans for the controversial Mount Emmons Project the company is working on near Crested Butte.

AMAX, which already operates huge molybdenum mines at Climax and Henderson, has spent about $20 million in the past several years on predevelopment of what is expected to evolve into a project that will cost $500 million to $600 million.

The project would entail removal of at least 165 million tons of molybdenum ore from Mount Emmons, building a mill and tailing disposal complex midway between Crested Butte and Gunnison, constructing a road network between Gunnison and the mine and an ore conveyance facility between the mine and the mill.

A FOUR-MAN management team including Ralph Barnett, Mount Emmons project manager, disputed key claims made by project opponents, particularly regarding mining effects on the exterior of the mountain and sociological repercussions.

Terry Hamlin, a resident of Crested Butte and manager of local affairs for the Mount Emmons Project, said the current plan is to mine only 165 million tons from the mountain out of a mass of 14 billion tons. He said the mountain won't cave in afterward as some critics have charged.

Hamlin showed slides and drawings prepared with the aid of a computer that indicated only a moderate amount of subsidence once the material is removed.

HE ACKNOWLEDGED a mountain is being mined away at the company's Climax operation but pointed out the Climax ore is on the surface and that the Mount Emmons ore is 1,200 feet down.

Hamlin said the company has concluded the right location for the big mill-tailing disposal site is in what will be built as a closed basin in the Alkali Creek area south of Red Mountain 12 miles southeast of the mine.

He said there would be no runoff of polluted water from the tailing site. Coal Creek has become badly polluted over the years because of former mining activity in the Keystone Mine, which AMAX acquired in 1977. The company has made a commitment to clean up this stream.

AMAX CHOSE THE Alkali site, Hamlin said, partly because it would be the least objectionable visually of the possible sites. He said either a railroad or conveyor-belt system will be needed to move the ore and that a $60 million tunnel through Mount Axtell is planned.

As for the boomtown charge against the project leveled repeatedly by Crested Butte Mayor W. Mitchell and other foes of the project as presented, Hamlin said AMAX plans to locate its administration offices in Gunnison. Crested Butte will be bypassed as the main traffic artery with the reconstruction of the road along Ohio Creek and over Ohio Pass from Gunnison to the mine and mill sites. Commuting by miners from Gunnison is anticipated.

THE COMPANY has said there will be a maximum of 2,000 jobs created, including 1,300 jobs that would last during the 25 to 30 years projected as the life of the main. AMAX spokesmen stressed that even though the project will have a major effect on Gunnison County, the main growth generated will be in Gunnison, the county seat, which generally favors the development, not in Crested Butte.

Art Biddle, AMAX project manager external affairs, was questioned at some length during the Denver press conference.

SECTION D
THE DENVER POST
Wed., Apr. 18, 1979 39

EWS

rs Mart

Declines outnumbered advances by a 5-4 spread on the NYSE.

Big Board volume came to 29.26 million shares against 28.05 million in the previous session.

The NYSE's composite common-stock index was unchanged at g7.05.

At the American Stock Exchange, the market value index fell .38 to 178.65.

Business Highlights

TREASURY AUCTIONS GOLD

WASHINGTON (AP)—The Treasury Department auctioned more than 1.5 million ounces of gold Tuesday at prices starting at $229 an ounce.

Treasury officials said they sold 1 million ounces of very fine gold, with 99.5 to 99.84 percent gold content, at prices starting at $230.13 an ounce. Another 500,100 ounces of gold with a purity ranging from 89.9 to 91.7 percent were sold at prices starting at $229.27 an ounce.

The gold sale was the 12th in a series of monthly auctions aimed at supplying domestic gold needs and helping bolster the U.S. dollar. Last month's sale of the same amount of gold brought $361.4 million. The high-quality gold last month sold for an average price of $241.30 an ounce.

COPIES OF CONTRACT CORRESPONDENCE File

MEMO TO CNIEF FROM FIELD OFFICER
REGION III DATED JUL 22, 1976
" " AUG 5, 1974
" " AUG 13, 1969
" " MAY 26, 1969
" " MAY 20, 1969
" " APR 25 1969
LETTERS TO MR J L LARSEN AND PARK CITY CONSOLIDATED MINES MARCH 30, 1978

Royalty CORRESPONDENCE FILE

MEMO TO FIELD OFFICER REGION III FROM CNIEF DATED OCT 10, 1967
MEMO TO FILE FROM ASST CNIEF DATED AUG 4, 1967

Copy of Operator Application Report OME 6640, Mc Farland Nullinger

Copy of Report of Examination OME 6640 Contract 2259 JAN 1969 By JW NASSLER

Copy of OMEA 3866 - ASARCO CONTRACT Idm F-903

MEMO TO CNIEF FROM FIELD OFFICER REGION III DATED FEB 5, 1969

LETTER TO MAX EVANS FROM FRANK JOHNSON DATED OCT 3, 1968

KIRK 11/9/78

This doesn't look good for Jack Jensen, or Max Evans does it.

I think the skunk in the ointment is Svilar. He was their attorney and I lobbed him on being a shady character, having met him in Utah on a few occasions when he was with Jack.

OME 6640 A9
McFarland Hollinge
Keystone Proper
Contract 2259
Gunnison Co Colo

2 Mining Companies Accused Of Profiting Illegally

Mining Record Staff Reporter

WYOMING — Two Riverton, Wyoming mining companies and their officers are accused by the Securities and Exchange Commission of profiting illegally from "insider information" about Amax Exploration's molybdenum discovery on Mt. Emmons near Crested Butte, Colorado.

The SEC filed in the U. S. District Court at Cheyenne a complaint alleging U. S. Energy Corp. and Crested Butte Silver Mining Co., their officers and relatives profited illegally by "tipping and trading on inside information" and "disseminating false and misleading proxy materials" to stockholders of the two companies.

The SEC asked the court for an injunction to restrain such activities by the defendants pending litigation of the civil suit. The SEC is seeking to have the defendants disgorge at least $289,000 of their profits but in addition the SEC alleges three of the defendants executed a multi-million dollar fraud on stockholders.

An SEC memorandum supporting the request for an injunction said, "defendants John L. Larsen, Max T. Evans and Daniel P. Svilar engaged in a scheme whereby they diverted assets worth possibly in excess of $210 million from Crested Butte Silver Mining and its 1100-plus public shareholders to U. S. Energy Corp. for the purpose of benefitting U. S. Energy, the company in which the defendants John L. Larsen and Max T. Evans had a much larger economic interest."

The basis for the securities violations, alleged by the SEC, centers around the exploration activities conducted by AMAX on claims leased by AMAX from Crested Butte Silver Mining and U. S. Energy. These exploration activities led to the discovery, near Crested Butte, Colorado, of what the SEC said "may be North America's third largest discovered molybdenum deposit."

U. S. Energy and Crested Butte Silver Mining share offices in Riverton. U. S. Energy was formed originally in January 1966 as Western States Mining by Glen L. Larsen and his three sons, John L. Larsen, Leslie W. Larsen and G. Lloyd Larsen. The company became a publicly held corporation in 1970 when 300,000 shares of common stock were sold to the public under a Regulation A filing. At that time, 1,040,000 shares of the 1,390,000 outstanding shares were owned by the Larsen family. On June 1, 1977, U. S. Energy had outstanding 2,411,528 shares of common stock of which 843,125 shares or 35 percent were owned by the Larsen family. During the period from late 1976 through early September 1977 the market price of U. S. Energy increased from approximately $.625 per share to approximately $13.87 per share.

Crested Butte Silver Mining was incorporated in Colorado in 1970 and became a public company in 1971 when it sold 3,600,000 shares to the public under a Regulation A offering.

During 1974 U. S. Energy exchanged 80,000 shares of U. S. Energy common stock to acquire 3,200,000 shares of Crested Butte from several controlling shareholders of Crested Butte thus giving U. S. Energy a 46 percent interest in Crested Butte. During the period from late 1976 through early September 1977 the market price of the securities of Crested Butte, which are traded over-the-counter, increased from approximately 3 cents a share to in excess of $4 a share.

The SEC said when Crested Butte was first notified by AMAX of the molybdenum discovered on their property in September 1976 Crested Butte was virtually no longer in business having operated at a loss for the prior two years with total revenues for the prior year of only $22,103.

John L. Larsen is president and a director of U. S. Energy and the vice president and chairman of Crested Butte. Lloyd Larsen is a director and vice president of U. S. Energy. Max T. Evans is the president and director of Crested Butte and chief geologist for U. S. Energy. Daniel Svilar, a former Wyoming state senator, has been the lawyer for the two companies.

Also named defendant in the action is Emery Tomlinson, associated with John Larsen in business and investments through a partnership firm E&J.

The SEC said that AMAX sent a letter to Crested Butte September 10, 1976 stating AMAX had encountered "encouraging evidence of molybdenum mineralization" in a drill hole. Within three weeks after that letter was received, the SEC said, Donna Cudney, a 60-year-old widowed sister of Evans, began buying Crested Butte stock for the first time. She acquired 21,000 shares at prices of 6 and 8 cents a share. On June 21, 1978 her investment of $1,632 was worth $78,750. The SEC said all purchases were made with funds supplied by Evans.

After a meeting of AMAX and U. S. Energy officials on January 17, 1977, Lloyd Larsen purchased 36,300 shares of Crested Butte at prices of from 14 to 20 cents a share and Tomlinson purchased 103,000 shares at a price of 17½ cents a share.

The SEC memorandum also said:

Under an agreement reached April 13, 1977 AMAX was to pay $9,500,000 for the interests which U. S. Energy and Crested Butte had in the mining claims adjacent to the initial 21 claims which AMAX had leased in 1974 (from Crested Butte). $2,500,000 was to be paid at the closing of the contract, and the remainder was to be paid at the rate of $1 million per year at the option of AMAX. Additionally, a 5% royalty was to be paid in the event of production. The agreement further provided that the payments referred to were to be split equally by Crested Butte and U. S. Energy.

Since both U. S. Energy and Crested Butte had interests in the properties which they had agreed to lease to AMAX under the April 13 agreement, Svilar suggested that U. S. Energy and Crested Butte unitize the property interests which they held in those properties.

This concept was discussed by the Board of Directors of both corporations and on May 20, 1977 an agreement was executed whereby both companies would unitize all interests which they held in the properties which they had agreed to lease to AMAX on April 13 plus the 21 claims which Crested Butte had originally leased to AMAX in 1974. This agreement provided further that the two companies would share 50/50 of all payments and royalties which AMAX would make for the properties. The reason why this unitization agreement was unfair to Crested Butte and its 1,100-plus stockholders is discussed (further) . . .

On or about June 17, 1977 the defendants John Larsen, Evans and Svilar caused both U. S. Energy and Crested Butte to prepare and mail to their respective shareholders proxy statements soliciting shareholder ratification of (1) a unitization agreement dated May 20, 1977 between U. S. Energy and Crested Butte, and (2) the lease/sale of a majority of the unitized properties to AMAX. Thereafter, these proxies were received and voted at the shareholders' meetings held on June 30, 1977 when the two proposals were approved by the shareholders of both companies.

These proxy statements served to further a scheme to defraud the 1,100-plus shareholders of Crested Butte and the 1,200-plus shareholders of U. S. Energy and the investing public.

This scheme began late in January 1977 when the defendants first realized that the discovery of mineralization on the claims Crested Butte had leased to AMAX could possibly amount to something significant.

Due to the way the properties were held at that time, if the molybdenum found on these 21 claims were ever mined, all of the royalties for such molybdenum would have gone to Crested Butte with the result that U. S. Energy's only interest therein would have been an indirect interest via its 46% ownership of Crested Butte. Since defendants John Larsen and Evans only owned stock in U. S. Energy and not in Crested Butte, it was clearly to their advantage if U. S. Energy could acquire a larger and more direct interest in the molybdenum discovery. In fact...35% of the outstanding stock of U. S. Energy was owned by the Larsen family.

Therefore, the defendants U. S. Energy, John L. Larsen, Evans and Svilar engaged in a scheme to divert assets, including the 4% royalty interest, from Crested Butte to U. S. Energy....

Sometime after the April 13 1977 Agreement in Principle (with AMAX) was signed, Svilar suggested that a unitization agreement between U. S. Energy and Crested Butte be considered. This concept was discussed by the Boards of Directors of both corporations and at meetings on May 20, 1977 both boards approved a unitization agreement which was then executed by John Larsen as president of U. S. Energy and by Evans as president of Crested Butte.

This agreement, prepared by Svilar, provided that both companies would unitize all interests which were the subject of the April 13, 1977 Agreement with AMAX *plus* the interests which both companies held in the 21 claims which AMAX had leased in 1974. The unitization agreement provided further that Crested Butte and U. S. Energy would share equally all payments and royalties which AMAX would make for any of the properties included in the unitization agreement.

This unitization agreement was grossly unfair to Crested Butte and its 1,100-plus shareholders because of the inclusion in the unitization agreement of the 21 claims which Crested Butte had leased to AMAX in 1974 reserving a 4% royalty. This gross unfairness can be discerned by examining the value of the individual property interests at the time of the execution of the unitization agreement.

(The conclusion of this story will be carried next week, October 25, 1978.)

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OME 66 40 (Ag)
McFarland Hullinger
Kaystone Project
Contract 2259
Gunnison Co Colo

U. S. Energy, Crested Butte Officials Deny Wrongdoing

RIVERTON, WYOMING — John L. Larsen, President of U. S. Energy Corp. and Chairman of the Board of Crested Butte Silver Mining, Incorporated, both of Riverton, Wyoming, said on October 23 that the companies and individuals named in a recent civil action for an injunction filed by the S.E.C., deny any wrongdoing and will vigorously defend the action. The S.E.C. basically claims that "material" information concerning the companies and the discovery of molybdenum mineralization on properties leased to both AMAX Exploration, Inc. of Denver and U. S. Energy for different types of minerals by Crested Butte was not publicly disseminated prior to certain persons trading in shares of Crested Butte.

The S.E.C. also claims "material" information was not lawfully disseminated to the companies' shareholders in proxy statements. The S.E.C. further claims certain of the defendants devised a plan to favor U. S. Energy over Crested Butte by proposing a unitization of both companies' ownership of mineral interests where the molybdenum discovery was made.

Mr. John Larsen, in a personal statement on his behalf said, "It's amazing to me that attorneys and officials for U. S. Energy, Crested Butte and AMAX were and are of the opinion that the discovery of mineralization by AMAX in September, 1976 was not material, yet the S.E.C. claims that such information was then material and should have been disclosed by Crested Butte but not need be disclosed by AMAX."

On February 2, 1977, AMAX furnished the first factual data to Crested Butte on that first hole and a public news release of the information was promptly made by Crested Butte and U. S. Energy on February 5, 1977. Further information was received from AMAX on March 5, 1977 on their exploration activities in the area and U. S. Energy and Crested Butte immediately sent reports regarding this information to all of their shareholders. The companies then sent additional information about the discovery to their shareholders in their annual reports to the shareholders in April, 1977. Another public release was made by U. S. Energy and Crested Butte on April 15, 1977 advising of a proposed agreement with AMAX on the lease-sale of additional mineral properties to AMAX in the area which was followed by another public release by the companies of June 9, 1977, in which the terms of such agreement with AMAX were set out. The companies prepared definitive proxy material pursuant to the AMAX agreement and U. S. Energy forwarded this information to AMAX officials and to the Securities and Exchange Commission in Washington, D. C. The material was reviewed in depth at a conference with the S. E. C. there.

The completed proxy material of both U. S. Energy and Crested Butte was prepared and then sent to some 3,500 shareholders of both U. S. Energy and Crested Butte for their consideration. Special meetings of shareholders of both companies were held in Denver on June 30, 1977, at which time the proposals on unitization of the companies' property interests and the sale to AMAX were discussed in detail. A two-thirds majority vote of the shareholders of U. S. Energy and Crested Butte was required before the unitization agreement and the sale to AMAX would become effective. The dissenting shareholders of Crested Butte were advised that they could have the fair value of their shares, as determined by an independent appraisal, paid in cash to them. Both questions were approved by the required two-thirds of the shareholders of both companies and both agreements then became effective. Not one shareholder of Crested Butte elected to have his shares paid in cash.

Following this approval, another public release was made by the companies on July 15, 1977 advising that the contract had been consummated with AMAX.

Finally, on August 17, 1977, AMAX, the most knowledgeable and the largest producer of molybdenum in the Free World, publicly acknowledged the molybdenum discovery and made its first public release. On August 26, 1977, based on the information obtained from AMAX in its August 17 release, Crested Butte and U. S. Energy made a similar public announcement.

"The question then is why is the same information considered "material" for one company and not to the other company furnishing that information?" Mr. Larsen asked.

In the other allegations made by the S.E.C., Mr. Larsen stated, "The S.E.C. claims Max Evans, the companies' attorney Mike Svilar and myself devised a 'scheme' to favor U. S. Energy over Crested Butte. To me this is totally incomprehensible. In May, 1977, the companies were dealing with unknowns when trying to place a value on their respective mineral interests in the areas where the molybdenum was discovered. As a matter of fact, it may take many years to attribute some kind of a reasonable value to each company's interest. AMAX has not yet concluded whether the area contains a commercially mineable ore body and such conclusion may not be made for at least another year and is dependent on many factors.

Because of these unknowns, it was recommended that the companies propose to their shareholders a consolidation of all their interests in the area and divide all benefits and obligations equally. The unitization agreement was then prepared after receiving various opinions including one from a mining consultant; the agreement was approved by the Boards of Directors of both companies and submitted for consideration to special counsel for the companies in Denver and counsel for AMAX for review. The preliminary proxy material was sent to the Securities and Exchange Commission in Washington, D. C. for their comment and reviewed in a conference by officials of the S.E.C. and the companies' attorneys. The completed proxy material was then forwarded to some 3,500 shareholders of both companies for consideration and to approve or disapprove the two proposals at special meetings of the shareholders of Crested Butte and U. S. Energy called for that purpose. In order for this so-called "scheme" to be adopted, it required a favorable vote of two-thirds of all outstanding shares of both companies. Of the voting shares of Crested Butte, 4,905,430 shares voted to approve the unitization agreement and 35,200 shares voted against it. Of the voting shares of U. S. Energy, 1,647,402 approved the agreement while 556 shares voted against it. Mr. Larsen asked, "Is this an unlawful 'scheme' of three individuals?"

"It is our belief that the S.E.C. does not have evidence to sustain its case. Those of us named as defendants find ourselves in the hapless dilemma of honorable people whose reputations and careers have been seriously damaged by the filing of a suit based on such tenuous grounds," Mr. Larsen concluded.

The Mining Record on Oct. 18 and Oct. 25 covered the same story. The above information is a U. S. Energy and Crested Butte press release dated October 23, 1978. We have published it in its entirety.

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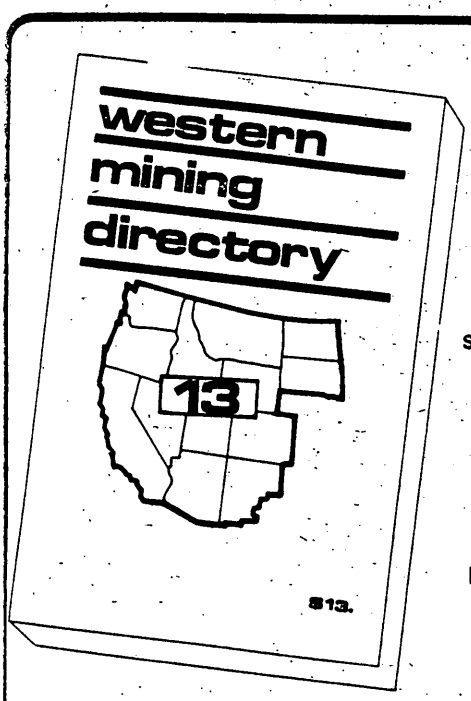

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United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VIRGINIA 22092

In Reply Refer To:
Mail Stop 953

March 30, 1978

Memorandum

To: Branch of Financial Reports

From: Chief, Office of Minerals Exploration

Subject: Recording of realized loss under OME contract

Write-off of realized loss on the contract listed is hereby authorized:

Contract	Docket	Operator	Write-off
2259	OME-6640	McFarland and Hullinger	$77,238.43

Harold Kirkemo

Harold Kirkemo

cc. RIII

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VIRGINIA 22092

In Reply Refer To:
Mail Stop 953

March 30, 1978

Mr. John L. Larsen
U.S. Energy Corporation
625 East Madison Avenue
Riverton, Wyoming 82501

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Dear Mr. Larsen:

By the terms of OME Contract 2259, as amended, and the Certification of Possible Production dated October 10, 1969, all minerals mined or produced from March 22, 1968, to March 22, 1978, were subject to the Government's royalty as stated in said contract.

As the period during which production was subject to royalty has now expired, the Government according to its present records retains no claims or lien against the property subject to the contract or any production therefrom. We, therefore, are closing our books and records on this contract.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo, Chief
Office of Minerals Exploration

cc: R III
BFM

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VIRGINIA 22092

In Reply Refer To:
Mail Stop 953

March 30, 1978

Park City Consolidated Mines, Co.
68 South Main Street
Salt Lake City, Utah 84101

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Gentlemen:

Enclosed is a self-explanatory letter dated March 30, 1978, to Mr. John L. Larsen. This relates to the Lien and Subordination Agreements signed by Mr. George C. Maw, Vice President, Park City Consolidated Mines Co., on March 20, 1968.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo, Chief
Office of Minerals Exploration

Enclosure

cc: R III
BFJn

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VIRGINIA 22092

In Reply Refer To:
Mail Stop 953

March 30, 1978

Mr. Norman Visness
Vice President
ASARCO, Inc.
120 Broadway
New York, New York 10005

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Dear Mr. Visness:

Enclosed is a self-explanatory letter dated March 30, 1978, to Mr. John L. Larsen. This relates to the Lien and Subordination Agreements signed by Mr. C. E. Nelson, Vice President, American Smelting and Refining Company on March 18, 1968.

Sincerely yours,

Harold Kirkemo

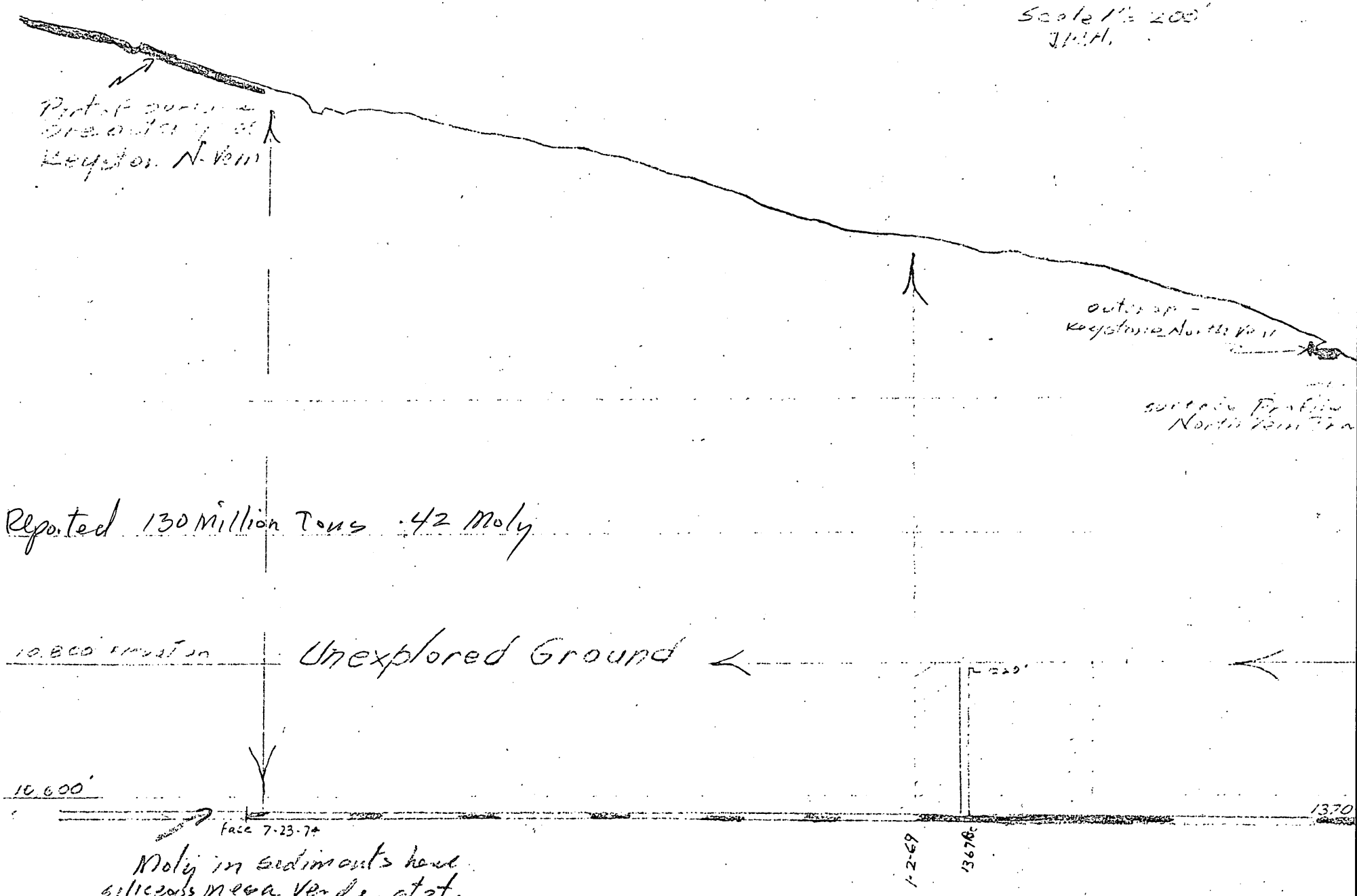
Harold Kirkemo, Chief
Office of Minerals Exploration

Enclosure

cc: R III
BTM

Hessler

O.R.C. 6340
KEYSTONE MINE
July 1974
Scale 1" = 200'
J.H.H.



OME 6640

Drill Hole

Su10 4.5 Fm 2.4

Su11 4.5 Fm .38 .03 .05 .10

Su12 5.0 .30 .03 .18 .05

Su14 3.0 .28 .02 .05 .10

Su9 3.0 2.1 .03 .05 .05

Su13 4.5 1.5 .04 .05 3.5

Su16 4.5 .62 .02 .10 .30

Su18 3.0 1.0 .03 .05 1.30

.03 .05 .10

E 7500

New (Mo/4) Amax land Tacoma WK.

78°

Sample Ft. Ag Cu Zn Pb

K-15 3.0 .30 .27 Tr. 1.20

P.C. 32

P.C. 27

76°

80°

SK-1 3.5 6.2 .08 .15 7.3

K-1 3.0 3.2 .05 .05 5.8

K-12 3.0 2.8 .22 Tr. 7.25

SK2 3.5 3.4 .02 .20 .80

K-2 3.4 9.6 .06 .10 7.7

K3 2.0 4.4 .08 .10 3.1

S2 3.0 5.2 .08 .05 .10

Sample Ft Ag Cu Zn Pb

22 4.0 6.4 .11 Tr 4.25

23 4.0 5.0 .11 Tr. 3.10

Sample Ft Ag Cu Zn Pb

Su 19 3.0 2.9 0.3 .05 .15

Surface Union Vein

Proposed Union Drift

N. 36° W.

P.L.

Su20 4.0 11.3 .11 .05 4.7

Su21 4.0 13.3 .19 .05 6.2

Su7 3.0 .30 .08 .05 5.3

65°

Sample Ft Ag Cu Zn Pb

K-5 1.5 .50 .02 .05 1.0

61°

Su3 5.5 12.1 .05 .10 4.9

Su2A 3.0 4.1 .05 .1 H.W.

Su2B 2.0 18.1 .15 .05 2.0 F.W.

80°

SU1 5.0 7.0 .05 .05 3.1

-10-1-68

-2-1-69

Surface Key

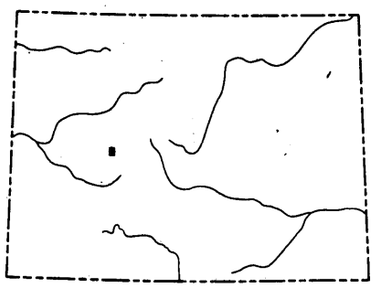
MAP GQ-578

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

GEOLOGIC QUADRANGLE MAPS OF THE UNITED STATES

GEOLOGIC MAP OF THE OH-BE-JOYFUL QUADRANGLE GUNNISON COUNTY, COLORADO

By
David L. Gaskill, Larry H. Godwin, and
Felix E. Mutschler



QUADRANGLE LOCATION

PUBLISHED BY THE U. S. GEOLOGICAL SURVEY
WASHINGTON, D. C.
1967

MAP GQ-578

OME 6640 M Forland + Hallinger
Keystone Mine

Mine Proposal Upends Ski-Conscious Crested Butte

By BILL STRABALA
Denver Post Staff Writer

Residents of Crested Butte—a West Slope ski resort which draws many upper-middle-class "dropouts"—are split over pending development of a huge molybdenum deposit right outside the town.

Most old-timers seem to favor development; most newcomers don't.

"The real issue," said Crested Butte City Manager Bruce Baumgartner, "is whether a tourist-based economy can coexist with a mine without damaging the environment. The majority of people here have left the cities and high-paying jobs and are pretty protective about their lifestyle."

The threat to Crested Butte's alpine good life became an issue in recent local elections in which three new councilmen and a new mayor who had challenged the proposed mine were elected.

W. MITCHELL, the new mayor, who prefers to use just his last name, estimated that about 70 percent of the town's residents are against the mine or have very strong reservations about it, as he does.

At issue is the growth that could be caused by Climax Molybdenum, a division of Amax Inc., which has options on 130 million tons of ore buried beneath Mount Emmons. The ore lode is located about 5 miles west of the ski area.

Climax is conducting exploratory drilling to determine the extent of the molybdenum, but it already has discovered enough minable ore to rank it as the world's third largest deposit.

Amax, which recently opened a $500 million mine near Georgetown, has briefed Crested Butte and Gunnison County officials on its tentative plans, including possible mill sites that would be developed between Crested Butte and the town of Gunnison.

DENVER and the WEST
**THE DENVER POST Sun., Nov. 27, 1977 33 SECTION C

"AMAX IS A REALLY progressive mining company," Mitchell said. "They are very open, and we anticipate keeping it that way."

Stating he is "not against" the mine, Mitchell said it is important that officials and citizens set standards for any development to preserve the quality of life in Crested Butte. He says he thinks a mining development could meet such standards, although he admits it probably would cost more.

The major fear, said Baumgartner, is "what cultural and sociological impacts the changes will make Crested Butte feel. If they pump in a thousand miners and 2,500 construction workers, what will it do to the lifestyle?"

THE TOWN, growing annually at a rate of more than 20 percent, has formed a committee which will determine some effects of development, including whether the major growth might occur in the town itself or in Gunnison, 25 miles to the south, the county's only major city.

The U.S. Forest Service has asked that the fact that the area is in a national historical district be considered along with future mining or milling permit requests. Although the mine site is on private land, support facilities including roads would be needed on forest lands.

Ironically, the area's historical significance comes from the days a century ago when silver mines caused the town to boom.

WHILE CRESTED BUTTE residents fume about unknowns, officials in Gunnison are certain development is coming and are worried about it.

"At times I feel like a prophet crying in the wilderness," said Gunnison City Manager Gary West. "I have been saying we had better be ready because it's coming, and we only have two years."

West expects Gunnison to be affected most because of its shopping and residential facilities and community services. He predicted the population of the city of 12,000 probably will double in five years.

Some Climax company families already

Continued on page 34.

Kirk:

Here we go again — this could be another White Cloud Wilderness area in Custer Co, Idaho — Except that Skiing is more important than mining

Proposal for Mine Splits Residents of Crested Butte

Continued from page 33.

have moved to Gunnison—about 10 of them in the last month, he said.

AS FOR OPPOSITION to the mine, West is philosophical. "There is opposition to almost anything that is a change." But, he said, the oppositon of residents is understandable "if you realize where they are coming from. Many have been here 10 years or less.

"There is a resort mentality. The newcomers don't want it to change. The old-timers remember when Crested Butte was a mining town," West said.

West has more to worry about than just the Climax mine. Homestake Mining Co. is proceeding with a $50 million uranium mine east of Gunnison near Monarch Pass. And there is another potential mining development to the south near Powder Horn where a large deposit of titanium recently was discovered.

And so the towns of Gunnison and Crested Butte and the county commissioners have formed a joint planning committee, examining the countywide options and impacts. Meanwhile, the dialogue among residents in Crested Butte continues, showing increased strains of opposition.

DENVER POST NOV. 27 1977

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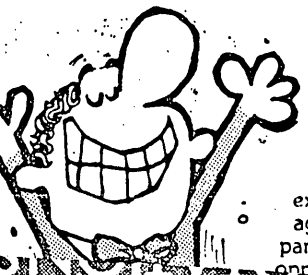

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pay 7.75 percent on the retirement plans, writing, on the proposed changes.

Environmental Subsidiary Formed by AMAX Inc.

The formation of Denver-based AMAX Environmental Services Inc. has been announced by John Towers, president of AMAX Inc., a worldwide molybdenum mining and natural resources development company.

The new company, at 4704 Harlan St., will take over duties of the AMAX Environmental Services Group, formed by AMAX in 1973 to support the company's Committee on Environmental Planning and Protection.

Tower said the firm will focus on tighter resource management in the AMAX organization and on greater emphasis on community involvement in environmental problems of resources development and increased communication and education for the general public and AMAX divisions.

The company will be directed by Stanley Dempsey, AMAX vice president and director of environmental affairs. As an AMAX subsidiary, it will be headed by Edward R. Bingham, president, and Peter Keppler, vice president and general manager.

Bingham has been president of Copper Range Co., a Michigan firm with forestry, wood products and machinery manufacturing operations. He formerly was with Kennecott Copper Corp.

Keppler is a 1969 graduate of the University of Denver law school and former associate with the Denver law firm of Holme, Roberts and Owen. He joined AMAX as a staff attorney in 1971.

Donald L. Ferguson has been named manager of public relations for the new environmental subsidiary. He joined AMAX early this year from a post as academy director for the National School Boards Association in Washington, D.C.

Electronic Unit Names Johnson As Chairman

Charles W. Johnson, vice president of the Denver-based test instruments division of Honeywell Inc., has been elected chairman of the Colorado Council of the Western Electronic Manufacturers Association.

Founded in 1943, the association provides electronics firms with education programs, statistical surveys and a unified voice in legislative matters.

Other new officers are vice chairmen Bill B. Chandler, president of Electro-Mech Co., Colorado Springs, and Thomas P. Hokelman, division manager of Semiconductor Products, Broomfield. Johnson and Chandler also have been elected 1978 directors of the association, representing the Colorado Council.

Recd 11/28/77
HK 11/28/77

United States Department of the Interior

GEOLOGICAL SURVEY
Box 25046
Denver Federal Center
Denver, Colorado 80225
STOP 932

IN REPLY REFER TO:

MEMORANDUM

November 21, 1977

TO : Chief, OME

FROM : Field Officer, Region III

SUBJECT: OME 6640 (Silver)
McFarland and Hullinger
Keystone Mining Property
Gunnison County, Colorado
Contract 2259

An annual inspection of the Keystone property was made on September 20, 1977 in company with Mr. John Gayley, Manager, AMAX, at the Keystone property, and Mr. John May, Geologist. AMAX presently leases the property with an option to purchase from U.S. Energy Corporation and Crested Butte Silver Mining Company.

AMAX has continued drifting along the Keystone Vein on the 1370 level to a point some 3,200 feet from the portal, and have diamond drilled 14 holes from the 1370 level as of September 20.

After completion of the exploration work done under the OME contract, TOSCO and Crested Butte Silver Mining Company continued drifting along the Keystone Vein in the Mesa Verde sandstone of Cretaceous age for some 1,000 feet. TOSCO diamond drilled into sandstone and quartzite and penetrated stringers and narrow veins containing molybdenum. AMAX then became interested in the Keystone Mine property for its molybdenum potential and has since discovered additional molybdenum in an area some 2,400 feet along the periphery and over a thickness of 350. Molybdenum has been found in a buried porphyry body below the 1370 level, that is later in age than the Mt. Axtell porphyry, and may be related to the Redwell basin felsitic plug or dike. The present face of the 1370 level lies some 800 feet south of the location of the TV tower on the south side of Mt. Emmons on the Oh-Be-Joyful Quadrangle. The 1370 level lies some 1,220 feet below the outcrop. AMAX reports some 130 million tons of material grading slightly higher than 0.4% MoS_2 using a 0.2% MoS_2 cutoff. According to AMAX the molybdenum ore body appears to be shaped like an inverted bowl covering a zone about 350 feet thick x 2,400 feet along the periphery. It is bottomed by a rhyolite stock and topped by a metamorphosed quartz-veined sediment (see enclosure).

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

An earlier drill hole, from the Keystone 2000 level, drilled by AS & R was recently logged and was found to contain molybdenum bearing stringers and veinlets cutting silicified and altered Mesa Verde sandstone of Cretaceous age. The 2000 Keystone level lies 600 feet below the 1370 level from which the OME exploration work was completed.

J. William Hasler

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

Enclosure

E/MJ OCTOBER 1977 OUTLOOK

The Mt. Emmons molybdenum discovery near Crested Butte, Colo., appears significant, but it probably won't match the size of either the Climax or Henderson deposits of Climax Molybdenum Co., reports R. A. Barker, president of Amax Exploration Inc. Amax announced the discovery in mid-August (see p 17). As of September 20, 12 of 14 diamond drillholes showed moly ore intercepts grading more than 0.2%. Estimates based on drilling to date indicate 130 million tons grading slightly higher than 0.4% MoS_2, using a 0.2% MoS_2 cutoff grade. All drilling has been done from the 1370 level of the Keystone mine, a former producer of base metals that Amax rehabilitated for the moly exploration program. The orebody appears to be shaped like an inverted bowl, covering a zone about 350 ft thick x 2,400 ft along the periphery. It is bottomed by a rhyolite stock and topped by metamorphosed quartz-veined sediments.

Exxon's Crandon project in northern Wisconsin has moved into the engineering and design phase, with planning centered on an underground mine to produce 10,000 tpd. During initial feasibility studies, the company had also considered a combined surface-underground operation. Design work for the mine, concentrator, and surface facilities will be integrated with comprehensive environmental studies now in progress. The ore reserve estimate for the Crandon deposit now stands at 70 million tons grading 1% copper and 5% zinc in an orebody that ranges up to 5,000 ft long on a nearly east-west strike, dips 85°, and is about 125 ft thick. The orebody is overlain by about 200 ft of glacial sediments. Exxon has established a mine development group at Crandon, electing to perform most of the engineering work close to the project site. The company feels this effort will produce a design that provides maximum environmental compatibility. The Crandon office will perform all engineering and design work for the project, and it will also coordinate nontechnical aspects of the development program, including public relations and community development.

The depressed US copper industry got some support from an unexpected source early in August when Rep. Morris K. Udall (D-Ariz.) withdrew his bill to repeal the Mining Law and institute a leasing system for hardrock minerals. Udall's action of itself will not prompt a turnaround for domestic copper producers—whose problem is an excess of supply over demand—but withdrawal of the bill does indicate a desire to avoid making a bad situation worse. The market outlook is gloomy, and government-owned mines outside the US have no apparent intention of cutting back production. Chilean policy reportedly is to increase market share during the current weakness and then to maintain that share when the market recovers. Under the Udall proposal, the discoverer of a mineral deposit would have no legal right to the discovery but would be required to apply to the Secretary of the Interior for a development lease. Sen. James A. McClure (R-Ida.) has predicted that passage of such a bill would probably block US mineral exploration and development for several years. On withdrawing his bill, Udall (who is chairman of the House Interior and Insular Affairs Committee) transferred his support to HR 5831, introduced by Philip E. Ruppe (R-Miss.). Ruppe's bill would establish a modified location-patent system while maintaining the principles of access and tenure.

A new technique for underground mine ventilation developed in South Africa's deep, hot gold mines was described by Neville G. W. Cook at the 1977 convention of the American Mining Congress in San Francisco in mid-September. Cook, a professor in the Department of Materials Science and Mineral Engineering at the University of California, said that chilling of service water used in mining has improved the effectiveness of refrigeration equipment. South African mines use 100 to 1,000 liters of water per ton of ore mined for dust suppression. In trickling through the workings and across the surface of freshly broken rock, chilled water removes heat from the rock, reducing the amount of cooling required for ventilation air. There are practical and economic advantages to cooling service water on the surface, Cook said, and surface refrigeration plants for this purpose are being planned for several mines. The service water can be precooled in a surface cooling tower before refrigeration. Pipes that carry the water to working areas can be insulated to reduce the effect of heat picked up during movement to as little as 0.3°C per km of pipe length.

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VIRGINIA 22092

October 7, 1977

Mr. John L. Larsen
U.S. Energy Corporation
625 East Madison Avenue
Riverton, Wyoming 82501

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Dear Mr. Larsen:

This is our second letter to you requesting two true copies of the agreement between AMAX Exploration, Inc. and U.S. Energy Corporation. Our letter of June 20, 1977, asking for the same document was unanswered. A copy of that letter is enclosed.

Please furnish this material to us at your earliest convenience.

Sincerely yours,

Harold Kirkemo, Chief
Office of Minerals Exploration

Enclosure

cc: F. O., OME Region III

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VIRGINIA 22092

In Reply Refer To:
Mail Stop 953

October 6, 1977

Mr. John L. Larsen
U.S. Energy Corporation
625 East Madison Avenue
Riverton, Wyoming 82501

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Dear Mr. Larsen:

Legislation enacted in October 1976 established new requirements concerning unpatented mining claims and affidavits of annual assessment work. Owners of unpatented claims must comply by October 22, 1979, with new procedures described in Section 314, Public Law 94-579, October 21, 1976, and in Federal Register--Title 43, Part IV of January 27, 1977. Copies of these documents are enclosed for your information. Simply stated, the new legislation requires that mining claims be rerecorded by October 22, 1979, and that certain information be filed with affidavits of assessment work.

We bring this matter to your attention so that you may take proper action if you intend to retain these claims after October 22, 1979. The Government's interest in the land and in royalty on possible production therefrom under terms of the subject contract terminate before that date. In the meantime, this interest is protected under provisions cited in the contract.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo, Chief
Office of Minerals Exploration

Enclosures

OME 6640

AMAX Raises Estimate of Reserves

By BRUCE WILKINSON
Denver Post Business Writer

CRESTED BUTTE, Colo. — Further confirmation of a major molybdenum discovery in Gunnison County, Colo., came last week when AMAX Exploration, Inc., updated its estimate of the reserves in a mineralized area from 90 million to more than 130 million tons.

R.A. Barker, president of AMAX Exploration, a subsidiary of AMAX, Inc., announced the most recent results of additional drilling and assays completed as of Sept. 20 on the south side of Mt. Emmons in the Red Lady Basin 3.5 miles west of Crested Butte.

IN ANNOUNCING THAT estimates have been moved up at least 40 million tons, Barker said the average grade of the mineralized section in the holes drilled is slightly more than 0.4 per cent molybdenum (eight pounds per ton) with a cutoff grade of 0.2 per cent.

AMAX is noncommittal on whether it will make the huge investment necessary to go into production in the area that includes the old Keystone Mine owned by the U.S. Energy Corp. and Crested Butte Silver Mining, Inc., companies headed by John L. Larsen of Riverton, Wyo. Barker said in the latest AMAX release only that if subsequent drilling "confirms preliminary estimates, detailed studies would be conducted to determine feasibility and method of mining."

But the favorable results just reported from drilling on the 21 claims leased Jan. 1, 1974, to AMAX by U.S. Energy and Crested Butte (with a 4 per cent royalty on any molybdenum concentrates produced) seem to point increasingly toward eventual development of what could prove to be one of Colorado's richest mineral deposits.

THE BIG NEW YORK company agreed last June to pay the Riverton firms $9.5 million for 174 claims that incorporate most of the Keystone Mine. AMAX dealt with Crested Butte Silver Mining and U.S. Energy, which owns 46 per cent of the stock of the former, and must pay a 5 per cent gross royalty on any minerals produced.

In a separate but related transaction, AMAX leased 188 unpatented and two patented lode-mining claims from another Riverton firm, Ruby Mining Co., which is controlled by some of the principals of U.S. Energy and Crested Butte Silver Mining. AMAX agreed to pay Ruby Mining $500,000 ot lease the claims in the nearby Ruby Mining District and to spend at least $100,000 annually from 1977 to 1979 and $250,000 thereafter until 1997.

Additionally, the exploration arm of the international company, which already has two giant molybdenum operations in Colorado, has other claims in the area under option with the Johnston Group of Texas.

BARKER SAID THAT WITH further drilling that is under way more mineralization may be found laterally and at depth on the deposit but he cautioned that substantial drilling and comprehensive technical and economic feasibility studies must be completed before the size of the discovery can be determined and before AMAX can decide if mining and milling are feasible.

The value of the potentially commercial ore delineated so far could approximate $3 billion based on recovery of between five and six pounds of molybdenum—currently $4.02 per pound f.o.b. Climax, Colo.—and reserves of at least 130 million tons.

What constitutes a reserve in the mining sense depends on such factors as the mineral price, cost of recovery and the availability of a large enough supply to make production costs competitive. Even with the extensive effort and money expended by AMAX so far, a company spokesman said, "It's difficult for us to judge at this point. We know we have 130 million tons, but whether that's a viable mine we don't know."

HE POINTED OUT THAT the moly ore at the company's Climax mine averages 0.3 per cent and at Henderson 0.49 per cent and that the known reserves at Henderson are more than 300 million tons. Another source put the Climax reserves at more than 600 million tons.

Observers on the scene at Crested Butte do not believe AMAX has come close to delineating the Crested Butte moly reserves at this point, something also true at Climax and Henderson.

Amax's commitment to exploration at Crested Butte is indicated by the presence of about 100 men employed directly or by contractors in the old workings of the Keystone Mine, once a lead-zinc producer known for its Keystone-Union vein.

Activity is on three main levels of the mine operated at different times by ASARCO, McFarland & Hullinger, the Oil Shale Corp. and U.S. Energy before the property was leased to AMAX. The top adit (tunnel entrance) is 1,370 feet below the top of 12,392-foot Mt. Emmons, the second 2,000 and the third 2,160 feet below. The adits go 3,600 feet to one mile into the mountain. Seventeen holes, most more than 1,000 feet deep, have been drilled this year.

Moly didn't get into the picture until 1976, when AMAX made significant discoveries, according to an AMAX spokesman on the site. U.S. Energy got into the act about four years ago when it purchased controlling interest in Crested Butte Silver Mining.

THAT THE AREA STOCK market has taken the lease purchases seriously is shown by the metamorphosis of the once-scorned Crested Butte Reg A stock from "two cents a year ago," according to one Denver broker, to $4.25 bid-$4.62 asked Friday. Ruby Mining shot up from 17-22 cents March 18 to 82-90 cents and U.S. Energy from $2.75-$3.13 on March 18 to $16.87-$17.37 at the end of the week.

U.S. Energy, organized in 1966 by Larsen and others, has been engaged mainly in contract mining and contract exploration in Wyoming. The company has two $1 million exploration contract projects under way in Wyoming and another $2.5 million worth of mine development contracts in progress.

The company has uranium production in the Crooks Gap Mining District of Wyoming and is exploring for other minerals in the Tintic Mining District of central Utah.

4 Colo. Groups to Receive $7 Million in HUD Loans

Four Colorado organizations will receive more than $7 million in direct loans from the U. S. Department of Housing and Urban Development for housing unit rehabilitation.

The funds are part of $637 mililon nationwide which HUD is reserving for construction or rehabilitation of housing for the elderly and handicapped, according to HUD Secretary Patricia Harris.

The loans go to the sponsoring private nonprofit organizations.

In Colorado, the LaJunta Housing Corp., Inc., will receive $740,600 for a 30-unit building for the elderly; Cheyenne Village in Manitou Springs will receive $148,000 for a six-person group home for the handicapped, and the Lower Valley Hospital Association in Fruita will receive $2,468,800 for a 100-unit facility for the elderly.

The Archdiocesan Housing Committee, Inc., in Denver also will receive $3,703,200 for a 150-unit structure for the elderly.

Regional Agribusiness Unit Established by Realty World

Realty World has established an agribusiness division to serve Colorado, Wyoming, Utah, Montana and Idaho, according to C. V. LeForce, regional director.

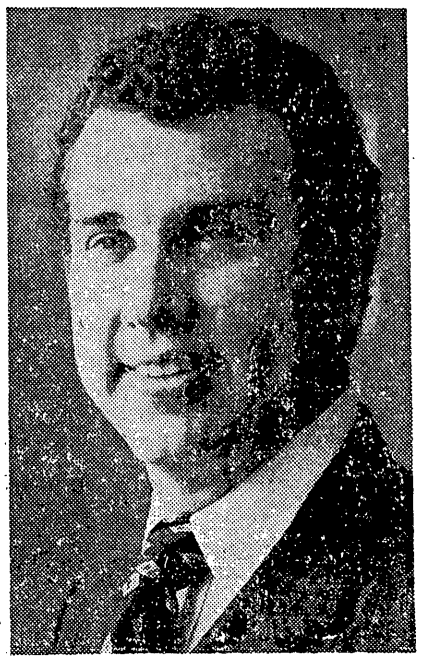
LeForce said long-range plans call for expanding the division to national coverage to offer full service to clients buying or selling farms, ranches and related businesses anywhere.

For the present, more than 600 Realty World sales associates in Colorado will fill client needs with back-up professional expertise in irrigated and dry-land farming, beef and dairy production and tax and estate planning, LeForce said.

Casey Anderson, who formerly was a livestock editor and copublisher of agricultural publications in the Northwest and western Canada, has been named division chairman.

Anderson also was president of C. A. Livestock International, Inc., of Kansas City, a firm specializing in sales of purebred livestock on an international basis. He is still a production and marketing consultant to several large ranching firms and specializes in agricultural estate planning with Whitney & Associates of Denver.

Others on the division executive committee are Bob Scott of Loveland, vice chairman; Bob Roberts, Loveland, secretary, and Mel Teter, Brush, listings and referral coordinator.



DIRECTS FOOD GROUP
Gary L. Hotchkin has been named executive director of the Denver-based American Food Service Asso-

Wulf Oil to Sell 6 Million Shares To Crystal Oil

CHADRON, Neb. — Wulf Oil Corp. said it has an agreement in principle with Crystal Oil Co., Shreveport, La., that would give Crystal at least a 32 per cent interest in Wulf.

Crystal would purchase six million newly issued shares of Wulf stock at 10 cents a share, and have options to purchase an additional 4 million shares at 15 cents a share.

Three representatives of Crystal would join Wulf's board of directors, which would be limited to six members.

Crystal and Wulf will conduct a three-year exploration program starting in 1978. Wulf will be the manager, and the exploration will be concentrated in the Rocky Mountain area. Crystal's share of the cost will be at least $1 million a year.

Wulf's stock is traded over the counter but Crystal's is listed on the American

Wyoming Freight Company Budgets New Rolling Stock

Truck Freight-

EW YORK STOCK EXCHANGE — COMPOSITE QUOTATIONS

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1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
92⅜	82	DPL pf 7.48	..	z170	89	88¾	88¾+	½
94½	84	DPL pf 7.70	..	100	91¾	90¾	91¾+	⅞
131	125	DPL pf 12.50	..	z300	129¾	128¾	129 +	½
33½	24¾	Deere 1.20	6	2200	26½	25¾	26 —	¼
29⅝	26	DelMon 1.60	6	133	28	27	27 —	⅞
15	13	DelmP 1.20	10	298	14⅜	14⅛	14¼—	⅛
39⅜	30	DeltaAir .70	7	775	34⅛	33½	33¾—	⅝
10⅝	4¼	Deltec	18	194	u10⅝	9⅝	10½+	¾
7¼	4⅛	Deltona	..	64	5⅞	5½	5⅞.....	
29¼	23	DenMf 1.24	7	93	26⅞	26⅝	26⅝—	⅛
28½	22	DennMf pf 1	..	1	26¼	26¼	26¼—	½
27¼	18⅝	Dennys .60	11	1340	u27¼	25½	26⅞+	1¼
30⅜	19⅛	Dentsply .80	11	112	20¼	19⅜	19⅜—	¾
20¼	12½	DeSoto .80	8	79	18	17½	17⅞—	⅛
18	15⅛	DetEd 1.45	8	793	16⅞	16⅜	16⅜—	⅜
74¾	63½	DetE pf 5.50	..	9	70¼	69½	70¼+	½
105½	95¼	DetE pf 9.32	..	288	103	100½	101 —	1¾
89¼	78	DetE pf 7.68	..	z1200	85	83½	84½—	½
86½	76	DetE pf 7.45	..	z2330	83½	82	83½+	⅜
85½	75	DetE pf 7.36	..	z230	83	81⅝	81⅝—	1⅜
29⅞	27½	DetE pf 2.75	..	65	28⅝	28⅛	28½.....	
30⅛	27⅝	DE pfB 2.75	..	81	28⅞	28	28¼—	½
30	22⅜	Dexter 1	8	353	26¼	25¼	25⅝—	¾
9¼	6½	DiGior .40	7	222	9	8½	8⅝—	¼
16	13	DiGior pf .88	..	z260	16	15½	15⅞—	⅛
16¾	12¼	DialCp 1	7	191	u16¾	15⅝	16½+	¾
39⅞	32⅛	DiamInt 2	9	637	34¾	33¼	34¾+	⅜
29¼	17	DiaM	8	154	24½	23⅛	24⅜+	¾
38⅝	27½	DiamS 1.10	7	2293	29½	28	28⅞+	⅜
34⅝	24½	Dia pfD 1.20	..	72	26⅛	25⅛	26⅛+	1
10⅛	6⅞	DickAB .20	9	143	8¾	8⅛	8½—	⅛
13⅜	10⅛	Dictaph .64	8	173	10⅝	10¼	10½—	⅛
14⅛	10⅛	Diebold .50	16	274	11⅜	10⅞	11 —	⅜
54	36⅝	DigitalEq	17	4111	46⅜	44⅞	46⅛+	⅛
12⅞	7¾	Dillingm .52	6	889	9	3d 7¾	8 —	1⅛
29⅛	25	Dillngm pf 2	..	6	25¼	25	25 —	1
36⅜	30	Dillon 1.20b	12	48	34½	33½	33½—	1
47⅝	32⅛	Disney .16b	16	1658	39	37⅝	38⅝—	⅛
2	1	DivrsfdIn	..	127	1¼	1	1 —	⅛
1¾	13-16	DivrsMtg	..	337	1⅝	1⅜	1⅝.....	
15½	11	DrPeppr .56	17	1878	15	14⅝	14¾—	⅛
55¾	42½	DomeM .80	15	425	u55¾	53	55⅛+	¾
4½	2¾	DonLJ .14	14	406	3	2⅞	3 +	⅛
26⅛	22	Donnly .76	10	151	23¾	23⅜	23¾+	⅜
18⅝	15	DorOliv .32	5	30	16⅜	15⅞	16 —	⅜
16	10⅛	Dorsey .50	6	489	15⅛	13¾	13⅞—	⅛
43½	34⅝	Dover 1.20	10	117	39	38	38⅜—	⅛
43½	30	Dow Ch 1.20	9	8343	31½	30	30⅜—	1¼
34⅝	29¾	DowJn 1.16	13	941	31½	30	31½+	¾
33	22⅜	Dravo 1.05	9	89	25⅞	25¼	25½—	⅛
47⅛	37⅛	Dressr .88	45	1980	43¾	42	42¼—	1¼
18¼	16¾	DrexB 1.44	..	49	17½	17¼	17⅜.....	
10	7⅜	Dreyfs .55e	9	121	9⅞	9⅞	9⅞.....	
135	105¼	duPont 5	11	1568	108½	d105¼	107⅛—	1
52¼	49	duPnt pf3.50	..	34	51¼	50	50 —	½
66¾	62½	duPnt pf4.50	..	73	64⅝	64⅛	64⅝+	⅜
23½	19⅞	DukeP 1.60	8	1670	21¾	21⅛	21⅝+	¼
93	84	Duke pf 6.75	..	10	89¾	87½	88⅛—	⅞
107½	99¼	Duke pf 8.70	..	z3330	104¼	103	103 +	¼
102⅜	93½	Duke pf 8.20	..	z7130	100¾	98½	99¾+	¾
97½	89⅛	Duke pf 7.80	..	z130	95	95	95	
31¾	29	Duke pf 2.69	..	35	30⅜	30	30 —	⅛
31½	25¾	DunBr 1.24	15	634	29⅝	28⅝	28¾—	1
21¼	19⅛	DuqLtg 1.72	9	492	19¾	19½	19¾.....	
28	24½	Duq pfA 2.10	..	z730	27¼	27	27 —	⅛
24	21½	Duq pf 1.87	..	z200	23⅛	23	23 +	¾
25½	23	Duq pf 2	..	z880	24½	23¾	23¾—	¾
26¼	24	Duq pf 2.07	..	z200	25¾	25¾	25¾+	1⅛
26¼	24⅞	Duq pr 2.10	..	21	25¼	25	25 —	¼
28	26	Duq pf 2.31	..	z3020	26¾	26½	26½—	¼
31	26	Duq pf 2.75	..	151	29½	29	29 —	¼
91⅛	84½	Duq pf 7.20	..	z4040	90⅝	90	90 —	⅝
13⅞	10¼	DutchB .14	12	39	12⅜	11¾	12⅛—	¼
13⅞	9⅞	Dymo .44	6	30	11¾	11¾	11¾.....	

E

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
21½	16⅛	EG&G .36	11	540	17	d16⅛	16⅛—	⅞
4½	3⅜	EMI .12e	8	237	4⅛	3⅞	3⅞—	⅛
52¾	40¾	E Sys 1.60b	6	225	44⅜	42½	43 —	1⅝
27¼	27¼	E Syst wi	..	1	27¼	27¼	27¼.....	
22	17¾	EagleP .68	8	97	18⅞	18	18 —	¾
22	17⅞	EascoCp .90	8	42	20⅞	20½	20¾+	⅛
9⅜	5¾	EastAir 8	4	1382	6⅛	d 5¾	5⅞—	¼
29⅛	19	EastGF .80	9	609	19¾	d19	19½—	¼
19⅞	16⅞	EastUtl 1.60	11	126	17⅝	17⅛	17⅛—	¼
86¾	55⅝	EsKod 1.60a	15	4613	60	58¼	59⅛—	¾
45⅝	35½	Eaton 2	6	1076	38¼	36⅜	36½—	2
27⅝	21⅝	Echlin .60	12	x203	26¼	25¼	26⅛+	1⅛
29⅛	20⅝	EckrdJk .48	12	1368	24⅞	24½	24¾—	⅛
65	53⅛	EdisBr 2.20	8	70	63½	63	63¼—	¼
20	14⅛	ElPaso 1.10	7	2176	17	16⅝	16⅝.....	
3¼	1⅝	ElecAssc	..	75	2	1¾	1¾—	⅛
20¼	15½	EDS .72	13	113	17⅛	16½	16½—	⅝
4⅞	3½	ElMeMg	6	230	3¾	3⅝	3¾—	⅛
11	9½	ElMM pf.75k	..	21	10	10	10	
29	17½	Elgin 1a	6	254	21⅜	19⅞	20¼—	1
8⅞	4⅝	Elixir	4	109	5	4¾	4⅞—	⅛
31⅝	24⅝	Eltra 1.16	7	196	25½	d24⅝	24⅝—	1
36	31¼	EmerEl 1	15	1167	34½	33½	34⅛+	⅛
42⅞	32¾	Emery 1.50	18	475	39	38½	39	
17¼	10	EmeryIn .50	21	1018	u17¼	15⅝	17¼+	1½
40	32⅝	Emhart 1.80	6	383	36¼	34⅞	35⅛—	⅜
52⅜	44	Emht pf 2.10	..	4	47	47	47 —	¼
17¼	15	EmpDE 1.36	9	42	15¾	15½	15⅝.....	
6½	5⅜	EmpD pf .50	..	z1610	6	5¾	6	
11½	10	EmpD pf .92	..	z30	10⅞	10⅞	10⅞.....	
29¾	18¼	EmpGas .40	8	130	29⅜	26⅛	29¼+	2⅞
36⅞	25	EngMC 1.20	7	1025	28¾	27½	27⅝—	⅞
6¾	5⅝	EnnisB .36	5	68	6⅛	5⅞	6⅛+	⅛
33⅜	27¼	Ensrch 1.80	8	347	29⅞	29	29¾.....	
116	110	Ens pf 10.32	..	z20	114½	114½	114½—	½
25⅛	21⅛	Entex 1.20	7	189	25	23⅜	24⅜+	⅞
42⅝	31½	Envrtec .80	10	278	36⅜	35¼	35¼—	⅞
30¼	25⅜	Equifax 2a	8	136	26⅜	25⅞	25⅞—	⅛
14⅛	11¾	Equimk .88	6	40	12¾	11¾	12 —	¾
39	35⅛	EqutGs 2.84	6	44	37	36⅜	36¾+	¼
26	24¾	EqtGs pf 2	..	100	25¼	25¼	25¼+	⅛
26⅝	22¾	EqtLf 2.20	11	187	26⅝	25¼	25½—	⅞
35⅞	29½	Esmrk 1.84	8	378	30⅝	30¼	30¼—	¼
12¼	8¼	Esquire .05e	10	127	9¼	8⅜	8⅝—	⅞
13⅜	7⅛	EssexCh .40	6	110	11¼	10½	10⅝—	¾
8¾	6¾	Estrlin .36	8	83	7⅛	6¾	7⅛.....	
45¾	39½	Ethyl 1.70	5	141	40⅛	39⅝	39⅞—	⅛
59¼	51½	Ethyl pf 2.40	..	31	52	d51½	52 —	¼
15½	11⅜	EvansP .60	7	803	14⅝	13⅞	13⅞—	⅝
15⅝	14⅛	Evan pf 1.40	..	114	15½	15¼	15⅜.....	
29⅛	23⅜	ExCelO 1.40	8	432	27¼	25⅞	26¾.....	
21⅝	19⅝	Exclsr 1.73e	..	40	20⅞	20½	20½—	⅛
55¾	46⅞	Exxon 3	8	8061	49⅛	47⅞	48 —	⅜

F

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
27½	23¼	FMC 1.20	6	676	24¼	23½	23⅞—	⅝
39	34¾	FMC pf 2.25	..	45	36¼	d34¾	34¾—	1¼
11⅞	7⅝	Fabrge .40	10	378	11	10⅝	10⅝—	¼
9⅜	4¾	FabriCtr .20	6	131	5¼	4⅞	5¼+	¼
8	5¼	FacetEnt	15	57	5¾	5⅜	5⅝+	⅛
41⅛	21½	FairCm .80	9	1397	24⅜	d21½	21⅝—	2⅜
16¼	9½	FairInd .40	11	314	14⅜	13⅝	[illegible]	

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
12⅜	7	GlobMar	..	161	9⅛	8⅜	8⅝—	½
44¾	24⅝	GlobeU 1.60a	6	238	41⅞	40	40⅜—	1⅜
20⅞	16⅝	GldWFn .24	4	126	19⅞	19⅝	19⅝—	⅜
23⅞	18½	Goodyr 1.30	8	2581	19¾	18⅞	18⅞—	⅝
15½	11⅜	GordJw .40	6	65	15⅜	14⅞	15 —	¼
35½	27¼	Gould 1.36	8	1043	29⅞	29	29⅞.....	
34⅝	27¾	Gould pf1.35	..	11	28¾	28½	28½—	¼
31⅝	26¼	Grace 1.80	8	1798	27⅝	d26¼	26⅞—	¾
31¼	26½	Graingr .56	14	260	29⅛	28⅝	28¾.....	
15⅞	13⅜	Granitvl .90	5	67	14⅝	14¼	14¼—	⅜
20	15⅞	GrayDr 1	5	26	18⅜	18	18⅛—	⅜
14¾	9	GtAtPc .05e	15	979	9⅞	d 9	9¼—	⅝
47¾	22⅞	GtLkD 1.40	6	268	u47¾	43	46⅛+	3⅛
29⅞	19¾	GtNoIr 1.50e	19	15	25¼	25	25¼—	⅛
32¾	24¾	GtNoNk 1.10	7	334	25¾	25	25½+	¼
25⅝	20	GtWFin .70	6	1533	24½	24	24⅜.....	
27⅞	17⅛	GtbwstUtd	6	29	21¼	20¾	20⅞—	⅜
23⅛	18¼	GtWn pf 1.88	..	92	18¾	18⅜	18½.....	
22⅜	17	GrGiant 1.08	16	186	20¾	19	19 —	1¾
30½	25½	GrGt pf 1.76	..	1	28	28	28 —	1
15⅝	13	Greyh 1.04a	8	1095	13½	d13	13⅜+	¼
2⅛	1	Greyhnd wt	..	553	1⅛	1	1 —	⅛
10¾	8½	GrowC .40b	6	55	9½	9	9⅛—	¼
22½	16⅝	Grumm 1	5	196	19⅛	18¼	18⅝—	¼
18⅜	14⅜	GuardIn .32	9	x179	u18⅜	17⅞	18 +	¼
18⅜	11⅜	GlfWstn .66	3	2155	11⅞	d11⅜	11½—	¼
3⅜	3-32	GlfW wt	..	1604	9-64	d3-32	⅛.....	
74⅞	71¾	GlfW pf 5.75	..	16	72	72	72 +	¼
87	58⅛	GlfW pf 3.87	..	17	59	d58⅛	58¼—	1¼
40¼	31	GlfW pf 2.50	..	79	32¼	31½	31¾.....	
3¼	1⅞	GMR Pr	..	168	2¼	2⅛	2⅛—	⅛
30⅞	26⅝	GulfOil 1.90	7	2721	28¼	27¾	28⅛—	⅛
20¾	14⅜	GulfRes 1	8	365	15	d14⅜	14⅝—	⅜
25½	18½	GulfR pf1.30	..	9	19	18⅝	19	
25	19⅝	GulfR pf1.60	..	146	20	d19⅝	19¾—	(
14⅞	12⅞	GlfStUt 1.12	8	790	13¾	13¼	13½—	⅛
58½	52	GlfSU pf4.40	..	z420	55	54	54 —	1½
57¼	54	GlfSU pf4.52	..	z180	55	55	55 —	2¼
15⅛	10¾	GulfUtd .68	13	1007	u15⅛	14½	15 +	⅛
8¼	4½	Gulton .20	10	90	6⅞	6⅜	6⅞+	⅜

H

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
3¾	2⅝	HMW	..	55	3¼	3	3⅛.....	
41¼	35	HackW 3	8	11	38¾	38⅛	38⅛—	⅝
22½	17	HallFB .88	12	316	22	21⅜	21¾+	⅜
23	19	HallPrt .80a	7	4	19¼	19⅛	19⅛—	⅛
67¼	54½	Hallibrt 1	10	2631	58⅞	57½	58 —	⅞
25¾	18¾	HamrP 1.30	8	290	20¾	d18¾	19¼—	1¼
18½	16⅝	HanJS 1.49e	..	163	18¼	17¾	17¾—	¼
23¾	20¾	HanJI 1.88a	..	76	22⅝	22	22⅜+	⅛
9⅞	4¼	Hndlmn .40	9	642	9½	8½	8⅞—	½
23⅞	19⅝	HandyH .80	7	215	22⅛	21¾	21⅞+	⅜
29	22½	Hanes 1.36	6	253	26¼	25⅝	26	
54¾	37	Hanna 1.80	6	540	40⅞	d37	37⅞—	3⅜
34⅞	29	HarBrJ 1.44	8	203	29⅞	29	29¾—	¼
13⅞	8	Hardees .16	8	828	u13⅞	12⅜	13¾+	1¼
24⅛	16⅜	Harnishf 6	6	614	18	16½	16¾—	1
18⅛	13⅜	Harrah .40	8	70	16⅛	15¾	16 +	⅛
39⅛	31⅛	HarrBk 1.66	7	104	34½	33⅞	33⅞—	⅞
39⅜	28	Harris 1	11	815	37	36	36⅝+	⅜
28⅜	23⅜	Harsco 1.40	6	94	24⅜	d23⅝	23⅝—	¾
14½	11¾	HartSM .72	7	94	12¼	12	12⅛—	¼
32⅝	25¾	HarteHk .75	12	555	32½	32¼	32¼—	¼
18⅝	17	HattSe 1.44a	12	40	18	17⅝	17⅞+	⅛
25⅞	23¼	HwiiEl 1.04	8	122	25¾	25⅛	25¼.....	
19	16	HayesA 1.20	6	105	17¼	16¾	17⅛.....	
12⅜	8½	Hazeltn .15e	5	46	8⅝	8½	8½—	¼
9⅜	8	Hecks .24	7	451	8⅞	8⅜	8½—	⅛
15⅝	8	HeclaM .30t	..	332	9¾	9¼	9¾+	½
24⅝	15⅝	HeilmB .80	7	354	22⅞	22⅜	22¾.....	
37¼	28	HeinzH 1.44	10	265	u37¼	36¼	36¾+	¼
33¼	28¼	Heinz pf 1.70	..	23	u33¼	32	33¼+	1¼
8¾	4¾	HeleneC	8	326	8⅛	7½	7¾+	⅛
22⅞	17½	HellerInt 1	7	481	18⅞	17¾	18½—	⅛
91	77¾	Hller pf 4.07	..	1	78⅛	78⅛	78⅛—	9⅞
38⅜	30½	HelmrP .28	11	230	35	33⅞	34½+	½
2¼	1⅜	HemCap	..	9	1½	1⅜	1½.....	
8⅞	8	HemInc .66e	..	7	8¾	8⅝	8⅝—	⅛
28½	16½	Hercules 1	10	1976	17⅛	16½	16⅝—	⅝
22⅜	18⅛	Hershy 1.12	6	124	18⅝	d18⅛	18⅝+	⅛
12	6⅞	Hesston	..	65	7¾	7½	7⅝—	⅛
19¼	14	Hestn pf 1.60	..	39	16⅜	16¼	16¼—	⅛
42⅞	22	Heublin 1.32	12	1070	24½	23¾	23⅞—	⅛
87½	68⅛	HewltPk .40	20	x772	79¼	76⅜	76⅞—	2¼
8⅞	6	HghVlt .05e	15	95	6¾	6½	6½—	¼
23¾	19	Hillenbd .82	7	82	19⅝	d19	19¼—	⅛
23⅞	17½	Hilton .92	7	864	18⅞	d17½	17⅝—	1½
25⅜	18¾	Hobart 1	9	573	20¼	19¼	19¼—	⅜
9	5⅝	HoffEle .24	10	108	8⅜	8¼	8⅜.....	
14¾	11⅛	Holiday .46	9	x2463	14¼	13½	14 +	⅛
24¼	20¾	HlidyA 1.70t	..	x19	23¼	22¾	22⅞+	⅝
32⅛	13¾	HollyS .80	28	133	14⅞	14⅜	14¾+	⅜
43⅞	34½	Homestk 1	21	1504	43⅜	41⅝	42¾.....	
25⅛	20⅝	Honda .14r	14	446	23	22⅛	22⅛—	1⅛
55¼	43½	Honwll 1.90	7	2640	46	44¼	44¾—	1⅜
19⅛	17⅛	HoovB 1	6	291	18	17½	17⅝—	⅜
2½	1⅜	Horizon	..	141	1⅝	d 1⅜	1⅜—	⅛
18½	12½	HospAf .28	10	830	17¾	17½	17½—	⅛
29⅞	21¾	HospCp .40	10	1486	u29⅞	28⅜	29 +	¼
12¼	9⅜	HostIntl .44	7	334	12¼	11⅝	12⅛+	½
18⅜	15¼	Houdle 1	5	171	16¼	15¾	16¼+	½
9⅜	7	HousFb .32	8	282	8¾	8⅜	8½—	⅛
21⅝	19⅛	HoushF 1.30	8	2242	20½	20⅛	20⅜.....	
47¼	42½	HouF pf 2.37	..	1	45⅜	45⅜	45⅜—	⅝
38⅞	32⅞	HouF pf 2.50	..	12	35½	35¼	35¼—	¼
36⅛	30	HousIn 1.96	8	989	33⅞	31⅞	33½+	1⅜
35¾	27⅜	HousNG .80	8	2014	28⅞	27⅞	27⅞—	1
12½	9⅛	HowdJn .32	8	3033	10¾	10¼	10⅝.....	
18⅜	15¼	Hubbrd 1.24	12	x70	17⅝	16⅞	17⅝+	¼
19¼	14¼	HudsnA .80	54	5	15½	15⅛	15⅛—	⅜
11½	6¾	HughHt .40	8	21	11⅜	11⅜	11⅜.....	
43¾	33¾	HughsTl .70	11	909	35	d33¾	33⅞—	1⅜
22½	14⅜	Humana .50	11	450	22⅛	21⅜	21⅞—	⅛
17⅛	11⅝	HuntCh .34	14	1073	16⅞	16⅝	16⅝.....	
17¾	13	HuttEF .60	5	186	14⅝	14⅛	14½—	⅛
14¾	10	Huyck .60	9	666	11½	d10	10⅜—	1¼

I

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
27¼	21⅝	IC Ind 1.52	5	372	24⅛	22½	22⅞—	1¼
47⅞	42⅛	IC In pf 3.50	..	60	44½	43½	43½—	½
120⅞	100	ICInd pf 6	..	2	107½	107½	107½.....	
6¼	3¾	ICN	32	337	4⅝	4	4⅛—	⅝
47¾	40⅛	INACp 2.30	9	645	43¾	42⅝	42¾—	⅜
20⅞	18⅝	INAIn 1.59a	..	44	20	19⅝	19⅝—	¼
14⅜	11¼	IU Int .90	8	727	13¼	11½	11¾—	⅛
40	32½	IUInt A	..	8	33½	33	33 —	1
22⅜	18½	IUInt pf 1.25	..	3	19½	18½	19½+	½
31¼	26¼	IdahoP 2.16	10	632	27¾	27	27⅛+	⅛
23¾	18½	IdealBa 1.20	7	279	18⅞	18½	18½—	⅛
99	79½	Ideal pf 4.75	..	5	81½	80	80 +	½
9⅞	7⅛	IdealT .32b	5	124	7⅝	7⅛	7¼—	¼
28⅝	25⅛	IllPowr 2.20	12	765	27¼	26½	26¾—	¼
27	24¼	IlPow pf2.04	..	z390	25¾	25¾	25¾+	¼
27⅜	25	IlPow pf2.10	..	z150	27	27	27 +	⅜
29½	26⅛	IlPow pf2.21	..	z200	28½	28	28½+	¾
30	28	IlPow pf2.35	..	z150	28½	28½	28½—	1
53	48⅞	IlPow pf4[illegible]						

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
20¼	13¾	Kirsch .90	8	224	16⅝	16¼	16¼—	⅜
38⅜	30½	KnigtRd 1	10	90	34	33½	33⅝—	⅝
19½	14⅜	Koehrin .80	6	471	18⅜	17¼	18⅛+	¾
36½	32½	Koeh pf 2.75	..	4	34	33¾	33¾+	¼
26⅜	20	Koppers .90	9	767	21¼	20⅝	20¾—	¼
55	50⅛	Kopprpf 4	..	z140	51½	50½	50½—	1
8¼	6¼	Koracp .15e	3	38	7½	7¼	7½+	¼
51	43⅝	Kraft 2.32	9	861	48⅛	47	47¾+	⅝
14⅝	10¼	Kroehlr .25e	..	10	10½	10¼	10½.....	
28¾	23⅝	Kroger 1.60	6	889	27⅞	25½	25½—	2¼
25⅛	22¼	Kubota .42r	18	53	23	22⅞	22⅞.....	
16⅞	15w5	kuhlmn .60	8	72	16½	d15⅝	16 —	⅝
22	12⅞	Kysor .80a	9	471	u22	20⅜	22 +	1⅜

L

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
7	4½	LFE	12	71	6¾	6⅜	6⅜—	⅜
6¾	5⅞	LFE pf .50	..	9	6	6	6 —	¾
2¾	1⅝	LMI Inv	..	62	2¼	2	2 —	¼
13⅝	6⅝	LTV	7	1216	7¼	d 6⅝	7⅛—	⅛
18	10⅝	LTVA .35t	..	55	11⅜	d10⅝	11 —	¾
55¼	47	LTVCp pf 5	..	26	49	d47	47½—	1⅞
24⅛	19⅝	LacGas 1.66	8	100	21	20½	20⅞+	⅜
23⅞	18⅝	LamSes 1.30	7	7	20⅝	20⅜	20⅜+	⅛
14⅝	12	LaneBry .80	7	276	13	12⅝	13 +	¼
18⅛	13	Lanier .10e	11	498	18	16⅞	17⅞+	⅞
11⅛	8¾	LawtrCh .40	14	165	9⅜	9	9¼.....	
17⅜	13¼	LearSieg .60	6	721	15½	14½	15 —	⅜
43⅝	36⅞	LearS pf2.25	..	70	39¾	37⅜	37⅞—	1⅜
35½	27	Leasw 1.40	8	x30	32¼	31½	31½—	⅛
21⅛	13¾	LeedsN .60	10	518	21	18¾	20⅛—	¾
23⅝	17	Leesona 1	5	78	20	19⅛	19⅛—	⅞
28¼	15½	LehPCt 1	18	132	25	24⅞	24⅞.....	
3	1⅛	LehVally	7	431	2¾	2½	2½+	¼
30½	13¾	LVIn pf 1.50	..	1	25½	25½	25½.....	
13	10⅛	Lehmn 1.25e	..	563	10½	10⅛	10¼—	⅛
7⅜	5⅝	Lennar	16	45	6⅞	6⅝	6⅞+	¼
24	21¼	Lenox 1	8	107	22¼	21½	22 +	⅜
7½	6	LesFay .40b	8	125	7⅛	6⅜	6⅜—	⅜
13½	11¼	LevFdC	..	111	12½	12¼	12½+	⅛
14½	13	LevFIn .75a	..	22	14⅜	14⅛	14⅛.....	
31⅝	24¼	LeviStra 1.20	5	1721	26	d24¼	25⅞—	¼
24⅝	18⅞	LevitzF .20i	10	457	23⅞	22¼	22⅞—	1
37⅜	27½	LOF 2	6	277	29⅜	28½	28⅞—	⅜
71¼	63	LOF pf 4.75	..	8	63¾	63¼	63½+	¼
23⅛	18	LibrtyCp .68	7	169	22½	22	22 —	¼
5¼	2⅛	LibrtyLn	9	78	3⅝	3¼	3½—	⅛
12	4¾	LibtyL pf1.25	..	11	11¾	11⅜	11⅜—	⅜
35½	29¼	Ligget 2.50	8	250	30⅛	d29¼	29¼—	⅝
96½	85½	Liggt pf 7	..	z620	u96½	94	94 —	1
48¼	32⅝	LillyEli 1.42	11	2950	35⅝	d32⅝	33½—	2⅛
39½	31⅞	LincNt 1.80	7	1708	38⅝	37½	38 —	⅛
79	65	LincNtpf 3	..	7	76½	75¼	75¼—	¾
20⅜	18⅛	LincPl 1.72a	..	35	20	19⅞	19⅞.....	
4⅜	2¼	Lionel .08	8	485	4⅜	4⅛	4⅛—	¼
15⅝	11¼	Litton .20	8	638	12⅞	d11¼	11¼—	1⅝
21¼	16	Litt ptc pf	..	11	17⅝	d16	16 —	1⅞
22	20¼	Litton pf 2	..	11	21⅜	21	21 —	⅛
19⅛	8⅞	Lockhd	5	1002	15½	13⅞	14¾—	¾
20⅛	16¾	Loctite .20	12	345	19¾	19¼	19½+	¼
37½	27⅛	Loews 1.20	3	1636	33⅛	31½	31¾—	1⅜
11⅝	8½	LomFn .58	9	599	10¼	9⅜	10⅛+	½
19⅛	14	LomM 1.06e	..	883	18	16½	17 —	1⅛
23⅝	17⅛	LonStar 1.10	7	916	18½	d17⅛	17⅝—	¾
20⅜	17⅞	LngIsLt 1.63	8	949	19⅛	18¾	19	
59⅞	55	LIL pfB 5	..	z860	58½	58½	58½—	1⅜
51⅝	47	LIL pfE 4.35	..	z2000	50¾	50¼	50¾+	¾
95	84½	LIL pfI 5.75	..	5	90¾	90¾	90¾—	¼
95¾	89	LIL pfJ 8.12	..	z610	93⅞	92	93⅞+	½
99½	91	LIL pfK 8.30	..	z2750	97⅜	97⅛	97⅜+	1⅛
131¼	119	LIL pfN 13	..	z1100	121½	120½	120¾—	½
28⅜	26½	LIL pfP 2.43	..	16	27¾	27⅜	27⅜—	⅛
28⅞	26⅝	LIL pfO 2.47	..	8	28	27¾	27¾+	¼
33½	20⅝	LongDr .56	14	313	24⅞	24⅛	24⅛+	⅛
19¼	13½	LoralCp .60	7	158	18½	17½	17¾—	¾
31¾	23⅜	LaLand 1.20	9	1888	24⅜	d23⅜	23⅞—	½
18⅛	13	LaPacif .40b	7	704	13¾	13⅛	13⅛—	½
27½	24½	LouvGs 1.96	10	148	26⅞	26¼	26⅜—	⅛
15	9⅞	Lowenst .30	..	126	10⅛	9⅞	10 —	¼
37⅜	27¾	Lubrzl 1.30	12	751	35½	33¾	33¾—	1½
16½	13½	LuckyS .76b	10	1648	14½	14	14 —	½
9⅛	7¼	Ludlow .40	7	119	7¾	7½	7¾+	¼
34	25⅝	Lukens 1.60	6	63	27¼	26⅜	26½—	⅜
14	5½	Lykes .20j	..	1076	5⅞	d 5½	5⅝—	⅜
35¾	14¾	Lyke pf 2.50	..	880	16⅝	d14¾	15 —	1⅝
10	6⅝	LynCSys .30	10	125	8¼	7½	8⅛+	⅜

M

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
14¼	10	MBPXL .40a	6	43	11½	11	11⅛—	⅜
44¼	33⅝	MCA 1b	8	906	36⅝	d33⅝	34⅛—	2
7⅛	4	MEI .20	6	121	6⅞	6½	6¾—	⅛
21½	13¾	MGIC .30	10	1428	15¼	14½	15⅛+	⅜
16⅞	7⅝	MacAF .60	13	125	13	12½	12½—	⅝
7½	4⅞	MacDn .15e	5	854	u 7½	6¾	7 —	⅛
8½	5¾	Macke .40	7	146	8	7½	7⅞—	⅛
10⅞	8	Macmill .50	6	1119	8⅞	d 8	8⅜—	½
19	17	Mcmi pf 1.20	..	2	17⅜	17⅜	17⅜.....	
38½	31⅝	Macy 1.50	7	963	38	37⅛	37½+	⅜
55¼	51	Macypf 4.25	..	z60	53⅞	53⅞	53⅞.....	
13⅛	11¾	MdsFd .87e	..	292	12½	12⅛	12¼—	¼
11½	9	MagicCf .40	6	455	10¾	10¼	10½.....	
45⅞	33	Mallry 1.20	13	450	41⅛	38⅜	39½—	1¾
27⅜	22	MalonH .84	11	x562	25½	24¾	25 —	¼
9¼	7⅛	ManhIn .20b	3	165	7⅝	d 7⅛	7⅝+	¼
41⅜	35¼	MfrHan 1.92	7	1369	36⅝	35½	35⅞.....	
47⅝	38⅛	MAPCO 1.10	12	935	42⅛	40⅝	41¼+	½
22¼	12	MaratM .50	6	495	21⅝	20⅛	21 —	⅝
59	47⅝	MaratO 2.20	7	929	52	48¾	50¼—	1⅝
20	16⅜	Maremt .60	6	124	17¼	16⅝	17⅛+	⅜
14⅛	10	MarMid .80	7	237	11⅞	11½	11¾—	⅛
15⅜	11¼	MarionL .56	9	254	12	11⅝	11⅝—	⅜
22	15⅛	MarkCtl .36	5	129	18¾	18¼	18¼—	⅜
32½	26½	Marley .80	7	x127	29	27½	27½—	1⅜
14	9¼	Marriot .25t	10	1574	10¼	9¾	9¾—	⅜
64¼	53½	MrshM 2.40	16	478	60¾	59	59⅜—	⅜
23	17⅜	MarshF 1.24	10	439	19⅞	19½	19⅞+	¼
29¼	23¼	MartM 1.50	6	431	24⅛	23¼	23⅝—	½
20⅜	12⅜	MaryK .40	11	274	14¾	13½	14 —	⅛
28⅞	23	MrldCu .66b	7	66	27¾	26¾	27 —	¾
26⅜	18½	Masco .40	12	1074	22⅛	21¼	21½—	⅝
24½	15⅞	Masonit .68	9	681	16⅞	d15⅞	16 —	½
15½	12¼	MasM 1.16e	12	185	14½	13⅞	14 —	½
23⅛	15⅛	MassyF 1a	6	1203	15¾	15⅛	15½+	¼
18¾	15⅝	MasCp 1.52	..	109	17¾	17⅜	17⅜—	¼
12⅝	11	MasInc 1	..	194	12⅜	12	12¼—	⅛
26¾	21⅝	MatsuE .33e	9	119	23½	23	23 —	⅜
10¼	5	Mattel	7	941	9⅛	8½	8⅝—	½
32⅛	21⅜	MayDS 1.16	8	2128	27	25¼	25⅝—	1⅝
26	22½	MayerO .80	9	31	24½	24½	24½—	⅛
3⅝	2¾	MaysJW	16	19	2⅞	2⅞	2⅞.....	
35⅞	28½	Maytg 1.50a	12	1354	29⅞	29	29½—	⅜
30½	15	McCord 1	11	4836	u30½	29¼	30⅛+	¾
59¾	43¼	McDer 1.60	4	942	48⅛	45⅜	46⅛—	1⅜
53⅜	37¾	McDnld .20	16	1210	48⅜	47¼	47¾—	⅜
27¼	19⅜	McDonD .50	7	873	23⅛	21⅞	21⅝—	1½
23¼	18¼	McDonh 1	6	32	22½	21⅜	21¾—	⅞
33	26½	[illegible]						

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
30	17½	Newmt 1.60	14	794	18⅛	d17½	17¾—	⅛
92¼	65	Newt pf 4.50	..	33	67¾	d65	65¾—	1¼
17¼	14	NiaMP 1.34	9	1345	16½	16	16⅜+	¼
42	37	NiaMpf 3.40	..	z310	40¾	40	40¾+	⅜
44½	38⅝	NiaMpf 3.60	..	z550	41	40½	41 +	¾
47	42	NiaMpf 3.90	..	z310	46	45	46 +	½
58	52½	NiaMpf 4.85	..	z530	56½	56	56 —	½
61	57½	NiaMpf 5.25	..	z50	59½	59½	59½.....	
123	115½	NiMpf 11.75	..	z450	120¼	119¾	119¾—	⅜
115	109	NiMpf 10.60	..	103	114½	111	112½+	½
92	84	NiaMpf 7.72	..	z470	88	88	88 —	1
13	10⅛	NiagSh .97e	..	107	10⅜	10⅛	10⅜+	¼
33⅞	27⅝	Nicor 2.32	7	x198	32⅛	30⅞	31⅜.....	
33⅝	27½	Nicor pf 1.90	..	x9	31	30⅞	30⅞—	⅛
37	27¼	NorfWn 1.84	7	1614	29¼	28¼	28⅝—	⅝
23⅝	17⅜	Norlin 1.40	5	42	20¼	19¾	19⅞—	⅜
31¼	22½	Norris 1	6	185	25¼	24½	24½—	⅛
29	20¼	NACoal .50	12	164	21⅛	d20¼	21⅛.....	
5	3	NoAMtg	..	233	4⅝	4¼	4¼—	⅜
36	28⅞	NoAPhl 1.50	6	132	31¼	29⅜	29⅞—	1⅝
4½	3½	NoCAir .12	5	225	4⅛	4	4⅛+	⅛
1⅝	1	NoCeAir wt	..	122	1⅛	1	1⅛+	⅛
12⅜	10⅝	NoestUt 1.02	8	1202	11½	11⅛	11⅜—	⅛
20	17⅝	NCalSL .60	4	77	u20	19¼	19⅜—	¼
21¼	17⅜	NIndPS 1.44	8	641	19⅜	18¼	18⅞—	⅜
48¼	37⅛	NorNGs 2.40	6	735	39½	37⅜	39 +	1¼
100½	93½	NoNG pf5.50	..	z20	99¾	99¾	99¾.....	
94	89½	NoNG pf5.80	..	z3140	u94	91⅛	94 +	2⅞
105	99⅜	NoNG pf8.48	..	z110	101¾	101	101 +	⅝
30½	26⅝	NoStPw 2.06	10	874	30⅜	29⅝	30 —	⅛
47½	42¾	NSPw pf3.60	..	z150	46½	45	45 —	½
53	49	NSPw pf4.10	..	z50	52½	52½	52½+	1½
53	48½	NSPw pf4.11	..	z50	53	53	53 +	1¾
58	54¾	NSPw pf4.56	..	z100	57¾	57¾	57¾.....	
101	95¼	NSPw pf7.84	..	142	100½	100¼	100½.....	
108½	103	NSPw pf8.80	..	z240	106¾	106¾	106¾—	1
90	84½	NSPw pf 7	..	z40	88	87	88 +	½
33	25¾	NorTel .64	9	507	27⅜	d25¾	25¾—	1½
6¼	3⅞	Northgate	..	161	4½	4	4⅜+	¼
24¼	20¼	Nortrp 1.20	6	631	21⅝	d20¼	20½—	⅝
0⅝	22½	NwstAirl .50	7	784	23¾	22½	22½—	1⅛
25⅝	22⅞	NwtBcp .96	8	447	23½	d22⅞	22⅞—	½
43⅞	32⅛	NwtEnr 2.20	7	249	40⅝	39½	39¾—	⅞
43¼	32	NwEn ct2.20	7	13	40½	39¾	39¾—	¾
60½	43⅝	NwtInd 2.85	7	1064	52⅜	49¾	52 +	⅞
36	21¾	NwtInd wt	..	125	28½	25¾	28½+	1½
134⅝	98	wnwIn pf 4.20	..	1	115	115	115 —	3⅞
163½	146	NwtIn pf 5	..	3	152	152	152 —	6¾
28½	26½	NwtP pf 2.50	..	5	28	27¾	27¾—	¼
13⅞	11⅞	NwMLf 1e	14	120	12½	12¼	12¼.....	
30¾	24⅝	NwStW 1.20	14	31	25	25	25 +	⅛
39	32½	Norton 1.80	7	121	35	33¼	33¼—	1¾
21¼	17⅜	NorSim .76	9	1853	21	20¼	20⅝—	¼
46⅜	38⅜	NortS pf 1.60	..	127	46⅜	45	45¼—	½
23⅜	19	Nucor .36	6	127	20	19¼	19⅞+	⅜

O

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
19½	15½	OKC 1.20	7	88	16⅝	16⅜	16⅝.....	
20⅞	9⅝	OakInd .50	13	248	14	13⅛	14	
44⅜	27	Oak pf 1.75	..	15	31	29	29 —	2
17⅝	14½	OakiteP 1	9	14	15⅛	14⅞	15 +	⅛
31⅛	22¾	OcciPet 1.25	9	3874	24⅝	23¾	24⅛—	⅜
16⅝	10¾	OcciPet wt	..	242	11¾	11⅛	11⅜—	⅜
49⅝	36½	OcciP pf2.16	..	9	39	38¼	38¾—	¼
100¼	74	OcciP pf3.60	..	18	79	77¼	78	
97¼	72½	OcciP pf 4	..	25	77⅝	75	77¼+	2
28½	26¼	OcciP pf2.50	..	140	27⅜	27	27 —	¼
25⅛	24	OcciP pf2.12	..	828	24⅜	d24	24 —	⅛
29¼	21¾	Ogden 1.40	5	230	24⅝	23¾	24 —	⅜
44¼	33½	Ogdn pf 1.87	..	9	37½	36½	37½+	1¼
21½	18¾	OhioEd 1.70	9	1950	19¾	19¼	19½+	⅛
54½	49½	OhEd pf 4.40	..	z670	53½	52½	52½—	¾
55	50¾	OhEd pf 4.44	..	z280	52½	51½	52 +	⅛
57¾	51¼	OhEd pf 4.56	..	z130	54	53	54 +	1
87	80½	OhEd pf 7.24	..	z30	85¼	85¼	85¼.....	
89	81	OhEd pf 7.36	..	z2000	u89	87	87 +	1
100¼	91¾	OhEd pf 8.20	..	z2460	98⅝	96	96 —	¾
104	95½	OhEd pf 8.64	..	229	102	100¾	101 —	⅛
114½	110	OhE pf 10.48	..	z160	114	114	114	
117½	112½	OhE pf 10.76	..	z2940	116	115½	115½+	½
93¼	86½	OhPw pf8.04	..	z100	90	89½	90 +	1
91	83¼	OPw pfB7.60	..	z8550	87¾	87⅜	87⅜—	⅛
91½	83½	OPw pfC7.60	..	z4080	87⅜	86½	86½—	½
134	128	OPw pfA 14	..	z800	129½	129	129½.....	
134	127	OPw pfF 14	..	z320	129¾	129	129¾+	¼
100¼	91½	OPw pfE8.48	..	z2000	97⅜	97⅜	97⅜+	¾
93¼	84	OPw pf 7.76	..	z1200	89¼	89¼	89¼+	¾
19⅞	17	OklaGE 1.48	10	864	18⅝	18⅜	18⅝+	⅛
11⅞	10⅛	OklGE pf .80	..	z200	10½	10¼	10½+	⅜
42⅞	31¼	OklaNG 2	6	380	32⅝	31½	32½+	½
20¼	17⅛	Olin .88	5	520	19	d17⅛	17¼—	2
39¾	25¾	Olinkrft 1.10	7	1520	27¼	d25¾	26¼—	½
18½	12⅞	Omark .72	9	132	16½	16	16½+	⅜
15¼	14⅛	Oneida .84	5	31	14¾	d14⅛	14⅛—	⅝
14	10⅝	Opelika .84	7	44	10⅞	10⅝	10⅝.....	
16½	14¾	OranRk 1.36	9	167	16½	16⅛	16¼.....	
10⅝	5⅜	Orange .20	..	545	7⅝	6⅛	7¼+	⅞
27¾	21	OutMar 1.40	6	420	21¾	21¼	21¼—	⅛
21⅜	16⅛	OutletCo .70	7	40	18¼	17⅞	17⅞—	¼
13½	10¾	OverhDr .60	5	197	11⅜	10¾	10¾—	½
23⅜	17⅝	OvernitT 1	7	52	20⅞	20¼	20⅝+	⅛
33½	22	OverSh .30b	7	350	27⅜	26¾	27	
72	58	OwenC 1.20	12	470	66¾	65	65⅞—	⅞
29⅜	22	OwenIll 1.06	7	1675	24⅛	d22	22⅞—	1⅛
91½	78	OwnIl pf4.75	..	11	80	d78	79 —	1½
11½	7	OxfrdIn .67r	2	222	10⅝	9¾	9⅞—	⅞

P

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
11½	7½	PNB .50e	19	408	10⅞	10⅜	10⅞+	¼
38½	27⅜	PPG 1.60	6	1180	29¼	d27⅜	28⅛—	1⅛
9⅞	7	PSA	16	491	9	8½	8⅞.....	
15¼	13¾	PacAS 1.24	..	307	14⅞	14⅜	14¾+	⅛
25½	22¼	PacGE 2	7	3470	23¾	23	23½—	⅛
20⅝	18⅛	PaiLtg 1.68	7	243	19⅝	19¼	19⅝+	¼
39⅛	31⅜	PacLm 1.50	12	129	32⅜	32	32⅜+	¼
31⅝	25⅞	PacPet .86	9	328	31⅜	30⅞	31¼.....	
24¼	21¼	PacPw 1.80	10	x786	22⅝	d21¼	21½—	⅛
18⅞	16¾	PacTT 1.40	8	345	17⅜	16¾	17⅜+	½
82	76	PacTT pf 6	..	z100	78¾	78	78 —	1¾
16⅜	9⅛	PacTin .80	8	43	13	12⅜	12⅞+	⅜
8¾	6⅛	PaineW .40	6	225	6⅜	6⅛	6⅛—	¼
15⅜	13½	PaiW pf 1.30	..	34	14⅜	13⅞	14⅜+	⅛
15⅜	9½	PalmBc .65	4	212	15¼	14¾	15 —	⅛
5⅜	3¾	Pamida .12	18	964	u 5⅜	4⅞	5¼+	⅜
6⅛	3⅝	PanAm	9	1293	5⅛	4⅞	5 +	⅛
50⅜	41¾	PanEP 2.50	8	394	46⅞	44⅞	46⅞+	2
17½	13⅜	Paprcft .80b	7	87	15½	15	15¼—	⅛
22⅝	16⅝	Pargas 1b	9	146	20⅜	19¾	20⅛—	¼
41¼	29⅜	ParkDr .20	9	84	35⅛	34¼	34¼—	1¼
28¾	24½	ParHan 1	9	555	25¼	24⅞	24⅞—	⅛
18	15¾	ParkPn .48	10	223	17¾	16¾	17¾+	½
19½	11	PatPtl	19	488	13½	12½	12⅝—	⅜
17⅛	14¾	Paylsnw .50	6	172	u17⅛	16⅛	17 +	¾
28⅛	20½	Peabody .20	11	1225	22⅝	21⅞	21⅞—	¾
52¾	32¾	Penney 1.48	10	3319	37⅞	36½	37¼+	⅝

AMAX Raises Estimate of Reserves

By BRUCE WILKINSON
Denver Post Business Writer

CRESTED BUTTE, Colo. — Further confirmation of a major molybdenum discovery in Gunnison County, Colo., came last week when AMAX Exploration, Inc., updated its estimate of the reserves in a mineralized area from 90 million to more than 130 million tons.

R.A. Barker, president of AMAX Exploration, a subsidiary of AMAX, Inc., announced the most recent results of additional drilling and assays completed as of Sept. 20 on the south side of Mt. Emmons in the Red Lady Basin 3.5 miles west of Crested Butte.

IN ANNOUNCING THAT estimates have been moved up at least 40 million tons, Barker said the average grade of the mineralized section in the holes drilled is slightly more than 0.4 per cent molybdenum (eight pounds per ton) with a cutoff grade of 0.2 per cent.

AMAX is noncommittal on whether it will make the huge investment necessary to go into production in the area that includes the old Keystone Mine owned by the U.S. Energy Corp. and Crested Butte Silver Mining, Inc., companies headed by John L. Larsen of Riverton, Wyo. Barker said in the latest AMAX release only that if subsequent drilling "confirms preliminary estimates, detailed studies would be conducted to determine feasibility and method of mining."

But the favorable results just reported from drilling on the 21 claims leased Jan. 1, 1974, to AMAX by U.S. Energy and Crested Butte (with a 4 per cent royalty on any molybdenum concentrates produced) seem to point increasingly toward eventual development of what could prove to be one of Colorado's richest mineral deposits.

THE BIG NEW YORK company agreed last June to pay the Riverton firms $9.5 million for 174 claims that incorporate most of the Keystone Mine. AMAX dealt with Crested Butte Silver Mining and U.S. Energy, which owns 46 per cent of the stock of the former, and must pay a 5 per cent gross royalty on any minerals produced.

In a separate but related transaction, AMAX leased 188 unpatented and two patented lode-mining claims from another Riverton firm, Ruby Mining Co., which is controlled by some of the principals of U.S. Energy and Crested Butte Silver Mining. AMAX agreed to pay Ruby Mining $500,000 ot lease the claims in the nearby Ruby Mining District and to spend at least $100,000 annually from 1977 to 1979 and $250,000 thereafter until 1997.

Additionally, the exploration arm of the international company, which already has two giant molybdenum operations in Colorado, has other claims in the area under option with the Johnston Group of Texas.

BARKER SAID THAT WITH further drilling that is under way more mineralization may be found laterally and at depth on the deposit but he cautioned that substantial drilling and comprehensive technical and economic feasibility studies must be completed before the size of the discovery can be determined and before AMAX can decide if mining and milling are feasible.

The value of the potentially commercial ore delineated so far could approximate $3 billion based on recovery of between five and six pounds of molybdenum—currently $4.02 per pound f.o.b. Climax, Colo.—and reserves of at least 130 million tons.

What constitutes a reserve in the mining sense depends on such factors as the mineral price, cost of recovery and the availability of a large enough supply to make production costs competitive. Even with the extensive effort and money expended by AMAX so far, a company spokesman said, "It's difficult for us to judge at this point. We know we have 130 million tons, but whether that's a viable mine we don't know."

HE POINTED OUT THAT the moly ore at the company's Climax mine averages 0.3 per cent and at Henderson 0.49 per cent and that the known reserves at Henderson are more than 300 million tons. Another source put the Climax reserves at more than 600 million tons.

Observers on the scene at Crested Butte do not believe AMAX has come close to delineating the Crested Butte moly reserves at this point, something also true at Climax and Henderson.

Amax's commitment to exploration at Crested Butte is indicated by the presence of about 100 men employed directly or by contractors in the old workings of the Keystone Mine, once a lead-zinc producer known for its Keystone-Union vein.

Activity is on three main levels of the mine operated at different times by ASARCO, McFarland & Hulsinger, the Oil Shale Corp. and U.S. Energy before the property was leased to AMAX. The top adit (tunnel entrance) is 1,370 feet below the top of 12,392-foot Mt. Emmons, the second 2,000 and the third 2,160 feet below. The adits go 3,600 feet to one mile into the mountain. Seventeen holes, most more than 1,000 feet deep, have been drilled this year.

Moly didn't get into the picture until 1976, when AMAX made significant discoveries, according to an AMAX spokesman on the site. U.S. Energy got into the act about four years ago when it purchased controlling interest in Crested Butte Silver Mining.

THAT THE AREA STOCK market has taken the lease purchases seriously is shown by the metamorphosis of the once-scorned Crested Butte Reg A stock from "two cents a year ago," according to one Denver broker, to $4.25 bid-$4.62 asked Friday. Ruby Mining shot up from 17-22 cents March 18 to 82-90 cents and U.S. Energy from $2.75-$3.13 on March 18 to $16.87-$17.37 at the end of the week.

U.S. Energy, organized in 1966 by Larsen and others, has been engaged mainly in contract mining and contract exploration in Wyoming. The company has two $1 million exploration contract projects under way in Wyoming and another $2.5 million worth of mine development contracts in progress.

The company has uranium production in the Crooks Gap Mining District of Wyoming and is exploring for other minerals in the Tintic Mining District of central Utah.

W YORK STOCK EXCHANGE — COMPOSITE QUOTATIONS

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
23⅜	82	DPL pf	7.48	.. z170	89	88¾	88¾+	½
4½	84	DPL pf	7.70	.. 100	91¾	90¾	91¾+	⅞
1	125	DPL pf	12.50	.. z300	129¾	128¾	129 +	½
3½	24¾	Deere	1.20	6 2200	26½	25¾	26 —	¼
9⅝	26	DelMon	1.60	6 133	28	27	27 —	⅞
5	13	DelmP	1.20	10 298	14⅜	14⅛	14¼—	⅛
9⅜	30	DeltaAir	.70	7 775	34⅛	33½	33¾—	⅝
0⅝	4¼	Deltec		18 194	u10⅝	9⅝	10½+	¾
7¼	4⅛	Deltona		.. 64	5⅞	5½	5⅞.....	
9¼	23	DenMf	1.24	7 93	26⅞	26⅝	26⅝—	⅛
8½	22	DennMf pf	1	.. 1	26¼	26¼	26¼—	½
7¼	18⅝	Dennys	.60	11 1340	u27¼	25½	26⅞+	1¼
0⅝	19⅛	Dentsply	.80	11 112	20¼	19⅜	19⅜—	¾
0¼	12½	DeSoto	.80	8 79	18	17½	17⅞—	⅛
8	15⅛	DetEd	1.45	8 793	16⅞	16⅜	16⅜—	⅜
4¾	63½	DetE pf	5.50	.. 9	70¼	69½	70¼+	½
5½	95¼	DetE pf	9.32	.. 288	103	100½	101 —	1¾
9¼	78	DetE pf	7.68	.. z1200	85	83½	84½—	½
6½	76	DetE pf	7.45	.. z2330	83½	82	83½+	⅜
5½	75	DetE pf	7.36	.. z230	83	81⅝	81⅝—	1⅜
9⅞	27½	DetE pf	2.75	.. 65	28⅜	28⅛	28½.....	
0½	27⅝	DE pfB	2.75	.. 81	28⅞	28	28¼—	½
0	22⅜	Dexter	1	8 353	26¼	25¼	25⅝—	¾
9¼	6½	DiGior	.40	7 222	9	8½	8⅝—	¼
6	13	DiGior pf	.88	.. z260	16.	15½	15⅞—	⅛
6¾	12¼	DialCp	1	7 191	u16¾	15⅝	16½+	¾
9⅞	32⅛	DiamInt	2	9 637	34¾	33¼	34¾+	⅜
9¼	17	DiaM		8 154	24½	23⅛	24⅜+	¾
8⅝	27½	DiamS	1.10	7 2293	29½	28	28⅞+	⅜
4⅝	24½	Dia pfD	1.20	.. 72	26⅛	25⅛	26⅛+	1
0⅛	6⅞	DickAB	.20	9 143	8¾	8⅛	8½—	⅛
3⅜	10⅛	Dictaph	.64	8 173	10⅝	10¼	10½—	⅛
4½	10⅛	Diebold	.50	16 274	11⅜	10⅞	11 —	⅜
4	36⅝	DigitalEq		17 4111	46⅜	44⅞	46⅛+	⅛
2⅞	7¾	Dillingm	.52	6 889	9	3d 7¾	8 —	1⅛
9¼	25	Dillngm pf	2	.. 6	25¼	25	25 —	1
6⅝	30	Dillon	1.20b	12 48	34½	33½	33½—	1
7⅝	32⅛	Disney	.16b	16 1658	39	37⅝	38⅝—	⅛
2	1	DivrsfdIn		.. 127	1¼	1	1 —	⅛
1¾	13-16	DivrsMtg		.. 337	1⅝	1⅜	1⅜.....	
5½	11	DrPeppr	.56	17 1878	15	14⅝	14¾—	⅛
5¾	42½	DomeM	.80	15 425	u55¾	53	55⅛+	¾
4½	2¾	DonLJ	.14	14 406	3	2⅞	3 +	⅛
6⅛	22	Donnly	.76	10 151	23¾	23⅜	23¾+	⅜
8⅜	15	DorOliv	.32	5 30	16⅜	15⅞	16 —	⅜
6	10⅛	Dorsey	.50	6 489	15⅛	13¾	13⅞—	⅛
3½	34⅝	Dover	1.20	10 117	39	38	38⅜—	⅛
3½	30	Dow Ch	1.20	9 8343	31½	30	30⅜—	1¼
04⅜	29¾	DowJn	1.16	13 941	31½	30	31½+	¾
33	22⅜	Dravo	1.05	9 89	25⅞	25¼	25½—	⅛
47⅛	37⅛	Dressr	.88	45 1980	43¾	42	42¼—	1¼
8¼	16¾	DrexB	1.44	.. 49	17½	17¼	17⅜.....	
10	7⅜	Dreyfs	.55e	9 121	9⅞	9⅞	9⅞.....	
35	105¼	duPont	5	11 1568	108½	d105¼	107⅛—	1
52¼	49	duPnt pf	3.50	.. 34	51¼	50	50 —	½
66¾	62½	duPnt pf	4.50	.. 73	64⅝	64⅛	64⅝+	⅝
23½	19⅞	DukeP	1.60	8 1670	21¾	21⅛	21⅝+	¼
93	84	Duke pf	6.75	.. 10	89¾	87½	88⅛—	⅞
07½	99¼	Duke pf	8.70	.. z3330	104¼	103	103 +	¼
02⅜	93½	Duke pf	8.20	.. z7130	100¾	98½	99¾+	¾
97½	89⅛	Duke pf	7.80	.. z130	95	95	95	
31¾	29	Duke pf	2.69	.. 35	30⅜	30	30 —	⅛
31½	25¾	DunBr	1.24	15 634	29⅝	28⅝	28¾—	1
21¼	19⅛	DuqLtg	1.72	9 492	19¾	19½	19¾.....	
08	24½	Duq pfA	2.10	.. z730	27¼	27	27 —	⅛
24	21½	Duq pf	1.87	.. z200	23⅛	23	23 +	¾
25½	23	Duq pf	2	.. z880	24½	23¾	23¾—	¾
26¼	24	Duq pf	2.07	.. z200	25¾	25¾	25¾+	1⅛
26¼	24⅞	Duq pr	2.10	.. 21	25¼	25	25 —	¼
28	26	Duq pf	2.31	.. z3020	26¾	26½	26½—	¼
31	26	Duq pf	2.75	.. 151	29½	29	29 —	¼
91⅛	84½	Duq pf	7.20	.. z4040	90⅝	90	90 —	⅝
13⅞	10¼	DutchB	.14	12 39	12⅜	11¾	12⅛—	¼
13⅞	9⅞	Dymo	.44	6 30	11¾	11¾	11¾.....	

E

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
21½	16¼	EG&G	.36	11 540	17	d16⅛	16⅛—	⅞
4½	3⅜	EMI	.12e	8 237	4⅛	3⅞	3⅞—	⅛
52¾	40¾	E Sys	1.60b	6 225	44⅜	42½	43 —	1⅜
27¼	27¼	E Syst wi		.. 1	27¼	27¼	27¼.....	
22	17¾	EagleP	.68	8 97	18⅞	18	18 —	¾
22	17⅞	EascoCp	.90	8 42	20⅞	20½	20¾+	⅛
9⅜	5¾	EastAir	8	4 1382	6⅛	d 5¾	5⅞—	¼
29⅛	19	EastGF	.80	9 609	19¾	d19	19½—	¼
19⅞	16⅞	EastUtl	1.60	11 126	17⅜	17⅛	17⅛—	¼
12⅜	7	GlobMar		.. 161	9⅛	8⅜	8⅝—	½
44¾	24⅝	GlobeU	1.60a	6 238	41⅞	40	40⅜—	1⅜
20⅞	16⅝	GldWFn	.24	4 126	19⅞	19⅝	19⅝—	⅜
23⅞	18½	Goodyr	1.30	8 2581	19¾	18⅞	18⅞—	⅝
15½	11⅜	GordJw	.40	6 65	15⅜	14⅞	15 —	¼
35½	27¼	Gould	1.36	8 1043	29⅞	29	29⅞.....	
34⅝	27¾	Gould pf	1.35	.. 11	28¾	28½	28½—	¼
31⅝	26¼	Grace	1.80	8 1798	27⅝	d26¼	26⅞—	¾
31¼	26½	Graingr	.56	14 260	29⅛	28⅝	28¾.....	
15⅞	13⅜	Granitvl	.90	5 67	14⅝	14¼	14¼—	⅜
20	15⅞	GrayDr	1	5 26	18⅜	18	18⅛—	⅜
14¾	9	GtAtPc	.05e	15 979	9⅞	d 9	9¼—	⅝
47¾	22⅞	GtLkD	1.40	6 268	u47¾	43	46⅛+	3⅛
29⅞	19¾	GtNoIr	1.50e	19 15	25¼	25	25¼—	⅛
32¾	24¾	GtNoNk	1.10	7 334	25¾	25	25½+	¼
25⅜	20	GtWFin	.70	6 1533	24½	24	24⅜.....	
27⅜	17⅛	GtbwstUtd		6 29	21¼	20¾	20⅞—	⅜
23⅛	18¼	GtWn pf	1.88	.. 92	18¾	18⅜	18½.....	
22⅜	17	GrGiant	1.08	16 186	20¾	19	19 —	1¾
30½	25½	GrGt pf	1.76	.. 1	28	28	28 —	1
15⅝	13	Greyh	1.04a	8 1095	13½	d13	13⅜+	¼
2⅛	1	Greyhnd wt		.. 553	1⅛	1	1 —	⅛
10¾	8½	GrowC	.40b	6 55	9½	9	9⅛—	¼
22½	16⅝	Grumm	1	5 196	19⅛	18¼	18⅝—	¼
18⅜	14⅜	GuardIn	.32	9 x179	u18⅜	17⅞	18 +	¼
18⅜	11⅜	GlfWstn	.66	3 2155	11⅞	d11⅜	11½—	¼
3⅜	3-32	GlfW wt		.. 1604	9-64	d3-32	⅛.....	
74⅞	71¾	GlfW pf	5.75	.. 16	72	72	72 +	¼
87	58⅛	GlfW pf	3.87	.. 17	59	d58⅛	58¼—	1¼
40¼	31	GlfW pf	2.50	.. 79	32¼	31½	31¾.....	

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
20¼	13¾	Kirsch	.90	8 224	16⅝	16¼	16¼—	⅜
38⅜	30½	KnigtRd	1	10 90	34	33½	33⅜—	⅝
19½	14⅜	Koehrin	.80	6 471	18⅜	17¼	18⅛+	¾
36½	32½	Koeh pf	2.75	.. 4	34	33¾	33¾+	¼
26⅜	20	Koppers	.90	9 767	21¼	20⅜	20¾—	¼
55	50⅛	Kopprpf	4	.. z140	51½	50½	50½—	1
8¼	6¼	Koracp	.15e	3 38	7½	7¼	7½+	¼
51	43⅝	Kraft	2.32	9 861	48⅛	47	47¾+	⅝
14⅝	10¼	Kroehlr	.25e	.. 10	10½	10¼	10½.....	
28¾	23⅝	Kroger	1.60	6 889	27⅞	25½	25½—	2¼
25⅛	22¼	Kubota	.42r	18 53	23	22⅞	22⅞.....	
16⅞	15w5	kuhlmn	.60	8 72	16½	d15⅝	16 —	⅝
22	12⅞	Kysor	.80a	9 471	u22	20⅜	22 +	1⅜

L

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
7	4½	LFE		12 71	6¾	6⅜	6⅜—	⅜
6¾	5⅞	LFE pf	.50	.. 9	6	6	6 —	¾
2¾	1⅝	LMI Inv		.. 62	2¼	2	2 —	¼
13⅝	6⅜	LTV		7 1216	7¼	d 6⅜	7⅛—	⅛
18	10⅝	LTVA	.35t	.. 55	11⅜	d10⅝	11 —	¾
55¼	47	LTVCp pf	5	.. 26	49	d47	47½—	1⅞
24⅛	19⅝	LacGas	1.66	8 100	21	20½	20⅞+	⅜
23⅞	18⅝	LamSes	1.30	7 7	20⅝	20⅜	20⅜+	⅛
14⅝	12	LaneBry	.80	7 276	13	12⅝	13 +	¼
18¼	13	Lanier	.10e	11 498	18	16⅞	17⅞+	⅞
11¼	8¾	LawtrCh	.40	14 165	9⅜	9	9¼.....	
17¾	13¼	LearSieg	.60	6 721	15½	14½	15 —	⅜
43⅝	36⅞	LearS pf	2.25	.. 70	39¾	37⅝	37⅞—	1⅜
35½	27	Leasw	1.40	8 x30	32¼	31½	31½—	⅛
21⅛	13¾	LeedsN	.60	10 518	21	18¾	20⅛—	¾
30	17½	Newmt	1.60	14 794	18⅛	d17½	17¾—	⅛
92¼	65	Newt pf	4.50	.. 33	67¾	d65	65¾—	1¼
17¼	14	NiaMP	1.34	9 1345	16½	16	16⅜+	¼
42	37	NiaMpf	3.40	.. z310	40¾	40	40¾+	⅜
44½	38⅝	NiaMpf	3.60	.. z550	41	40½	41 +	¾
47	42	NiaMpf	3.90	.. z310	46	45	46 +	½
58	52½	NiaMpf	4.85	.. z530	56½	56	56 —	½
61	57½	NiaMpf	5.25	.. z50	59½	59½	59½.....	
123	115½	NiMpf	11.75	.. z450	120¼	119¾	119¾—	¾
115	109	NiMpf	10.60	.. 103	114½	111	112½+	½
92	84	NiaMpf	7.72	.. z470	88	88	88 —	1
13	10⅛	NiagSh	.9te	.. 107	10¾	10⅛	10⅜+	¼
33⅞	27⅝	Nicor	2.32	7 x198	32⅛	30⅞	31⅜.....	
33⅝	27½	Nicor pf	1.90	.. x9	31	30⅞	30⅞—	⅛
37	27¼	NorfWn	1.84	7 1614	29¼	28¼	28⅝—	⅝
23⅝	17⅜	Norlin	1.40	5 42	20¼	19¾	19⅞—	⅜
31¼	22½	Norris		6 185	25¼	24½	24½—	⅛
29	20¼	NACoal	.50	12 164	21⅛	d20¼	21⅛.....	
5	3	NoAMtg		.. 233	4⅝	4¼	4¼—	⅜
36	28⅞	NoAPhl	1.50	6 132	31¼	29⅜	29⅞—	1⅜
4½	3½	NoCAir	.12	5 225	4⅛	4	4⅛+	⅛
1⅜	1	NoCeAir wt		.. 122	1⅛	1	1⅛+	⅛
12⅜	10⅝	NoestUt	1.02	8 1202	11½	11⅛	11⅜—	⅛
20	17⅝	NCalSL	.60	4 77	u20	19¼	19⅜—	¼
21¼	17⅜	NIndPS	1.44	8 641	19⅝	18¼	18⅞—	⅜
48¼	37⅛	NorNGs	2.40	6 735	39½	37⅜	39 +	1¼
100½	93¼	NoNG pf	5.50	.. z20	99¾	99¾	99¾.....	
94	89½	NoNG pf	5.80	.. z3140	u94	91⅛	94 +	2⅞
105	99⅜	NoNG pf	8.48	.. z110	101¾	101	101 +	¾
30½	26⅝	NoStPw	2.06	10 874	30⅜	29⅝	30 —	⅛
47½	42¾	NSPw pf	3.60	.. z154	46½	45	45 —	½
	49	NSPw pf	4.10	.. z50	52½	52½	52½+	1½
	48⅛	NSPw pf	4.11	.. z50	53	53	53 +	1¾
	54¾	NSPw pf	4.56	.. z100	57¾	57¾	57¾.....	
	95¼	NSPw pf	7.84	.. 142	100½	100¼	100½.....	
103		NSPw pf	8.80	.. z240	106¾	106¾	106¾—	1
	84½	NSPw pf	7	.. z40	88	87	88 +	⅛
	25¾	NorTel	.64	9 507	27⅜	d25¾	25¾—	1½
	3⅞	Northgate		.. 161	4½	4	4⅛+	¼
	20¼	Nortrp	1.20	6 631	21⅝	d20¼	20½—	⅜
	22½	NwstAirl	.50	7 784	23¾	22½	22½—	1⅛
	22⅞	NwtBcp	.96	8 447	23½	d22⅞	22⅞—	½
	32⅛	NwtEnr	2.20	7 249	40⅝	39½	39¾—	⅞
32		NwEn ct	2.20	7 13	40½	39¾	39¾—	¾
	43⅝	NwtInd	2.85	7 1064	52⅜	49¾	52 +	⅞
	21¾	Nwtind wt		.. 125	28½	25¾	28½+	1½
98		wnwIn pf	4.20	.. 1	115	115	115 —	3⅞
146		NwtIn pf	5	.. 3	152	152	152 —	6¾
	26½	NwtP pf	2.50	.. 5	28	27¾	27¾—	¼
	11⅞	NwMLf	1e	14 120	12½	12¼	12¼.....	
	24⅝	NwStW	1.20	14 31	25	25	25 +	⅛
	32½	Norton	1.80	7 121	35	33¼	33¼—	1¾
	17⅜	NorSim	.76	9 1853	21	20¼	20⅝—	¼
	38⅜	NortS pf	1.60	.. 127	46⅜	45	45¼—	½
	19	Nucor	.36	6 127	20	19¼	19⅞+	⅜

O

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
	15½	OKC	1.20	7 88	16⅝	16⅜	16⅝.....	
	9⅝	OakInd	.50	13 248	14	13⅛	14	
	27	Oak pf	1.75	.. 15	31	29	29 —	2
	14½	OakitePf	1	9 14	15⅛	14⅞	15 +	⅛
	22¾	OcciPet	1.25	9 3874	24⅝	23¾	24⅛—	⅜
	10¾	OcciPet wt		.. 242	11¾	11⅛	11⅜—	⅜
	36½	OcciP pf	2.16	.. 9	39	38¼	38¾—	¼
	74	OcciP pf	3.60	.. 18	79	77¼	78	
	72½	OcciP pf	4	.. 25	77⅝	75	77¼+	2
	26¼	OcciP pf	2.50	.. 140	27⅜	27	27 —	¼
	24	OcciP pf	2.12	.. 828	24⅜	d24	24 —	⅛
	21¾	Ogden	1.40	5 230	24⅝	23¾	24 —	⅜
	33½	Ogdn pf	1.87	.. 9	37½	36½	37½+	1¼
	18¾	OhioEd	1.70	9 1950	19¾	19¼	19½+	⅛
	49½	OhEd pf	4.40	.. z670	53½	52½	52½—	¾
	50¾	OhEd pf	4.44	.. z280	52½	51½	52 +	⅛
	51¼	OhEd pf	4.56	.. z130	54	53	54 +	1
	80½	OhEd pf	7.24	.. z30	85¼	85¼	85¼.....	
	81	OhEd pf	7.36	.. z2000	u89	87	87 +	1
	41¾	OhEd pf	8.20	.. z2460	98⅜	96	96 —	¾
	95½	OhEd pf	8.64	.. 229	102	100¾	101 —	½
110		OhE pf	10.48	.. z160	114	114	114	
112½		OhE pf	10.76	.. z2940	116	115½	115½+	½
	86½	OhPw pf	8.04	.. z100	90	89½	90 +	1
	83¼	OPw pfB	7.60	.. z8550	87¾	87⅜	87⅜—	⅛
	83½	OPw pfC	7.60	.. z4080	87⅜	86½	86½—	½
	128	OPw pfA	14	.. z800	129½	129	129½.....	
	127	OPw pfF	14	.. z320	129¾	129	129¾+	¼
	91½	OPw pfE	8.48	.. z2000	97⅜	97⅜	97⅜+	¾
	84	OPw pf	7.76	.. z1200	89¼	89¼	89¼+	¾
	17	OklaGE	1.48	10 864	18⅝	18⅜	18⅝+	⅛
	10⅛	OklGE pf	.80	.. z200	10½	10¼	10½+	⅜
	31¼	OklaNG	2	6 380	32⅝	31½	32½+	½
	17⅛	Olin	.88	5 520	19	d17⅛	17¼—	2
	25¾	Olinkrft	1.10	7 1520	27¼	d25¾	26¼—	½
	12⅞	Omark	.72	9 132	16½	16	16½+	⅜
	14⅛	Oneida	.84	5 31	14¾	d14⅛	14⅛—	⅝
	10⅝	Opelika	.84	7 44	10⅞	10⅝	10⅝.....	
	14¾	OranRk	1.36	9 167	16½	16⅛	16¼.....	
	5⅜	Orange	.20	.. 545	7⅜	6⅛	7¼+	⅞
	21	OutMar	1.40	6 420	21¾	21¼	21¼—	⅜
	16⅛	OutletCo	.70	7 40	18¼	17⅞	17⅞—	¼
	10¾	OverhDr	.60	5 197	11⅜	10¾	10¾—	½
	17⅝	OvernitT	1	7 52	20⅞	20¼	20⅝+	⅛
	22	OverSh	.30b	7 350	27⅜	26¾	27	
	58	OwenC	1.20	12 470	66¾	65	65⅞—	⅞
	22	OwenIll	1.06	7 1675	24⅛	d22	22⅞—	1⅛
	78	OwnIl pf	4.75	.. 11	80	d78	79 —	1½
	7	Oxfrdln	.67r	2 222	10⅝	9¾	9⅞—	⅞

P

1977 High	Low	Stocks Div.	P-E Ratio	Sales in 100s	High	Low	Close	Net Chg.
11½	7½	PNB	.50e	19 408	10⅞	10⅜	10⅞+	¼
8½	27⅜	PPG	1.60	6 1180	29¼	d27⅜	28⅛—	1⅛
9⅞	7	PSA		16 491	9	8½	8⅞.....	
5¼	13¾	PacAS	1.24	.. 307	14⅞	14⅜	14¾+	⅛
5½	22¼	PacGE	2	7 3470	23¾	23	23½—	⅛
20⅝	18⅛	PaiLtg	1.68	7 243	19⅝	19¼	19⅝+	¼
39⅛	31⅜	PacLm	1.50	12 129	32⅜	32	32⅜+	¼
31⅝	25⅞	PacPet	.86	9 328	31⅜	30⅞	31¼.....	
24¼	21¼	PacPw	1.80	10 x786	22⅝	d21¼	21½—	⅛
18⅞	16¾	PacTT	1.40	8 345	17⅜	16¾	17⅜+	⅛
82	76	PacTT pf	6	.. z100	78¾	78	78 —	1¾
16⅜	9⅛	PacTin	.80	8 43	13	12⅜	12⅞+	⅝
8¾	6⅛	PaineW	.40	6 225	6⅜	6⅛	6⅛—	⅛
15⅜	13½	PaiW pf	1.30	.. 34	14⅝	13⅞	14⅝+	⅞
15⅝	9½	PalmBc	.65	4 212	15¼	14¾	15 —	⅛
5⅜	3¾	Pamida	.12	18 964	u 5⅜	4⅞	5¼+	⅜
6⅛	3⅝	PanAm		9 1293	5⅛	4⅞	5 +	⅛
50⅜	41¾	PanEP	2.50	8 394	46⅞	44⅞	46⅞+	2
17½	13⅜	Paprcft	.80b	7 87	15½	15	15¼—	⅛
22⅜	16⅜	Pargas	1b	9 146	20⅜	19¾	20⅛—	¼
41¼	29⅜	ParkDr	.20	9 84	35⅛	34¼	34¼—	1¼
28¾	24½	ParHan	1	9 555	25¼	24⅞	24⅞—	⅛
18	15¾	ParkPn	.48	10 223	17¾	16¾	17¾+	½
19½	11	PatPtl		19 488	13½	12½	12⅝—	⅜
[illegible]	[illegible]	[illegible]	.50	6 172	u17⅛	16⅛	17 +	¾

No DMEA or OME projects in Region IV with continuing royalty obligations are on public land so no letters were mailed to Operators in that Region.

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VIRGINIA 22092

June 20, 1977

Mr. John L. Larsen
U.S. Energy Corporation
625 East Madison Avenue
Riverton, Wyoming 82501

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Dear Mr. Larsen:

We note in the June 12, 1977, edition of *The Denver Post* that a formal agreement has been signed whereby AMAX Exploration, Inc., has purchased property owned by U.S. Energy Corporation at Crested Butte, Colorado.

We would appreciate receiving two true copies of your agreement with AMAX. As you know from previous transactions involving this property, the Operator, or its successor, is obligated under Article 2(e) of OME Contract 2259 to furnish the Government copies of any agreement transferring interest in the property. AMAX must be advised of the Government's lien upon the land, described in the OME contract, and of the Government's rights to royalty on production therefrom. An article to this effect should be a part of the agreement between AMAX and U.S. Energy Corporation.

Mr. J. W. Hasler, Field Officer, OME Region III, has not received from you a copy of any agreement with AMAX although he requested this in a letter dated February 23, 1977. Also, we have not received a request from AMAX for copies of documents from the OME contract, but we will be glad to make these available upon request in accordance with your letter of June 3, 1977.

Please furnish the material requested at your earliest convenience.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo, Chief
Office of Minerals Exploration

Copy to: F.O., OME Region III

rcvd 6/17/77

United States Department of the Interior

GEOLOGICAL SURVEY
Box 25046
Denver Federal Center STOP 932
Denver, Colorado 80225

IN REPLY REFER TO:

June 14, 1977

MEMORANDUM

TO : Chief OME

FROM : Field Officer, Region III

SUBJECT: OME 6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

In a letter dated February 23, 1977 I requested that the Office of Minerals Exploration be furnished with copies of a lease agreement between the operator and AMAX Exploration Inc. pursuant to Article 2(C) of the subject contract.

I was informed verbally, that the agreement had not been finalized even though AMAX Exploration Inc. had been drilling from the face of the 1370 level, which was driven in part under the subject contract.

Jack Larsen, President of U.S. Energy Corporation was in my office June 3, 1977 and left a letter, of which you have a copy, giving us permission to let any representative of AMAX Exploration Inc. to see any documents pertaining to the loan on the Keystone property at Crested Butte.

The Denver Post, Sunday, June 12, 1977 carried an announcement of the sale of the Keystone mine to AMAX Exploration Inc. (copy enclosed). Perhaps a letter from you to Larsen with a copy to AMAX Exploration Inc. would jar them loose, to provide us with a copy of the agreement.

Larsen informed me that AMAX has drilled a zone 800 feet thick in a buried intrusive plug that contains 0.40 percent Moly. He also informed me that the City of Crested Butte and another environmental agency have dropped their allegations pertaining to probable pollution from their property and they could possibly have been mining from the Keystone for the past two years. This would have added to their royalty payments, as well as two years production.

Enclosure

AMERICAN REVOLUTION BICENTENNIAL 1776-1976 ©

Precious Metals

gsten Mining Expects ; Mill Capacity by '79

By ALBERT MARI

ian Tungsten Mining Corp. Ltd. will be doubled to 1,000 tons of ore

Climax Molybdenum's tungsten group. Amax Inc., the Greenwich, cent of Canadian Tungsten, which is located in the Northwest

en mine at MacMillan Pass in ukon, he said: "That's very an ongoing project, which we have on-stream in the early At full production that mine produce 4-million to 6- n pounds of contained en annually."

on Carbide Corp. is also d in expansion. At the turn year it opened a tungsten t Boca de Lage, Brazil, which output of 1-million pounds of trate annually. This output is marketed in Europe and

Its new Tempiute mine in Nevada is already being worked and the mill will soon be dedicated and placed on-stream. Tempiute has a capacity of 2-million pounds of concentrate a year.

In mid-May Union Carbide bid $159.57 for 6,067 stu (short ton units) of offgrade tungsten ore at the General Services Administration sale and was the sole winner for this domestic use material.

A Union Carbide source said that the buy was to supplement its own output of ore. He confirmed that the company has placed its Bishop, Calif., mill operations on a seven-day week. "The demand for tungsten is at a level requiring the firm to operate the mill on a seven-day schedule," he added.

The tungsten demand in Europe and Japan has been rather spotty. However, demand so far this year in the U.S. has been stronger than for the same period last year. The mainstay of business has been the cutting tool field which usually takes some 60 percent of all the tungsten used in the U.S. This includes not only tools used in metalcutting and metalworking, but also mining tools and drills used by oil well rigs.

Another firming effect on the market was the recent Canton Fair. According to reliable observers, prices in the vicinity of $184 to $185 per metric ton unit were paid for between 500 to 700 tons of concentrates.

A Russian delegation is slated to arrive in London later in the month and it is felt in some quarters this will kick off some considerable buying by the Soviets.

This combination of restrained Chinese selling of their ore and expected East European buying have

one. The latest rise in the price of tungsten powders and paratungstate reflected this.

Effective June 1, Union Carbide's

gold
silver
copper
brass
marketing
purchasing
refining

uld have
ered more
my scrap at
bin
eezes more instant
ou from your scrap
old, silver, platinum
m.

Amax Agrees to Purchase Mining Stake in Colorado

NEW YORK — Amax Inc., Greenwich, Conn., has agreed to purchase a Colorado mining stake with possible molybdenum potential for $9.5-million, plus royalties.

U.S. Energy Corp. and Crested Butte Silver Mining Inc., Riverton, Wyo., in a joint announcement said Amax had agreed to acquire their mining properties in the Ruby and Elk mountain mining districts of Gunnison County, Colo. Amax's Denver-based Amax Exploration Inc. signed the transaction.

U.S. Energy owns about 46 percent of the outstanding shares of Crested Butte. The transaction needs shareholder approval from both U.S. Energy and Crested Butte.

In another transaction, Amax Exploration entered into an agreement with Ruby Mining Co., Riverton, Wyo., to lease 188 unpatented and two patented lode mining claims in the Ruby mining district of Gunnison County.

The consideration involved in the lease is $500,000, a reservation of royalty and an exploration commitment. The lease expires on June 1997, but Amax may renew it under the same terms for an additional 20 years. A meeting of Ruby stockholders will be called to ratify and approve the deal.

Under the agreement with U.S. Energy and Crested Butte, Amax will make an immediate payment of $2.5 million. The balance of $7-million will be paid in installments of $1-million a year beginning Jan. 10, 1979.

However, Amax may terminate the agreement at any time before making the payments by returning the claims to U.S. Energy and Crested Butte.

The royalty reservation is 5 percent on the gross value of the minerals and until production begins, Amax must pay the companies an advance royalty of $1-million per year beginning on Jan. 10, 1984. Also, Amax may recover any advance royalties up to 50 percent out of the production.

The claims are located adjacent to 21 mining claims which were leased by Crested Butte to both Amax and U.S. Energy in 1974 for different types of minerals. It was recently reported that molybdenum mineralization was discovered in five exploration holes drilled by Amax on the 21 claims. The companies agreed to consolidate their various interests on all these properties and share the benefits equally.

Manganese Aluminum Hiked by UC

NEW YORK — A 2-cent-per-pound increase in the price of Ucar manganese aluminum, effective with shipments of July 1, is planned by Union Carbide Corp.'s Metals division.

The new price will be 73.5 cents per pound for 40,000-pound bulk shipments, f.o.b. Niagara Falls, N.Y.

This follows the action last week of Kerr-McGee Corp., Oklahoma City, which raised the price of manganese aluminum briquettes to 73.5 cents.

Union Carbide and Foote Mineral Co., Exton, Pa., had raised the price of this product by 1 cent a pound effective last May 1, but subsequently withdrew that to remain competitive.

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RIVERTON FIRMS SELL

Amax Unit to Buy Colo. Mining Lands

By GEORGE JOHNSTON
Denver Post Financial Editor

RIVERTON, Wyo.—U.S. Energy Corp. and Crested Butte Silver Mining, Inc., both with offices in Riverton, Friday announced a formal agreement has been signed with Denver-based AMAX Exploration, Inc., a wholly owned subsidiary of AMAX, Inc.

The Riverton firms said the sale was for $9.5 million. A royalty to be paid on minerals produced from the properties is an additional consideration. All payments will be divided equally between U.S. Energy and Crested Butte.

The agreement provides for immediate payment by AMAX of $2.5 million following approval of the transaction by shareholders of the two firms and closing of the contract.

THE BALANCE OF $7 million will be paid to the companies in installments of $1 million a year, commencing Jan. 1, 1979. AMAX, however, may terminate the agreement at any time before making the payments by returning the claims to U.S. Energy and Crested Butte.

The contract provides for the reservation of a 5 per cent royalty on the gross value of minerals produced from the properties, less taxes, and a provision for advance royalties.

The claims of the sale are located adjacent to 21 mining claims which were leased by Crested Butte to both AMAX and U.S. Energy in 1974 for different types of minerals. It was recently reported that molybdenum mineralization was discovered in five exploratory holes drilled by AMAX on the claims.

THE BOARDS OF U.S. Energy and Crested Butte agreed to consolidate and unitize their various interests and share the benefits and obligations equally.

In a separate but related transaction, Ruby Mining Co., also of Riverton, announced agreement with AMAX Exploration to lease 188 unpatented and two patented lode mining claims in the Ruby Mining district.

The lease consideration is $500,000, and includes a reservation of royalty and an exploration commitment. The lease expires June 1, 1997, but AMAX may renew it under the same terms for an additional 20 years.

Ruby will receive the $500,000 following shareholder approval and closing of the agreement. Ruby will receive 5 per cent gross royalty on value of minerals produced, less taxes, and AMAX agrees to explore the claims for minerals and will spend a minimum of $100,000 for each year 1977 through 1979 and $250,000 annually thereafter.

SOLAR ENERGY
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To receive a copy of our research comments on this emerging industry, call E. J. Pittock & Co. at 892-6110 or send the coupon below to Solar Research Comments, c/o E.J. Pittock & Co., 650 17th Street-Suite 415, Denver, Colo. 80202.

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by GEORGE JOHNSTON

Another Rabbit

THE MUTUAL FUND industry, it would appear, has pulled another rabbit out of the hat. Sales of the industry's newest baby — tax-exempt municipal bond funds—last week reached the $1.2 billion mark, that in less than a year, and has pushed the funds back consistently into black ink for the first time in a long time so far as sales and redemptions are concerned.

The Investment Company Institute last week reported that total sales of all types of conventional mutual funds amounted to $556 million in April, more than 80 per cent greater than the total of $305 million a year earlier, and far ahead of sales of $463 million in March. During the first four months of 1977, total conventional fund sales amounted to $2.1 billion, 60 per cent greater than the comparable period of 1976. Redemption of funds have shown substantial declines, resulting in net sales gains for the first four months of 1977, largely the result of strong sales in municipal bond and income funds.

THE SALES SUCCESS of the municipal tax exempt funds couldn't have come at a more opportune time. The industry has been losing assets steadily for almost two years. Shareholders, disappointed by the so-so investment performance of most common stock funds and turned off by equities generally, have been liquidating their holdings in droves.

Mutual fund companies, whose profits depend on the size of the assets they control, quickly shifted the sales emphasis to a variety of income funds. The money market funds were a bonanza a couple of years ago, but the lode petered out when short-term interest rates declined sharply.

The fading popularity of the money market funds (they showed an $89 million decline in April, the Investment Institute reports) left the fund companies with a big hole in the product line. The need was for something that might help keep old shareholders on the books and attract new ones.

THAT BREAK CAME about a year ago when a change in the tax laws ruled that the tax-free income from municipal bonds can be passed along to shareholders, and the first bond fund was introduced in August. There are now a score or more.

The Investment Institute report also provides a good clue to the dismal performance of the stock market. In April,

since 1919, the BSJ is a humorous, satirical and often risque parody on finance, stockbrokers and brokerage firms, a la the Wall Street Journal, which it resembles in format.

Much of the humor, however, is in-house; you have to be a member of the clan to follow much of it. Interested investors can order copies at $2.25 each by writing The Bawl Street Journal, P.O. Box 445, Wall Street Station, New York, N.Y. 10005.

A GLOWING PICTURE for investment opportunity in regional "new energy companies" was painted at an energy seminar here last week conducted by a team of energy research specialists from Bosworth Sullivan & Co., a Denver investment banking firm.

Theodore Abbruzzese, director of research at Bosworth, noted, "The Rocky Mountain region is uniquely situated to benefit from the Carter administration energy policy," which, among other things, calls for emphasis on domestic exploration and development of energy resources; greater emphasis on coal as a base supply of energy, and need for substantial increases in conventional nuclear power to meet the nation's energy needs through the year 2000.

He said the rapid growth in Western coal production will be further dramatized by the fact that it should take only nine years to achieve production levels which required 75 years to achieve in the east. Coal production, he said, should reach the 1.1 billion-tons-per-year level in the 1976-85 period, an increase of 400 million tons above current levels. More than 75 per cent of that production increase could come from the Western states.

In the uranium area, the Bosworth experts feel that by the year 2000, nuclear power will account for almost one-third of the nation's energy generation, with increased Western uranium demand. They also see the Rocky Mountain region as "one of three viable exploration areas" left within the U.S. for the production of oil and gas with "substantial potentials."

The company has a listing of a number of energy-related companies which "would make attractive vehicles for investment portfolios."

U.S. ENERGY CORP.

625 EAST MADISON AVENUE PHONE (307) 856-9271 RIVERTON, WYOMING 82501

June 3, 1977

Mr. J. William Hassler
Office of Mineral Resources
U.S.G.S.
P. O. Box 25046
Mailstop 932
Denver, Colorado 80225

OME 6640

Dear Bill:

This is my authority to let any representative of AMAX Exploration, Inc. see any documents pertaining to the OME loan on the Keystone property at Crested Butte, Colorado.

Very truly yours,

U.S. ENERGY CORP.

John L. Larsen

aa

HK 2/28/77

Mail Stop 932

February 23, 1977

Mr. Max T. Evans, President
Crested Butte Silver Mining, Inc.
625 East Madison, Suite #1
Riverton, Wyoming 82501

Re: OME 6640 (Silver
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Dear Mr. Evans:

It has come to our attention that Amax Exploration Inc. of Denver, Colorado, has a lease on the Keystone Mine property with Crested Butte Silver Mining, Inc. and U.S. Energy Corp. that is presently under lien and subordination to the Government pursuant to terms and provisions of the contract referred to above.

The Keystone Mine was explored jointly with the U.S. Geological Survey's Office of Mineral Exploration under the subject contract and A Certification of Possible Production Under an Exploration Contract was executed on October 10, 1969.

Attention is specifically invited to the provisions of Article 2(c) of the contract referring to the preservation of the Government's royalty rights. Two true copies of any instrument transferring or encumbering any of said rights shall be furnished to the Field Officer.

Will you please furnish this office with two true copies of the legal documents between Crested Silver Butte Mining Incorporated and U.S. Energy Corporation, as well as two true copies of the legal documents between Crested Butte Silver Mining, Incorporated and Amax Exploration Inc., of Denver, Colorado.

Sincerely yours,

J. William Hasler

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

cc: Chief OME
OME file
Hasler chron.
OME 6640

Corp. for permission to
re for uranium on the
o reservation. Interior
ary Thomas Kleppe had
r approved a uranium
ration and development
ct between the tribe and
n. An Exxon spokesman
ctual exploration probably
ot begin until this summer
will last at least a year,
ly as long as six years.

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uct a nuclear power plant
instead will build a
red plant. The utility had
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ans to build the nuclear
because of uncertainties
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geology. The company said
were still too many
rtainties. The coal-fired
is scheduled for service in
The company said it will
siting a nuclear plant at
er location.

Amax Exploration Encounters Molybdenum Mineralization

RIVERTON, Wyo. — It was announced in a joint release made by U.S. Energy Corp. and its affiliate, Crested Butte Silver Mining, Incorporated (Crested Butte Silver) both of Riverton, Wyoming, that Amax Exploration, Inc. of Denver had encountered molybdenum mineralization in one exploratory drill hole on the Keystone Mine property 3 miles west of Crested Butte, Colorado. Crested Butte Silver leased the property to Amax Exploration on January 1, 1974 and reserved a gross royalty of 4% of the value of molybdenum concentrates which might be produced from the property. Extensive additional exploratory drilling will be necessary to confirm whether or not the mineralization discovered is significant. This additional drilling will take several years.

Amax Exploration advised in the exploration hole drilled to a depth of 2,498 feet, an isolated 70 foot section of molybdenite mineralization which assayed 0.21% MoS_2 was found. This exploratory hole is scheduled to be completed next summer. Amax Exploration is conducting further exploratory drilling in a drift at the 1370 foot level of the Keystone Mine.

U.S. Energy Corp. has taken three additional samples of the property under lease to Amax Exploration and molybdenum mineralization was assayed in those samples. U.S. Energy Corp. owns approximately 47% of the issued and outstanding shares of Crested Butte Silver Mining Stock and has leased other mineral claims from Crested Butte Silver south and adjacent to those claims under lease to Amax Exploration.

6640

NEWS

USE INTERIOR AND INSULAR AFFAIRS COMMITTEE REALIGN SUBCOMMITTEES . . . 2
FETY AWARDS PRESENTED AT NATIONAL WESTERN MINING CONFERENCE 2
IRONMENTAL PROTECTION AGENCY RELEASES NEW STUDY ON STRIP MINING . . . 2
M RESOURCES WINS KERR-McGEE DECISION 3
ASE IN DOMESTIC MINE PRODUCTION OF SILVER 3
ED URANIUM ROYALTY SCHEDULE MEETING SET 4
NING DEVELOPMENTS 5
PORTS EARNINGS 7

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Domestic mine pr
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U.S. Bureau of Mines

Six states — Idah
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Decreases in prod
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Montana, 33 percent
percent, and New
percent. Production
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October, the bureau

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silver producer in the

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RFX

HR 8/29/76

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

August 4, 1976

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME 6640 (Silver)
McFarland and Hullinger
Keystone Mining Property
Gunnison County, Colorado
Contract 2259

An annual inspection of the Keystone Property was made on June 23, 1976 in company with Mr. Ed Perusek, watchman and caretaker. The examination was made with respect to the company's continuing obligation for OME royalties.

Pursuant to Article 6 of the referenced contract, as amended, the government hereby certifies that mineral or metal production may be possible as a result of the exploration work; therefore, royalties shall be paid to the government as provided in the contract on all production from the land described in the contract from March 22, 1968 to March 22, 1978. Production has resulted and royalty payments have been made.

It was ascertained during the inspection of the property on June 23, 1976 that the mine has been closed since June of 1975 due to a number of reasons; i. e., lack of labor and high costs. Closing was due primarily to environmental regulations as stated in my memorandum of July 22, 1976. There has been no production from the Keystone mine at Crested Butte, Colorado since June of 1975 as a consequence. Reopening of the mine depends largely upon the resolution and compliance to regulations concerning a court injunction against the operator by the Environmental Protection Agency.

J. William Hasler

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

✓ HK 8/2/76

United States Department of the Interior

GEOLOGICAL SURVEY
Box 25046
Denver Federal Center
Denver, Colorado 80225

Building 53 - Mail Stop 953

IN REPLY REFER TO:

July 22, 1976

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME 6640 (Silver)
Mc Farland & Hullinger
Keystone Mining Property
Gunnison County, Colorado
Contract 2259

An annual inspection of the Keystone property was made on June 23, 1976 in company with Mr. Ed Perusek, watchman and caretaker of the property. The operations at the Keystone mine were closed during June 1975, due to a lack of labor and high costs, but due mostly because of environmental restrictions placed against the Operator. The company was forced to close due to a court injunction that they felt was arbitrary, and could have been remedied more simply. The environmental agency is compelling them to meet a more exact restriction which they feel is unjust. Should they start operations the way they feel is right, they can be fined as much as $10,000.00 per day. A private engineering company, whom they were compelled to hire, made an appraisal which cost them $14,000.00, and the Operator feels the study was inadequate. The Operator had some 12,000 tons of ore broken and in the chutes ready to pull at the time of closure, and they estimate that they have lost some $400,000.00 from lack of production since the June 1975 closure. The Company is carrying on exploration work on their holdings in the Ruby Mining District. It seems a shame to lose much needed production over regulations that could be met with some degree of variance. OME has just been aced out of better than $20,000.00 in royalty payments this past year. The State and County has certainly lost in jobs and revenues from the closure of the Keystone Mine. There is, and can be years of additional development and good productivity.

The Operator is currently exploring and developing their other holdings in the area, such as the Micawber Mine, and the Daisy group of mines

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

northwest and northeast of the Keystone Mine. Their hope is to develop enough feed from the three properties to keep a 300 ton per day mill in continued operation.

J. William Hasler

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

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

PLY REFER TO:

Office of Minerals Exploration
Building 53 - Northwest Wing - 2nd floor

OFFICIAL COPY
O. M. E.
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JUL 1 1976
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HK | AK
GW

- ABSTRACT OF REMITTANCES -
14X0804000

	AMOUNT	BANK, CITY, & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
6	$213.20	1st National Bank, Riverton, Wyoming	U. S. Energy Resources McFarland-Hullinger Keystone Property	OME-6640 Cont. 2259	Royalty

Received in Branch of Financial Management 7/1/76
By L. G. Edenton
Collection Officer

Remarks: (List smelter or mill lot numbers covered by royalties)
Lot No. 2

June 28, 1976
Date prepared

Date received

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

Distribution:
Original & 2 to:
Branch of Financial Management (with checks and one copy of subdocument)
Chief, OME, Reston, Va.
Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

BRANCH OF FINANCIAL MANAGEMENT
JUL 1 1976
RECEIVED
FISCAL ACCOUNTS

national zinc company inc
bartlesville oklahoma 74003

P.O. BOX 579

June 13, 1975
Date

Final Settlement

Material Keystone Concentrates

TO

U. S. ENERGY CORPORATION
625 MADISON, SUITE #1
RIVERTON, WY 85201

Shipped

Arrived April 24, 1975

Quotational Period May, 1975

Zn 38.938¢
Ag
Cd $3.25

CONTRACT October 18, 1974

Lot	Dry Weight	% Zn	OZ. Ag	% Cd	Lbs. Cd Content	Ag Content		Lbs. Zn Content	
2	60,071	48.50	2.43	.31	186.22	72.99		29,134	

PAYMENTS AND DEDUCTIONS:

	Deduction	Payable	Contents Payable	PRICE		
Zinc	8 Units		24,328	38.173¢ (38.938¢-.765¢)	9,286	73
Silver	4 oz p.t.		No Pay			
Cadmium	.2 Units		66.08	$2.25 ($3.25-$1.00)	148	68
					9,435	41

Treatment Charge, Base, Per Ton				100	000	
Zn Price Var.	Base 28.50¢	Quot. 38.938¢	@$3.50/1¢	36	533	
Zn Content Var.	Base	Actual	@			
Labor Variation	Base	Actual	@			
Penalties						
Iron + Manganese	12.80 ÷ .52 - 9.00 = 4.32		@$1.00	4	320	
		30.0355	Short Dry Tons @	140	853	4,230 59
						5,204 82

Other Deductions:

Freight	Seller Acct. - Receipted freight bill attached	940	80	
Umpire Charges				
Duty				
				940 80
				4,264 02
Advance Payments				
Due				4,264 02

Enclosed — Wt. and Assay Ctfs., Freight Bills, Check

BRANCH OF FINANCIAL MANAGEMENT
JUL 1 1976
RECEIVED
FISCAL ACCOUNTS

U.S. ENERGY CORP.

625 EAST MADISON AVENUE PHONE (307) 856-9271 RIVERTON, WYOMING 82501

June 18, 1976

Ms. Gail Wiegand
Office of Minerals Exploration
U.S. Geological Survey
953 National Center
12201 Sunrise Valley Drive
Reston, Virginia 22092

Dear Ms. Wiegand:

During the course of our annual audit, it was discovered that the O.M.E. royalties were not paid on the final settlement from National Zinc for ore shipped from the Keystone Mines.

Enclosed find two copies of the settlement statement and our check in the amount of $213.20.

Yours truly,

Del DuRyea

Del DuRyea
Accountant

Enclosures

DD:cmp

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

Office of Minerals Exploration
Building 53 - Northwest Wing - 2nd floor

- ABSTRACT OF REMITTANCES -
14X0804000

DATE	AMOUNT	BANK, CITY, & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
JUNE 18/76	$213.20	1st National Bank, Riverton, Wyoming	U. S. Energy Resources McFarland-Hullinger Keystone Property	OME-6640 Cont. 2259	Royalty

Remarks: (List smelter or mill lot numbers covered by royalties)
Lot No. 2

June 28, 1976
Date prepared

Date received

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

Distribution:
Original & 2 to:
Branch of Financial Management
(with checks and one copy of subdocument)
Chief, OME, Reston, Va.
Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

U.S. ENERGY CORP.

625 E. MADISON AVE., SUITE NO. 1
RIVERTON, WYOMING 82501
PHONE (307) 856-9271

DATE	INVOICE	AMOUNT

99-192
1023

3163

PAY THE SUM 213 DOLS 20 CTS Dollars

DATE	GROSS AMOUNT OTHER		ACCTS. PAYABLE		DISCOUNT	CHECK AMOUNT
6-18-76	213	20				213 20

TO THE ORDER OF Office of Mineral Exploration

U.S. ENERGY CORP.

Kenneth Webber

FIRST NATIONAL BANK
RIVERTON, WYOMING

⑆1023⑈0192⑆ 530⑈244⑈3⑈

national zinc company inc
bartlesville oklahoma 74003

P.O. BOX 579

June 13, 1975
Date

Final Settlement

Material Keystone Concentrates

Shipped

Arrived April 24, 1975

Quotational Period May, 1975

Zn 38.938¢

Ag

Cd $3.25

TO

U. S. ENERGY CORPORATION
625 MADISON, SUITE #1
RIVERTON, WY 85201

CONTRACT October 18, 1974

Lot	Dry Weight	% Zn	OZ. Ag	% Cd	Lbs. Cd Content	Ag Content		Lbs. Zn Content	
2	60,071	48.50	2.43	.31	186.22	72.99		29,134	

PAYMENTS AND DEDUCTIONS:

	Deduction	Payable	Contents Payable	PRICE			
Zinc	8 Units		24,328	38.173¢ (38.938¢-.765¢)		9,286	73
Silver	4 oz p.t.		No Pay				
Cadmium	.2 Units		66.08	$2.25 ($3.25-$1.00)		148	68
						9,435	41
Treatment Charge, Base, Per Ton					100 000		
Zn Price Var.	Base 28.50¢	Quot. 38.938¢		@$3.50/1¢	36 533		
Zn Content Var.	Base	Actual		@			
Labor Variation	Base	Actual		@			
Penalties Iron + Manganese	12.80 + .52 - 9.00 = 4.32			@$1.00	4 320		
		30.0355		Short Dry Tons @	140 853	4,230	59
						5,204	82
Other Deductions:							
Freight	Seller Acct. - Receipted freight bill attached				940 80		
Umpire Charges							
Duty							
						940	80
						4,264	02
Advance Payments							
Due						4,264	02

Enclosed — Wt. and Assay Ctfs., Freight Bills, Check

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VIRGINIA 22092

June 22, 1976

Myers, Braverman & Co.
Certified Public Accountants
1011 First National Bank Building
Denver, Colorado 80202

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Gentlemen:

This is in reply to your request of June 18, 1976, for the principal balance and accured interest as of May 31, 1976, on OME-6640.

The information you requested is stated below:

As of May 31, 1976	Principal balance	77,238.43
	Accrued interest	22,892.38
	Total	100,130.81

Sincerely yours,

Gail P. Wiegand

Gail P. Wiegand, Secretary
Office of Minerals Exploration

Copy to: Mr. Del DuRyea, Accountant
U.S. Energy Corp.

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

U.S. ENERGY CORP.

625 EAST MADISON AVENUE PHONE (307) 856-9271 RIVERTON, WYOMING 82501

June 18, 1976

Office of Minerals Exploration
U. S. Geological Survey
953 National Center
12201 Sunrise Valley Drive
Reston, Virginia 22092

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Gentlemen:

In connection with the annual audit of our financial statements would you please mail directly to our auditors, Myers, Braverman & Co., Certified Public Accountants, 1011 First National Bank Bldg., Denver, Colorado 80202, the principal balance and accrued interest at May 31, 1976 on the above contract.

Yours truly,

CRESTED BUTTE SILVER MINING, INCORPORATED

Del DuRyea

Del DuRyea
Accountant

DD:rla

77,238.43
22,892.38

October 2, 1975

Mr. Lloyd Myers, CPA
for McFarland and Hullinger
OME 6640, Contract 2259

Mr. Myers called me today and asked for monthly accrued interest for FY 1975 I gave him the following information.

Date	Interest	Accrued interest
7/74	$492.	$24,031.38
8/74	492.	24,523.38
9/74	476.13	24,999.51
10/74	492.	25,141.16
11/74	476.13	25,617.29
12/74	492.	26,109.29
1/75	492	24,899.60
2/75	444.39	25,343.99
3/75	492	24,069.33
4/75	476.13	19,092.18
5/75	492	19,129.27
6/75	476.13	18,302.67

I also gave him by phone our record of payment of royalty checks for this contract since 9/1974.

Gail P. Wiegand

AK

July 17, 1975

Mr. Lloyd R. Myers
Certified Public Accountant
3050 W. 71st Avenue, Suite One
Westminster, Colorado 80030

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Dear Mr. Myers:

This is in regards to your requests of June 18th and July 11, 1975, requesting the principal balance and accrued interest as of May 31, 1975, for OME-6640.

The information you requested is stated below:

As of May 31, 1975	Principal balance	$77,238.43
	Accrued interest	19,129.27
	Total	$96,367.70
As of June 30, 1975	Principal balance	$77,238.43
	Accrued interest	18,302.67
	Total	$95,541.10

Your original letter was intercepted by someone who was unfamiliar with the Office of Minerals Exploration accounts. In the future, you may wish to write to us direct, by addressing your request to:

Office of Minerals Exploration
U.S. Geological Survey
953 National Center
12201 Sunrise Valley Drive
Reston, Virginia 22092

We are sorry you were inconvenienced.

Sincerely yours,

Gail P. Wiegand, Secretary
Office of Minerals Exploration

Copy to: Mr. Kenneth Webber

GPWiegand/gpw

MK Rdg.
OME Rdg. / OME Files
Mr. Kirkemo

GAIL 6681

3050 W. 71ST AVENUE, SUITE ONE
WESTMINSTER, COLORADO 80030
TELEPHONE 303 428-9565

LLOYD R. MYERS

Certified Public Accountant

July 11, 1975

United States Department of Interior
Geological Survey
12201 Sunrise Valley Dirve
Reston, Virginia 22092
Mail Stop 270

Re: OME - 6640 (Silver)
Crested Butte Silver Mining, Incorporated

Dear Sirs,

I am sorry that the letter from Crested Butte Silver Mining, Incorporated requesting confirmation of the principal balance and accrued interest at May 31, 1975 was not more specific. We are requesting confirmation of OME loan number OME - 6640 (Silver). We have always been able to confirm these figures before.

Sincerely yours,

MYERS, BRAVERMAN & CO.

Lloyd R. Myers

Lloyd R. Myers

2259

RECEIVED
U.S. GENERAL ACCOUNTING OFFICE
JUL 16 10 03 AM '75
DIVISION OF
FINANCIAL MANAGEMENT

UNITED STATES
Department of the Interior
Geological Survey
Reston, Virginia 22092
Mail Stop 270

BFM REF _____

Lloyd R. Myers, CPA
3050 West 71st Ave.
Westminster, CO 80032

July 7, 1975

Gentlemen:

The following information is furnished in response to your inquiry:

_____ We have no record of your Invoice No._____. Please submit your invoice in duplicate with a copy of this memo.

_____ We are returning your invoice for additional information. Please show or verify order number or identify the consignee.

__XX__ As we do not maintain accounts payable by vendor, we are unable to verify balance.

_____ Returned herewith is a copy of your Credit Memo No._____, in the amount of $_____ which cannot be applied to a current invoice. Please forward your check or money order made payable to the U.S. Geological Survey, Branch of Financial Management, 12201 Sunrise Valley Drive, Mail Stop 271, Reston, Virginia 22092.

_____ Your statement of _____ is returned. Please furnish an original and a copy of your invoice(s), showing the U.S. Geological Survey Purchase Order Number or identify the consignee. Requests for non-payment cannot be searched without this information. Return the invoice(s) with a copy of this letter.

_____ Subject invoice is returned as P.O. cites F.O.B. point as destination; therefore the freight charges should be collected from the shipper.

_____ Subject invoice is returned as we are prohibited from making payment in advance of service received. You may submit your billing for that portion of service rendered to date.

_____

Michael E. Kurz

~~Ronald E. DeMatteo, Chief~~ Acting Chief
Branch of Financial Management

Enclosure

RECEIVED
U.S. GEOLOGICAL SURVEY
JUL 16 10 03 AM '76
BRANCH OF
FINANCIAL MANAGEMENT

June 18, 1975

Crested Butte Silver
Mining, Incorporated
625 E. Madison, Suite #1
Riverton, Wyoming 82501

United States Dept. of Interior
Geological Survey
12201 Sunrise Valley Drive
Reston, Virginia 22092

Re: OME-6640 (Silver)

Gentlemen:

In connection with the annual audit of our financial statements would you please mail directly to our auditors, Myers, Braverman & Co., Certified Public Accountants, 3050 West 71st Avenue, Westminster, Colorado 80030, the principal balance and accrued interest at May 31, 1975.

Yours truly,

Kenneth Webber
Assistant Secretary

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

Office of Minerals Exploration
Building 53 - Northwest Wing - 2nd floor

OFFICIAL COPY
O. M. E.
RECEIVED
AUG 5 1975

INITIALS	CODE
HK	—

- ABSTRACT OF REMITTANCES -
14X0804000

DATE	AMOUNT	BANK, CITY, & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
7/3/75	$ 7.13	The First National Bank of Amarillo, Amarillo, Texas	American Smelting and Refining Co. (McFarland and Hullinger) (Keystone Mine)	OME-6640 Cont. 2259	Royalty
6/26/75	$729.20	The State National Bank, El Paso, Texas	American Smelting and Refining Co. (McFarland and Hullinger) (Keystone Mine)	OME-6640 Cont. 2259	Royalty

Received in Branch of Financial Management 7/24/75
By Lorraine Edmonton
Collection Officer

Remarks: (List smelter or mill lot numbers covered by royalties)
$7.13 - Lot No. 8
$729.20 - Lot No- 839

July 22, 1975
Date prepared

Date received

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

Distribution:
Original & 2 to:
✓Branch of Financial Management (with checks and one copy of subdocument)
Chief, OME, Reston, Va.
Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

RECEIVED
U.S. GEOLOGICAL SURVEY
JUL 24 10 35 AM '75
OFFICE OF
FINANCIAL MANAGEMENT

AMERICAN SMELTING AND REFINING COMPANY
EL PASO SMELTING WORKS

6/26/65

BOUGHT OF US Energy Corp. — EL PASO, TEXAS, 19
ADDRESS 625 E. Madison Suite 1 Riverton, Wyoming 82501 — SMELTER LOT 834
SHIPPING POINT — SHIPPERS LOT
NAME OF MINE — CLASSIFICATION Pb CTS.
RATES, EXCEPT ON CONTRACTS, SUBJECT TO CHANGE WITHOUT NOTICE — PURCHASE TERMS 1449

Mix	Arrival Date	Car Number	Car RR	Gross Weight	Tare Weight	Containers No.	Containers Weight	Wet Weight	% H2O	Dry Weight	Quotations
534	4/26	55104	DRG					150260	8.7	137187	Silver 4.5381
											Lead .23338
											Copper .63155
											B/L Date:

Assays	Oz. per Ton Gold	Oz. per Ton Silver	Wet Lead %	Copper %	SiO2 %	Fe %	CaO %	Zn %	S %	Al2O3 %	As %	Sb %	Ni %	Bi %	%	%
Smelter	.01	26.5	47.0	1.7							.52	.04	.01	.05		
Shipper	.03	26.4	47.4	2.1												
Umpire				2.09												
Metallics																
Settle	.02	26.7	47.2	2.09												

Values Per Ton

Payment	Pay Content	Price	Amount	Freight (Fixed)
Gold Min. %				
Silver, Less 1 Min. 95%	24.4415	4.4781	109 33	
744 Lead, Less 30 @ 95%	868.3	.1842	159 94	
41.8 Copper, Less 26 @ 97.5%	15.405	.49956	7 70	
Gross Value			276 97	
Less Deductions (Net Charge)			47 76	
Freight Value			x x x	
Net Value			229 21	@ 68.5935 Dry Tons

Deductions	Charge	Credit
Base, Incl. Labor Adj.	47 74	
Excess Value Over $		
¢ Per Unit Pb/Cu ± %		
Lead--Copper Price Escalator		
Zinc		
As .02 Sb Bi		02
Net Charge	47 76	
= Wet Ton	Debits	Credits
Dry Tons		15722 32
Less Freight: 75.13 Wet Tons @ 14.94 P.T.	1122 44	
Less Switching: Resets: Reweighs:		
1057 LBS. ACCT. cl. @ .015 A.P.S.	15 86	
Less Sampling:		
Less Umpire: Pact & Simpson	—	
Less Hauling:		
Less Representation:		
Less Royalty: 5% N.S.R.	729 20	
OME 6640		
Less Advance:		
Balance Due Shipper/[redacted]	13854 82	
Totals	15722 32	15722 32

U.S. GEOLOGICAL SURVEY
RECEIVED
JUL 24 10 35 AM '75
DIVISION OF
FINANCIAL MANAGEMENT

3

AMERICAN SMELTING AND REFINING COMPANY
EL PASO SMELTING WORKS

6/26/65

BOUGHT OF US Energy Corp. EL PASO, TEXAS, 19
ADDRESS 625 E. Madison Suite 1 Riverton, Wyoming 82501 SMELTER LOT 839
SHIPPING POINT SHIPPERS LOT
NAME OF MINE CLASSIFICATION Pb CTS.
PURCHASE TERMS 1447

RATES, EXCEPT ON CONTRACTS, SUBJECT TO CHANGE WITHOUT NOTICE

Mix	Arrival Date	Car Number	Car RR	Gross Weight	Tare Weight	Containers No.	Containers Weight	Wet Weight	% H2O	Dry Weight	Quotations
554	4/26	55104	DRG					150260	8.7	137187	Silver 4.5381
											Lead .23338
											Copper .63155
											B/L Date:

Assays	Oz. per Ton Gold	Oz. per Ton Silver	Wet Lead %	Copper %	SiO2 %	Fe %	CaO %	Zn %	S %	Al2O3 %	As %	Sb %	Ni %	Bi %	%	%
Smelter	.01	26.5	47.0	1.7							.52	.04	.01	.05		
Shipper	.03	26.4	47.4	2.1												
Umpire				2.09												
Metallics																
Settle	.02	26.7	47.2	2.09												

Values Per Ton — Payment	Pay Content	Price	Amount		Freight (Fixed)
Gold Min. %					
Silver, Less 1 Min. 95%	24.415	4.4781	109	33	
Lead, Less 30 @ 95%	868.3	.1842	159	94	
Copper, Less 26 @ 97.5%	15.405	.49956	7	70	
Gross Value			276	97	
Less Deductions (Net Charge)			47	76	
Freight Value			x x	x	
Net Value			229	21	@ 68.5935 Dry Tons

Deductions	Charge	Credit
Base, Incl. Labor Adj.	47 74	
Excess Value Over $		
¢ Per Unit Pb/Cu ± %		
Lead--Copper Price Escalator		
Zinc		
As: .02 Sb: Bi:		02
Net Charge	47 76	
= Wet Ton	Debits	Credits
		15722 32
Less Freight: 75.13 Wet Tons @ 14.94 P.T.	1122 44	
Less Switching: Resets: Reweighs:		
1057 LBS. ACCT. cu. @ .015 A.P.S.	15 86	
Less Sampling:		
Less Umpire: Pact & Simpson	—	
Less Hauling:		
Less Representation:		
Less Royalty: 5% N.S.R.	729 20	
Less Advance: OME 6640		
Balance Due Shipper/[redacted]	13854 82	
Totals	15722 32	15722 32

MA-47

Cadmium Payment

AMERICAN SMELTING & REFINING COMPANY

AMARILLO PLANT

ORE SETTLEMENT

FIGURING SHEET

SHIPPER NO. SW-ZN-6

SHIPPER *U. S. Energy Corp.* LOT NO. *8* ASARCO NO. *1115*

ADDRESS *P. O. Box 468 Crested Butte, Colorado 81224* MONTH JUN 1975

CLASS *Zinc Concentrates* MINE LOT –

MINE *Keystone* SHIPPED FROM *Salida, Colorado*

ASSAYS	Au	Ag	Pb	Cu	Zn	Fe	Mn	Cd	Cl		
ASARCO								.30			
SHIPPER											
UMPIRE											
SETTLEMENT								.30			

DATE SHIPPED	DATE REC'D.	DUMP NO.	CAR INITIAL	CAR NUMBER	WET WEIGHT	H2O %	DRY WEIGHT	FREIGHT CHARGES
[illegible]4	4-1	634	DRGW	56184	180,200	12.40	157,855	
				TOTAL	180,200		157,855	

PAYMENTS:

.30% – .20 = .10 = 2.0 x 30%

= .60 Lbs Cadmium Per Ton x

78.9275 = 47 Lbs Pay Cadmium

x $3.0333 = $ 142.57

DEDUCTIONS:

IRON AND MANGANESE

BASE CHARGE

ZINC PRICE ADJUSTMENT

LABOR ADJUSTMENT

FUEL ADJUSTMENT

POWER ADJUSTMENT

NET VALUE PER TON

QUOTATIONS DATE *May, 1975*

GOLD – SILVER – LEAD –

COPPER – ZINC –

Cadmium $4.0333 – $ 1.00 = $3.0333

LABOR RATE $ – FUEL RATE $ –

VALUE-ORE F.O.B. *Amarillo, Texas*

78.9275 TONS @ 142.57

FREIGHT VALUATION _____ RATE _____

UMPIRE

PROVISIONAL PAYMENT

ROYALTY 5 % TO U.S.Geological 7.13

OME6640 Survey

TOTAL DUE SHIPPER 135.44

COPIES TO: (10)

U. S. Energy Corporation
625 Madison, Suite #1
Riverton, Wyoming 82501 (2 w/check & Umpire)

U. S. Energy Corporation
P. O. Box 468
Crested Butte, Colorado (2)

CHECK PAYABLE TO:
U. S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225

Mr. J. William Hasler, Field Officer, Region III
Office of Minerals Exploration – U. S. Geological Survey
Denver Fed. Center-N.W.Wing-2nd Floor-E2400
Denver, Colorado 80225 (2 w/Royalty Check)

Mr. A. J. Kroha (1)

Mr. A. L. Determan (1)

Voucher (1)

File (1)

CORRECT: *VEFrick*

CORRECT: *LPClark*

RECEIVED
U.S. GEOLOGICAL SURVEY
JUL 24 10 35 AM '75
DIVISION OF
FINANCIAL MANAGEMENT

AMA-47

Cadmium Payment

AMERICAN SMELTING & REFINING COMPANY
AMARILLO PLANT

ORE SETTLEMENT
FIGURING SHEET

SHIPPER NO. SW-ZN-6

SHIPPER *U. S. Energy Corp.* LOT NO. *8* ASARCO NO. *1115*

ADDRESS *P. O. Box 468 Crested Butte, Colorado 81224* MONTH JUN 1975

CLASS *Zinc Concentrates* MINE LOT –

MINE *Keystone* SHIPPED FROM *Salida, Colorado*

ASSAYS	Au	Ag	Pb	Cu	Zn	Fe	Mn	Cd	Cl		
ASARCO								.30			
SHIPPER											
UMPIRE											
SETTLEMENT								.30			

DATE SHIPPED	DATE REC'D.	DUMP NO.	CAR INITIAL	CAR NUMBER	WET WEIGHT	H2O %	DRY WEIGHT	FREIGHT CHARGES
3[illegible]	4-1	634	DRGW	56184	180,200	12.40	157,855	
				TOTAL	180,200		157,855	

PAYMENTS:

.30% = .20 = .10 = 2.0 x 30%
= .60 Lbs Cadmium Per Ton x
78.9275 = 47 Lbs Pay Cadmium
x $3.0333 = $ 142.57

QUOTATIONS DATE *May, 1975*

GOLD – SILVER – LEAD –

COPPER – ZINC –

Cadmium $4.0333 - $ 1.00 = $3.0333

LABOR RATE $ – FUEL RATE $ –

VALUE-ORE F.O.B. *Amarillo, Texas*

78.9275 TONS @ 142.57

FREIGHT VALUATION _____ RATE _____

UMPIRE

PROVISIONAL PAYMENT

ROYALTY 5 % TO U.S.Geological Survey 7.13

OME 6640

TOTAL DUE SHIPPER 135.44

DEDUCTIONS:

IRON AND MANGANESE

BASE CHARGE

ZINC PRICE ADJUSTMENT

LABOR ADJUSTMENT

FUEL ADJUSTMENT

POWER ADJUSTMENT

NET VALUE PER TON

COPIES TO: (10)

U. S. Energy Corporation
625 Madison, Suite #1
Riverton, Wyoming 82501 (2 w/check & Umpire)

U. S. Energy Corporation
P. O. Box 468
Crested Butte, Colorado (2)

CHECK PAYABLE TO:
U. S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225

Mr. J. William Hasler, Field Officer, Region III
Office of Minerals Exploration - U. S. Geological Survey
Denver Fed. Center-N.W.Wing-2nd Floor-E2400
Denver, Colorado 80225 (2 w/Royalty Check)

Mr. A. J. Kroha (1)

Mr. A. L. Determan (1)

Voucher (1)

File (1)

CORRECT: *VEFrick* CORRECT: *LPClark*

JUL 24 10 35 AM '75
BRANCH OF
FINANCIAL MANAGEMENT

July 17, 1975

Mr. Lloyd R. Myers
Certified Public Accountant
3050 W. 71st Avenue, Suite One
Westminster, Colorado 80030

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Dear Mr. Myers:

This is in regards to your requests of June 18th and July 11, 1975, requesting the principal balance and accrued interest as of May 31, 1975, for OME-6640.

The information you requested is stated below:

As of May 31, 1975	Principal balance	$77,238.43
	Accrued interest	19,129.27
	Total	$96,367.70
As of June 30, 1975	Principal balance	$77,238.43
	Accrued interest	18,302.67
	Total	$95,541.10

Your original letter was intercepted by someone who was unfamiliar with the Office of Minerals Exploration accounts. In the future, you may wish to write to us direct, by addressing your request to:

Office of Minerals Exploration
U.S. Geological Survey
953 National Center
12201 Sunrise Valley Drive
Reston, Virginia 22092

We are sorry you were inconvenienced.

Sincerely yours,

Gail P. Wiegand, Secretary
Office of Minerals Exploration

Copy to: Mr. Kenneth Webber

GPWiegand/gpw

DRF
MR Rdg.
OME Rdg. / OME Files
Mr. Kirkemo

Rcvd 6/18/75
HK

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

Office of Minerals Exploration
Building 53 - Northwest Wing - 2nd floor

- ABSTRACT OF REMITTANCES -
14X0804000

DATE	AMOUNT	BANK, CITY, & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
6/3/75	$488.08	The First National Bank of Amarillo Amarillo, Texas	American Smelting and Refining Co. (McFarland and Hullinger) (Keystone Mine)	OME-6640 (Cont. 2259)	Royalty

Remarks: (List smelter or mill lot numbers covered by royalties)
Lot No. 8

June 16, 1975
Date prepared

Date received

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

Distribution:
Original & 2 to:
Branch of Financial Management (with checks and one copy of subdocument)
Chief, OME, Reston, Va.
Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

AMA-47

AMERICAN SMELTING & REFINING COMPANY
AMARILLO PLANT

ORE SETTLEMENT
FIGURING SHEET

SHIPPER NO. SW-ZN-6

SHIPPER U. S. Energy Corp. LOT NO. 8 ASARCO NO. 1115

ADDRESS P. O. Box 468 Crested Butte, Colorado 81224 MONTH May, 1975

CLASS Zinc Concentrates MINE LOT -

MINE Keystone SHIPPED FROM Salida, Colorado

ASSAYS	Au	Ag	Pb	Cu	Zn	Fe	Mn	Cd	Cl		
ASARCO	-	2.39	1.35	.74	48.80	12.1	.30	.30			
SHIPPER	.01	2.79	1.60	.90	50.00	-	-	-			
UMPIRE S & W		1.75	1.45		49.50						
SETTLEMENT	.01	2.38	1.45	.02	49.50	12.1	.30	.30			

DATE SHIPPED	DATE REC'D.	DUMP NO.	CAR INITIAL	CAR NUMBER	WET WEIGHT	H2O %	DRY WEIGHT	FREIGHT CHARGES
3-24	4-1	634	DRGW	56184	180,200	12.40	157,855	1,175.81
				TOTAL	180,200	22,345	157,855	1,175.81

PAYMENTS:	
GOLD	-
SILVER 4.4031	4.95
LEAD	-
COPPER	-
ZINC .37454	310.87
DEDUCTIONS:	
IRON AND MANGANESE	2.45
BASE CHARGE	100.00
ZINC PRICE ADJUSTMENT	28.41
LABOR ADJUSTMENT	22.23
FUEL ADJUSTMENT	23.14
POWER ADJUSTMENT	.76
NET VALUE PER TON	138.83

QUOTATIONS DATE May, 1975

GOLD 167.390 SILVER 4.5381 LEAD .25338

COPPER .63155 ZINC .38938

POWER 15.00 Mills KWH

LABOR RATE $ 7.478 FUEL RATE $ .026 MM BTU

VALUE ORE F.O.B. Amarillo, Texas

78.9275 TONS @ 138.83	10,957.50	
FREIGHT VALUATION ____ RATE ____	1,175.81	
UMPIRE Ag, Pb		20.00
PROVISIONAL PAYMENT	7,800.00	
Interest on Advance		97.64
ROYALTY 5 % TO U.S. Geological Survey		488.08
TOTAL DUE SHIPPER	1,975.87	

COPIES TO: (10)

U. S. Energy Corporation
625 Madison, Suite #1
Riverton, Wyoming 82501 (2 w/check & Umpire)

U. S. Energy Corporation
P. O. Box 468
Crested Butte, Colorado (2)

CHECK PAYABLE TO:

Mr. J. William Hasler, Field Officer, Region III
Office of Minerals Exploration - U.S.G.S.
Denver Federal Center-N.W. Wing-2nd floor-E-2400
Denver, Colorado 80225 (2 w/Royalty check)

Mr. A. J. Kroha (1)

Mr. A. L. Determan (1)

Voucher (1)

File (1)

RECEIVED
CONSERVATION DIVISION
JUN 10 1975
GEOLOGICAL SURVEY
DENVER, COLO.
OFFICE AREA MINING SUPERVISOR

CORRECT: VEFrick

CORRECT: LPClark

Building 53 - Northwest Wing - 2nd floor
E-2400

June 16, 1975

Mr. S. Y. Stennis, Plant Manager
American Smelting and Refining Company
Amarillo Zinc Plant
P. O. Drawer 1111
Amarillo, Texas 79105

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Dear Mr. Stennis:

We have been receiving several royalty payment checks from your plant concerning production from the Keystone Mine in a circuitous manner. They have not been coming directly to this office, but from other branches of the U. S. Geological Survey. Last Wednesday, I received a telephone call from the Conservation Division of the Survey asking about a check they had received that had been forwarded to them from the Topographic Division, also here at the Denver Federal Center. The check with the ore settlement sheet was forwarded to me, on Thursday, June 12th.

A review of your settlement sheet for U. S. Energy Corp. Lot No. 8 ASARCO No. 1115, under Copies to: Check payable to: shows in part two addresses of the U. S. Geological Survey.

One: U. S. Geological Survey
Denver, Colorado 80225

The other: Field Officer,
Office of Minerals Exploration
Region III, Room 28 - Building 53
Denver Federal Center
Denver, Colorado 80225

May I suggest that only the following address be used on your ore settlement sheets for sending the royalty payments due us from production from the

Keystone Mine:

Mr. J. William Hasler, Field Officer, Region III
Office of Minerals Exploration - U. S. Geological Survey
Denver Federal Center - N. W. Wing - 2nd floor - E2400
Denver, Colorado 80225 (2 w/ Royalty check)

Some of the problems lie in the fact that the OME office has moved several times around the Federal Center in the past few years. I trust this recommended address will facilitate a more rapid and direct route for royalty payments to us.

Sincerely yours,

J. William Hasler

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

cc: Kenneth Webber
Chief, OME
OME-6640
Mr. Hasler
OME chron

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

Office of Minerals Exploration
Building 53 - Northwest Wing - 2nd floor

OFFICIAL COPY
O. M. E.
RECEIVED
JUN 20 1975

- ABSTRACT OF REMITTANCES -
14X0804000

DATE	AMOUNT	BANK, CITY, & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
6/3/75	$488.08	The First National Bank of Amarillo Amarillo, Texas	American Smelting and Refining Co. (McFarland and Hullinger) (Keystone Mine)	OME-6640 (Cont. 2259)	Royalty

Received in Branch of Financial Management 6/18/75
By Lorraine E. Johnston
Collection Officer

Remarks: (List smelter or mill lot numbers covered by royalties)
Lot No. 8

June 16, 1975
Date prepared

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

Date received

Please date, sign and return to Reg III

Distribution:
Original & 2 to:
Branch of Financial Management (with checks and one copy of subdocument)
Chief, OME, Reston, Va.
Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

024656

RECEIVED
U.S. GEOLOGICAL SURVEY

JUN 18 2 45 PM '75

ANCE

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

Office of Minerals Exploration
Building 53 - Northwest Wing - 2nd floor

- ABSTRACT OF REMITTANCES -
14X0804000

June 75
HIR

DATE	AMOUNT	BANK, CITY, & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
6/3/75	$488.08	The First National Bank of Amarillo Amarillo, Texas	American Smelting and Refining Co. (McFarland and Hullinger) (Keystone Mine)	OME-6640 (Cont. 2259)	Royalty

Received in Branch of Financial Management 6/18/75
By Lorraine E. Pelletier
Collection Officer

Remarks: (List smelter or mill lot numbers covered by royalties)
Lot No. 8

June 16, 1975
Date prepared

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

Date received

Please date, sign and return to Reg III

Distribution:
Original & 2 to:
Branch of Financial Management (with checks and one copy of subdocument)
Chief, OME, Reston, Va.
Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

U 2 4 6 5 6

RECEIVED
GEOLOGICAL SURVEY

JUN 18 2 45 PM '75

AMA-47

AMERICAN SMELTING & REFINING COMPANY
AMARILLO PLANT

ORE SETTLEMENT
FIGURING SHEET

SHIPPER NO. SW-ZN-6

SHIPPER U. S. Energy Corp. LOT NO. 8 ASARCO NO. 1115

ADDRESS P. O. Box 468 Crested Butte, Colorado 81224 MONTH May, 1975

CLASS Zinc Concentrates MINE LOT -

MINE Keystone SHIPPED FROM Salida, Colorado

ASSAYS	Au	Ag	Pb	Cu	Zn	Fe	Mn	Cd	Cl		
ASARCO	-	2.33	1.35	.74	49.80	12.1	.30	.30			
SHIPPER	.01	2.70	1.60	.90	50.00	-	-	-			
UMPIRE S & W		1.75	1.45		49.50						
SETTLEMENT	.01	2.38	1.45	.09	49.50	12.1	.30	.30			

DATE SHIPPED	DATE REC'D.	DUMP NO.	CAR INITIAL	CAR NUMBER	WET WEIGHT	H2O %	DRY WEIGHT	FREIGHT CHARGES
3-24	4-1	634	DRGW	56184	180,200	12.40	157,855	1,175.81
				TOTAL	180,200	22,345	157,855	1,175.81

PAYMENTS:	
GOLD	-
SILVER 4.2051	4.95
LEAD	-
COPPER	-
ZINC .37454	310.87
DEDUCTIONS:	
IRON AND MANGANESE	2.45
BASE CHARGE	100.00
ZINC PRICE ADJUSTMENT	28.41
LABOR ADJUSTMENT	22.23
FUEL ADJUSTMENT	23.14
POWER ADJUSTMENT	.76
NET VALUE PER TON	138.83

QUOTATIONS DATE May, 1975

GOLD 167.590 SILVER 4.5381 LEAD .23338

COPPER .63155 ZINC .38938

POWER 15.00 Mills KWH

LABOR RATE $ 7.478 FUEL RATE $ .826 MM BTU

VALUE ORE F.O.B. Amarillo, Texas

78.9275 TONS @ 138.83		10,957.50	
FREIGHT VALUATION ____ RATE ____		1,175.81	
UMPIRE Ag, Pb		20.00	
PROVISIONAL PAYMENT		7,200.00	
Interest on Advance		97.64	
ROYALTY 5 % TO U.S. Geological Survey		488.08	
TOTAL DUE SHIPPER		1,975.97	

COPIES TO: (10)

U. S. Energy Corporation
625 Madison, Suite #1
Riverton, Wyoming 82501 (2 w/check & Umpire)

U. S. Energy Corporation
P. O. Box 468
Crested Butte, Colorado (2)

CHECK PAYABLE TO:

Mr. J. William Hasler, Field Officer, Region III
Office of Minerals Exploration - U.S.G.S.
Denver Federal Center-N.W. Wing-2nd floor-E-2400
Denver, Colorado 80225 (2 w/Royalty check)

Mr. A. J. Kroha (1)

Mr. A. L. Determan (1)

Voucher (1)

File (1)

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CONSERVATION DIVISION
JUN 10 1975
GEOLOGICAL SURVEY
DENVER, COLO.
OFFICE AREA MINING SUPERVISOR

CORRECT: VEFrick

CORRECT: LPClark

AMA-47

AMERICAN SMELTING & REFINING COMPANY
AMARILLO PLANT

ORE SETTLEMENT
FIGURING SHEET

SHIPPER NO. SW-ZN-6

SHIPPER U. S. Energy Corp. LOT NO. 8 ASARCO NO. 1115

ADDRESS P. O. Box 468 Crested Butte, Colorado 81224 MONTH May, 1975

CLASS Zinc Concentrates MINE LOT - MINE Keystone SHIPPED FROM Salida, Colorado

ASSAYS	Au	Ag	Pb	Cu	Zn	Fe	Mn	Cd	Cl		
ASARCO	-	2.38	1.35	.74	48.90	12.1	.30	.30			
SHIPPER	.01	2.79	1.60	.90	50.00	-	-	-			
UMPIRE S & W		1.75	1.45		49.50						
SETTLEMENT	.01	2.38	1.45	.82	49.50	12.1	.30	.30			

DATE SHIPPED	DATE REC'D.	DUMP NO.	CAR INITIAL	CAR NUMBER	WET WEIGHT	H2O %	DRY WEIGHT	FREIGHT CHARGES
3-24	4-1	634	DRGW	56184	180,200	12.40	157,855	1,175.81
				TOTAL	180,200	22,345	157,855	1,175.81

PAYMENTS:	
GOLD	-
SILVER 4.4831	4.95
LEAD	-
COPPER	-
ZINC .37454	310.87
DEDUCTIONS:	
IRON AND MANGANESE	2.45
BASE CHARGE	100.00
ZINC PRICE ADJUSTMENT	28.41
LABOR ADJUSTMENT	22.23
FUEL ADJUSTMENT	23.14
POWER ADJUSTMENT	.76
NET VALUE PER TON	138.83

QUOTATIONS DATE May, 1975

GOLD 167.390 SILVER 4.5381 LEAD .23338

COPPER .63155 ZINC .38938

POWER 15.80 Mills KWH

LABOR RATE $ 7.478 FUEL RATE $ .826 MM BTU

VALUE ORE F.O.B. Amarillo, Texas

78.9275 TONS @ 138.83	10,957.50	
FREIGHT VALUATION ____ RATE ____	1,175.81	
UMPIRE Ag, Pb		20.00
PROVISIONAL PAYMENT	7,200.00	
Interest on Advance		97.64
ROYALTY 5 % TO U.S.Geological Survey		488.08
TOTAL DUE SHIPPER	1,975.97	

COPIES TO: (10)

U. S. Energy Corporation
625 Madison, Suite #1
Riverton, Wyoming 82501 (2 w/check & Umpire)

U. S. Energy Corporation
P. O. Box 468
Crested Butte, Colorado (2)

CHECK PAYABLE TO:
U. S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225

Mr. J. William Hasler, Field Officer, Region III
Office of Minerals Exploration - U. S. G. S.
Denver Federal Center-N. W. Wing - 2nd floor - E2400
Denver, Colorado 80225 (62 w/royalty check)

Mr. A. J. Kroha (1)

Mr. A. L. Determan (1)

Voucher (1)

File (1)

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JUN 10 75
GEOLOGICAL SURVEY
DENVER, COLO.
OFFICE OF AREA MINING SUPERVISOR

CORRECT: VEFrick

CORRECT: LPClark

HK

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

Office of Minerals Exploration
Building 53 - Northwest Wing - 2nd floor

- ABSTRACT OF REMITTANCES -
14X0804000

DATE	AMOUNT	BANK, CITY, & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
May 16, 1975	$814.65	The State National Bank, El Paso, Texas	American Smelting and Refining Co. (McFarland and Hullinger) (Keystone Mine)	OME-6640 (Cont. 2259)	Royalty

Received in Branch of Financial Management 5/28/75
By Lorraine E. Edmiston
Collection Officer

Remarks: (List smelter or mill lot numbers covered by royalties)
Lot No. 664 - $814.65

May 20, 1975
Date prepared

Date received

J. William Hasler

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

Distribution:
Original & 2 to:
Branch of Financial Management
(with checks and one copy of subdocument)
Chief, OME, Reston, Va.
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Mr. Hasler chron
OME chron

MAY 20 9 49 AM '75
FINANCIAL MANAGEMENT

AMERICAN SMELTING AND REFINING COMPANY
EL PASO SMELTING WORKS

5/14/75

BOUGHT OF U.S. ENERGY
ADDRESS
SHIPPING POINT
NAME OF MINE

EL PASO, TEXAS, 19
SMELTER LOT 664
SHIPPERS LOT
CLASSIFICATION Pb CTS
PURCHASE TERMS 4449

OME Region III
RECEIVED
MAY 20 1975
Denver, Colorado

RATES, EXCEPT ON CONTRACTS, SUBJECT TO CHANGE WITHOUT NOTICE

Mix	Arrival Date	Car Number	Car RR	Gross Weight	Tare Weight	Containers Weight	Wet Weight	% H_2O	Dry Weight	Quotations
521	3/28	55526	DRG				51620	7.9	13964.2	Silver 4.20918
										Lead .24500
										Copper .63555

B/L Date:

Assays	Oz. per Ton Gold	Oz. per Ton Silver	Wet Lead %	Copper %	SiO_2 %	Fe %	CaO %	Zn %	S %	Al_2O_3 %	As %	Sb %	Ni %	Bi %	%	%
Smelter	.01	23.1	56.2	1.84				.39			.18	.09		.04		
Shipper	.02	23.1	56.8	2.2												
Umpire			55.7	2.12												
Metallics																
Settle	—	23.1	56.2	2.12												

Values Per Ton

Payment	Pay Content	Price	Amount	Freight (Fixed)
Gold Min. %				
Silver, Less 1 Min. 95%	20.995	4.14918	87.11	
Lead, Less 30 @ 95% 42.4	1039.3	19.582	203.52	
Copper, Less .26 @ 97.5%	15.99	.50356	8.05	
Gross Value			298.68	
Less Deductions (Net Charge)			48.65	
Freight Value			x x x	
Net Value			250.03	@ 69.821

Deductions	Charge	Credit
Base, Incl. Labor Adj.	48.65	
Excess Value Over $		
¢ Per Unit Pb/Cu ± %		
Lead--Copper Price Escalator		
Zinc		
As: Sb: Bi:		
Net Charge	48.65	

	Wet Ton / Dry Tons	Debits	Credits
Net Value			1745.34
Less Freight: 75.81 Wet Tons @ 14.94 P.T.		1132.60	
Less Switching: Resets: Reweighs: 1116 LBS. Cu @ .015 A.P.S.		16.74	
Less Sampling:			
Less Umpire: UNION ASSAY		15.00	
Less Hauling:			
Less Representation:			
Less Royalty: (OME) 5% N.S.R.		814.65	
Interest $10,000 @ 9% @ 38/365		93.70	
Less Advance: 418		1000.00	
Balance Due Shipper/~~Grower~~		5384.65	
Totals		1745.34	1745.34

OME - 6640
Contract 2259
McFarland and Hullinger
Keystone Mine

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FINANCIAL MANAGEMENT

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United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

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Building 53 - Northwest Wing - 2nd floor
E-2400
- ABSTRACT OF REMITTANCES -
14X0804000

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M/ 14 1975
INI: ALS CODE

DATE	AMOUNT	BANK, CITY, & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
May 2, 1975	$448.25	The First National Bank of Amarillo Amarillo, Texas	American Smelting and Refining Co. (McFarland and Hullinger) (Keystone Mine)	OME-6640 Contract 2259	Royalty
May 2, 1975	$6.66	The First National Bank of Amarillo Amarillo, Texas	American Smelting and Refining Co. (McFarland and Hullinger) (Keystone Mine)	OME-6640 Contract - 2259	Royalty

Received in Branch of Financial Management 5/12/75
By Lorraine E. Eckerts
Collection Officer

Remarks: (List smelter or mill lot numbers covered by royalties)
Lot No. 7 - $6.66
Lot No. 7 - $448.25

May 7, 1975
Date prepared

Date received

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

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Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

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FINANCIAL MANAGEMENT

AMA-47

AMERICAN SMELTING & REFINING COMPANY
AMARILLO PLANT

ORE SETTLEMENT
FIGURING SHEET

SHIPPER NO. SW-ZN-6

SHIPPER U. S. Energy Corp. LOT NO. 7 ASARCO NO. 1115

ADDRESS P. O. Box 468 Crested Butte, Colo 81224 MONTH April, 1975

CLASS Zinc Concentrates MINE LOT - MINE Keystone SHIPPED FROM Salida, Colorado

ASSAYS	Au	Ag	Pb	Cu	Zn	Fe	Mn	Cd	Cl		
ASARCO	-	2.62	1.20	.88	50.00	11.0	.30	.30			
SHIPPER	.01	2.87	1.50	1.00	50.80	-	-	-			
UMPIRE R & S					50.08						
SETTLEMENT	.01	2.745	1.35	.94	50.08	11.0	.30	.30			

DATE SHIPPED	DATE REC'D.	DUMP NO.	CAR INITIAL	CAR NUMBER	WET WEIGHT	H2O %	DRY WEIGHT	FREIGHT CHARGES
2-25	3-10	627	DRGW	56185	154,720	12.20	135,844	1,009.55
				TOTAL	154,720	18,876	135,844	1,009.55

PAYMENTS:	
GOLD	-
SILVER 4.15418	5.60
LEAD	-
COPPER	-
ZINC .37445	315.14
DEDUCTIONS:	
IRON AND MANGANESE	1.80
BASE CHARGE	100.00
ZINC PRICE ADJUSTMENT	28.39
LABOR ADJUSTMENT	20.48
FUEL ADJUSTMENT	22.37
POWER ADJUSTMENT	.77
	-
NET VALUE PER TON	147.03

QUOTATIONS · DATE April, 1975

GOLD 169.843 SILVER 4.20918 LEAD .24500

COPPER .63555 ZINC .38929

POWER 15.89 Mills KWH

LABOR RATE $ 7.338 FUEL RATE $ .810 MM BTU

VALUE ORE F.O.B. Amarillo, Texas

67.9220 TONS @ 147.03	9,986.57	
FREIGHT VALUATION ____ RATE ____	1,009.55	
UMPIRE Zn	12.00	
PROVISIONAL PAYMENT	6,700.00	
Interest on Advance	38.00	
ROYALTY 5 % TO U.S. Geological Survey	448.25	
TOTAL DUE SHIPPER	1,778.77	

COPIES TO: (10)

U. S. Energy Corporation
625 Madison, Suite #1
Riverton, Wyoming 82501 (2 w/check & Umpire)

U. S. Energy Corporation
P. O. Box 468
Crested Butte, Colorado (2)

CHECK PAYABLE TO:
U. S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225

Field Officer
Office of Minerals Exploration
Region III, Room 28, Building 53,
Denver Federal Center
Denver, Colorado 80225 (2 w/Royalty Check)

Mr. A. J. Kroha (1)

Mr. A. L. Determan (1)

Voucher (1)

File (1)

Office - Region III
RECEIVED
MAY 7 - 1975
Denver, Colorado

OMR-6640-
Mc Garland Hullinger
Keystone Mine

CORRECT: VEFrick

CORRECT: LPClark

AMA-47 *Cadmium Payment*

AMERICAN SMELTING & REFINING COMPANY
AMARILLO PLANT

ORE SETTLEMENT
FIGURING SHEET

SHIPPER NO. SW-ZN-6

SHIPPER *U. S. Energy* LOT NO. *7* ASARCO NO. *1115*

ADDRESS *P. O. Box 468 Crested Butte, Colo. 81224* MONTH *May, 1975*

CLASS *Zinc Concentrates* MINE LOT *-*

MINE *Keystone* SHIPPED FROM *Salida, Colorado*

ASSAYS	Au	Ag	Pb	Cu	Zn	Fe	Mn	Cd	Cl		
ASARCO								.30			
SHIPPER											
UMPIRE											
SETTLEMENT								.30			

DATE SHIPPED	DATE REC'D.	DUMP NO.	CAR INITIAL	CAR NUMBER	WET WEIGHT	H2O %	DRY WEIGHT	FREIGHT CHARGES
2-25	3-10	627	DRGW	56185	154,720	12.20	135,844	
				TOTAL	154,720		135,844	

PAYMENTS:

.30% - .20 = .10 = 2.0 x 30%
= .60 Lbs Cadmium Per Ton x
67.9220 = 41 Lbs Pay Cadmium
x $3.25 = $133.25

DEDUCTIONS:

IRON AND MANGANESE	
BASE CHARGE	
ZINC PRICE ADJUSTMENT	
LABOR ADJUSTMENT	
FUEL ADJUSTMENT	
POWER ADJUSTMENT	
NET VALUE PER TON	

QUOTATIONS DATE *April, 1975*

GOLD - SILVER - LEAD -

COPPER - ZINC -

Cadmium $4.25 - $1.00 = $3.25

LABOR RATE $ - FUEL RATE $ -

VALUE ORE F.O.B. *Amarillo, Texas*

67.9220 TONS @		*133.25*
FREIGHT VALUATION ____ RATE ____		
UMPIRE		
PROVISIONAL PAYMENT		
ROYALTY *5* % TO *U.S.Geological*		*6.66*
TOTAL DUE SHIPPER		*126.59*

COPIES TO: (10)

U. S. Energy Corporation
625 Madison, Suite #1
Riverton, Wyoming 82501 (2 w/check & Umpire)

U. S. Energy Corporation
P. O. Box 468
Crested Butte, Colorado (2)

CHECK PAYABLE TO:
U. S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225

Field Officer
Office of Minerals Exploration
Region III, Room 28, Building 53,
Denver Federal Center
Denver, Colorado 80225 (2 w/Royalty Check)

Mr. A. J. Kroha (1)

Mr. A. L. Determan (1)

Voucher (1)

File (1)

O.M.E. Region III
RECEIVED
MAY 7 - 1975
Denver, Colorado

OME-6640
Mc Farland-Hullinger
Keystone Mine

CORRECT: *VEFrick* CORRECT: *LPClark*

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

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- ABSTRACT OF REMITTANCES -
14X0804000

DATE	AMOUNT	BANK, CITY, & STATE	NAME OF REMITTER	~~DOCKET &~~ CONTRACT NOS.	PURPOSE
4/8/75	$2,164.50	The State National Bank El Paso, Texas	American Smelting and Regining (McFarland and Hullinger) (Keystone Mine)	OME-6640 Contract 2259	Royalty

Received in Branch of Financial Management 4/24/75
By Lorraine E. Eckstein
Collection Officer

Remarks: (List smelter or mill lot numbers covered by royalties)
Lot 235: $1,172.49
Lot 389: 992.01
$2,164.50

April 21, 1975
Date prepared

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

Date received

Distribution:
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Branch of Financial Management
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Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

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APR 24 1975
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AMERICAN SMELTING AND REFINING COMPANY
EL PASO SMELTING WORKS

4/8/75

BOUGHT OF U. S ENERGY CORP. — EL PASO, TEXAS, 19
ADDRESS 655 E. Madison Suite 1 Riverton, Wyoming — SMELTER LOT 235
SHIPPING POINT Salida, Colo — SHIPPERS LOT
NAME OF MINE Sunol — CLASSIFICATION Pb 271
RATES, EXCEPT ON CONTRACTS, SUBJECT TO CHANGE WITHOUT NOTICE — PURCHASE TERMS 4449

Mix	Arrival Date	Car Number	Car RR	Gross Weight	Tare Weight	Containers No.	Containers Weight	Wet Weight	% H2O	Dry Weight
437	2/3	55369	DRG					152560	10.7	136236

Quotations: Silver 4.33/S; Lead .2450; Copper 63555

B/L Date: 1/24/75

Assays	Oz. per Ton Gold	Oz. per Ton Silver	Wet Lead %	Copper %	SiO2 %	Fe %	CaO %	Zn %	S %	Al2O3 %	As %	Sb %	Ni %	Bi %	%	%
Smelter	.01	49.8	52.3	3.22				8.0			.55	.12	.01	.22		
Shipper	.02	51.5	51.9	3.4												
Umpire		51.53														
Metallics																
Settle		51.50	52.10	3.31												

Values Per Ton — Payment	Pay Content	Price	Amount	Freight (Fixed)
Gold Min. %				
Silver, Less 1 Min. 95%	47.975	4.2715	204 93	
Lead, Less 30 @ 95%	761.40	.17582	188 26	
Copper, Less 1/6 @ 97.5% 66.20	32.195	.50356	19 74	
Gross Value			412 93	
Less Deductions (Net Charge)			51 36	
Freight Value			x x x	
Net Value			361 57 @ 68.1180	

Deductions	Charge	Credit
Base, Incl. Labor Adj.	49 62	
Excess Value Over $		
¢ Per Unit Pb/Cu ± %		
Lead--Copper Price Escalator		
Zinc		
As: .04 Sb: Bi: 1.70	1 74	
Net Charge	51 36	
Wet Ton — Dry Tons		2462 43

	Debits	Credits
Less Freight: 7628 Wet Tons @ 1494 P.T.	1139 62	
Less Switching: Reset: Reweigh: 2670 LBS. ACCT. CU. @ .015 A.P.S.	40 05	
Less Sampling:		
Less Umpire: ROOT & SIMPSON	—	
Less Hauling:		
Less Representation:		
Less Royalty: 5% O.M.E. 6640 Mc Farlands Hallinger	1172 49	
Less Advance:		
Balance Due Shipper/~~Buyer~~	2227 27	
Totals	2462 43	2462 43

AMERICAN SMELTING AND REFINING COMPANY
EL PASO SMELTING WORKS

4/8/75

BOUGHT OF U S ENERGY CORP. — EL PASO, TEXAS, 19
ADDRESS 625 E. Madison Suite 1, Riverton, Wyo 82501 — SMELTER LOT 389.
SHIPPING POINT — SHIPPERS LOT
NAME OF MINE — CLASSIFICATION Pb CTS.
PURCHASE TERMS 4449

RATES, EXCEPT ON CONTRACTS, SUBJECT TO CHANGE WITHOUT NOTICE

Mix	Arrival Date	Car Number	Car RR	Gross Weight	Tare Weight	Containers No.	Containers Weight	Wet Weight	% H_2O	Dry Weight	Quotations
472	2/24	55002	DRG					149040	10.4	133540	Silver 4.3315
											Lead .24500
											Copper 63555

B/L Date: 2/17/75

Assays	Oz. per Ton Gold	Oz. per Ton Silver	Wet Lead %	Copper %	SiO_2 %	Fe %	CaO %	Zn %	S %	Al_2O_3 %	As %	Sb %	Ni %	Bi %	%	%
Smelter	.01	36.4	55.4	3.13							.40	.08	.01	.10		
Shipper	.01	36.9	55.4	3.40												
Umpire																
Metallics																
Settle		36.65	55.4	3.265												

Values Per Ton — Payment	Pay Content	Price	Amount	Freight (Fixed)
Gold Min. %				
Silver, Less / Min. 95%	33.8675	4.2715	144 67	
1108 Lead, Less 30 @ 95%	1024.10	19582	200 54	
Copper, Less 26 @ 97.5%	38.3175	.50356	19 30	
65.30				
Gross Value			364 51	
Less Deductions (Net Charge)			50 12	
Freight Value			x x x	
Net Value			314 39	@ 66.7700

Deductions	Charge	Credit
Base, Incl. Labor Adj.	49 62	
Excess Value Over $ ¢ per Unit Pb/Cu ± %		
Lead--Copper Price Escalator		
Zinc		
As: Sb: Bi	50	
Net Charge	50 12	

	Wet Ton	Debits	Credits
Net Value	Dry Tons		20991 82
Less Freight: 7452 Wet Tons @ 1494 P.T.		1113 33	
Less Switching: Resets: Reweighs: 2558 LBS. ACCT. CU @ .015 A.P.S.		38 37	
Less Sampling:			
Less Umpire:			
Less Hauling:			
Less Representation:			
Less Royalty: 5% OME 6640 Mr Forsland + Hallinger		992 01	
Less Advance:			
Balance Due Shipper/S[redacted]		18848 11	
Totals		20991 82	20991 82

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

Office of Minerals Exploration
Building 53 - Northwest Wing - 2nd floor

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APR 18 1975

INITIALS	CODE
HK	

- ABSTRACT OF REMITTANCES -
14X0804000

DATE	AMOUNT	BANK, CITY, & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
4/1/75	$9.91	The First National Bank of Amarillo Amarillo, Texas	American Smelting and Refining Company (McFarland Hullinger) (Keystone Mine)	OME-6640 Contract 2259	Royalty
4/2/75	$512.72	The First National Bank of Amarillo Amarillo, Texas	American Smelting and Refining Company (McFarland Hullinger) (Keystone Mine)	OME-6640 Contract 2259	Royalty

Received in Branch of Financial Management 4/16/75
By Lorraine E. Edgington Collection Officer

Remarks: (List smelter or mill lot numbers covered by royalties)
Lot No. 6 ----$9.91
Lot No. 6 --$512.72

4/10/75
Date prepared

Date received

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

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- ABSTRACT OF REMITTANCES -
14X0804000

DATE	AMOUNT	BANK, CITY, & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
4/8/75	$2,164.50	The State National Bank El Paso, Texas	American Smelting and Regining (McFarland and Hullinger) (Keystone Mine)	OME-6640 Contract 2259	Royalty

Remarks: (List smelter or mill lot numbers covered by royalties)
Lot 235: $1,172.49
Lot 389: 992.01
$2,164.50

April 21, 1975
Date prepared

Date received

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

Distribution:
Original & 2 to:
Branch of Financial Management
(with checks and one copy of subdocument)
✓ Chief, OME, Reston, Va.
Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

AMERICAN SMELTING AND REFINING COMPANY
EL PASO SMELTING WORKS

4/8/75

BOUGHT OF U. S. ENERGY CORP. — EL PASO, TEXAS, 19
ADDRESS 655 E. Madison Suite 1, Riverton, Wyoming — SMELTER LOT 237
SHIPPING POINT Salida, Colo — SHIPPERS LOT
NAME OF MINE Sol — CLASSIFICATION Pb 271
RATES, EXCEPT ON CONTRACTS, SUBJECT TO CHANGE WITHOUT NOTICE — PURCHASE TERMS 4449

Mix	Arrival Date	Car Number	Car RR	Gross Weight	Tare Weight	Containers No.	Containers Weight	Wet Weight	% H2O	Dry Weight	Quotations
437	2/3	55367	DRG					152560	10.7	136236	Silver 4.3315
											Lead .2450
											Copper 63.555

B/L Date: 1/24/75

Assays	Oz. per Ton Gold	Oz. per Ton Silver	Wet Lead %	Copper %	SiO2 %	Fe %	CaO %	Zn %	S %	Al2O3 %	As %	Sb %	Ni %	Bi %	%	%
Smelter	.01	49.8	52.3	3.22				8.0			.55	.12	.01	.2		
Shipper	.02	51.5	51.9	3.4												
Umpire		51.53														
Metallics																
Settle		51.50	52.10	3.31												

Values Per Ton — Payment	Pay Content	Price	Amount		Freight (Fixed)
Gold Min. %					
Silver, Less 1 Min. 95%	47.075	4.2715	201	93	
Lead, Less 3 @ 95 %	161.40	.11582	188	26	
Copper, Less 1/6 @ 97.5%	37.195	.50356	19	74	
66.20					
Gross Value			412	93	
Less Deductions (Net Charge)			51	36	
Freight Value			x x x		
Net Value			361	57	@ 68.1180

Deductions	Charge		Credit	
Base, Incl. Labor Adj.	49	62		
Excess Value Over $				
¢ Per Unit Pb/Cu ± %				
Lead--Copper Price Escalator				
Zinc As .04 Sb: Bi: 1.70	1	74		
Net Charge	51	36		

	Net Ton / Dry Tons	Debits		Credits	
				2462	43
Less Freight: 7628 Wet Tons @ 1494 P.T.		1139	62		
Less Switching: Resets: Reweighs: 2670 LBS. ACCT. CU. @ .015 A.P.S.		40	05		
Less Sampling:					
Less Umpire: ROOT & SIMPSON		—			
Less Hauling:					
Less Representation:					
Less Royalty: 5% O.M.E. 6.40 McFarland & Hullinger		1172	49		
Less Advance:					
Balance Due Shipper/~~Buyer~~		2227	27		
Totals		2462	43	2462	43

AMERICAN SMELTING AND REFINING COMPANY
EL PASO SMELTING WORKS

4/8/75

BOUGHT OF U S ENERGY CORP. — EL PASO, TEXAS, 19
ADDRESS 625 E. Madison Suite 1, Riverton, Wyo 82501 — SMELTER LOT 389.
SHIPPING POINT — SHIPPERS LOT
NAME OF MINE — CLASSIFICATION Pb CTS.
RATES, EXCEPT ON CONTRACTS, SUBJECT TO CHANGE WITHOUT NOTICE — PURCHASE TERMS 4449

Mix	Arrival Date	Car Number	Car RR	Gross Weight	Tare Weight	Containers No.	Containers Weight	Wet Weight	% H2O	Dry Weight	Quotations
472	2/24	55002	DRG					149040	10.4	133540	Silver 4.3315
											Lead .24500
											Copper 63555

B/L Date: 2/17/75

Assays	Oz. per Ton Gold	Oz. per Ton Silver	Wet Lead %	Copper %	SiO2 %	Fe %	CaO %	Zn %	S %	Al2O3 %	As %	Sb %	Ni %	Bi %	%	%
Smelter	.01	36.4	55.4	3.13							.40	.08	.01	.10		
Shipper	.01	36.9	55.4	3.40												
Umpire																
Metallics																
Settle		36.65	55.4	3.265												

Values Per Ton

Payment	Pay Content	Price	Amount		Freight (Fixed)
Gold Min. %					
Silver, Less / Min. 95%	33.8675	4.2715	144	61	
1108 Lead, Less 30 @ 95%	1024.10	.19582	200	54	
Copper, Less 26 @ 97.5%	38.3175	.50356	19	30	
65.30					
Gross Value			364	51	
Less Deductions (Net Charge)			50	12	
Freight Value			x x	x	
Net Value			314	39	@ 66.7700

Deductions	Charge	Credit
Base, Incl. Labor Adj.	49 62	
Excess Value Over $		
$ Per Unit Pb/Cu ± %		
Lead--Copper Price Escalator		
Zinc		
As: Sb: Bi	50	
Net Charge	50 12	

	Debits		Credits	
= Wet Ton / Dry Tons			20991	82
Less Freight: 7452 Wet Tons @ 1494 P.T.	1113	33		
Less Switching: Resets: Reweighs: 2558 LBS. ACCT. @ @ .015 A.P.S.	38	37		
Less Sampling:				
Less Umpire:				
Less Hauling:				
Less Representation:				
Less Royalty: 5% of MF 6640. McFarland & Hullinger	992	01		
Less Advance:				
Balance Due Shipper/~~Consignor~~	18848	11		
Totals	20991	82	20991	82

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

Office of Minerals Exploration
Building 53 Room 200

OFFICIAL
IN REPLY REFER TO:
O. M. E.
RECEIVED
APR 2 1975

INITIALS	CODE

- ABSTRACT OF REMITTANCES -
14X0804000

DATE	AMOUNT	BANK, CITY & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
3/24/75	$1631.61 Lot 5 ($1605.45) Cadium ($26.16)	The First National Bank of Amarillo Amarillo, Texas	American Smelting and Refining Company (McFarland Hullinger) (Keystone Mine)	OME-6640 Contract 2259	Royalty

Received in Treasurer's Financial Management 3/31/75
By Collections Officer

Remarks: (List smelter or mill lot numbers covered by royalties)

Lot No. 5	$1605.45
Cadmium	26.16
	$1631.61

3/28/75
Date Prepared

J. William Hasler
J. William Hasler, Field Officer, Region III, OME

Date Received

Distribution:
Original & 2 to:
Chief, Br. of Budget & Finance
(with checks and one copy of subdocument)
Chief, OME, Washington, D.C.
Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

HK

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

Office of Minerals Exploration
Building 53 Room 200

- ABSTRACT OF REMITTANCES -
14X0804000

DATE	AMOUNT	BANK, CITY & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
3/24/75	$1631.61 Lot 5 ($1605.45) Cadium ($26.16)	The First National Bank of Amarillo Amarillo, Texas	American Smelting and Refining Company (McFarland Hullinger) (Keystone Mine)	OME-6640 Contract 2259	Royalty

Remarks: (List smelter or mill lot numbers covered by royalties)

Lot No. 5	$1605.45
Cadmium	26.16
	$1631.61

3/28/75
Date Prepared

J. William Hasler
J. William Hasler, Field Officer, Region III, OME

Date Received

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(with checks and one copy of subdocument)
Chief, OME, Washington, D.C.
Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

AMERICAN SMELTING & REFINING COMPANY
AMARILLO PLANT

ORE SETTLEMENT
FIGURING SHEET

SHIPPER NO. SW-ZN-6

SHIPPER U. S. Energy Corp. LOT NO. 5 ASARCO NO. 1115

ADDRESS P. O. Box 468 Crested Butte, Colo. 81224 MONTH MAR 1975

Zinc Concentrates MINE LOT -

MINE Keystone SHIPPED FROM Salida, Colorado

YS	Au	Ag	Pb	Cu	Zn	Fe	Mn	Cd	Cl		
CC	-	2.40	.56	.80	51.40	10.8		.36			
ER	.005	2.68	.70	.85	52.10	-					
E S & W		2.70			51.30						
LEMENT	.005	2.68	.63	.825	51.40	10.8		.36			

TE PPED	DATE REC'D.	DUMP NO.	CAR INITIAL	CAR NUMBER	WET WEIGHT	H2O %	DRY WEIGHT	FREIGHT CHARGES
2	1-7	581	DRGW	55222	149,800	10.40	134,221	978.75*
14	1-20	581	DRGW	56278	89,000	10.70	79,477	978.75*
27	1-31	598	DRGW	55537	136,900	10.40	122,662	978.75*
reight Paid on 150,000			TOTAL		375,700	39,340	336,360	2,936.25

PAYMENTS:	
	-
R 4.3150	5.80
	-
R	-
.37625	326.59
DEDUCTIONS:	
AND ANESE	1.65
CHARGE	100.00
PRICE TMENT	28.66
R ADJUSTMENT	5.53
ADJUSTMENT	5.04
R ADJUSTMENT	.59

QUOTATIONS DATE February, 1975

GOLD - SILVER 4.3700 LEAD -

COPPER - ZINC .39109

POWER 14.59 Mills KWH

LABOR RATE $ 6.142 FUEL RATE $ .449 MM BTU

VALUE ORE F.O.B. Amarillo, Texas

168.1800 TONS @ 190.92	32,108.93	
FREIGHT VALUATION ____ RATE ____	2,936.25	
UMPIRE Zn	15.00	
Air Pollution Surcharge		
0 Pounds Copper @ .015		-
PROVISIONAL PAYMENT		
ROYALTY 5 % TO U.S.Geological	1,605.45	

COPIES TO: (10)

U. S. Energy Corporation
625 Madison, Suite #1
Riverton, Wyoming 82501 (2 w/check & Umpire)

U. S. Energy Corporation
P. O. Box 468
Crested Butte, Colorado (2)

CHECK PAYABLE TO:
U. S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225

Field Officer
Office of Minerals Exploration
Region III, Room 28, Building 53,
Denver Federal Center
Denver, Colorado 80225 (2 w/Royalty Check)

Mr. A. J. Kroha (1)

Mr. A. L. Determan (1)

Voucher (1)

File (1)

CORRECT: CORRECT:

CLASS Zinc Concentrates MINE LOT —

ADDRESS P. O. Box 468 Crested Butte, Colo. 81224 MONTH MAR 13

MINE Keystone SHIPPED FROM Salida, Colorado

ASSAYS	Au	Ag	Pb	Cu	Zn	Fe	Mn	Cd	Cl		
ASARCO								.36			
SHIPPER											
UMPIRE											
SETTLEMENT								.36			

DATE SHIPPED	DATE REC'D.	DUMP NO.	CAR INITIAL	CAR NUMBER	WET WEIGHT	H2O %	DRY WEIGHT	FREIGHT CHARGES
1-2	1-7	581	DRGW	55222	149,800	10.40	134,221	
1-[illegible]	1-20	581	DRGW	56278	89,000	10.70	79,477	
1-27	1-31	598	DRGW	55537	136,900	10.40	122,662	
				TOTAL	375,700		336,360	

PAYMENTS:

.36% - .20 = .16 = 3.2 x 30%
= .96 Lbs Cadmium Per Ton x
168.1800 = 161 Lbs Pay Cadmium
x $3.25 = $ 523.25

QUOTATIONS DATE February, 1975

GOLD — SILVER — LEAD —

COPPER — ZINC —

Cadmium $4.25 - $1.00 = $3.25

LABOR RATE $ — FUEL RATE $ —

VALUE ORE F.O.B. Amarillo, Texas

168.1800 TONS @ 523.25

DEDUCTIONS:

IRON AND MANGANESE

BASE CHARGE

ZINC PRICE ADJUSTMENT

LABOR ADJUSTMENT

FUEL ADJUSTMENT

POWER ADJUSTMENT

NET VALUE PER TON

FREIGHT VALUATION _____ RATE _____

UMPIRE

PROVISIONAL PAYMENT

ROYALTY 5 % TO U.S. Geological Survey 26.16

TOTAL DUE SHIPPER 497.09

COPIES TO: (10)

U. S. Energy Corporation
625 Madison, Suite #1
Riverton, Wyoming 82501 (2 w/check & Umptr

U. S. Energy Corporation
P. O. Box 468
Crested Butte, Colorado (2)

CHECK PAYABLE TO:
U. S. GEOLOGICAL SURVEY ✓
DENVER, COLORADO 80225

Field Officer
Office of Minerals Exploration
Region III, Room 28, Building 53,
Denver Federal Center
Denver, Colorado 80225 (2 w/Royalty Check,

Mr. A. J. Kroha (1)

Mr. A. L. Determan (1)

Voucher (1)

File (1)

CORRECT: VEFrick

CORRECT: LPClark

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

Office of Minerals Exploration
Building 53
Northwest Wing -- 2nd floor
- ABSTRACT OF REMITTANCES -
14X0804000

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RECEIVED
APR 8 1975

INITIALS	CODE
HK	HK

DATE	AMOUNT	BANK, CITY & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
3/20/75	$1,134.54	The State National Bank El Paso, Texas	American Smelting and Refining Company (McFarland Hullinger) (Keystone Mine)	OME-6640 Contract 2259	Royalty

Received in Branch of Financial Management 4/3/75
By [illegible] Collection Officer 4/7/75

Remarks: (List smelter or mill lot numbers covered by royalties)
Lot 52

4/1/75
Date Prepared

J. William Hasler
J. William Hasler, Field Officer, Region III, OME

Date Received

Distribution:
Original & 2 to:
Chief, Br. of Budget & Finance (with checks and one copy of subdocument)
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Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

OME Region III
RECEIVED
MAR 31 1975
3/19/75
Denver, Colorado

AMERICAN SMELTING AND REFINING COMPANY
EL PASO SMELTING WORKS

BOUGHT OF U.S. ENERGY CORP. — EL PASO, TEXAS — 19
ADDRESS — SMELTER LOT 52
SHIPPING POINT — SHIPPERS LOT
NAME OF MINE — CLASSIFICATION PB CU
RATES, EXCEPT ON CONTRACTS, SUBJECT TO CHANGE WITHOUT NOTICE — PURCHASE TERMS 4447

Mix	Arrival Date	Car Number	Car RR	Gross Weight	Tare Weight	Containers No.	Containers Weight	Wet Weight	% H2O	Dry Weight	Quotations
52	1/10	56234	DRG	195150		W.	1160	194020	9.8	175066	Silver 4.370
											Lead 2.450
											Copper 63.565
											B/L Date 2/26/74

Assays	Oz. per Ton Gold	Oz. per Ton Silver	Wet Lead %	Copper %	SiO2 %	Fe %	CaO %	Zn %	S %	Al2O3 %	As %	Sb %	Ni %	Bi %	%	%
Smelter		34.6	47.0	2.95				9.8			30.07		01.63			
Shipper	.01	35.4	47.0	3.3												
Umpire		35.35		3.17												
Metallics																
Settle		35.35	47.0	3.17												

Values Per Ton

Payment	Pay Content	Price	Amount	Freight (Fixed)
Gold Min. %				
Silver, Less 1 Min. 95%	32.5375	4.31	140.24	
Lead, Less 30@95%	866.50	.19582	169.29	
Copper, Less 26@97.5% 63.4	36.465	.50356	18.36	
Gross Value			327.87	
Less Deductions (Net Charge)			51.30	
Freight Value			x x x	
Net Value			276.59	@87.5030

Deductions	Charge	Credit
Base, Incl. Labor Adj.	50.50	
Excess Value Over 5 ¢ Per Unit Pb/Cu ± %		
Lead--Copper Price Escalator		
Zinc		
As: Sb: (Bi)	.80	
Net Charge	51.30	

	Debits	Credits
Gross Value		327.87
Less Freight: 37.59 Wet Tons @ 1194 P.T.	1459.39	
Less Switching: Resets: 12.515 Reweighs:	50.00	
3191 LBS. ASCT CU @ .015 APS	47.87	
Less Sampling:	—	
Less Umpire: UNION		
Less Hauling:		
Less Representation:		
Less Royalty: 5% OME	1134.54	
Less Advance:		
Balance Due Shipper/~~Assessee~~	21556.37	
Totals	24302.45	24302.45

Paul

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

Office of Minerals Exploration
Building 53 ~~XXXXXXXX~~ Northwest Wing-Building 53

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HK

- ABSTRACT OF REMITTANCES -
14X0804000

DATE	AMOUNT	BANK, CITY & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
2/25/75	$883.44	The State National Bank El Paso, Texas	American Smelting and Refining Company (McFarland Hullinger) (Keystone Mine)	OME-6640 Contract 2259	Royalty

Received in Branch of Financial Management 3/10/75
By Lorraine E. Estes
Collection Officer

Remarks: (List smelter or mill lot numbers covered by royalties)

Lot 2474 - $883.44

2/28/75
Date Prepared

J. William Hasler
J. William Hasler, Field Officer, Region III, OME

Date Received

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Original & 2 to:
Chief, Br. of Budget & Finance (with checks and one copy of subdocument)
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Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

BRANCH OF FINANCIAL
MANAGEMENT
MAR 10 1975
RECEIVED
FISCAL ACCOUNTS

AMERICAN SMELTING AND REFINING COMPANY
EL PASO SMELTING WORKS

2/25/75

BOUGHT OF U S ENERGY CORP. — EL PASO, TEXAS, ____ 19____
ADDRESS 625 Madison Suite 1, Riverton — SMELTER LOT 3474.
SHIPPING POINT Salida, Colo. Wyoming — SHIPPERS LOT ____
NAME OF MINE ____ — CLASSIFICATION Pb CTS.
RATES, EXCEPT ON CONTRACTS, SUBJECT TO CHANGE WITHOUT NOTICE — PURCHASE TERMS 4449

Mix	Arrival Date	Car Number	Car RR	Gross Weight	Tare Weight	Containers No.	Containers Weight	Wet Weight	% H2O	Dry Weight	Quotations
837	12/16	56171	DRG					172360	10.8	153745	Silver 4.1925
											Lead .2450
											Copper 68403

B/L Date 12/10/74

Assays	Oz. per Ton Gold	Oz. per Ton Silver	Wet Lead %	Copper %	SiO2 %	Fe %	CaO %	Zn %	S %	Al2O3 %	As %	Sb %	Ni %	Bi %	%	%
Smelter	.01	27.2	48.4	2.58							.25	.05		.08		
Shipper	.02	28.5	48.6	2.90												
Umpire		28.18		2.79												
Metallics																
Settle	—	28.18	48.5	2.79												

Values Per Ton

Payment	Pay Content	Price	Amount	Freight (Fixed)
Gold Min. %				
Silver, Less 1 Min. 95%	25.821	4.1325	106 71	
970 Lead, Less 30 @ 95%	893	.19582	174 87	
Copper, Less 26 @ 97.5%	29.055	.55204	16 04	
55.8				
Gross Value			297 62	
Less Deductions (Net Charge)			50 59	
Freight Value			x x x	
Net Value			247 03	@ 76.8725

Deductions	Charge	Credit
Base, Incl. Labor Adj.	50 29	
Excess Value Over $		
$ Per Unit Pb/Cu ± %		
Lead--Copper Price Escalator		
Zinc		
As: Sb: Bi:	30	
Net Charge	50 59	

	Wet Ton / Dry Tons	Debits	Credits
Net Value			18 989 81
Less Freight: 86.18 Wet Tons @ 14.94 P.T.		1287 53	
Less Switching: Resets: Reweighs: 2234 LBS. ACCT. CU. @ .015 APS		33 51	
Less Sampling:			
Less Umpire: A. A. & R. LAB.		—	
Less Hauling:			
Less Representation:			
Less Royalty: 5% OME		883 44	
Less Advance:			
Balance Due Shipper/[redacted]		16785 33	
Totals		18989 81	18989 81

IN REPLY REFER TO:

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

Office of Minerals Exploration
Building 53 ~~XXXXXXXXX~~ Northwest Wing-Building 53

- ABSTRACT OF REMITTANCES -
14X0804000

DATE	AMOUNT	BANK, CITY & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
2/25/75	$883.44	The State National Bank El Paso, Texas	American Smelting and Refining Company (McFarland Hullinger) (Keystone Mine)	OME-6640 Contract 2259	Royalty

Received in Branch of Financial Management 3/10/75
By HG

Remarks: (List smelter or mill lot numbers covered by royalties)

Lot 2474 - $883.44

2/28/75
Date Prepared

J. William Hasler mc
J. William Hasler, Field Officer, Region III, OME

Date Received

Distribution:

Original & 2 to:
Chief, Br. of Budget & Finance (with checks and one copy of subdocument)
Chief, OME, Washington, D.C
Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

AMERICAN SMELTING AND REFINING COMPANY
EL PASO SMELTING WORKS

2/25/75

BOUGHT OF U S ENERGY CORP. — EL PASO, TEXAS, 19
ADDRESS 605 Madison Suite 1, Riverton — SMELTER LOT 2474.
SHIPPING POINT Salida, Colo. Wyoming — SHIPPERS LOT
NAME OF MINE — CLASSIFICATION Pb CTS.
RATES, EXCEPT ON CONTRACTS, SUBJECT TO CHANGE WITHOUT NOTICE — PURCHASE TERMS 4449

Mix	Arrival Date	Car Number	Car RR	Gross Weight	Tare Weight	Containers No.	Containers Weight	Wet Weight	% H2O	Dry Weight	Quotations
837	12/16	56171	DRG					172360	10.8	153745	Silver 4.1925
											Lead .2450
											Copper 68403
											B/L Date 12/10/74

Assays	Oz. per Ton Gold	Oz. per Ton Silver	Wet Lead %	Copper %	SiO2 %	Fe %	CaO %	Zn %	S %	Al2O3 %	As %	Sb %	Ni %	Bi %	%	%
Smelter	.01	27.2	48.4	2.58							.25	.05		.08		
Shipper	.02	28.5	48.6	2.90												
Umpire		28.18		2.79												
Metallics																
Settle	—	28.18	48.5	2.79												

Values Per Ton

Payment	Pay Content	Price	Amount	Freight (Fixed)
Gold Min. %				
Silver, Less 1 Min. 95%	25.821	4.1325	106 71	
970 Lead, Less 30 @ 95%	893	.19582	174 87	
Copper, Less 26 @ 97.5%	29.055	.55204	16 04	
55.8				
Gross Value			297 62	
Less Deductions (Net Charge)			50 59	
Freight Value			X X X	
Net Value			247 03	@ 76.8725

Deductions	Charge	Credit
Base, Incl. Labor Adj.	50 29	
Excess Value Over $		
¢ Per Unit Pb/Cu ± %		
Lead--Copper Price Escalator		
Zinc		
As: Sb: Bi		30
Net Charge	50 59	

	Debits	Credits
Net Value — Wet Ton / Dry Tons		18 989 81
Less Freight: 86.18 Wet Tons @ 14.94 P.T.	1287 53	
Less Switching: Resets: Reweighs:		
2234 LBS. ACCT. CU. @ .015 A.P.S	33 51	
Less Sampling:		
Less Umpire: A. A. & R. LAB.	—	
Less Hauling:		
Less Representation:		
Less Royalty: 5% OME	883 44	
Less Advance:		
Balance Due Shipper/[redacted]	16785 33	
Totals	18989 81	18989 81

U.S. ENERGY CORP.

625 EAST MADISON AVENUE PHONE (307) 856-9271 RIVERTON, WYOMING 82501

OFFICIAL COPY
O. M. E.
RECEIVED
JAN 7 1975

INITIALS	CODE
HK	

December 30, 1974

Mr. A. Liebert, Accounting Manager
American Smelting & Refining Company
P.O. Box 1111
El Paso, Texas 79999

Ref: OME-6640

Dear Mr. Liebert:

You are hereby notified of the Government's OME royalty (5%) on production in the Keystone Mine, Crested Butte, Colorado. A portion of the OME Contract detailing the royalty is enclosed. You are directed to pay the royalty on all shipments, from this date, computed as provided in the contract, directly to the government.

Royalty payments should be made in favor of the U. S. Geological Survey and mailed or delivered to the Field Officer Office of Minerals Exploration, Region III, Room 28, Building 53, Denver Federal Center, Denver, Colorado 80225. Each payment should be accompanied by two copies of settlement sheets or other suitable sales evidence showing the date of sale, name of the purchaser, the quantity and grade of the production sold, the price per unit, and the gross proceeds and allowable deductions therefrom.

If you have any questions please feel free to call me.

Sincerely,

Kenneth Webber
Secretary-Treasurer

KW:rla
Enclosure

cc: J. W. Hasler, OME
~~Harold~~ Kirkemo, OME

(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.

(b) Royalty on production.--The Operator, whether or not the producer (for example, if the Operator either transfers or does not retain 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 6(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 7. 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 pay on account of units of work not then performed; 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 pay on account of units of work not performed when the notice was given, 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.

U.S. ENERGY CORP.

~~418 SOUTH 7TH EAST~~
625 E. Madison

PHONE 307-856-9271

RIVERTON, WYOMING 82501

SEP 24 1974

September 5, 1974

Mr. J. William Hasler
U. S. Dept. of the Interior
Geological Survey
Denver Federal Center
Office of Minerals Exploration
Building 53, Room 28
Denver, Colorado 80225

Re: OME 6640

Dear Mr. Hasler:

Enclosed please find settlement sheets and assays for 60.9305 dry tons of zinc concentrate which was shipped to Amax Lead & Zinc, Inc. from the Keystone Mine.

I am in the process of accumulating all agreements, leases etc. regarding the property under OME 6640. Copies will be sent to you in the near future.

Yours truly,

Kenneth Webber

Kenneth Webber
Secretary-Treasurer

KW:rla
Enclosures

AMAX LEAD & ZINC, INC.

PIERRE LACLEDE CENTER, 7733 FORSYTH BOULEVARD CLAYTON, MISSOURI 63105

AGENTS

U. S. Energy Corporation
418 South 7th East
Riverton, Wyoming 82501
Attn: Mr. J. L. Larsen

SEP 24 1974

Date	5-31-74
Settlement	B-5-3
Contract	PE-342
Commodity	

ASSAY:

RECEIPT PERIOD: May 1974

LOT NUMBERS: Lot-BZ-1

DRY WEIGHT: 121861 lbs.

60.9305 tons

Payment 60.9305 Net Dry Tons @$115.00	$7007.01

DUE AMAX	
DUE VENDOR	$7007.01

LU

FORM 68 REV.

AMAX ZINC COMPANY, INC.

SAUGET, ILLINOIS

ASSAY AND WEIGHT CERTIFICATE

Smelter Lot No. 1 Sample No.

Shipper Crested Butte Silver Mining Inc. Material Crested Butte Shipper Lot No. Date

ENTRY NO.	~~INBOUND~~ FIRST ARRIVAL	CAR INITIAL	CAR NUMBER	B/L WEIGHT	FREIGHT CHARGES PREPAID	FREIGHT CHARGES ACTUAL	FREIGHT CHARGES REF./ADJ.	COND. OF CAR	OUR TRACK SCALES WEIGHT GROSS	OUR TRACK SCALES WEIGHT TARE	OUR TRACK SCALES WEIGHT NET	MOISTURE %	NET DRY WEIGHT
	5-10-74	DRGW	56305	140000	$	$	$		194600	60980	133620	8.8	121861
			TOTALS	140000	$	$	REF. $ ADJ. $		194600	60980	133620		121861

NOTES ON WEATHER CONDITIONS
( ) GENERALLY GOOD ( ) ABNORMAL:

ASSAY BY	Zn	Fe	Pb	CaO	MgO	Insol.	Cd	S	Cu	SiO_2	As	Sb	Bi			Oz. Au	Oz. Ag
SHIPPER																	
SMELTER	45.7	11.44	7.28				.34										6.70
UMPIRE																	
SETTLEMENT																	
TOTAL CONTENTS																	
UMPIRE CHGE. & ACCT.																	

NOTES:

RECEIVED SEP 24 1974

Frank Wade

FRANK WADE

COPY FOR: CUSTOMER — TRIPLICATE

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

Office of Minerals Exploration
Building 53 Room 28

September 26, 1974

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Transmitted herewith is a royalty payment due the Government on 60.9305 dry tons of zinc concentrate shipped to Amax Lead and Zinc Inc. from the Keystone Mine, Gunnison County, Colorado.

The Operator missent the Royalty Payment to the U. S. Geological Survey in Washington, D. C. You returned the check to me at my request and I have now obtained copies of the Assay and Weight Certificate from the Operator. It was received in this office September 24, 1974.

Please return my designated copy of the Abstract of Remittance, in order to complete my file.

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

Enclosure

AMAX LEAD & ZINC, INC.

PIERRE LACLEDE CENTER, 7733 FORSYTH BOULEVARD CLAYTON, MISSOURI 63105

AGENTS

RECEIVED

JUN 10 1974

U. S. Energy Corporation
~~418 South 7th East~~ 625 E. Madison
Riverton, Wyoming 82501
Attn: Mr. J. L. Larsen

Date	5-31-74
Settlement	B-5-3
Contract	PZ-342
Commodity	

ASSAY:

RECEIPT PERIOD: May 1974

LOT NUMBERS: Lot-BZ-1

DRY WEIGHT: 121861 lbs.

60.9305 tons

Payment
60.9305 Net Dry Tons @$115.00 — $7007.01

Ck #350.35

DUE AMAX	
DUE VENDOR	$7007.01

JW

917416

RECEIVED
U.S. GEOLOGICAL SURVEY

JUL 3 32 AM '74

BUDGET & FINANCE

Doc. OME 6

RECEIVED
U.S. GEOLOGICAL SURVEY
JUL 2 3 00 PM 1974
OFFICE OF THE DIRECTOR

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~~ 28

- ABSTRACT OF REMITTANCES -
14X0804000

DATE	AMOUNT	BANK, CITY & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
6/19/74	$350.35	First National Bank Riverton, Wyoming 82501	McFarland Hullinger Keystone Mine Property	OME-6640 Contract 2259	Royalty

Received in Branch of Financial Management 10/1/74
By Lorraine E. Edwards
Collection Officer

Remarks: (List smelter or mill lot numbers covered by royalties)
Lot Number Lot-BZ-1 Received copies of assay and weight certificate September 24, 1974

9/26/74
Date Prepared

J. William Hasler
J. William Hasler, Field Officer, Region III, OME

7/8/74
Date Received

Please sign, date and return to Region III

Distribution:
Original & 2 to:
Chief, Br. of Budget & Finance
(with checks and one copy of subdocument)
Chief, OME, Washington, D.C
Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

Kerik:

The check went to
Branch of Financial Mgmt.

File!!

531628

RECEIVED
U.S. GEOLOGICAL SURVEY

SEP 30 2 01 PM '94

BUDGET & FINANCE

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

Office of Minerals Exploration
Building 53 Room 28

September 26, 1974

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

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The Operator missent the Royalty Payment to the U. S. Geological Survey in Washington, D. C. You returned the check to me at my request and I have now obtained copies of the Assay and Weight Certificate from the Operator. It was received in this office September 24, 1974.

Please return my designated copy of the Abstract of Remittance, in order to complete my file.

J. William Hasler

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

Enclosure

U.S. ENERGY CORP.

~~418 SOUTH 7TH EAST~~
625 E. Madison

PHONE 307-856-9271

RIVERTON, WYOMING 82501

SEP 24 1974
Denver

September 5, 1974

Mr. J. William Hasler
U. S. Dept. of the Interior
Geological Survey
Denver Federal Center
Office of Minerals Exploration
Building 53, Room 28
Denver, Colorado 80225

Re: OME 6640

Dear Mr. Hasler:

Enclosed please find settlement sheets and assays for 60.9305 dry tons of zinc concentrate which was shipped to Amax Lead & Zinc, Inc. from the Keystone Mine.

I am in the process of accumulating all agreements, leases etc. regarding the property under OME 6640. Copies will be sent to you in the near future.

Yours truly,

Kenneth Webber

Kenneth Webber
Secretary-Treasurer

KW:rla
Enclosures

PIERRE LACLEDE CENTER, 7733 FORSYTH BOULEVARD CLAYTON, MISSOURI 63105

AGENTS

SEP 24 1974

U. S. Energy Corporation
418 South 7th East
Riverton, Wyoming 82501
Attn: Mr. J. L. Larsen

Date	5-31-74
Settlement	B-5-3
Contract	PE-342
Commodity	

AY:

RECEIPT PERIOD: May 1974

LOT NUMBERS: Lot-BZ-1

DRY WEIGHT: 121861 lbs.

60.9305 tons

Payment
60.9305 Net Dry Tons @$115.00 $7007.01

DUE AMAX	
DUE VENDOR	$7007.01

ORM GB REV.

AMAX ZINC COMPANY, INC.

SAUGET, ILLINOIS

ASSAY AND WEIGHT CERTIFICATE

Smelter Lot No. 1 Sample No.

Shipper Crested Butte Silver Mining Inc. Material Crested Butte Shipper Lot No. Date

RY	ARRIVAL	CAR INITIAL	CAR NUMBER	B/L WEIGHT	FREIGHT CHARGES PREPAID	FREIGHT CHARGES ACTUAL	FREIGHT CHARGES REF./ADJ.	COND. OF CAR	OUR TRACK SCALES WEIGHT GROSS	TARE	NET	MOISTURE %	NET DRY WEIGHT
	5-10-74	DRGW	56305	140000	$	$	$		194600	60980	133620	8.8	121861
			TOTALS	140000	$	$	REF. $ ADJ. $		194600	60980	133620		121861

NOTES ON WEATHER CONDITIONS
( ) GENERALLY GOOD ( ) ABNORMAL:

ASSAY BY	Zn	Fe	Pb	CaO	MgO	Insol.	Cd	S	Cu	SiO_2	As	Sb	Bi			Oz. Au	Oz. A
PER																	
TER	45.7	11.44	7.28				.34										6.70
RE																	
EMENT																	
L CONTENTS																	
RE CHGE. & ACCT.																	

NOTES:

OFFE RECEIVED SEP 24 1974

Frank Wade

FRANK WADE

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~~ 28

- ABSTRACT OF REMITTANCES -
14X0804000

DATE	AMOUNT	BANK, CITY & STATE	NAME OF REMITTER	DOCKET & CONTRACT NOS.	PURPOSE
6/19/74	$350.35	First National Bank Riverton, Wyoming 82501	McFarland Hullinger Keystone Mine Property	OME-6640 Contract 2259	Royalty

Remarks: (List smelter or mill lot numbers covered by royalties)
Lot Number Lot-BZ-1 Received copies of assay and weight certificate September 24, 1974

9/26/74
Date Prepared

J. William Hasler
J. William Hasler, Field Officer, Region III, OME

7/8/74
Date Received

Distribution:
Original & 2 to:
Chief, Br. of Budget & Finance
(with checks and one copy of subdocument)
Chief, OME, Washington, D.C
Abst. of Rem. Ledger
Mr. Hasler chron
OME chron

United States Department of the Interior
GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

Office of Minerals Exploration
Building 53 Room 28

August 5, 1974

Memorandum

TO: Chief, Office of Minerals Exploration

FROM: Field Officer, Region III

Subject: OME-6640 (silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

An annual inspection was made of the Keystone Mine by the Field Officer, Region III in company with Mr. Max Evans, President, Crested Butte Silver Mining, Incorporated on July 23-24, 1974.

Exploration work under the above-captioned contract at the Keystone Mine was completed during February 1969, after having expended $85,260.00 in Government funds which included cross-cutting and drafting and raising. Two veins, the Union and Keystone, were explored for a horizontal distance of 551.5 and 1,569.58 feet respectively and up dip vertically for as much as 128 and 98 feet respectively. The exploration work resulted in the discovery of an estimated 15,400 tons and 80,000 tons of inferred ore reserves on the Union and North Keystone veins respectively.

As of this date a total of 4,668 tons of ore have been produced from the Keystone vein from September 1969 through May 1974. Settlement sheets indicate that royalty payments amount to $18,472.24.

Since the exploration work under the subject contract was completed TOSCO Mines Corporation and Crested Butte Silver Mining, Incorporated expended in excess of $600,000.00 in additional drifting, development work, and diamond drilling on the North Keystone vein. An additional 1000 feet of drifting has been completed along the North Keystone vein on the 1370 level as of July 23, 1974. Stoping has been done from the

1670 level to the 1268 stope, developing a block of ground some 260 feet in length by 510 feet in height that will average 5 feet in thickness, thus giving an estimated tonnage of 66,300 tons of ore since 1970. Some stopes are as wide as 8.5 feet. There is as much as 850 feet of back available for mining above the 1670 level within the area that is indicated as unexplored ground on the accompanying sketch. The 1367 raise is now up dip some 220 feet above the 1370 sill. The grade of this ore should average 5.6/oz. Ag, 4.40% Pb, 0.57 % Cu., and 11.58% Zn., using Tosco's figures. At current prices, 8/1/74, this ore would gross $140.79 per ton. TOSCO conservatively estimated that they developed 25,311 tons of ore in 1970, valued at $23.95 per ton having a gross value of $606,273.00. Exploration and development work are continuing northwesterly on both the Union and Keystone veins.

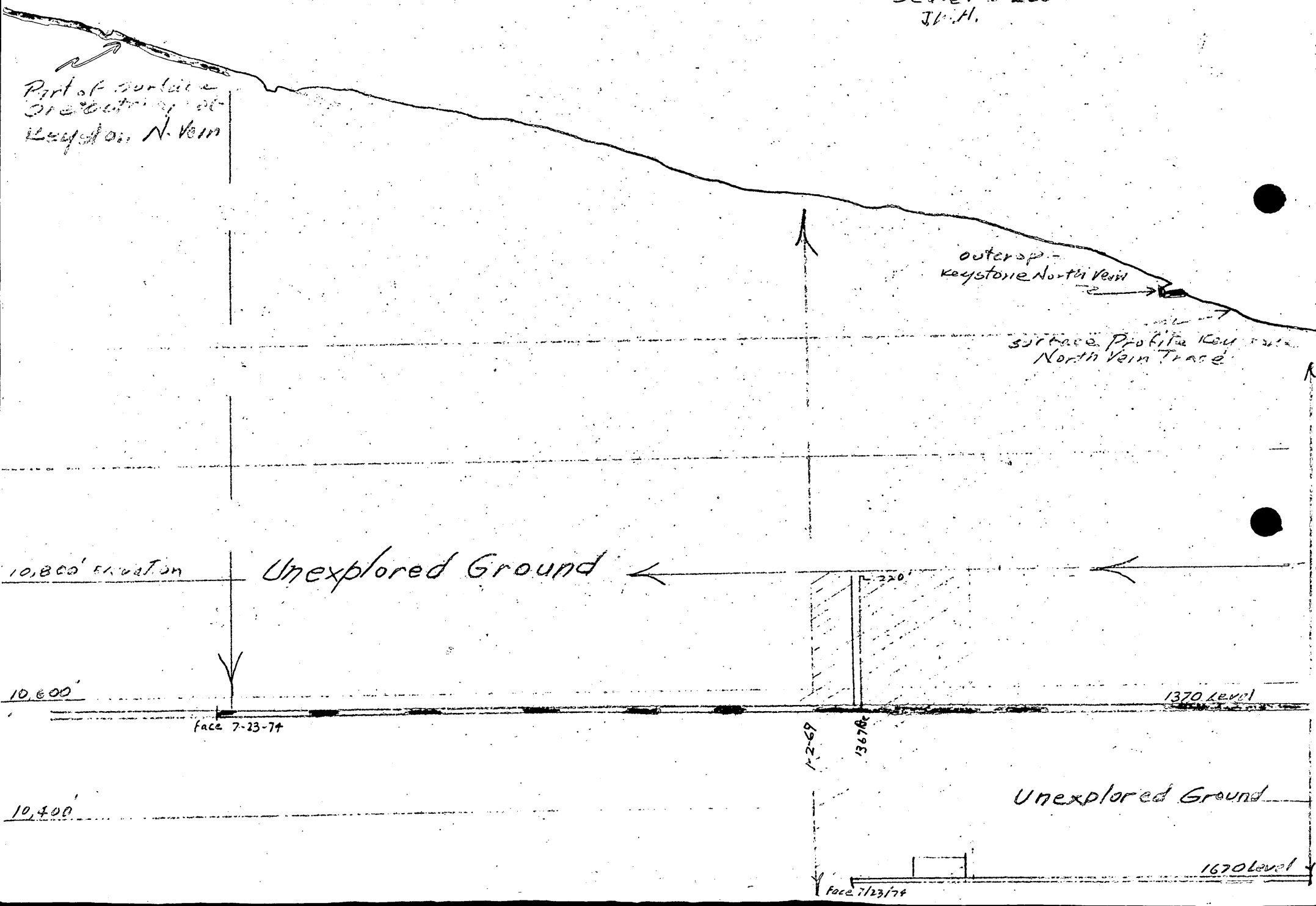
The Crested Butte Silver Mining, Incorporated has just purchased the Micawber Mine owned by Standard Metals Mining Company, which lies some 2½ miles northwest of the Keystone Mine, and they are in the process of purchasing the Daisy Group of Mines that lie 1-3/4 miles north-northeast of the Keystone mine with the ultimate plan that the three mines can adequately feed the 300 ton per day mill at the Keystone property. The ore in each of the three mines is similar in type and grade. There is currently a high demand for zinc ore and the company wants to be ready to take advantage of the market. Exploration and development of new ore in the Keystone mine is presently in progress and plans are to continue developing both the Keystone and Union vein northwesterly below known ore bearing outcrops.

J. William Hasler

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

cc: OME-6640
OME chron
Mr. Hasler

OHE 6640
KEYSTONE MINE
July 1974
Scale 1" = 200'
J.V.H.



Office of Minerals Exploration
Building 53 Room 28

July 11, 1974

Mr. Max T. Evans, President
Crested Butte Silver Mining, Inc.
Crested Butte, Colorado

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Dear Max:

It is good to know that you are again in production at the Keystone Mine and that there is again a state side demand for zinc concentrates as well as for your lead, zinc and silver concentrates under your contract with the American Smelting and Refining Company at El Paso, Texas. As we discussed this morning, the receipt of a royalty payment check from Crested Butte Silver Mining, Inc. that was sent directly to Washington, then returned to me here. I am sending Mr. Webber a copy of the instructions included in the certification of possible production under an exploration contract dated October 10, 1969 to McFarland and Hullinger, referred to above, should any more royalty payments be made through Mr. Webber's office at Riverton, Wyoming.

Enclosed are some extra copies of these instructions for your use should any of your concentrates be shipped to smelters other than A. S. & R. who have already been so informed of royalty payments due the Government from production undert the subject contract.

In a letter dated January 27, 1971 to Mr. Donald R. Lambert, Vice President, TOSCO Mines Corporation, Mr. Kirkemo, Chief, Office of Minerals Exploration acknowledged receipt of a copy of the First Supplemental Joint Venture Agreement between TOSCO Mines corporation and McFarland and Hullinger, Inc. relative to the Keystone Mine property.

Since January 27, 1971, the Keystone Mine property has been purchased by Crested Butte Silver Mining Incorporated from McFarland and Hullinger who in turn had Lien and Subordination agreements signed by ASARCO and by Park City Consolidated Mines Company, owner of the land described in the OME contract.

We are therefore given to understand the Joint Venture Agreement between TOSCO Mines Corporation and McFarland and Hullinger, Inc. relative to the Keystone Mine Property is not now in effect and that Crested Butte Silver Mining Inc. is now the Operator. We do not have a copy in this office of the agreement whereby Crested Butte Silver Mining Incorporated has since become the Operator, and I am not aware of any such instrument having been sent to our Washington office.

If there has been a change of ownership, lease or sublease please inform us of the details of the transaction and provide two true or signed copies of the pertinent documents.

Attention is specifically invited to the provisions of Article 2(c) of the contract referring to the preservation of the Government's royalty rights. Two true copies of any instrument transferring or encumbering any of said rights shall be furnished to the Field officer. In this case, Mr. J. William Hasler, Field Officer, Region III, Office of Minerals Exploration, U. S. Geological Survey, Room 28, Building 53, Denver Federal Center, Denver, Colorado 80225.

Sincerely,

J. William Hasler

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

cc: Kenneth Webber
Chief, OME
OME-6640
OME chron
Mr. Hasler

Office of Minerals Exploration
Building 53 Room 28

July 11, 1974

Mr. Kenneth Webber
Crested Butte Silver Mining, Inc.
625 East Madison
Riverton, Wyoming 82501

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Dear Mr. Webber:

I am in receipt of a check in the amount of $350.35 from Crested Butte Silver Mining, Inc. for royalties due the Government on production from the Keystone Mine in Gunnison County, Colorado under the above referred docket OME-6640. Accompanying the check is a settlement sheet from Amax Lead and Zinc Inc., Clayton, Missouri, showing only the date, settlement, and contract number, showing that 121861 lbs. (60.9305 tons) in Lot BZ-1 was received during May 1974.

Payment for this shipment of 60.9305 net dry tons at $115.00 totalled $7,007.01. Royalty due at 5 percent on this amount was $350.35 which you remitted. We should like to receive copies of the actual settlement sheet showing quantity and grade of the production sold, the values, price per unit, and the gross proceeds and allowable deductions therefrom.

We appreciate receiving the royalty check, however, you had not been fully advised as to where the payment should have been sent, as you sent it directly to the Geological Survey in Washington, D. C. The money was sent to the Office of the Director, and then on to the Office of Budget and Finance, then to the Office of Minerals Exploration.

I talked with Mr. Max Evans this morning inquiring about the shipment, and informed him of the instructions given McFarland and Hullinger on October 10, 1969 concerning certification of possible production under an exploration contract. I am therefore sending a copy of

these instructions for your use upon receipt of further production from the Keystone Mine. The American Smelting and Refining Company has been so informed and have sent royalty payments to this office from prior shipments along with copies of their settlement sheet. Thank you again for your remittance and we are happy to know that the Keystone Mine is again in production.

Sincerely yours,

J. William Hasler

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

cc: Chief, OME ✓
OME-6640
OME chron
Mr. Hasler

Office of Minerals Exploration
Building 53 Room 28

July 11, 1974

Mr. Kenneth Webber
Crested Butte Silver Mining, Inc.
625 East Madison
Riverton, Wyoming 82501

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

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Sincerely yours,

J. William Hasler

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

cc: Chief, OME
OME-6640
OME chron
Mr. Hasler

3050 W. 71ST AVENUE, SUITE ONE
WESTMINSTER, COLORADO 80030
TELEPHONE 303 428-9565

LLOYD R. MYERS

Certified Public Accountant

OFFICIAL
COPY
O. M. E.
RECEIVED
MAR 25 1974
INITIALS | CODE
HK | HK

March 22, 1974

United States Department of the Interior
Office of Minerals Exploration
Geological Survey
National Center, Mail Stop 920
12201 Sunrise Valley Drive
Riston, Virginia 22092

RE: OME-6640 (Silver)
Crested Butte Silver Mining, Inc.
Crested Butte, Colorado

Attn: Mr. Harold Kirkêmo

Dear Mr. Kirkemo,

I have been engaged to audit the books and records of Crested Butte Silver Mining, Inc. In connection with that examination, I need to confirm the balance of OME loan docket number OME-6640 at the following dates, including the accrued interest thereon:

January 27, 1972
May 31, 1972
May 31, 1973
January 7, 1973

Sincerely yours,

Lloyd R. Myers

Lloyd R. Myers

cc: Crested Butte Silver Mining, Inc.

Date Reqstd	Actual date	Principal	Interest
1/27/72	1/30/72	77,238.43	10,648.08
5/31/72		77,238.43	12,563.21
5/31/73		77,238.43	17,270.34
1/7/73	12/31/72	77,238.43	~~20,666.73~~ 14,873.82
1/7/73	12/31/73	77,238.43	$ 20,666.73

Crested Butte, Colorado
December 22, 1973

Mr. Harold Kirkimo:
Chief - Office of Minerals Exploration
United States Geological Survey
National Center - Mail Stop 920
12201 Sunrise Valley Drive
Reston, Virginia 22092

Dear Mr. Kirkimo:

There appears to be a good chance for the Keystone Mine, located near Crested Butte, Colorado, to be reactivated in the spring of 1974. Since there is still an OME loan against the property, we would like to get the current amount due, along with interest accrued.

Due to snow conditions this A.M., I am unable to reach the Keystone office for the OME Docket Number. We would greatly appreciate copies of the information be mailed to the following:

1- Crested Butte Silver Mining Inc.
P. O. Box 407
Crested Butte, Colorado 81224

1- Mr. E. Nowell
2735 So. St. Paul
Denver, Colorado 80210

Thanking you in advance,

Yours very truly,

Max T. Evans

Max T. Evans - Pres.
Crested Butte Silver Mining Inc.
P. O. Box 407
Crested Butte , Colorado 81224

CC: Mr. E. Nowell

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
1/30/73		120
		220

AIRMAIL

Mr. Max T. Evans
President
Crested Butte Silver Mining, Inc.
Crested Butte, Colorado 81224

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Dear Mr. Evans:

We asked you by letter dated November 28, 1972, for copies of documents relating to the sale of the Keystone Mine property to Crested Butte Silver Mining, Inc. To date we have not received this material. Please forward two copies to us at your earliest convenience.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Mineral Resources
OME docket
OME Reading File
OME Region III
Mr. Kirkemo
130

HKirkemo/gla 1-30-73

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
11/28/72		130
		220

AIRMAIL

Mr. Max T. Evans
President
Crested Butte Silver Mining, Inc.
Crested Butte, Colorado 81224

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Dear Mr. Evans:

Reference is made to our letter of September 25, 1972, stating that we understood that copies of pertinent documents relating to the sale of the subject property would be sent to us in the near future as is required by the OME contract. We trust that you will forward these soon.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Mineral Resources
OME docket
OME Reading File
OME Region III
Mr. Kirkemo
130

GLAult/a 11-28-72

Form 7
3)

OFFICIAL FILE COPY

Date	Surname	Code
9/25/72		120
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AIRMAIL

SEP 25 1972

Mr. Max T. Evans
President
Crested Butte Silver Mining, Inc.
Crested Butte, Colorado 81224

Re: OME-6640 (Silver)
McFarland and Hulllinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Dear Mr. Evans:

This is to acknowledge receipt of royalty on Smelter Lot 1917 under provisions of the subject contract.

Mr. J. W. Hasler, Field Officer, OME Region III, informed us of his recent conversation with you regarding transfer of the property to Crested Butte Silver Mining, Inc., and the resumption of mine operations. We understand that copies of pertinent documents relating to sale of the property will be sent to us in the near future as is required by the OME contract.

We hope that you will be able to continue operating the mine despite the difficulty of obtaining and retaining competent miners. Mr. Hasler reports that this is one of the most serious problems facing the small mine operator today.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Mineral Resources
OME docket
OME Reading file
OME Region III
Mr. Kirkemo
130

HKirkemo/gla 9-25-72

The MINING RECORD
THE VOICE OF THE MINING INDUSTRY
FOR EIGHTY-THREE YEARS
Denver, Colorado, August 30, 1972
$10 a year, 25

U.S.G.S.
OFFICE OF MINERALS
EXPLORATION - ROOM 4450
DEPT. OF THE INTERIOR
WASHINGTON, D. C. 20242
R3-10-74

Keystone Mine Ships First After Being Closed Two Yea

CRESTED BUTTE, Colo.—The first railroad car of ore was shipped this month from the Keystone Mine near Crested Butte since the mine resumed operation after being closed for two years.

Max Evans, president of Crested Butte Silver Mining Inc., owner of the mine, said a carload of silver, lead and copper concentrates was shipped for smelting to El Paso, Tex. The El Paso smelter is the nearest one to Colorado and one of few operating in the country.

Evans, who was mine superintendent of the company which owned the mine until it was sold in February, said rehabilitation work has been underway at the mine since last winter.

The mine was initially operated by the American Smelting & Refining Co. Operations began in 1953 and ran for 19 months until metal prices fell in 1955.

The mine was closed until McFarland and Hullinger of Utah bought it and operated it from 1963 until 1969.

Tosco Oil Shale took over the property in later 1969 and operated it until 1970, then closed it.

The new Crested Butte Silver Mining Co. bought the entire operation, including a fully equipped mill, complete with mechanical and machine shops, motorized equipment and underground mining equipment.

Along with the $150,000 worth of machinery goes 1,500 acres of both patented and unpatented claims.

Evans said the Keystone produced over one-half million tons of ore worth between $18 and $20 million before it was closed in 1970. Recent increases in metal prices warranted re-opening the mine.

Evans was particularly optimistic about the removal last week by the U.S. government of the lid on silver prices. Pegged at $1.615 per ounce for years, the price of silver climbed to $1.833 within days of removal of the ceiling.

"The outlook for silver is good," Evans said, adding that prices for lead, zinc and copper are still controlled.

A factor which has caused metal prices to rise is at the same time a roadblock for American mineral production. That is the closing of smelting operations, mainly because of air pollution controls.

"El Paso is the closest one we can ship to," Evans said. "They are shutting down all over the country. Two smelters in Salt Lake City which took a lot of ore from Colorado closed. Two others, in Dumas, Tex., and East Helena, Mont., also shut down."

Evans said he thought the El Paso mill had worked out objections raised by environmentalists. Operating hours of the mill have been strictly controlled in the past depending upon atmospheric conditions.

But shipping raw ores such a distance is prohibitively expensive. Ores—even high-grade ones—must be milled first to extract concentrates for shipping," Evans said.

The mill at the Keystone cost $1 million to build and is a good one, he said. Ores extraced from the mine are run through a crushing plant and reduced to about ¾-inch diameter material.

A second crushing operation pulverizes the ore to a fine powder. This material is run through a flotation mill which separates it into two categories: lead concentrates, which include lead, silver, copper and a little gold; and high-grade zinc concentrates, including zinc and cadmium, an expensive mineral used mainly as steel-hardening alloy.

The concentrates are separated, filtered and bagged, then shipped by truck to Salida. There they are loaded aboard Denver and Rio Grande Western trains for shipment to El Paso.

Evans said mining is being done on two upper levels of the mine and up to 4,000 feet into the mountain from the mine shaft.

"The lower part of the mine is flooded," Evans said, "And we think the better exploration and development potential is on the upper levels."

The company employs 11 men now, with a mine foreman, a shop forement, a truck driver, six miners and two other men operating underground hauling equipment.

Four more men work full time at the mill with another two expected this week.

Interior and Colorado To Make Oil Shale Environment Studies

DENVER—Combined Department of the Interior-State of Colorado-industry studies costing nearly three-quarters of a million dollars to investigate environmental effects of oil shale development were announced today by Secretary of the Interior Rogers C.B. Morton and Governor John A. Love of Colorado.

Governor Love at 1 p.m. today at the Department of the Interior in Washington, D.C., joined Harrison Loesch, Assistant Secretary for Public Land Management and Hollis M. Dole, Assistant Secretary for Mineral Resources, to sign a contract agreement for the studies. Interior's contribution to the contract agreement may total as much as $220,000 in fiscal years 1973 and 1974. The Bureau of Land Management will administer the contract for Interior.

Completion of the plan required more than a year of cooperative effort between the State of Colorado, Interior and industry. The three will make nearly equal contribution to fund studies to be made by university, local, State and Federal environmental specialists.

The contract will be administered by the Colorado Natural Resources Department, headed by Tom Ten Eyck. Under the agreement, Colorado State University will undertake field studies on revegetation and land reclamation; Thorne Ecological Institute will undertake an environmental

help us achieve President Nixon's clean energy policy," Secretary Morton said.

Governor Love emphasized that results of the studies will be applied to State planning and supervision of activities on private lands, and in coordination with the Department of the Interior, should Federal public lands be developed.

Secretaries Dole and Loesch noted that the studies will provide a valuable contribution to Interior's proposed oil shale leasing program and will be available prior to approval of detailed plans for mining operations.

Both Secretary Morton and Governor Love expressed appreciation to John Rold, Colorado State Geologist, and Interior's former Deputy Oil Shale Commissioner, Val Payne, for developing the contract.

In a joint statement, Colorado senators Gordon Allott and Peter Dominick and Rep. Wayne Aspinall congratulated participants in the contract for achieving a notable first in environmental history.

Never before, the legislators said, has industry joined with the State and Federal governments to conduct advance studies on land use planning, reclamation, water resources, and an ecological and wildlife inventory for a total environmental analysis before developing an industry.

Interior agencies contributing to the studies include the Bureau of Mines, Bureau of Land Management, Fish and Wildlife Service, Bureau of Reclamation, and Geological Survey.

Signing, in Lusaka, Zambia, of 2.5 million dollar contract for nationwide geophysical survey. From left, Dr. Alan Drysdall, of Zambia; Mr. K.C.M. Nyalugwe, f Mines & Mining Development; Mr. Vice President, GeoMetrics; Dr. ysicist, GeoMetrics.

Howard Hughes File on "Worthless" Claim

Howard Hughes and the went Hughes Tool Co. have filed multimillion dollar district court restit f " H b H

warded 2.5 K e Survey

Drysdall. GeoMetrics will collect aeromagnetic and airborne gamma ray spectrometer data in digital form over the entire central African nation. The data will be computer processed and mapped by GeoMetrics, and the results will be integrated with data from Zambia's countrywide geochemical and geological mapping program.

This project will yield comprehensive reconnaissance data to assist the Geological Survey and other Zambian governmental agencies and international mining companies in locating and developing new mineral deposits in Zambia.

In discussing the contract

THE OIL SHALE CORPORATION
1600 BROADWAY
DENVER, COLORADO 80202
303/292-5140
CABLE ADDRESS: "TOSCOPETRO"

OFFICIAL COPY
O. M. E.
RECEIVED
APR 12 1972
INITIALS | CODE
gla 130
120
680 FIFTH AVENUE
NEW YORK, NEW YORK 10019
220

April 10, 1972

United States Department of the Interior
Geological Survey
Office of Minerals Exploration
Washington, D. C. 20242

Re: OME 6640 (Silver)
McFarland & Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2254

Dear Sir:

Enclosed are 2 copies of Form MME 63, together with copies of the two documents relating to termination of the Keystone Mines Company interest in the subject property.

I trust this information is sufficient for your requirements.

Very truly yours,

H. Michael Spence

H. MICHAEL SPENCE
Assistant General Counsel

HMS/jt
Encs.

cc: McFarland & Hullinger) w/Encs.

see enclosures filed left-hand side of docket

copy of letter, Notice dated 4/29/71, Consent, Form 63 sent to R-III sent 9/8/72

United States Department of the Interior

GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242

IN REPLY REFER TO: Office of Minerals Exploration

March 22, 1972

Tosco Mines Corporation
Attention: Robert K. Murray
Manager, Mining Department
18200 West Highway 72
Golden, Colorado 80401

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Gentlemen:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

RECEIVED
APR 6 1972
TOSCO-DENVER

RECEIVED
APR 6 1972
TOSCO-DENVER

Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since April 6, 1971, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes [X] No [ ]

TOSCO Mines Corporation and McFarland & Hullinger, Inc., a joint venture doing business as Keystone Mines Company (lessees) terminated the Keystone Mine Property Lease from the American Smelting and Refining Company (lessor) on June 30, 1971. Attached is a copy of Notice of Cancellation of Lease, and Consent to Cancellation.

2. Since April 6, 1971, has there been any production from the land subject to the contract? Not while leased by Keystone Mines Company Yes [ ] No [X]

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

Purchaser (*name and address*)	Quantity	Value
NOT APPLICABLE		

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity (*tons*)	Estimated Grade	Location
Ore	NOT APPLICABLE		
Concentrates			
Other			

3. Since workings (*see* , has any production been transported through *of contract*)? Yes [ ] No [X]

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name H. Michael Spence H. MICHAEL SPENCE	*Title* ATTORNEY
Address 1600 Broadway, Suite 1120 Denver, Colorado 80202	*Date*

IN REPLY REFER TO:

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

Office of Minerals Exploration
Building 53 Room 28

September 27, 1971

OFFICIAL COPY
O. M. E.
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INITIALS | CODE
Cal | 170 m
gla | 120
HK | 220
220

Memorandum

To: Chief, Office of Minerals Exploration

From: Assistant Chief, Office of Minerals Exploration

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Transmitted herewith is the final field report on the above-stated OME exploration project.

William L. Emerick

William L. Emerick,
Assistant Chief
Office of Minerals Exploration

Enclosure

FINAL FIELD REPORT - OME EXPLORATION PROJECT

By W. L. Emerick

September 27, 1971

1. OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Operator: McFarland and Hullinger
P.O. Box 238
Tooele, Utah 84074

Property: Consisted of eight (8) patented and twenty-three (23) unpatented lode mining claims, including all rights pertaining thereto, in secs. 30 and 31, T. 13 S., R. 86 W., sec. 6, T. 14 S., R. 86 W., and sec. 36, T. 13 S., R. 87 W., 6th Principal Meridian, Elk Mountain and Ruby mining districts, Gunnison County, Colorado. A map showing the area of these 31 claims was attached to the contract.

Ownership: The Operator was in possession of the claims under the terms of a Mining Lease, dated April 1, 1963, from American Smelting and Refining Company, the owner of a sixty percent interest in the land and the manager of the remaining forty percent interest owned by Park City Consolidated Mines Company.

2. Purpose of Project: The purpose of the project was to explore the Union and Keystone veins on the 1370 Level of the Keystone Mine by crosscutting, drifting, and raising for silver-bearing ore bodies in or near the veins in the Mesaverde Formation of Cretaceous age.

3. Contract: Dated March 22, 1968, for a term of 12 months.
Original contract amount of $88,580.00 increased to $113,680.00 by Amendment No. 1
Government participation - 75 percent, increased by Amendment No. 1 from $66,435.00 to $85,250.00.

Amendment - No. 1 - October 24, 1968, (1) to increase the estimated total cost of work, (2) to revise the first paragraph in Exhibit A, (3) to revise in Exhibit A the entire section under the heading Description of the Work, and (4) to revise in Exhibit A the Fixed Unit Costs under the heading Estimated Costs of the Project.

FINAL FIELD REPORT

4. Project Work: Started April 9, 1968. Completed February 1969.

Cost Items

Fixed Unit Costs	Authorized Units	Authorized Rate	Authorized Amount	Completed Units	Completed Amount
Crosscutting and drifting	2,000 feet	$45.90/ft.	$91,800.00	2,120 feet	$97,357.57
Timbering-crosscut and drift	200 feet	$6.45/ft.	$1,290.00	52 feet	$334.11
Raising, including timbering	300 feet	$43.50/ft.	$13,050.00	266 feet	$11,561.43
Assaying for silver, lead, zinc, copper	300 samples	Various	$2,540.00	167 samples	$1,419.50
Snow removal, HD-21 bulldozer with operator	200 hours	$25.00/hr.	$5,000.00	201 hours	$3,007.50
Total costs			$113,680.00		$113,680.11
Government participation @ 75%			$85,260.00		$85,260.00
Paid to the Operator					$85,260.00

The government retained no equity in any of the equipment or materials used.

Effectiveness of the Work - The two veins were effectively explored with the OME funds authorized. The Operator's request for additional OME funds to continue the exploration work were denied because of budget constraints.

Efficiency of Operator - The operation was efficiently performed and competently supervised.

5. Reports:

Operator's Final Report- An acceptable Final Report, dated March 22, 1968, with supporting maps was received by the Field Officer, Region III, and transmitted to Washington on May 20, 1969.

Cost Review - A report of Review was issued by the Office of Survey and Review in August 1969.

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 8, 1969.

Royalty Review - As of the date of this report a Royalty Review had not been requested.

6. Project Results:

Discoveries

- The project work resulted in the discovery of significant reserves of minable silver-bearing ore. Progress maps and assay data were attached to monthly vouchers. Ore reserves estimated as a result of the OME work were (1) 15,400 tons of ore averaging 3.31 ounces of silver per ton, 3.59 percent lead, 5.00 percent zinc, and 0.373 percent copper, and (2) 80,000 tons of ore averaging 4.90 ounces of silver per ton, 8.70 percent lead, 7.38 percent zinc, and 0.377 percent copper.

  The Operator requested additional OME funds to carry on exploration but these were denied because of budgetary restraints imposed upon OME. Production and development was economically feasible,however, as a result of the OME work and was carried on by the Operator into January 1970. The property was shut down in September 1970.

Certification

- Certification was recommended on the basis of the ore discovered by the OME work and a Certificate of Possible Production was issued on October 10, 1969. The Government's lien for payment of royalties expires on March 22, 1978, or when the total amount contributed by the Government is fully repaid with interest at the rate of 7 1/2 percent per annum, whichever occurs first.

Production

- Approximately 4,555 tons of ore were produced from the Keystone mine during the period September 1969 through January 1970, as a result of OME work.

Royalties

- Settlement sheets to the middle of March 1970 indicate that royalty payments amounting to $17,045.41 were made to the Government on the production of approximately 4,555 tons of ore.

7. Geologic Summary:

- The ore deposits occur as distinct shoots in steeply dipping fissure veins cutting a thick series of interbedded sandstones and shales. The veins strike about N. 30° to 40° W., and dip 55° to 75° SW. Average width of the veins is about 4.0 feet. Ore minerals are silver-bearing galena, sphalerite, and chalcopyrite in a gangue of quartz, pyrite, pyrrhotite, rhodochrosite, rhodonite, and clay minerals. Past production of the mine through April 1967 was about 463,000 tons of ore valued at about $15,350,000. The ore averaged 5.69 ounces silver per ton, 5.54 percent zinc, 2.60 percent lead, and 0.73 percent copper.

TOSCO MINES CORPORATION
18200 WEST HIGHWAY 72
GOLDEN, COLORADO 80401
303/279-7721

680 FIFTH AVENUE
NEW YORK, NEW YORK 10019

April 6, 1971

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Mr. Harold Kirkemo, Chief
Office of Minerals Exploration
U. S. Geological Survey
United States Department of the Interior
Washington, D. C. 20242

Re: Your letter of March 31, 1971
OME-6640 (Silver)
Contract 2259

Dear Mr. Kirkemo:

We have made the suggested correction to our copy of the First Supplemental Joint Venture Agreement of Keystone Mines Company.

Very truly yours,

ROBERT K. MURRAY
Manager, Mining Department

RKM/cf
Encs.

United States Department of the Interior

GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242

IN REPLY REFER TO: Office of Minerals Exploration

March 31, 1971

Tosco Mines Corporation
Attention Mr. Donald P. Lambert
Vice President
18200 West Highway 72
Golden, Colorado 80401

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Gentlemen:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

In reviewing the First Supplemental Joint Venture Agreement of Keystone Mines Company, we note in the last line on page 21 under Article 9.1.3 that "7-1/4%" is stated as rate of interest on the OME loan. Please correct this to read "7-1/2%". A pencilled correction is indicated but is not initialled by the signators to the agreement.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

copy to Reg III
with copy letter 4/6/71

RECEIVED
APR 2 1971
TOSCO-GOLDEN

Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since March 19, 1970, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No ☒

2. Since March 19, 1970, has there been any production from the land subject to the contract? Yes ☐ No ☒

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

Purchaser *(name and address)*	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity *(tons)*	Estimated Grade	Location
Ore			
Concentrates			
Other			

3. Since workings *(see* has any production been transported through *of contract)?* Yes ☐ No ☒

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name	*Title*
ROBERT K. MURRAY	MANAGER, MINING DEPARTMENT
Address TOSCO MINES CORPORATION 18200 West Highway 72 Golden, Colorado 80401	*Date* April 6, 1971

United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225

IN REPLY REFER TO:

Office of Minerals Exploration
Building 53 Room 200

OFFICIAL COPY
O. M. E.
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gla	130
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March 15, 1971

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Transmitted herewith is a true copy of the First Supplemental Joint Venture Agreement of Keystone Mines Company, entered into as of December 1, 1969 by and between McFarland and Hullinger, Inc. and Tosco Mines Corporation, as per your recent request. For some reason or another, Region III had been sent a copy but none had been sent to Washington even though the request to Tosco came from you.

J. William Hasler

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

Enclosure

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
1/22/71	Emerick	120
		120
		220

JAN 22 1971

AIRMAIL

Lybrand, Ross Bros. & Montgomery
605 Walker Bank Building
Salt Lake City, Utah 84111

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Gentlemen:

Mr. Walter V. Woods, Keystone Mines Company, has requested that we furnish you with information on the outstanding balance and accrued interest on the subject contract as of December 31, 1970. This information is as follows:

Balance of principal	$77,238.43
Accrued interest	4,364.52
Total	$81,602.95

Work on the subject contract was completed in February 1969, and royalties on production paid to the Government during 1970 totalled $7,814.87 (unaudited).

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

Copy to: Mr. Walter V. Woods
Keystone Mines Co.
18200 West Highway 72
Golden, Colorado 80401

OME Region III - OME Reading File - Mr. Emerick
WLEmerick/bsl 1/22/71

(1-2-70 thru 3-19-70)

1970

OME-6640
Contract
2259

Royalty
payments
(unaudited)

per
C. Curtin
1/22/71
WH

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7,8 1 4	8 7	*

OME - 6640
Cont. 2259
as of Dec. 31, 1970
Bal. of principal - 77,238.43
Accrued interest - 4,364.52

per A. Gabor
1/22/71
WTE

Received
1/15/71
JWH

OFFICIAL COPY
O. M. E.
RECEIVED
JAN 21 1971
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Copy to R-4

KEYSTONE MINES COMPANY
18200 West Highway 72
Golden, Colorado 80401
303/279-7721

January 12, 1971

OME Region III
RECEIVED
JAN 15 1971
Denver, Colorado

Mr. Harold Kirkemo
U. S. Geological Survey
Field Officer
Office of Minerals Exploration
Region III, Room 203
Building 53
Denver, Federal Center
Denver, Colorado 80225

Re: OME-6640 (Silver), McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract No. 2259

Dear Mr. Kirkemo:

In connection with their examination of our financial statements as at December 31, 1970, our auditors, Lybrand, Ross Bros. & Montgomery, 605 Walker Bank Building, Salt Lake City, Utah 84111, have requested information regarding Contract No. 2259. They have particularly asked for the outstanding balance and interest thereon payable to the U. S. Geological Survey at December 31, 1970. Also, a confirmation as to any activity for the year ended December 31, 1970, for Contract No. 2259.

We shall appreciate your courtesy in promptly supplying the requested information directly to our auditors.

A return envelope is enclosed for your reply.

Very truly yours,

Walter V. Woods

WALTER V. WOODS
Keystone Mines Company

WVW/jp
Enc.

As of Dec 31, 1970 { $ 77,238.43 - Balance
$ 4,364.52 - Interest

From Miss Gabor 1/22/71

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
12/16	Entered	120E
12/17	glc	130
		220

DEC 16 1970

Mr. Donald P. Lambert, Vice President
Tosco Mines Corporation
18200 West Highway 72
Golden, Colorado 80401

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Dear Mr. Lambert:

Thank you for your letter of December 3, 1970 to Mr. J. William Hasler, Field Officer, Region III, confirming the status of the Keystone Mine property.

An inspection of the above subject docket shows that we have a copy of the Joint Venture Agreement of Keystone Mines Company between McFarland and Hullinger, Inc. and Tosco Mines Corporation dated April 1, 1969. However, we do not have a copy of the amendment to this agreement whereby Tosco Mines Corporation became the Operator either in this office or in the field. We would appreciate a copy of the amendment for our records.

See left-hand side + 4 O. transmittal mes 3/15/71

3/10/71 Have no amendment with send copy

Sincerely yours,

Harold Kirkemo
Chief, Office of
Minerals Exploration

cc: Director's reading file
Mineral Resources
OME reading file
Region III
Mr. Emerick
WLEmerick/cac 12-16-70

TOSCO MINES CORPORATION
18200 WEST HIGHWAY 72
GOLDEN, COLORADO 80401
303/279-7721

680 FIFTH AVENUE
NEW YORK, NEW YORK 10019

December 3, 1970

DEC 7 X 1970

DEC 14 1970

Mr. J. William Hasler
Field Officer, Region III
Office of Minerals Exploration
United States Department of the Interior
Federal Center, Building 53, Room 200
Denver, Colorado 80225

Dear Mr. Hasler:

Your letter addressed to Mr. F. G. McFarland on November 23, 1970, has been forwarded to this office for acknowledgement and reply. We wish to confirm that the property is still under lease to McFarland & Hullinger and subleased to the joint venture, Keystone Mines Company, between McFarland & Hullinger, Inc. and TOSCO Mines Corporation. I believe an amendment to the Joint Venture Agreement was forwarded to your office last January, by which agreement TOSCO Mines Corporation became the operator of Keystone Mines Company as of December 1, 1969.

Bill
Bobbi check check for this
HK.

There has been no production at the mine since January 1970, and I assume the royalty payment check of March 1970 which was mentioned in your letter was to cover this last production period.

We conducted an underground development program from February through to June 1, 1970. We then completed a surface trenching and mapping program during July, August and September 1970. Since that time the mine property has been shut down pending our assessment of the property.

Yours very truly,

DONALD P. LAMBERT
Vice President

DPL/cf

cc: Mr. F. D. Owsley, ASARCO

Office of Minerals Exploration
Building 53 Room 200

November 23, 1970

Mr. F. G. McFarland
McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

gla / 20
~~120 NW~~
HK ~~120~~
220

Dear Mr. McFarland:

The most recent ore settlement sheet, and included royalty payment check from shipments from the subject property was March, 1970.

This office has not received any royalty payments since that date. Would you please advise us at your earliest convenience as to the status of production from the Keystone Mine, at Crested Butte, Colorado as refernced above. Is the property still under lease to McFarland and Hullinger, along with the Joint Venture Agreement between McFarland and Hullinger, Inc. and Tosco Mines Corporation?

Sincerely yours,

J. William Hasler

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

cc: Chief, OME ✓
OME-6640
OME chron
Mr. Hasler

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
2/10/70		120
		220

FEB 10 1970

AIRMAIL

Mr. Robert Stayner
Audit Manager
Lybrand, Ross Bros. & Montgomery
605 Walker Bank Building
Salt Lake City, Utah 84111

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Dear Mr. Stayner:

This is to confirm our telephone conversation today regarding application of royalties to accrued interest and principal on the subject contract.

Royalty payments in calendar year 1969 were applied entirely to payment of accrued interest; hence, no reduction was made on the original principal. The first reduction in principal occurred in January 1970 with the receipt of royalties in that month.

Sincerely yours,

Harold Kirkemo (gla)

Harold Kirkemo
Chief, Office of
Minerals Exploration

Copy to: Mr. Anton R. Klenda
Secretary
Keystone Mines Co.
Box 238
Tooele, Utah 84074

cc: Director's Reading File
Mineral Resources
OME docket
OME Reading File
OME Region III
Mr. Kirkemo

HKirkemo/gla 2-10-70

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
2/6/70	Emerick	120
		220

FEB 6 1970

AIRMAIL

Lybrand, Ross Bros. & Montgomery
605 Walker Bank Building
Salt Lake City, Utah 84111

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Gentlemen:

Mr. Anton R. Klenda, Secretary, Keystone Mines Company, has requested that we furnish you with information on the outstanding balance and accrued interest on the subject contract as of December 31, 1969. This information is as follows:

Balance of principal	$85,260.00
Accrued interest	858.51
Total	$86,118.51

Work on the subject contract was completed in February 1969, and royalties on production paid to the Government during 1969 totalled $9,230.54 (unaudited) including a payment of $2,592.15 received in Washington, D. C., after January 1, 1970.

Sincerely yours,

Wilbur L. Emerick

W. L. Emerick
For: Harold Kirkemo
Chief, Office of
Minerals Exploration

Copy to: Mr. Anton R. Klenda
Secretary
Keystone Mines Co.
Box 238
Tooele, Utah 84074

cc: Director's Reading File
Mineral Resources
OME docket

OME Reading File
OME Region III w/copy incoming letter
Mr. Kirkemo

HKirkemo/gla 2-5-70

KEYSTONE MINES CO.
BOX 238
TOOELE, UTAH 84074

OME Region III
RECEIVED
JAN 28 1969
Denver, Colorado

Mr. Harold Kirkemo
U. S. Geological Survey
Field Officer
Office of Minerals Exploration
Region III, Room 203,
Building 53
Denver Federal Center
Denver, Colorado 80225

RE: OME-6840 (Silver)
McFarland & Hullinger
Keystone Mine
Gunnison County, Colo.
Contract #2259

Dear Mr. Kirkemo,

In connection with their examination of our financial statements as at December 31, 1969, our auditors, Lybrand, Ross Bros. & Montgomery, 605 Walker Bank Building, Salt Lake City, Utah have requested information regarding Contract # 2259. They have particularly asked for the outstanding balance and interest thereon payable to the U. S. Geological Survey at December 31, 1969. Also, a confirmation as to any activity for the year ended December 31, 1969 for Contract # 2259.

We shall appreciate your courtesy in promptly supplying the requested information direct to our auditors.

A return envelope is enclosed for your reply.

not attached c.c.

Very truly yours,

Richard R Klenka - Sec.

Keystone Mines Company

As of Dec. 31, 1969 { $5,260.00 — Balance
858.51 — Interest

From Miss Gabor 3/4/70

OFFICIAL COPY
O. M. E.
RECEIVED
FEB 4 1970

INITIALS	CODE
gla	130
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DEC 1 1969

AIRMAIL

McFarland and Hullinger
Keystone Mine
Crested Butte, Colorado 81224

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Gentlemen:

We have the following comments on the Joint Venture Agreement of Keystone Mines Company between Mc and H., Inc., and TOSCO Mines Corporation dated April 1, 1969, which you recently sent to Mr. J. W. Hasler, OME Field Officer, Region III.

In Article X Representations of Mc and H, Inc., Paragraph 10.1.3 Title to Lands and Personalty we note reference to the liens granted to secure an OME loan. Obviously, this refers to the Lien and Subordination Agreements signed by ASARCO and by Park City Consolidated Mines Company, owners of the land described in the OME contract. The Joint Venture Agreement makes no reference, as required by Article 2(c) of the OME contract, to the Operator's responsibility to the Government for the payment of a royalty on production. In lieu of such reference in the Agreement, this letter will suffice to advise each party to the Agreement of the Government's right to royalty on production.

Has McFarland and Hullinger, a partnership, and Operator under the OME contract, been dissolved and/or superseded by Mc and H., Inc., a Colorado corporation? If an assignment of interests was executed, please furnish us with a copy.

Paragraph 10.1.3 also states in part that, "---for the lien given to secure an OME loan on which there was due as of February 1, 1969 a balance of $84,396.18 in principal, not including interest which accrues at the rate of 7-1/2 percent per annum,---." An additional $1,063.82 was paid by the Government for work completed and approved in February 1969

under the subject contract. Government payments on the contract totalled $85,260.00, and as of October 31, 1969 this amount was the outstanding balance on the principal. The balance of accrued interest on that date was $2,302.04. Royalties payments received prior to that date had been applied to payment of interest.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

cc: TOSCO Mines Corporation
Attention: Mr. Charles F. Jurgens
18200 West Highway 72
Golden, Colorado 80401

Director's Reading File
Mineral Resources File
OME Docket
OME Reading File
OME Region III
Mr. Kirkemo

HKirkemo/bsl 12/1/69

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

November 12, 1969

OFFICIAL COPY
O. M. E.
RECEIVED
NOV 14 1969
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bsl | 120
| 120
| 220

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Transmitted herewith is a copy of a Joint Venture Agreement of the Keystone Mines Company between McFarland and Hullinger, Inc. and Tosco Mines Corporation dated April 1, 1969 that I requested a week or so ago.

J. William Hasler

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

see left side

THE OIL SHALE CORPORATION
18200 WEST HIGHWAY 72
GOLDEN, COLORADO 80401
303/279-7721
CABLE ADDRESS: "TOSCOPETRO"

OME Region III
RECEIVED
NOV 12 1969
Denver, Colorado

680 FIFTH AVENUE
NEW YORK, NEW YORK 10019

November 3, 1969

Mr. J. William Hasler
Field Officer, Region III
Office of Minerals Exploration
United States Department of the Interior
Federal Center
Denver, Colorado 80225

OFFICIAL COPY
O. M. E.
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Re: OME-6440 (Silver)
McFarland and Hullinger
Keystone Mining Property
Gunnison County, Colorado
Contract 2259

Dear Mr. Hasler:

Enclosed are two copies of the Joint Venture Agreement of Keystone Mines Company. We are sending this at the request of McFarland and Hullinger, Tooele, Utah, in response to your letter to them of October 28th.

Very truly yours,

Charles F. Jurgens

CHARLES F. JURGENS

CFJ/hb
Encs.

cc: Mr. A. R. Klenda

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
10/30/69		120
		220

OCT 30 1969

AIRMAIL

Mr. Charles F. Jurgens
The Oil Shale Corporation
18200 West Highway 72
Golden, Colorado 80401

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Dear Mr. Jurgens:

This is in reply to your letter of October 22, 1969, requesting a statement of the loan balance and interest accrued to date, the manner of computing interest, and the manner of applying payments to principal and interest for the subject contract.

Through October 31, 1969, the outstanding balance on the loan is $85,260.00, and outstanding accrued interest totals $4,255.02 ($6,428.23 less $2,173.21 royalties paid to date).

Article 1(c) Interest computation, of the contract reads as follows:

> "Simple interest at the rate of 7-1/2 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."

Royalties are applied first to payment of accrued interest and the balance is applied to reduce the principal.

A copy of the certification of possible production issued for this contract is enclosed for further information regarding payment of royalties.

Sincerely yours,

Harold Kirkemo (gla)

Harold Kirkemo
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Mineral Resources
Docket
OME Reading File
OME Region III w/cy letter
10/22/69
Mr. Kirkemo
130

Kirkemo/gla 10-30-69

Enclosure

Copy to McFarland and Hullinger

Office of Minerals Exploration
Building 53 Room 200

October 28, 1969

OFFICIAL COPY
O. M. E.
RECEIVED
OCT 30 1969

INITIALS	CODE
	130
	120
HK	140
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	220

Mr. F. G. McFarland
McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

Re: OME-6440 (Silver)
McFarland and Hullinger
Keystone Mining Property
Gunnison County, Colorado
Contract 2259

Dear Mr. McFarland:

Near the time of the completion of the exploration work that was done on the Keystone and Union veins under the subject contract, you were considering arrangements for a working agreement with The Oil Shale Corporation (TOSCO) of Golden, Colorado. We understand that the agreement has been completed between McFarland and Hullinger and the Oil Shale Corporation is now in effect.

Our Washington office has requested two copies of that agreement, as the Keystone property, or the portions of claims that were encumbered under the subject contract have been certified that mineral or metal production may be possible as a result of the exploration work and are therefore subject to royalty payments from production. In fact, the Office of Minerals Exploration has received royalty payments totalling $2,173.21 from 842.8 tons of lead and zinc concentrates obtained from mining and milling.

Attention is specifically invited to the provisions of Article 2(c) of the contract referring to the preservation of the Government's royalty rights. Two true copies of any instrument transferring, surrendering or encumbering any of said rights shall be furnished to the Field Officer.

Sincerely yours,

cc: Chief, OME
OME-6640
OME chron
Mr. Hasler

J. William Hasler

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

THE OIL SHALE CORPORATION
18200 WEST HIGHWAY 72
GOLDEN, COLORADO 80401
303/279-7721
CABLE ADDRESS: "TOSCOPETRO"

680 FIFTH AVENUE
NEW YORK, NEW YORK 10019

October 22, 1969

OFFICIAL COPY
O. M. E.
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OCT 29 1969
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Mr. Harold Kirkemo
Chief, Office of Minerals Exploration
U. S. Geological Survey
U. S. Department of the Interior
Room 4460, Interior Building
Washington, D. C. 20242

Re: OME-6640 (Silver)
McFarland & Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Dear Mr. Kirkemo:

The Oil Shale Corporation is now a partner of McFarland & Hullinger in development of the Keystone Mine. Shipments of ore to the smelter were commenced in late August. The smelter is withholding 5% of the value of the ore to repay the loan and interest.

In order to assist our economic planning, we would appreciate it if you would send to us a statement of the loan balance and interest accrued to date, the manner of computing interest, monthly, quarterly or annually, and the manner of applying payments to principal and interest.

Very truly yours,

Charles F. Jurgens

CHARLES F. JURGENS

CFJ/as

cc: Mr. A. R. Klenda, McFarland & Hullinger

Copy to R-III

MME Form 7
(2/63)

OFFICIAL FILE COPY

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Appd. Sol. Office		
10/7	Peterson	
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AIRMAIL

OCT 10 1969

Park City Consolidated Mines Co.
68 South Main Street
Salt Lake City, Utah 84101

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Gentlemen:

Enclosed is a copy of a certification of possible production issued to the Operator as a result of the exploration program under the subject contract.

This relates to the Lien and Subordination Agreements signed by Mr. George C. Maw, vice president of your company, on March 20, 1968.

The Government's prior lien on the land and upon any production therefrom will continue in existence for the length of time mentioned in the certification. You are obligated during that period to commit no act and to assert no claim in conflict with the Government's rights under the agreement signed by Mr. Maw, and to give advance notice of the Government's rights to any transferee or lessee of any part of your interest in the land or the production therefrom.

Sincerely yours,

Harold Kirkemo (gla)

RECEIVED
19
Division of Mineral Resources and General Legal Services

Harold Kirkemo
Chief, Office of
Minerals Exploration

Enclosure

cc: Director's Reading File
Mineral Resources
OME docket
OME Region III
OME Reading File
Mr. Kirkemo
130 (2)

GLAult/a 9-22-69

MME Form 7
(2/63)

OFFICIAL FILE COPY

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OCT 10 1969

American Smelting and Refining Company
120 Broadway
New York, New York 10005

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Gentlemen:

Enclosed is a copy of a certification of possible production issued to the Operator as a result of the exploration program under the subject contract.

This relates to the Lien and Subordination Agreements signed by Mr. C. E. Nelson, vice president of your company, on March 18, 1968.

The Government's prior lien on the land and upon any production therefrom will continue in existence for the length of time mentioned in the certification. You are obligated during that period to commit no act and to assert no claim in conflict with the Government's rights under the agreement signed by Mr. Nelson, and to give advance notice of the Government's rights to any transferee or lessee of any part of your interest in the land or the production therefrom.

Sincerely yours,

Harold Kirkemo (gla)

Harold Kirkemo
Chief, Office of
Minerals Exploration

Enclosure

cc: Director's Reading File
Mineral Resources
OME docket
OME Region III
OME Reading File
Mr. Kirkemo
130 (2)

GLAult/a 9-22-69

RECEIVED
OCT 1969
Division of Mineral Resources
and General Legal Services

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OFFICIAL FILE COPY

Date	Surname	Code
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OCT 6 1969

Memorandum

To: Chief, Branch of Budget and Finance

From: Chief, Office of Minerals Exploration

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Enclosed is a copy of a letter dated October 1, 1969, from the Field Officer, Region III, transmitting to the Operator a copy of the Report of Review issued in August 1969 on the subject contract. A copy of the report also is enclosed.

Harold Kirkemo (glr)
Harold Kirkemo

Enclosures

cc: Director's Reading File
Mineral Resources
OME docket
OME Reading File
OME Region III
Mr. Kirkemo

GLAult/a 10-6-69

Office of Minerals Exploration
Building 53 Room 200

October 1, 1969

OFFICIAL COPY
U. S. E. R. A.
RECEIVED
OCT 3 1969

McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Dear Mr. McFarland:

Enclosed is an "Operator's Copy" of a Report of Review issued in August 1969 on the subject contract.

I have reviewed the Report of Review and concur in the facts stated in the report. If for any reason you do not concur, the "Operator's Copy" should be returned to this office with appropriate comments.

Sincerely yours,

J. William Hasler

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

cc: Chief, OME (2)
OME chron
Mr. Hasler
OME-6640

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
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SEP 15 1969

Memorandum

To: Field Officer, OME Region III

From: Chief, Office of Minerals Exploration

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Enclosed are the Field Office's and Operator's copies of a Report of Review issued in August 1969 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.

Harold Kirkemo (gla)

Harold Kirkemo

Enclosures

cc: Director's Reading File
Mineral Resources
OME docket
OME Reading File
Mr. Kirkemo
130

GLAult/a 9-15-69

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

August 13, 1969

OFFICIAL COPY
O. M. E.
RECEIVED
AUG 15 1969
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120

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

A telephone conversation with Mr. Max Evans, August 12, ~~1969,~~ Superintendent for the Operator indicated that there could be as much as $31,050.00 in royalty payments paid to the Government over the next eleven months, or until June 30, 1970.

Mr. Evans stated that the estimate is a conservative one and that it is based on some of the following variables:

1. Labor
2. Metal prices
3. Mill recovery
4. Maintenance of ore reserves
5. Grade of the ore.

Mr. Evans said that labor is extremely critical right now, and that the future for improved labor availability now, is not good. The Operator plans to operate their 150-ton mill an average of 26 shifts per month, which would total 3,900 tons per month or 42,900 tons of crude ore for an eleven month period.

Based on recovery data, the ratio of tons of crude ore to tons of concentrate averages about 16.68 tons of crude or to 1 (one) ton of lead (Pb) concentrates, and 12.55 tons of crude ore to one (1) ton zinc concentrate. Net smelter returns, after various adjustments such as fuel costs at smelter, transportation, and other deductible

items the Operator is looking at 3.0% Pb, 5% Zn, and 3 oz. Ag ton. This will yield about $200.00 perton for Pb concentrates (which includes Ag-Cu, Pb) and $50.00 per ton for Zn concentrate, which includes just zinc. The estimated total of 42,900 tons would yield approximately about $621,000.00. Five percent (5%) of this amount would yield about $31,050.00 in royalty payments.

May I again emphasize that this is a conservative estimate, insofar as the Operator is concerned. I concur that this is a justifiably conservative figure.

J. William Hasler

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

OFFICIAL FILE COPY

Date	Surname	Code
5/27/69		120
5/27	CAL	220
		120M

May 27, 1969

Memorandum

To: Chief, Budget and Finance

From: Chief, Office of Minerals Exploration

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

As the Operator under the subject contract has now submitted an acceptable final report, the $200.00 withheld from the last voucher (February 1969) may be paid to the Operator.

Pd. Voucher 97177 4/8/69

Harold Kirkemo (gla)

Harold Kirkemo

cc: Director's Reading File
Economic Geology File
OME file
OME Reading File
OME Region III
Mr. Kirkemo

GLAult/a 5-27-69

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

May 26, 1969

OFFICIAL COPY
O. M. E.
RECEIVED
MAY 28 1969

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Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

The prices of metals used for calculating the total reserves in the ground as given by the Operator in his final report were used as follows:

Union Vein

Estimated tonnage: 15,400 tons
3.31 oz. Ag @ $1.77/oz.----------$5.86
3.59 % Pb= 71.8 lbs @ .1430/lb.----------$10.26
0.373 % Cu = 7.46 lb. @ .46/lb.---------- 3.43
5.00% Zn = 100 lbs @ .1450/lb.---------- 14.50

Total value per ton---------- $34.05

15,400 tons at $34.05 per ton = $524,370.00

Keystone Vein

Estimated tonnage 80,000 tons.
4.90 oz. Ag @ $1.77 per oz.---------- $8.67
8.70% Pb = 174 lbs. @ .1430/lb----------$24.88
.377% Cu = 7.54 lbs. @ 46¢/lb.---------- 3.46
7.38% Zn 147 lbs. @ .1450/lb---------- 21.31

Total value per ton----------$58.32

80,000 tons at $58.32 per ton = $4,665,600.00

15,400 tons at $34.05 per ton = 524,370.00

$5,189,970.00

Using the Operator's reserve figures, the OME has discovered $49.83 worth of ore in the ground for each dollar spent, on the current contract.

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

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

May 20, 1969

OFFICIAL COPY
O. M. E.
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MAY 22 1969

INITIALS	CODE
gla	130
bal	120
HK	120

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison, Colorado
Contract 2259

Transmitted herewith is an original and one (1) copy of a final geologic and engineering report pertaining to the exploration work recently completed under the subject contract. The Operator's final report fulfills the requirements under Article 5 (c) Final Report prescribed in the contract, and is quite adequate. It is therefore recommended that the $200.00 presently being withheld pending submittal of a final report be paid the operator.

A final inspection was made April 28 and 29, 1969 by the Field Officer, Region III, in company with Mr. Max Evans, Mine Superintendent for McFarland and Hullinger. The operator crosscut 551.5 feet from the face of the 1370 drift to the intersection of the Union vein, then drifted northwesterly along the Union vein for 873.4 feet. The 1363 raise on the Union vein was driven up-dip for 121.0 feet, and penetrated vein material as wide as 6 feet. Two well mineralized zones were explored northwestward along the Union vein.

Exploration work northwesterly along the Keystone vein extended for a total of some 991 feet, however, the Office of Minerals Exploration participated in only 696.18 feet. Three raises on the Keystone vein, Nos. 1361, 1364, and 1367 were driven 92.8, 15.0, and 36.98 feet respectively for a total of 144.78 feet. Three distinct ore shoots were discovered along the Keystone vein on the 1370 level, and at the time of the final inspection the 1367 raise on the Keystone vein had been driven up-dip for 126 feet and a sub-level had been started 115 feet from the 1370 level. The Keystone vein on this sub-level was as wide as 16 feet. The Keystone vein, for 100 feet up-dip had an average width of 4.25 feet and showed assays having a weighted average value of 3.53 oz. Ag., 10.00% Pb., 0.583% Cu., and 7.99% Zn. A diamond drill hole from the 1370 crosscut penetrated the Keystone vein at a depth of 165 feet below the level, consequently there is known mineralized material on the Keystone vein for a vertical distance of at least 280 feet.

All of the objectives and specifications of the contract were met and exploration work northwesterly along the Union, and the Keystone veins on the 1370 level proved most encouraging. Several zones containing ore grade material were discovered on each vein. On the Keystone vein, three distinct ore shoots were discovered along some 991 feet of strike length.

The operator conservatively indicates that there are some 15,400 tons of ore that can be calculated for the Union vein, and some 80,000 tons of ore that can be calculated for the Keystone vein. At current metal prices the ore grade material on the Union vein will gross about $34.00 per ton and ore grade material on the Keystone vein would gross about $58.00 per ton. This would gross as follows:

Union vein	= 15,400 tons at $34.00 per ton	=	$ 523,600.00
Keystone vein	= 80,000 tons at $58.00 per ton	=	$4,640,000.00
	95,400		$5,163,600.00

It is evident from the foregoing that reserves of ore grade material have been discovered as a result of exploration work incurred under the subject contract and that they can be further developed and mined at a profit. It is therefore recommended that a certification of discovery be declared.

The operator is completing or has now completed arrangements with the Oil Shale Corporation (TOSCO), Golden, Colorado to further explore the Keystone vein from both the 1370 level as well as from the 1670 level some 300 feet below the level from which the OME work was completed. The operator was advised to notify the Office of Minerals Exploration concerning any agreements that may be executed between McFarland and Hullinger with TOSCO, that involved the area presently under lien and subordination to the Government.

J. William Hasler

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

Keystone Mine
Crested Butte, Colorado
March 24, 1969

OME Region III
RECEIVED
APR 7 X 1969
Denver, Colorado

Mr. J. William Hasler, Field Officer, Region III
Office of Minerals Exploration
U. S. Geological Survey
Denver Rederal Center - Bldg. 53 Rm. 203
Denver, Colorado 80225

Re: Final Geological and Engineering Report on the Keystone Mine OME Project (OME 6640-Silver Contract 2259 1968-1969)

Dear Mr. Hasler:

The following report summarizes the work completed under the above captioned contract:

INTRODUCTION

Underground exploration work involving crosscut drifting, drifting and raising to explore for silver bearing ore bodies at the Keystone mine was started under OME contract 2259 on April 9, 1968 and was completed at the end of February 1969.

LOCATION AND ACCESSIBILITY

The OME project area is located at the Keystone Mine in Gunnison County, Colorado. The Mine is accessible via oiled and dirt roads some 3.5 miles westerly from the town of Crested Butte.

EXPLORATION WORK COMPLETED AND COSTS

Exploration work completed under the OME contract and unit costs thereof are outlined in summary form as follows:

Cost Item	Units	Cost/Unit	Costs
Crosscut Drifting	551.50 ft.	$ 45.90	$25,313.85
Drifting	1569.58 Ft.	45.90	72,043.72
Drift Timber	51.80 ft.	6.45	334.11
Raising	265.78 ft.	43.50	11,561.43
Analytical Work	167	8.50	1,419.50
Bulldozing (Snow)	200.50 hrs.	15.00	3,007.50

Total Project Costs..... $113,680.11

Operator's Final Report

GEOLOGICAL AND ENGINEERING EVALUATION OF OME PROJECT RESULTS

Both the Union and N-Keystone vein structures were discovered on the 1370 level of the Keystone Mine as initially proposed to the OME for exploration of silver bearing ore bodies. As the OME funds were not available at the time of our application submittal to test both vein structures concurrently, the resulting contract called for work on the Union Vein structure first because of higher silver assays sampled on the surface.

To commence the project a crosscut drift was driven 551.50 feet in a southwesterly direction and intersected the Union vein structure at it's projected position. The vein was then followed both northwesterly and southeasterly some 1142 feet. The southeasterly drift segment being driven on McFarland and Hullinger account. Lenticular vein type ore mineralization explored on the Union vein structure along with assays are shown on the 50 scale geologic plan map.

A two compartment raise was driven up dip on the Union vein a distance of 128 feet (slope) to test ore continuity and grade. The raise was stopped in 6.0 feet of low grade ore mineralization.

Three diamond core drill holes were completed on McFarland and Hullinger account to test the footwall and hangingwall rocks for paralell vein structures. The two footwall holes each penetrated one foot of ore mineralization which, if steeply dipping, may correlate with the surface Union vein as mapped.

Some 3000 feet of silver bearing mineralization has been trenched and mapped on the Surface Union Vein structure. Many of the trenches show ore grade mineralization with substantial silver values. The ore zones encountered on the 1370 level Union vein do not show the strength or values in silver as expected from surface observations. If the surface ore plunges downward to the northwest, additional drifting northwesterly would be required to intercept the ore on the 1370 level. This is a reasonable expectation geologically, because of known intrusive source rocks and related ore on the north slope of Mount Emmons.

While the Union OME project on the Union vein was in progress McFarland and Hullinger drove a crosscut drift on their own account to explore for the down dip projection of the N-Keystone vein as mapped on the surface. Due to a flattening in dip, the vein structure was encountered sooner than anticipated. In order to assure that the vein encountered was not a hanging wall split the crosscut drift was extended 85 feet beyond the vein and a 230 foot diamond drill hole completed to a point beyond the vertical projected position of the known surface vein. No ore or vein structures were encountered in the drill hole.

The N-Keystone vein structure was drifted northwesterly in ore by McFarland and Hullinger to mine coordinates N12,965 - E. 8,638. At this point the OME commenced participation under Amendment No. 1 to the initial contract.

Some 600 feet of strike length in ore grade silver, lead, zinc and copper mineralization has now been exposed by drifting on the N-Keystone vein structure. Three raised 1361, 1364, and 1367 were driven to heights of 98, 15 and 36.98 feet respectively under the OME project on the N-Keystone vein. The latter raise is currently up to a height of 122 feet above the 1370 level sill and shows excellent ore grade mineralization.

A diamond drill hole No. 13-4 was completed to a total depth of 245 feet at a -45 degrees to test the down dip projection of the N-Keystone vein below the 1370 level. Two vein intercepts were found at 154to 156 and 230.0 to 234.4 feet. Due to poor core recovery and loss of circulation, inadequate samples were obtained for reliable assay results.

Ore Reserves

Insufficient raising and sub-level development work have been done in the ore segments discovered under the OME project to even infer what the near accurate reserves might be. This statement is based on the known lenticular mode of ore deposition both along the strike of the vein structures and on dip. Based on the limited amount of development work completed to date on the discovered ore segments and one applies the rule of thumb estimate, ie, one half the strike length equals the dip length we would derive at rounded figures of 80,000 tons on the N-Keystone vein structure and 15,400 tons reserves on the Union vein structure. On the other hand, the Keystone stopes mined out in the old workings to the south show a strike length of 1000 feet and a dip length of about 1170 feet. This set of known conditions would more than double the above estimate by rule of thumb. To further complicate estimate of ore reserves, vein ore is known to outcrop on the N-Keystone vein structure at an elevation of 11,800 feet and has been diamond drilled on the same vein structure below 1370 level at an elevation of 10,370 feet a difference of 1,430 feet

Therefore, until further development work is done on the ore segments discovered under the OME project, even an inferred ore reserve estimate would be a precarious guess at this time.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions reached from the OME exploration work on the 1370 level at the Keystone Mine are as follows:

1. Two ore bearing vein structures the Union and N-Keystone were located and explored on the 1370 level of the Keystone Mine.

2. The ore mineralization on the Union vein at the 1370 level elevation is not of the grade as anticipated from surface trenching and sampling.

3. The N-Keystone vein shows an excellent grade of ore with substantial mining widths and to date, appears to have continuity both above and below the 1370 level in unexplored ground.

4. Much more development work is needed in order to derive at approximate ore reserve estimates within the ore segments discovered to date.

Recommendations for additional exploration work in the project area are as follows:

1. Some 500 feet of solid ore outcrop has been mapped and sampled on the N-Keystone vein structure northwest of the 1370 level underground workings. The N-Keystone vein drift on the 1370 level should be extended by 1500 feet of drifting northwesterly along the vein to adequately test the surface ore outcrop at depth. Sufficient raise footage should be alloted in this program to test ore mineralization up dip.

2. Some 1000 feet of drifting in a northwesterly direction should be completed in extending the 1370 level Union drift to test the down dip potential of some 3000 feet of surface vein mineralization exposed by dozer trenches and geological mapping. If the surface vein ore is plunging downward to the northwest, the exploration drifting completed to date on the 1370 level Union vein is short of of intersecting the main surface ore at depth.

3. Two inclined surface diamond drill holes ~~is~~ are recommended on the Union vein structure. These holes should be directed to intersect the surface vein ore on dip at elevation 10,900 feet. A total of 900 feet of drilling would be required.

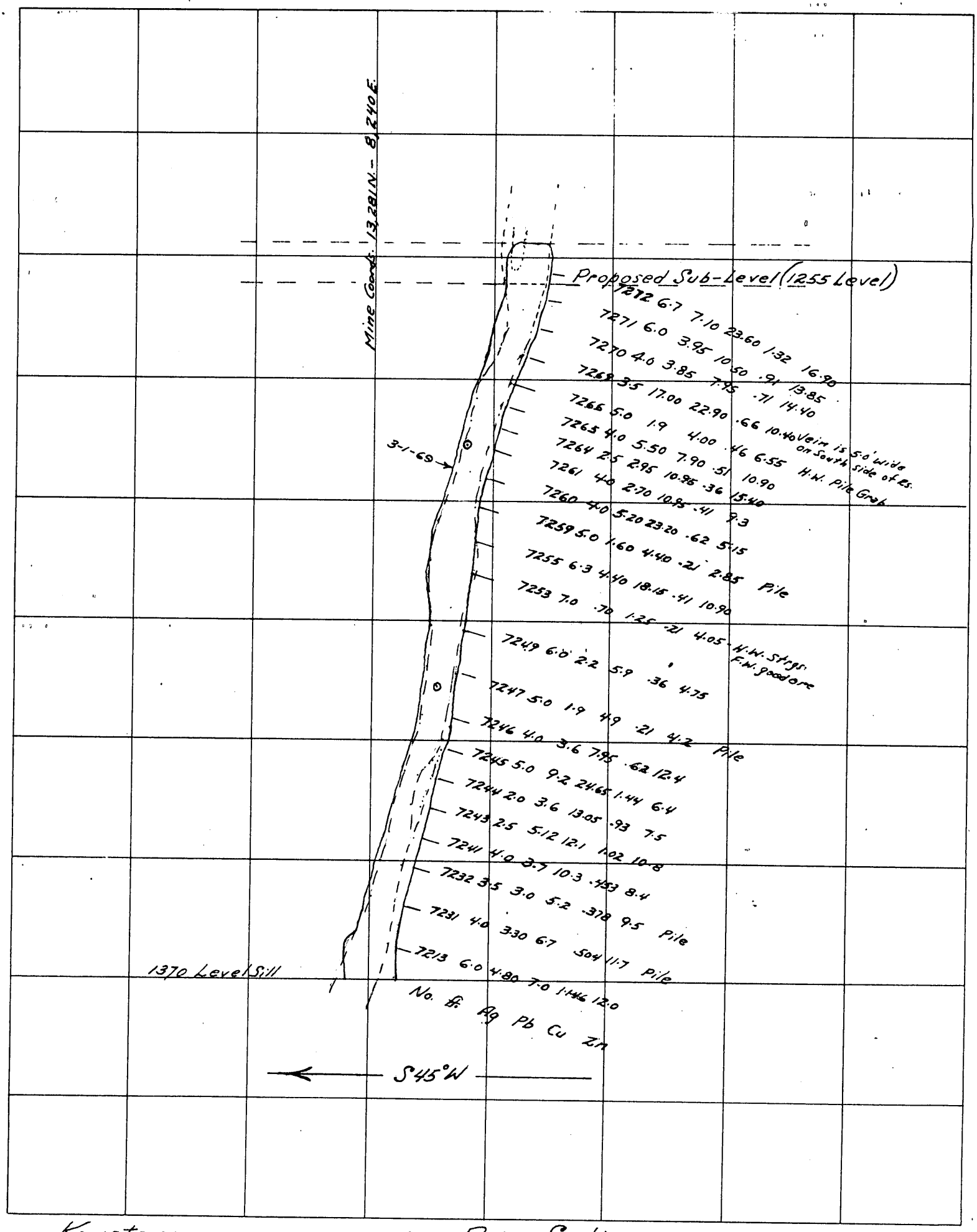
As our original application and request to the OME was set up under stages due to availability of funds, we would kindly like to ask for additional funds to further explore the N-Keystone vein structure as outlined in our Amendment No. 2 Proposal dated January 11, 1969. Additional ore reserves are badly needed to assure the re-activation of our mining and milling operations.

Respectfully submitted,

Max T. Evans

Max T. Evans - Supt.
Keystone Mine
McFarland & Hullinger
Crested Butte, Colo.

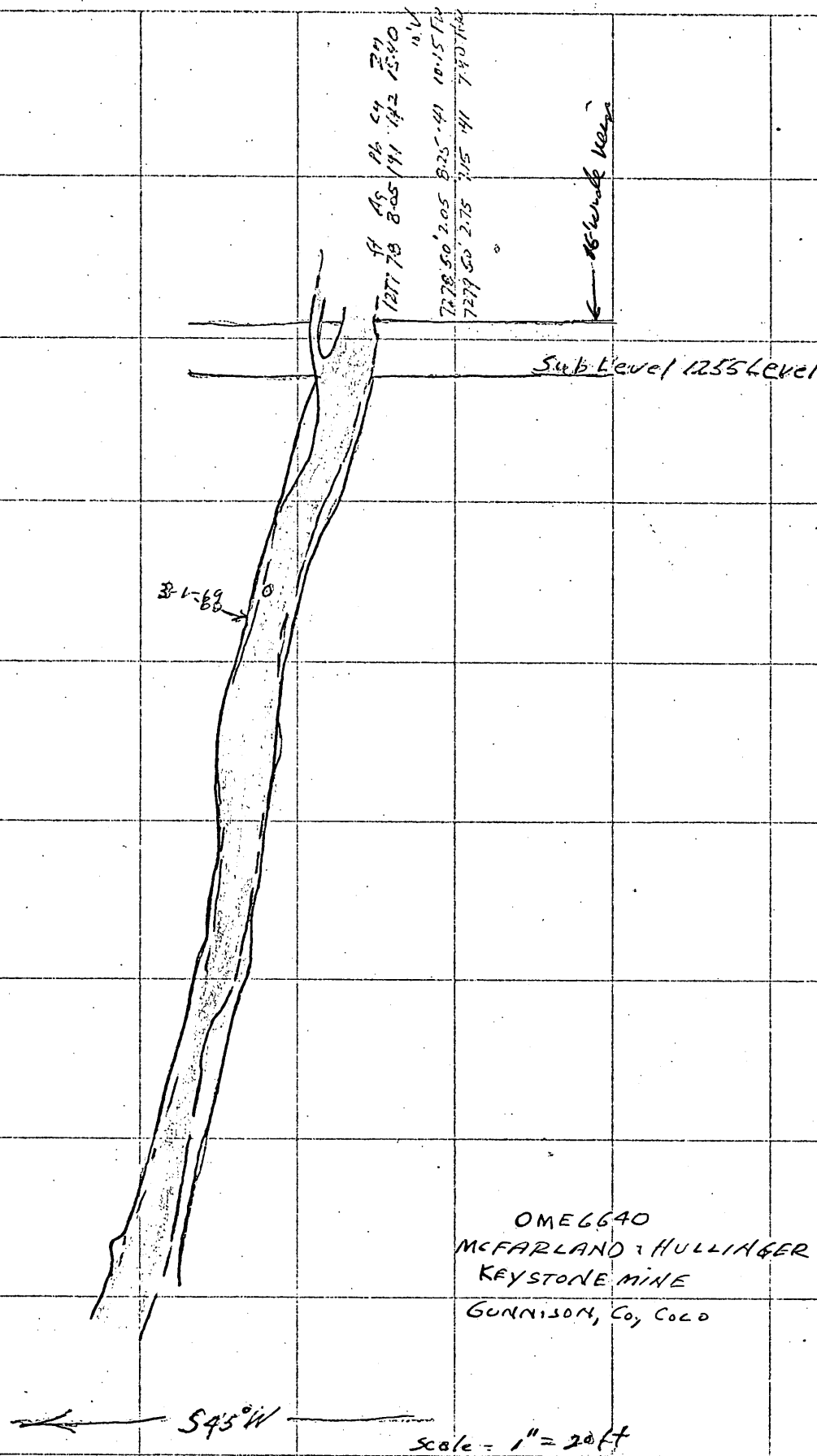
Att:



MINE Keystone LOCATION 1367 Raise Section LEVEL 1370

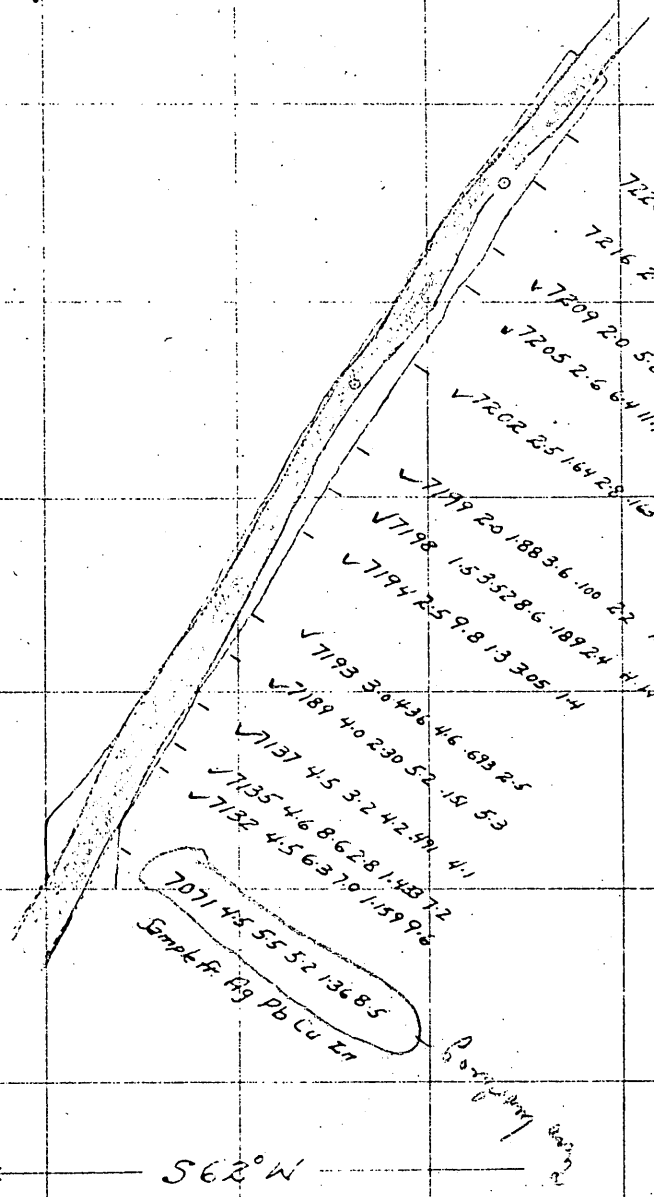
GEOLOGY BY M.T.E. SURVEY M.T.E. SCALE 1" = 20 ft. DATE 3-3-69

QUAHADA ENGINEERING, GRAND JUNCTION, COLO.



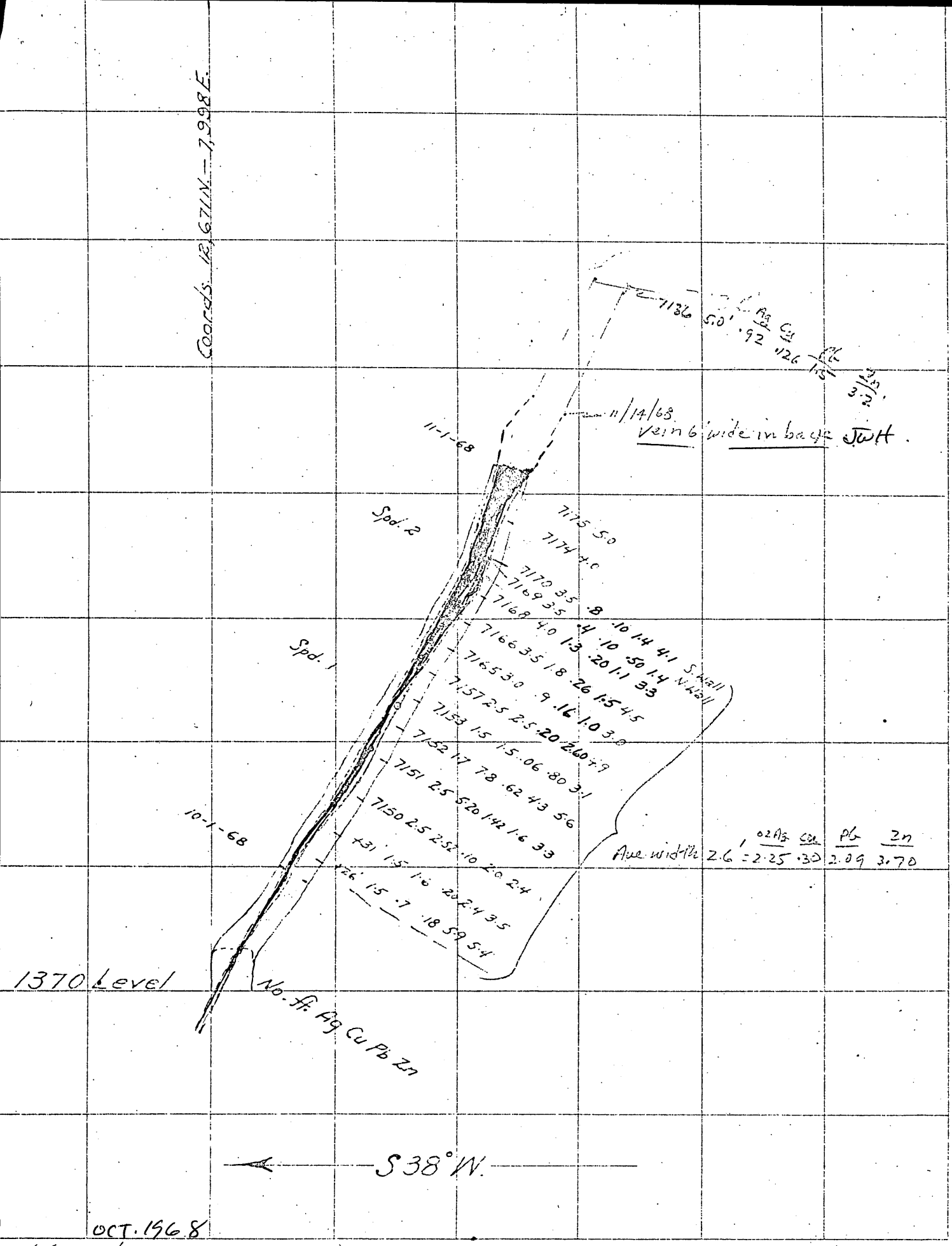
1367 Raise Section
KEYSTONE VEIN

3-3-69
M.E



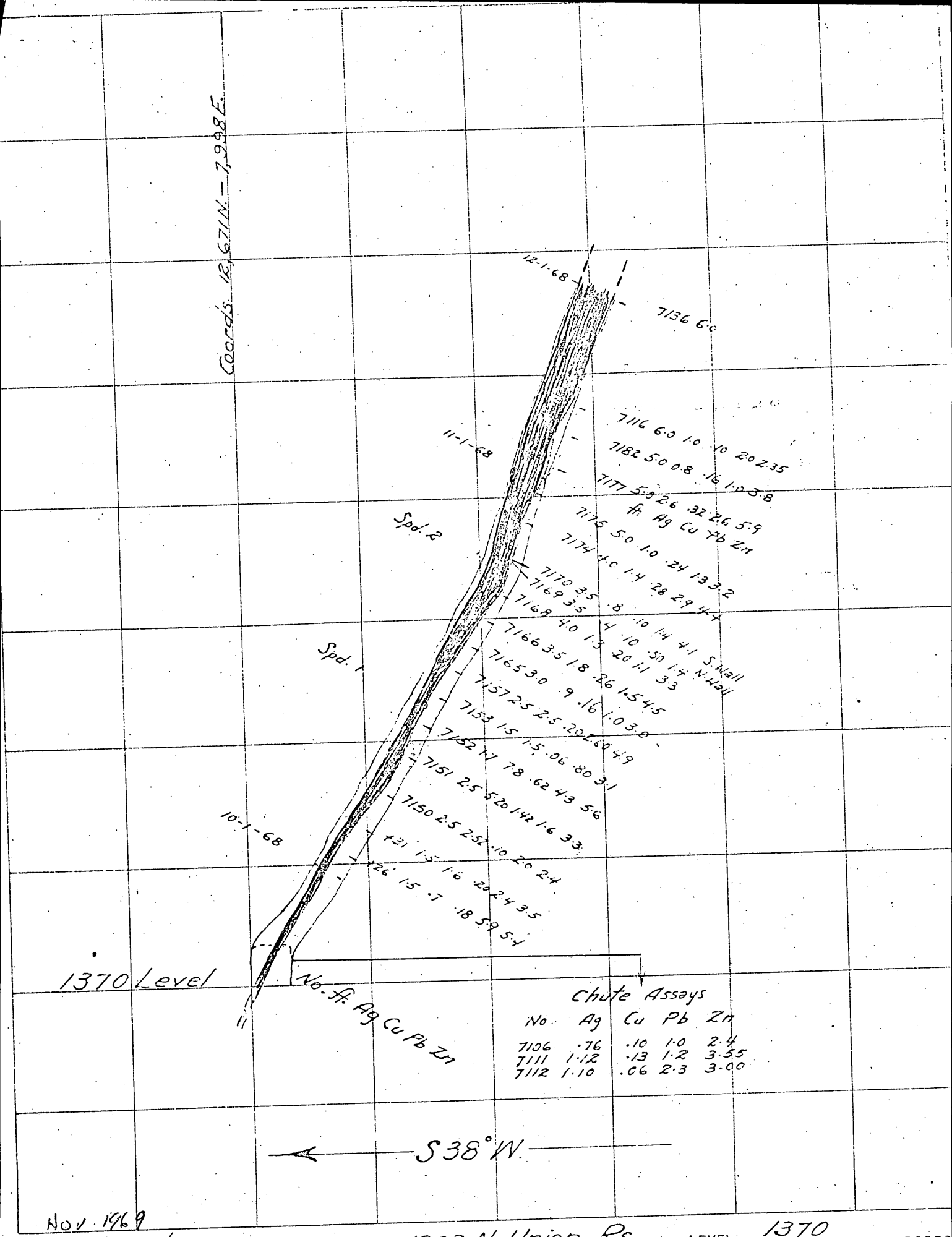
Keystone LOCATION 1361 Raise - Section LEVEL 1370

OGY. BY M.T.E. SURVEY M.T.E. SCALE 1" = 20 ft. DATE 12-66



Keystone LOCATION 1363 N. Union Rs. LEVEL 1370

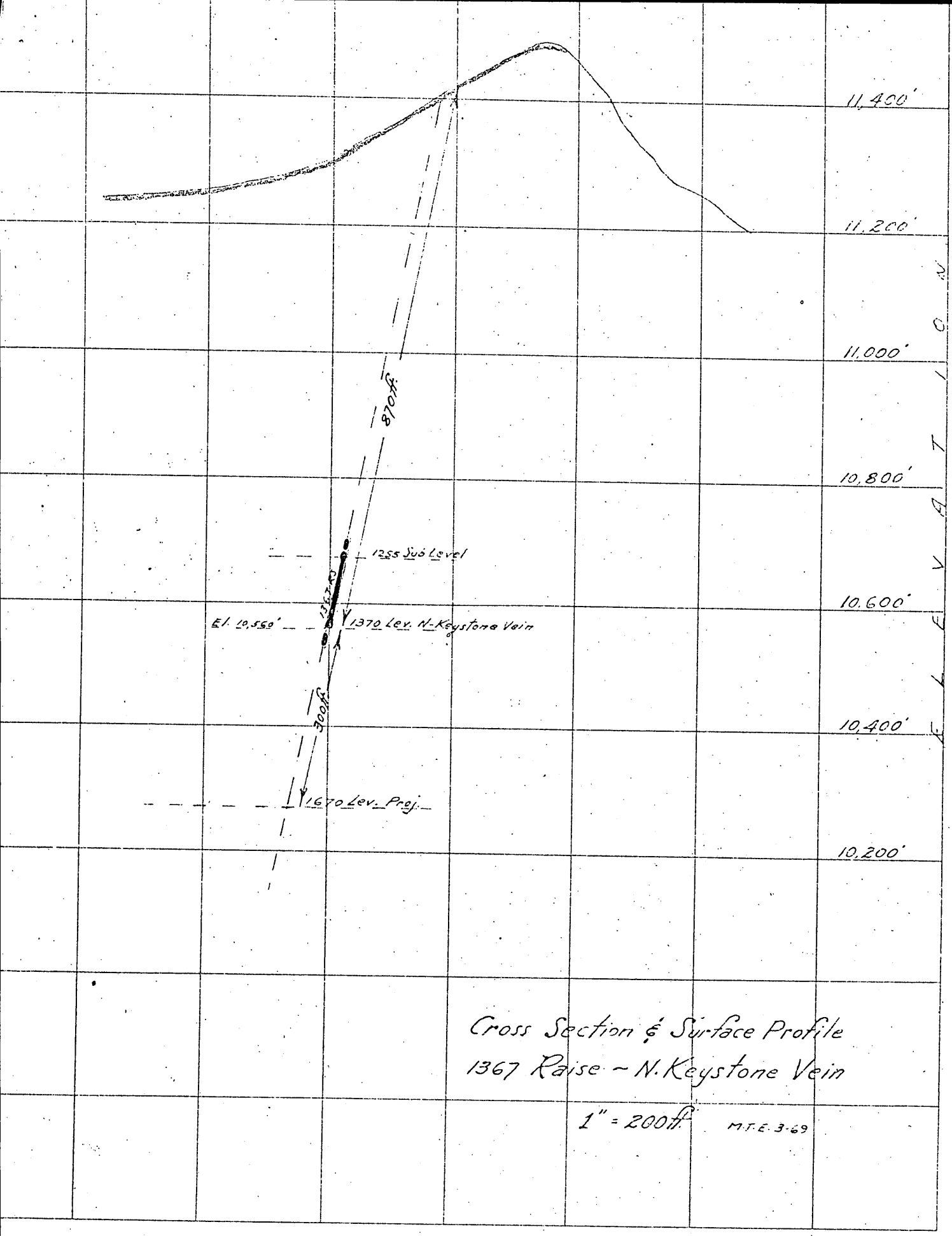
LOGY BY M.T.E. SURVEY 2-Sect. SCALE 1" = 20 ft. DATE



Nov. 1969

MINE Keystone LOCATION 1363 N. Union Rs. LEVEL 1370

1" = 20 ft. DATE



LOCATION _____ LEVEL _____

GY BY _____ SURVEY _____ SCALE _____ DATE _____

Office of Minerals Exploration
Building 53 Room 200

April 25, 1969

OFFICIAL COPY
O. M. E.
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APR 28 1969

INITIALS	CODE
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bcl	120
HK	120

Mr. F. G. McFarland
McFarland and Hullinger
P.O. Box 238
Tooele, Utah 84074

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine Property
Gunnison County, Colorado
Contract 2259

Dear Mr. McFarland:

Enclosed is a xerox copy of your contract, that I made from my "Field Office Copy", as per your request on the telephone yesterday.

Your copy will be the same except it is marked "Operator's Copy". However, you will note that Article I (c) on page 1 of the subject contract cites the Interest computation which in your case is simple interest at the rate of 7 1/2 percent. Should you need any further data please feel free to contact us.

May I state again that we are happy to have had some success as a result of the exploration work recently completed on the Union and Keystone veins from the 1370 level, under the subject OME contract. It has been a distinct pleasure in serving and associating with you, and Max Evans. It is projects that are expedited as well as you have done on this one that helps make this work a joy.

Sincerely yours,

J. William Hasler

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

cc: Chief, OME
OME chron
Mr. Hasler
OME-6640

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MME Form 7
(2/63)

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4/3	cac	220
		120M

April 3, 1969

Memorandum

To: Chief, Branch of Budget and Finance

From: Acting Chief, Office of Minerals Exploration

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Enclosed is the Operator's monthly report and voucher for work completed in February 1969. This is the final voucher to be submitted by the Operator on this contract as funds will have been exhausted.

Our records indicate that as of March 3, 1969, Government payments on this contract totalled $84,396.18 which leave a balance of $863.82 to pay for work accepted on the enclosed voucher.

Please withhold $200.00 from payment pending receipt of an acceptable final report from the Operator.

Harold Kirkemo (gla)

Harold Kirkemo

Enclosures

cc: Director's Reading File
Economic Geology File
OME docket
OME Reading File
Mr. Kirkemo

HKirkemo/gla 4-3-69

CC: ONE

OFFICIAL COPY
O. M. E.
RECEIVED
MAR 25 1969

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MAR 20 1969

Hon. Peter H. Dominick
United States Senate
Washington, D. C. 20510

Dear Senator Dominick:

This letter is in response to your recent telephone inquiry regarding our denial of an OME contract amendment proposed by Messrs. McFarland and Hallinger, Crested Butte, Colorado. Their request was denied because funds available for this fiscal year are fully committed to current contracts and applications previously approved. We explained this in a letter to them on February 14, 1969, a copy of which was enclosed with our letter to you dated February 25.

We shall review this request after July 1, 1969, when new appropriations become available. We expect, however, that funds for OME work in fiscal year 1970 will be less than in previous years. Most of the expected funds will be obligated to promising new applications already on hand. Amendments designed to expand already successful contracts will be negotiated only after careful consideration of all factors involved.

Sincerely yours,

s/ Arthur A. Baker
acting Director

cc:
General Files 5225 GSA
Director's Chron.
Division
Economic Geology rdg.
BRR chron.
BRR files

THKiilsgaard:ogh 3/14/69
Rewritten--MRKlepper:ogn 3/17/69
Rewritten--MRKlepper/THKiilsgaard:jeh 3/18/69

March 7, 1969

Memorandum

To: Director
Through: Chief Geologist

From: Chief, Branch of Resources Research

Subject: Phone call to Senator Dominick's office on McFarland and Hullinger OME contract

Mr. Spelts, Legislative Assistant to Senator Dominick, called on March 5 regarding Frank Johnson's letter of February 14, 1969 to McFarland and Hullinger. That letter advised that OME did not have funds to enter into a further expansion of exploration work this year, but would consider the request after July 1, subject to availability of newly appropriated funds. Mr. Spelts wanted to know why there was a shortage of funds.

I returned Mr. Spelts' call and told him that our remaining funds for this fiscal year either already were or would be committed to new contracts. I said we did not have funds adequate to meet all requests and therefore had to distribute the money as equitably as we could. I also told him that we did not know what funds would be received next fiscal year, but that in view of administration cutbacks in budgets we expected to receive even less funding than was obtained this year. He wanted to know how much OME funding we had requested for next year, and I told him I was not sure what final figure had been determined.

Whatever the reduced OME funding amounts to next fiscal year, it will not begin to be adequate for requests that will be made of it. I therefore believe this is only the first of many requests from the "Hill," inquiring about the shortage of OME funding, or why a larger appropriation was not requested.

Thor H. Kiilsgaard

cc:
Director's reading
Economic Geology reading
Chief Geologist
BRR chron.
BRR files
OME files

THKiilsgaard:jeh
3/7/69

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
2/25/69	Kirkemo	120
	Johnson	110
2/26	Kilsgaard	
2/24	Ayer	
	Baker	
		220
		120M

FEB 26 1969

Hon. Peter H. Dominick
United States Senate
Washington, D. C. 20510

Dear Senator Dominick:

This is in reply to your letter dated February 17, 1969, on behalf of Mr. F. G. McFarland, Tooele, Utah, relating to the recent request from McFarland and Hullinger for additional funds to continue exploration on the OME project at the Keystone mine, Gunnison County, Utah.

Our decision with respect to this request is stated in the enclosed copy of our letter to McFarland and Hullinger dated February 14, 1969. We regret that additional assistance cannot be provided at this time.

The enclosure with your letter is returned herewith.

Sincerely yours,

W Pecora

Director

Enclosures

cc: General Files
Director's Chron
Division File
Economic Geology File
OME docket
OME Reading File
OME Region III w/enclosures
Mr. Kirkemo

HKirkemo/gla 2-25-69

...TH YARBOROUGH, TEX., CHAIRMAN
...W. VA.
...S, JR., N.J.
..., MASS.
..., MINN.
..., MO.
..., IOWA
JACOB K. JAVITS, N.Y.
WINSTON L. PROUTY, VT.
PETER H. DOMINICK, COLO.
GEORGE MURPHY, CALIF.
RICHARD S. SCHWEIKER, PA.
HENRY BELLMON, OKLA.
WILLIAM B. SAXBE, OHIO

...ERT O. HARRIS, STAFF DIRECTOR
...OHN S. FORSYTHE, GENERAL COUNSEL

OME-90

United States Senate

COMMITTEE ON
LABOR AND PUBLIC WELFARE
WASHINGTON, D.C. 20510

February 17, 1969

FEB 24 1969
110

Congressional Liaison
Office of Minerals Exploration
U.S. Geological Survey
Department of the Interior
Washington, D. C. 20240

Dear Sir:

Attached is a copy of a letter which I received from Mr. F. G. McFarland, concerning an application with OME regarding continued mining activity at the Keystone Mine in Gunnison County, Colorado.

Will you please advise me as to the current status of the application, and the position of OME with respect to its approval.

Best regards.

Sincerely,

Peter H. Dominick

Peter H. Dominick
United States Senator

PHD:sc
Enclosure

F. O. McFARLAND
Tooele, Utah
Phone – Tooele 882-1244

S. R. HULLINGER
TOOELE, UTAH
Phone – Tooele 882-1344

McFARLAND AND HULLINGER

MINING • ORE HAULING • CONTRACTING

PHONE 882-0105
P. O. BOX 238
TOOELE, UTAH 84074

Crested Butte, Colorado
February 10, 1969

Hon. Peter H. Dominick
United States Senate
Washington, D.C. 20510

Re: OME 6640 Silver
Contract 2259
Keystone Mine
McFarland & Hullinger

Dear Senator Dominick:

Since the OME approval of Amendment No. 1 to the above captioned contract was made in September 1968, some 400 feet of substantial silver, copper, lead, zinc ore has been delineated by drifting in a northwesterly direction along strike of the North Keystone vein structure in the Keystone Mine. The encouraging vein, widths, grade of mineralization, strength of structure, and it's correlation to unexplored surface outcrop ore located 1000 to 1500 feet ahead of the current drift face makes the continued exploration of the vein structure look extremely potential for the needed ore reserves to commence our mining and milling operations.

We have recently completed a diamond core drill hole on our own account to a total depth of 244 feet to test the down dip potential of ore discovered on the 1370 level. This hole penetrated two zones of silver, copper, lead, zinc ore at depths of 154 to 156 feet and 230 to 234.5 feet. This drill hole substantiates the potential and continuity of the vein structure at depth.

Due to the potential ore discovered under the OME Amendment No. 1, which is now near completion, we have proposed to the OME an Amendment No. 2 to continue exploration drifting on the North Keystone vein structure 1500 feet northwesterly under the unexplored surface outcrop ore to block out sufficient silver bearing ore reserves for re-activating our mining and milling operations here in Gunnison County, Colorado. To date, no word has been received from the Government OME on our proposed amendment.

We have attached a longitudinal section map which clearly shows the relationship of ore discovered to date under the OME assistance program and the possible potential ore reserves outlined under our proposed Amendment No. 2 to the OME.

F. G. McFARLAND
TOOELE, UTAH
Phone – Tooele 882-1243

S. R. HULLINGER
TOOELE, UTAH
Phone – Tooele 882-1344

McFARLAND AND HULLINGER

MINING • ORE HAULING • CONTRACTING

PHONE 882-0103
P. O. BOX 230
TOOELE, UTAH 84074

Cont. Hon. Peter H. Dominick

Under the OME Amendment No. 1 contract it was stated that if results were favorable at the end of the contract, additional work could be undertaken if funds were available, and of course, with prior government approval. From the viewpoint of capital return to both government and operators, along with a substantial employment payroll pending for the area, it is of the utmost importance that the proposed exploration under Amendment No. 2 be completed.

We would greatly appreciate any help you could give us for the possible approval of our proposed amendment. Records show that our previous government minerals exploration loans have been fully repaid. We wish to thank you for your kind attention to this matter.

Sincerely,

McFarland & Hullinger

F. G. McFarland
Partner

Att:

FGMcF/mh

OME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
2/25/69	Kirkemo	120
"	Johnson	110
2/27	Kilsgaard	
4/28	Kupp	
	Balua	
		220
		120M

FEB 26 1969

Hon. Wallace F. Bennett
United States Senate
Washington, D. C. 20510

Dear Senator Bennett:

This is in reply to your letter dated February 19, 1969, on behalf of Mr. F. G. McFarland, Tooele, Utah, relating to the recent request from McFarland and Hullinger for additional funds to continue exploration on the OME project at the Keystone mine, Gunnison County, Colorado.

Our decision with respect to this request is shown on the enclosed copy of our letter dated February 14, 1969, to McFarland and Hullinger. We regret that additional assistance cannot be provided at this time.

The enclosure with your letter is returned herewith.

Sincerely yours,

W D Records

Director

Enclosures

cc: General Files
Director's Chron
Division File
OME docket
OME Reading File
Mr. Kirkemo
OME Region III w/enclosures
Economic Geology File

HKirkemo/gla 2-25-69

181347

ALLACE F. BENNETT
UTAH

TOM C. KOROLOGOS
ADMINISTRATIVE ASSISTANT

United States Senate

WASHINGTON, D.C. 20510

COMMITTEES:
FINANCE
BANKING AND CURRENCY

JOINT COMMITTEES:
ATOMIC ENERGY
DEFENSE PRODUCTION

SELECT COMMITTEE:
STANDARDS AND CONDUC

February 19, 1969

Mr. Frank E. Johnson, Chief
Office of Minerals Exploration
United States Geological Survey
Department of the Interior
Washington, D.C.

Dear Mr. Johnson:

Enclosed is a letter I have received from Mr. F. G. McFarland of Tooele, Utah, concerning his proposed Amendment No. 2 to his OME 6640 Silver Contract 2259 Keystone Mine.

I would appreciate anything you might be able to do to expedite a favorable decision on his amendment.

Sincerely,

Wallace F. Bennett

Wallace F. Bennett

WFB:mw

OFFICE CODE
O. M. E.
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FEB 24 1969
INITIALS | CODE
110

181347

[illegible]
MINING • DEVELOPING • CONTRACTING
[illegible]
[illegible]
[illegible] UTAH [illegible]

February 10, 1969

Hon. Wallace F. Bennett
United States Senate
Washington, D. C. 20510

Re: OMM 6563 Silver
Contract 4459
Keystone Mine
McFarland & Hullinger

Dear Senator Bennett:

To bring our files current with our present request regarding the above captioned contract a brief summary is outlined for your review.

A contract was negotiated with the U. S. G. S. Office of Minerals Exploration on March 19, 1968 to explore for silver bearing ore bodies in the Keystone Mine located in Gunnison County, Colorado. The initial contract amount was $ [illegible], [illegible] of which the Government participated 75% or $ 76, 155.00. An amendment to the initial contract (Amendment No. 1) was made in September, 1968 amounting to $ 18, 625.00 Government participation.

Since the OMM approval of Amendment No. 1 to the above captioned contract was made in September 1968, some [illegible] of the initial silver, copper, lead, and zinc [illegible] by drilling [illegible] individually [illegible] the [illegible] vein structure in the Keystone Mine. The vein structure, which, [illegible] of [illegible] strength of structure, and its correlation to mineralized surface outcrop are [illegible] to lead [illegible] the current drill hole makes the continued exploration of the vein structure look extremely potential for the mined ore reserves to commence our mining and milling operations.

We have recently completed a diamond core drill hole on our own account to a total depth of 242 feet to test the down dip potential of ore discovered on the 1553 level. This hole penetrated two zones of silver, copper, lead, zinc ore at depths of 154 to 156 feet and 232 to 234.5 feet. This drill substantiated the potential and continuity of the vein structure at depth.

[illegible]
[illegible]
[illegible]
P. O. BOX [illegible]
TOOELE, UTAH 84074

Cont. Hon. William F. Bennett

Due to the potential ore discovered under the OME Amendment No. 1, which is now near completion, we have proposed to the OME an Amendment No. 2 to continue exploration drilling on the North Keystone vein structure [illegible] feet northwesterly under the unexplored surface outcrop ore to block out sufficient silver bearing ore reserves for re-activating our mining and milling operations here in Gunnison County, Colorado. To date, no word has been received from the Government OME on our proposed amendment.

We have attached a longitudinal section map which clearly shows the relationship of ore discovered to date under the OME assistance program and the possible potential ore reserves outlined under our proposed Amendment No. 2 to the OME.

Under the OME Amendment No. 1 contract it was stated that if results were favorable at the end of the contract, additional work could be undertaken if funds were available, and of course, with prior government approval. From the viewpoint of capital return to both the government and operators, along with a substantial employment payroll pending for the area, it is of utmost importance that the proposed exploration under Amendment No. 2 be completed.

We would greatly appreciate any help you could give us for the possible approval of our proposed amendment. Records show that our previous government mineral exploration loans have been fully repaid. We wish to thank you for your kind attention to this matter.

Sincerely,

McFarland & Hullinger

[illegible]
Partner

Att.
FGMcF/mh

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
2/25/69	Kirkemo	120
"	Johnson	110
2/26	Kulsgood	
2/26	Keyser	
2/26	Baker	
		220
		120M

FEB 26 1969

Hon. Wayne N. Aspinall
House of Representatives
Washington, D. C. 20515

Dear Mr. Aspinall:

This is in response to your letter of February 18, 1969, asking to be advised of the status of the request from McFarland and Hullinger of Tooele, Utah, for additional funds to continue exploration on the OME project at the Keystone mine, Gunnison County, Colorado.

We enclose a copy of our letter of February 14, 1969, to McFarland and Hullinger wherein our decision with respect to this request is stated. We regret that additional assistance cannot be provided at this time.

Sincerely yours,

W O Pecora

Director

Enclosure

cc: General Files
Director's Chron
Division File
Economic Geology File
OME docket
OME Reading File
OME Region III w/enclosure
Mr. Kirkemo

HKirkemo/gla 2-25-69

181339

WAYNE N. ASPINALL, M.C.
FOURTH DISTRICT
COLORADO

HOME ADDRESS:
PALISADE, COLORADO

SECRETARIES:
HARRIET M. SHERIDAN
EVELYN BERTORELLO
BILL CLEARY
HOWARD GREEN
TIM SCATES

COMMITTEES:
INTERIOR AND INSULAR AFFAIRS
JOINT COMMITTEE ON ATOMIC ENERGY

Congress of the United States
House of Representatives
Washington, D.C.

February 18, 1969

OFFICIAL COPY
O. M. B.
RECEIVED
FEB 20 1969
INITIALS | CODE
110

W. T. Pecora
Director
Office of Geological Survey
Department of the Interior
Washington, D. C.

Dear Dr. Pecora:

I would appreciate being advised of the status of the following loan application:

OME 6640 Silver
Contract 2259
Amendment No. 2
Keystone Mine - McFarland & Hullinger
Gunnison, County, Colorado

Thank you very much.

With best wishes,

Sincerely,

Wayne N. Aspinall

RECEIVED
GEOLOGICAL SURVEY
FEB 19 11 39 AM 1969
OFFICE OF THE DIRECTOR

181339

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
2/20/69	Johnson	110
2/24/69	Kirkemo	120
2/25	Kilsgaard	
2/25	Kupp	220
		120M

FEB 25 1969

Hon. Frank E. Moss
United States Senate
Washington, D. C. 20510

Dear Senator Moss:

This is in response to your memorandum of February 13 to the Director, Bureau of Mines, and the enclosed copy of a letter to you dated February 10, with longitudinal section map, from McFarland and Hullinger of Tooele, Utah, relating to their recent request for additional funds for further exploration of the Keystone Mine in Gunnison County, Colorado.

For your information is enclosed a copy of our self-explanatory letter of February 14 to McFarland and Hullinger concerning their request for additional funds to explore the Keystone Mine under the present exploration contract with the Government.

The enclosures with your letter are returned as requested.

Sincerely yours,

Arthur A Baker

Acting Director

Enclosures

cc: General files
Director's chron
Division file
Economic Geology File
OME docket 6640
OME Reading File
OME Region III w/copies enclosures
Mr. Kirkemo

FEJohnson/gla 2-20-69

[redacted]

OME

United States Senate

February [illegible]

Respectfully referred to

Director
Bureau of Mines

for such consideration as the communication herewith submitted may warrant, and for a report thereon, in duplicate to accompany return of inclosure.

By direction of

Frank E. Moss, U. S. S.

Mr. F. G. McFarland
McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

C. G. McFARLAND
TOOELE, UTAH
Phone - Tooele 882-1245

McFARLAND AND HULLINGER
MINING • ORE HAULING • CONTRACTING
PHONE 882-0103
P. O. BOX 238
TOOELE, UTAH 84074

SEN. FRANK E. MOSS
RECEIVED
FEB 12 1969
WASHINGTON, D. C.

February 10, 1969

Hon. Frank E. Moss
United States Senate
Washington, D.C. 20510

Re: OME 6640 Silver
Contract 2259
Keystone Mine
McFarland & Hullinger

Dear Senator Moss:

To bring our files current with our present request regarding the above captioned contract a brief summary is outlined for your review.

A contract was negotiated with U. S. G. S. Office of Minerals Exploration on March 26, 1968 to explore for silver bearing ore bodies in the Keystone Mine located in Gunnison County, Colorado. The initial contract amount was $ 88,580.00 of which the Government participated 75% or $ 66,435.00. An amendment to the initial contract (Amendent No. 1) was made in September, 1968 amounting to $ 18,825.00 Government participation.

Since the OME approval of Amendment No. 1 to the above captioned contract was made in September 1968, some 400 feet of substantial silver, copper, lead, sinc ore has been delineated by drifting in a northwesterly direction along strike of the North Keystone vein structure in the Keystone Mine. The encouraging vein, widths, grade of mineralization, strength of structure, and its correlation to unexplored surface outcrop ore located 1000 to 1500 feet ahead of the current drift face makes the continued exploration of the vein structure look extremely potential for the needed ore reserves to commence our mining and milling operations.

We have recently completed a diamond core drill hole on our own account to a total depth of 244 feet to test the down dip potential of ore discovered on the 1370 level. This hole penetrated two sones of silver, copper, lead, sinc ore at depths of 154 to 156 feet and 230 to 234.5 feet. This drill substantiated the potential and continuity of the vein structure at depth.

F. G. McFARLAND
TOOELE, UTAH
Phone – Tooele 882-1243

S. S. HULLINGER
TOOELE, UTAH
Phone – Tooele 882-1344

McFARLAND AND HULLINGER

MINING • ORE HAULING • CONTRACTING

PHONE 882-0103
P. O. BOX 290
TOOELE, UTAH 84074

Cont. Hon. Frank E. Moss

Due to the potential ore discovered under the OME Amendment No. 1, which is now near completion, we have proposed to the OME an Amendment No. 2 to continue exploration drifting on the North Keystone vein structure 1500 feet northwesterly under the unexplored surface outcrop ore to block out sufficient silver bearing ore reserves for re-activating our mining and milling operations here in Gunnison County, Colorado. To date, no word has been received from the Government OME on our proposed amendment.

We have attached a longitudinal section map which clearly shows the relationship of ore discovered to date under the OME assistance program and the possible potential ore reserves outlined under our proposed Amendment No. 2 to the OME.

Under the OME Amendment No. 1 contract it was stated if results were favorable at the end of the contract, additional work could be undertaken if funds were available, and of course, with prior government approval. From the viewpoint of capital return to both the government and operators, along with a substantial employment payroll pending for the area, it is of the utmost importance that the proposed exploration under Amendment No. 2 be completed.

We would greatly appreciate any help you could give us for the possible approval of our proposed amendment. Records show that our previous government minerals exploration loans have been fully repaid. We wish to thank you for your kind attention to this matter.

Sincerely,

McFarland & Hullinger

F. G. McFarland
Partner

ATT:

FGMcF/mh

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
2/12/69	Kirkemo	120
		~~120~~
		110
2/14	cac	220
		120M

AIRMAIL

FEB 14 1969

Mr. Max T. Evans
McFarland and Hullinger
Keystone Mine
Crested Butte, Colorado 81224

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Dear Mr. Evans:

This is to acknowledge receipt of the request dated January 11, 1968 accompanying your voucher for December 1968 for additional funds to continue exploration of the Keystone mine after funds on the current contract have been expended.

At this time OME funds for contracting purposes are limited to current contracts and to applications previously approved which can be provided for on present funds. Consequently, we would be unable to offer you additional funds in the amount requested until some time after July 1, 1969, the beginning of the new fiscal year, and then subject to the availability of the newly appropriated funds. Should this situation change, we would reappraise our schedule for preparing amendments allowing for additional funds or new contracts.

We are most encouraged by the results of the contract work now in progress, and we regret that we cannot give you a more favorable reply at this time.

Sincerely yours,

FRANK E. JOHNSON (gla)

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Economic Geology File
OME Docket
OME Reading File
Region III
Mr. Kirkemo

HKirkemo/bsl 2/14/69

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

February 12, 1969

OFFICIAL COPY
O. M. E.
RECEIVED
FEB 14 1969

INITIALS	CODE
	120
	120
	110
	120

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

An interim inspection of the Keystone Mine was made on January 13 and 14, 1969, by the Field Officer, Region III, accompanied by Mr. Max Evans, Mine Superintendent for the Operator.

Exploration work had continued along the Keystone vein on the 1370 level for a distance of approximately 870 feet, the Keystone vein has an average width of 4.07 feet for this distance, but is as much as 12 feet wide. Long hole drilling into the hanging wall indicates a width of at least 14 feet at one point.

Three separate ore shoots have been discovered as a result of both Operator and joint Operator-Government exploration work. The Keystone vein was splitting somewhat at the face but has since strengthened further northwestward according to the Operator. A raise, the 1361 raise, had been driven on the Keystone vein; and was at a point 71 feet above the 1370 level at the time of the inspection. The vein continued strong up-dip on the structure. A second raise, the 1364 raise, had just been collared on the Keystone vein near the end of the second ore shoot at the time of the inspection, and a third raise was proposed to be driven in the third ore shoot, but had not yet been started.

A more detailed description of the ore shoots along the Keystone vein is contained in my memorandum dated February 5, 1969, written in support of a request for additional funds to further explore the Keystone vein to the northwest.

Two diamond drill holes were drilled on company account into the footwall of the Union vein to test for a possible branching structure that was indicated south of the 6200 N. coordinate. A one (1) foot thick mineralized zone was penetrated in each of these holes as shown on the Operator's progress report map for December, 1968, indicating that the true Union vein may yet be in the footwall of the 1370 N. Union drift. The Union vein became less mineralized as it was explored further northwesterly, although the structure is a persistent one.

A third diamond drill hole was being drilled on company account N. 35° E. at a -45° angle from the 1370 crosscut drift to explore for the downward extension of the Keystone ore shoot below the 1361 raise, at a point about 150 feet below the 1370 level. The hole was at a depth of 140 feet at the time of the examination and had not yet penetrated the Keystone vein.

Exploration work on the Keystone vein alone has proven very successful, and an inferred tonnage of ore totalling some 180,000 tons having a gross value in the ground of an estimated $9,000,000 dollars. A potential block of ground equal in size to the total area mined previously in the Keystone and Union vein is indicated from the exploration completed to date.

J. William Hasler

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

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

February 5, 1969

OFFICIAL COPY
O. M. E.
RECEIVED
FEB 7 1969
INITIALS CODE
120

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

In a letter from the Operator dated January 11, 1969, accompanying his monthly voucher for December 1968, a request was made for an Amendment No. 2 to the subject contract to allow for additional funds to further explore the Keystone vein some 1500 feet northwesterly.

The object is to test the continuity along the strike of the Keystone vein, but more particularly to explore the down dip extension of the Keystone vein some 1,000 feet below a highly mineralized and silicified outcrop, that is nearly 5 feet wide. Samples taken across the vein averaged about 3.0 feet wide and showed an average grade of 4.00 oz. Ag, .09% Cu, .08% Zn and 3.80% Pb. Exploration to date along the Keystone vein, some 1,000 feet down dip from the surface outcrops southeast of the outcrop, for a strike length of some 842 feet, a raise of some 71 feet up-dip, has resulted in the discovery of three shoots of ore grade material, that can be described as follows: (See 1" = 50' plan map, Keystone mine, accompanying December 1968 voucher).

Ore shoot No. 1 is in the area where the Keystone vein was first intersected by the Operator, or northeast of the face of the 1370 level crosscut, and is about 250' in length, averages (as sampled) 2.35' wide but is as wide as 7.0 feet. Samples over this length yield an average of 4.67 oz. Ag, 7.14% Pb, 0.96% Cu, and 7.84% Zn. Gross value of this ore in place at current prices totals $58.72 per ton. A 71.2 foot raise on the Keystone vein near the middle of this ore shoot shows the vein to range from 2 to nearly 5 feet

in width however, assay widths average 3.18 feet and average 4.94 oz. Ag, 6.20% Pb, 0.90% Cu, and 4.31% Zn. Gross value in the ground totals some $46.40 per ton.

Ore shoot No. 2 extends from a point 370 feet northwest of the 1370 crosscut to a point 540 feet beyond the 1370 crosscut or a distance of some 170 feet along the strike. The vein ranges in width from 2 to 6 feet wide. Vein widths from assay samples average 3.8 feet and average 3.69 oz. Ag., 8.38% Pb, 0.38 Cu. and 5.10% Zn. Gross value in the ground at current prices using $2.00 per oz. for silver is $47.29 per ton. A second raise had been collared at the northwestern end of this ore shoot.

Ore shoot No. 3 extends from a point 555 feet northwest of the 1370 level crosscut to 785 feet northwest of the 1370 level crosscut or a distance of some 250 feet along the strike of the Keystone vein. The vein ranges from 2 feet to as much as 12 feet wide. Long hole drilling near the face (1-2-69) showed vein material extending as much as 14 feet in the hanging wall of of the vein. Samples taken at intervals across the vein for a distance some 230 feet shows the vein to average 5.4 feet wide, and assays averaging 3.35 oz. Ag, 7.99% Pb, 0.464% Cu, and 8.14% Zn. Gross value in the ground at current prices totals $53.90 per ton.

An arithmetical average of all the samples taken from the three ore shoots along the Keystone vein on the 1370 level, including the 71 foot raise, shows the vein to average 4.07 feet wide and has an average grade of 4.0 oz. Ag, 7.65% Pb, 0.63% Cu, and 6.78% Zn. Gross values in the ground at present metal prices total $45.82 per ton.

There is a total of approximately 650 feet of strike length of ore grade material along the Keystone vein on the 1370 level, and there is approximately 1,000 feet of back between the 1370 level and the surface outcrop of the Keystone vein. There are no workings whatsoever, on the Keystone vein, below the 1370 level.

The Keystone vein as was exposed in the mine at the time of the field examination ranges from 1 to 20 feet wide and is more than 2,200 feet in length. It is known to extend down dip for more than 1,150 feet. The Keystone vein strikes N. 30° to 40° W. and dips between 50° and 70° SW. The vein is a fissure filling consisting of silver bearing galena, sphalerite, chalcopyrite, in a gangue of quartz, pyrite, pyrrhotite, rhodochrosite, rhodonite and clay minerals. The vein material commonly is a matrix of a breccia that contains altered rock. The vein is not uniformly mineralized and the ore bodies occur in distinct ore shoots. The shoots have greater vertical than horizontal dimensions; they occupy from one-third to one-half of the vein length. Mine workings extend from the surface to a depth of 1,300 feet (2460 level).

Each of three ore shoots discovered on the 1370 level have strike lengths of 250, 170, and 250 feet respecitvely. If one can assume the ore will extend vertically one and one-half times the strike length, above and below the 1370 level, then there could be a total inferred tonnage of ore discovered amounting to approximately 180,000 tons, valued at approximately $50.00 per ton having a gross value of $9,000,000. If the total amount spent were $113,767.00, which is the total estimated cost of the contract, this would mean that for every dollar spent some $80.00 worth of ore has been discovered on the Keystone vein alone.

The Operator, reports that the total production from the Keystone mine through April 1967 was 463,000 tons of ore that averaged 5.69 oz. Ag, 2.6% Pb, 0.73% Cu, and 5.54% Zn per ton, with an average value of $35.20 per ton. As a result of exploration under this contract to date on the Keystone vein alone, there is a potential of 650 feet of vein, averaging 4.0 feet wide and vertical range of 1900 feet, thus

$$\frac{650' \times 4' \times 1900'}{10} = 494{,}000 \text{ tons}$$

The exploration work completed on the Keystone vein to date, under the current contract opens up a potential block of ground that is equivalent in size and possibly better in grade to that already mined.

If an additional exploration drift of 1500 feet along the Keystone vein results in an equivalent proportion of ore grade material as the first 835 feet from the 1370 level there is a potential block of ground above the 1370 level containing 470,000 tons of ore grade material of the same grade of ore as was found in the first 650 feet of drifting. Gross values of this block of ground could amount to $22,804,400.00. Estimated total cost of the proposed project is $113,767.00. The Government's share of the project at 75% participation would be $85,325.00. If the current reserves in the ground are correct there has been a discovery of $190.00 worth of reserves for every dollar spent.

I recommend that the request for Amendment No. 2 be approved, as I believe there is an excellent chance of an additional significant discovery of silver and copper, as well as lead and zinc by further exploring the Keystone vein northwestward in the 1370 level.

At a gross value of $45.82 per ton this would amount to $22,635,080.00. If the average value of $35.00 per ton was used, which was the older figure used as a basis, the gross value will total $17,290,000.00. However, the $45.82 value is based on current price of metals and should be used as the basis for any new calculations.

J. William Hasler

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

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

January 23, 1969

OFFICIAL COPY
O. M. E.
RECEIVED
JAN 27 1969
INITIALS | CODE
130
120
110
120

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland & Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Transmitted herewith is an original and two copies of the Operator's Monthly voucher for the month of December, 1968. Accompanying the voucher is the required narrative, maps and other substantiating material. An interim inspection of the property was made by me on January 13 and 14th, 1969 and the work completed to date has been performed in accordance with the contract, consequently I recommend approval of payment requested on the enclosed voucher.

Accompanying the narrative report with the December voucher is a request by the Operator for an amendment to the present contract to again increase the size of the subject contract to further explore the Keystone vein another 1500 feet, northwesterly at a total estimated cost of $113,767.00. I will make my recommendations in a separate memorandum shortly. Exploration under the present contract should be completed sometime in March, 1969.

J. William Hasler

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

IN REPLY REFER TO:

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

Office of Minerals Exploration
Building 53 Room 203

December 16, 1968

OFFICIAL COPY
O. M. E.
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DEC 18 1968

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	130
bal	120
on leave	110
HK	~~120~~

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME 6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Enclosed is an original and two (2) copies of the Operator's Monthly Voucher Form 9-1648 for the month of November 1968 with accompanying narrative, maps and assay data approved for payment.

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

Enclosures

See folder #2

OFFICIAL COPY
O. M. E.
RECEIVED
NOV 6 1968
INITIALS | CODE

Office of Minerals Exploration
Building 53 Room 203

October 30, 1968

McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84704

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado

Gentlemen:

Enclosed are the original and three copies of proposed Amendment No. 1 to the subject contract, executed by the Government.

If the proposed amendment is satisfactory, all four copies should be signed by the authorized representative of the Operator where indicated. Thereafter, please retain the "Operator's Copy" and return the other three copies to this office.

If any part of the proposed amendment does not have your approval, the original and all copies are to 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-6640
OME chron
Mr. Hasler

IN REPLY REFER TO:

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

Office of Minerals Exploration
Building 53 Room 203

OFFICIAL COPY
RECEIVED
OCT 28 1968
INITIALS | CODE
HK 120

October 25, 1968

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mining Property
Gunnison County, Colorado
Contract 2259

Transmitted herewith are the original and two copies of Form 9-1648 (Operator's Monthly Voucher) with substantiating documents for the month of September on the above-captioned subject.

J. William Hasler

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

Enclosures

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
10/21/68	Johnson	110
10/22	Kalsgaard	
10/22	Kepp	220
	Baker	
		110
		220
		120M

AIRMAIL

OCT 24 1968

Memorandum

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

In accordance with our discussions, enclosed are the original and three copies of proposed Amendment No. 1 to the subject contract, executed by the Government. Also enclosed is an extra copy for field use.

If the proposed amendment is satisfactory to you and the Operator, all four copies should be signed by the authorized representative of the Operator. Thereafter, please distribute the copies in the usual manner.

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

FRANK E. JOHNSON (gla)

Frank E. Johnson

Enclosures

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

FEJohnson/gla 10-21-68

m 7

OFFICIAL FILE COPY

Date	Surname	Code
10/14/68	Johnson	110
10/15	Kulsgaard	
10/15	Kerr	220
		120M

OCT 16 1968

Hon. Peter Dominick
United States Senate
Washington, D. C. 20510

Dear Senator Dominick:

In response to your letter of October 10, requesting to be informed of our decision on the application of McFarland and Hullinger (OMX-6640) for additional funds to explore the Keystone mine in Gunnison County, Colorado, we are pleased to advise that an amendment is being prepared to increase the total value of the exploration contract with the Operator to $113,680.00 and the Government's share to $85,260.00.

The Operator has been informed of this action.

Sincerely yours,

Arthur A. Baker

Acting Director

cc: General Files
Director's Chron
Division File
Economic Geology File
OME docket
OME Reading File
OME Region III w/cy incoming letter

FEJohnson/gla 10-14-68

180617

RICHARD B. RUSSELL, GA., CHAIRMAN
JOHN STENNIS, MISS.
STUART SYMINGTON, MO
HENRY M. JACKSON, WASH
SAM J. ERVIN, JR., N.C.
HOWARD W. CANNON, NEV.
ROBERT C. BYRD, W. VA.
STEPHEN M. YOUNG, OHIO
DANIEL K. INOUYE, HAWAII
THOMAS J. MC INTYRE, N.H.
DANIEL B. BREWSTER, MD.
HARRY F. BYRD, JR., VA.
MARGARET CHASE SMITH, MAINE
STROM THURMOND, S.C.
JACK MILLER, IOWA
JOHN G. TOWER, TEX
JAMES B. PEARSON, KANS
PETER H. DOMINICK, COLO
WILLIAM H. DARDEN, CHIEF OF STAFF
CHARLES B. HERSOW, CHIEF CLERK

United States Senate

COMMITTEE ON ARMED SERVICES
WASHINGTON, D.C. 20510

October 10, 1968

Mr. Arthur A. Baker
Acting Director
Geological Survey
Department of the Interior
Washington, D. C. 20242

Dear Mr. Baker:

Thank you very much for your assistance in setting forth the situation facing the application of McFarland and Hullinger for additional funds to explore the Keystone mine in Gunnison, County, Colorado.

I would appreciate, additionally, being informed as to the decision mentioned in the last paragraph of your letter, when it is rendered. Thank you for your help in this matter.

Sincerely,

Peter H. Dominick
United States Senator

PHD:ph

MME FORM 6 REFERENCE SLIP
REV. 2-59 OFFICE OF MINERALS EXPLORATION

TO:	DATE	INITIALS
1. Assoc.Sol.--MR, Rm. 6554, Interior (Through Room 6042)		
2. Mr. Kirkemo, Room 4459, Interior		
3.		
4.		
5.		
FROM: Chief, OME	10/14/68	

FOR: Check items for action desired

____ Action ____ Reply for signature of ____
____ Approval ____ Investigate ____ Surname
____ Comment ____ Recommendations ____ Signature
____ Conference ____ Rewrite ____ File
____ Instructions ____ Your information

REMARKS:

SOLICITOR
J-68-2084 3192
RECEIVED OCT 1 4 1968
OCT 1 4 1968 INTERIOR DEPT.
Division of Mineral Resources
and General Legal Services

INT.-DUP. SEC., WASH., D.C. M56300-62

HR ✓ 10/9/68
JWA 10/9/68
TEJ 10/14/68

To Legal 10/14

DRAFT - 10/9/68
HKirkemo/mec

EXPLORATION CONTRACT
McFARLAND AND HULLINGER
OME-6640

AMENDMENT 1

It is agreed this _____ day of _____, 1968, between the United States of America, acting through the Department of the Interior, U. S. Geological Survey, hereinafter called the "Government," and McFarland and Hullinger, hereinafter called the "Operator," that Exploration Contract 2259 (OME-6640), dated March 22, 1968, is amended effective September 26, 1968, as follows:

1. Article 1 is amended as follows:

(a) The estimated total cost of the work is increased from $88,580.00 to $113,~~5~~680.00.

(b) The total Government contribution for all work performed under this contract shall not be in excess of $85,~~185~~260.00.

2. In Exhibit A the first paragraph is revised to read as follows:

"The purpose of this project is to explore the Union and Keystone veins on the 1370 Level of the Keystone Mine by crosscutting, drifting, and raising for silver-bearing ore bodies in or near the veins in the Mesaverde Formation of Cretaceous age."

Frank:

There is a difference of $14.10 in the multiplication of the units × unit price and the listed product ($91,740) but this is a rounded product necessary to make the addition come up to the total of $113,580.

Kirk

3. In Exhibit A under the heading Description of the Work the entire section is revised to read as follows:

"Union vein -- Starting approximately at mine coordinates N. 12,740, E. 8690 on the 1370 level, crosscut about 550 feet in a southwesterly direction to the Union vein and drift northwesterly about 900 feet. Raises spaced not less than 100 feet apart may be driven on mineralized showings which warrant exploration above the 1370 level."

"Keystone vein -- Starting at mine coordinates N. 12,965, E. 8,638, extend the drift on the vein northwesterly approximately 550 feet. Raises spaced not lett than 100 feet apart may be driven on mineralized showings which warrant exploration above the 1370 level."

"The locations of the crosscut and drifts allowable on the contract are shown in red on Figure 2 (revised) entitled "Proposed Exploration on the 1370 level, Keystone Mine, Gunnison County, Colorado" which is attached hereto and made part hereof."

"Additional exploration within the limits of available funds may be undertaken as warranted with the prior approval of the Government confirmed by letter."

4. In Exhibit A under the heading Estimated Costs of the Project, Fixed Unit costs[1/], revise to read as follows:

Crosscutting and drifting, ~~1,999~~ 2,064 feet @ $45.90/foot (~~rounded~~)	91,800.00 ~~$91,740.00~~
Timbering crosscut and drift, 200 feet @ $6.45/foot (~~rounded~~)	1,290.00
Raising, including timbering, 300 feet @ $43.50/foot	13,050.00

Frank: Note attached note

Assaying 300 samples Determinations for silver ($1.75), lead ($2.25), zinc ($2.75), copper ($1.75) (non del)	2,540.00 ~~$2,500.00~~
Snow removal, HD-21 bulldozer with Operator 200 hours @ $25.00/hour	5,000.00
Total Estimated Fixed Unit Costs	113,780.00 ~~$113,580.00~~
Government Participation @ 75 percent	85,260.00 ~~$85,185.00~~ 260

1/ Includes all costs not individually listed such as labor, materials, supplies, equipment, supervision, professional services, office expenses, taxes, and insurance. The Government retains no equity in any of the equipment or materials used.

This amendment shall not be construed to increase the fixed unit cost of any item of work.

Executed in quadruplicate the day and year first above written.

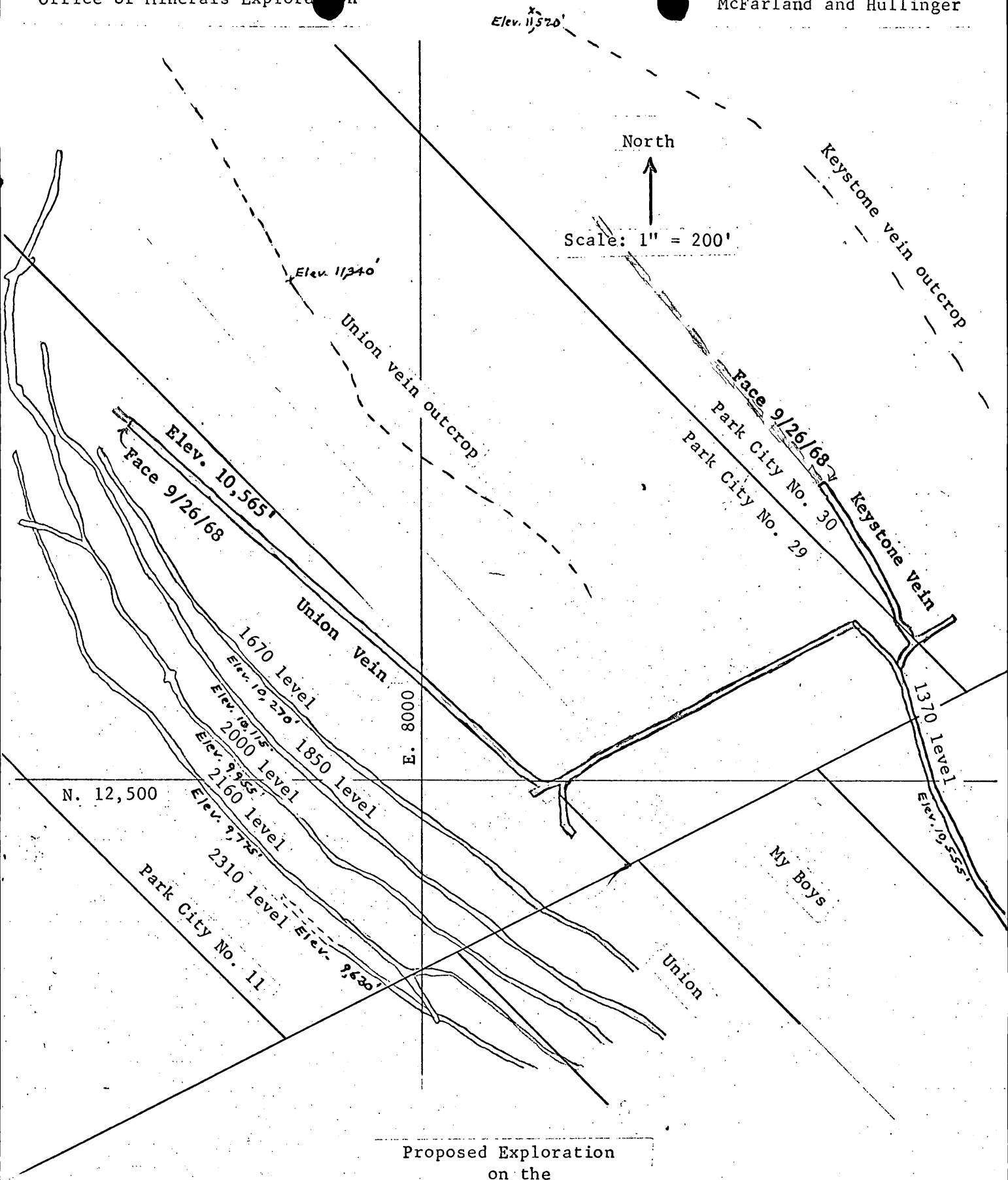
THE UNITED STATES OF AMERICA

By_____
Director, U. S. Geological Survey

MCFARLAND AND HULLINGER

By_____
Fayette G. McFarland, partner

_____
Sidney R. Hullinger, partner



Proposed Exploration
on the
1370 Level, Keystone Mine
Gunnison County, Colorado

Figure 2
(Revised)

MME FORM 6
REV. 2-59

REFERENCE SLI
OFFICE OF MINERALS EX RATION

TO:	DATE	INITIALS
1.		
2. Mr. Johnson:		
3. Please initial the draft		
4. ~~(carbon) of Amendment No. 1 and~~ the Justification original --		
5. ~~which I will place in the docket.~~ Grace		
FROM:		

FOR: Check items for action desired

____ Action	____ Reply for signature of ____	
____ Approval	____ Investigate	____ Surname
____ Comment	____ Recommendations	____ Signature
____ Conference	____ Rewrite	____ File
____ Instructions	____ Your information	

REMARKS:

OFFICIAL COPY
O. M. E.
RECEIVED
OCT 11 1968

INITIALS	CODE
	130
	120 M
	110
	120

INT.-DUP. SEC., WASH., D.C.

M56300-62

IN REPLY REFER TO:

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

Office of Minerals Exploration
Building 53 Room 203

October 9, 1968

Memorandum

To: Chief, Office of Minerals Exploration

From: Assistant Chief, Office of Minerals Exploration

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mining Property
Gunnison County, Colorado
Contract 2259

Enclosed are the original and four copies of proposed Amendment No. 1 to the subject contract, and a justification for the amendment. The Field Officer has reviewed this and concurs in its content and purpose. As you know from our discussions about this amendment, the contract bears the same rate of interest (7-1/2%) as prevails in October, 1968. I suggest that the amendment be processed as soon as convenient so as to maintain the same rate of interest for the additional $25,000 required for this amendment.

Harold Kirkemo

Harold Kirkemo

ME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
10/1/68	Johnson	110
10/2/68	Kirkemo	120
	Kulgaard	220
10/2	Hepp	120M

OCT 3 1968

Hon. Peter H. Dominick
United States Senate
Washington, D. C. 20510

Dear Senator Dominick:

This is in reply to your letter of September 25, 1968, on behalf of Mr. Max T. Evans, of Crested Butte, Colorado, concerning the application of McFarland and Hullinger for additional funds to explore the Keystone mine in Gunnison County, Colorado. File OME-6640.

An OME contract with McFarland and Hullinger was executed on March 22, 1968, for the purpose of exploring the Union vein in the mine. Total value of the contract is $88,580.00, with the Government's share being $66,435.00. Our financial position at the time the contract was executed did not permit inclusion of work on both the Keystone and Union veins, so the target appearing to offer the best possibilities for a significant discovery was selected. Developments on the OME project to date have not been as promising as have developments on the Keystone vein where work is under way entirely on the operator's account.

First priority on our limited funds this year has been given to qualified applicants who do not have OME contracts in force, and whose properties offer the best opportunities for successful exploration. We have accommodated as best we can the backlog of applications meeting these qualifications, and we now are considering applications to increase assistance on current contracts.

Please be assured that careful consideration will be given to the application submitted by McFarland and Hullinger. We will advise the applicant of our decision as soon as possible.

Sincerely yours,

Arthur A. Baker

Acting Director

cc: General Files
Director's Chron
Division File
Econ. Geology File
OME docket
OME Reading File
OME Region III w/cy incoming correspondence
Mr. Kirkemo

180544

FEJohnson/gla 10-1-68

United States Senate

COMMITTEE ON ARMED SERVICES

WASHINGTON, D.C. 20510

September 25, 1968

Office of Congressional Liaison
Geological Sruvey
Department of the Interior
Washington, D. C. 20242

Gentlemen:

Enclosed is a copy of the letter I have received from my constituent, Mr. Max T. Evans, of Crested Butte, Colorado, which sets forth his situation regarding an application for financial assistance to develop a new discovery in Gunnison County, Colorado.

I would appreciate any information or comments you may be able to furnish regarding Mr. Evans' situation.

Best regards.

Sincerely,

Peter H. Dominick
United States Senator

PHD:ph
Enclosure

180544

Crested Butte, Colorado
September 12, 1968

SEP 16 1968

Honorable Peter H. Dominick
United States Senate
Washington, D. C. 20510

Dear Senator Dominick:

Once again we sincerely solicit any help you might give us to re-activate mining and milling operations at the Keystone property located near Crested Butte, Colorado. The problem currently facing us in outlined in the following summary account along with a copy of our last months OME contract report.

Our initial submittal for an OME contract at the Keystone Mine proposed certain drift projects to test two (2) potential vein structures namely, the Union Vein and Keystone Vein. During my visit to the Washington OME office in September 1967, Messrs. Johnson and Kirkime indicated to me that funds were not available to test or to drift both vein structures, but if we could drift on our own account to the Keystone vein structure and the results of such work were favorable, a possible amended contract would be considered. As this was a consideration, the ground covering both vein structures was granted under a lein subordination to the United States Government.

On a geological gamble that the Keystone Vein structure would look favorable and that we might obtain an amendment to the exisiting OME contract, considerable capital on McFarland and Hullinger account was expended to test the geological possibilities of the Keystone Vein. This exploration gamble resulted in the discovery of a high grade silver, copper, lead, zinc ore vein located in virgin unexplored ground some 600 feet north of the old mine workings. The grade and value of the ore discovered is outlined in the attached report to Mr. Hasler of the OME.

A proposal for 2000 feet of exploration drifting on ore discovered on the Keystone Vein structure was submitted to the OME on July 5, 1968. The OME replied they could not help us at this time due to budget difficulties.

We therefore, would greatly appreciate any help you might give to us for an OME amendment to explore this new ore discovery and re-activate our mining and milling operations.

Through this amended contract I feel confident that all parties concerned with the explorations venture could be fully re-paid and a substanial payroll could once again be in circulation in Gunnison County, Colorado.

Respectfully submitted,

Max T. Evans, Supt.
Keystone Mine-McFarland & Hullinger

BES/attach

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
10/3/68	Kirkamo	120
		110
		220
		120M

OCT 3 1968

AIRMAIL

Mr. Max T. Evans
McFarland and Hullinger
Keystone Mine
Crested Butte, Colorado 81224

Re: OMX-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Dear Mr. Evans:

This is to confirm the facts reported and the decision made in a telephone conversation on September 27 between you and Mr. Kirkamo of this office regarding additional exploration at the Keystone Mine.

You report that as of September 26, 1968, the face of the drift on the Union vein on the 1370 level was at coordinates N. 13,056, E. 7540 and was at 880 feet northwest from the crosscut. On the same date, the drift on the Keystone vein was at coordinates N. 12,965, E. 8638 and was 285 feet northwest from line pad No. 2 located in the center of the crosscut. You further report that you plan to raise on the Union vein at the point of Sample No. 7051, which is about 285 feet northwest from the crosscut.

You also propose to discontinue further drift advance on the Union vein because only sparse mineralization was disclosed in the last 600 feet of drift advance. You wish to apply the balance of the drifting allowable in the contract (±120 feet) to extend the drift northwest on the Keystone vein because of the well mineralized material disclosed on this vein to date.

We will prepare an amendment for your consideration which will permit transfer of funds for work on the Keystone vein and add possibly $25,000 to the total value of the present contract. You state that it would be acceptable to the Operator for OMX assistance on the Keystone vein to begin at the face of the drift as determined on September 26. This letter will authorize work on the contract on the Keystone vein with the understanding that such work is at the Operator's own risk pending execution of an amendment permitting work on this structure. The same price schedule will prevail for work on the Keystone vein as is allowed in the contract for work on the Union vein.

Please be assured that we will prepare this amendment as soon as possible.

Sincerely yours,

FRANK E. JOHNSON (gla)

Frank E. Johnson
Chief, Office of
Minerals Exploration

Copy to:
McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

cc: Director's Reading File
Economic Geology File
OME docket
OME Reading File
OME Region III
Mr. Kirkemo

HKirkemo/gla 10-3-68

Form 7
53)

OFFICIAL FILE COPY

Date	Surname	Code
9/23/68	Kirkemo	120
"	Johnson	110
	Hilgeard	220
9/24	Wyer	

SEP 25 1968

Hon. Wayne N. Aspinall
House of Representatives
Washington, D. C. 20515

Dear Mr. Aspinall:

This is in reply to your memorandum of September 16, 1968, ~~on behalf~~ of Mr. Max T. Evans, Superintendent, Keystone Mine, McFarland and Hullinger, Crested Butte, Colorado, who has applied for additional OME funds to explore the Keystone vein in the Keystone mine.

An OME contract with McFarland and Hullinger was executed on March 22, 1968, for the purpose of exploring the Union vein in the mine. Total value of the contract is $88,580.00, with the Government's share being $66,435.00. Our financial position at the time the contract was executed did not permit inclusion of work on both the Keystone and Union veins, so the target appearing to offer the best possibilities for a significant discovery was selected. Developments on the OME project to date have not been as promising as have developments on the Keystone vein where work is under way entirely on the operator's account.

First priority on our limited funds this year has been given to qualified applicants who do not have OME contracts in force, and whose properties offer the best opportunities for successful exploration. We have accommodated as best we can the backlog of applications meeting these qualifications, and we now are considering applications to increase assistance on current contracts.

Please be assured that careful consideration will be given to the application submitted by McFarland and Hullinger. We will advise the applicant of our decision as soon as possible.

Sincerely yours,

William A. Baker

Acting Director

cc: General Files
Director's Chron
Division File
Econ. Geology File
OME docket
OME Reading File
Mr. Kirkemo

HKirkemo/gla 9-23-68

OME Region III w/cy incoming correspondence

180497

HOUSE OF REPRESENTATIVES, U.S.
WASHINGTON, D.C.

1/2

(90)

September 16, 1966

The attached communication is submitted for your consideration, and to ask that the request made therein be complied with, if possible.

If you will advise me of your action in this matter and have the letter returned to me with your reply, I will appreciate it.

OFFICIAL COPY

Very truly yours,

Wayne N. Aspinall

M.C.

District

Crested Butte, Colorado
Keystone Mine
September 11, 1968

Mr. J. William Hasler, Field Officer, Region III
Office of Mineral Exploration
U.S. Geological Survey
Denver Federal Center - Bldg. 53 Rm. 203
Denver, Colorado 80225

Re: OME 6640 Silver
Contract 2259
Progress Report for August 1968

Dear Mr. Hasler;

Drifting on the captioned subject contract advanced 306.60 feet during the month of August 1968. Eleven (11) samples were taken across the vein mineralized areas which warranted sampling. Certified copies of the assay results are attached.

The Union Vein zone drift beyond the 64 N. area was weakly mineralized with pyrite and minor lead, zinc and copper. The above drift segment could not be considered of economic value at drift level and it is therefore recommended that a raise be put up on the vein in the 63 N. area (in the vicinity of sample no. 7051) to test the up dip potential.

McFarland and Hullinger completed 242.80 feet drifting on their own account during the month of August. This work has discovered a very excellent grade silver, copper, lead zinc ore zone on the Keystone footwall vein. The ore zone has now been delineated by drifting over strike length of 200 feet. The vein widths and assays are shown on the 1370 level geologic map attached. The arithmetic average of the 19 samples taken along the vein shows as follows:

AG	PB	Cu	ZN
4.62	7.00	.983	8.20

(certified copies of assays attached)

Full market quote at the current price of metals today show the value of this ore to be $58.34 per ton crude. On the basis of possible inferred tonnage reserves and grade the following could be possible on the 200 feet of ore delineated by drifting on the Keystone footwall vein structure to date:

Av. width	Length	Height
3.0'	200'	400'

Tonnage factor 12 ft. 3/ton = 20,000 tons
20,000 tons @ FMQ $58.34 /ton = $1,166,800. Gross Product
Leached, gossaneous, mineralized vein outcrops showing on the surface some 700 feet up dip from the Keystone footwall ore discovered on the 1370 level, strongly indicates this to be a major ore bearing structure. Some 500 feet of solid surface ore outcrops located 2100 feet northward from the ore discovered on the 1370 level lends strong support to the potential of the structure.

McFarland and Hillinger have expended considerable private funds on the premise and suggestion of Messrs. Johnson and Kirkimo of the Washington OME office, that if we could do the drifting to the Keystone footwall structure on our own account and the results were interesting that a possible amended OME contract could be allocated to explore the Keystone structure. With a possible amended contract in mind on the Keystone structure the ground containing this structure was included in the lein and subordination agreement of the United States Government. As a result of the above work a major silver-copper bearing structure has been discovered and we are badly in need of an amended OME contract for partial finds to further explore this structure by 2000 feet of drifting northward from the existing face.

We would greatly appreciate your conveying a copy of this proposal to the Washington OME office and their kind condsideration of same.

Respectfully submitted,

Max T. Evans

Max T. Evans, Supt.
Keystone Mine
McFarland & Hillinger

Bernard w/ Bill

Crested Butte, Colorado
September 11, 1968

Honorable Wayne N. Aspinall
United States House of Representatives
Washington 25, D.C.

Re: OME 6640 Silver
Contract 2259
Keystone Mine - McFarland and Hullinger

Dear Congressman Aspinall;

Once again we sincerely solicit any help you might give us to re-activate mining and milling operations at the Keystone property located near Crested Butte, Colorado. The problem currently facing us is outlined in the following summary account along with a copy of our last months OME contract report.

Our initial submittal for an OME contract at the Keystone Mine proposed certain drift projects to test two (2) potential vein structures namely, the Union Vein and Keystone Vein. During my visit to the Washington OME office in September 1967, Messrs. Johnson and Kirkimo indicated to me that funds were not available to test or drift both vein structures, but if we could drift on our own account to the Keystone vein structure and the results of such work were favorable, a possible amended contract would be considered. As this was a consideration, the ground covering both vein structures was granted under a lein subordination to the United States Government.

On a geological gamble that the Keystone Vein structure would look favorable and that we might obtain an amendment to the exiziting OME contract, considerable capital on McFarland and Hullinger account was expended to test the geological possibilities of the Keystone Vein. This exploration gamble resulted in the discovery of a high grade silver, copper, lead, zinc ore vein located in virgin unexplored ground some [illegible] feet north of the old mine workings. The grade and value of the ore discovered is outlined in the attached report to Mr. Hasler of the OME.

A proposal for 2000 feet of exploration drifting on ore discovered on the Keystone Vein structure was submitted to the OME on July 5, 1968. The OME replied they could not help us at this time due to budget difficulties.

We therefore, would greatly appreciate any help you might give to us for an OME amendment to explore this new ore discovery and re-activate our mining and milling operations.

Through this amended contract I feel confident that all parties concerned with the explorations venture could be fully re-paid and a substanial payroll could once again be in circulation in Gunnison County, Colorado.

Respectfull submitted,

Max T. Evans

Max T. Evans, Supt.
Keystone Mine - McFarland and Hullinger

IN REPLY REFER TO:

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

Office of Minerals Exploration
Building 53 Room 203

August 13, 1968

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

OFFICIAL COPY
O. M. E.
RECEIVED
AUG 15 1968
INITIALS | CODE
~~120~~
Gal 120
~~JRJ 110~~
HK 120

Transmitted herewith are the original and two copies of the Operator's Monthly Voucher with substantiating documents for the month of July, 1968 on the above-captioned subject.

J. William Hasler
mc.

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

Enclosures

See Folder No. II

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration
Building 53 Room 203

OFFICIAL COPY
O. M. E.
RECEIVED
OCT 4 1968

INITIALS	CODE
bsl	120
sfo	130
JCJ	140
	120

October 3, 1968

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

An interim inspection was made on the subject property September 17, 1968 in company with Mr. Max T. Evans, Superintendent, of the Keystone Mine.

The drift on the Union vein had been advanced to a point 780 feet from the north rib of the 1370 level crosscut. The Union vein continued strong on a N. 50° W. course for approximately 100 feet, the vein has been explored southeastward from the 1370 level crosscut, and also remains strong. Samples taken from the Union vein over a distance of some 160 feet averages 4.0 feet in width, and assays an average of 3.6 oz. Ag., 1.11% Pb, 0.37% Cu, and 3.98% Zn. The gross value of this ore at current metal prices would be $24.49 per ton. The vein contains abundant quartz, pyrite, sphalerite, galena, and some chalcopyrite.

The Union vein narrows considerably between 110 and 177 feet from the 1370 level crosscut then opens up again and ranges from 1.5 feet to 4.5 feet for 100 feet, between 180 feet and 280 feet from the 1370 level crosscut. The Union vein in this hundred foot section averages 3.5 feet wide and contains average assays of 1.72 oz. Ag., 4.27% Pb, 0.26% Cu, and 3.04% Zn. Gross value of this ore at current prices will total $24.66 per ton.

The operator proposes to drive a raise for 100 feet above the 1370 level to explore the Union vein, at a point 277 feet from the 1370 crosscut.

It is hoped that more sandy and highly fractured beds in the Mesa Verde formation will be penetrated and that the Union vein will be more highly mineralized above the 1370 level. Generally speaking the veins in this area are better mineralized in the sandy portions of the Mesa Verde Formation than in the more fine grained, dense, argillaceous beds. The contract allows for 200 feet of raise footage with which to explore the Union vein above the 1370 level. The suggested location of the raise meets with the approval of the Field Officer, Region III.

The Union vein weakened considerably beyond the 100 foot ore zone at 277 feet from the 1370 level crosscut, and continues as a prominent gouge zone, containing some quartz, pyrite and small amounts of mineralized material, to a point 880 feet from the 1370 level crosscut.

Due to budget restrictions at the time the subject contract was being considered it was necessary to restrict a contract total that would explore on either the Union Vein, or on the Keystone vein, but not on both. The Union vein appeared to be the most promising at that time consequently contract work was proposed to explore it. The applicant was advised of this budget restriction and accepted a contract to perform exploration work on either the Union vein, or on the Keystone vein, but not on both. The Union vein appeared to be the most promising at that time consequently contract work was proposed to explore it. The applicant was advised of this budget restriction and accepted a contract to perform exploration work on the Union vein as prescribed in the contract.

The applicant was advised in Washington last fall that if they drove a crosscut on the 1370 level to intersect the Keystone vein and explored the Keystone vein on their own account, and that if the vein looked promising, there would be a possibility of expanding the subject contract to include some exploration on the Keystone vein, as well as on the Union vein.

The Operator had drifted along the Keystone vein on the 1370 level, at his own expense, for a distance of 240 feet at the time of the interim inspection. The Keystone vein for a distance of approximately 200 feet has an average width of 3.0 feet and contains average assay values of 4.62 oz. Ag., 7.00% Pb, 0.983% Cu, and 8.20 Zn. The gross value of this ore at current prices is $58.34. The vein has remained strong and well mineralized for a distance of 285 feet at the last reporting via telephone, from the Operator on September 26, 1968.

In a letter dated September 11, 1968 accompanying the Operator's Monthly Voucher for the month of August, 1968, a request was made to the Office of Minerals Exploration for an amendment to the contract to allow for additional funds to further explore the Keystone vein northwestward for a distance of 2,000 feet from the present face (242.8 feet).

Gossan, containing quartz, and rather abundant galena can be traced on surface outcrops some 700 feet up dip from the Keystone footwall ore discovered on the 1370 level, is indicative of a possible major ore discovery. Some 500 foot width of continuous surface outcrop can be traced for a distance of 2100 feet northwestward from the ore discovery on the 1370 level (See Exhibit AA, plan map showing Surface Geology, Topography, and Composite Underground mine workings, Keystone Mine, 1" = 200 feet, accompanying original application.

An examination of both the Union and the Keystone veins during an interim inspection on September 17, 1968 indicates that the Keystone as explored to date could constitute a significant discovery, as described heretofore, and it is recommended that the contract be amended, and if possible the amount of funds increased to further explore the Keystone vein. The amendment should be written so as to allow enough flexibility to work either on the Union vein or the Keystone vein as the geology permits. The Government's portion of exploration work on the Keystone vein should begin at the face of the Keystone drift at about coordinates 12,971 N., and 8,642 E.

As of September 26, 1968 the Operator reported that the Keystone vein had been explored for a distance of 285 feet northwestward on the 1370 level, and that the Union vein had been explored northwestward for a distance of some 880 feet. On the basis of these data, there is a balance of 124 feet of drifting remaining under the contract. There could be a transfer of funds from other items such as snow removal, sampling and timbering which would allow for an additional 76 feet of drifting. This would allow for only 200 feet of additional exploration on the Keystone vein. If possible there should be enough additional funds obtained to explore the Keystone vein well beyond the SK-4 sample area on the surface. There is an area of heavy talus for some 500 feet northwest of sample area SK-4, but the Keystone vein can still be traced through the talus and into a vertical cliff area for another 500 feet, then a series of samples K-15, SK-1, K-1, K-12, SK-2, K-2, K-3, S-2 taken along 400 feet of vein outcrop still farther northward shows the Keystone vein to have an average width of 3 feet and average 4.9 oz. Ag, 0.08% Cu, 0.09% Pb and 4.57% Zn per ton. These assays were taken from well developed gossan material within the Keystone vein.

The following is a breakdown showing the amount of exploration work completed to date, and an estimate of what could be accomplished on the Keystone and Union veins with the balance of funds available.

Amount of work and funds expended to date (9/1/68)

Crosscut & drift:	1,431 ft. @ $45.90/ft.	=	$65,682.90
Timber	156 ft. @ $ 6.45/ft.	=	169.63
Snow Removal	51 hrs. @ $25.00/hr.	=	765.00
Assaying	38 samples	=	323.00
Total amount expended			$66,940.53

Total amount of contract	$88,580.00
Amount expended to date	66,940.53
Balance	$21,639.60

According to the records in my office if the operator were to drive 124 feet of drift, 200 feet of raise, utilize 100 samples and 100 hours for snow removal plus the required amount of timber to complete the work remaining under the estimated cost would total $17,741.60. This would leave a balance of $3,897.87 which would allow for an additional 76 feet of drifting on either the Keystone or the Union veins.

In my telephone conversation with Mr. Kirkemo, he indicated that there was a possibility of obtaining an additional $25,000.00 to allow for further exploration on the Keystone vein. If this can be done, this will provide for an additional 490 feet of drifting, including estimated costs for timbering, assaying and snow removal. Therefore, there would be as much as 566 feet of total drifting on the Keystone vein, that is 490' + 76' = 566'. It is recommended that an amendment be prepared to provide for the additional exploration work herein outlined, and that the amendment stipulate that the money may be expended on both the Union vein and the Keystone vein as the geology permits, and that prior government approval be rquired. It may be that additional work on either of the veins will be indicated as exploration work progresses. At least one raise should be driven on the Keystone, as well as on the Union vein as presently planned.

J. William Hasler

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

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration
Building 53 Room 203

August 9, 1968

MEMORANDUM

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland & Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Transmitted herewith is a letter dated July 18, 1968, from the Operator concerning his request for an amendment to the subject contract to explore northwestward along the Keystone vein. Accompanying the letter is a map and a geologic section showing the recent exploration work completed by the Operator done on his own account, to justify the consideration for an amendment to explore the Keystone vein northwestward.

J. William Hasler

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

Crested Butte, Colorado
July 18, 1968

Mr. J. William Hasler, Field Officer, Region III
Office of Minerals Exploration
U. S. Geological Exploration
U. S. Geological Survey
Denver Federal Center - Bldg. 53 - Rm. 203

Re: OME 6640 (Silver)
Proposed Ammendment Contract to Explore Ore
on Keystone Vein Structure

Dear Mr. Hasler:

Attached herewith are additional data and maps following my monthly report submitted to you on July 5, 1968. The attached maps include a detailed 50 scale geologic map and a 200 scale cross section map of the 1370 level workings in the Keystone Mine.

The proposed ammendment project to our current contract in force with OME is outlined on the 50 scale geologic map. The proposal is for 2000 feet of drifting along vein ore discovered on the Keystone vein structure. The proposed drifting would reach far enough northward to test the down dip projection of some 500 feet of solid surface vein ore, along with exploring ore currently showing on the vein structure.

Substantial silver-copper ore mineralization is now exposed on the Keystone vein structure and is very similar in mineralogical character and grade as was mined from the Keystone vein some 800 feet south-ward from the proposed project area.

The strike of the Keystone vein found on the 1370 Level correlates very well with the surface vein as shown on the attached maps. Local dip observations however, vary from 55 degrees on 1370 Level to 87 degrees on the surface outcrop. Dip and strike undulations however are common along most of the vein structures in the district. Strike and dip undulations show abrupt variances in many of the old workings in the Keystone Mine.

The proposed project outlined for exploration drifting on the Keystone structure would greatly enhance our chances for increasing the ore reserve picture, and reactivating milling operations.

During my visit to the Washington OME office in 1967, Messrs. Johnson and Kirkimo indicated that if we could do the Keystone crosscut drifting on our own account and the results were favorable, the OME would possibly participate in an ammended contract to drift along the Keystone vein.

McFarland and Hullinger would like to participate with the Government OME program under an ammended contract to complete the Keystone drifting project as proposed. As the property covering the proposed project area is currently under lein and subordination to the United States Government, no conflict would be involved.

We would greatly appreciate OME office approval for an ammended contract to complete this important work.

Respectfully submitted,

Max T. Evans - Supt.
Keystone Mine
McFarland & Hullinger

Att:
cc-Tooele

Crested Butte, Colorado
Keystone Mine
September 11, 1968

Mr. J. William Hasler, Field Officer, Region III
Office of Mineral Exploration
U. S. Geological Survey
Denver Federal Center - Bldg. 53 Rm. 203
Denver, Colorado 80225

Re: OME 6640 Silver
Contract 2259
Progress Report for August 1968

Dear Mr. Hasler;

Drifting on the captioned subject contract advanced 306.60 feet during the month of August 1968. Eleven (11) samples were taken across the vein mineralized areas which warranted sampling. Certified copies of the assay results are attached.

The Union Vein zone drift beyond the 64 N. area was weakly mineralized with pyrite and minor lead, zinc and copper. The above drift segment could not be considered of economic value at drift level and it is therefore recommended that a raise be put up on the vein in the 63 N. area (in the vicinity of sample no. 7051) to test the up dip potential.

McFarland and Hullinger completed 242.30 feet drifting on their own account during the month of August. This work has discoveredd a very excellent grade silver, copper, lead zinc ore zone on the Keystone footwall vein. The ore zone has now been delineated by drifting over strike length of 200 feet. The vein widths and assays are shown on the 1370 level geologic map attached. The arithmetic average of 19 samples taken along the vein show as follows:

AG	PB	Cu	ZN
4.62	7.00	.983	8.20

(certified copies of assays attached)

Full market quote at the current price of metals today show the value of this ore to be $58.34 per ton crude. On the basis of possible inferred tonnage reserves and grade the following could be possible on the 200 feet of ore delineated by drifting on the Keystone footwall vein structure to date:

Av. width	Length	Height
3.0'	200'	400'

Tonnage factor 12 ft. 3/ton = 20,000 tons
20,000 tons @ FMQ $58.34 /ton = $1,166,800. Gross Product
Leached, gossanous, mineralized vein outcrops showing on the surface some 700 feet up dip from the Keystone footwall ore discovered on the 1370 level, strongly indicates this to be a major ore bearing structure. Some 500 feet of solid surface ore outcrops located 2100 feet northward from the ore discovered on the 1370 level lends strong supp to the potential of the structure.

McFarland and Hullinger have expended considerable private funds on the premise and suggestion of Messrs. Johnson and Kirkimo of the Washington OME office, that if we could do the drifting to the Keystone footwall structure on our own account and the results were interesting that a possible amended OME contract could be allocated to explore the Keystone structure. With a possible amended contract in mind on the Keystone structure the ground containing this structure was included in the lein and subordination agreement of the United States Government. As a result of the above work a major silver-copper bearing structure has been discovered and we are badly in need of an amended OME contract for partial finds to further explore this structure by 2000 feet of drifting northward from the existing face.

We would greatly appreciate your conveying a copy of this proposal to the Washington OME office and their kind condsideration of same.

Respectfully submitted,

Max T. Evans

Max T. Evans, Supt.
Keystone Mine
McFarland & Hullinger

SURNAME COPY

7/22/68 120

" On leave 110

220

120M

AIRMAIL

Mr. Max T. Evans
c/o McFarland and Hullinger
Keystone Mine
Crested Butte, Colorado 81224

JUL 22 1968

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Dear Mr. Evans:

This is in reply to your letter dated July 5, 1968, to Mr. J. W. Hasler, Field Officer, OME Region III, requesting an amendment to the contract for drifting 2,000 feet northwestward on the Keystone vein.

The subject contract is a modification of your original proposal to explore the Union and Keystone veins. Certain changes to the proposal had to be made because our funds were limited, so it was decided that only the Union vein would be explored on the present contract.

Our financial position in the current fiscal year likely will be at a lower level than it was last year. A final decision has not been made on the extent of funds that will be available for the OME program, but we have a number of pending contracts which will require a good share of these funds.

Under the circumstances, we are not in a position at this time to provide additional funds to explore the Keystone vein. This is not intended to reflect adversely on the merits of the proposed work. It is a statement of necessity based on the financial outlook for the current fiscal year.

We concur with Mr. Hasler's suggestion that the crosscut toward the Keystone vein be extended far enough to be certain of intersecting the main vein.

Sincerely yours,

Harold Kirkemo (gla)

For: Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Dir.'s Reading File
Econ. Geology File
OME docket
OME Region III
Mr. Kirkemo
OME Reading File
HKirkmo/gla 7-22-68

Copy to:
McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration
Building 53 Room 203

July 16, 1968

OFFICIAL COPY
O. M. E.
RECEIVED
JUL 17 1968
INITIALS CODE
130
20
110
HK 130

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6440 (Silver)
McFarland and Hullinger
Keystone Project
Gunnison County, Colorado
Contract 2259

Enclosed herewith is an original and 2 copies of the Operator's Monthly Voucher MME Form 60 and MME Form 61 Operator's Progress Report for the month of June, 1968. I recommend payment of costs incurred under the subject contract during June, 1968.

The Operator, on his own account has completed 100.50 feet of crosscut and drifting, along with long holing the footwall of the Keystone drift. The operator penetrated a vein that contained ore grade material that assayed as follows:

Width	Au oz.	Ag oz.	Pb%	Cu	Zn%
2.4 ft.	0.0	4.7	6.7	0.90	6.7
2.0 ft.		8.4	3.55	1.31	4.35

According to the operator, this vein, when projected updip projects into the Keystone Vein exposed on the surface, as shown on the map attached to the June 1968 voucher.

During a telephone conversation with Mr. Max Evans, Superintendent, Keystone Mine on Friday July 12, 1968 we discussed the Operator's request for Government participation for exploration work northward along the Keystone Vein, as had been indicated in a conference with OME officials in Washington in 1967. The Operator now feels that

the vein penetrated in the crosscut bearing northeast off the 1370 level is possibly the downward projection of the Keystone vein.

I recommended that enough additional crosscutting be done on the company's account to make certain that the vein presently penetrated is actually the Keystone vein and not just a hangingwall split of the Keystone vein. Mr. Evans concurred with this suggestion and will encourage the Operator to do the recommended additional crosscutting, and they will then present an exploration project along the proposed drift Keystone Vein with additional supporting geologic data.

J. William Hasler

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

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration
Building 53 Room 203

July 2, 1968

INITIALS	CODE
gla	130
gla	120
gf	110
HK	120

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: Interim inspection on: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mining Property
Gunnison County, Colorado
Contract 2259

An interim inspection was made on the above-stated property June 19, 1968 by the Field Officer, Region III accompanied by the Mine Superintendent, Mr. Max Evans. The crosscut from the 1370 level was driven southwest for a total distance of 561 feet (See attached map) from the turn-off. The vein was exposed from FW to HW and ranges from 2.5' wide on the south side of the X-cut to as wide as 4.5' on the north side of the X-cut. The vein contains chiefly quartz, with stringers 1/2" to 3" wide of chalcopyrite, pyrite, Pb and Zn, and strikes N. 45° W., and dips 62° south. The samples on the vein assayed as follows:

Width	oz. Au	oz. Ag	%Pb	%Cu	%Zn
4 - 5'	0.01	4.20	1.30	0.51	6.40
2.5'	0.01	1.60	-----	0.20	3.05

At current prices this ore would gross an estimated $24.82 per ton. A strong quartz vein was intersected 342 feet east of the Union vein that had a width of as much as 18 inches and assayed 1.50 oz. Ag, Tr. Pb, 0.82% Cu, and 10.80% Zn.

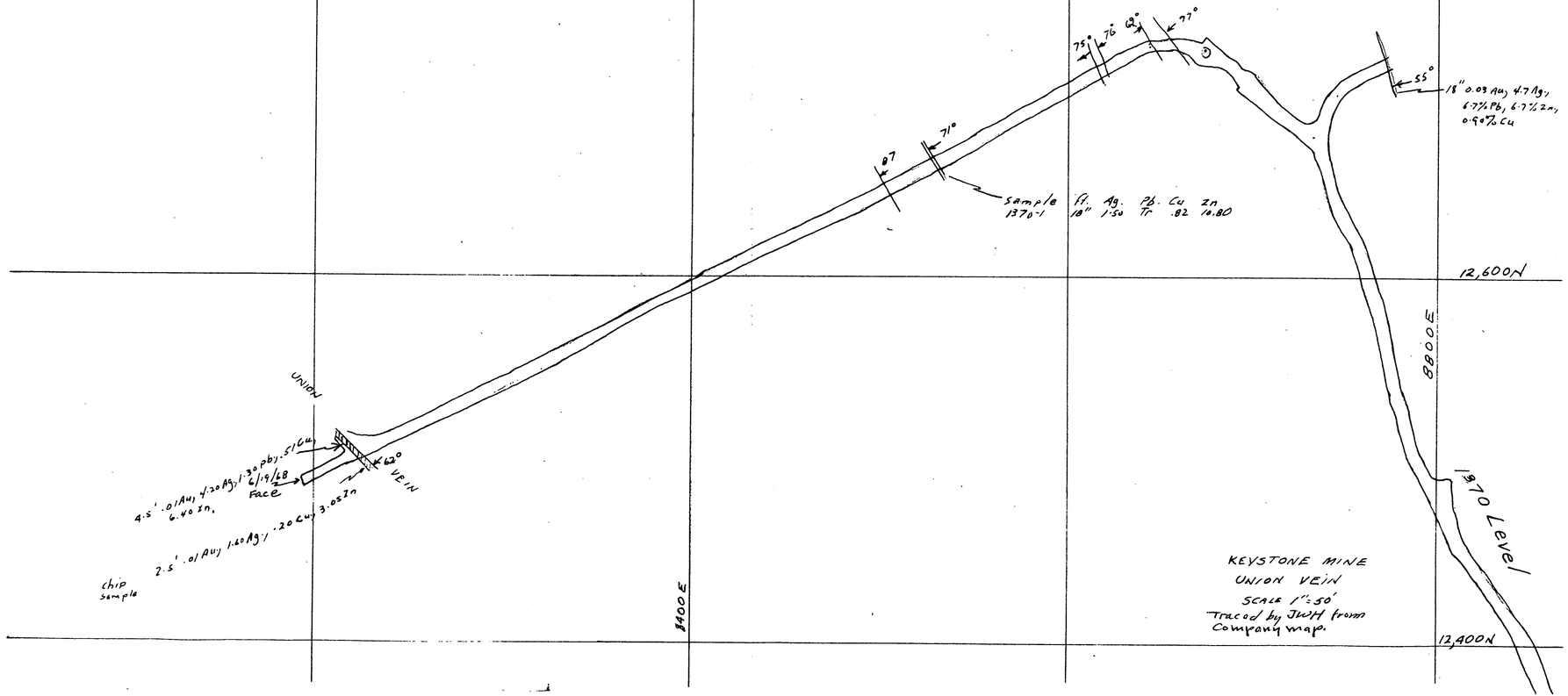
The Operator, on his own account is cross-cutting from the 1370 level northeasterly to intersect the downward projection of the Keystone vein from the surface. A vein, possibly a split off the Keystone vein, was intersected some 53 feet from the turn-off. See attached map. The vein contained considerable quartz, pyrite, lead, chalcopyrite and zinc. An 18-inch chip sample assayed 0.03 oz. Au, 4.7 oz. Ag, 0.90% Cu, 6.7% Pb and 6.7% Zn.

J. William Hasler

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

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

OFFICE OF MINERALS EXPLORATION
DOCKET 6640



KEYSTONE MINE
UNION VEIN
SCALE 1" = 50'
Traced by JWH from Company map.

IN REPLY REFER TO:

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

Office of Minerals Exploration
Building 53 Room 203

June 13, 1968

OFFICIAL COPY
O. M. E.
RECEIVED
JUN 14 1968

INITIALS	CODE
	130
Gal	120
	140
HR	130

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland & Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Transmitted herewith are the original and two copies of MME Form 60 (Operator's Progress Report), MME Form 61 (Operator's Monthly Voucher) and narrative for the month of May, 1968 for the above-captioned subject.

J. William Hasler
m.c.

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

Enclosures

IN REPLY REFER TO:

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

Office of Minerals Exploration
Building 53 Room 203

May 8, 1968

OFFICIAL COPY
O. M. E.
RECEIVED
MAY 9 1968

INITIALS	CODE
	130
	120
	140
HK	130

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland & Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Transmitted herewith are the original and two copies of the MME Form 60 (Operator's Monthly Voucher), MME Form 61 (Operator's Progress Report) and narrative for April, 1968 on the above-stated contract.

J. William Hasler

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

Enclosures

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
4/9/68		120
4/11	Johnson	110
4/11	Case	220
		120M

APR 11 1968

McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Gentlemen:

Enclosed for your disposition are five copies each of Lien and Subordination Agreements signed by officers of the American Smelting and Refining Company and the Park City Consolidated Mines Co., both dated June 28, 1967, for possible inclusion in an OME contract. These have been superseded by Lien and Subordination Agreements of these companies, dated March 18, 1968, and March 20, 1968, respectively, which are attached to the subject contract.

Sincerely yours,

Harold Kirkemo (gla)

for Frank E. Johnson
Chief, Office of
Minerals Exploration

Enclosures

cc: Director's Reading File
Division File
Economic Geology File
OME docket
OME Reading File
OME Region III
Mr. Kirkemo

HKirkemo/gla 4-9-68

IN REPLY REFER TO:

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

Office of Minerals Exploration
Building 53 Room 203

OFFICIAL COPY
O. M. E.
RECEIVED
APR 11 1968

INITIALS	CODE
ala	120
bsf	120 m
JRJ	~~110~~
HK	~~120~~

April 9, 1968

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Mr. Max Evans, in a telephone conversation thir morning, said they started work on the above-stated contract today, April 9, 1968.

James L. Gualtieri
for J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Office of Minerals Exploration
Building 53 Room 203

ORIGINAL COPY
O. E. E.
RECEIVED
APR 11 1968
INITIALS | CODE
120
120 M
110
HK 120

April 9, 1968

McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84704

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Gentlemen:

Enclosed herewith is a supply of MME Form 60's (Operator's Monthly Voucher), MME Form 61 (Operator's Progress Report) which may be submitted after the first month's work on the above-stated contract. You should fill these forms out in accordance with the instructions on the reverse side. Samples of both are also enclosed for your guidance. The original and three copies of the MME Form 60, MME Form 61 and narrative should be submitted to this office and should be stapled in "sets": A MME Form 60, 61 and narrative to the set. All correspondence and data pertaining to the contract should be in duplicate.

Sincerely yours,

James L. Gualtieri
for J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

Enclosures

cc: Chief, OME ✓
OME chron
Mr. Hasler
OME-6440

Office of Minerals Exploration
Building 53 Room 203

April 2, 1968

OFFICIAL COPY
O. M. E.
RECEIVED
APR 4 1968

INITIALS	CODE
	130
bsf	170
	110
HK	170

McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84704

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Gentlemen:

Enclosed is the "Operator's Copy" of the subject contract for your signature and retention. The contract consists of MME Form 51 (five pages), Annex I (three pages), one copy each of two Lien and Subordination Agreements (attached), Exhibit A (three pages), Exhibit B (one page), and two maps (Figures 1 and 2).

I have forwarded the designated, executed copies of the contract to Washington. The executed copies of the contract did not include the beginning date, consequently I talked with your Mr. Evans by telephone this morning (April 2, 1968) and upon his request I entered the date of April 10, 1968 for commencement of work under the contract, which he assumed would be satisfactory to you.

Sincerely yours,

J. William Hasler

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

Enclosure

cc: Chief, OME
OME chron
OME-6640
Mr. Hasler

Note: 4/5/68
Lien & Subordination Agreements recordation information reviewed by Mr. Bliss, Solicitor's office. Information is acceptable.
Kirkpatrick

IN REPLY REFER TO:

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

Office of Minerals Exploration
Building 53 Room 203

OFFICIAL COPY
O. M. E.
RECEIVED
APR 4 1968

INITIALS	CODE
JLa	130
	120
	110
HK	120

no last

April 2, 1968

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado
Contract 2259

Enclosed are the original "Government's Copy" and the "Budget and Finance's Copy" of the subject contract, signed and executed for the Government and by the Operator. Attached also are two copies, one each of MME Form 52, Lien and Subordination Agreements, with the insert added "Said lien is recorded in Book 402, Page 216, Gunnison County, Colorado", and initialed by F. G. McFarland and S. R. Hullinger and the date of said initials. I trust this will be sufficient as the Operator is ready to begin work under the contract immediately, even though the starting date is April 10, 1968.

I have forwarded the "Operator's Copy" of the contract to Messrs. McFarland and Hullinger as you have instructed, and am retaining the"Field Office Copy" and "Extra Copy for Field Use" in this office.

J. William Hasler

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

Enclosures

Office of Minerals Exploration

March 26, 1968

McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84704

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado

Gentlemen:

Enclosed are the original and two copies of a proposed contract for the subject property. The contract consists of MME Form 51 (five pages), Annex I (three pages), five copies each of two Lien and Subordination Agreements (attached), Exhibit A (three pages), Exhibit B (one page), and two maps (Figures 1 and 2).

You will note that the lien and subordination agreements do not indicate whether or not the mining lease is recorded, and if so, the book and page number. Our Washington office did not specifically request in their phone call to Mr. Evans on March 14, 1968, that this information be shown, but instructions under Footnote 2 clearly points out that such data should be entered. Please enter the book and page number on each of the Lien and Subordination Agreements on lines 4 and 5 of the first sentence, and initial and date the entry, if the information is available to you.

If the lease is unrecorded, a statement to that effect must be inserted following the description of the lease. See footnote 2 on the "Agreement" for complete instructions.

If the proposed contract is satisfactory to you all copies should be signed by each of you, Mr. McFarland and Mr. Hullinger, and returned to this office. We will then forward an "Operator's Copy" to you for execution, upon receipt of the "Government's copy,", "Budget and Finance Copy" and the "Field Office Copy". Please insert the date for commencement of the work.

If the contract is not satisfactory to you, please return all copies to this office together with the proposed changes for consideration.

Please be advised that the 7-1/2 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 Mr. Max Evans is to sign vouchers and other necessary documents in the course of the project work, two executed copies of Power of Attorney should be furnished this office.

Sincerely yours,

J. William Hasler

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

Enclosures

cc: Chief, OME ✓
OME-6640
OME chron
Mr. Hasler

U. S. Geological Survey
Denver Federal Center--Building 53 -- Room 203
Denver, Colorado 80225

OFFICIAL COPY
O. M. E.
RECEIVED
MAR 28 1968

INITIALS	CODE
	~~130~~
bgl	120
~~Jrg~~	~~110~~
HK	~~120~~

March 25, 1968

Mr. J. J. Kelly
P. O. Box 323
Creede, Colorado 81130

Dear Sir:

In regard to your phone call requesting information concerning a new or renewed O.M.E. application, and lien and subordination agreements, we have the following information: refer to your O.M.E. application, 6640, with proper revisions according to your new proposal, updating as necessary, i.e., request for financial support. Inasmuch as no discovery was certified on the previous O.M.E. contract, new lien and subordination agreements will be needed.

Most sincerely,

James L. Gualtieri, Geologist
Office of Minerals Exploration

Enclosures: Booklet
Title 30
MME Form 40's (3)
Lien and Subordination Agreements (5)

cc: Chief, OME
OME chron
OME-6640
Mr. Hasler chron

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
3/22/68		120
		110
		220
		120M

MAR 22 1968

AIRMAIL

Memorandum

To: Field Officer, Region III

From: Assistant Chief, Office of Minerals Exploration

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado

The proposed contract for the subject property was forwarded to you today under separate cover.

Enclosed are five copies each of two Lien and Subordination Agreements executed by American Smelting and Refining Company, and Park City Consolidated Mines Company, respectively. These were sent to Washington despite our instructions to mail them to your office.

You will note that these documents do not indicate whether or not the Mining Lease is recorded and, if so, the book and page number. We did not specifically request in our phone call to Mr. Evans on March 14, 1968, that this information be shown, but instructions under Footnote 2 clearly point out that such data should be entered. In your letter transmitting the proposed contract to the Applicant please ask whether the Mining Lease is recorded and, if so, to enter the book and page number on each of the Lien and Subordination Agreements on lines 4 and 5 of the first sentence, and to initial and date the entry.

The Lien and Subordination Agreements as received are not prepared in accordance with the Assistant Solicitor's instructions to us in his memorandum dated March 15, 1968, a copy of which accompanied the proposed contract to you, but they will be accepted for this contract. Perhaps the missing information, if available, will be added by the Applicant.

Harold Kirkemo

Enclosures

cc: Director's Reading File
Division File
Economic Geol. File
OME docket
OME Reading File
Mr. Kirkemo

HKirkemo/gla 3-22-68

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
3/19/68	Kirkham	120
"	Johnson	110
3/20/68	Kulizzard	220
3/20	Hyp	
	Bulm	
		110
3/24	Cal	220

120M

MAR 22 1968

AIRMAIL

Memorandum

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado

Enclosed are the original and three copies of a proposed contract for the subject property. The contract consists of MME Form 51 (five pages), Annex I (three pages), two Lien and Subordination Agreements (to be inserted), Exhibit A (three pages), Exhibit B (one page), and two maps (Figures 1 and 2). Also enclosed is a copy of a memorandum from the Assistant Solicitor regarding the Lien and Subordination Agreements required for the contract. All copies of the contract have been signed for the Government. You should insert the date for commencement of the work. An extra copy of the contract is enclosed for field use.

As you know, we phoned Mr. Max Evans, the Applicants' representative in Crested Butte, Colorado, on March 14, 1968, following a conference with Mr. Robert W. Long, Assistant Solicitor, regarding the unacceptable Lien and Subordination Agreements submitted by the Applicants. The enclosed memorandum explains what is required to prepare acceptable documents. We asked Mr. Evans to inform the Applicants what should be done and to mail the documents to your office. We told him that the proposed contract would be sent to the Applicants upon receipt by the Field Officer of the properly executed Lien and Subordination Agreements. Please insert the acceptable papers in the contract before mailing the proposed contract to the Applicants.

If the proposed contract is satisfactory to you and the Applicants, all four copies should be signed by the two partners. Thereafter, please make the usual distribution of the copies. If Mr. Max Evans is to sign vouchers and other necessary documents in the course of the project work, two executed copies of Power of Attorney should be furnished this office.

Please advise the Applicants 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.

FRANK E. JOHNSON

Frank E. Johnson

Enclosures

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

HKirkemo/gla 3-19-68

IN REPLY REFER TO:
B-68-2111.3192

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON, D.C. 20240

March 15, 1968

Memorandum

To: Assistant Chief, Office of Minerals Exploration

From: Assistant Solicitor, Oil and Gas and Minerals Exploration

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado

We have prepared the attached subject contract for execution. However, in view of the fact that the Lien and Subordination Agreements by American Smelting and Refining Company and Park City Consolidated Mines Company, the owners of the property covered by the contract, are insufficient as to form, the contract should be forwarded to the field and held for execution pending receipt of correctly executed Lien and Subordination Agreements.

The error in the "Agreements" which were submitted appears in the first sentence. The words "as follows" should be struck and the blank space filled in as follows:

> "in that certain Mining Lease dated April 1, 1963, between American Smelting and Refining Company, Lessor, and McFarland and Hullinger, a partnership, Lessee."

If the lease is recorded the book number and page number as well as the county and state of recordation must appear on the "Agreement" following the description of the lease. If the lease is unrecorded, a statement to that effect must be inserted following the description of the lease. See footnote 2 on the "Agreement" for complete instructions.

Robert W. Long
Robert W. Long
Assistant Solicitor
Oil and Gas and Minerals Exploration

Enclosure

To Legal 3/14/68 returned (pending) memo from Mr Roy

120 HK
120
110
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To Legal 3/12/68

MME Form 51
July 1965

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
U. S. Geological Survey

EXPLORATION CONTRACT
(Short Form)

Docket	Commodity	Contract No.	County	State
OME-6640	Silver		Gunnison	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

McFarland and Hullinger, a partnership

_____,

whose mailing address is P. O. Box 238, Tooele, Utah 84074, hereinafter called the "Operator," as follows:

ARTICLE I. 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 7 and Exhibit A, shall complete the work within 12 months from the date of the contract.

(b) The description of the work and the fixed cost for each unit of work to be performed (per foot of drilling, per foot of drifting, per hour of operations, etc.) are hereby agreed upon as specified in Exhibit A. The estimated total cost of the work is $ 88,580. The Government will contribute ~~50~~ 75 percent of the total fixed unit costs of the work performed, not in excess of $ 66,435 in accordance with the provisions of Articles 4 and 5.

(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 rights 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 6 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) 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. To the extent that amounts in excess of fixed unit costs or in excess of the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such amounts for his own account without contribution by the Government. The Government will not contribute to the cost of any work performed prior to the date of this contract. 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 units of 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.

(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.)

(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 unit costs thereof.

(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 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. 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 retain 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 6(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 7. 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 pay on account of units of work not then performed; 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 pay on account of units of work not performed when the notice was given, 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 7 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 11.

ARTICLE 8. 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 9. 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 10. 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 11. 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 12. 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 13. 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 14. Changes and added provisions.--

Executed in quintuplicate the day and year first above written.

McFARLAND AND HULLINGER
(Operator)

~~By~~ Fayette G. McFarland, partner

~~Title~~ Sidney R. Hullinger, partner

THE UNITED STATES OF AMERICA

By Arthur A. Baker

Acting Director, U.S. Geological Survey
Office of Minerals Exploration

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

EXPLORATION CONTRACT
McFARLAND AND HULLINGER
OME-6640

ANNEX I

The land, including all rights thereto, referred to in Article 2 of the contract consists of 8 patented and 23 unpatented lode mining claims in secs. 30 and 31, T. 13 S., R. 86 W., sec. 6, T. 14 S., R. 86 W., and sec. 36, T. 13 S., R. 87 W., 6th Principal Meridian, Elk Mountain and Ruby Mining Districts, Gunnison County, Colorado. It is shown in heavy outline on Figure 1 entitled "Map Showing Operator's Property Rights, Keystone Mine, Gunnison County, Colorado" attached and made part hereof.

The patented lode mining claims are as follows:

Name	Survey No.
Berrien	3738
Furniture Boy	3739
Crested Butte Extension	4472
My Boys (northern 500 feet)	6523
Union (northern 500 feet)	6523
Park City No. 11	20825
Park City No. 29	20825
Park City No. 30	20825

The unpatented lode mining claims are recorded in the Office of the Gunnison County Recorder at Gunnison, Colorado as follows:

Name	Book	Page
Park City 6	255	516
Park City 7	255	516
Park City 8	255	517

Name	Book	Page
Park City 9	255	517
Park City 10	255	518
Park City 12	255	519
Park City 13	255	519
Park City 14	255	520
Park City 15	255	520
Park City 16	255	521
Park City 17	255	521
Park City 18	255	522
Park City 19	255	522
Park City 27	255	526
Park City 28	255	527
Park City 31	255	528
Park City 32	255	529
Park City 33	255	529
Park City 34	255	530
Park City 35	255	530
Park City 36	255	531
Park City 37	255	531
Park City 39	255	532

The Operator is in possession of the patented and unpatented claims under terms of a Mining Lease, dated April 1, 1963, from American Smelting and Refining Company, lessor, who owns a sixty percent interest in the land. Lessor is the Manager of the remaining forty percent interest in the land owned by Park City Consolidated Mines Company.

Lien and Subordination Agreements executed by the owners of the claims are attached hereto and made part hereof.

DRAFT 2/15/68
HKirkemo/bsl

EXPLORATION CONTRACT
McFARLAND AND HULLINGER
OME-6640

EXHIBIT A

The purpose of this project is to explore the Union Vein on the 1370 Level of the Keystone Mine by crosscutting, drifting, and raising for silver-bearing ore bodies in or near the vein in the Mesaverde Formation of Cretaceous age.

General Provisions

All significantly mineralized areas intersected by underground workings shall be sampled and assayed. A representative bulk sample may be collected from each round broken in mineralized rock. Channel or chip samples shall be cut normal to the trends of the mineralized areas at intervals of not more than 5 feet. Each sample shall be split and one split assayed for silver, lead, zinc, and, if warranted by inspection, for copper. The remainder of each sample shall be stored and labeled in a suitable container for Government inspection and possible use. With prior Government approval, the Operator may dispose of the stored samples.

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

Air lines shall be not less than 3-inch diameter, water lines not less than 1-inch diameter, and mine rails not less than 20-pound size. The workings shall be ventilated using not less than 12-inch diameter vent pipe.

All crosscuts, drifts, and raises shall be not less than 5 by 7 feet in cross section in the clear of timber and shall be timbered as necessary. Drift sets shall be of not less than 8- by 8-inch timber, or equivalent round timber. Raises shall be divided into a manway and chute by a row of 8- by 8-inch stulls with 3-inch-thick lagging on the chute side.

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

The Government will not contribute to the cost of workings closer than 100 feet to the outer boundary of the project area.

The location, direction, and extent of each work item shall be subject to Government approval.

Description of the Work

The work shall consist of crosscutting to, drifting on, and, if warranted, raising on the Union vein on the 1370 level of the Keystone mine. It is estimated that about 555 feet of crosscut, 1,000 feet of drift, and two raises totalling 200 feet will be required. It is estimated that about 156 feet of crosscut and drift will require timber support.

Starting approximately at mine coordinates N. 12,740, E. 8690 on the 1370 level, crosscut about 555 feet in a southwesterly direction to the Union vein, and drift about 1,000 feet along the Union vein.

Raises may be driven on mineralized showings which warrant exploration above the 1370 level.

The approximate locations of the crosscut and drift, and the tentative locations of the raises are shown in plan view on Figure 2, entitled "Proposed Exploration on the 1370 Level, Keystone Mine, Gunnison County, Colorado" which is attached hereto and made part hereof.

Additional exploration within the limits of available funds may be undertaken as warranted with the prior approval of the Government confirmed by letter.

Estimated Costs of the Project

Fixed Unit Costs 1/

Crosscutting and drifting,	
1,555 feet @ $45.90/feet (rounded)	$71,375.00
Timbering crosscut and drift,	
156 feet @ $6.45/foot (rounded)	1,005.00
Raising, including timbering,	
200 feet @ $43.50/foot	8,700.00
Assaying, 300 samples	2,500.00
Determinations for silver ($1.75), lead ($2.25), zinc ($2.75), copper ($1.75)	
Snow removal, HD-21 bulldozer with Operator,	
200 hours @ $25.00/hour	5,000.00
Total Estimated Fixed Unit Costs	$88,580.00
Government Participation @ 75 percent	$66,435.00

1/ Includes all costs not individually listed such as labor, materials, supplies, equipment, supervision, professional services, office expenses, taxes, and insurance. The Government retains no equity in any of the equipment or materials used.

MME FORM 6 REFERENCE SLIP

REV. 2- OFFICE OF MINERALS EXPLORATION

TO:	DATE	INITIALS
1. Ass. Sol.--MR, Rm. 6554 ~~Through Rm. 6042~~		
2. Mr. Kirkemo, Rm. 4459		
3. SOLICITOR		
4. MAR 14 1968		
5.		
FROM: Harold Kirkemo	3/12/68	

FOR: Check items for action desired

____ Action ____ Reply for signature of ____

____ Approval ____ Investigate ____ Surname

____ Comment ____ Recommendations ____ Signature

____ Conference ____ Rewrite ____ File

____ Instructions ____ Your information

REMARKS:

RECEIVED

MAR 1 1 1968

Division of Mineral Resources

General Legal Service

INT.-DUP. SEC., WASH., D.C. M56300-62

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
3/12/68		120
"	On leave	110
		220
		120M

March 12, 1968

Memorandum

To: Associate Solicitor--Mineral Resources

From: Assistant Chief, Office of Minerals Exploration

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado

Final preparation of a proposed OME contract to explore the subject property was postponed on February 20, 1968, following your suggestion to request up-to-date financial information from the Applicants. We have received this information and have incorporated it in the docket material.

New letters to the banks and the banks' replies, all dated in February 1968, show that funds are not available from commercial sources on reasonable terms.

A comparison of the Applicants' financial statement dated December 31, 1967, with a financial statement dated May 31, 1967, shows that:

1. The Applicants' total assets decreased about $161,000 during the period, and net worth decreased about $206,000.

2. The Applicants' cash in bank was increased during the period at the expense of fixed assets.

Not shown in the statement but accounting for the changes is the fact that the mine was closed for a good portion of the seven months' period by a labor strike which has closed the smelters that would have purchased mineral production from the Keystone mine.

The cash on hand as of December 31, 1967, is necessary for immediate operating expenses when mine operations are resumed following settlement of the smelter strike. No income can be expected for some weeks pending resumption of normal delivery of mine concentrates and sales routines. The cash necessary to meet the payroll incurred by the employment of 35 - 40 men will place an immediate and heavy demand on the Applicants' available funds. The risk involved in undertaking the exploration proposed would place undue strain on the capital needed for the mining activities. This fact the Applicants have attested to in certifying that they would not ordinarily undertake the proposed exploration at their sole expense.

We believe the Applicants have met the requirements of the program with respect to establishing financial eligibility. If you concur, please proceed with final preparation of a contract as submitted in the enclosed draft.

Harold Kirkemo (gla)

Harold Kirkemo

Enclosure

cc: Director's Reading File
Division File
Economic Geology File
OME docket
OME Reading File
Mr. Kirkemo

HKirkemo/gla 3-12-68

Crested Butte, Colorado
March 9, 1968

Mr. Frank E. Johnson, Chief
Office of Minerals Exploration
United States Department of Interior
Washington 25, D. C.

OFFICIAL COPY
O. M. E.
RECEIVED
MAR 11 1968

INITIALS	CODE
	130
gla	120
JFJ	110
HK	120

Attn: Mr. Harold Kirkimo

SUBJECT: OME-6640 (Silver)

Dear Mr. Johnson:

Enclosed herewith are data recently requested by Mr. Harold Kirkimo of your department. The requested data includes a current financial statement, letters of request and reply for a possible loan with two banking institutions and signed copies of Addendum No. 1 to Item 2-c (Lein and Subordination Agreements).

We again, sincerely hope this brings the subject application to a successful conclusion. I have also forwarded a copy of the attached data to your field officer in Denver, Colorado.

Sincerely,

Max T. Evans - Supt.
Keystone Mine

McFarland and Hullinger
P. O. Box 238
Tooele, Utah

Att:
cc: Tooele

Mr. Johnson:
It is my understanding that the requested financial statement will be air-mailed under separate cover from our Tooele, Utah office today.

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
2/21/68		120
2/21	Johnson	110
2/21	Cat	220
		120M

February 21, 1968

Memorandum

To: The File

From: Assistant Chief
Office of Minerals Exploration

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado

Mr. Robert W. Long, Assistant Solicitor, and Mr. Richard Bliss, Attorney, brought to our attention on February 20, 1968 problems relating to incomplete and now out-of-date evidence of the financial eligibility of the subject Applicant.

Final preparation in the Solicitor's office of a proposed contract to explore the Keystone mine will be recessed pending receipt of the following information, which I requested in a phone call on February 20, to Mr. Max Evans, the Applicant's representative in Crested Butte, Colorado:

1 - Copies of new letters to two banks requesting a loan in the amount of about $66,450 (the Government's share of the proposed contract) stating the purpose of the loan, and terms requested. I suggested that the Applicant consider offering to the banks a current financial statement.

2 - Copies of the banks' replies to the Applicant's request.

3 - A copy of the Applicant's current financial statement.

Mr. Evans said he would phone the McFarland and Hullinger office in Tooele, Utah at once, and ask that the information be obtained as soon as possible.

The original request to the banks was for a loan of $320,000 to support an extensive exploration program at the Keystone mine. The Government's share in a revised program has been scaled down to about 20 percent of the original request.

Mr. Evans reported that he recently had mailed to us additional material (Addendum No. 3) concerning the Lien and Subordination Agreements and the claims now proposed for inclusion in the contract. This material was received February 16, 1968 and is filed in the docket.

Harold Kirkemo

Harold Kirkemo

cc: Director's Reading File
Division File
Economic Geology File
OME File
OME Reading File
Mr. Kirkemo
Region III

HKirkemo/bsl 2/21/68

F. G. McFARLAND
TOOELE, UTAH
Phone – Tooele 882-1243

S. R. HULLINGER
TOOELE, UTAH
Phone – Tooele 882-1344

McFARLAND AND HULLINGER

MINING • ORE HAULING • CONTRACTING

PHONE 882-0103
P. O. BOX 238
TOOELE, UTAH 84074

Crested Butte, Colorado
February 15, 1968

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OME Region III
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FEB 16 1968
Denver, Colorado

Mr. J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration
U. S. Geological Survey
Denver Federal Center
Denver, Colorado

SUBJECT: OME-6640 (Silver)

Dear Mr. Hasler:

Enclosed herewith is a revised property subordination description along with a new property map outlining the subject application boundaries as proposed by you on February 12, 1968. Copies of these data have been airmailed to the Washington OME office.

If is our sincere hope that after some eight (8) months of negotiations with your department that the attached data (Addendum No. 3) will bring the subject application to a successful conclusion.

Sincerely yours,

MCFARLAND & HULLINGER

Max T. Evans, Supt.
Keystone Mine

MTE/js
Encl.

F. G. McFARLAND
TOOELE, UTAH
Phone – Tooele 882-1243

S. R. HULLINGER
TOOELE, UTAH
Phone – Tooele 882-1344

McFARLAND AND HULLINGER

MINING • ORE HAULING • CONTRACTING

PHONE 882-0103
P. O. BOX 238
TOOELE, UTAH 84074

Crested Butte, Colorado
February 9, 1968

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Mr. Frank E. Johnson, Chief
Office of Minerals Exploration
United States Department of Interior
Washington 25, D. C.

Subject: OME-6640 (Silver)

Dear Mr. Johnson:

Enclosed herewith is a revised property subordination description along with a property map outlining the subject application boundaries.

The property boundaries as subordinated covers not only the proposed project as outlined in your letter of January 19, 1968, but offers adequate ground coverage to include the northern and southern extensions of the Union Vein along with the unexplored parallel Keystone Vein structure. A copy of this information has been forwarded to your Denver Field Office.

We are prepared to commence work immediately upon receipt of signed and approved contract. A completion date estimate for the full project would be approximately 10 months on a two shift per day basis.

Sincerely yours,

MCFARLAND & HULLINGER

Max T. Evans, Supt.
Keystone Mine

MTE/js
Encl.

cc: William Hasler

McFarland & Hullinger - Tooele

Addendum No. 2 to OME
Docket No. 66 (Silver)

McFarland & Hullinger
P.O. Box 238
Tooele, Utah

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Answers to Questions on MME Form 40

1. Financial Eligibility:

(a) See Item 1-(a) attached.

(b) American Smelting and Refining Company, 120 Broadway, New York 5, New York, owns a sixty percent (60%) Undivided interest in land; Park City Consolidated Mines Company, 600 Crandall Building, Salt Lake City 1, Utah, owns forty percent (40%) interest.

(c) Through partnership cash funds.

2. Applicant's Rights in Land:

(a) Lessee of Property -- See Item 2-(a) attached "True Copy of Lease". No known leins, mortages or other encumbrances exist.

(b) The proposed project area would include Patented lode mining claims Park City No. 29 - Survey No. 20825, Park City No. 30 - Survey No. 20825, the southern 750 feet of Park City lode mining claims Nos. 10, 27, 32, the northern 500 feet of My Boys claim - Survey No. 6523 and the Union claim - Survey No. 6523, and the Northern portion of Park City No. 11 claim as described to wit:
Commencing at the SE corner of Park City No. 11 claim thence 300 feet S64°W to the end center line, thence 150 feet N46°W West, thence 300 feet S64°W to the west side line, thence 1350 feet N46°W to the NW corner, thence 600 feet N64°E to the NE corner, thence 1500 feet S46°E to the SE corner at point of beginning.

By elevation, no vertical boundaries would be restricted or subordinated within the proposed OME project area. (See Exhibit F revised.)

F. G. McFARLAND
TOOELE, UTAH
Phone – Tooele 882-1243

S. R. HULLINGER
TOOELE, UTAH
Phone – Tooele 882-1344

McFARLAND AND HULLINGER

MINING • ORE HAULING • CONTRACTING

PHONE 882-0103
P. O. BOX 238
TOOELE, UTAH 84074

Crested Butte, Colorado
January 25, 1968

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Mr. Frank E. Johnson – Chief,
Office of Minerals Exploration
United States Department of Interior
Washington 25, D. C.

Subject: OME-6640 (Silver)

Dear Mr. Johnson:

Thank you and your staff for the recent correspondence regarding the subject OME loan application at the Keystone property.

After carefully reviewing the exploration program proposed in your last correspondence dated January 19, 1968, the following revision, along with supporting reasons for such, are outlined for your review and decision:

We suggest that 500 feet of the proposed 1000 feet of drifting on the Union vein structure be diverted to crosscut and drift along the paralell Keystone vein. The vein intersection is expected tooccur between 250 and 300 feet in the crosscut drift unless an abrupttsteepening or overturning of dip is encountered.

The basis and/or supporting reasons for such a revisionare outlined as follows:

Based upon known continuity of productive strike and dip lengths of the vein structures in the Keystone Mine, along with their northward projection discovered by surface trenching and geological mapping and sampling, the chances for a successful conclusion to the proposed exploration program would be greatly enhanced by testing both vein structures rather than one. The up dip projection of favorable host rocks in the upper portion of the Mesa Verde formation would also be present on both structures proposed for drifting.

Serious consideration has been given the possibility of diamond drilling from the existing 1370 level to the Keystone vein. Adverse factors regarding this approach are many. Numerous costly drill holes

cy to R-III 2/1/68

Mr. Frank E. Johnson:

(Cont.)

have been attempted by American Smelting and Refining Company and Mc Farland and Hullinger over a long period of years at the Keystone property. Results of such drilling have been extremely disappointing due to slow penetration rate, loss of core and sludge in target area, uncertainty of vein strength and grade of mineralization along with extremely high bit and labor costs.

It is therefore, strongly suggested that the Keystone vein structure be examined by drifting . The remaining project as per your proposal appears very satisfactory. We would greatly appreciate your earliest possible decision on the subject application.

Sincerely your's,

Max T. Evans

Max T. Evans - Supt.
Mc Farland & Hullinger
Keystone Mine

cc: Tooele

2/8/68
10:4[illegible]AM

Kirk:

Evans of McFarland and Hullinger telephoned.

Said they would accept our original alternate No. 1 plan to do all the work on the Union vein.

Asked about dropping some land covering Keystone vein. I proposed to keep in because of possible further amendment.

Evans said they were willing to add 500 feet along strike of Union Claim and My Boys Claim.

I told him we would expedite.

Frank E. Johnson

FEJ

OME Docket Surname

1/19/68 Kirkemo 120

110

220

1

AIRMAIL

JAN 19 1968

McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado

Gentlemen:

We have completed our review of all available information on the subject application and offer the following comments and proposal for your consideration:

The estimated costs of the project as proposed in your application, dated June 13, 1967, total $333,421.00, of which the Government's share at 75 percent would have been $250,000.00, the maximum allowable for a single contract. In our discussion with Mr. Max Evans here on September 26, we suggested a less extensive program--perhaps extending drifts on the Union and Keystone veins one-half the distance originally proposed--and reducing the estimated costs by eliminating certain items in the Personal Services and Operating Equipment categories. We suggested these reductions because the original estimate of unit cost per foot of drift, crosscut, and raise considerably exceeded the average unit cost for such work on OME contracts. Some of the items charged to the project were unnecessary to the work proposed. The revised estimate received October 3 totalled $315,894.00, a reduction of about 5 percent from the original estimate.

It is necessary that we be very selective in deciding upon which applications to approve for contracts, and the extent of Government participation in each contract because the total annual budget for OME is only about $1,000,000. Since many qualified applications were under consideration when we talked with Mr. Evans in September, we suggested a limited and less costly program, but one which would explore the favorable showings disclosed by the bulldozer and sampling work in August and September. Under the circumstances, we are prepared to give favorable consideration to a proposal for work to explore the Union vein on the 1370 Level, as follows:

Crosscut on the 1370 Level as proposed in September approximately 555 feet southwestward to intersect the Union vein, and drift about 1,000 feet northwestward on the vein. Allow two 100-foot raises to explore the better ore shoots encountered.

The proposed estimated costs for this work would be about as follows:

1400 feet untimbered drift or crosscut, @ 45.90/foot	$64,260.00*
155 feet timbered drift or crosscut, @ $52.35/foot	8,115.00*
200 feet timbered raises, @ $43.50/ft.	8,700.00*
250 samples assayed for gold, silver, copper, lead, and zinc, @ $10.00/sample	2,500.00
Snow removal (HD-21 bulldozer with operator), 200 hours @ $25.00/hour	5,000.00
Total Estimated Cost	$88,575.00
Government Participation @ 75 percent (rounded)	$66,435.00

*Includes all costs whatsoever, including labor, materials, supplies, equipment, supervision, professional services, office expenses, taxes, and insurance.

These costs were estimated on the basis of two shifts per day, 200 feet of drift and crosscut advance per month, and completion of the project in about eight months. The plan would enable exploration of the Union vein to a point beyond what appears to be the best mineralized portion of the vein on the surface. If the results of the project as proposed are favorable and further work is warranted, a proposal for an amendment to the contract or to a new contract for additional work will be considered.

May we have your views on this proposed plan?

Sincerely yours,

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 File
OME Region III
Mr. Kirkemo

HKirkemo/gla 1-19-68

Please file with
Addendum No. 1 to OME
Docket No. 6640 (Silver)
McFarland + Hullinger

Mc Farland Hullinger Keystone OME 66 c/0

2114 CURTIS STREET

TELEPHONE 623-1852

[redacted]

CHEMISTS • ASSAYERS • ENGINEERS

DENVER, COLORADO 80205

Folio 8976

Date Nov. 18, 1967.

Office of Mineral Exploration,
United States Geological Survey,
Denver Federal Center,
Denver, Colorado. 80025

We hereby Certify, that the samples assayed for you gave the following results:

Width	DESCRIPTION	GOLD OUNCES PER TON	SILVER OUNCES PER TON	COPPER PER CENT (WET)	LEAD PER CENT (WET)	ZINC PER CENT	IRON PER CENT	INSOLUBLE PER CENT	VALUE PER TON
6.0	6640-1-67 JWH Union vein →		5.89	0.02	2.62	0.12			
	6662-1-67 JWH EE Lewis — — —		9.69		40.75	3.60			
	6662-2-67 JWH EE Lewis — — —		8.18		14.20	22.88			

OME Region III
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Denver, Colorado

Gold at _____ per ounce Copper at _____ per unit

Silver at _____ per ounce Zinc at _____ per unit

Lead at _____ per unit _____

Charge $ 13.50

CHARLES O. PARKER & CO.
CHEMISTS, ASSAYERS and ENGINEERS

IN REPLY REFER TO:

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

Office of Minerals Exploration
Building 53 Room 203

January 12, 1968

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O. M. E.
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Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: OME-6440 (Silver)
McFarland and Hullinger
Keystone Property
Gunnison County, Colorado

Transmitted herewith is a report of examination on the subject property recommending that a contract be prepared to perform the exploration work along the Keystone and Union vein systems. The applicant's originally estimated costs totaled $333,421.00. I recommended a considerably reduced program exploring both vein systems as a Stage I program that is estimated to total $194,091.98. Government participation at 75 percent would be $145,568.98.

Mr. Kirkemo, in a telephone conversation with me yesterday (January 11, 1968) indicated that, due to budgetary restrictions, it might be necessary to reduce the proposed exploration program even further. Without conferring with the applicant concerning such a reduction in exploration, my ideas would be to concentrate on exploring either one or another of the vein systems. The Keystone vein requires the least expense to explore, but is not as promising geologically as is the Union Vein, at least as shown from results obtained from surface exploration.

The costs submitted by the applicant in his Addendum No. 1, are the lowest possible costs under which the company can operate, at the present time. The cost reductions mentioned in your memorandum of October 10, 1967 were discussed with Mr. Evans, superintendent of operations at the Keystone property. I informed Mr. Evans, by telephone, on January 12, 1968, that my report of examination would be submitted to Washington on January 12, 1968.

J. William Hasler

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

UNITED STATES

DEPARTMENT OF THE INTERIOR

STEWART L. UDALL, SECRETARY

U. S. GEOLOGICAL SURVEY

OFFICE OF MINERALS EXPLORATION

On-site Report

REPORT OF EXAMINATION

REGION III

OME-6440 (SILVER)

MCFARLAND & HULLINGER

KEYSTONE PROPERTY

GUNNISON COUNTY, COLORADO

By

J. WILLIAM HASLER, GEOLOGIST

JANUARY, 1968

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Introduction and summary	1
The property	2
Geology and ore deposits	7
Production and ore reserves	10
Applicant's exploration work	14
Appraisal and recommendations	15
Recommended exploration work	20

ILLUSTRATIONS

Exhibit A. Claims, Crested Butte Area Ruby and Elk Mountain Mining Districts, Gunnison County, Colorado.

Exhibit F. Keyston mine map showing Stage 1 proposed exploration.

Introduction and summary

McFarland and Hullinger, P. O. Box 238, Tooele, Utah, in an application dated June 13, 1967 which was received in the Office of Minerals Exploration in Denver on July 11, 1967 applied for financial assistance to explore the northerly extensions of the Union and Keystone vein structures at the Keystone Mine, Elk Mountain and Ruby Mining Districts, Gunnison County, Colorado. The estimated cost of the proposed project is $333,421.00, and consists of access road rehabilitation, drifting, raising and crosscutting from the 1013 level and the 1370 level of the Keystone mine as well as diamond drilling.

The application was reviewed in Washington and the applicant was advised to complete additional exploration work from the surface to further justify additional exploration at depth on the Keystone vein. Additional work was done and submitted to Washington on September 30, 1967 along with revised cost estimates, the report, including the revised cost estimates, followed a request by the Chief, OME after a conference with the applicant in Washington, D. C. on September 26, 1967. The application was referred to the field on October 10, 1967. A date was scheduled and a field examination was made on October 25 and 26, 1967. The examining geologist was accompanied by Mr. Max T. Evans, Superintendent, Keystone Mine, and Mr. Edward Perusek, Mine Foreman. The field examination was scheduled as early as possible in order to take advantage of the yet good weather conditions prevailing at high elevations. The weather became inclement shortly after the examination was made.

Surface trenching, along the Union vein structure shows the vein to be considerably mineralized over a distance of 3,200 feet, and the Keystone vein is strongly mineralized for some 2,200 feet, and it is felt that an exploration program northerly along both the Union and Keystone veins is warranted but not to the extent the applicant originally proposed. Although much of the material sampled and mined is not too high in grade, the availability of a mill on the premises makes possible the consideration of lower grade ore.

It is felt there is a good chance of discovering a considerable reserve of silver, as well as copper, lead and zinc as a result of exploring the strongly mineralized Union and Keystone vein structures northwesterly and it is therefore proposed that a contract be prepared and executed to complete the exploration work herein outlined. The work herein outlined is considered as Stage I even though the work is being completed on each of the two vein structures.

The property

Location and accessibility

The Keystone Mine, presently under lease by McFarland and Hullinger of Tooele, Utah lies in the (Exhibit A) Elk Mountain and Ruby Mining Districts some 2 miles northwest of Crested Butte, Colorado and are located in Sec. 31, T. 13 S., R. 86 W., and sec. 6, T. 14 S., R. 86 W., sixth principal meridian. Crested Butte, Colorado is 25 miles north of Gunnison, Colorado on Colorado State Highway 135. The mine may be reached by both improved and gravelled road from the town of Crested Butte. Two shipping

points are currently being used (1) Denver and Rio Grande railhead at Salida, Colorado. Trucking distance from Crested Butte, Colorado, to Salida, Colorado is 90 miles (2) Denver and Rio Grande railhead at Montrose, Colorado. Trucking distance from Crested Butte, Colorado to Montrose, Colorado is 90 miles. The major supply point is Denver, Colorado, a distance of 230 miles from Crested Butte, Colorado.

Patented Mining Claims

The project area would include the following patented lode mining claims (Exhibit A):

Name	Survey No.
Park City No. 29	20825
Park City No. 30	20825
Berien (south half)	3738 (see applicant's rights in land)
Park City No. 11 (northern 1350 feet)	20825
My Boys (northern 300 feet)	~~6253~~ 6523

Suggested wording for "and that portion of within the boundaries of PC29, PC Dev."

Unpatented lode mining claims

Name	Book	Page
Park City No. 27	255	526
Park City No. 32	255	529
Park City No. 10 (south 750 ft.)	397	183

All claims recorded in Gunnison County Recorder's Office, Gunnison County, Colorado. All adjacent land owned is shown on attachment 2(b). The property is known only as the "Keystone".

Not with this report.

The land proposed for exploraton adjoins the Keystone mine which has extensive underground workings. Underground mining operations were active at the Keystone Mine by the American Smelting and Refining Company during 1955 - 1957. McFarland and Hullinger took over the property in 1963 and commenced mining and milling operations which have been sustained and are active to date. The present labor strike in the copper industry has prevented shipping since July 1967.

Production facilities include a complete mining and milling unit as follows:

Office building, assay laboratory, engineering office, repair shops, compressor building, warehouse, "dry" changeroom, truck shop, 300-ton-per-day crushing and flotation mill facilities, complete line of mining equipment such as Mancha tram motors, Atlas Tram Motors, drilling machines, mucking machines, diamond core drill, underground hoist with skip, etc. The owner, by lease, of the Keystone Mine situated in the Elk and Ruby Mining districts, Gunnison County, Colorado,and the property included is described in Appendix "A" included in the Mining Lease accompanying the original application is as follows:

APPENDIX A

Mining Lease, April 1, 1963, between American Smelting and Refining Company and F. G. McFarland and S. R. Hullinger. a partnership dba McFarland and Hullinger

PATENTED CLAIMS

NAME	SURVEY NO.	ACREAGE
Barrien	3738	10.33
Furniture Boy	3739	10.33
Crested Butte Extension	4472	9.41
My Boys	6523	10.33
Union	6523	10.33
Keystone	6523	10.33
Contact	6523	10.33
Eclipse	6523	10.33
Jimmy	20749	20.66
Keystone Mill Site	20750	4.91
Contact Mill Site	20750	4.91
Park City No. 1 lode	20825	19.336
Park City No. 11 lode	20825	19.480
Park City No. 20 lode	20825	19.480
Park City No. 29 lode	20825	19.480
Park City No. 30 lode	20825	19.480
	Total	209.456

The following property in Crested Butte, Colorado:

Lots 17 to 29, both inclusive, Block 8, and the West 12-1/2 feet of Lot 30, Block 8, including six residences and all other improvements thereon, Town of Crested Butte, County of Gunnison, State of Colorado

The East one-half of Lot 20 and all of Lots 21 and 22, including a residence and all other improvements thereon, Block 24, Town of Crested Butte, County of Gunnison, State of Colorado.

Lots 12 and 13 in Block 28, together with residence and all other improvements thereon, Town of Crested Butte, County of Gunnison, State of Colorado

UNPATENTED CLAIMS

NAME			NAME			NAME		
Park	City	2	Park	City	26	Park	City	A
"	"	3	"	"	27	"	"	B
"	"	4	"	"	28	"	"	C
"	"	5	"	"	31	"	"	D
"	"	6	"	"	32	"	"	E
"	"	7	"	"	33	"	"	F
"	"	8	"	"	34	"	"	G
"	"	9	"	"	35	Keystone	Extension	1
"	"	10	"	"	36	"	"	2
"	"	12	"	"	37	"	"	3
"	"	13	"	"	39	"	"	4
"	"	14	"	"	40	"	"	5
"	"	15	"	"	41	"	"	6
"	"	16	"	"	42	"	"	7
"	"	17	"	"	43	"	"	8
"	"	18	"	"	44	"	"	9
"	"	19	"	"	46 - Carol	"	"	10
"	"	21	"	"	47 - Frankie PK			
"	"	22	"	"	48 - Judy PK 2			
"	"	23	"	"	49 PK 3			
"	"	24	"	"	50			
"	"	25	"	"	51			
			"	"	52			

Approximate acreage of unpatented claims is 1349 acres.

UNPATENTED PLACER CLAIMS

Jerry No. 1 (Area is covered by above listed claims.)

The American Smelting and Refining Company, 120 Broadway, New York 5, New York, owns a sixty percent (60%) undivided interest in the land; Park City Consolidated Mines Company, 600 Crandall Building, Salt Lake City, Utah owns forty percent (40%) interest. No known liens, mortgages or other encumbrances exist in the claims involved. The applicant has applied to two legitimate banking institutions for a loan to complete the exploration outlined in this original application amounting to an estimated $320,000.00 and were denied, (Items 1a, application) therefore they have requested financial assistance through the Office of Minerals Exploration. The applicant proposes to furnish its share of the proposed work through partnership cash funds. No lien or subordination agreements have yet been executed on any of the leased property, but it is assumed they can be readily obtained from lessors. It is believed that the ground included ~~as~~ and listed as follows on Addendum No. 1 to OME-6640 (Silver) is sufficient to subordinate since the applicant has placed no vertical boundary, restrictions, by elevation as they did in their original application (see Exhibit F. attached).

where is this Addendum? operating agreement? (mineral rights on vertical attach.)

Geology and Ore Deposits

Sedimentary rocks of Mesozoic and Tertiary ages that have been intruded by igneous rocks of Tertiary age underlie the area in the vicinity of the Keystone Mine (Geologic Map of the Oh-Be-Joyful Quadrangles, Gunnison County, Colorado, GQ-578, by David L. Gaskill, Larry Godwin, and Felix Mutschler, 1967) and (Keystone Mine, Exhibit AA, accompanying application). The sedimentary rocks

consist of sandstone and shale of the Cretaceous Mesa Verde formation and the Mancos shale unconformably overlain by sandstone and shale of the Paleocene and Eocene, Ohio Creek and Wasatch Formations respectively. The igneous rocks consist of stocks, laccoliths, dikes and sills of quartz monzonite porphyry, quartz monzonite, biotite granodiorite, granodiorite porphyry, lamprophyre, dacite porphyry, aplite and alaskite and felsite. The Mancos shale is locally metamorphosed to hornfels. Mancos shale, typically a soft, dark gray, sandy shale is exposed in the valley floor at Crested Butte, and along Slate River 1 to 2 miles northeast of the mine, and projects 400 feet under the Keystone mine workings. The Wasatch formation consists of sandstone, shale, and conglomerate of volcanic origin, outcrops at an elevation of 12,000 feet on Mt. Emmons and caps the highest peaks and ridges.

The Mesa Verde formation consists of thick-bedded sandstone interbedded sandstone and shale and has a thickness of approximately 1,000 feet, in the area of the Keystone mine, and is the host rock for the ore bodies of the district. No coal beds are found in the Mesa Verde formation within the mine area.

A large mass of quartz monzonite porphyry is exposed on Mt. Axtell, 3 miles south of the mine, and a small stock-like mass of felsite crops out in the vicinity of the Daisy Mine in Redwall Basin 1 mile northeast of the Keystone mine. The sedimentary formations on the south slope of Mt. Emmons, in the vicinity of the mine, strike east-northeast to northeast and dip from 10° - 25° southeast.

In the mine workings the sedimentary rocks, in general, dip southerly at angles of less than 20°. Faults of undetermined but probable displacement occur in the area.

The ore deposits of the district are in steeply dipping fissure veins that cut the thick-bedded Mesa Verde formation. Zinc, lead, silver, copper, molybdenum, and iron-sulfide deposits containing gold are associated with the north-northeast-trending system of faults, dikes, and small stocks of the Ruby Range and the breccia plug in Redwall Basin. The Keystone vein, as exposed in the Keystone Mine, ranges from 1 to 20 feet in width and is more than 2,200 feet in length. It is known to extend down dip for more than 1,150 feet. The Keystone vein strikes N. 30° to 40° W., and dips between 50° and 70° SW. The vein is a fissure filling consisting of silver bearing galena, sphalerite, chalcopyrite in a gangue of quartz, pyrite, pyrrhotite, and rhodochronite, rhodonite, and clay minerals. The vein material commonly is a matrix of a breccia that contains altered wall rock. In places the vein is split into several stringers, with barren sandstone between forming a vein zone as much as 20 feet in width.

Slickensided fracture surfaces and seams of gouge that occur along the hanging and footwalls of the vein indicate that the vein is along fault structures. The vein is not uniformly mineralized, and the ore bodies occur in distinct shoots. The shoots have greater vertical than horizontal dimensions; they occupy from one-third to one-half of the vein length. Mine workings extend

from the surface to a depth of about 1,300 feet (2460 level). About 150 feet southwest of and en echelon to the Keystone vein is the Union vein which is similar to the Keystone in mineral content and structure. During the field examination the examining geologist observed that the upper portions of the Mesa Verde formation were more susceptible to ore deposition than in the lower portions of the Mesa Verde formation. The Keystone vein on the 2460 level had narrowed considerably and contained little or no mineralized material.

Production and Ore Reserves

The Keystone mine has been operated since 1963 by the applicant under a lease from the owners, American Smelting and Refining Company (60% interest), and Park City Consolidated Mines Company (40% interest). The rate of mine output in June, 1967 was 240 tons per day. Total production of the mine through April, 1967 was valued at about $15,350,000 derived from 463,000 tons of ore averaging 5.69 ounces silver per ton, 5.54% zinc, 2.6% lead, and 0.73% copper). (Average value per ton $35.20). Silver production is reported to total 2,481,147 ounces. Known reserves of sulfide ore total 14,000 tons averaging 3.6 ounces silver per ton, 6.0% zinc, 2.8% lead, and 1.15% copper.

The following is copied from applicant's Addendum No. 1 to OME dated 9-30-67:

> "Geological mapping and reconnaissance surface surveys have revealed the presence of two vein structures located northwesterly from the Keystone Mine workings in unexplored virgin ground. The two vein structures appear to correlate with the dip and strike projections of the productive Keystone and Union veins in the Keystone Mine workings. American Smelting and Refining

Company core drilled an angle hole in the southern end of the Park City 17 claim and penetrated three feet of vein material between 276 and 279 feet. The material assayed as follows according to mine maps and records:

Interval	Au oz.	Ag. oz.	Cu. %	Zn%	Pb%
276 - 279'	.015	5.0	2.1	-----	-----

Since the initial OME application was submitted on June 13, 1967 extensive surface exploration work involving sixteen (16) dozer trench excavations, geologic mapping, sampling, assaying and new map preparation have been completed on the proposed OME project area. (See Exhibits AA and BB)."

"Extensive vein ore mineralization with pronounced continuity is now exposed on two separate parallel vein structures. The former Berrien vein, now known to be correlative with the Union vein is delineated by surface trenches over a strike length of 2,850 feet. The Keystone vein outcrop has now been mapped and sampled over a strike length of 500 feet. Both end projections of the Keystone vein outcrop are mask by deep talus cover."

"Due to climatic conditions, including heavy snowfall and rains in the general area, especially in the higher elevations of the Red Lady Basin, much oxidation and leaching of the veins are present. Boxwork pseudomorph structures are primary sulphide deposition and are widespread throughout the veins. Only remanent amounts of base and precious metals have been left intact. Indicate of the oxidation and leaching effects present are surface vein samples Nos. K-8 and K-9 which were taken from the vein directly above the ore intercept in F. B. Drill Hole No. 1. A substantial increase in the elements silver and copper were encountered at depth on the vein compared to assay value on the surface outcrop."

"Samples taken from trenches and vein outcrops extending from 63 N. area for a strike distance of some 1,900 feet northward show silver values greater than the average mined to date from the Keystone mine. An arithmetic average of 25 oxidized and leached surface samples show 6.644 ounces of silver per ton."

"The recent surface exploration work completed has greatly substantiated the presence and continuity of two well defined ore bearing vein structures in the area proposed for ome financial aid."

"Potential ore reserves calculated for the project area are classified in the Inferred Category and the basis for such reserves are shown on Exhibit B-B and outlined as follows:"

"Inferred Reserves Union and Keystone Vein Zones

Union Vein		326,400 tons
Keystone Vein		397,300
	Total Reserves	723,700 tons*

Estimate Basis:

Union Vein

Strike Length	1700 feet maximum	
Width	4.0 feet	
Dip lengths	(Max. 1030 ft.)	(See Exhibit BB)
	(Min. 250 ft.)	
Tonnage Factor	10^3/ton	

Keystone Vein

Strike Length	1970 feet maximum	
Width	4.0 feet	
Dip Lengths	(Max. 1110 ft.)	(See Exhibit BB)
	(Min. 235 ft.)	
Tonnage Factor	10^3/ton	

*Total inferred reserves have included a 25% dilution factor for barren zones and unmineable widths."

"Grade:

Based on an arithmetic average of 25 oxidized and leached surface vein samples taken from the Union and Keystone vein structures, an average of 6.644 ounces of silver was obtained with practically all of the copper and zinc values removed by oxidation and leaching."

"It is therefore reasonable to assume that the tenor of the ore under the zone of oxidation would increase in the fugitive elements silver, copper and zinc. On this basis, the expected grade of ore on both veins would be as follows:

Ag. oz.	Cu%	Zn%	Pb%
8.30	1.00	5.49	2.13"

"The above expected grade is based in part on 455,573 tons of ore mined from the Keystone operation which has yielded to date 2,569,084 ounces of silver and 6,600,000 pounds of copper. Also, the expected grade is based on several thousand tons of silver, copper, zinc, lead ore mined from the Daisy mine located directly north of the proposed project area. (See Exhibit B-B)"

"The existing modern 300 ton per day selective flotation mill located at the Keystone Mine is the prime factor in profitably operating the Keystone Unit. Two concentrates are shipped: 1) a silver, copper, lead, and 2) a zinc concentrate. Without such milling facilities available, the vein type ore deposits on the Keystone property could not be worked on a profitable basis because of long truck and rail distances to the nearest smelter for treatment of raw ore."

The property was explored under a DMEA project (DMEA-3866, Contract Idm -E903) begun in January 1956 and terminated by a termination agreement in April 1959. The final royalty payment in December 1964 by the Operator, American Smelting and Refining Company, repaid in full the Government's total contribution of $39,722.50.

The DMEA Field Team's final report on the project stated that the exploration work resulted in the discovery of one ore body, and the proof of the downward extensions of another, both on the Union vein.

Work under the contract increased indicated ore reserves by more than 12,000 tons and inferred reserves by nearly 7,000 tons. The lateral limits of ore to the northwest on both the Keystone and the Union veins were established on the 2,000 and 2,160 levels. Search for upward or downward extensions of known ore bodies from these levels was believed to be mine development rather than exploration, and further exploration of the Keystone and Union veins with Government assistance was not warranted.

The following is copied from the applicant's Addendum No. 1 to OME dated 9-30-67.

"Exploration Work:

Since the initial OME application submittal was made an alternate program is proposed to complete all exploratory work from the existing 1370 level. This working level will yield a greater ore tonnage reserve, due to a lower elevation, and the level is currently rehabilitated and in good working condition. By using the 1370 level, road construction and the collaring of a new portal site would be alleviated."

"Project A - Union Vein

Crosscut by drifting southwesterly from existing 1370 level drift face 555 feet to intersect the down dip projection of surface ore showing in dozer trenches. Drift Union Vein northwesterly 1700 feet under continuous surface ore exposures."

"Proposed raise footage amounting to 400 feet is considered important to explore the vein up dip at various intervals for at least 100 feet above the level."

"A 250 foot inclined diamond drill hole is also proposed to be drilled from the northern face of proposed 1370 Union Vein drift to test down dip potential of surface vein ore showing at Sample Location SU22 and 23."

"Project B - Keystone Vein

"Crosscut by drifting northeasterly from 1370 level 400 feet to intersect the down dip projection of the Keystone Vein zone showing at the surface. Drift the Keystone Vein zone and related ore northwesterly for a distance of 2000 feet. Advance 500 feet of raises at regular intervals to explore the vein up dip above the level."

"A diamond drill hole 850 feet in depth is proposed to be drilled northeasterly from the northernmost face of 1850 level of the Keystone Mine to test the down dip potential of ore showing at the surface on the Keystone Vein. This hole will also test the Union Vein drift if an abrupt steepening or reversal of dip occurs at depth. This hole will be within the proposed OME project area some 450 feet lower in elevation than the 1370 level."

"Contingent diamond drilling amounting to 915 feet is proposed to test foot and hanging wall vein splits on the proposed drifting projects and to concur results of preliminary drilling and geologic structural problems that may arise during the exploration work. The exploration projects, as proposed, may be subject to revision, change, or alternate plans as work progresses to obtain the maximum ore reserves possible."

Appraisal and Recommendations

The applicant's original proposal was based principally on assays obtained from samples taken on the Union and Keystone veins, a grab sample from a dump and an assay of drill core from a diamond drill hole which intersected a third vein (Berrien) about 750 feet northwest of the proposed target area. These assays are as follows: (The following is copied from Pages 3 and 4 of a memorandum by Harold Kirkemo to the File dated August 4, 1967:

"Sample No.	Vein	Width	Oz. per ton Au	Ag	% Pb	Zn	Cu
Sk 3	Keystone	N.A.	tr.	0.22	0.02	0.05	0.14
Sk 4	"	"	0.02	3.90	0.05	0.05	0.05
Sk 1	"	"	0.02	6.20	7.30	0.15	0.08
Sk 2	"	"	tr.	3.40	0.80	0.20	0.02
S 2	"	"	tr.	5.20	0.10	0.05	0.08
Assay Average of Keystone samples			tr.	3.78	1.65	0.10	0.05
- Union		Grab	tr.	16.60	0.10	0.05	4.20
- Berrien		3.0 ft	0.01	5.00	----	----	2.10

"With the exception of the assay of the grab sample from a dump on Union vein, these assays indicate that the tenor of the material sampled is much lower than the grade of ore produced to date and of reserves in present workings of the mine. The value per ton of ore produced to date based on present prices is about $35.00. On the same basis, the value per ton of material indicated from the cut samples is about $10.00--a value too low to warrant mining."

"Assuming an average width of 4 feet, based on the reported width of the Union vein at the prospect dump shown on Exhibit D,

and assuming that ore shoots may occupy from one-third to one-half of the vein zones, the reserve of possibly mineralized material present between the levels of the proposed workings and the surface is estimated to be as follows:

Vein	Tons	
	50% of vein	33% of vein
Keystone		
Sulphide	145,000	96,000
Oxide	106,000	71,000
Union		
Sulphide	95,000	54,000
Oxide	70,000	38,000

This estimate indicates that the potential reserves of sulphide material is about 250,000 tons, assuming the most favorable situation. The possible low grade of the material precludes consideration of this reserve for exploration or mining."

"The applicant restricts the project area (Item 2b) to "include all lands described above from the rail elevation (10,543.8 feet) at the 1370 level portal to the surface." Under this restriction there would be no opportunity to conduct additional exploration on lower levels if either situation should develop from the proposed exploration."

"With the possible exception of collecting and assaying six surface samples, no prospecting or exploring appears to have been done by the Applicant in the area of the proposed project since the DMEA project was completed."

The applicant completed additional bulldozer trenching and sampling along the surface outcrops of both the Union and Keystone vein structures to further substantiate the proposed exploration. The Keystone vein outcrop north of the exposure where sample SK-4 was taken is covered for some 1200 feet by heavy talus and an inaccessible cliff area. The talus contains occasional vein fragments indicative of the trace of the Keystone vein and trends

into the exposed outcrop where samples S-2, Sk-2, and Sk-1 were taken. Additional samples taken yielded the following assay results:

KEYSTONE VEIN

Sample No.	Ft	Ag oz.	Cu %	Zn %	Pb %
Sk-3	----	0.22	0.14	0.05	0.025
K-5	1-5'	0.96	0.03	0.15	1.000
K-3	2.0	4.40	0.08	0.10	3.100
K-2	3.4	9.60	0.06	0.10	7.700
K-1	3.0	3.20	0.05	0.05	5.800
K-15	3.0	0.30	0.27	Tr	1.200
Sk-4	----	3.90	0.05	0.05	0.050

Sixteen bulldozer trenches were cut across the Union vein at various intervals for some 3,000 feet along its trace. The sampling in the trenches were interspersed by additional samples from dumps and across vein outcrops. This sampling along the Union yielded the following assay results.

Type Sample	Sample	width, Feet	oz. Ag	%Cu	%Zn	%pb
Vein	SU-28	3.0	2.00	-----	------	0.20
Vein	SU-27	3.5	3.80	.22	.30	----
Vein	SU-25	1.5	5.40	.70	.20	----
Vein	SU-8	2.0	1.90	.16	.05	4.60
Vein	SU-6	4.0	3.70	.08	.10	0.05
Dump	S-1	---	16.60	.10	.05	4.20
Vein 20' in adit	SU-5	4.6	4.30	.04	.15	4.30
Vein 7.5' in adit	SU-4	3.0	13.20	.04	.05	2.70
Vein	SU-1	5.0	7.00	.05	.05	3.10
Vein FW	SU-28	2.0	18.00	.05	.05	2.00
Vein HW	SU-2A	3.0	4.10	.05	.10	5.40
Vein Trench	SU-3	5.5	12.10	.05	.10	4.90
Vein	SU-7	3.0	0.30	.08	.05	5.30
Vein	SU-21	4.0	13.30	.19	.05	6.20
Vein	SU-20	4.0	11.30	.11	.05	4.70
Vein	SU-19	3.0	2.90	.03	.05	0.15
Vein	SU-23	4.0	5.00	.11	Tr	3.10
Vein	SU-22	4.0	6.40	.11	Tr	4.25
Vein	SU-18	3.0	1.00	.03	.05	0.10
Vein	SU-16	4.5	0.62	.03	.05	1.30
Vein	SU-13	4.5	1.50	.02	.01	0.30
Vein	SU-9	3.0	2.10	.04	.05	3.50
Vein	SU-14	3.0	0.28	.03	.05	0.05
Vein Vein FW	SU-12	5.0	0.30	.02	.05	0.10
Gossan	SU-11	4.5	0.38	.03	.10	0.05
Vein HW	SU-10	4.5	0.24	.03	.05	0.10
Vein	K-8	3.0	1.10	.05	.10	1.60
Vein	K-9	2.9	1.20	.05	.05	0.30
Vein	SU-18	3.0	0.34	.03	.45	0.05
Vein FW	K-7B	2.4	1.60	.08	.05	0.50
Vein HW	K-7A	4.0	0.56	.11	.05	0.70
Vein FW	K-6B	4.4	0.52	.09	.10	1.30
Vein HW	K-6A	5.0	0.36	.09	.05	0.60
Vein	JWH-U	6.0	5.89	.02	.12	2.62
Total		121.8	132.69	2.82	2.73	63.12
Average		3.7	4.02	.08	.08	1.91

The assay results of some 33 oxidized and leached vein samples from the Union vein shows the following results:

			Jan. 11, '68	Value/ton	value as of Jan. 11 price
Ag oz. =	4.02 @	$2.10/oz.	$2.02	$8.44	$8.12
Cu % =	.08 @	0.38/lb.		0.61	.61
Zn % =	.08 @	0.1350/lb.		0.22	.22
Pb % =	1.91 @	0.14/lb		5.34	5.34
				$14.61	$14.29
				5.13	
				19.74	

The applicant's additional trenching and sampling shows a somewhat higher value in silver, but includes one dump sample. The sampling taken extends over a strike length of some 1900 feet northward and shows silver values greater than those mined from the Keystone mine. However, the applicant, assumes an enrichment of values below the zone of oxidation, approximately 200 feet below the surface, based on mine grade ore from past production that the grade of ore to be found and mined should be about as follows:

			As of Jan. 11, '68 @ 2.02	Value/ton	As of Jan. 11 price
Ag oz.	= 8.30	@ $2.10/oz.		$17.43	16.77
Cu %	= 1.00	@ 0.38/lb.		7.60	
Zn %	= 5.49	@ 0.1350/lb.		14.82	
Pb %	= 2.13	@ 0.14/lb		5.96	
				$45.81	@ 45.15

The values obtained from some 33 samples of oxidized and leached material from the Union vein excluding one dump sample, shows the following results:

Table

			As of Jan. 11, '68 @ 2.02		As of Jan. 11 price
Ag oz.	= 4.02	@ $2.10/oz		@ ~~8.44~~ ? ~~($17.43)~~	8.12
Cu %	= 0.08	@ 0.38/lb		.61	0.61
Zn %	= 0.08	@ 0.1350/lb		.22	0.22
Pb %	= 1.91	@ 0.14/lb		5.34	5.34
				$14.61	14.29

Based on the applicant's mine grade ore shown above there should be approximately a 31 percent increase in value of ore below the oxidized zone. If this is true, then a 31 percent increase in value of ore would ~~from~~ yield ore having a total value of some $19.74 per ton, and with present facilities this grade ore per ton can be mined at a profit at the Keystone operation.

?

It is felt that there is a good possibility of discovering sizeable reserves of silver and copper, as well as lead and zinc as a result of further exploration northeasterly along the strongly mineralized Union and Keystone fissure veins, and it is therefore proposed that the following modified exploration program be favorably considered and that a contract be prepared to execute the program as herein outlined.

Union Vein

It is proposed by the examining geologist that the total of 1,000 feet of drifting would adequately explore the Union vein. Two 100 foot raises should be driven to explore the vein, possibly at 500 feet and 1,000 or in areas where the vein appears to show the highest values. It is proposed that an estimated 500 feet of diamond drilling be used to test the lateral extent of the mineralization at various intervals along the vein, these sites to be selected by prior government approval, except where shown on exhibit F.

Keystone Vein

The applicant proposes to crosscut from the face of the 1370 level northeasterly some 400 feet to intersect the downdip projection of the Keystone vein from the surface, then explore along the vein for a distance of 2,000 feet, with 500 feet of raises, and 850 feet of diamond drilling to test the lateral extent of the Keystone vein at various intervals along the exploration drift. There is considerable mineralized float above the Keystone vein in a heavy talus covered area north of 66N to 72N (Exhibit F), and may be traced along the steep cliff area from 74N to 78N. The

Keystone vein is again evident and strong, and has been sampled from 78N to 82N.

It is proposed that the Keystone vein be explored northeasterly by crosscutting northwesterly from a point 100 feet south of the present face of the 1370 level workings for approximately 400 feet to intersect down dip projection of the Keystone vein then drive an exploration drift on the Keystone vein for 1,000 feet along its strike, drive two 100-foot raises, at 500 feet and at 1,000 feet to explore up the vein and provide for 500 feet of diamond drilling to explore the lateral extension of the Keystone at various intervals, this drilling to be done largely by prior government approval, except where shown on Exhibit F.

All of the proposed exploration work should be considered as Stage I of a two stage contract. Stage II may consist of the balance of the work essentially proposed by the applicant but would only be done providing the results of Stage I warrants additional exploraton northeasterly along the Keystone and Union vein fissures. The cost for Stage I as estimated and are included as follows:

ESTIMATED COST OF THE WORK

STAGE I	1370 Level	Drift Footage (6' x 7-1/2')	Est. Cost/Ft.	Cost	
Union Vein		555 ft X-cut			(36 x 555) =
		10% timbered (55.5 ft.)	$58.85	$3,266.18	2000.00
		90% w/o timber499.5 ft)	52.40	26,173.80	14,750.00
Was 1,700'		1,000 ft. drift			
		10% timbered (100 ft.)	58.85	5,885.00	3596.00
		90% w/o timber (900 ft.)	52.40	47,160.00	26,550.00
			Union drifts	$82,484.98	45,896.00
Keystone Vein		400 ft X-cut			
		10% timbered (40.0 ft.)	58.85	$ 2,354.00	
		90% w/o timber (360.0 ft.)	52.40	18,864.00	
Was 2,000'		1,000 ft. Drift			
		10% timbered (100.0 ft.)	58.85	5,885.00	
		90% w/o timber (900.0 ft.)	52.40	47,160.00	
				$74,263.00	
Was 900'					
Keystone and Union Veins		400 ft. timbered Raises (5'x7')	48.61	$19,444.00	
Keystone and Union Veins		1000 ft. diamond core drilling (Ex size)	4.70	4,700.00	
Was 2015'					
		Total diamond drilling		4,700.00	
		Total drifting, X-cutting, raising and drilling		$180,891.98	
Assaying samples for gold, silver, copper, lead and zinc 320 samples at $10.00/sample				3,200.00	
Snow removal from access road to 1370 level as needed (HD-21 dozer w/operator: est. time 400 hrs. at $25.00/hr.				10,000.00	
			Total project	$194,091.98	
		Government participation at 75%		$145,568.98	

315,893.98 — Applicant's estimated total cost Sept. '67

IN REPLY REFER TO:

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

Office of Minerals Exploration
Building 53 Room 203

December 28, 1967

OFFICIAL COPY
O. M. E.
RECEIVED
JAN 2 1968

INITIALS	CODE
BH	120 M
FG	~~110~~
HK	~~120~~

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: OME-6640 (Silver)
McFarland & Hullinger
Keystone Mine
Gunnison County, Colorado

Transmitted herewith are a copy of Addendum No. 1 to OME application and a letter which were received November 6, 1967. A mylar tracing plan map of the project area came in the afternoon mail November 6, 1967 and is being held in the Field Office, Region III files, pending submittal of the report of examination. At which time, a copy will be made and forwarded.

J. William Hasler
mc

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

Enclosures

F. O. McFARLAND
TOOELE, UTAH
Phone – Tooele 882-1243

S. R. HULLINGER
TOOELE, UTAH
Phone – Tooele 882-1344

McFARLAND AND HULLINGER
MINING • ORE HAULING • CONTRACTING
PHONE 882-0103
P. O. BOX 238
TOOELE, UTAH 84074

Crested Butte, Colorado
November 3, 1967

OME Region III
RECEIVED
NOV 6 X 1967
Denver, Colorado

Mr. J. William Hasler
Field Officer, Region III
Office of Minerals Exploration
U. S. Geological Survey
Denver Federal Center, Bldg. 25, Room 2284
Denver, Colorado 80225

RE: OME 6640 (Silver) McFarland & Hullinger
Keystone Mine
Gunnison County, Colorado

Dear Mr. Hasler:

Attached herewith are additional data requested by you on your field examination trip to the Keystone property.

As you will note on Addendum No. 1, no vertical elevational boundaries are restricted or subordinated within the proposed OME project area. Also, two additional lode claims, Park City Nos. 10 and 11, are included in the OME project area to cover the down dip projections of the two vein structures proposed for exploration.

I am also sending under separate cover, a mylar tracing plan map of the project area as per your request.

Very truly yours,

Max T. Evans

Max T. Evans, Supt.
Keystone Mine

MTE/js
Encl.

Extra copies also attached for submittal to Washington OME office.

Addendum No. 1 to OME
Docket No. 6640 (Silver)

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

Region III
OME RECEIVED
NOV 6 X 1967
Denver, Colorado

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Answers to Questions on MME Form 40

1. Financial Eligibility:

(a) See Item 1-(a) attached.

(b) American Smelting and Refining Company, 120 Broadway, New York 5, New York, owns a sixty percent (60%) undivided interest in land; Park City Consolidated Mines Company, 600 Crandall Building, Salt Lake City 1, Utah, owns forty percent (40%) interest.

(c) Through partnership cash funds.

2. Applicant's Rights in Land:

(a) Lessee of Property -- See Item 2-(a) attached "True Copy of Lease". No known leins, mortages or other encumbrances exist.

(b) The proposed project area would include Patented lode mining claims Park City No. 29 - Survey No. 20825, Park City No. 30 - Survey No. 20825 and the northern 1350 feet of Park City No. 11 - Survey No. 20825. Unpatented lode mining claims within the project area would include the southern 750 feet of Park City lode mining claims Nos. 10, 27 and 32.

The northern 1350 feet of Park City No. 11 claim is defined as follows:
"Commencing at the NW corner of Park City No. 11 claim thence N64°E 600 feet to the NE corner, thence S46°E 1350 feet, thence S64°W 600 feet, thence N46°W 1350 feet to point of beginning."

The southern 750 feet of Park City lode mining claims Nos. 10, 27 and 32 are defined as follows:
"Commencing at the SW corner of Park City No. 10 claim, thence N46°W 750 feet to the W side center, thence N64°E 1800 feet to the E side center of Park City No. 27 claim, thence S46°E 750 feet to the SE corner of Park City No. 27 claim, thence S64°W 1800 feet to point of beginning at the SW corner of Park City No. 10 claim."

By elevation, no vertical boundaries would be restricted or subordinated within the proposed OME project area. (See Exhibit F)

-continued-

McFarland & Hullinger
P. O. Box 238
Tooele, Utah

OME Region III
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Denver, Colorado

2. (b) continued

Recordation data on unpatented claims within the project area:

Name of Claim	Book	Page
Park City No. 27	255	526
Park City No. 32	255	529
Park City No. 10	397	183

All claims recorded in Gunnison County Recorder's Office, Gunnison, Colorado.

All adjacent land owned are shown on attachment 2-(b). The property is known only as the "Keystone".

Form 7

OFFICIAL FILE COPY

Date	Surname	Code
10/9	Kirkemo	120
		110
		220
		120M

AIRMAIL

OCT 10 1967

McFarland and Hullinger
P.O. Box 238
Tooele, Utah 84074

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado

Gentlemen:

Thank you for the revised cost estimates and other supplementary information.

The application is being 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.

Mr. Hasler will notify you in case additional information is needed, or to make arrangements for a field examination of the property. A visit to the Keystone mine necessarily will have to be scheduled well in advance because Mr. Hasler is responsible for making OME field examinations in eleven states.

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 Reading File
Mr. Kirkemo
130
Region III (Thermofax)

HKirkemo/bsl 10/9/67

23263

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
10/9	Kirkemo	120
		110
	gla	220
		120M

OCT 1 0 1967

AIRMAIL

Memorandum

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: OME-6640 (Silver)
McFarland and Hellinger
Keystone Mine
Gunnison County, Colorado

The application is referred to you for further consideration and possible field examination.

You should by now have received copies of supplementary information, including two maps, submitted by the Applicant on September 26 and 30, 1967. This information provides data on widths and assays for 39 additional samples (only 7 samples were reported originally), and a revised program of exploration with revised cost estimates.

The weighted averages of the assay data are as follows:

Vein	No. of Samples	Average Width, ft.	Assay Averages: Oz. Ag/ton	% Pb	% Zn	% Cu
Union						
1,400-foot southern segment	13	3.7	7.36	3.0	Negligible	
825-foot northern segment	13	3.9	0.74	0.7	"	
Keystone						
200-foot segment	7	3.0	5.04	4.6	"	

You will note on the Applicant's map labelled AA that two of the three vein segments identified in the table are targets for the proposed exploration. Approximately 750 feet of crosscut and drift would be needed to reach the projected, southern segment of the Union vein, and about 2,100 feet would be required to get under the sampled portion of the Keystone vein.

23263

In view of the considerable distance to the target area on the Keystone vein, the moderate content of eligible mineral in the target, and the absence of significant values in the few samples taken along the vein to the target, we question whether the proposed work on the Keystone vein is warranted, although availability of a mill on the property makes possible consideration of lower grade ore.

Perhaps additional support for work on the Keystone vein can be obtained with more trenching and sampling, particularly on the vein south of the segment already sampled.

During our discussion here with Mr. Evans on September 26, we suggested that the Applicant consider a less extensive program -- perhaps extending drifts on the two veins one half the distance originally proposed. However, no change in the program was offered with the revised cost estimate dated September 30. If the proposed work on the Keystone vein is dropped because of the low content of eligible minerals, the total for the remaining project is less than half the original request.

We also mentioned to Mr. Evans that some of the items under Personal Services which were not essential to an exploration project could be deleted, thereby reducing the estimated costs. A few items were dropped but some still on the list should be either dropped or reduced. For instance, the estimated costs for items such as Electrician and Machanic, each $478.40/month, Compressor Man, $334.32/month, Shift Boss and Geologist-Engineer, combined $1,423.00 month, Accountant-Timekeeper, $433.40/month, and Stenographer, $239.98/month are in excess of usual costs allowed on OME contracts. Most of the quantities under Operating Equipment, also, are not necessary, especially if a one-heading project were undertaken.

An on-site examination no doubt will be necessary to evaluate the merits of this proposal. Unlike many of the situations you encounter, this mine is fully equipped and staffed for capacity operation and the Applicant expects to undertake a more extensive and costly exploration project than perhaps is warranted.

We look forward to your field examination report and recommendations.

FRANK E. JOHNSON

Frank E. Johnson

cc: Director's Reading File
Division File
Economic Geology File
OME File
Mr. Kirkemo
130

HKirkemo/bsl 10/9/67

F. G. McFARLAND
TOOELE, UTAH
Phone – Tooele 882-1243

S. R. HULLINGER
TOOELE, UTAH
Phone – Tooele 882-1344

McFARLAND AND HULLINGER

MINING • ORE HAULING • CONTRACTING
PHONE 882-0103
P. O. BOX 238
TOOELE, UTAH 84074

OFFICIAL COPY
O. M. E.
RECEIVED
OCT 3 1967

INITIALS	CODE
	130
	120
	120
	120

Crested Butte, Colorado
September 30, 1967

Mr. Frank E. Johnson
Chief, Office of Minerals Exploration
U. S. Department of Interior
Washington, D. C. 20242

RE: OME-6640 (Silver) McFarland & Hullinger
Keystone Mine
Gunnison County, Colorado

Dear Mr. Johnson:

Enclosed herewith are revised cost estimates and a copy of the financial request from First Security Bank of Utah covering the captioned subject application.

We are mailing under separate cover today the requested data to Mr. J. William Hasler, your Field Officer, Region III, Office of Minerals Exploration in Denver, Colorado.

We sincerely thank you for your earliest possible attention on this matter.

Sincerely yours,

Max T. Evans, Supt.
Keystone Mine
P. O. Box 468
Crested Butte, Colorado

MTE/js
Encl.

cc: McFarland & Hullinger
P. O. Box 238
Tooele, Utah

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
9/27/67	Kirkemo	120
		110
9/27	Cal	220
9/28	BH	120M

AIRMAIL

Mr. Max T. Evans
c/o McFarland and Hullinger
Keystone Mine
Crested Butte, Colorado 81224

Re: OME-6640 ($ilver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado

Dear Mr. Evans:

We appreciate the opportunity to have discussed with you here yesterday the amended application for OME assistance to explore the Keystone mine. Personal exchange of information is always useful to us in reviewing an application, and we hope it is also helpful to the Applicant.

We neglected to ask you to provide our Field Officer for Region III with a copy of the material you left with us. Please send the material 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

A copy of revised cost estimates should be sent to Mr. Hasler, too, as well as any other new material you prepare.

Submittal of any additional information should not be construed as a commitment by the Government to prepare a contract.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

Copy to: McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

cc: Director's Reading File
Division File
Economic Geology File
OME Docket
OME Reading File
OME Region III
Mr. Kirkemo

HKirkemo/gla 9-27-67

23263

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
8/4/67	Kirkemo	120
		110
4	cac	220
		120M

AIRMAIL

AUG 4 1967

McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

Re: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado

Gentlemen:

We have given careful study to your application for financial assistance to explore the Keystone mine. From the information submitted and from records of the DMEA project on this property, we conclude that the proposed exploration does not justify Government participation in the work.

This conclusion is based on the fact that the material sought in the target area is too low grade to warrant exploration, and that the nature and extent of ore shoots in the Union and Keystone veins in the mined areas suggest that the possibilities for discovering significant reserves of ore are not favorable.

Your proposal is based essentially on the assays of five surface samples obtained from the Keystone vein. These indicate that the material sampled is too low grade to mine and, therefore, does not warrant exploration. The widths of these samples were not stated, so the reserve potential could not be estimated with confidence. The assay of a grab sample from a dump on the Union vein is not sufficient evidence to justify the extensive work to explore this vein on the 1013 level.

The vein cut in the drill hole shown on Exhibit D is considered to be the Berrien vein which has not been sampled or explored further on your property.

In view of the fact that the evidence presently available to us does not justify further consideration by the Government of the proposed project, we suggest that additional information pertaining to the veins be obtained, and perhaps an alternate program of exploration be considered, or that you consider withdrawing the application.

Assays of additional samples of the veins obtained from outcrops, surface cuts, pits, adits, or drill holes wo uld help to better determine the average grade of the material and whether the principal values are in eligible minerals; and with widths of samples noted, the possibilities for a significant reserve of eligible minerals could be evaluated.

23263

We would be pleased to consider any new information that you can provide in support of an exploration program in which OME can participate. Submittal of any additional information should not be construed as a commitment by the Government to prepare a contract.

Sincerely yours,

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 File
OME Region III
Mr. Kirkemo

HKirkemo/gla 8-4-67

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
8/4/67		120
	Johnson	110
		220
		120M

August 4, 1967

Memorandum

To: The File

From: Assistant Chief, Office of Minerals Exploration

Subject: OME-6640 (Silver)
McFarland and Hullinger
Keystone Mine
Gunnison County, Colorado

Review of Applicant's exploration proposal

The Applicant requests OME financial assistance to explore the Union and Keystone vein structures at the Keystone mine, Elk Mountain mining district, near Crested Butte, Colorado. The proposed project would require 3,855 feet of drift, 800 feet of crosscut, 900 feet of raise, and 1,000 feet of road repair and construction. Cost of the project is estimated to total $333,421.00.

Ore deposits of the district are in steeply dipping, northwest-trending fissure veins that cut thick bedded sandstone of the Mesa Verde Formation of Cretaceous age. The geology of the district is shown on the Oh-Be-Joyful quadrangle map, USGS GQ-578, 1967. The Keystone vein zone as exposed in the Keystone mine is from 1 to 20 feet in width and is more than 2,200 feet in length. Typical vein filling consists of silver-bearing galena, sphalerite, chalcopyrite, and pyrite in quartz gangue with minor amounts of rhodochrosite, rhodonite, and clay minerals. Ore bodies occur as distinct shoots which have greater vertical than horizontal dimensions. The Keystone vein ore shoots occupy from one-third to one-half of the vein length. Mine workings extend from the surface to a depth of about 1,300 feet (2460 level). About 150 feet southwest of and en echelon to the Keystone vein is the Union vein which is similar to the Keystone vein in mineral content and structure.

The property was explored under a DMEA project (DMEA-3866, Contract Idm-E903) begun in January 1956 and terminated by a Termination Agreement in April 1958. A certification of discovery or development was issued in April 1959. The final royalty payment in December 1964 by the Operator, American Smelting & Refining Company, repaid in full the Government's total contribution of $39,722.50.

The DMEA Field Team's final report on the project stated that the exploration work resulted in the discovery of one ore body, and proof of the downward extension of another, both on the Union vein. Work under the contract increased indicated ore reserves by more than 12,000 tons and inferred reserves by nearly 7,000 tons. The lateral limits of ore to the northwest on both the Keystone and the Union veins were established on the 2000 and 2160 levels. Search for upward or downward extensions of known ore bodies from these levels was believed to be mine development rather than exploration, and further exploration of the Keystone or Union veins with Government assistance was not warranted. The vein structures exposed in the northwest faces of the 2000 and 2160 levels were low grade to barren in values, and weak structurally.

The Keystone mine has been operated since 1963 by the Applicant under a lease from the owners, American Smelting & Refining Company (60% interest), and Park City Consolidated Mines Company (40% interest). The rate of mine output in June 1967 was 240 tons per day. Total production of the mine through April 1967 was valued at about $15,350,000 derived from 436,000 tons of ore averaging 5.69 ounces silver per ton, 5.54% zinc, 2.6% lead, and 0.73% copper. (Average value per ton - $35.20). Silver production is reported to total 2,481,147 ounces.

Known reserves of sulphide ore total 14,000 tons averaging 3.6 ounces silver per ton, 6.0% zinc, 2.8% lead, 0.56% copper. Probable reserves of oxide ore total 60,000 tons averaging 7.57 ounces silver per ton, 6.71% zinc, 2.87% lead, and 1.15% copper.

The Applicant proposes work on two levels, the 1013 level (to be established), and the 1370 level.

On the 1013 level at elevation 10,900 feet, (1) establish an adit level and drift northwestward 2,055 feet on the Union vein zone, (2) crosscut 400 feet in a northeasterly direction to intersect the Keystone vein, and (3) drift 500 feet north and 500 feet south on the Keystone vein.

On the present 1370 level, elevation 10,544 feet, (1) crosscut northeastward 400 feet to the Keystone vein from the present face of the 1370 level, and (2) drift northwestward 800 feet on the Keystone vein. Raises would be driven from both levels on the better showings of ore.

Aside from the record of production, the only justifications presented by the Applicant for the proposed work are the assays of samples obtained from the Union and Keystone veins, a grab sample from a dump, and an assay of drill core from a diamond drill hole which intersected a third vein (Berrien) about 750 feet northwest of the proposed target area. These assays are as follows:

Sample No.	Vein	Width	Oz. per ton Au	Oz. per ton Ag	% Pb	% Zn	% Cu
SK 3	Keystone	N.A.	tr.	0.22	0.02	0.05	0.14
SK 4	"	"	0.02	3.9	0.05	0.05	0.05
Sk 1	"	"	0.02	6.2	7.30	[illegible]	0.08
SK 2	"	"	tr.	3.4	0.80	0.20	0.02
S 2	"	"	tr.	5.2	0.10	0.05	0.08
Assay Average of Keystone samples			tr.	3.78	1.65	0.10	0.05
-	Union	Grab	tr.	16.6	0.10	0.05	4.2
-	Berrien	3.0 ft.	0.01	5.0	-	-	2.[illegible]

With the exception of the assay of the grab sample from a dump on the Union vein, these assays indicate that the tenor of the material sampled is much lower than the grade of ore produced to date and of reserves in present workings of the mine. The value per ton of ore produced to date based on present prices is about $35.00. On the same basis, the value per ton of material indicated from the cut samples is about $10.00--a value too low to warrant mining.

Assuming an average width of 4 feet, based on the reported width of the Union vein at the prospect dump shown on Exhibit D, and assuming that ore shoots may occupy from one-third to one-half of the vein zones, the reserve of possibly mineralized material present between the levels of the proposed workings and the surface is estimated to be as follows:

Vein	Tons @ 50% of vein	Tons @ 33% of vein
Keystone		
Sulphide	145,000	96,000
Oxide	106,000	71,000
Union		
Sulphide	95,000	54,000
Oxide	70,000	38,000

This estimate indicates that the potential reserves of sulphide material is about 250,000 tons, assuming the most favorable situation. The possible low grade of the material precludes consideration of this reserve for exploration or mining.

The Applicant restricts the project area (Item 2b) to "include all lands described above from the rail elevation (10,543.8 feet) at the 1370 level portal to the surface." Under this restriction there would be no opportunity to conduct additional exploration on lower levels or to obtain royalties from production obtained from lower levels if either situation should develop from the proposed exploration.

With the possible exception of collecting and assaying six surface samples, no prospecting or exploring appears to have been done by the Applicant in the area of the proposed project since the DMEA project was completed.

Expenditure of Government funds to explore the property as proposed by the Applicant is not justified because of the low tenor of material in the veins to be explored, and the limited possibilities for significant quantities of minable material in the veins.

Harold Kirkemo

Harold Kirkemo

cc: Director's Reading File
Division File
Economic Geology File
OME Docket
OME Reading File
OME Region III
Mr. Kirkemo

HKirkemo/gla 8-4-67

July 12, 1967

McFarland and Hullinger
P. O. Box 238
Tooele, Utah 84074

Subject: OME-6640

Gentlemen:

Your application for exploration assistance, dated June 13, 1967, submitted to our office at Denver, Colorado, has been assigned Docket No. OME-6640.

Please identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Frank E. Johnson
Chief, Office of
Minerals Exploration

Copy to Region III

McFarland & Hullinger
P.O. Box 238
Tooele, Utah

7. Estimate of Costs

EXPLORATION BY DRIFTING & RAISING
1370 Level

(a) Independent Contracts (none)

(b) Personal Services

Labor-Supervision-Consultants (services available:)	Daily Wage Rate	Wages/shift inc. O.T.	Shifts per mo.	Total Drifting & Crosscutting (6' x 7-1/2') Total Month	Cost/ft. Drift	Raising 5' x 7' (timbered) Shifts per mo.	Total Month	Cost/ft. Raise
Miner	$ 19.68	$ 21.32	156	$ 3,325.92		156	$ 3,325.92	
Motorman	19.68	21.32	26	554.32		26	554.32	
Pipe and Trackman	19.68	21.32	26	554.32		2	42.64	
Electrician	22.08	23.92	20	478.40		2	47.84	
Mechanic	22.08	23.92	20	478.40		2	47.84	
Compressor Man	19.68	21.32	26	554.32		---	------	
Shift Boss	750.00/mo.		20	577.00		2	57.70	
Engineer-Geologist	1100.00/mo.		20	846.00		2	84.60	
Accountant-Timekeeper	20.00	21.67	20	433.40		---	------	
Stenographer	17.04	18.46	13	239.98		1/2	9.23	
Sub-Total				$ 8,042.06	$ 25.78		$ 4,170.09	$ 20.85

(c) Operating Materials & Supplies

Explosives	$ 1,588.00	$ 5.09	$ 950.00	$ 4.75
Pipe - (comp. air & water)	724.00	2.32	464.00	2.32
Track	546.00	1.75	------	----
Compressed Air	262.00	.84	168.00	.84
Steel	1,067.00	3.42	684.00	3.42
Repair Parts & Shop Exp. *	1,366.00	4.38	876.00	4.38
Vent, pipe and power cables and hangers	702.00	2.25	450.00	2.25
Timber, Rock Bolts and Wedges	2,012.40	6.45	966.00	4.83
Sub-Total	$ 8,267.40	$ 26.50	$ 4,558.00	$ 22.79

(d) Operating Equipment*

2 - 12B Muckers	$ 7,050.00			
10 - 24 cu.ft. Rocker Dump Cars	5,625.00			
4 - Jackleg Drill Machines	3,300.00			
4 - Stoper Drill Machines	3,720.00			
4 - Vent Fans & Motors	1,995.00			
2 - Mancha Tram Motors & Chargers	7,908.00			
2 - Bean Pumps	1,077.00			
Surface Power Line (1100 ft., 10/4, Type SO)	470.25			
Total Equipment	$31,145.25			
$31,145.25 divided by 60 mos.		$ 519.08	$ 1.66	
Miscellaneous: Misc. supplies and small tools		$ 415.00	$ 1.33	$ 415.00 / $ 2.07
Payroll - Indirect:				
F.O.A.B.	4.40%			
Fed. Unemployment	.40%			
State Unemployment	.50%			
State Compensation	3.84%			
Group Insurance	1.27%			
Holiday & Vacation Pay	3.50%			
	13.91%	$ 1,118.65	$ 3.58	$ 580.06 / $ 2.90
10% Total Drifting Project Incl. Drift Timber**		$18,362.19	$ 58.85	$ 9,723.15 / $ 48.61
90% Total Drifting Project w/o Drift Timber		$16,348.80	$ 52.40	

* Repair Parts & Shop Expense
Includes: motors, trammers, compressors, mine cars, drill machines, pumps, shops and buildings.

* Operating Equipment
All equipment in good condition -- owned by McFarland & Hullinger, Market price based on 75% of new quote.

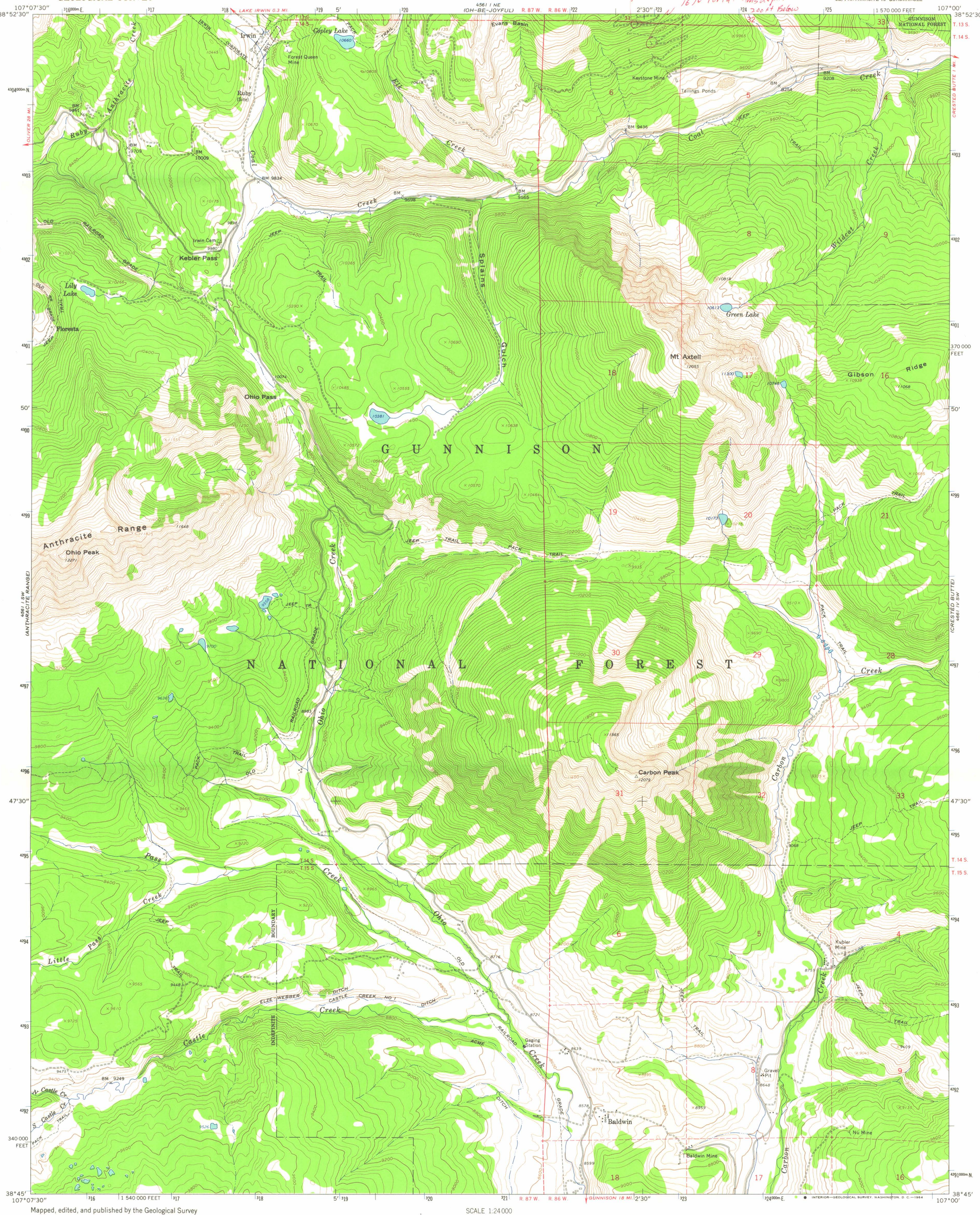
** Drift timber sets are assumed to be needed in only 10% of drifting proposed.

NOTE: Basis--3 shifts per day, 6 days per week. (Ave. 26 shifts/mo.)
Anticipated Drifting Advance 312 ft./mo.
Anticipated Raising Advance 200 ft./mo.

Received Oct. 3, 1967

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MT. AXTELL QUADRANGLE
COLORADO–GUNNISON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
SE/4 ANTHRACITE 15' QUADRANGLE



Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1958. Field checked 1961

Polyconic projection. 1927 North American datum
10,000-foot grid based on Colorado coordinate system, central zone
1000-meter Universal Transverse Mercator grid ticks, zone 13, shown in blue

Certain land lines are omitted because of insufficient data

UTM GRID AND 1961 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER 25, COLORADO OR WASHINGTON 25, D. C.
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

QUADRANGLE LOCATION

ROAD CLASSIFICATION
Light-duty — Unimproved dirt

MT. AXTELL, COLO.
SE/4 ANTHRACITE 15' QUADRANGLE
N3845—W10700/7.5

1961

AMS 4561 I SE—SERIES V877

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

GEOLOGIC QUADRANGLE MAP
OH-BE-JOYFUL QUADRANGLE, COLORADO
GQ-578

DESCRIPTION OF MAP UNITS

SURFICIAL DEPOSITS

Qal Alluvial deposits—stream and pond deposits of silt, sand, gravel, and cobbles.

Qf Alluvial fans—includes alluvial cone deposits.

Qt Talus deposits—talus cones, aprons, and scree slopes.

Qr Rock glaciers—includes active and inactive rubble streams and attendant talus deposits.

Qu Surficial deposits, undifferentiated—includes slope-wash, talus, glacial, landslide, and bog deposits.

Ql **LANDSLIDE DEPOSITS**— landslide and slump blocks.

Qm **GLACIAL DEPOSITS**— ground moraine, morainal ridges, and dissected till remnants.

Qg **OUTWASH GRAVEL**— water-deposited glacial debris which forms terraces.

la **LAMPROPHYRE DIKES**— dark altered dikes rich in mica and amphibole. Cut quartz monzonite porphyry in Paradise stock area. Age relative to dacite porphyry dikes not known.

dp **DACITE PORPHYRY DIKES**— gray to green porphyritic dikes that contain phenocrysts of hornblende, plagioclase, and biotite in a microcrystalline matrix of plagioclase, quartz, alkalic feldspar, and augite. Cut quartz monzonite porphyry and granodiorite porphyry dikes in Ruby Range. Similar dikes cut Miocene(?) volcanic rocks southwest of map area.

a **APLITE AND ALASKITE DIKES**— pink to white dikes which cut Paradise stock. Aplite and pegmatite veinlets also cut Augusta stock but are not mapped.

f **FELSITE**— white to light-gray altered quartz and feldspar rock rich in pyrite. Ferromagnesian minerals leached. Forms small breccia plug and dike in Redwell Basin.

qm **QUARTZ MONZONITE**— light-gray fine- to medium-grained rock containing quartz, plagioclase, alkalic feldspar, biotite, and hornblende. Ranges in composition from quartz diorite to quartz monzonite. Gradational into quartz monzonite porphyry. Forms Paradise stock and part of Augusta stock.

qmp **QUARTZ MONZONITE PORPHYRY**— light-gray porphyritic rock that contains large orthoclase and quartz phenocrysts and smaller plagioclase, biotite, and hornblende phenocrysts in a microcrystalline to fine-grained matrix of quartz and alkalic feldspar. Includes rocks intermediate in composition between quartz monzonite porphyry and granodiorite porphyry. Forms dikes, sills, laccoliths, and stocks.

wqp **WHITE QUARTZ PORPHYRY DIKES**— white dense porphyritic dikes with euhedral phenocrysts of quartz and altered feldspar in a sericitized groundmass. Probably equivalent to granite porphyry of Treasure Mountain dome. Cuts granodiorite porphyry and is cut by quartz monzonite of Augusta stock.

g **BIOTITE GRANODIORITE**— medium- to fine-grained granular rock that contains plagioclase, quartz, alkalic feldspar, biotite, hornblende, and small pyroxene crystals. Ranges in composition from quartz diorite to granodiorite. Forms early border phase of Mount Owen and Augusta stocks and dikes. Cut by other igneous rocks.

gp **GRANODIORITE PORPHYRY**— light-gray porphyritic rock that contains zoned plagioclase, hornblende, and biotite phenocrysts in a microcrystalline matrix of quartz, plagioclase, and alkalic feldspar. Forms dikes and sills. Includes altered and chloritized dikes and sills adjacent to the stocks of the Ruby Range.

Tw **WASATCH FORMATION** (about 1,700 ft; top eroded)—varicolored fine- to very coarse-grained lenticular and evenly bedded sandstone, siltstone, and mudstone; thick lenses of conglomerate and conglomeratic feldspathic sandstone in basal part. Generally metamorphosed to quartzite, argillite, and silty and argillaceous hornfels. Conglomerates are well cemented and are mainly andesitic, dacitic, gneissic, and granitic pebbles in very coarse angular argillaceous matrix, but include lenses of varicolored chert, quartz, quartzite, and fragmented mudstone pebbles. Lower part of formation may be Paleocene in age.

Toc **OHIO CREEK FORMATION** (about 400 ft)—upper part: light-gray to white friable medium-grained feldspathic conglomeratic sandstone. Pebbles are mainly chert, quartzite, and quartz, but a few igneous rock pebbles were found. Middle part: interbedded sandstone, siltstone, shale, and carbonaceous shale. Basal part: very thick and massive beds of light-gray to white feldspathic sandstone that locally contains pebble lenses and scattered pebbles like those in the upper unit; includes subordinate interbeds of sandy siltstone, silty shale, and carbonaceous shale.

Kmv **MESAVERDE FORMATION** (1,600 to 1,800 ft)—interbedded sandstone, shale, coal, and carbonaceous shale.

Kmvb Second sandstone unit (50–100 ft)—medium-gray to white thick-bedded massive fine- to medium-grained sandstone separated from basal sandstone unit (Kmva) by about 200 feet of dark-gray marine shale.

Kmva Basal sandstone unit (12–50 ft)—medium-gray to white generally thick-bedded and massive fine- to very fine-grained sandstone. Intertongues with upper member of Mancos Shale. Probably equivalent to Rollins Sandstone Member of Mesaverde Formation at type locality.

MANCOS SHALE (about 4,400 ft):

Kmu Upper member (about 4,100 ft)—mainly dark-gray laminated well-indurated silty marine shale. Contains interbeds of silty sandstone, sandy limestone, and carbonaceous shale in transition zone immediately below the Mesaverde Formation. Lower 700 feet is gray calcareous shale of Niobrara age. Locally metamorphosed to hornfels.

Kmf Fort Hays Limestone Member (80 ft)—dark-gray very thin- to thick-bedded dense fossiliferous limestone, shaly limestone, and limy shale.

Kml Lower member (about 230 ft)—grayish-black siliceous indurated shale, sandy shale, and fine-grained quartzitic sandstone.

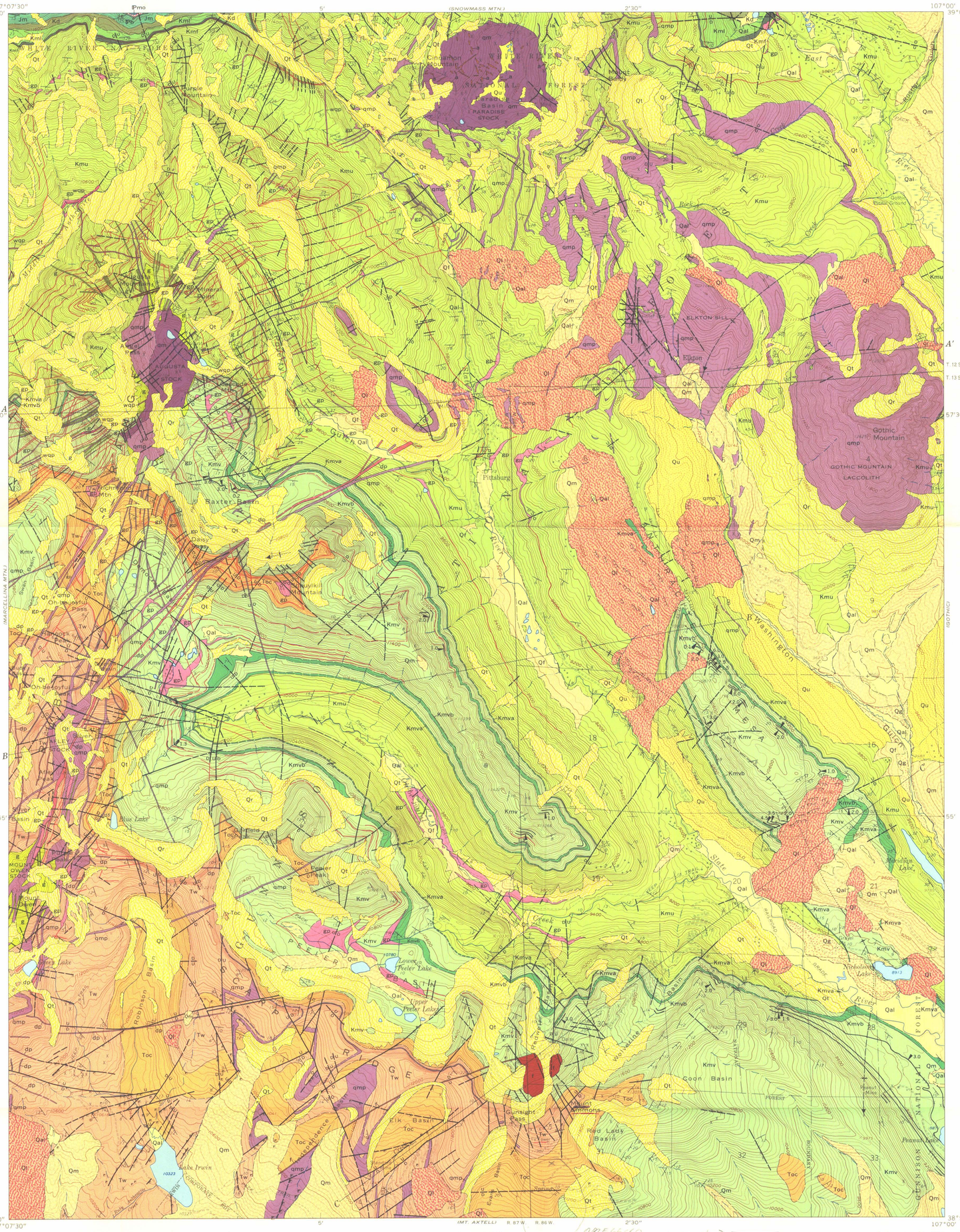
Kd **DAKOTA SANDSTONE** (about 215 ft)—gray to white thin- to very thick-bedded medium- to fine-grained quartzite; contains thin beds of dark silty shale metamorphosed to hornfels.

Jm **MORRISON FORMATION** (about 350 ft)—mainly varicolored thin-bedded mudstone, siltstone, shale, and marlstone. Includes white to gray fine- to medium-grained sandstone and thin lenticular beds of medium-gray limestone and sandy limestone near base. Beds metamorphosed to hornfels, quartzite, and marble.

Je **ENTRADA SANDSTONE** (about 30 ft)—light-gray to white fine-grained thick-bedded quartzite that contains scattered very coarse grains and granules and a few shale partings. Angular unconformity at base.

ℙb **BELDEN FORMATION** (0–100 ft, top eroded)—light- to dark-gray sandy cherty limestone, dolomitic limestone, and dolomite interbedded with gray to greenish-gray sandy siltstone and sandstone. Metamorphosed to marble, hornfels, and quartzite.

ℙmo **MOLAS FORMATION** (about 50 ft)—dark-green, reddish-gray, and black argillite, argillaceous siltstone, and sandstone. Variicolored nodules, pebbles, and fragments of chert and quartzite at base. Deposited on karst surface of Upper and Lower Mississippian Leadville Limestone. Metamorphosed to hornfels and quartzite. Thickness variable.



Base by U.S. Geological Survey, 1961

Geology mapped in 1964

SCALE 1:24 000

1 ½ 0 1 MILE

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL

APPROXIMATE MEAN DECLINATION, 1967

COLORADO

QUADRANGLE LOCATION

EXPLANATION

Qal Qf Qt Qr Qu — Surficial deposits
Qal, *alluvium*
Qf, *fan deposits*
Qt, *talus deposits*
Qr, *rock glaciers*
Qu, *surficial deposits, undifferentiated*

Ql — Landslide deposits

Qm — Glacial deposits
Circles indicate isolated patches of glacial deposits

Qg — Outwash gravel

UNCONFORMITY

la — Lamprophyre dikes

dp — Dacite porphyry dikes

a — Aplite and alaskite dikes

f — Felsite

qm — Quartz monzonite

qmp — Quartz monzonite porphyry

wqp — White quartz porphyry dikes

g — Biotite granodiorite

gp — Granodiorite porphyry

Tw — Wasatch Formation

Toc — Ohio Creek Formation

Kmv, Kmvb, Kmva — Mesaverde Formation
Kmvb, *second sandstone unit*
Kmva, *basal sandstone unit*

Kmu, Kmf, Kml — Mancos Shale
Kmu, *upper member; dots indicate base of prominent sandstone beds*
Kmf, *Fort Hays Limestone Member*
Kml, *lower member*

Kd — Dakota Sandstone

UNCONFORMITY

Jm — Morrison Formation

Je — Entrada Sandstone

UNCONFORMITY

ℙb — Belden Formation

ℙmo — Molas Formation

Recent; Pleistocene and Recent; Pleistocene; Upper Eocene(?) and younger; Eocene; Paleocene — QUATERNARY; TERTIARY

Probably younger than Green River Formation

Upper Cretaceous; Lower and Upper Cretaceous — CRETACEOUS

Upper Jurassic — JURASSIC

PENNSYLVANIAN; CARBONIFEROUS

2.0 — Coal bed
Thickness of coal, in feet, measured at triangle

Contact
Dashed where approximately located; short dashed where inferred

U D — Fault or shear zone
Dashed where inferred. U, upthrown side; D, downthrown side. Faults not shown under surficial cover

Anticline
Showing crestline, approximately located; dotted where concealed

Syncline
Showing troughline and direction of plunge; dashed where approximately located; dotted where concealed

15 — Strike and dip of beds

Horizontal beds

Slump and landslide scarps

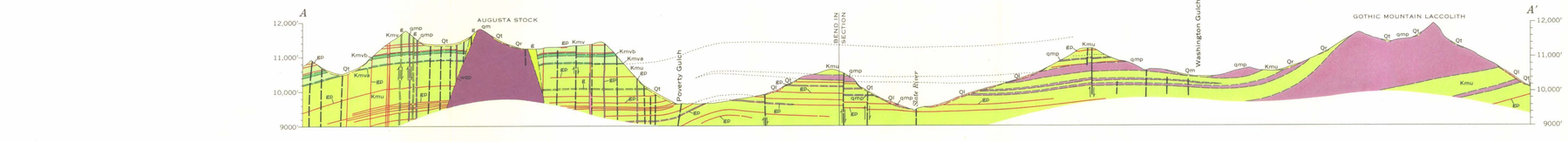
ECONOMIC GEOLOGY

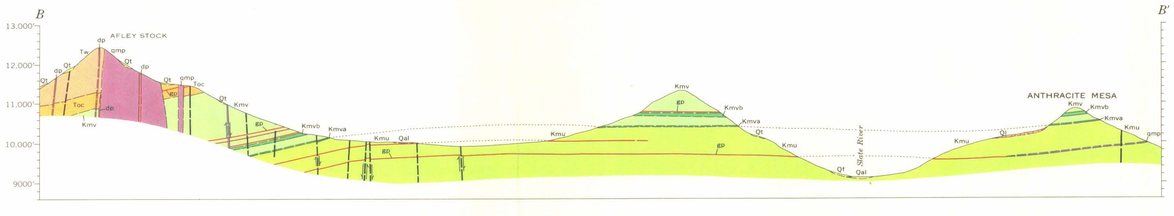
About six coal beds are found in a zone about 250 feet thick that overlies the second sandstone unit in the Mesaverde Formation. The coal is high volatile B bituminous and anthracite in rank; it has been mined at the Smith Hill Mine on Anthracite Mesa and the Peanut Mine along the Slate River. About 3 million tons of coal was produced from 1885 to 1954, but the coal mines have not operated since 1954. The coal was mined from beds 2 to 6 feet thick in the lower part of the coal-bearing interval. The writers estimate that original reserves of coal in beds over 14 inches thick with less than 1,000 feet of overburden total about 18 million tons.

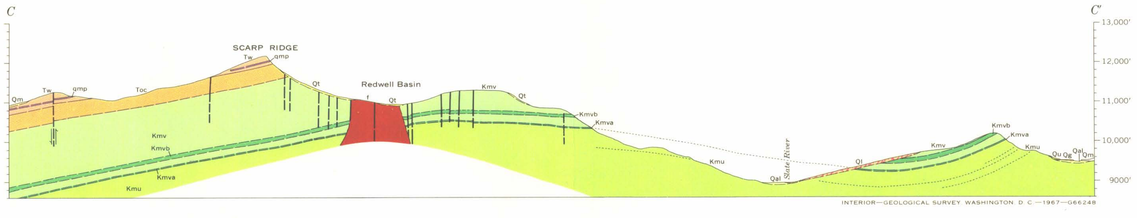
Zinc, lead, silver, copper, molybdenum, and iron-sulfide deposits containing gold are associated with the north-northeast-trending system of faults, dikes, and small stocks of the Ruby Range and the breccia plug in Redwell Basin. Most of the prospects and mines were originally worked in the 1870's and 1880's; only the Standard lead-zinc-silver mine and the Painter Boy gold-silver-lead mine were operating in 1964.

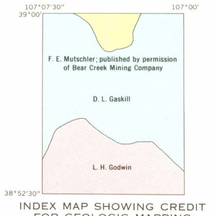
Prospects for oil or gas seem to be marginal due to metamorphism and induration of the sedimentary rocks by intrusion of igneous rocks.

Extensive deposits of sand and gravel locally floor or form terraces in the Slate River valley and Washington Gulch. Gravel from a pit near Nicholson Lake has been utilized for road metal and local construction for many years. Indurated Mancos Shale in the Paradise stock area is a potential source of road metal.









INDEX MAP SHOWING CREDIT FOR GEOLOGIC MAPPING

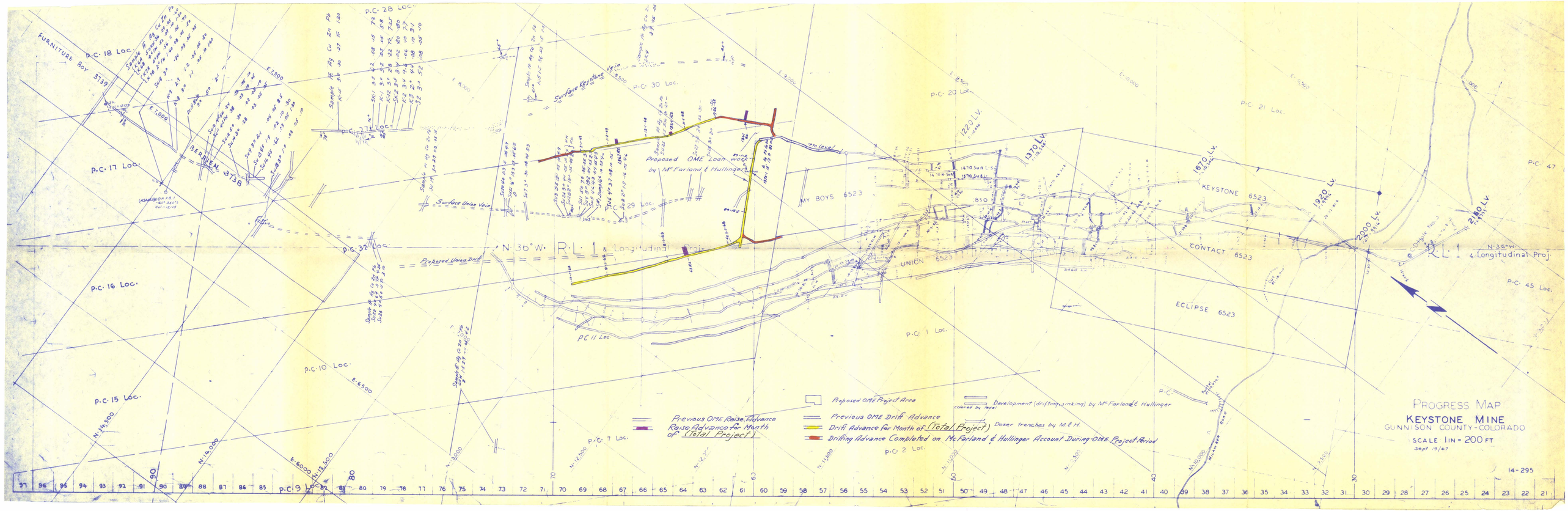
INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—1967—G66248

GEOLOGIC MAP OF THE OH-BE-JOYFUL QUADRANGLE, GUNNISON COUNTY, COLORADO

By
David L. Gaskill, Larry H. Godwin, and Felix E. Mutschler

1967

For sale by U.S. Geological Survey, price $1.00


PROGRESS MAP
KEYSTONE MINE
GUNNISON COUNTY-COLORADO
SCALE 1in = 200 FT
Sept 19/67
14-295
Proposed OME Project Area
Previous OME Raise Advance
Raise Advance for Month of (Total Project)
Previous OME Drift Advance
Drift Advance for Month of (Total Project)
Drifting Advance Completed on McFarland & Hullinger Account During OME Project Period
Development (drifting, sinking) by McFarland & Hullinger
Dozer trenches by M&H
Proposed OME Loan work by McFarland & Hullinger
Surface Keystone Vein
Surface Union Vein
Proposed Union Drift
R.L. 1 & Longitudinal Proj.
N 36° W
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CONTACT 6523
UNION 6523
ECLIPSE 6523
MY BOYS 6523
FURNITURE Roy 3739
BERLIN 3738
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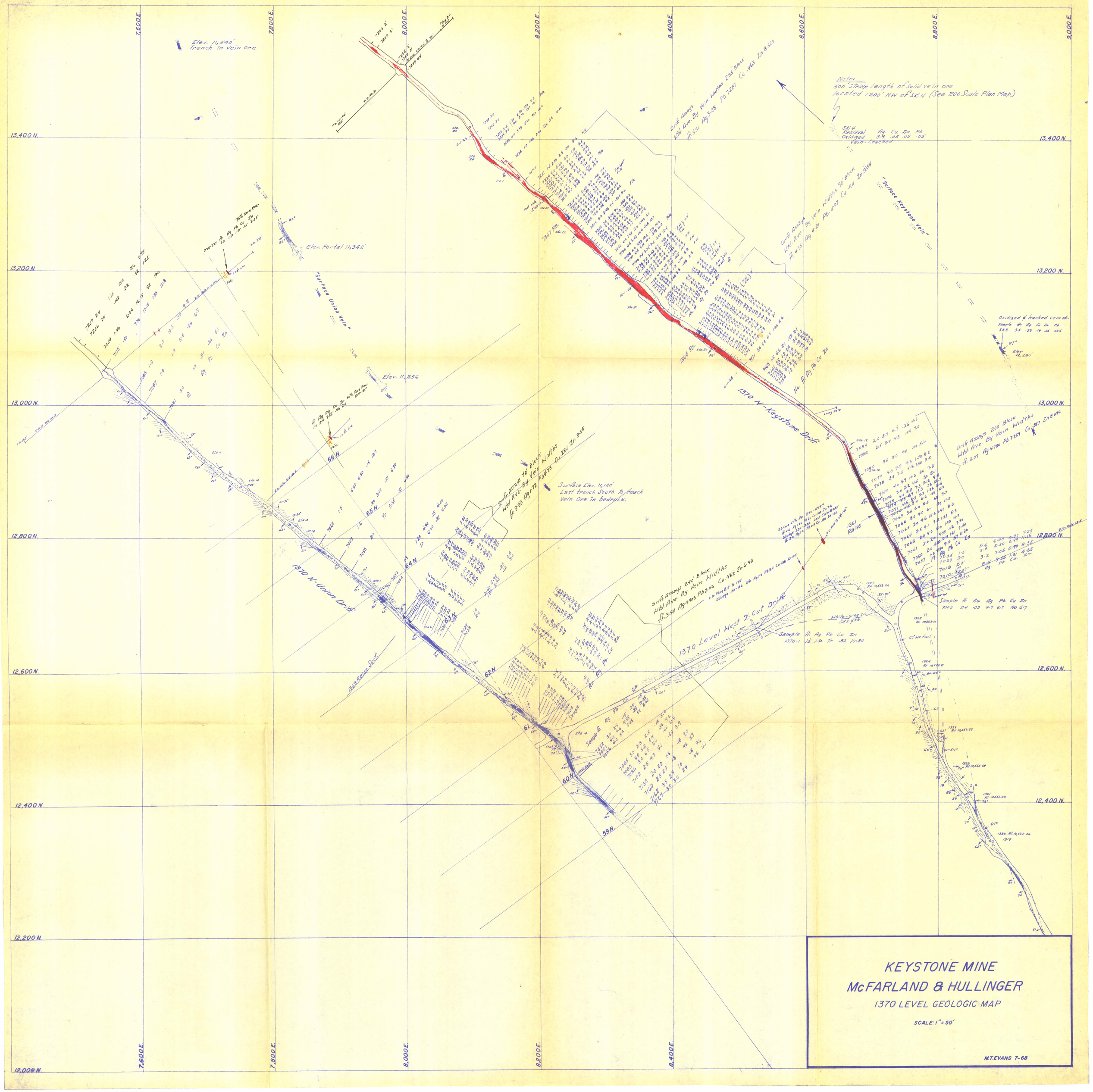
KEYSTONE MINE
McFARLAND & HULLINGER
1370 LEVEL GEOLOGIC MAP
SCALE: 1" = 50'
M.T. EVANS 7-68
1370 N-Keystone Drift
1370 N-Union Drift
1370 Level West X-Cut Drift
"Surface Keystone Vein"
"Surface Union Vein"
Elev. 11,540' Trench in Vein ore
Elev. Portal 11,342'
Elev. 11,256
Surface Elev. 11,120' Last trench South to reach Vein Ore in bedrock.
Note: 500' Strike length of Solid vein ore located 1200' NW of SK.4 (See 200 Scale Plan Map)
Drift Assays 200' Block Wtd Ave. By Vein Widths
Drift Assays 90' Block Wtd Ave. By Vein Widths
Drift Assays 295' Block Wtd Ave. By Vein Widths
Drift Assays 240' Block Wtd Ave. By Vein Widths
Drift Assays 70' Block Wtd Ave. By Vein Widths
1361 Raise
1363 Raise Sect.
13,400 N.
13,200 N.
13,000 N.
12,800 N.
12,600 N.
12,400 N.
12,200 N.
12,000 N.
7,600 E.
7,800 E.
8,000 E.
8,200 E.
8,400 E.
8,600 E.
8,800 E.
9,000 E.