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Murphy
Talbot
Selfridge

UNITE[redacted]
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

NOV - 8 1956

Melvin C. Bowles and A. L. Heflin, partners
d/b/a Bowles-Heflin Mining Company
1200 Chester Street
Aurora, Colorado

Re: Docket No. DMEA-3655 (Uranium)
Contract No. Ida-7899
J. V. Eavenson Lease
San Miguel County, Colorado

Gentlemen:

Reference is made to your exploration contract with the Government.

We sincerely regret that the work performed did not result in a certification of discovery or development under the provisions of the contract. In the absence of such certification, the Government retains no claim or lien against the property subject to the contract or any future production therefrom. We, therefore, are closing our books and records on this project. Your attention, however, is called to the provisions of the contract which require the operator to keep and preserve certain records for the period indicated.

Your interest in the DMEA exploration program and participation therein are fully appreciated.

Sincerely yours,

Frank E. Johnson

ACTING Administrator

cc to: John Griffin, Dove Creek, Colorado
S. M. Sisk, Dove Creek, Colorado
J. V. Eavenson, Almont, Colorado

FMMurphy/gla
11-6-56
cc to: Docket
Admr.'s Reading File
Contract Adm. & Audit Division
DMEA Field Team, Region III (2)
Code 700
Mr. Murphy

R.C.S.

DMEA 3655

DOCKET INDEX

ACTION DOCUMENTS

1. APPLICATION DATE RECEIVED 1-31-55

2. CONTRACT DATE 11-28-55

3. TERMINATION AGREEMENT: DATE

   a. Mutual (with/without repayment provision).
   b. Unilateral.
   c. Amendment with automatic termination clause and with/without repayment provision.

4. CERTIFICATION DATE

5. AUDIT REPORT DATE

6. AMENDMENTS - NUMBERS DATE

Docket copy

RECEIVED DEC 15 1955

MF-200
(Revised June 1954)

Docket No. DMEA 3655

Commodity Uranium

Contract No. Idm-E 899

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

EXPLORATION PROJECT CONTRACT[1]

It is agreed this NOV 28 1955 day of ....., 195...., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Melvin C. Bowles and A. L. Heflin, partners, doing business as Bowles-Heflin Mining Company, whose mailing address is 1200 Chester Street, Aurora, Colorado, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200), the attached Exhibit "A," Annex I, and map entitled Figure 2.

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

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

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] lessee of [5] mineral rights in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a [6] lease, [7] recorded in Book 223, page 102, official records of said County; and assigned to Bowles-Heflin Mng Co. on January 3, 1955.

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

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

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

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

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

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of Uranium. The work to be performed is described in Exhibit "A." The Operator on or before January 10, 1956, shall commence the work, and on or before May 1, 1956 (unless the Operator's obligation to prosecute the work is terminated—see Article 10) shall either have completed the work or shall have incurred allowable costs (see Article 6) in a sum not less than the estimated total allowable cost set forth in Exhibit "A.", except as provided in Exhibit "A" with respect to Stage II.

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

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

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

ARTICLE 5. *Contribution by the Government.*—The estimated total allowable cost of the project, set forth in Exhibit "A," is the sum of $19,228.00. The Government shall contribute 75 percent of the allowable costs as they are incurred in a total sum not in excess of $14,421.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last

voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work or not in excess of the amount of the Government's contribution to the cost of property which is or may become subject to disposal as provided in Article 9(c), whichever is greater. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 7(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. "Costs incurred" mean costs that have been paid or have become due and payable, or that in the opinion of the Government have become an obligation. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

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

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

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

CATEGORY (2)—PERSONAL SERVICES.

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

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

Subcategory (c)—Labor.

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

CATEGORY (4)—OPERATING EQUIPMENT.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 13. *Changes and added provisions.*—
Categories (2) through (7) of Article 6(a) are deleted.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By Frank E. Johnson

ACTING Administrator, Defense Minerals Exploration Administration

MELVIN C. BOWLES and
A. L. HEFLIN

d/b/a BOWLES-HEFLIN MINING COMPANY
(Operator)

By Melvin C. Bowles (Partner)

By A. L. Heflin (Partner)

Indrty Dwyer 11/22/55
"Appd. Sol. Off."
Murphy
Ellis
Talbert
Martin

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

.....

[CORPORATE SEAL]

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

EXPLORATION PROJECT CONTRACT
MELVIN C. BOWLES and A. L. HEFLIN, d/b/a
BOWLES-HEFLIN MINING COMPANY

RECEIVED
DEC 15 1955

DOCKET NO. DMSA-3655

ANNEX I

The land referred to in Article 2 of the contract is situated as follows:

North half of Northwest quarter ($N\frac{1}{2}$ $NW\frac{1}{4}$) and the Southeast quarter of the Northwest quarter ($SE\frac{1}{4}$ $NW\frac{1}{4}$) of Section 26, and the Northeast quarter of the Northeast quarter ($NE\frac{1}{4}$ $NE\frac{1}{4}$) of section 27, all in Township 43 North, Range 19 West, New Mexico Principal Meridian and Base Line. San Miguel County, Colorado

RECEIVED
DEC 15 1955

EXPLORATION PROJECT CONTRACT
MELVIN C. BOWLES and A. L. HEFLIN
d/b/a BOWLES-HEFLIN MINING COMPANY

DOCKET NO. DMEA-3655

EXHIBIT A

Description of the Work

The object of this project is to discover uranium ore deposits that might occur in the upper sandstone lens of the Salt Wash member of the Morrison formation which underlie the property described in Annex I. The method of exploration shall consist of core and plug drilling. To penetrate the ore-bearing sandstone lens will require drill holes ranging from 120 feet to 370 feet in depth.

The work shall be performed in two successive stages The Operator shall perform all the work under Stage I and, if in the opinion of the Government the results of the completed work under Stage I warrants further work, shall perform so much of the Stage II as is approved in advance in writing by the Government.

Stage I

The Operator shall bulldoze access roads and prepare nine (9) drill sites. The approximate locations of the drill sites are indicated on the attached map entitled "Figure 2. Map showing proposed hole locations on J. V. Haverson lease ...." One (1) hole shall be drilled from each drill site. The total footage allowed for drilling under Stage I shall not exceed 1890 feet, provided, however, that if the footage allowed under Stage I of this contract is not sufficient to complete the nine (9) holes authorized for Stage I, the Operator may if he first obtains written Government approval, use such part of the footage authorized for Stage II as may be necessary to complete the Stage I drilling.

Not more than 60 chemical analyses shall be made to determine the U_3O_8 and V_2O_5 content of samples procured during Stage I drilling.

Stage II

Stage II shall consist of bulldozing access roads and preparing not in excess of eighteen (18) drill sites in the vicinity of favorable and/or mineralized holes drilled during Stage I. One hole shall be drilled from each of these sites. In this Stage II those

holes drilled as offsets to Stage I holes in the west half of the northwest quarter of section 26 shall not be closer than 50 feet to any other drill hole; however, that the offset holes drilled in the northwest quarter of the northwest quarter of section 26 and in the northeast quarter of the northeast quarter of section 27 shall not be drilled closer than 100 feet to any other drill hole. The total footage allowed for drilling under Stage II shall not exceed 3780 feet, provided that if any footage allowed under Stage II is used for Stage I drilling, such footage shall be deducted from the footage allowed for Stage II.

Not in excess of one hundred and twenty (120) chemical analyses shall be made to determine the U_3O_8 and V_2O_5 content of samples procured during Stage II drilling.

General Provisions.

1. No hole drilled in either Stage I or Stage II shall be closer than 100 feet to the outer boundaries of the land described in Annex I of this contract.

2. A supervising geologist or mining engineer and one helper shall be employed full time while work is in progress under this contract.

3. The location of access roads and drill holes, the method of drilling and probing drill holes, and the method of taking and storing samples shall be subject to Government approval.

4. The Government shall not reimburse the Operator for the cost of any uncompleted hole, or any hole that bottoms with less than AX size core.

5. All holes shall be plug drilled to the inferred Brushy Basin-Salt Wash contact, from which horizon the holes shall be cored for a minimum depth of 120 feet, or until they penetrate into the underlying red mudstone which indicates the lower contact of the upper ore-bearing sandstone lens of the Salt Wash member of the Morrison formation.

6. All holes shall be logged geologically and probed for radioactivity. Records of such logging and probing, together with assay certificates shall be submitted to the Government with the Operator's monthly progress report.

7. Mineralized portions of the core shall be split, the Operator using one-half for assay purposes. The other half shall be stored for Government use with the rest of core in boxes properly labeled as to drill hole number. Markers shall be placed at proper places in the sections of core to indicate the depth represented. If feasible, the length of core used for an individual sample should not exceed 12 inches.

8. In Stage II no hole shall be started unless there is sufficient footage remaining in this contract to complete the hole to the above-mentioned target horizon, or unless the Operator agrees in writing to complete such a hole at his own expense.

Estimated Costs of the Project

Stage I

Actual Costs: 1/

Category (1) Independent Contracts

1) Access roads and drill sites, D-6 bulldozer or equivalent 24 hours work @ $12.50/hr. 2/	$ 300.00
Moving bulldozer on and off property - $30.00 each way	60.00
2) Flug-bit (non-core) drilling 670 feet @ $1.75/ft.	1,172.50
3) Core drilling, AK size or larger, 1220 feet @ $2.73/ft.	3,330.60

Fixed Unit Costs:

4) Incidental allowance for each foot of drilling completed 1890 feet @ $0.67/ft. 3/	1,266.30
5) 60 Chemical analyses for U_3O_8 and V_2O_5 content of samples @ $5.00/sample	300.00
	$6,429.40

Stage II

Actual Costs: 1/

Cagegory (1) Independent Contracts

1) Access roads and drill sites, D-6 bulldozer or equivalent 48 hours work @ $12.50/hr. 2/	$ 600.00

	Moving bulldozer on and off property - $30.00 each way	$ 60.00
2)	Plug-bit (non-core) drilling 1340 feet @ $1.75/ft.	2,345.00
3)	Core drilling, AX size or larger, 2440 feet @ $2.73/ft.	6,661.20

Fixed Unit Costs:

4)	Incidental allowance for each foot of drilling completed 3780 feet @ $0.67/ft. 3/	2,532.60	
5)	120 Chemical analyses for W_3O_8 and V_2O_5 content of samples @ $5.00/sample	600.00	
			$12,798.80

SUMMARY

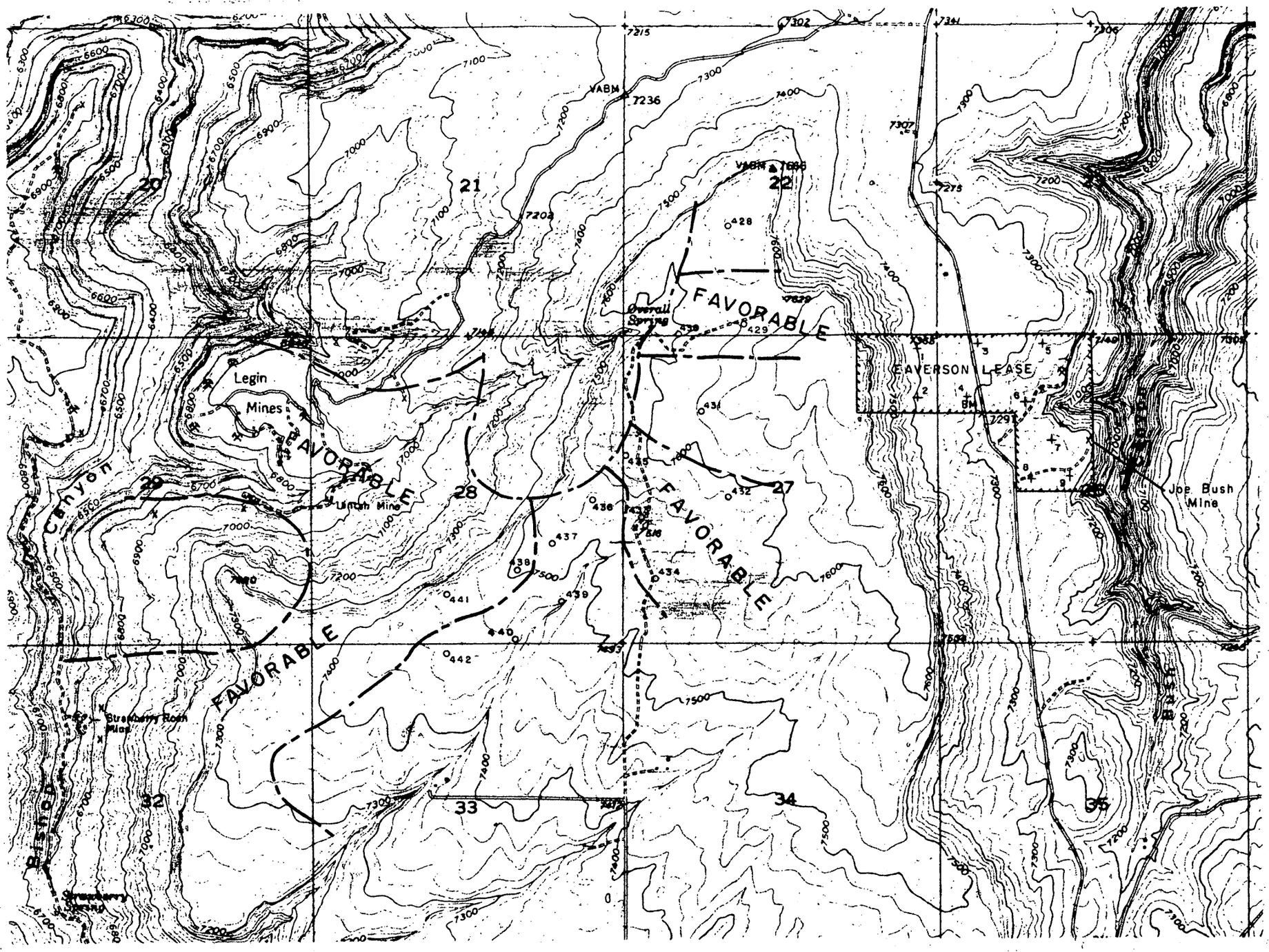
Total Estimated Cost Stage I	$ 6,429.40
Total Estimated Cost Stage II	12,798.80
Total Estimated Cost of the Project (rounded)	$19,228.00
Government Participation at 75 percent	$14,421.00

Stages I and II

1/ Categories (2) through (7) of Article 6(a) of the contract form do not apply to this contract.

2/ Includes all costs whatsoever applicable to construction of access roads and drill sites.

3/ Includes all costs whatsoever that are not included in the estimates for access roads, drill site preparation, drilling, and the fixed unit cost for analyses, and includes such items as supervision, engineering, sampling, probing drill holes, equipment rental, materials, supplies, etc.



EXPLANATION

OUTLINE OF KNOWN FAVORABLE AREA

BOUNDARY OF EAVERSON LEASE

MINE OR PROSPECT

DIAMOND-DRILL HOLE, U.S. GEOLOGICAL SURVEY

PROPOSED DIAMOND-DRILL HOLE

N

1000 0 2000 FEET

CONTOUR INTERVAL
20 FEET

DATUM IS MEAN SEA LEVEL

T. 43 N., R. 19 W.
S.L.M.

Note: BASE FROM U.S. GEOLOGICAL SURVEY QUADRANGLE MAP, EGWAR

Figure 2. MAP SHOWING PROPOSED HOLE LOCATIONS ON J. V. EAVERSON LEASE AND TRENDS OF FAVORABLE GROUND IN VICINITY, BOWLES-HEFLIN MINING CO. SAN MIGUEL COUNTY, COLORADO

RECEIVED
DEC 15 1955

MF-201
Revised March 24, 1955

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator _____
Docket No. DMEA- _____
Contract No. Idm-E _____
Contract Date _____

SUBORDINATION AGREEMENT

To the United States of America:

Referring to that certain land in the County of SAN MIGUEL, State of COLORADO, described as follows:1/

North one-half of Northwest one-fourth and Southeast one-fourth of the Northwest one-fourth of Section 26, and the Northeast one-fourth of the Northeast one-fourth of Section 27, all in Township 43 North, Range 19 West, New Mexico P. M.

which is the subject of a proposed exploration project contract, hereinafter called the "contract," with the United States of America, hereinafter called the "Government;" in consideration of the contract and as an inducement to the Government to enter into it, the undersigned hereby--

1. Subordinates whatever right, claim, lien or encumbrance the undersigned may have in or against the land to whatever interests, equities, and rights the Government may acquire under the contract (a) with respect to purchased property in or upon the land to the cost of which it has contributed, including the right to dismantle, sever, and remove it from the land; and (b) with respect to a percentage royalty on production from the land and a lien to secure the payment thereof; and

2. Undertakes and agrees (a) neither to commit any act nor assert any claim in conflict with the provisions of this Subordination Agreement; and (b) to give advance notice of this Subordination Agreement to any transferee of the right, claim, lien, or encumbrance hereby subordinated; and

3. Consents to all amendments and assignments of the contract without notice thereof, and agrees that this Subordination Agreement shall extend and apply thereto.

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

(OVER)

X Dated this 30th day of August, 1955.

X John Griffin [Seal]

X S. M. Slick [Seal]

[Seal]

I, _____, certify that I am the _____, (Secretary, etc.) of the corporation named herein; that _____ who signed this agreement was then _____ (President or Vice-President, 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]

MF-203
Revised March 24, 1955

RECEIVED
OCT 31 1955

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator _____
Docket No. DMEA- _____
Contract No. Idm-E _____
Contract Date _____

CONSENT TO LIEN

To the United States of America:

Referring to that certain land in the County of SAN MIGUEL, State of COLORADO, described as follows:1/

North one-half of Northwest one-fourth and Southeast one-fourth of the Northwest one-fourth of Section 26, and the Northeast one-fourth of the Northeast one-fourth of Section 27, all in township 43 North, Range 19 West, New Mexico P. M.

which is the subject of a proposed exploration project contract, hereinafter called the "contract," with the United States of America, hereinafter called the "Government;" in consideration of the contract and as an inducement to the Government to enter into it, the undersigned hereby--

1. 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;

2. Grants to the Government a lien upon all of the undersigned's right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of a percentage royalty on production as may be provided for by the contract;2/ and represents and undertakes that there are no claims, liens, or encumbrances upon the undersigned's right, title, or interest in the land prior to that hereby granted to the Government other than the following:3/

None

3. Undertakes and agrees neither to commit any act nor assert any claim in conflict with the provisions of this Consent to Lien; and to give advance notice of the Government's rights under this Consent to Lien to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, or interest in the land; and

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

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

3/ Write "none" if that is the case. Do not leave lines blank.

4. Consents to all amendments and assignments of the contract without notice thereof, and agrees that this Consent to Lien shall extend and apply thereto.

5. Added provision: None

Dated this 25th day of October, 1955.

John Griffin [Seal]

G. E. Everson [Seal]

[Seal]

I, _____ certify that I am the _____ (Secretary, etc.) of the corporation named herein; that _____ who signed this agreement was then _____ (President or Vice-President, 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]

27 23 43N

T.V. Eavenson - owner. ← 8% royalty

May 18, 1954 ① leased land to

John Griffen and S.M. Sisk.

② Assignment of lease. Feb. 8, 1954

John Griffen & S.M. Sisk, Assignors. 8% royalty

Alarado Mng Corp. Assignee

③ Assignment of lease Dec. 15, 1954

Alarado Mng Corp., assignor

Melvin C. Bowles, Assignee

No overriding royalties?

Surname copy

700

Murphy
Ellis
Talbot
Selfridge

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

NOV - 8 1956

J. V. Eavenson
Ilmont, Colorado

Re: Docket No. DMEA-3655 (Uranium)
Contract No. Idm-E899
Melvin C. Bowles and A. L. Heflin, partners,
d/b/a Bowles-Heflin Mining Company
J. V. Eavenson Lease
San Miguel County, Colorado

Dear Mr. Eavenson:

Reference is made to the Consent to Lien which you executed on October 25, 1955, in connection with the DMEA contract for an exploration project on your property located in San Miguel County, Colorado.

For your information, there is enclosed a copy of our letter of this date to Melvin C. Bowles and A. L. Heflin, partners, d/b/a Bowles-Heflin Mining Company, 1200 Chester Street, Aurora, Colorado, advising that the Government retains no claim or lien against the property described in the contract or on any future production therefrom.

Sincerely yours,

Frank E. Johnson
(es)
ACTING Administrator

Enclosure

FMMurphy/gla
11-6-56
cc to: Docket ✓
Admr.'s Reading File
Code 700
Mr. Murphy
DMEA Field Team, Region III (2)

Surname copy

Murphy
Wis
Talbot
Selfridge

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

NOV - 8 1956

Mr. John Griffin
Dove Creek, Colorado

Re: Docket No. DMEA-3655 (Uranium)
Contract No. Idm-E899
Melvin C. Bowles and A. L. Heflin,
partners, d/b/a Bowles-Heflin
Mining Company
J. V. Eavenson Lease
San Miguel County, Colorado

Dear Mr. Griffin:

Reference is made to the Subordination Agreement, dated August 30, 1955, and the Consent to Lien, dated October 25, 1955, which you executed in connection with the DMEA contract for an exploration project on the subject property located in San Miguel County, Colorado.

For your information, there is enclosed a copy of our letter of this date to Melvin C. Bowles and A. L.Heflin, partners, d/b/a Bowles-Heflin Mining Company, 1200 Chester Street, Aurora, Colorado, advising that the Government retains no claim or lien against the property described in the contract or on any future production therefrom.

Sincerely yours,

Frank E. Johnson
(esl)
ACTING Administrator

Enclosure

FMMurphy/gla
11-6-56
cc to: Docket
Admr.'s Reading File
Code 700
Mr. Murphy
DMEA Field Team, Region III (2)

RSL

Docket surname copy

Murphy
Ris
Talbot
Selfridge

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

Mr. S. M. Sisk
Dove Creek, Colorado

Re: Docket No. DMEA-3655 (Uranium)
Contract No. Idm-E899
Melvin C. Bowles and A. L. Heflin,
partners, d/b/a Bowles-Heflin
Mining Company
J. V. Eavenson Lease
San Miguel County, Colorado

Dear Mr. Sisk:

Reference is made to the Subordination Agreement which you executed on August 30, 1955, in connection with the DMEA contract for an exploration project on the subject property.

For your information, there is enclosed a copy of our letter of this date to Melvin C. Bowles and A. L. Heflin, partners, d/b/a Bowles-Heflin Mining Company, 1200 Chester Street, Aurora, Colorado, advising that the Government retains no claim or lien against the property described in the contract or on any future production therefrom.

Sincerely yours,

Frank E. Johnson
(Sgd.)
ACTING Administrator

Enclosure

FMMurphy/gla
11-6-56
cc to: Admr.'s Reading File
Docket
Code 700
Mr. Murphy
DMEA Field Team, Region III (2)

RCS.

Murphy

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

November 6, 1956

Project Summary Report

By: F. M. Murphy

1. Docket No. DMEA-3655 (Uranium)
Contract No. Idm-E899

Operator - Melvin C. Bowles and A. L. Heflin, partners,
d/b/a Bowles-Heflin Mining Company,
1200 Chester Street
Aurora, Colorado

Operator's Property Rights -

Lessee of: N½ of NW¼ and the SE¼ of the NW¼ of sec. 26, and the NE¼ of the NE¼ of sec. 27, all in T. 43 N., R. 19 W., San Miguel County, Colorado.

2. Contract: Dated November 28, 1955, no amendments.

Work Authorized -

	Stage I (9 holes)		Stage II (18 holes)	
	Units	Cost	Units	Cost
Bulldoze access roads and drill sites @ $12.50/hr.	24 hrs.	$300.00	48 hrs.	$600.00
Moving bulldozer	2 moves	60.00	2 moves	60.00
Plug bit drilling @ $1.75/ft.	670'	1,172.50	1340'	2,345.00
Core drilling @ $2.73/ft.	1220'	3,330.60	2440'	6,661.20
Incidental allowance @ $0.67/ft.	1890	1,266.30	3780	2,532.60
Chemical analyses for U_3O_8 and V_2O_5 @ $5.00	60	300.00	120	600.00
Total Costs		$6,429.40		$12,798.80

Total Estimated Cost of Project $19,228.20
Government Participation @ 75% $14,421.00

Work completed: Stage I only, plus extra drilling footage from Stage II:

	Units	Cost
Bulldoze access roads and drill sites	14	$175.00
Moving bulldozer	2	60.00
Plug bit drilling	705'	1,233.75
Core drilling	1551'	4,234.23
Incidental allowance	2256'	1,511.52
Chemical analyses	4	20.00
Total		$7,234.50

3. Audit Report of Review: Dated June 21, 1956

Total cost as billed by Contractor	$7,234.50
Esceptions: None	---
Total Accepted Cost	$7,234.50
Government Participation @ 75%	$5,425.88

Excerpts from final Field Team report (transmitted October 25, 1956):

The purpose of the project was to explore the top sandstone lens of the Salt Wash member of the Morrison formation.

As it appears on the southern edge of the property, the top Salt Wash sandstone is a single unit 30 to 40 feet thick; but northward it splits into two lenses separated by 10 to 20 feet of mudstone. The two lenses and the intervening mudstone have a maximum thickness of about 70 feet.

The Operator's original proposal was to drill 150 holes in 3 stages of 50 holes each. However, the field examiners recommended a modified program acceptable to theApplicant. The recommendation was based on: (1) favorable trends were thought to extend toward the property; (2) the property is located adjacent to good producing areas; (3) several minor occurrences of ore were noted on the property; and (4) over most of the area the potential ore-bearing sandstone is at a fairly shallow depth.

Only Stage I, consisting of 9 holes was completed. Probing showed weak mineralization in 4 holes. Geologically, the sandstone beds were favorable for uranium deposition, but no indications of significant mineralization were noted in the drill cores.

The drilling program started on January 3 and was completed on February 25, 1956. As a result of the drilling, the Operator felt that further drilling was not warranted and the field examiners and Field Team agreed with this conclusion. The contract was terminated on April 16, 1956, by a "Notice" from the Executive Officer, DMEA Field Team, Region III.

No significant mineralization was found by the DMEA drilling; therefore certification of the project was not recommended by the Field Team.

F. M. Murphy

F. M. Murphy

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

RECEIVED
OCT 29 1956

224 New Customhouse
Denver 2, Colorado

October 25, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket No. DMEA 3655 (Uranium), Contract No. Idm-E899, Bowles-Heflin Mining Company (J. V. Eaverson lease), San Miguel County, Colorado - FINAL REPORT

Enclosed are the original and three copies of a joint final engineering and geologic report, dated October 15, 1956, by N. L. Archbold, Geologist, Geological Survey, and H. F. Robertson, Mining Engineer, Bureau of Mines, and transmittal thereof, dated October 16, 1956, from E. N. Harshman and John F. Shaw.

The Operator's narrative report, included with form MF-104, Operator's Monthly Report and Voucher, for the month of February, 1956, was accepted as the Operator's final report.

The contract was terminated by Notice from this office, dated April 16, 1956, at the completion of Stage I, as the results of the work completed under Stage I indicated that participation by the Government in further exploration work under the contract was not warranted.

Final payment to the Operator was processed by this office July 6, 1956, in conformance with the Report of Review of reported project costs by the Contract Administration and Audit Division, dated June 21, 1956.

The exploration work completed consisted of 705 feet of non-core drilling and 1,551 feet of core drilling, at a total accepted cost of $7,234.50, toward which the Government contributed 75%, or an amount of $5,425.88.

Reviewed by
DMEA OPERATING COMMITTEE
11/2/56
(date)

The exploration work did not result in the discovery or development of a significant quantity of uranium ore. Therefore, Certification within the prescribed time was not recommended.

DMEA Field Team, Region III

W. M. Traver

E. N. Harshman

Enclosures

W.S.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

RECEIVED
OCT 20 1956

REGION III

Building 20
Denver Federal Center
Denver 2, Colorado
October 16, 1956

DMEA
DEPARTMENT OF THE INTERIOR
OCT 18 1956
REGION III
DENVER, COLORADO

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman
John F. Shaw

Subject: Final Engineering and Geologic Report, Docket DMEA 3655 (Uranium) Contract Idm-E899, Bowles-Heflin Mining Company, (J. V. Eaverson Lease) San Miguel County, Colorado

Enclosed are the original and nine copies of a final report by H. F. Robertson, mining engineer and N. L. Archbold, geologist, covering work performed under Contract Idm-E899.

The Bowles-Heflin Mining Company applied for DMEA aid in exploring for uranium ore under two land sections in San Miguel County, Colo. The exploration plan was to test the underlying Salt Wash member of the Jurassic Morrison formation, by drilling 27 holes in two stages. The 27 holes required 5,670 feet of drilling and the maximum cost was estimated to be $19,228.00.

Nine holes were drilled as the first stage of the plan. The holes penetrated rock that was considered to be lithologically favorable for the occurrence of uranium ore, but only very weak mineralization was shown. The 9 holes required 705 feet of non-core drilling and 1,551 feet of core drilling, or a total of 2,256 feet. The cost of the project was $7,234.50; the Government's participation being $5,425.92.

In as much as no significant indications of uranium mineralization were found, the operator did not believe further work was warranted. DMEA representative concurred in this belief and recommend termination of the contract without issuance of a certificate of discovery.

E. N. Harshman
Member Field Team

John F. Shaw
Supervising Mining Engineer

JFS:sh

cc: 9
ENHarshman
Idm-E899
Chron.

Reviewed by
DMEA OPERATING COMMITTEE
11/2/56
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
FRED A. SEATON, SECRETARY

RECEIVED
OCT 20 1956

DEFENSE MINERALS EXPLORATION ADMINISTRATION

JOINT FINAL REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

DMEA 3655

CONTRACT Idm-E899

BOWLES-HEFLIN MINING COMPANY

J. V. EAVERSON LEASE

SAN MIGUEL COUNTY, COLORADO

Uranium

Joint Final Engineering and Geologic Report

By

N. L. Archbold
Geologist
Geological Survey

H. F. Robertson
Mining Engineer
Bureau of Mines

October 15, 1956

Reviewed by
DMEA OPERATING COMMITTEE
11/2/56
(date)

RECEIVED
OCT 30 1956

DMEA 3655
CONTRACT Idm-E899

BOWLES-HEFLIN MINING COMPANY
J. V. EAVERSON LEASE
SAN MIGUEL COUNTY, COLORADO

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Joint final engineering and geologic report — Page

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DMEA 3655
CONTRACT Idm-E899

BOWLES-HEFLIN MINING COMPANY
J. V. EAVERSON LEASE, SLICK ROCK MINING DISTRICT
SAN MIGUEL COUNTY, COLORADO

RECEIVED
OCT 29 1956

INTRODUCTION AND SUMMARY

The Bowles-Heflin Mining Company applied for DMEA assistance in the exploration of their property, known as the Eaverson lease, by drilling 150 holes in three stages, the total drilling to be 25,000 feet. The estimated cost of its proposed project was $43,750.00. The examining team recommended a greatly modified program and a contract was approved for 27 holes, in two stages, requiring 5,670 feet of drilling to cost a maximum of $19,228.00. The purpose of the project was to test for uranium ore deposits that might occur in the upper sandstone lens of the Salt Wash member of the Jurassic Morrison formation which underlies the property.

No significant mineralization was found in any of the nine stage I holes completed, and it was concluded that the property does not warrant further exploration.

Certification of discovery is not recommended.

LOCATION AND ACCESSIBILITY

The J. V. Eaverson lease consists of a privately owned tract of land comprising secs. 26 and 27, T. 43 N., R. 19 W., New Mexico principal meridian, San Miguel County, Colorado. It is just west of Bush Canyon and its altitude ranges from 7,000 to 7,600 feet (fig. 1).

Colorado Highway 80 passes through the property at a point 15 miles north of Dove Creek, Colorado (fig. 1).

The climate of the district is semi-arid; the summers are warm and the winters moderate with infrequent periods of extreme cold. There may be heavy storms of short duration throughout the year with some snow accumulating in the winter months. However, surface drilling and underground operations are feasible during the entire year.

PROPERTY

The present owner, J. V. Eaverson, leased the property on January 12, 1954, to John Griffin and S. M. Sisk of Dove Creek, Colo. On February 8, 1954, John Griffin and S. M. Sisk assigned their lease to Alvarado Mining Corporation of Colorado. On December 15, 1954, Alvarado Mining Corporation assigned its lease to Melvin C. Bowles of Aurora, Colorado. The examining engineer verified those transactions by consulting the records at the San Miguel County Recorder's Office. Melvin C. Bowles assigned his lease to the Bowles-Heflin Mining Company on January 3, 1955.

GEOLOGY

The Eaverson lease is on the southwest flank of the Dolores anticline where the sedimentary beds dip approximately 2° to the southwest. The Late Jurassic Morrison formation forms the surface over most of the property, except on the extreme west side where there is a small area covered by the Early Cretaceous Burro Canyon formation. In Bush Canyon immediately to the east of the Eaverson property, the Jurassic, Pre-Morrison Summerville and Entrada formations are exposed. As all exploration was confined to the Morrison formation, it is the only lithologic unit described in detail in this report.

The Morrison formation is composed of two members, the Brushy Basin shale and the underlying Salt Wash sandstone. The Brushy Basin shale member consists of lenticular sandstones of limited extent interbedded with reddish-brown and greenish-gray shales and mudstones. The sandstones are quartzose to sub-arkosic and quite varied in character, ranging from quartzitic to loosely cemented and from conglomeratic to fine grained. Sandstone colors are varied, with reddish-brown and light red, gray , green, or yellow-brown being the most common. The Salt Wash sandstone member is composed of more continuous lenticular sandstones interbedded with reddish-brown shales and mudstones. Sandstones in the Salt Wash are sub-arkosic, moderately cemented and medium to fine grained, generally light reddish-brown or light yellow-brown to gray.

Nearly all ore deposits in the area occur in the top sandstone lenses of the Salt Wash. Locally there has been mineralization in the lower sandstone lenses of the Salt Wash and in the Brushy Basin, but such occurrences are not economically significant.

As it appears on the southern edge of the Eaverson property, the top Salt Wash sandstone is a single massive unit 30 to 40 feet thick; but northward it splits into two lenses separated by 10 to 20 feet of mudstone. The two lenses and the intervening mudstone have a maximum thickness of about 70 feet. Either of the two lenses might contain ore deposits and are referred to as the "ore-bearing sandstone".

The U. S. Geological Survey has defined criteria for predicting the favorableness of the ore-bearing sandstone for the occurrence of ore deposits. These criteria are: (1) sandstone 40 or more feet thick; (2) sandstone light gray to light yellow-brown in color; (3) altered

mudstone (greenish-gray rather than reddish-brown) associated with the sandstone, as pebbles and seams within the sandstone and in the underlying mudstone immediately at the base of the sandstone; (4) abundance of carbonaceous material within the sandstone.

THE PROJECT

The Eaverson property was recommended for a limited exploratory drilling program because: (1) favorable trends were thought to extend toward the property; (2) the property is located adjacent to good producing areas; (3) there was mineralization on the property as shown by several minor occurrences of ore; and (4) over most of the area the ore-bearing sandstone is at a fairly shallow depth.

The operator's proposed a first stage program of 50 holes, located on a 200- by 400-foot grid, requiring drilling a total of 10,000 feet. This was to be followed, if favorable results were obtained, by a second stage program of 50 holes, to be drilled on a 100- by 200-foot pattern, totaling 7,500 feet. If stage II drilling gave favorable results, a third stage would follow with holes to be drilled in 50- by 100-foot pattern, totaling 7,500 feet. The estimated total amount of drilling was for 150 holes, or a total of 25,000 feet, at an estimated cost of $43,750.00, with Government participation 75 percent, or $32,812.50. All drilling was to be non-core.

The examining team recommended Government participation in a greatly modified exploration program as follows:

(1) The drilling should be diamond-bit coring rather than non-coring type, because it is difficult to evaluate the favorableness of a sandstone

by examining the cuttings from a churn or rotary drill hole. Such vital information as abundance of carbonaceous material, color of mudstone pebbles and seams within the sandstone, and thickness of altered mudstone at the base of the sandstone is easily lost through non-core drilling. The Brushy Basin member was to be drilled by non-coring methods and the ore-bearing sandstone was to be core drilled.

(2) Only the top Salt Wash sandstone horizon was to be explored. The operator proposed to explore the next lower sandstone horizon because of a mistaken impression that the mines of the Legin Group were producing from that horizon. Actually the Legin mines are producing from the lower lense of the top sandstone horizon where it has been split by an intervening mudstone lense.

(3) The favorableness of the ore-bearing sandstone could be tested with much fewer than 50 holes. Nine holes spaced as shown on figure 2 were believed to be sufficient to determine favorable zones on the Eaverson property. If favorable areas were found, they were to be tested with a second stage of closer-spaced drilling.

Stage I, consisting of 9 drill holes located as shown on figure 2, was completed. The holes were probed in conformance with contract specifications. Very weak mineralization was noted in holes Nos. 1, 4, 5, and 6 as shown on table I. Geologically, the sandstone beds were favorable for uranium deposition, but no indications of significant mineralization were noted in drill hole cores.

The drilling program started on January 3, 1956, and was completed on February 25, 1956. The DMEA Field Team, Region III authorized the operator to transfer 35 feet of non-core drilling and 332 feet of core

drilling from stage II to stage I, to complete two of the holes under stage I of the contract. This was the only change in contract specifications. The transferred footage is taken into account in the contract maximums shown on table II.

SUMMARY OF FACTUAL DATA

Nine holes were completed and consisted of 705 feet of non-core drilling and 1,551 feet of core drilling. Unit costs of the drilling equaled those allowed under the contract. The total cost of the program was $7,234.50 and was fully approved for Government participation in the amount of $5,425.92.

CONCLUSIONS AND RECOMMENDATIONS

Stage I drilling was completed without finding any significant uranium mineralization. The operator did not consider stage II drilling advisable and did not request further work. The DMEA representatives in Grand Junction concurred and recommended termination of the contract without certification of discovery.

Table I -- Probing Results of U. S. G. S. Barnaby Equipment, Bowles-Heflin Mining Company, Eaverson Lease, Slick Rock Mining District, San Miguel County, Colorado, DMEA 3655, Idm-E899

Gamma-Ray Log Interpretations

Hole No.	Depth Drilled	Depth Logged *From To	Anomaly Detected *From To	Anomaly Thickness	Counts Per Minute	Grade % eU_3O_8
1	375.0	9.5 - 374.0	188.8 - 189.5	0.7	250	< 0.010
			190.9 - 191.6	0.7	480	0.015
			192.0 - 192.5	0.5	300	< 0.010
			240.2 - 241.1	0.9	1,000	0.036
			241.1 - 242.0	0.9	330	< 0.010
2	335.0	9.0 - 335.0	Barren			
3	273.0	10.0 - 248.0	Barren			
4	283.0	8.5 - 283.0	156.6 - 157.6	1.0	330	< 0.010
			158.2 - 160.1	1.9	300	< 0.010
5	220	9.0 - 219.0	160.8 - 162.1	1.3	260	< 0.005
6	177.5	9.9 - 172.0	26.6 - 27.1	0.5	250	< 0.010
7	194.0	9.9 - 192.0	Barren			
8	235.0	9.0 - 233.0	Barren			
9	167.0	9.0 - 165.0	Barren			

* From top to bottom depths

Table II — Summary of Costs, DMEA 3655, Contract Idm-E899, Bowles-Heflin Mining Company, Eaverson Lease, Slick Rock Mining District, San Miguel County, Colorado

Item	Unit	Allowed Units	Allowed Price	Jan. Operations Claimed and Approved Units	Jan. Operations Claimed and Approved Cost	Feb. Operations Claimed and Approved Units	Feb. Operations Claimed and Approved Cost	Entire Project Claimed and Approved Units	Entire Project Claimed and Approved Cost	Contract Maximums Units	Contract Maximums Cost
Stage I											
Non-core drilling	foot	705	1.75	525	$918.75	180	$315.00	705	$1,233.75	705	$1,233.75
Core drilling	foot	1552	2.73	645	1,760.85	906	2,473.38	1551	4,234.23	1552	4,236.96
Bulldozer work	hour	24	12.50	8	100.00	6	75.00	14	175.00	24	300.00
Moving charge	job	2	30.00	1	30.00	1	30.00	2	60.00	2	60.00
Incidental Allowance	foot	2257	0.67	1170	783.90	1086	727.62	2256	1,511.52	2257	1,512.19
Chemical analyses	each	60	5.00	4	20.00	-	-	4	20.00	60	300.00
TOTAL STAGE I				-	$3,613.50	-	$3,621.00	-	$7,234.50	-	$7,642.90
Stage II											
Non-core drilling	foot	1305	1.75							1305	2,283.75
Core drilling	foot	2108	2.73							2108	5,754.84
Bulldozer work	hour	48	12.50			NO STAGE II WORK				48	600.00
Moving charge	job	2	30.00							2	60.00
Incidental allowance	foot	3413	0.67							3413	2,286.71
Chemical analyses	each	120	5.00							120	600.00
TOTAL STAGE II											$11,585.30
TOTAL FOR CONTRACT					$3,613.50		$3,621.00		$7,234.50		$19,228.20

Government Participation in Approved Costs at 75 percent.....$5,425.92
Average Cost of Non-Core Drilling per foot.....$1.75
Average Cost of Core Drilling per foot.....$2.73
Average Overall Cost of Drilling per foot.....$2.42

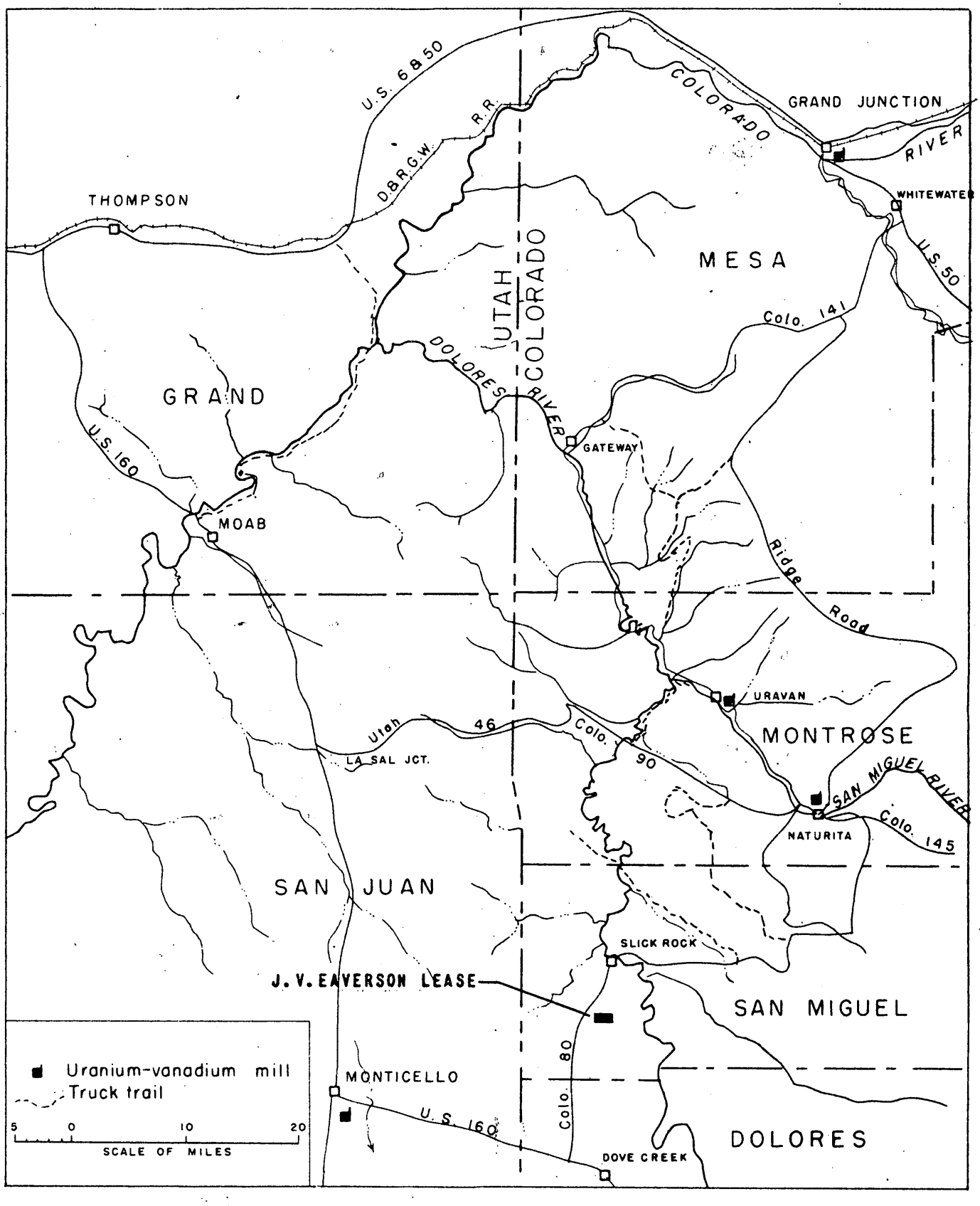
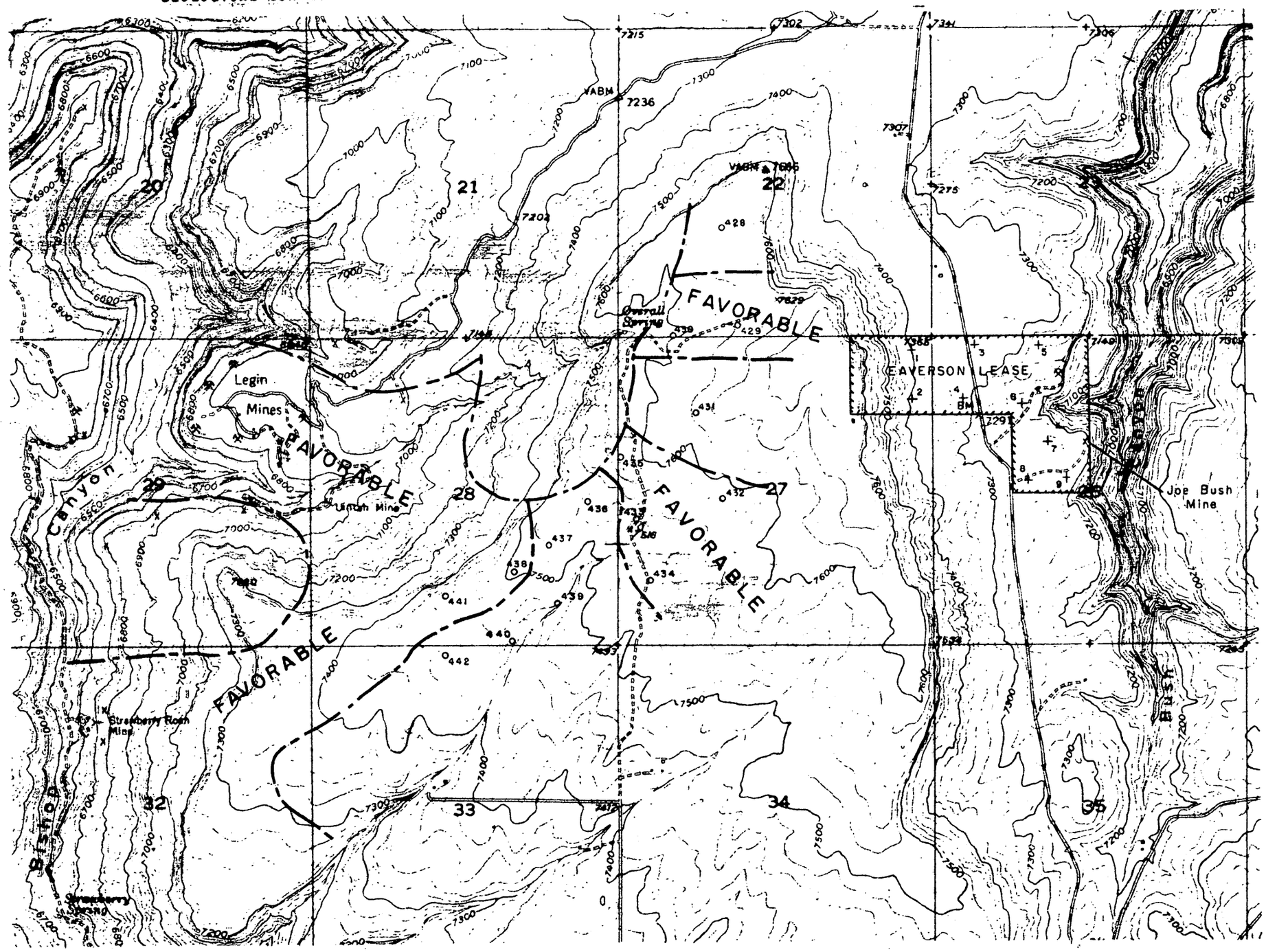


Figure 1. INDEX MAP OF PART OF COLORADO PLATEAU SHOWING LOCATION OF J. V. EAVERSON LEASE, BOWLES-HEFLIN MINING CO., SAN MIGUEL COUNTY COLORADO

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET NO. 3655



EXPLANATION

OUTLINE OF KNOWN FAVORABLE AREA

BOUNDARY OF EAVERSON LEASE

MINE OR PROSPECT

DIAMOND-DRILL HOLE, U.S. GEOLOGICAL SURVEY

PROPOSED DIAMOND-DRILL HOLE

N

1000 0 2000 FEET

CONTOUR INTERVAL
20 FEET

DATUM IS MEAN SEA LEVEL

T. 43 N., R. 19 W.
S.L.M.

Note; BASE FROM U.S. GEOLOGICAL SURVEY QUADRANGLE MAP, EGWAR

Figure 2. MAP SHOWING PROPOSED HOLE LOCATIONS ON J.V. EAVERSON LEASE AND TRENDS OF FAVORABLE GROUND IN VICINITY, BOWLES-HEFLIN MINING CO.
SAN MIGUEL COUNTY, COLORADO

Jackson

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

JUN 29 1956

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

Re: Docket No. DMEA-3655
Contract No. Idm-E899
Bowles-Heflin Mining Company

Dear Mr. Finch:

Receipt is acknowledged of the Washington copies of your Report of Review covering the referenced project.

This Report of Review is acceptable and normal distribution of all other copies is authorized. It is suggested, however, that in future similar cases (where part of the costs are on a unit and part on an actual basis) the reason (b) be changed to read:

"The Monthly Reports were supported by documentary proof of the costs incurred under contract provisions for contribution by the Government on the basis of actual costs incurred."

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers, Chief
Contract Administration
and Audit Division

EDTalbert/ama
June 29, 1956

Copies to: Docket
Admr. Reading File
Mr. Chambers

R.C.S.

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

RECEIVED
APR 1 1956

224 New Customhouse
Denver 2, Colorado

CERTIFIED MAIL

April 16, 1956

Messrs. Melvin C. Bowles
and A. L. Heflin, Partners,
d.b.a. Bowles-Heflin Mining Company
1200 Chester Street
Aurora, Colorado

Re: Docket DMEA 3655 (Uranium)
Contract Idm-E899

Gentlemen:

Because of the unfavorable results of the work performed under Stage I, the Government's approval for performance of the work under Stage II will not be forthcoming. Therefore, the Contract work can be considered as having been completed as of the completion of the work under Stage I on or about February 25, 1956.

Under the circumstances, the narrative report and other data forwarded by you with form MF-104, "Operator's Progress Report and Voucher," for the month of February, 1956, are considered adequate as your final report and satisfies the requirement under Article 7(c) of the contract form pertaining to such.

Very truly yours,

DMEA Field Team, Region III

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

JWT:prl
cc: Chairman, Oper. Comm. (4)
Finance Office, Region III
Amendment file
Harshman
Shaw (2)
Hasler
Townsend
Corres. file
Chron.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DMEA
Date Rec'd.
APR 3 1956
BUREAU OF MINES
Denver, Colorado

P. O. Box 360
Grand Junction, Colorado

March 29, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: John F. Shaw
E. N. Harshman

From: J. W. Hasler
M. H. Salsbury

Subject: DMEA 3655 (Uranium), Bowles-Heflin Mining Company, (J. V. Eaverson lease), San Miguel County, Colorado. Recommendations on contract termination

Stage I of the subject contract has been completed with completely negative results. The operator does not consider further exploration justified and is not requesting any stage II work. We concur in this decision.

The operator's narrative report for February 1956 gives a complete summary of project work and is suitable for his final report. If he will submit the required number of copies for this purpose, we recommend that it be accepted as such.

It is further recommended that contract Idm-E 899 be terminated without certification of discovery or development.

M. H. Salsbury
U. S. Bureau of Mines

J. William Hasler
Geological Survey

MHS/mlr

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

224 New Customhouse
Denver 2, Colorado

CERTIFIED MAIL

April 16, 1956

Messrs. Melvin C. Bowles
and A. L. Keflin, Partners,
d.b.a. Bowles-Keflin Mining Company
1200 Chester Street
Aurora, Colorado

Re: Docket DMEA 3655 (Uranium)
Contract I&m-E899

Gentlemen:

Because of the unfavorable results of the work performed under Stage I, the Government's approval for performance of the work under Stage II will not be forthcoming. Therefore, the Contract work can be considered as having been completed as of the completion of the work under Stage I on or about February 25, 1956.

Under the circumstances, the narrative report and other data forwarded by you with form MF-104, "Operator's Progress Report and Voucher," for the month of February, 1956, are considered adequate as your final report and satisfies the requirement under Article 7(c) of the contract form pertaining to such.

Very truly yours,

DMEA Field Team, Region III

W. M. Traver

E. N. Harshman

JWT:prl
cc: Chairman, Oper. Comm. (4)
Finance Office, Region III
Amendment file
Harshman
Shaw (2)
Hasler
Townsend
Corres. file
Chron.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 360
Grand Junction, Colorado

DMEA RECEIVED
Date Rec'd.
APR 3 1956

APR 13 1956
BUREAU OF MINES
Denver, Colorado

March 29, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: John F. Shaw
E. N. Harshman

From: J. W. Hasler
M. H. Salsbury

Subject: DMEA 3655 (Uranium), Bowles-Heflin Mining Company, (J. V. Eaverson lease), San Miguel County, Colorado. Recommendations on contract termination

Stage I of the subject contract has been completed with completely negative results. The operator does not consider further exploration justified and is not requesting any stage II work. We concur in this decision.

The operator's narrative report for February 1956 gives a complete summary of project work and is suitable for his final report. If he will submit the required number of copies for this purpose, we recommend that it be accepted as such.

It is further recommended that contract Idm-E 899 be terminated without certification of discovery or development.

M. H. Salsbury
U. S. Bureau of Mines

J. William Hasler
Geological Survey

MHS/mlr

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

RECEIVED
FEB 27 1956

224 New Custo mhouse
Denver 2, Colorado

February 23, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3655 (Uranium), Contract Idm-E899, Bowles-Heflin Mining Company, San Miguel County, Colorado

Enclosed are four copies of authorization by the DMEA Field Team, Region III, to transfer drilling footage from Stage II to Stage I to complete the remaining holes under Stage I.

Also enclosed are four sets of data relative to the matter.

W. M. Traver

W. M. Traver

Enclosures

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

RECEIVED
FEB 2 7 1956

224 New Customhouse
Denver 2, Colorado

February 20, 1956

Messrs. Melvin C. Bowles
and A. L. Heflin, Partners
d/b/a/ Bowles-Heflin Mining Company
1200 Chester Street
Aurora, Colorado

Re: Docket DMEA 3655 (Uranium)
Contract Idm-E899

Gentlemen:

Consistent with the provisions of the Contract, this constitutes confirmation of verbal approval of February 16, 1956, by the DMEA Field Team, Region III, for you to transfer 35 feet of plug-bit (non-core) drilling and 332 feet of core drilling from Stage II to Stage I, to enable completion of the two remaining holes under Stage I of the Contract.

Nothing in this work approval shall be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, the fixed unit cost of any item of work, nor any item of allowable cost which is expressly designated "Maximum."

Very truly yours,

DMEA Field Team, Region III

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

JWT:prl
cc: Chairman, Oper. Comm. (4)
Finance Office, Region III
Amendment file
Harshman
Shaw (2)
Hasler
Townsend
Corres. file
Chron.

DMEA
Date Rec'd.

FEB 20 1956

BUREAU OF MINES
Denver, Colorado

REGION III

Building 20
Denver Federal Center
Denver 2, Colorado
February 17, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

RECEIVED
FEB 27 1956

From: John F. Shaw

Subject: Request for transfer of drilling footage Contract Idm-2899
Bowles-Naflin Mining Company

Enclosed are the original and 4 copies of a request dated February 14, 1956, from the Bowles-Naflin Mining Company requesting that footage for plug-hit and core drilling be transferred from Stage II to Stage I in order to complete the two holes remaining to be drilled under Stage I.

This transfer of footage has the approval of the field engineer and geologist in Grand Junction, and oral approval was given to Mr. Bowles, February 16th, 1956 to permit drilling the two remaining holes under Stage I.

Please prepare a written authorization for this work as required by the contract.

JOHN F. SHAW

John F. Shaw
Supervising Mining Engineer

JFS/mr
Idm-2899
Chrono.

MINERAL DEPOSITS
DMEA
RECEIVED
FEB 20 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

DMEA
Date Rec'd.
FEB 21 1956

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. BOX 360
GRAND JUNCTION, COLORADO

February 14, 1956

BUREAU OF MINES
Denver, Colorado

Memorandum

RECEIVED
FEB 27 1956

To: Executive Officer, DMEA Field Team, Region III

Through: E. N. Harshman
John F. Shaw

From: M. H. Salsbury
J. William Hasler

Subject: DMEA 3655, contract Idm-E 899, Bowles-Heflin Mining Company, San Miguel County, Colorado. Recommendations on transferral of drilling footage from stage II to stage I.

Operations under the subject contract were inspected on February 10, 1956, by a DMEA examining team. Hole Nos. 1, 2, 4, 5, 6, and 7 had been completed (see contract map figure 2) and hole No. 3 was being drilled.

The contract calls for 670 feet of plug bit and 1220 feet of core drilling for a maximum of 1890 feet in stage I. The drilling done to date totals 645 feet of plug drilling and 1194 feet of core drilling (balance of hole No. 3 estimated) for a total of 1839 feet, 51 feet less than the maximum allowed.

The reason for the discrepancy between estimated and actual footage is a sandstone thickness averaging 170 feet encountered as compared with the allowed average coring distance of 135 feet. Average plugging distance in 7 holes has been 92 feet compared to the allowed average of 74 feet.

The drill cores on 7 holes were examined by the DMEA geologist and the sandstone thickness verified. The Geological Survey project chief in the Slick Rock district was consulted and recommended that 150 feet of coring be permitted in each of the two remaining holes in stage I.

While drilling to date has not disclosed anything significant except very slight mineralization in hole No. 1, it is believed that the drilling pattern in stage I should be completed in order to test every possibility of ore occurrence on the property.

It is, therefore, recommended that transferral of a maximum of 300 feet of core drilling and 100 feet of plug drilling from stage II to stage I be authorized to permit drilling of holes Nos. 8 and 9 as shown on figure 2 in the contract.

This memorandum confirms the recommendation made to E. N. Harshman by phone on February 13, 1956.

M. H. Salsbury
M. H. Salsbury
U. S. Bureau of Mines

J. William Hasler
J. William Hasler
U. S. Geological Survey

MHS/mlr

BOWLES-HEFLIN MINING COMPANY
1200 Chester Street
Aurora 8, Colorado

DMEA
Date Rec'd.
FEB 20 1956
BUREAU OF MINES
Denver, Colorado

February 14, 1956

Mr. John F. Shaw
U. S. Bureau of Mines
Room 137, Building 20
Denver Federal Center
Denver 2, Colorado

RECEIVED
FEB 27 1956

Re: Docket DMEA 3655 (Uranium)
Project Contract IDM-E899

Gentlemen:

We have completed seven (7) of the nine (9) drill holes authorized for Stage I of the drilling project on our J. V. Eavenson lease. We have used up six-hundred and fourty-five feet (645') of the six-hundred and seventy feet (670') of plug-bit (non-core) drilling authorized, and one thousand and two hundred and twelve feet (1,212') of the core drilling authorized.

This leaves us with two (2) more holes to be drilled for the Stage I part of the exploration project, but only twenty-five feet (25') of plug-bit (non-core) drilling and only eight feet (8') of core drilling in the footage authorized for Stage I.

It is presently estimated that it will require, not to exceed an additional thirty-five feet (35') of plug-bit (non-core) drilling, and three-hundred and thirty-two feet (332') of core drilling to complete these two remaining holes in Stage I.

Attached please find sketch map showing location of drill holes completed today, depths and location and estimated depths of two remaining holes to be drilled. All holes completed to-date except number one have proven to be completely blank, number one having a show of mineralization as shown in our January progress report.

We would very much appreciate a reply advising us as early as possible, if this additional footage can be allowed. The drilling contractor is presently standing by until we can find out, providing it does not take too long.

Sincerely yours,

Melvin C. Bowles

By Melvin C. Bowles, Partner
Bowles-Heflin Mining Company

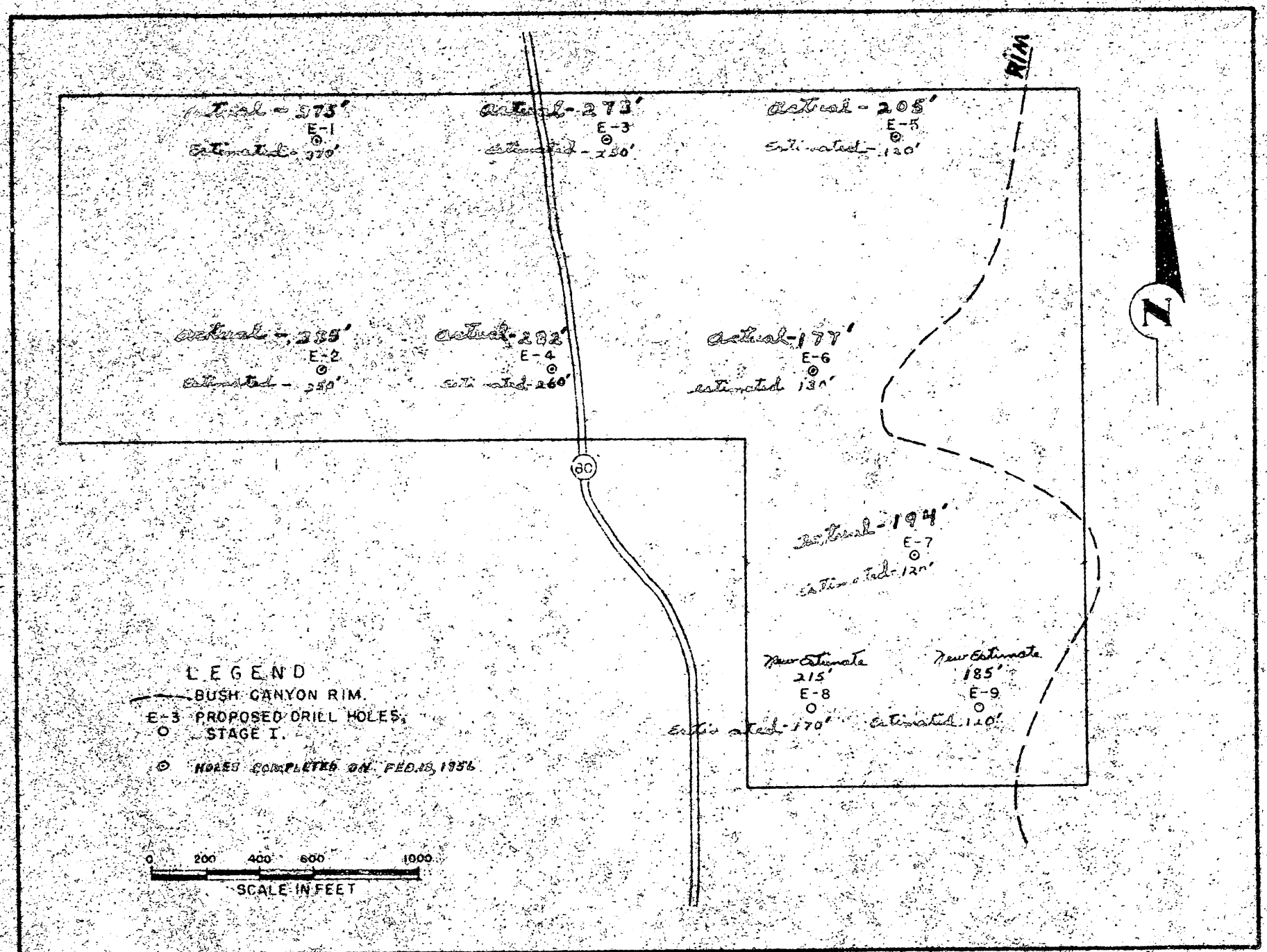
MCB:cls
Enclosure

Docket DMEA 3655 (Uranium) Project Contract IDM-E899

Status of Drilling on February 14, 1956

Drill Hole Number	Original Estimate	Total Drilled	Footage Plugged	Footage Cored	
1.	370'	375'	180'	195'	
2.	350'	335'	195'	140'	
3.	250'	273'	75'	198'	
4.	260'	283'	135'	148'	
5.	120'	220'	15'	205'	
6.	130'	177'	15'	162'	
7.	120'	194'	30'	164'	
8.	170'	Present Estimated	45'	170'	
9.	120'	Present Estimated	15'	170'	
Totals	1,890'	—	670'	1,220'	Original Estimated Footage
"	—	1,857'	645'	1,212'	Used first (7) Holes
"			60'	340'	Estimated for next (2) Holes
"			705'	1,552'	New Estimated Totals
"			35'	332'	Estimated Additional Needed

RECEIVED
FEB 27 1956



[redacted] - SKETCH MAP SHOWING PROPOSED DRILL HOLES, J.V. EAVERSON LEASE, BOWLES-HEFLIN MINING COMPANY, SAN MIGUEL COUNTY, COLO. DMEA 3655

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

RECEIVED
FEB 27 1956

224 New Customhouse
Denver 2, Colorado

February 20, 1956

Messrs. Melvin C. Bowles
and A. L. Haflin, Partners
d/b/a/ Bowles-Haflin Mining Company
1200 Chester Street
Aurora, Colorado

Re: Docket DMEA 3655 (Uranium)
Contract Idm-5899

Gentlemen:

Consistent with the provisions of the Contract, this constitutes confirmation of verbal approval of February 16, 1956, by the DMEA Field Team, Region III, for you to transfer 35 feet of plug-bit (non-core) drilling and 332 feet of core drilling from Stage II to Stage I, to enable completion of the two remaining holes under Stage I of the Contract.

Nothing in this work approval shall be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, the fixed unit cost of any item of work, nor any item of allowable cost which is expressly designated "Maximum."

Very truly yours,

DMEA Field Team, Region III

W. M. Traver

E. N. Harshman

JWT:prl
cc: Chairman, Oper. Comm (4)
Finance Office, Region III
Amendment file
Harshman
Shaw (2)
Hasler
Townsend
Corres. file
Chron.

DMEA
Date Rec'd.

FEB 20 1956

BUREAU OF MINES
Denver, Colorado

RECEIVED
FEB 27 1956

REGION III

Building 20
Denver Federal Center
Denver 2, Colorado
February 17, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw

Subject: Request for transfer of drilling footage Contract Idm-2899
Bowles-Moffin Mining Company

Enclosed are the original and 4 copies of a request dated February 14, 1956, from the Bowles-Moffin Mining Company requesting that footage for pinghit and core drilling be transferred from Stage II to Stage I in order to complete the two holes remaining to be drilled under Stage I.

This transfer of footage has the approval of the field engineer and geologist in Grand Junction, and oral approval was given to Mr. Bowles, February 16th, 1956 to permit drilling the two remaining holes under Stage I.

Please prepare a written authorization for this work as required by the contract.

JOHN F. SHAW

John F. Shaw
Supervising Mining Engineer

JFS/mr
Idm-2899
Chron.

MINERAL DEPOSITS
DMEA
RECEIVED
FEB 20 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

DMEA
Date Rec'd.
FEB 21 1956

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. BOX 360
GRAND JUNCTION, COLORADO

BUREAU OF MINES
Denver, Colorado

February 14, 1956

RECEIVED
FEB 27 1956
E. M. H.

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: E. N. Harshman
John F. Shaw

From: M. H. Salsbury
J. William Hasler

Subject: DMEA 3655, contract Idm-E 899, Bowles-Heflin Mining Company, San Miguel County, Colorado. Recommendations on transferral of drilling footage from stage II to stage I.

Operations under the subject contract were inspected on February 10, 1956, by a DMEA examining team. Hole Nos. 1, 2, 4, 5, 6, and 7 had been completed (see contract map figure 2) and hole No. 3 was being drilled.

The contract calls for 670 feet of plug bit and 1220 feet of core drilling for a maximum of 1890 feet in stage I. The drilling done to date totals 645 feet of plug drilling and 1194 feet of core drilling (balance of hole No. 3 estimated) for a total of 1839 feet, 51 feet less than the maximum allowed.

The reason for the discrepancy between estimated and actual footage is a sandstone thickness averaging 170 feet encountered as compared with the allowed average coring distance of 135 feet. Average plugging distance in 7 holes has been 92 feet compared to the allowed average of 74 feet.

The drill cores on 7 holes were examined by the DMEA geologist and the sandstone thickness verified. The Geological Survey project chief in the Slick Rock district was consulted and recommended that 150 feet of coring be permitted in each of the two remaining holes in stage I.

While drilling to date has not disclosed anything significant except very slight mineralization in hole No. 1, it is believed that the drilling pattern in stage I should be completed in order to test every possibility of ore occurrence on the property.

It is, therefore, recommended that transferral of a maximum of 300 feet of core drilling and 100 feet of plug drilling from stage II to stage I be authorized to permit drilling of holes Nos. 8 and 9 as shown on figure 2 in the contract.

This memorandum confirms the recommendation made to E. N. Harshman by phone on February 13, 1956.

M. H. Salsbury
M. H. Salsbury
U. S. Bureau of Mines

J. William Hasler
J. William Hasler
U. S. Geological Survey

MHS/mlr

BOWLES-HEFLIN MINING COMPANY
1200 Chester Street
Aurora 8, Colorado

DMEA
Date Rec'd.
FEB 20 1956
BUREAU OF MINES
Denver, Colorado

February 14, 1956

Mr. John F. Shaw
U. S. Bureau of Mines
Room 137, Building 20
Denver Federal Center
Denver 2, Colorado

RECEIVED
FEB 2 1956

Re: Docket DMEA 3655 (Uranium)
Project Contract IDM-E899

Gentlemen:

We have completed seven (7) of the nine (9) drill holes authorized for Stage I of the drilling project on our J. V. Eavenson lease. We have used up six-hundred and fourty-five feet (645') of the six-hundred and seventy feet (670') of plug-bit (non-core) drilling authorized, and one thousand and two hundred and twelve feet (1,212') of the core drilling authorized.

This leaves us with two (2) more holes to be drilled for the Stage I part of the exploration project, but only twenty-five feet (25') of plug-bit (non-core) drilling and only eight feet (8') of core drilling in the footage authorized for Stage I.

It is presently estimated that it will require, not to exceed an additional thirty-five feet (35') of plug-bit (non-core) drilling, and three-hundred and thirty-two feet (332') of core drilling to complete these two remaining holes in Stage I.

Attached please find sketch map showing location of drill holes completed today, depths and location and estimated depths of two remaining holes to be drilled. All holes completed to-date except number one have proven to be completely blank, number one having a show of mineralization as shown in our January progress report.

We would very much appreciate a reply advising us as early as possible, if this additional footage can be allowed. The drilling contractor is presently standing by until we can find out, providing it does not take too long.

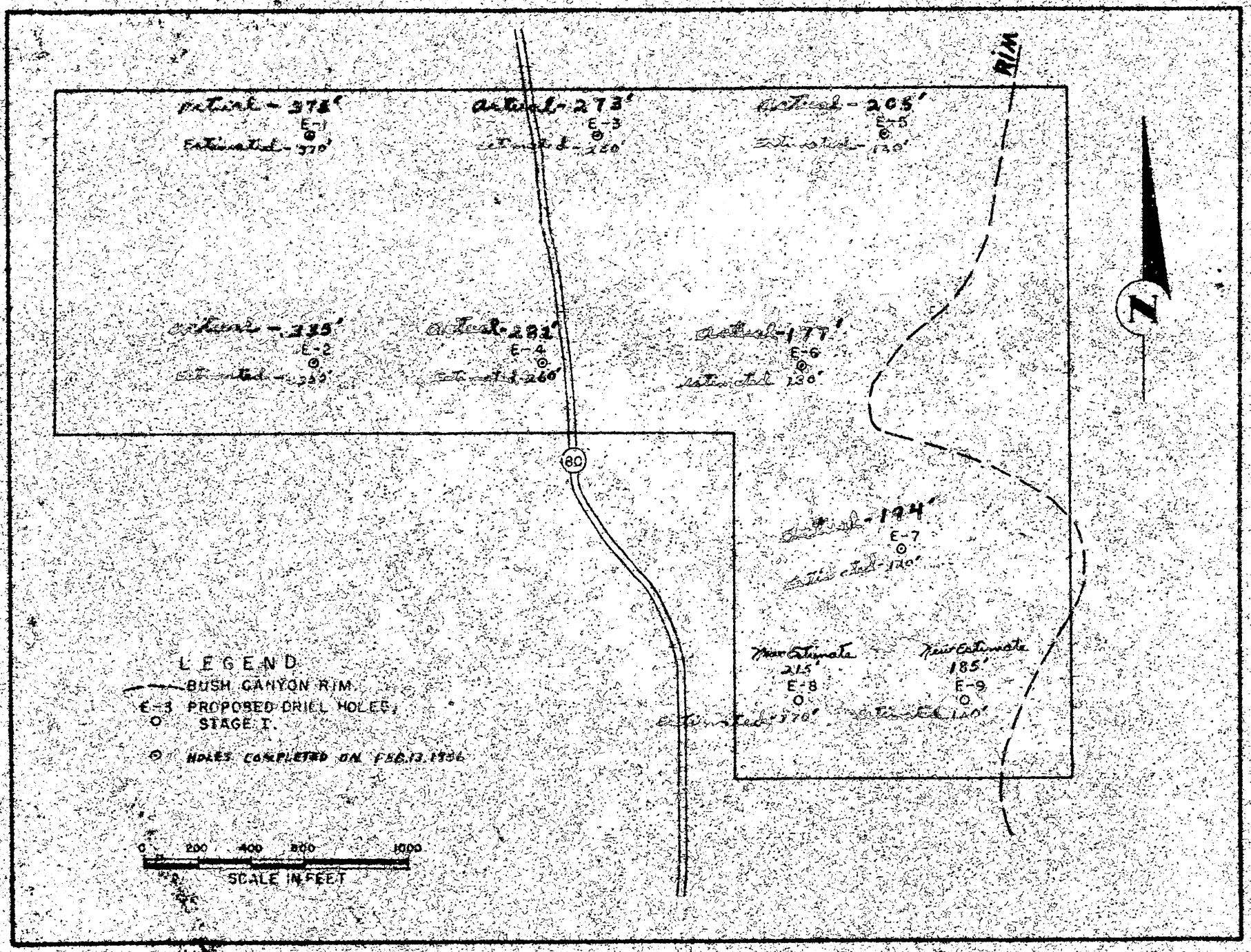
Sincerely yours,

Melvin C. Bowles

By Melvin C. Bowles, Partner
Bowles-Heflin Mining Company

MCB:cls
Enclosure

	[illegible]	[illegible]	120	170	
[illegible]	[illegible]	[illegible]	195	[illegible]	
[illegible]	[illegible]	[illegible]	75	195	
"	[illegible]	[illegible]	155	148	
[illegible]	[illegible]	[illegible]	15	201	
[illegible]	[illegible]	177	15	162	
[illegible]	120	144	30	164	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	120	[illegible]	[illegible]	[illegible]	
[illegible]	1,810		[illegible]	1,821	[illegible]
"		1,077	[illegible]	1,245	[illegible]
"			60	390	[illegible]
"			702	1,512	[illegible]
"			35	[illegible]	[illegible]



[redacted] - SKETCH MAP SHOWING PROPOSED DRILL HOLES, J.V. EAVERSON LEASE, BOWLES-HEFLIN MINING COMPANY, SAN MIGUEL COUNTY, COLO. DMEA 3655

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

RECEIVED
DEC 15 1955

224 New Customhouse
Denver 2, Colorado

December 12, 1955

Memorandum

To: Chairman, Operating Committee, DMEA

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3655 (Uranium), Contract Idm-E899, Bowles-Heflin Mining Company, San Miguel County, Colorado

Enclosed are the Governments, Division, and Docket copies of Contract Idm-E899, which was forwarded by your letter of November 28, 1955, for signature by the Operator and initialing of the change on page 2 of Exhibit "A".

Also enclosed are two copies of a letter from this office to the Operator forwarding him his copy of the Contract and providing instructions relative to reporting on the work performed under the Contract.

Copies of the contract have been given to the Finance Office, Region III, and distributed to other personnel concerned.

E. N. Harshman

E. N. Harshman

Enclosures

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

RECEIVED
DEC 15 1955

224 New Customhouse
Denver 2, Colorado

December 9, 1955

Messrs. Melvin C. Bowles and A. L. Heflin, Partners
d/b/a/ Bowles-Heflin Mining Company
1200 Chester Street
Aurora, Colorado

Re: Docket DMEA 3655 (Uranium),
Contract Idm-E899

Gentlemen:

Enclosed herewith is your copy of Exploration Project Contract No. Idm-E899, Docket DMEA-3655.

Also enclosed are six copies of form MF-104, "Operator's Monthly Report and Voucher," and six copies of form MF-104A, "Operator's Unit Cost and Progress Report." At the completion of the first calendar month of operation and monthly thereafter, you are required to submit five copies of the forms to Mr. John F. Shaw, U. S. Bureau of Mines, Room 137, Building 20, Denver Federal Center, Denver 2, Colorado. The sixth form is for your records.

Please note that the monthly accounting report requires a narrative report, which should be accompanied by maps or sketches showing the work performed. The narrative report must be signed by the operator. The monthly report will not be processed for payment unless accompanied by a narrative report. Additional copies of forms MF-104 and MF-104A will be forwarded to you each month on receipt of your completed report for the prior month.

The U. S. Geological Survey and the U. S. Bureau of Mines maintain a field office in the A.E.C. Compound at Grand Junction, Colorado. DMEA representatives of the two Services can be contacted as follows:

J. W. Hasler, U. S. Geological Survey
Telephone Grand Junction 3000, Extension 289

M. H. Salsbury, U. S. Bureau of Mines
Telephone Grand Junction 3000, Extension 274.

Both men can be reached by mail at:

Post Office Box 360, Grand Junction, Colorado.

For your information and in reply to many questions that have been asked, after forms MF-104 and MF-104A are received an engineer will check progress and approve your accounts, after which they will be sent to the Regional Office, Region III, U. S. Bureau of Mines, 224 New Customhouse, Denver 2, Colorado, for auditing and vouchering. If the report is in order, a check will be issued by the Treasury Department for the Government's portion of the costs. If you have any difficulty in completing these forms and the reports, please call on either the field representatives, Mr. Shaw, or this office for assistance.

In the matter of your claim for reimbursement of drilling costs, reimbursement to you under the terms of the contract will be on the basis of a hole or holes completed to the objective. Therefore, your monthly report should include only such holes that are completed. In that respect, your attention is specifically directed to items (4) and (6) of "General Provisions" section of Exhibit "A" attached to the contract.

The contract is prepared on form MF-200 and under the provisions of Exhibit "A", which is a part of the contract, the allowable costs are a combination of actual incurred costs, with an allowable maximum unit cost established for the work under Category (1) on all stages; and fixed unit costs for performing the remaining items of work or service. Under the provisions of the contract, the work under Category (1) is to be performed by subcontract. Your claim for reimbursement for such work must be supported each month by a copy of the billing from the Independent Contractor, or submit for our records a copy of the Subcontract Agreement.

In the event you desire to perform the work under Category (1) on company account, instead of subcontracting it as provided in the contract, it will be necessary that you obtain written approval from this office prior to commencing any of the work.

Your requests to this office for work approval, changes in the contract, or any other communication pertaining to operations under the contract, must be in writing, of which please supply the original and five copies, complete with the same number of maps or other pertinent data.

Your attention is directed to the provision that Stage II work is contingent on the results obtained from Stage I, and performance of the work under Stage II is subject to the prior written approval of the Government.

When Stage I has been completed, you should request approval from this office for the work you propose to perform under the next stage. Your request for the work approval must be in sextuplicate, complete with a map showing the location of the holes drilled under Stage I, the proposed location of holes to be drilled under Stage II, and the results of the work performed under Stage I, including assay returns and any other pertinent data which will be of value to the Government in evaluating the work performed under Stage I.

You should anticipate a suspension of operation between stages of work to enable the Government geologist and engineer to evaluate the results of the work performed and make their recommendations to this office relative to the additional work you propose.

To eliminate as much delay to operations as possible, if that is of serious consideration, you should expedite forwarding of the results of the work completed and your request for the Government's approval of the additional work you propose.

No oral statement of any person shall be construed to modify or change the terms of the contract. Field representatives of the Government are not authorized to approve any changes in the work program or contract provisions. Such approval can only be given by the Washington office, DMEA, or by the DMEA Field Team, Region III.

It is a regulation that reimbursement for the cost of work accomplished prior to the date of the contract will not be allowed. It is a requirement and imperative that you notify this office in writing the date work actually commences under the Contract, with a copy of your letter to Mr. Shaw.

Very truly yours,

E. N. Harshman
Acting Executive Officer
Field Team, Region III

By [illegible]

Enclosures

JWT:prl
cc: Chairman, Oper. Comm. (2)
Amendment file
Harshman
Shaw (2)
Baaler
Townsend
Corres. file
Chron.

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

RECEIVED
DEC 12 1955

224 New Customhouse
Denver 2, Colorado

CERTIFIED MAIL

December 7, 1955

Messrs. Melvin C. Bowles and A. L. Heflin, Partners
d/b/a Bowles-Heflin Mining Company
1200 Chester Street
Aurora, Colorado

Re: Docket DMEA 3655 (Uranium),
Proposed Exploration Project
Contract Idm-E899

Gentlemen:

Enclosed are the Government, Division, Docket, Finance Office and Field Team copies of Proposed Exploration Project Contract Idm-E899 which has been prepared pursuant to your application for Government assistance under the Defense Minerals Exploration Program.

If the contract is satisfactory to you all copies are to be signed by both partners as indicated and all copies returned to this office. In addition to signing the contract, please also initial the correction in the third line on page 2 of Exhibit A.

When all copies of the contract have been returned to this office properly executed, the "Operator's Copy" will be forwarded to you together with instructions pertaining to reporting on work performed under the contract.

You are cautioned that work performed prior to the date of the contract is not an allowable charge under the terms of the contract. In reference to the work under Stage 1, it states that the approximate locations of the drill sites are indicated on the attached map, Figure 2. Any appreciable change from the locations as indicated on the map is subject to prior approval by the Government.

JWT:jy
cc: Chair. Op. Comm. (2)
Harshman
Hasler
Shaw (2)
Townsend
Docket
Enclosures

Very truly yours,

E. W. Harshman

E. W. Harshman
Acting Executive Officer, DMEA
Field Team, Region III

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

RECEIVED
DEC 12 1955

224 New Customhouse
Denver 2, Colorado

CERTIFIED MAIL

December 7, 1955

Messrs. Melvin C. Bowles and A. L. Heflin, Partners
d/b/a Bowles-Heflin Mining Company
1200 Chester Street
Aurora, Colorado

Re: Docket DMEA 3655 (Uranium),
Proposed Exploration Project
Contract Idm-E899

Gentlemen:

Enclosed are the Governments, Division, Docket, Finance Office and Field Team copies of Proposed Exploration Project Contract Idm-E899 which has been prepared pursuant to your application for Government assistance under the Defense Minerals Exploration Program.

If the contract is satisfactory to you all copies are to be signed by both partners as indicated and all copies returned to this office. In addition to signing the contract, please also initial the correction in the third line on page 2 of Exhibit A.

When all copies of the contract have been returned to this office properly executed, the "Operator's Copy" will be forwarded to you together with instructions pertaining to reporting on work performed under the contract.

You are cautioned that work performed prior to the date of the contract is not an allowable charge under the terms of the contract. In reference to the work under Stage I, it states that the approximate locations of the drill sites are indicated on the attached map, Figure 2. Any appreciable change from the locations as indicated on the map is subject to prior approval by the Government.

JWT:jy
cc: Chair. Op. Comm. (2)
Harshman
Hasler
Shaw (2)
Townsend
Docket
Chron

Enclosures

Very truly yours,

E. N. Harshman

E. N. Harshman
Acting Executive Officer, DMEA
Field Team, Region III

FILE COPY
Surname: 700
Murphy
Ell
Talbert
Miller
Jeffrey

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

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

NOV 28 1955

Re: Docket No. DMEA-3655 (Uranium)
Bowles-Heflin Mining Company
J. V. Saverson Lease
San Miguel County, Colorado

Dear Mr. Traver:

Enclosed are the original and five copies of a proposed long-form contract between the Government and Bowles-Heflin Mining Company. Also enclosed are two extra copies of Exhibit "A".

If you and the Operator find the proposed contract in order, please insert in Article 3 of the contract form the date work shall commence; then have an authorized representative of the company sign the original and all copies. Thereafter, kindly distribute the copies in the usual manner.

If any part of this contract does not meet with your or the Operator's approval, then the original and all copies, including the extra copies of Exhibit "A", are to be returned to this office with the proposed changes for consideration.

P.S. Please have Operator when executing the contract initial all copies at line 3 of page 2 of Exhibit "A" to approve the change there.

Sincerely yours,

W. S. Martin By EST
ACTING Chairman, Operating Committee

Enclosures

FMMurphy/izm 11-23-55
cc to: Admr.'s Reading File
Operating Committee
Docket
Code 700
Mr. Murphy
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

APPROVED:

/s/ Robert W. Geehan By EST
Member, Bureau of Mines

N. E. Nelson By EST
Member, Geological Survey

P.G.

Surname Copy

700

Murphy

Ellis

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

November 2, 1955

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: F. M. Murphy, Mining Engineer
Rare and Miscellaneous Metals Division

Subject: Docket No. DMEA-3655 (Uranium)
Bowles-Heflin Mining Company
J. V. Lawanson Lease
San Miguel County, Colorado

Will you kindly prepare a long-term contract between the Government and the above-named company, in accordance with the attached draft.

FMM

F. M. Murphy

FMMurphy/izm
11/2/55
cc to: Docket
Code 700
Mr. Murphy

11/1/55 gla

October 26, 1955

RECEIVED
OCT 31 1955

United States Department of Interior
Defense Minerals Exploration Administration
Washington 25, D. C.

re: Docket No. DMEA 3655 (Uranium)
J. V. Eavenson Lease
San Miguel County, Colorado

Gentlemen:

Enclosed please find the following:

1. A copy of assignment of the J. V. Eavenson Lease from Melvin C. Bowles to the Bowles-Heflin Mining Company.

2. Six (6) executed copies of the Subordination Agreement forms, signed by John Griffin and S. M. Sisk.

3. Six (6) executed copies of the owner's consent to lien forms, signed by J. V. Eavenson, which incidentally when we received them today in the mail have also been signed by John Griffin.

I hope that the enclosed documents will be sufficient to permit you to complete the processing of our application.

Please contact me in the event that any additional information is needed.

Sincerely yours

BOWLES-HEFLIN MINING COMPANY

By Melvin C. Bowles
Partner and General Manager

MCB:ses
Enc.

RECEIVED OCT 31 1955

ASSIGNMENT OF MINING LEASE

THIS AGREEMENT, made and entered into this 3rd day of January, 1955, by and between MELVIN C. BOWLES of Aurora, Colorado, hereinafter referred to as the Assignor, and BOWLES-HEFLIN MINING COMPANY, a partnership, hereinafter referred to as the Assignee.

WITNESSETH:

THAT WHEREAS, on the twelfth day of January, 1954, a lease was made and entered into by and between J. V. Eavenson, as Lessor and John Griffin and S. M. Sisk, as Lessees, covering the following described properties situated in San Miguel County, Colorado, to-wit:

> North half of the Northwest Quarter (N1/2 NW 1/4) and the Southeast Quarter of the Northwest Quarter (SE 1/4 NW 1/4) of Section Twenty-six (26), and the Northeast Quarter of the Northeast Quarter (NE 1/4 NE 1/4) of Section Twenty-seven (27), all in Township Forty-three (43) North, Range Nineteen (19) West, N.M.P.M.

WHEREAS, said lease was recorded in the office of the County Clerk and Recorder of San Miguel County, Colorado on the eighteenth day of May, 1954 in Book 223 at page 102 of the records of said county; and

WHEREAS, on the eighth day of February, 1954, John Griffin and S. M. Sisk entered into a certain assignment of said lease to Alarado Mining Corporation; and

WHEREAS, said assignment was recorded in the office of the County Clerk and Recorder of San Miguel County, Colorado on the eighteenth day of May, 1954 in Book 223 at page 105 of the records of said county; and

WHEREAS, on the fifteenth day of December, 1954, Alarado Mining Corporation entered into a certain assignment of said lease to Melvin C. Bowles; and

WHEREAS, said assignment was recorded in the office of the County Clerk and Recorder of San Miguel County, Colorado on the seventeenth day of December, 1954 in Book 223 at page 477 of the records of said county; and

WHEREAS, said lease and all rights thereunder or incident thereto are now owned by Melvin C. Bowles;

NOW THEREFORE, for and in consideration of the sum of Ten ($10.00) Dollars and other good and valuable considerations to the said Assignor in hand paid by the said Assignee, the receipt whereof is hereby acknowledged by the Assignor, and in further consideration of the covenants and agreements herein contained, it is agreed as follows:

1. The Assignor, Melvin C. Bowles, does hereby grant, bargain, sell, convey and assign unto the Assignee, Bowles-Heflin Mining Company, its successors and assigns, the above-described Mining Lease and Assignments thereof, and the leasehold estate created thereby, and all rights, privileges and easements granted therein; to have and to hold said Mining Lease, leasehold estate and the rights, privileges and easements therein granted to the said Assignee, its successors and assigns, forever.

2. The Assignee shall keep and perform each and all of the terms and conditions of said mining lease on the part of the lessee therein to be kept and performed, and shall keep and perform all of the terms and conditions of that certain assignment from John Griffin and S. M. Sisk

to Alarado Mining Corporation on the part of the Assignee therein to be kept and performed.

3. The Assignee shall indemnify and save harmless the Assignor from all damages arising to the Assignor on account of the failure of the Assignee to keep and perform all the terms and conditions of the original lease and of the assignment from John Griffin and S. M. Sisk to Alarado Mining Corporation.

4. All royalties provided for by the terms of the original lease and of the assignment from John Griffin and S. M. Sisk to Alarado Mining Corporation shall be paid by the assignee in accordance with the terms of the original lease and the assignment thereof.

5. This assignment shall be binding upon and shall inure to the benefit of the heirs, executors, administrators, successors and assigns of the respective parties hereto.

IN WITNESS WHEREOF the parties hereto have caused these presents to be executed the day and year first above written.

Melvin C. Bowles
MELVIN C. BOWLES

ASSIGNOR

BOWLES-HEFLIN MINING COMPANY

By Melvin C. Bowles
Partner

ASSIGNEE

STATE OF COLORADO)
) ss.
County of Arapahoe)

The foregoing instrument was acknowledged before me this 3rd day of January, 1955 by MELVIN C. BOWLES.

Witness my hand and official seal.

My commission expires September 15, 1958.

Eleanor C. Foley
Notary Public

STATE OF COLORADO)
) ss.
County of Arapahoe)

The foregoing instrument was acknowledged before me this 3rd day of January, 1955 by MELVIN C. BOWLES as Partner of BOWLES-HEFLIN MINING COMPANY, a partnership.

Witness my hand and official seal.

My commission expires September 15, 1958.

Eleanor C. Foley
Notary Public

Draft
~~FLKKEEK~~
FMurphy:am
6-17-55

Docket

MF-200
(Revised June 1954)

Docket No. DMEA 3655

Commodity Uranium

Contract No. Idm-E

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

EXPLORATION PROJECT CONTRACT[1]

It is agreed this ..... day of ....., 195...., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Bowles - Heflin Mining Company, a partnership consisting of Melvin C. Bowles and A. L. Heflin,

whose mailing address is 1200 Chester Street
Aurora, Colorado,
hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200), the attached Exhibit "A," Annex I, and map entitled Figure 2.

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

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

(b) The Operator represents and undertakes that:

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

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

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

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

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

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

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of Uranium The work to be performed is described in Exhibit "A." The Operator on or before ~~[illegible]~~ shall commence the work, and on or before ~~January 1, 1956~~ May 1955 (unless the Operator's obligation to prosecute the work is terminated—see Article 10) shall either have completed the work or shall have incurred allowable costs (see Article 6) in a sum not less than the estimated total allowable cost set forth in Exhibit "A."

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

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

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

ARTICLE 5. *Contribution by the Government.*—The estimated total allowable cost of the project, set forth in Exhibit "A," is the sum of $ 19,228.00 The Government shall contribute 75 percent of the allowable costs as they are incurred in a total sum not in excess of $ 14,421.00 : *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last

voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work or not in excess of the amount of the Government's contribution to the cost of property which is or may become subject to disposal as provided in Article 9(c), whichever is greater. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 7(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. "Costs incurred" mean costs that have been paid or have become due and payable, or that in the opinion of the Government have become an obligation. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

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

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

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

CATEGORY (2)—PERSONAL SERVICES.

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

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

Subcategory (c)—Labor.

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

CATEGORY (4)—OPERATING EQUIPMENT.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 13. *Changes and added provisions.*—

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By .....

.....
(Operator)

By .....

.....

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

.....

[CORPORATE SEAL]

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

Draft
FMurphy:am
6-17-55

EXPLORATION PROJECT CONTRACT

BOWLES-HEFLIN MINING COMPANY

DOCKET NO. DMEA-3655

ANNEX I

The land referred to in Article 2 of the contract is situated as follows:

North half of Northwest quarter (N½ NW¼), Southeast quarter of the Northwest quarter (SE¼ NW¼) of Section 26, and the Northeast quarter of the Northeast quarter (NE¼ NE¼) of section 27, all in Township 43 North, Range 19 West, New Mexico Principal Meridian and Base Line, San Miguel County, Colorado

EXPLORATION PROJECT CONTRACT

BOWLES - HEFLIN MINING COMPANY

DOCKET NO. DMEA-3655

EXHIBIT "A"

Description of the Work

The object of this project is to discover uranium ore deposits that might occur in the upper sandstone lens of the Salt Wash member of the Morrison formation on the subject property. The method of exploration shall consist of core and plug drilling. To penetrate the ore-bearing sandstone lens will require drill-holes ranging from 120 feet to 370 feet in depth.

The work shall be performed in two successive stages. The Operator shall perform all the work under Stage I and shall perform so much of the Stage II as is approved in advance in writing by the Government, based upon the results of the completed work under Stage I.

Stage I

Stage I shall consist of bulldozing access roads and preparing nine (9) drill sites. The approximate locations of the drill sites are indicated on the attached map entitled "Figure 2. Map showing proposed hole locations on J. V. Eaverson lease..... ." From each of these sites one (1) hole shall be drilled. ~~Spacing of the holes may range from 700 to 1,100 feet.~~

Chemical analyses shall be made to determine the U_3O_8 and V_2O_5 content of samples procured during Stage I drilling.

Stage II

Stage II shall consist of bulldozing access roads and preparing

not in excess of eighteen (18) drill sites in the vicinity of favorable and/or mineralized holes drilled during Stage I. From these sites not in excess of eighteen (18) holes shall be drilled. In this Stage II those holes drilled as offsets to Stage I holes in the west half of the northwest quarter of section 26 shall not be closer than 50 feet to any other drill-hole. Furthermore, the offset holes drilled in the northwest quarter of the northwest quarter of section 26 and in the northeast quarter of the northeast quarter of section 27 shall not be drilled closer than 100 feet to any other drill-hole.

Not in excess of one hundred and twenty (120) chemical analyses shall be made to determine the U_3O_8 and V_2O_5 content of samples procured during Stage II drilling.

General Provisions

1. No hole drilled in either Stage I or Stage II shall be closer than 100 feet to the outer boundaries of the land described in Annex I of this contract.

2. A supervising geologist or mining engineer and one helper shall be employed full time while work is in progress under this contract.

3. The location of access roads and drill holes, the method of drilling and probing drill-holes, and the method of taking and storing samples shall be subject to Government approval.

4. The Government shall not reimburse the Operator for the cost of any uncompleted hole, and/or a hole that bottoms with less than AX size core.

5. All holes shall be plug-drilled to the inferred Brushy Basin-Salt Wash contact, from this horizon the holes shall be cored for a minimum depth of 120 feet, or until they penetrate into the underlying red mudstone which indicates the lower contact of the upper ore-bearing sandstone lens of the Salt Wash member of the Morrison formation.

6. All holes shall be logged geologically and probed for radioactivity. Records of such logging and probing, together with assay certificates shall be submitted to the Government with the Operator's monthly progress report.

7. Mineralized portions of the core shall be split, the Operator using one-half for assay purposes. The other half shall be stored for Government use with the rest of core in boxes properly labeled as to drill hole number. Markers shall be placed at proper places in the sections of core to indicate the depth represented. If feasable, the length of core used for an individual sample should not exceed 12 inches.

8. If the footage allowed under Stage I of this contract is not sufficient to complete the nine (9) holes authorized for this stage, then with previous written Government approval, a part of the footage authorized for Stage II may be used to complete the Stage I drilling.

9. In Stage II no hole shall be started unless there is sufficient footage remaining in this contract to complete the hole to the above-mentioned target horizon, or unless the Operator agrees in writing to complete such a hole at his own expense.

ESTIMATED COSTS OF THE PROJECT

Stage I

Actual Costs:

Category (1) Independent Contracts

1) Access roads and drillsites, D-6 bulldozer or equivalent 24 hours work @ $12.50/hr.	$300.00
Moving bulldozer on and off property $30.00 each way	60.00
2) Plug-bit (non-core) drilling 670 feet @ $1.75/ft.	1,172.50
3) Core-drilling, AX size or larger, 1,220 feet @ $2.73/ft.	3,330.60

Fixed Unit Costs:

4) Incidental allowance for each foot of drilling completed....1,890 feet @ $0.67/ft.	1,266.30
5) 60 Chemical analyses for U_3O_8 and V_2O_5 content of samples @ $5.00/sample	300.00
	$6,429.40

Stage II

Actual Costs: 1/

Category (1) Independent Contracts

1) Access roads and drill sites, D-6 bulldozer or equivalent 48 hours @ $12.50/hr. 2/	$600.00
Moving bulldozer on and off property $30.00 each way	60.00

ESTIMATED COSTS OF THE PROJECT

Stage II Cont'd

2) Plug-bit (non-core) drilling 1,340 feet @ $1.75/ft.	$2,345.00
3) Core-drilling, AX size or larger, 2,440 feet @ $2.73/ft.	6,661.20
Fixed Unit Costs:	
4) Incidental allowance for each foot of drilling completed .....3,780 feet @ $0.67/ft. 3/	2,532.60
5) 120 Chemical analyses for U_3O_8 and V_2O_5 content of samples @ $5.00/sample	600.00
	$12,798.80

SUMMARY

Total Estimated Cost Stage I	$6,429.40
Total Estimated Cost Stage II	$12,798.00
Total Estimated Cost of the Project(rounded)	$19,228.00
Government participation at 75 percent	$14,421.00

Stages I and II

1/ Categories (2) through (7) of the contract form do not apply to this contract.

2/ Includes all costs whatsoever applicable to construction of access roads and drill-sites.

3/ Includes all costs whatsoever that are not included in the estimates for access roads, drill site preparation, drilling, and the fixed unit cost for analyses, and includes such items as supervision, engineering, sampling, probing drill holes, equipment rental, materials, supplies,etc.

WORK SHEET

COSTS

Stage I

Independent Contracts

Bulldozer - Access Roads and drill sites	
24 hours @ $12.50/hr.	$300.00
Bulldozer - Moving on and off property.	60.00
Plug-drill 670' @ $1.75/ft.	1,172.50
Core-drill 1,220' @ $2.73/ft.	3,330.60
Incidentals	
1,890' @ $0.67/ft.	1,266.30

Eng. $600.00
helper 350.00
Materials 120.00
Rental equip. 125.00
Ins. and Taxes 82,27 (8.66%)
Total $1,277.27

Chemical analyses of 60 samples @ $5.00 each	300.00
	6,429.40

Stage II

Costs (18 holes - 3780') 2 month

Independent Contracts

Bulldozer - 48 hours @ $12.50	600.00
Bulldozer - move on and off property	60.00
Plug-drill 1,340' @ $1.75/ft.	2,345.00
Core " 2,440' @ $2.73/ft.	6,661.20
Incidentals	
3,780' $0.67/ft.	2,532.60
120 Analyses @ $5/each sample	600.00
	$12,798.80
$19,228.00*	
	6,429.40
*Rounded	$19,228.20

75% - $14,421.00

9/30/55 gla

September 27, 1955

RECEIVED
SEP 30 1955

United States Department of Interior
Defense Minerals Exploration Administration
Washington 25, D. C.

In Re: Docket No. DMEA 3655 (Uranium)
J. V. Eavenson Lease
San Miguel County, Colorado

Gentlemen:

In reply to your letter of September 23, 1955, I am sorry there has been this delay in getting the necessary documents to you so our application could be processed. However, the owner of the property, Mr. J. V. Eavenson, whose signature is required on the Consent to Lien forms, is on vacation on the west coast and as yet we have been unable to contact him regarding this matter.

I believe we will be able to contact Mr. Eavenson and get this material to you within the next ten days or so. We will make every effort to do so.

Sincerely yours,

BOWLES-HEFLIN MINING CO.

Melvin C. Bowles

By: Melvin C. Bowles,
Partner

MCB:f

Surname copy

Murphy
Ellis

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

SEP 23 1955

Mr. Melvin C. Bowles
Bowles-Heflin Mining Company
1200 Chester Street
Aurora, Colorado

Re: Docket No. DMEA 3655 (Uranium)
J. V. Ewerson Lease
San Miguel County, Colorado

Dear Mr. Bowles:

Reference is made to our letter of August 17, 1955, which listed four exhibits required to further process the captioned application. We will appreciate being advised the approximate date we may expect to receive these documents.

Sincerely yours,

SIGNED

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

FMurphy:mm - 9/22/55
Copy to: Adm. R. File
Docket
Mr. J. E. Crawford, Rm. 3641
Mr. T. H. Killsgaard, Rm. 5224
Mr. J. O. Hosted, Rm. 3210, GSA
Code 700
Mr. Murphy
DMEA Field Team, Reg. III (2)

R.L.S.

Code 700

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

Mr. Melvin [illegible] Coler
Coler-Meflin Mining Company
1700 Larimer Street
Aurora, Colorado

APR 7 1955

Re: Docket No. DMEA-[illegible] (Uranium)
J. T. Stevenson Lease
San Miguel County, Colorado

Dear Mr. Coler:

In order to further process your above-docketed application for aid in an exploration project, we require the following:

1. A copy of assignment of the J. T. Stevenson Lease from Melvin [illegible] Coler to the Coler-Meflin Mining Company;

2. Six (6) executed copies of the Owner's Consent to Lien Form, signed by J. T. Stevenson;

3. Six (6) executed copies of the Subordination Agreement Form, signed by John Minton and [illegible] Irk;

4. In the event that you retain an over-riding royalty in the assignment of the lease to Coler-Meflin Mining Company, we will also require six (6) executed copies of the Subordination Agreement signed by you.

We are enclosing one set of the Owner's Consent to Lien Form and two sets of the Subordination Agreement Form.

Upon our receipt the above-requested documents, and find them in order, we shall promptly continue to process your application.

Sincerely yours,

Ernest [illegible] Lile, Chief
Rare and Miscellaneous
Metals Division

Enclosures

cc to: Adm. Leading [illegible]
Docket
Reserve. Dufrayford, Jr. 3441
T. [illegible] Kilgrenard, Jr. 3221
J. [illegible] Sorted, Jr. 3210, RA
Code 700
Mr. [illegible] Murphy
[illegible] Gold Team,
Section III(2)

IN REPLY REFER TO:

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

August 19, 1955

Re: DMEA-3655
Bowles-Heflin Mining Co.
Eaverson Lease
San Miguel Co., Colo.
$20,022.60 - Uranium

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of memoranda re recommendations of the Field Team.

The requested reconsideration of the recommendations of the Field Team has elicited indifferent and somewhat confusing reaffirmations of the original opinions.

I concur, also halfheartedly, with the acceptance recommendations of the Field Team.

N. E. Nelson

N. E. Nelson

RECEIVED
AUG 19 1955

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

August 19, 1955

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Copy to: DMEA (3)

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IN REPLY REFER TO:

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

August 19, 1955

Re: DMEA-3655
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WASHINGTON 25, D. C.

August 19, 1955

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M. E. Nelson

M. E. Nelson

Copy to: DMEA (3)

RECEIVED
AUG 1 2 1955

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

August 18, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4445

From: John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Docket 3655, Bowles-Heflin Mining Company, Eavenson lease, San Miguel County, Colorado

I have reviewed the memoranda reports from Messrs. Hasler and Shaw and I have discussed them with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

We have no further comment to make regarding the application and report of examination, Bowles-Heflin Mining Company, DMEA Docket 3655; and we reiterate the position taken in our memorandum of June 23, 1955, that the recommendations of the field examiners be approved.

The memoranda are attached.

John E Crawford

John E. Crawford

Attachments

RECEIVED
AUG 18 1955

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

August 18, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4445

From: John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee

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BUREAU OF MINES
WASHINGTON 25, D. C.

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Attachments

RECEIVED
AUG 18 1955

CONFIDENTIAL

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

224 New Customhouse
Denver 2, Colorado

August 10, 1955

Memorandum

To: Chairman of the Operating Committee

From: Field Team, Region III

Subject: Docket DMEA-3655 (Uranium), Bowles-Heflin Mining Company, Eavenson lease, San Miguel County, Colorado

Enclosed are four copies of memoranda reports which are in reply to the questions asked in your letter of July 11, 1955.

We recommend limited exploration.

W. M. TRAVER,

W. M. Traver

E. N. Harshman

E. N. Harshman

DMEA Field Team, Region III

Enclosures

RECEIVED
AUG 15 1955

DMEA
Date Rec'd.
AUG 10 1955

MINERAL DEPOSITS
DMEA
RECEIVED
AUG 8 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
COLORADO PLATEAU DISTRICT
P. O. BOX 360
GRAND JUNCTION, COLORADO

BUREAU OF MINES
Denver, Colorado

August 2, 1955

Memorandum

To: E. N. Harshman, Supervising Geologist, DMEA Field Team, Region II

From: J. William Hasler

Subject: DMEA 3655 (Uranium) Bowles-Heflin Mining Company, J. V. Eavenson lease, Slick Rock mining district, San Miguel County, Colorado

In reply to the inquiries of the Operating Committee with reference to the favorability of the drilling under DMEA program, we have the following data:

The Operating Committee has asked if there are any indications that mineralization may extend westerly into the property from the adit and incline and several open cuts along the east rim of the J. V. Eavenson lease. In the 100-foot adit, known as the Joe Bush mine, the mineralized material looked very good. The open cuts and the incline were rather poorly exposed at the time of the examination and looked to be only favorable or semifavorable for ore. However, there is considerable mineralized material along the east edge of the rim on the Eavenson lease. Results of USGS exploration drilling has established an east-west trending favorable belt of ground extending from the Legin group on the west to the Spud Patch area on the east. There are definite indications that mineralization may extend from the east rim from the Eavenson lease westerly into the property. The nearest hole drilled by the Survey, (LE-429) lies about 1,500 feet west of the Eavenson lease and this hole was classified as favorable. The Survey drilling on 1,000-foot centers west of the subject property found no ore or mineralized material, but the ground was classified as being favorable, which, I believe, is enough of an indication to warrant at least some drilling. As was stated in my memorandum of July 22, this property is considered a borderline case and there may be a probability of making a significant discovery; and, again, the property may prove to be a dud.

This, I believe, will answer the questions of the Operating Committee in their memorandum of July 11.

J. William Hasler
J. William Hasler,
Geologist

JWH/mlr

MINERAL DEPOSITS
DMEA
RECEIVED
JUL 26 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. BOX 360
COLORADO PLATEAU DISTRICT
GRAND JUNCTION, COLORADO

July 22, 1955

Memorandum

To: E. N. Harshman

From: J. William Hasler

Subject: DMEA 3655 (Uranium) Bowles-Heflin Mining Company, J. V. Eaverson lease, San Miguel County, Colorado

In reply to your request for comments on the recommendations for approval of the subject application I have the following information:

In reviewing the geologic report by N. L. Archbold, I received the impression that there is as good a chance of the zone of favorability to extend into the area covered by the Eaverson lease as there is for the ground to become only semifavorable. However, in conversation with Mr. Archbold regarding this application he is of the opinion that the chance of finding ore in significant quantities is a border-line case; that is, the property could have been denied as easily as it was approved in the field. The application had been previously reviewed with Mr. Harshman, in May, by Mr. Archbold, and it was felt that in view of the fact that the Eaverson lease is in a rather favorable area insofar as producing property is concerned, it will be just as well to approve the program for Government assistance.

In answer to Mr. N. E. Nelson's comments of June 21, the proposed holes as outlined by Mr. Archbold appear to be as wisely set out as is now possible and that a spacing of holes 500 feet apart is not excessive in this type of a Morrison sandstone deposit.

Since this is a so-called border-line case, I recommend that the final decision of whether it be approved or denied rest with the Operating Committee. It will be immaterial with us as to whether the application is approved or denied.

J. William Hasler

J. William Hasler,
Geologist

JWH/mlr

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

Region III

DMEA
Date Rec'd

JUL 21 1955

BUREAU OF MINES
Denver, Colorado

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw

Subject: Docket DMEA 3655 (Uranium) Bowles-Heflin Mining Company, J. V. Haverson Lease, San Miguel County, Colorado

Enclosed are the original and nine copies of a memorandum by W. D. McMillan commenting on the letter dated July 11, 1955 from the chairman of the Operating Committee with attached memorandums from the Bureau of Mines and Geological Survey Commodity Committee members. We believe that a contract should be prepared to thoroughly explore the extension of the mineralized area developed by the open cuts and the incline.

John F. Shaw
John F. Shaw
Supervising Mining Engineer

JFS:jw

cc: WMTraver - Orig. & 9 ✓
EWHarshman
Subj.
Chron.

DMEA
Date Rec'd.

JUL 21 1955

BUREAU OF MINES
Denver, Colorado

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

Region III

Memorandum

To: John F. Shaw, Supervising Mining Engineer

From: W. D. McMillan

Subject: Docket DMEA 3655 (Uranium) Bowles-Heflin Mining Company, J. V. Eaverson Lease, San Miguel County, Colorado.

Reference: Letter to Executive Officer, DMEA Field Team, Region III from Chairman, Operating Committee, with enclosures, dated July 11, 1955

The writer reaffirms that he agrees with John E. Crawford of the Bureau of Mines and Joseph O. Hosted, Washington representative of the Atomic Energy Commission, that the recommendation of the field examiners be approved for the subject application.

These were based principally on the rim exposures along Bush Canyon, the development by open cuts, a short incline and 100 foot adit, where an 8-inch sample assayed 1.80 percent U_3O_8 and 5.32 V_2O_5. Records of total production from this adit are not available except for one lot of 24 tons which settled for 0.19 percent uranium and 1.69 percent vanadium.

The wagon drill holes were bottomed above the adit level.

We do not know of any drill holes between the known productive mines to the west and the Eaverson Lease. Joy Drilling Company, however, is diamond core drilling for Phillips Petroleum Company the part south of the Eaverson Lease, with holes extending to the southern boundary line.

In conclusion, it would be preferable to deny the subject application than to only drill three holes as proposed by N. E. Nelson.

W. D. McMillan
W. D. McMillan
Mining Engineer

WDMcM:jw

cc: WMTraver - Orig. & 9 ✓
ENHarshman
Docket
Chron.

IN REPLY REFER TO:
DMEA

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

Date Rec'd.
AUG 10 1955
BUREAU OF MINES
Denver, Colorado

August 9, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3655 (Uranium), Bowles-Heflin Mining Company, Eavenson lease, San Miguel County, Colorado

Enclosed are 10 copies each of two memoranda, one dated July 22, 1955, the other dated August 2, 1955, by J. W. Hasler, U. S. Geological Survey, both on the above subject application for exploration assistance.

The memoranda answer the questions raised in the Chairman's letter of July 11, 1955, and perhaps strengthen, to some extent, the original recommendation to approve a modest exploration program.

The proposed program is based on the assumption that the favorable ground may extend eastward from the area drilled by the Survey into the Eavenson lease and that the mineralized sandstone exposed in the workings along the eastern border of the property may extend westward beneath the property.

Although the proposed program certainly borders on prospecting, it appears that limited exploration can be justified by the geologic evidence given in the original report and the enclosed memoranda.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (20)

ENHarshman:arh

Surname Copy

Murphy
Ellis
Mettendorf

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

AUG 17 1955

Mr. Melvin C. Bowles
Bowles-Heflin Mining Company
1200 Chester Street
Aurora, Colorado

Re: Docket No. DMEA-3655 (Uranium)
J. V. Eavenson Lease
San Miguel County, Colorado

Dear Mr. Bowles:

In order to further process your above-docketed application for aid in an exploration project, we require the following:

1. A copy of assignment of the J. V. Eavenson Lease from Melvin C. Bowles to the Bowles-Heflin Mining Company;

2. Six (6) executed copies of the Owner's Consent to Lien forms, signed by J. V. Eavenson;

3. Six (6) executed copies of the Subordination Agreement forms, signed by John Griffen and S. M. Sisk;

4. In the event that you retain an over-riding royalty in the assignment of the lease to Bowles-Heflin Mining Company, we will also require six (6) executed copies of the Subordination Agreement signed by you.

We are enclosing one set of the Owner's Consent to Lien forms and two sets of the Subordination Agreement forms.

When we receive the above-requested documents, and find them in order, we shall promptly continue to process your application.

Sincerely yours,

SIGNED
Ernest Wm. Kilis, Chief
Rare and Miscellaneous
Metals Division

Enclosures

FMurphy:ai
8/16/55
cc to: Admr. Reading File
Docket
Messrs. JECrawford, Rm. 3641
T. H. Kiilsgaard, Rm. 5224
J. O. Hosted, Rm. 3210, GSA
Code 700
Mr. Murphy
DMEA Field Team,
Region III(2)

F-15-1-5
Rm

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

224 New Customhouse
Denver 2, Colorado

August 10, 1955

Memorandum

To: Chairman of the Operating Committee

From: Field Team, Region III

Subject: Docket DMEA-3655 (Uranium), Bowles-Heflin Mining Company, Eavenson lease, San Miguel County, Colorado

Enclosed are four copies of memoranda reports which are in reply to the questions asked in your letter of July 11, 1955.

We recommend limited exploration.

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E. N. Harshman

E. N. Harshman

Enclosures

DMEA Field Team, Region III

RECEIVED
AUG 15 1955

DMEA
Doc. Rec'd.
AUG 10 1955
AUG 8 1955
BUREAU OF MINES
Denver, Colorado

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
COLORADO PLATEAU DISTRICT
P. O. BOX 360
GRAND JUNCTION, COLORADO

August 2, 1955

Memorandum

To: E. N. Harshman, Supervising Geologist, DMEA Field Team, Region II

From: J. William Hasler

Subject: DMEA 3655 (Uranium) Bowles-Heflin Mining Company, J. V. Eavenson lease, Slick Rock mining district, San Miguel County, Colorado

In reply to the inquiries of the Operating Committee with reference to the favorability of the drilling under DMEA program, we have the following data:

The Operating Committee has asked if there are any indications that mineralization may extend westerly into the property from the adit and incline and several open cuts along the east rim of the J. V. Eavenson lease. In the 100-foot adit, known as the Joe Bush mine, the mineralized material looked very good. The open cuts and the incline were rather poorly exposed at the time of the examination and looked to be only favorable or semifavorable for ore. However, there is considerable mineralized material along the east edge of the rim on the Eavenson lease. Results of USGS exploration drilling has established an east-west trending favorable belt of ground extending from the Legin group on the west to the Spud Patch area on the east. There are definite indications that mineralization may extend from the east rim from the Eavenson lease westerly into the property. The nearest hole drilled by the Survey, (LE-429) lies about 1,500 feet west of the Eavenson lease and this hole was classified as favorable. The Survey drilling on 1,000-foot centers west of the subject property found no ore or mineralized material, but the ground was classified as being favorable, which, I believe, is enough of an indication to warrant at least some drilling. As was stated in my memorandum of July 22, this property is considered a borderline case and there may be a probability of making a significant discovery; and, again, the property may prove to be a dud.

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Geologist

JWH/mlr

MINERAL DEPOSITS
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GEOLOGICAL SURVEY
DENVER, COLORADO

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. BOX 360
COLORADO PLATEAU DISTRICT
GRAND JUNCTION, COLORADO

July 22, 1955

Memorandum

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Geologist

JWH/mlr

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

Region III

DMEA
Date Rec'd.

JUL 21 1955

BUREAU OF MINES
Denver, Colorado

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw

Subject: Docket DMEA 3655 (Uranium) Bowles-Heflin Mining Company, J. V. Eaverson Lease, San Miguel County, Colorado

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Supervising Mining Engineer

JFS:jw

cc: WMTraver - Orig. & 9
ENHarshman
Subj.
Chron.

DMEA
Date Rec'd.

JUL 21 1955

BUREAU OF MINES
Denver, Colorado

Building 20, Room 237
Denver Federal Center
Denver 2, Colorado
July 20, 1955

Region III

Memorandum

To: John F. Shaw, Supervising Mining Engineer

From: W. D. McMillan

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W. D. McMillan
W. D. McMillan
Mining Engineer

WDMcM:jw

cc: WMTraver - Orig. & 9 ✓
ENHarshman
Docket
Chron.

IN REPLY REFER TO:
DMEA
Date Rec'd.
AUG 10 1955
BUREAU OF MINES
Denver, Colorado

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

August 9, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3655 (Uranium), Bowles-Baflin Mining Company, Ravenson lease, San Miguel County, Colorado

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E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (20)

EHHarshman:arh

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

224 New Customhouse
Denver 2, Colorado

August 10, 1955

Memorandum

To: Chairman of the Operating Committee

From: Field Team, Region III

Subject: Docket DMEA-3655 (Uranium), Bowles-Heflin Mining Company, Eavenson lease, San Miguel County, Colorado

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W. M. TRAVER,

W. M. Traver

E. N. Harshman

E. N. Harshman

DMEA Field Team, Region III

Enclosures

RECEIVED
AUG 15 1955

DMEA
Date Rec'd

AUG 10 1955

MINERAL DEPOSITS
DMEA
RECEIVED
AUG 8 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
COLORADO PLATEAU DISTRICT
P. O. BOX 360
GRAND JUNCTION, COLORADO

BUREAU OF MINES
Denver, Colorado

August 2, 1955

Memorandum

To: E. N. Harshman, Supervising Geologist, DMEA Field Team, Region II

From: J. William Hasler

Subject: DMEA 3655 (Uranium) Bowles-Heflin Mining Company, J. V. Eavenson lease, Slick Rock mining district, San Miguel County, Colorado

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J. William Hasler
J. William Hasler,
Geologist

JWH/mlr

MINERAL DEPOSITS
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RECEIVED
JUL 26 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. BOX 360
COLORADO PLATEAU DISTRICT
GRAND JUNCTION, COLORADO

July 22, 1955

Memorandum

To: E. N. Harshman

From: J. William Hasler

Subject: DMEA 3655 (Uranium) Bowles-Heflin Mining Company, J. V. Eaverson lease, San Miguel County, Colorado

In reply to your request for comments on the recommendations for approval of the subject application I have the following information:

In reviewing the geologic report by N. L. Archbold, I received the impression that there is as good a chance of the zone of favorability to extend into the area covered by the Eaverson lease as there is for the ground to become only semifavorable. However, in conversation with Mr. Archbold regarding this application he is of the opinion that the chance of finding ore in significant quantities is a border-line case; that is, the property could have been denied as easily as it was approved in the field. The application had been previously reviewed with Mr. Harshman, in May, by Mr. Archbold, and it was felt that in view of the fact that the Eaverson lease is in a rather favorable area insofar as producing property is concerned, it will be just as well to approve the program for Government assistance.

In answer to Mr. N. E. Nelson's comments of June 21, the proposed holes as outlined by Mr. Archbold appear to be as wisely set out as is now possible and that a spacing of holes 500 feet apart is not excessive in this type of a Morrison sandstone deposit.

Since this is a so-called border-line case, I recommend that the final decision of whether it be approved or denied rest with the Operating Committee. It will be immaterial with us as to whether the application is approved or denied.

J. William Hasler

J. William Hasler,
Geologist

JWH/mlr

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

Region III

DMEA
Date Rec'd

JUL 21 1955

BUREAU OF MINES
Denver, Colorado

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw

Subject: Docket DMEA 3655 (Uranium) Bowles-Heflin Mining Company, J. V. Eaverson Lease, San Miguel County, Colorado

Enclosed are the original and nine copies of a memorandum by W. D. McMillan commenting on the letter dated July 11, 1955 from the chairman of the Operating Committee with attached memorandums from the Bureau of Mines and Geological Survey Commodity Committee members. We believe that a contract should be prepared to thoroughly explore the extension of the mineralized area developed by the open cuts and the incline.

John F. Shaw
Supervising Mining Engineer

JFS:jw

cc: WMTraver - Orig. & 9
ENHarshman
Subj.
Chron.

DMEA
Date Rec'd.
JUL 21 1955
BUREAU OF MINES
Denver, Colorado

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

Region III

Memorandum

To: John F. Shaw, Supervising Mining Engineer

From: W. D. McMillan

Subject: Docket DMEA 3655 (Uranium) Bowles-Heflin Mining Company, J. V. Eaverson Lease, San Miguel County, Colorado.

Reference: Letter to Executive Officer, DMEA Field Team, Region III from Chairman, Operating Committee, with enclosures, dated July 11, 1955

The writer reaffirms that he agrees with John E. Crawford of the Bureau of Mines and Joseph O. Hosted, Washington representative of the Atomic Energy Commission, that the recommendation of the field examiners be approved for the subject application.

These were based principally on the rim exposures along Bush Canyon, the development by open cuts, a short incline and 100 foot adit, where an 8-inch sample assayed 1.80 percent U_3O_8 and 5.32 V_2O_5. Records of total production from this adit are not available except for one lot of 24 tons which settled for 0.19 percent uranium and 1.69 percent vanadium.

The wagon drill holes were bottomed above the adit level.

We do not know of any drill holes between the known productive mines to the west and the Eaverson Lease. Joy Drilling Company, however, is diamond core drilling for Phillips Petroleum Company the part south of the Eaverson Lease, with holes extending to the southern boundary line.

In conclusion, it would be preferable to deny the subject application than to only drill three holes as proposed by N. E. Nelson.

W. D. McMillan
Mining Engineer

WDMcM:jw

cc: WMTraver - Orig. & 9 ✓
EWHarshman
Docket
Chron.

IN REPLY REFER TO:

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

DMEA
Date Rec'd
AUG 10 1955
BUREAU OF MINES
Denver, Colorado

August 9, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3655 (Uranium), Bowles-Heflin Mining Company, Ravenson lease, San Miguel County, Colorado

Enclosed are 10 copies each of two memoranda, one dated July 22, 1955, the other dated August 2, 1955, by J. W. Hasler, U. S. Geological Survey, both on the above subject application for exploration assistance.

The memoranda answer the questions raised in the Chairman's letter of July 11, 1955, and perhaps strengthen, to some extent, the original recommendation to approve a modest exploration program.

The proposed program is based on the assumption that the favorable ground may extend eastward from the area drilled by the Survey into the Ravenson lease and that the mineralized sandstone exposed in the workings along the eastern border of the property may extend westward beneath the property.

Although the proposed program certainly borders on prospecting, it appears that limited exploration can be justified by the geologic evidence given in the original report and the enclosed memoranda.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (20)

ENHarshman:arh

Surname 700

Murphy
Chinn
Selfridge
Johnson
Mottenbory

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

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

JUL 11 1955

AIR MAIL

Re: Docket No. DMEA-3655 (Uranium)
Bowles Heflin Mining Company
J. V. Lavenson Lease
San Miguel County, Colorado

Dear Mr. Traver:

This is to acknowledge receipt of your letter dated June 17, 1955, and the attached copy of the Applicant's letter to you of June 13, 1955, suggesting an amendment to the application.

In your letter of June 8, 1955, transmitting the Field Team's report, it is noted that you recommend a careful review of the merits of the proposed exploration by the Washington Defense Minerals Exploration Administration staff.

Enclosed are copies of memoranda from N. E. Nelson, dated June 21, and J. E. Crawford, dated June 23, 1955, members of the Uranium Commodity Committee.

Please note that Mr. Crawford agrees with the field examiners that the outlined two-stage drilling program should be approved by DMEA. However, Mr. Nelson does not concur with the extent and location of the proposed first stage drill holes and therefore recommends further consideration.

The Rare and Miscellaneous Metals Division has completed a review of the Field Team's report of examination and also of the Commodity Members' memoranda in regard to the proposed exploration of the subject property. Geological support for a project in this instance appears weak. In general, DMEA feels that for proposals of this type, projects should only be approved in areas indicated as "Favorable" by the USGS or adjacent to the open end of any such area. When the property is some distance from these "Favorable" areas, as in this case, the proposed work, or at least the first stage, is primarily to obtain geological information so as to determine if the project property is favorable and, hence, would meet the criterion "geological probability of making a significant discovery" on which DMEA projects are based. Of course, there

R.C.G.

may be exceptions where other data might make a proposal more attractive, therefore, a careful analysis of all the data available has been made in this case. However, before making a decision, possibly you can furnish additional data that would be helpful.

The Field Team's report of examination mentions a 100-foot adit from which an 8-inch sample was taken that assayed 1.80 percent U_3O_8 and 5.32 percent V_2O_5. Also, a short incline and four open cuts and a few shallow wagon drill holes were mentioned in the report. Are there any indications shown by this work that the mineralization or favorable structure might extend to the west in the property?

If the proposed exploration work is based on mineralization or favorable structure indicated by the above exploratory work, then it appears that the proposed or a modified first stage drilling program might be warranted. However, if the proposed work is based only on favorable structure indicated by two drill holes, the nearest one a mile west of the subject property, then the project does not appear to us as being very attractive. Has any ore or mineralization been found in the holes drilled in the areas between the known productive mines to the west and the Applicant's property?

We would appreciate your comments on the above questions in order to assist us in reaching a decision in regard to the subject application.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JB)

Enclosures

F. Murphy: FJohnson:Gla:am
7-6-55:7-8-55:7-11-55

APPROVED:

/s/ Robert W. Geehan (JB)

Member, Bureau of Mines

Thor H. Kiilsgaard (JB)

Member, Geological Survey

cc to: Admr. Reading File
Operating Committee
Docket

Messrs. J. E. Crawford, Rm.3641
T. H. Kiilsgaard, Rm.5222
J. O. Hosted, Rm.3210, GSA
Code 700
Mr. Murphy

Surname copy

Murphy
Ching
Johnson

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

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-3655 (Uranium)
Bowles-Heflin Mining Company
J. V. Eavenson Lease
San Miguel County, Colorado

Dear Mr. Traver:

This is to acknowledge the Field Team's report, dated June 8, recommending a contract to explore the captioned property.

Enclosed are copies of memoranda from N. E. Nelson, dated June 21, and J. E. Crawford, dated June 23, 1955, members of the Uranium Commodity Committee.

You will note that Mr. Crawford agrees with the field examiners that the outlined two-stage drilling program should be approved by DMEA. However, Mr. Nelson does not concur with the extent and location of the proposed first stage drill holes and therefore recommends further consideration.

The Rare and Miscellaneous Metals Division has completed a review of the Field Team's report of examination and also of the Commodity Members' memoranda in regard to the proposed exploration of the subject property. Geological support for a project in this instance appears weak. In general, DMEA feels that for proposals of this type, projects should only be approved in areas indicated as favorable by the USGS or adjacent to the open end of any such area. When the property is some distance from these favorable areas, as in this case, the proposed work, or at least the first stage, is primarily to obtain geological information so as to determine if the project property is favorable and, hence, would meet the criterion "geological probability of making a significant discovery" on which DMEA projects are based. Of course, there may be exceptions where other data might make the proposal more attractive, therefore, a careful analysis of all the data available should be made in each case before making a decision. Possibly you can furnish additional data to support a favorable recommendation.

The Field Team's report of examination mentions a 100-foot adit from which an 8-inch sample was taken that assayed 1.80 percent U_3O_8 and 5.32 percent V_2O_5. Also, a short incline and four open cuts and a few shallow wagon drill holes were mentioned in the report.

If the proposed exploration work is based on favorable structure indicated by the above exploratory work, then it appears that the proposed or a modified first stage drilling program might be warranted. However, if the drilling is based on favorable structure indicated by two drill holes, the nearest one a mile west of the subject property, then the application, in our opinion, should be denied.

We would appreciate your comments on the above questions in order to assist us in reaching a decision in regard to the subject application.

Sincerely yours,

Chairman, Operating Committee

Enclosures

APPROVED:

Member, Bureau of Mines

Member, Geological Survey

FMMurphy:gla:am
7-6-55:7-8-55
cc to: Admr. Reading File
Operating Committee
Docket
Messrs. J. E. Crawford, Rm. 3641
T. H. Kiilsgaard, Rm. 5222
J. O. Hosted, Rm. 3210, GSA
Code 700
Mr. Murphy

Johnson
Selfridge

JUN 2 8 1955

Memorandum

To: Director, Rare and Miscellaneous Metals Division

From: Administrator

Subject: DMEA policy with respect to determining the basis for entering into uranium exploration contracts in those cases where definite geological targets on the project property are lacking. (For internal use only.)

It should be kept in mind that under the DMEA program it is difficult to establish definite rules for basing decisions with respect to the merits of a project. Each proposal must be considered on its own merits, using the factual data available related thereto, as to the "geological probability of making a significant discovery."

Where definite geological targets are lacking, it has been the DMEA policy to base decisions on known trends of ore deposits, structures such as faults and anticlines along which ore occurs, and ore-bearing channels which can reasonably be projected into the proposed project property. There has been no change in this policy.

Mr. Murphy, of your Division, has requested a policy determination with respect to the proposed project of Bowles-Heflin Mining Company, DMEA-3655, J. V. Emerson Lease, Slick Rock Mining District, San Miguel County, Colorado. The Field Team has recommended a project, acceptable to the applicant, but which has been reduced in scope and cost from the original proposal of the applicant. It is noted that Mr. Harshman, of the USGS, reluctantly concurred with the recommendation and pointed out certain unfavorable aspects of the proposed project.

In analyzing the proposal, especially with respect to its geological features, consideration should be given to the following:

1. Although reference is made in the Field Team report to either "favorable ore trends" or "favorable trends," evidently based upon data shown on the attached map (Figure 2 of the Field Team report) that may extend into the project property, evidence is lacking that such trends exist. The map does show favorable areas, probably based on results of drill holes and radiometric surveys and examinations of exposed outcrops of the Salt Wash member of the Morrison formation (a favorable horizon), but these are not trends in the sense as used by

DMEA. These areas are limited in extent. Presumably areas outside the limits are unfavorable or of unknown classification. The two areas marked "Favorable" nearest the Ewerson Lease are open on one end, undoubtedly because no holes have been drilled in the deepest areas on which to base a classification. These "Favorable" areas could end abruptly or change direction in a short distance, hence, any projection of them eastward so as to pass into the Ewerson Lease is highly uncertain.

2. The area on the side along the east boundary of the Ewerson Lease is stated to be only semi-favorable in the Field Team report, and the small size and scattered location of orebodies in this area do not justify exploration other than extending workings that show mineralization for short distances. The results of the shallow holes reported to have been drilled near the east end of the Ewerson Lease have not been submitted.

3. A few substantial sized orebodies have been found in mines some 2 to 2½ miles to the west of the Ewerson Lease. Exploration for this type of orebody would be justified if evidence were given to support the possibility of finding them on the project property, but such evidence is lacking since obviously none of the drill holes between known orebodies and the Ewerson Lease have been reported as encountering ore or significant mineralization.

4. We do not have the benefit of the logs of the drill holes or of the results obtained of work performed along the rim outcrops on which the "Favorable" areas were classified. Consequently, we must rely on the determination made by the USGS as to what constitutes favorable ground. The available data suggest that if any trends exist, they are the pinching out or fingering out of favorable areas, and are horizons, as well as the size of the orebodies, from west to east.

It would appear that, consistent with DMEA policy, in making a decision on proposals of this type, projects should only be approved in areas indicated as "Favorable" by the USGS or adjacent to the open end of any such area.

When the property is some distance from these "Favorable" areas, as in this case, the proposed work is primarily to obtain geological information so as to determine if the project property is favorable and, hence, would not meet the criterion - "geological probability of making a significant discovery" on which DMEA projects are based.

Of course, there may be exceptions where other data might make the proposal more attractive; therefore, a careful analysis of all the data available should be made in each case in order to reach a judicious decision.

FEJohnson/ef/fw
6/28/55
cc: Mails & Files
Admr. Read. File
Mr. Mittendorf
Mr. Selfridge
Mr. Ellis (2)
Mr. Johnson

C. O. Mittendorf

Administrator

6/24/55 gla

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

June 23, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4445

From: John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee

Subject: Report of Examination, DMEA Docket 3655, Bowles-Heflin Mining Co., Eaverson Lease, San Miguel County, Colorado

I have reviewed the Field Team report of examination, Bowles-Heflin Mining Co., DMEA Docket 3655; and I have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

We concur with the recommendations of the field examiners that a two-stage exploration drilling program be approved for the Bowles-Heflin Mining Co. on their Eaverson Lease, San Miguel County, Colorado. Results of stage one drilling should be evaluated by the Field Team prior to consideration of stage two drilling.

The report has been forwarded to the Chief, Division of Minerals, in accordance with the routing slip attached thereto.

John E. Crawford

John E. Crawford

RECEIVED
JUN 24 1955

6/22/55 gh

IN REPLY REFER TO:

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

RECEIVED
JUN 22 1955

June 21, 1955

Re: DMEA-3655
Bowles-Heflin Mining Co.
Eaverson Lease
San Miguel Co., Colorado
$43,750.00 - Uranium

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team report

One drill hole, 431, gave evidence and a block of ground without a rim 1200 to 2000 feet wide and 2,700 long, 100 acres, was classed as something less than favorable. (See Fig. 2, Geologist's report.) But for the Eaverson lease of 160 acres, with 3,000 feet of rim, 9 holes are proposed.

The nearest proposed hole, 5, to the one productive spot, the adit, is 500 feet away. Perhaps 3 holes, one south of 5, 7, and one west of the road northwest of 4 would yield sufficient information for judgment of this group.

I recommend further consideration.

N. E. Nelson

N. E. Nelson

IN REPLY REFER TO:

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

RECEIVED
JUN 23 1955

June 21, 1955

Re: DMEA-3 55
Bowles-Moflin Mining Co.
Haverson Lease
San Miguel Co., Colorado
$43,750.00 - Uranium

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team report

One drill hole, 431, gave evidence and a block of ground without a rim 1200 to 2000 feet wide and 2,700 long, 100 acres, was classed as something less than favorable. (See Fig. 2, Geologist's report.) But for the Haverson lease of 160 acres, with 3,000 feet of rim, 9 holes are proposed.

The nearest proposed hole, 5, to the one productive spot, the adit, is 500 feet away. Perhaps 3 holes, one south of 5, 7, and one west of the road northwest of 4 would yield sufficient information for judgment of this group.

I recommend further consideration.

N. E. Nelson

N. E. Nelson

NENelson:hlm
G-6/21/55

Copy to: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641 Interior
J. O. Hosted, 3210 GSA

6/21/55-gla

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

RECEIVED
JUN 20 1955

224 New Customhouse
Denver 2, Colorado

June 17, 1955

Mr. Melvin C. Bowles
Bowles-Heflin Mining Company
1200 Chester Street
Aurora, Colorado

Re: Docket DMEA-3655 (Uranium),
J.E. Eavenson lease, San Miguel
County, Colorado

Dear Mr. Bowles:

This will acknowledge receipt of your letter, dated June 13, 1955, in which you suggest an amendment to your application.

We are forwarding a copy of your letter to the Washington DMEA office for their proper action.

Very truly yours,

W. M. TRAVER

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

HMC:pw

cc: Subject
Chron
Sec.Op.Comm. (2)

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

RECEIVED
JUN 20 1955

224 New Customhouse
Denver 2, Colorado

June 17, 1955

Mr. Melvin C. Bowles
Bowles-Heflin Mining Company
1200 Chester Street
Aurora, Colorado

Re: Docket DMEA-3655 (Uranium),
J.E. Eavenson lease, San Miguel
County, Colorado

Dear Mr. Bowles:

This will acknowledge receipt of your letter, dated June 13, 1955, in which you suggest an amendment to your application.

We are forwarding a copy of your letter to the Washington DMEA office for their proper action.

Very truly yours,

W. M. TRAVER

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

HMC:pw

cc: Subject
Chron
Sec.Op.Comm. (2)

BOWLES-HEFLIN MINING CO.
1200 Chester Street
Aurora, Colorado

DMEA
Date Rec'd
JUN 14 1955
BUREAU OF MINES
Denver, Colorado

June 13, 1955

Mr. W. M. Travers
Executive Officer
DMEA Field Team, Region III
224 New Customs House Building
Denver 2, Colorado

RECEIVED
JUN 20 1955

In Re: Docket No. DMEA 3655-Uranium
J. V. Eavenson Lease, Slick Rock
Mining District, San Miguel County,
Colorado

Dear Mr. Travers:

We would like to suggest the following amendment to our application referred to above: that Phase #1 be further reduced to between 9 and 12 drill holes, spaced on much wider centers, requiring approximately 2000 feet of drilling. This first phase to be core-drilled instead of rotary-drilling so as to provide much more positive information as to the formations and the favorability for ore depositation.

As can best be determined by what checking we have done with independent contractors, it will cost between $2.75 and $3.75 per foot to have this core-drilled, depending on how much of it can be plug-bit drilled.

At the present time, Phillips Petroleum Company has the Joy Drilling Company drilling on the adjoining property to the south of us. If it were at all possible to complete the processing of this application, so that in the event a contract is approved, we could contract with Joy Drilling Co to do this first phase while they are there, it would save us a move in charge. Besides, they will already have acquired considerable information as to depths and dip of the formation, etc. as these holes would actually be extensions of rows of holes they are now drilling.

Please contact me if additional information regarding this amendment is needed.

Thanking you in advance - -

Sincerely yours,

BOWLES-HEFLIN MINING CO.
Melvin C. Bowles
Melvin C. Bowles, Partner & Gen. Mgr.

BOWLES-HEFLIN MINING CO.
1200 Chester Street
Aurora, Colorado

DMEA
Date Rec'd
JUN 14 1955
BUREAU OF MINES
Denver, Colorado

June 13, 1955

RECEIVED
JUN 1 3 1955

Mr. W. M. Travers
Executive Officer
DMEA Field Team, Region III
224 New Customs House Building
Denver 2, Colorado

In Re: Docket No. DMEA 3655-Uranium
J. V. Eavenson Lease, Slick Rock
Mining District, San Miguel County,
Colorado

Dear Mr. Travers:

We would like to suggest the following amendment to our application referred to above: that Phase #1 be further reduced to between 9 and 12 drill holes, spaced on much wider centers, requiring approximately 2000 feet of drilling. This first phase to be core-drilled instead of rotary-drilling so as to provide much more positive information as to the formations and the favorability for ore depositation.

As can best be determined by what checking we have done with independent contractors, it will cost between $2.75 and $3.75 per foot to have this core-drilled, depending on how much of it can be plug-bit drilled.

At the present time, Phillips Petroleum Company has the Joy Drilling Company drilling on the adjoining property to the south of us. If it were at all possible to complete the processing of this application, so that in the event a contract is approved, we could contract with Joy Drilling Co to do this first phase while they are there, it would save us a move in charge. Besides, they will already have acquired considerable information as to depths and dip of the formation, etc. as these holes would actually be extensions of rows of holes they are now drilling.

Please contact me if additional information regarding this amendment is needed.

Thanking you in advance - -

Sincerely yours,

BOWLES-HEFLIN MINING CO.
Melvin C. Bowles
Melvin C. Bowles, Partner & Gen. Mgr.

6/20/55 gla

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

RECEIVED
JUN 13 1955

224 New Customhouse
Denver 2, Colorado

June 8, 1955

Memorandum

To: Chairman of the Operating Committee, DMEA

From: Field Team, Region III

Subject: Report of Examination, Docket DMEA-3655 (Uranium), Bowles-Heflin Mining Co., Eaverson lease, San Miguel County, Colorado

Enclosed are the original and three copies of the report pertaining to the above application.

The field examiners recommend a modified two stage exploration program. We recommend a careful review of the merits of the proposed exploration by the Washington DMEA staff.

The engineering report states that the assignment of the lease from Melvin C. Bowles to the Bowles-Heflin Mining Company is in process, but the assignment has not been received by this office. We have not requested Owner's Consent to Lien.

Nine copies of Figure 2 are enclosed for possible use in a contract. If a contract is recommended by your office, please advise and we will request the assignment of the lease and the Owner's Consent to Lien from the applicant.

W. M. Traver
W. M. Traver

E. N. Harshman
E. N. Harshman

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-17-55
(date)

DMEA
Date Rec'd.

JUN 3 1955

BUREAU OF MINES
Building 20, Room 137
Denver Federal Center
Denver 2, Colorado

Region III

June 2, 1955

TRANSMITTED

JUN 8 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw

Subject: Engineering Report, DMEA 3655, J. V. Emerson lease, Bowles-Naflin Mining Company, Slick Rock Mining District, San Miguel County, Colorado

Enclosed are the original and eleven copies of an engineering report by W. D. McMillan, covering docket DMEA 3655.

The Bowles-Naflin Mining Company applied for Defense Minerals Exploration Administration assistance in the amount of $43,750.00 to explore the J. V. Emerson lease by rotary drilling 150 holes in three stages with a total depth of 25,000 feet. A field examination was made on March 22, 1955, by an examining team consisting of a Bureau of Mines engineer and a geologist from the Geological Survey. The examining team agreed on a revised plug bit and core drilling program.

It is recommended that the Government enter into a contract with the applicant to explore the J. V. Emerson lease by 2,010 feet of plug drilling and 3,660 feet of core drilling at an estimated cost of $20,022.60. The amount of Government participation would be $15,016.95.

John F. Shaw
John F. Shaw
Supervising Mining Engineer

Enclosures

cc 11
DMEA 3655
Carson

JFS/cm

Reviewed by
DMEA OPERATING COMMITTEE
6-17-55
(Date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

RECEIVED
JUN 13 1955

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3655, J. V. Eaverson Lease

Bowles-Heflin Mining Company

Slick Rock Mining District

San Miguel County, Colorado

Uranium

W. D. McMillan, Mining Engineer
Bureau of Mines

N. L. Archbold, Geologist
Geological Survey

May 31, 1955

Released by
DMEA OPERATING CONTROL
6-17-55

DMEA 3655

J. V. EAVERSON LEASE
BOWLES-HEFLIN MINING COMPANY
SLICK ROCK MINING DISTRICT
SAN MIGUEL COUNTY, COLORADO

TRANSMITTED

JUN 8 1955

Summary, Conclusions and Recommendations

By W. D. McMillan
Mining Engineer
Bureau of Mines

N. L. Archbold
Geologist
Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE
6-17-55
(Date)

DMEA 3655

RECEIVED
JUN 13 1955

J. V. EAVERSON LEASE
BOWLES-HEFLIN MINING COMPANY
SLICK ROCK MINING DISTRICT
SAN MIGUEL COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By W. D. McMillan and N. L. Archbold

An application has been made to the Defense Minerals Exploration Administration for Government assistance in the exploration for uranium on a property in San Miguel County, Colo., leased to the applicant on December 15, 1954. The applicant proposed rotary drilling of 150 holes in three stages with a total depth of 25,000 feet at an estimated cost of $43,750.00, Government participation at 75 percent, or $32,812.50.

A field examination was made on March 22, 1955.

The property is on a mesa bounded on the east by Bush Canyon and on the west by a ridge that reaches an elevation of 7,600 feet, 500 feet above the canyon rim.

The Brushy Basin and Salt Wash members of the Jurassic Morrison formation outcrop on the property in the western and eastern parts respectively.

In the Slick Rock Mining District, most of the ore is in 2 to 3 sandstone beds in the upper part of the Salt Wash member. Small amounts of ore have been found in these beds on the Eaverson property. Important ore deposits have been mined on nearby claims and projection of known ore trends suggest the Eaverson lease merits exploration.

A revised plug bit and core drilling program has been submitted by the applicant as the result of a field conference and the examining team recommends approval of a short-form contract specifying 2,010 feet of plug drilling and 3,660 feet of core drilling at an estimated cost of $20,022.60, Government participation will be $15,016.95.

DMEA 3655

J. V. EAVERSON LEASE
BOWLES-HEFLIN MINING COMPANY
SLICK ROCK MINING DISTRICT
SAN MIGUEL COUNTY, COLORADO

Engineering Report

By W. D. McMillan
Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
6-17-55
(date)

DMEA 3655

RECEIVED
JUN 13 1955

J. V. EAVERSON LEASE
BOWLES-HEFLIN MINING COMPANY
SLICK ROCK MINING DISTRICT
SAN MIGUEL COUNTY, COLORADO

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DMEA 3655

J. V. EAVERSON LEASE
BOWLES-HEFLIN MINING COMPANY
SLICK ROCK MINING DISTRICT
SAN MIGUEL COUNTY, COLORADO

ENGINEERING REPORT

By W. D. McMillan

INTRODUCTION

Bowles-Heflin Mining Company applied for Defense Minerals Exploration Administration assistance for exploration by rotary drilling of their J. V. Eaverson lease in the Slick Rock mining district of San Miguel County, Colorado.

Their proposal was for a first stage of 50 holes on a 200- by 400-foot grid with a total depth of 10,000 feet, this to be followed if favorable results were obtained by a second stage of 50 holes on a 100- by 200-foot pattern totaling 7,500 feet, this in turn according to results by a third stage on a 50- by 100-foot pattern of 50 holes totaling 7,500 feet. The estimated total amount of drilling was 150 holes or a total of 25,000 feet at an estimated cost of $43,750.00, Government participation 75 percent, or $32,812.50.

An examination by a DMEA Region III examination team consisting of W. D. McMillan of the U.S. Bureau of Mines and Norbart L. Archbold of the U.S. Geological Survey, accompanied by Melvin Bowles, Vernon Bowles and A. L. Heflin, was made on March 22, 1955.

A greatly modified program in two stages of 9 and 18 holes respectively with a total footage of 5,670 feet at an estimated cost of $20,022.60 was proposed by the examining team, which was acceptable to the applicants.

ACKNOWLEDGMENTS

Data pertaining to the J. V. Eaverson lease were obtained from personal observations, from experience of the Geological Survey member of the team in surrounding properties, and from the Bowles brothers, who had been working there for the past 8 months.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The J. V. Eaverson lease consists of a privately owned 160-acre tract of land in section 26 and 27, T. 43 N., R. 19 W., New Mexico principal meridian, in the north central part of the U.S. Geological Survey Egmar Quadrangle. The property boundaries have a reverse ell shape with the short leg in Bush Canyon at elevation 7,100 feet, and the long leg extending from east to west to an elevation of 7,600 feet. From the rim of Bush Canyon for 3,000 feet to the west the terrain has a gentle slope with a rise of about 200 feet.

The property is readily accessible throughout the year as Colorado Highway 80 crosses the center about 15 miles north of Dove Creek. Dove Creek and Monticello, 38 miles from the property, are the nearest sources of supplies.

Vegetation consists of scattered sage brush and junipers, which permits preparation of drill sites and the construction of truck-trails at reasonable cost. (Fig. 1).

The climate of the district is arid, with warm to cool summers and moderate winters, with infrequent periods of extreme cold. There may be heavy storms of short duration throughout the year, and some snow accumulates for short periods in the winter months, with 3- to 5-foot drifts in timbered areas. Surface drilling and underground operations are feasible throughout the year.

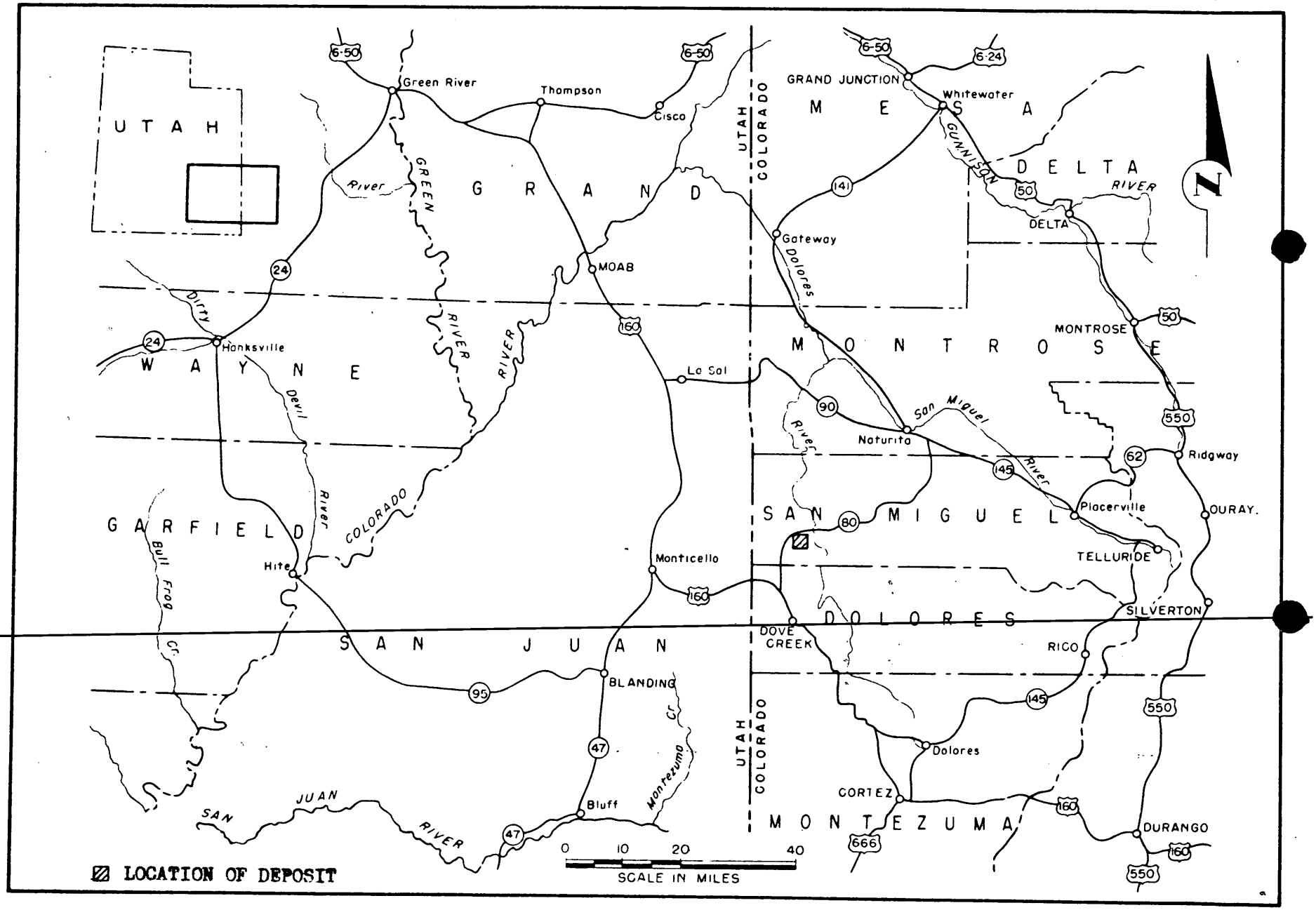


FIGURE 1 - INDEX MAP OF PART OF COLORADO PLATEAU SHOWING LOCATION OF J. V. EAVERSON LEASE, BOWLES-HEFLIN MINING COMPANY, SAN MIGUEL COUNTY, COLO. DMEA 3655

The nearest markets for uranium ores are the receiving stations and processing plants at Monticello, 38 miles, and Naturita, 52 miles.

Mining timber and lumber are available at local saw mills, and there is an ample supply of domestic fuel on the property. Power requirements must be met by gasoline or diesel-powered units. Water for drilling and domestic purposes must be hauled 7 miles from the Dolores River or pumped from wells in the plateau 2 miles north of the property.

LABOR AND LIVING CONDITIONS

The demand for mine labor in the area is comparatively heavy. Wage rates for semi-skilled labor at remote locations are about $2.00 per hour. House trailers are usually provided for exploration personnel, although, there is one hotel and one auto court at Dove Creek. The proposed project would be executed by a drilling contractor who would furnish all the necessary labor.

HISTORY, PRODUCTION, AND OWNERSHIP

The mining history of adjacent mines dates back to exploration for vanadium after World War 1. Recent increased activity for uranium dates from the early 1950's.

Records of total production are not availabe, but a settlement sheet indicated 24 tons of ore settled for 0.19 percent uranium oxide and 1.69 percent vanadium oxide, and there were probably other small lots mined by the Alvarado Mining Company, which was the lessor from February 8, 1954, until December 15, 1954, when Bowles-Heflin Mining Company purchased the lease.

The original owner, J. V. Eaverson, leased the property in January 12, 1954, to John Griffin and S. M. Sisk of Dove Creek, Colo. On February 8, 1954, John Griffin and S. M. Sisk assigned their lease to Alvarado Mining Corporation of Colorado. On December 15, 1954, Alvarado Mining Corporation assigned their lease to Melvin C. Bowles of Aurora, Colorado.

These transactions were verified and found correct at the San Miguel County recorders office on March 23, 1955. According to Melvin C. Bowles, the assignment of his lease to the Bowles-Heflin Mining Company is being processed.

MINABLE ORE RESERVES

There are no minable reserves at present, although on the south wall of the adit 20 feet east of the face an 8-inch sample in carbonaceous sandstone assayed 1.80 percent U_3O_8 and 5.32 percent V_2O_5.

PRESENT STATUS

Exploration and Development

These consist of a few shallow wagon drill holes and a 100-foot adit, a short incline, and four open cuts. Since December 1954, the Bowles-Heflin Mining Company rehabilitated and extended the exploration adit a short distance, from which about 15 tons of milling grade ore was stockpiled at the portal.

Mining Equipment and Other Facilities

These consist of the following:

1 Sullivan Wagon Drill
1 85-c.f.m. Le Roi Compressor

1 205-c.f.m. Denver Gardner Compressor
1 315-c.f.m. Denver Gardner Compressor
2 Denver Gardner Pneumatic Drills
1 disel-driven Shuttle Car
1 Army 6x6 truck
1 Ford 1-1/2-ton truck
1 Willys 1-ton 4-wheel drive pickup truck
1 Wisconsin gasoline-powered hoist

DESCRIPTION OF THE DEPOSITS

The entire property is overlain by the Salt Wash member of the Jurassic Morrison formation, which in this area has a probable thickness of over 350 feet, and consists of fine to coarse grain sandstones, which in places are crossbedded with rolls due to fluviatile action. The sandstone contains considerable carbonized organic material.

The rim of Bush Canyon is within the eastern part of the property for from 50 feet to 200 feet.

Uranium ore outcrops at several places along the rim. In this region the ore horizon is generally found in the middle section of the Salt Wash member, and apparently this rim represents the top part of the ore horizon.

Known production from the property is small and nearby productive mines are as follows:

Golden Rod mines - 2 miles north
Legion mines - 2 miles west
Vintah mines - 2 miles west
Frankie and Hawk mines - 2 miles northwest

PROJECT PROPOSALS WITH COSTS

The applicants proposed rotary drilling in the most favorable and accessible parts of the property in three stages. The first stage was for 6-E-W rows of holes, with spacing on the rows of 200 feet and

400 feet between the rows, with a total of 52 holes ranging in depth from 130 to 330 feet, this to be followed by two stages of 50 offset holes each. The total program was for 150 holes with a maximum of 25,000 feet at an estimated cost of $43,750.00--Government participation at 75 percent $32,812.50.

This program was appreciably modified by the examining team and the applicants to a total of 27 holes in two stages, with estimated total drilling of 7,425 feet. Plug and core drilling was substituted for rotary drilling, and the estimated total cost of the project was reduced to $22,022.60, Government participation at 75 percent $15,016.95.

Stage I consists of 9 holes located as shown in figure 2, with an average depth of 210 feet and total depth of 1,890 feet as shown in Table No. 1. Hole spacing is from 700 to 1,100 feet. Drilling will be done with a standard diamond core drill, using plug bits in the upper part of the Salt Wash member of the Morrison formation.

Stage II drilling would consist of holes spaced 50 to 200 feet apart, located to explore uranium mineralized ground found in Stage I drilling after evaluation by the Region III examination team. An additional 18 holes, with a total depth of 3,780 feet is allowed for this stage.

Table 1.--Estimated collar elevations of the holes in Stage I, with estimated plug bit, core bit, and total depths

Hole No.	Collar Elevation Feet	Plug Bit Depth Feet	Core Bit Depth Feet	Total Depth Feet
E-1	7,400	190	160	350
E-2	7,395	220	150	370
E-3	7,325	110	140	250
E-4	7,320	100	160	260

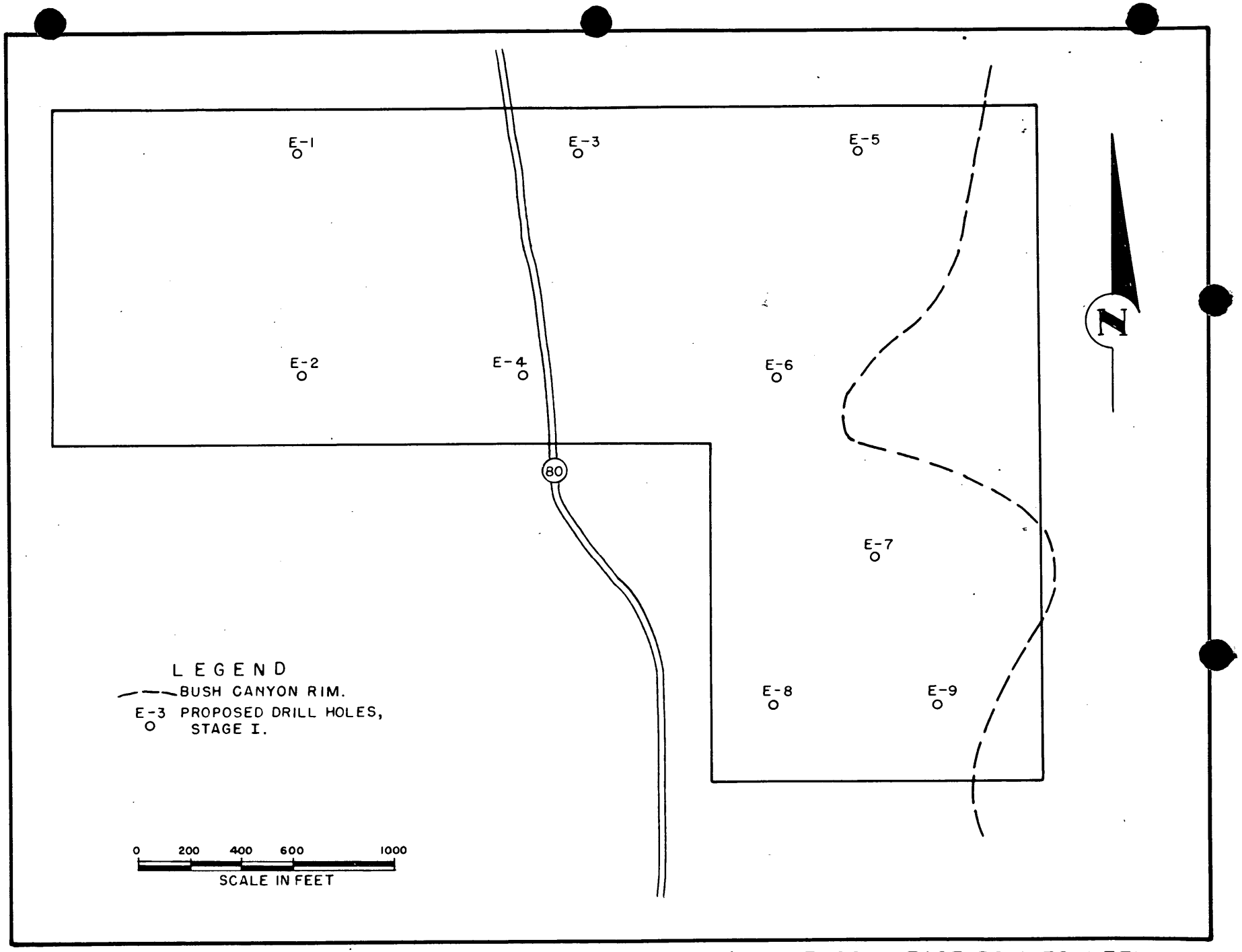


FIGURE 2 - SKETCH MAP SHOWING PROPOSED DRILL HOLES, J.V. EAVERSON LEASE, BOWLES-HEFLIN MINING COMPANY, SAN MIGUEL COUNTY, COLO. DMEA 3655

Table 1.--Estimated collar elevations of the holes in Stage I, with estimated plug bit, core bit, and total depths (Cont.)

Hole No.	Collar Elevation Feet	Plug Bit Depth Feet	Core Bit Depth Feet	Total Depth Feet
E-5	7,265	0	120	120
E-6	7,240	0	130	130
E-7	7,230	0	120	120
E-8	7,260	50	120	170
E-9	7,210	0	120	120
	Totals	670	1,220	1,890

The following drilling cost estimates are based on the bid prices of the contracting firm, Johnson and Youvan, who have worked on other DMEA contracts. The proposal of the applicant was for rotary drilling at a unit cost per foot of $1.75, which included all necessary equipment, material, supplies, expenses of drilling, supervision, spotting of holes, logging of cuttings, ore sampling, probing of holes, mapping and related work. In view of the change in the program from rotary drilling to plug and core drilling, some of these services are estimated separately in the following cost estimates.

COST ESTIMATES

Stage I
Estimated time for completion - 10 months

(1) Independent contracts:

Bulldozing to prepare 9 drill sites, estimated time 3 days at $120.00 per day	$ 360.00	
Plug drilling 9 holes with a maximum of 670 feet at $1.75 per foot	1,172.50	
Core drilling 9 holes with a maximum of 1,220 feet of drilling at $2.73	3,330.60	
Total independent contracts		$4,863.10

(2) Labor and supervision:

Supervising engineer		
1.0 months at $600.00 per month	$600.00	
Draftsman - 48 hours at $3.00 per hour	144.00	
Stenographer - 24 hours at $2.00 per hour	48.00	
Sampler and field assistant		
1 month at $350.00 per month	350.00	
Total labor and supervision		$1,142.00

(3) Operating supplies:

Office - $100.00 per month	100.00	
Field - $20.00 per month	20.00	
Total operating supplies		120.00

(4) Operating equipment:

1 house trailer at $25.00 per month	25.00	
1 Babbel hole probing unit $100.00 per month	100.00	
Total operating equipment		125.00

(5) Miscellaneous:

Accounting expense - $75.00 per month	75.00	
Insurance and payroll taxes - $53.00 per month	53.00	
Sampling and analyses 60 samples at $5.00 each	300.00	
Total miscellaneous		428.00
Total cost Stage I		$6,678.10

Estimated over-all cost per foot - $\frac{\$6,678.10}{1890} = \$3.53$

Estimated cost per foot, less sample analyses $\frac{\$6,378.10}{1890} = \$3.37$

Stage II

Estimated time for completion - 2.0 months

(1) Independent contracts:

Bulldozing to prepare 18 drill sites estimated time 6 days at $120.00 per day	$720.00	
Plug drilling 18 holes with a maximum of 1,340 feet at $1.75 per foot	2,345.00	
Core drilling 18 holes with a maximum of 2,440 feet at $2.73	6,661.20	
Total independent contracts		9,726.20

(2) Labor and supervision

Supervising engineer		
2 months at $600.00 per month	$1,200.00	
Draftsman - 96 hours at $3.00 per hour	288.00	
Stenographer - 48 hours at $2.00 per hour	96.00	
Sampler and field assistant		
2 months at $350.00 per month	700.00	
Total labor and supervision		$2,284.00

(3) Operating supplies:

Office - 2 months at $100.00 per month	200.00	
Field - 2 months at $20.00 per month	40.00	
Total operating supplies		240.00

(4) Operating equipment:

1 house trailer - 2 months at $25.00 per month	50.00	
1 Babbel hole probing unit - 2 months at $100.00 per month	200.00	
Total operating equipment		250.00

(5) Miscellaneous:

Accounting expense - $75.00 per month	150.00	
Insurance and payroll taxes - $53.00 per month	106.00	
Sampling and analyses - 120 samples at $5.00 each	600.00	
Total miscellaneous		856.00
Total cost Stage II		$13,356.20

Estimated over-all cost per foot - $\frac{\$13,356.20}{3780} = \$3.53$

Estimated cost per foot, less sample analyses $\frac{\$12,756.20}{3780} = \$3.37$

SUMMARY COST OF PROJECT

(Plug and core drilling costs segregated)

	Stage I		Stage II	
	Plug Drilling 670 feet	Core Drilling 1,220 feet	Plug Drilling 1,340 feet	Core Drilling 2,440 feet
(1) Independent contracts	$1,299.94	$3,563.16	$2,599.88	$7,126.32
(2) Labor, supervision, and technical services	404.27	737.73	808.54	1,475.46
(3) Operating supplies	42.48	77.52	84.96	155.04
(4) Operating equipment	44.25	80.75	88.50	161.50
(5) Miscellaneous less sample analyses	45.31	82.69	90.62	165.38
Totals	$1,836.25	$4,541.85	$3,672.50	$9,083.70
Total per stage	$6,378.10		$12,756.20	
Cost of sample analyses	300.00		600.00	
	$6,678.10		$13,356.20	
Estimated total cost of project -		$19,934.30		
Calculated over-all cost per foot, less analyses	$2.74	$3.72	$2.74	$3.72

Cost Figures for Contract Use

Stage I		
670 feet of plug drilling at $2.74 per foot -	$1,835.80	
1,220 feet of core drilling at $3.72 per foot -	4,538.40	
60 samples at $5.00 each -	300.00	
Total Stage I		$6,674.20
Stage II		
1,340 feet of plug drilling at $2.74 per foot -	$3,671.60	
2,440 feet of core drilling at $3.72 per foot -	9,076.80	
120 analyses at $5.00 each	600.00	
Total Stage II		$13,348.40
Total estimated cost of project		$20,022.60
Government participation at 75 percent		$15,016.95

CONCLUSIONS

The nine holes shown on figure 2 for Stage I are considered sufficient to determine the uranium mineralized sandstone under the J. V. Eaverson property. Should these holes fail to encounter uranium ore, the project should be terminated.

The second stage of 18 holes, with spacing of 50 to 200 feet apart, would be placed to explore the uranium mineralized areas after evaluation by the Region III examining team. Only the top of the Salt Wash member of the Morrison formation is ore bearing in the district and requires core drilling. It is probable that after two or three holes have been core drilled to the estimated total depth, a marker will be found at the bottom of the ore bearing sandstone, and that the footage of core drilling will be somewhat less than the estimated footages in this report.

RECOMMENDATIONS

It is recommended that a short-form contract at unit costs per foot of drilling exploration at a cost of $20,022.60--Government participation at 75 percent or $15,016.95--be approved.

Holes are to be drilled at the locations designated on figure 2, and are to be plug drilled to the top of the ore bearing sandstones of the Salt Wash member of the Morrison formation, and core drilled through the top of this member. The minimum size hole acceptable is AX.

The contract should provide that Stage II funds be made available for Stage I if necessary and approved by the field team.

/cm

IN REPLY REFER TO:

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

RECEIVED
JUN 13 1955

May 10, 1955

TRANSMITTED
JUN 8 1955

Memorandum

To: Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3655 (Uranium), The Bowles-Heflin Mining Co., Eaverson lease, San Miguel County, Colorado

Enclosed are 10 copies of a geologic report by N. L. Archbold, U. S. Geological Survey, covering his examination of the subject property.

Although Archbold recommends a limited program of exploration on the property and Williams concurs with this recommendation, I believe that the proposed program is at best extremely "long-shot exploration," perhaps even prospecting. The following considerations are pertinent in evaluating the proposed program:

1) Of the two favorable trends found by Survey drilling west of the property, shown on figure 2 accompanying the Archbold report, one appears to project south of the subject property, the other may or may not reach the property.

2) Exposures of the ore-bearing Salt Wash sands in Bush Canyon along the eastern boundary of the claims is classified as only semi-favorable by Archbold and the few ore deposits found in that area have been small and low grade.

3) The first stage of the proposed program appears to be an attempt to determine if favorable ground is present under the Eaverson Lease rather than to explore for ore in ground that is considered to be favorable.

4) The presence of producing mines at distances of 2 to 2-1/2 miles from the subject property is by no means indicative of the presence of ore on that property.

It is with some reluctance that I concur with the recommendations for exploration on the Eaverson lease (DMEA Docket 3655). I

Reviewed by
DMEA OPERATING COMMITTEE
6-17-55

suggest a careful review of the merits of the proposed exploration program by the Washington DMEA staff.

Nine extra copies of the figures accompanying the report are enclosed.

E. N. Harshman

E. N. Harshman
Member, Field Team

(Enclosures - 28)

ENHarshman:arh

MINERAL DEPOSITS
DMEA
RECEIVED
APR 26 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

RECEIVED
JUN 13 1955

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
COLORADO PLATEAU DISTRICT
P. O. BOX 360
GRAND JUNCTION, COLORADO

April 15, 1955

Memorandum

TRANSMITTED
JUN 8 1955

To: E. N. Harshman, DMEA Field Team, Region III

From: W. P. Williams

Subject: DMEA 3655, The Bowles-Heflin Mining Co., Eaverson lease, San Miguel County, Colorado

Enclosed are 11 copies of a geologic report by N. L. Archbold covering the Eaverson lease, 9 extra copies of the maps, and the brochure.

After field examination Archbold recommends a modified program to explore the Eaverson lease. Archbold believes exploration is warranted as: 1) favorable trends are known to extend toward the property, 2) the property is adjacent to good producing areas, 3) several minor occurrences of ore are known on the property, and 4) drilling depths are fairly shallow. The program recommended by Archbold consists of 9 Stage 1 holes to be followed by Stage II holes in favorable areas.

I concur with Archbold's recommendation.

The application was brought to the attention of the Grand Junction Atomic Energy Commission office, and the Commission was asked for advice on the application.

W P Williams

W. P. Williams
Geologist

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-17-55
(date)

UNITED STATES DEPARTMENT OF THE INTERIOR

DOUGLAS McKAY, SECRETARY

RECEIVED
JUN 13 1955

DEFENSE MINERALS EXPLORATION ADMINISTRATION
REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3655, The Bowles-Heflin Mining Co., Eaverson lease, San Miguel County, Colorado

Uranium

Geologic Report

by

N. L. Archbold
U. S. Geological Survey

April 13, 1955

Reviewed by
DMEA OPERATING COMMITTEE
6-17-55
(date)

DMEA 3655

INTRODUCTION

The Bowles-Heflin Mining Co. has applied for DMEA assistance to explore for uranium on the Eaverson lease, sections 26 and 27, T. 43 N., R. 19 W., San Miguel County, Colorado (fig. 1). I examined this property on March 22, 1955 with W. D. McMillan from the U. S. Bureau of Mines and M. C. Bowles and A. L. Heflin, applicants for the DMEA loan. This report concerns the results of the examination and the ensuing recommendations for modifications of the applicants' proposed exploration program.

GEOLOGY AND ORE DEPOSITS

The Eaverson lease is on the southwest flank of the Dolores anticline where the sedimentary beds dip approximately 2° to the southwest. The Late Jurassic Morrison formation forms the surface over most of the property except on the extreme west side where there is a small area covered by the Early Cretaceous Burro Canyon formation. In Bush Canyon immediately to the east of the Eaverson property, the Jurassic, Pre-Morrison Summerville and Entrada formations are exposed. Since all exploration and drilling would be confined to the Morrison formation, it is the only lithologic unit of which a detailed description is given in this report.

The continental Morrison formation is composed of two members, the Brushy Basin shale and the underlying Salt Wash sandstone. The Brushy Basin shale member consists of lenticular sandstones of limited extent interbedded with reddish-brown and greenish-gray shales and mudstones. The sandstones are quartzose to sub-arkosic and quite varied in character, ranging from quartzitic to loosely cemented and from conglomeratic to fine-grained. Sandstone colors are also varied with reddish-brown and light red, gray, green or yellow-brown being the most common. The Salt Wash sandstone member is composed of more continuous lenticular sandstones interbedded with reddish-brown shales and mudstones. Sandstones in the Salt Wash are sub-arkosic, moderately cemented and medium to fine grained; generally with a light reddish-brown or light yellow-brown to gray color.

Nearly all ore deposits in the area occur in the top sandstone lenses of the Salt Wash. Locally there has been mineralization in the lower sandstone lenses of the Salt Wash and in the Brushy Basin, but these occurrences are not economically significant.

Apparently on the southern edge of the Eaverson property the top Salt Wash sandstone is a single massive unit 30 to 40 feet thick, but northward it splits into two lenses separated by 10 to 20 feet of mudstone. The two lenses and the intervening mudstone have a

maximum total thickness of about 70 feet. Either of the two lenses may contain ore deposits. These top sandstone lenses are referred to as the "ore-bearing sandstone".

The U. S. Geological Survey has defined criteria for predicting the favorableness of the ore-bearing sandstone for the occurrence of ore deposits.1/ These criteria of favorableness are 1) sandstone 40 or more feet thick, 2) sandstone light gray to light yellow-brown in color, 3) altered mudstone (greenish-gray in color rather than reddish-brown) associated with the sandstone as pebbles and seams within the sandstone and in the underlying mudstone immediately at the base of the sandstone, 4) abundance of carbonaceous material within the sandstone.

Recent drilling by the Geological Survey has disclosed two favorable trends immediately to the west of the Eaverson property (fig. 2). It is not known whether or not these trends extend onto the property. The ore-bearing sandstone is poorly exposed in Bush Canyon on the east side of the Eaverson lease. The sandstone is of a favorable color and at the one place where the base is exposed there is about two feet of altered basal mudstone. Generally the exposure along the east side of the property looks only semi-favorable.

1/ Weir, D. B., Geologic guides to prospecting for carnotite deposits on Colorado Plateau; U. S. Geol. Survey Bull. 988-B, 1952.

PRODUCTION

There has been a little production from several small mines and open-cuts along the eastern edge of the Eaverson lease. The largest of these mines is the Joe Bush?, which apparently contained from 1 to 3 feet of low grade, bedded type uranium-vanadium ore. Total production for the Eaverson lease is not available but certainly is not over 200 tons.

About 2 miles to the west of the Eaverson property is the Legin Group of mines (fig. 2). To date total production from mines in this group is in excess of 23,000 tons and production is continuing at the present time. The Spud Patch area is about 2½ miles to the southeast of the Eaverson property (fig. 2). Production to date in this area is over 5,000 tons and several mines are still being operated. Other mines in the vicinity of the Eaverson lease have had significant production, but are somewhat smaller than those in the Spud Patch and Legin areas.

PROPOSED EXPLORATION

The applicants' propose to drill a maximum of 150 holes or 25,000 feet with an initial grid pattern of 50 holes spaced 400 feet apart in a north-south direction and 200 feet apart in an east-west direction. These holes would be drilled by a non-coring type drill rig and would penetrate both the ore-bearing

sandstone and the next lower lenticular sandstone horizon. The estimated cost of all drilling is $43,750.00

CONCLUSIONS AND RECOMMENDATIONS

The Eaverson property is recommended for a limited exploratory drilling program because 1) favorable trends are known to extend toward the property, 2) the property is located adjacent to good producing areas, 3) there has been mineralization on the property as shown by several minor occurrences of ore, 4) over most of the property the ore-bearing sandstone is at a fairly shallow depth.

Three major modifications of the applicants' proposed drilling program are recommended. First, the drilling should be diamond coring rather than of a non-coring type since an evaluation of sandstone favorableness is difficult with only cuttings from a churn or rotary drill. Such vital information as abundance of carbonaceous material, color of mudstone pebbles and seams within the sandstone, and thickness of altered mudstone at the base of the sandstone are easily lost with non-core type drilling. To cut drilling costs the Brushy Basin member can be drilled by non-coring methods and only the ore-bearing sandstone need be cored.

Second, only the top Salt Wash sandstone horizon need be cored. The applicants propose to explore the next lower sandstone

horizon because of a mistaken impression that the mines of the Legin Group are producing from that horizon. Actually the Legin mines are producing from the lower lense of the top sandstone horizon where it has been split by an intervening mudstone lense just as on the Eaverson property.

Third, the favorableness of the ore-bearing sandstone could be tested with much fewer than 50 holes. Nine holes spaced as shown in figure 3 are sufficient to determine if favorable zones extend onto the Eaverson property. If favorable areas are found, a second stage of closer spaced drilling could be undertaken to test only the favorable areas. The estimated depth of each first stage hole along with the depth to which it can be drilled by non-coring methods is given in table 1. The total cost of the nine proposed first stage holes should not be in excess of $6,000 if they are drilled by a private contractor.

Hole No.	Estimated Collar Elev.	Non-Core Depth	Estimated Total Depth
1	7400	190	350
2	7395	220	370
3	7325	110	250
4	7320	100	260
5	7265	0	120
6	7240	0	130
7	7230	0	120
8	7260	50	170
9	7210	0	120
		670	1890

Table 1

The second stage of drilling should consist of holes spaced 50 to 200 feet apart, placed to explore favorable zones found in stage one drilling and to outline discovered mineralized areas. This second stage of drilling will utilize an estimated 30 holes averaging about 210 feet in depth for a total of 6300 feet. Locations and exact depth of these holes will depend upon the information obtained from stage one drilling. Probably about one-third of this total footage will be diamond cored.

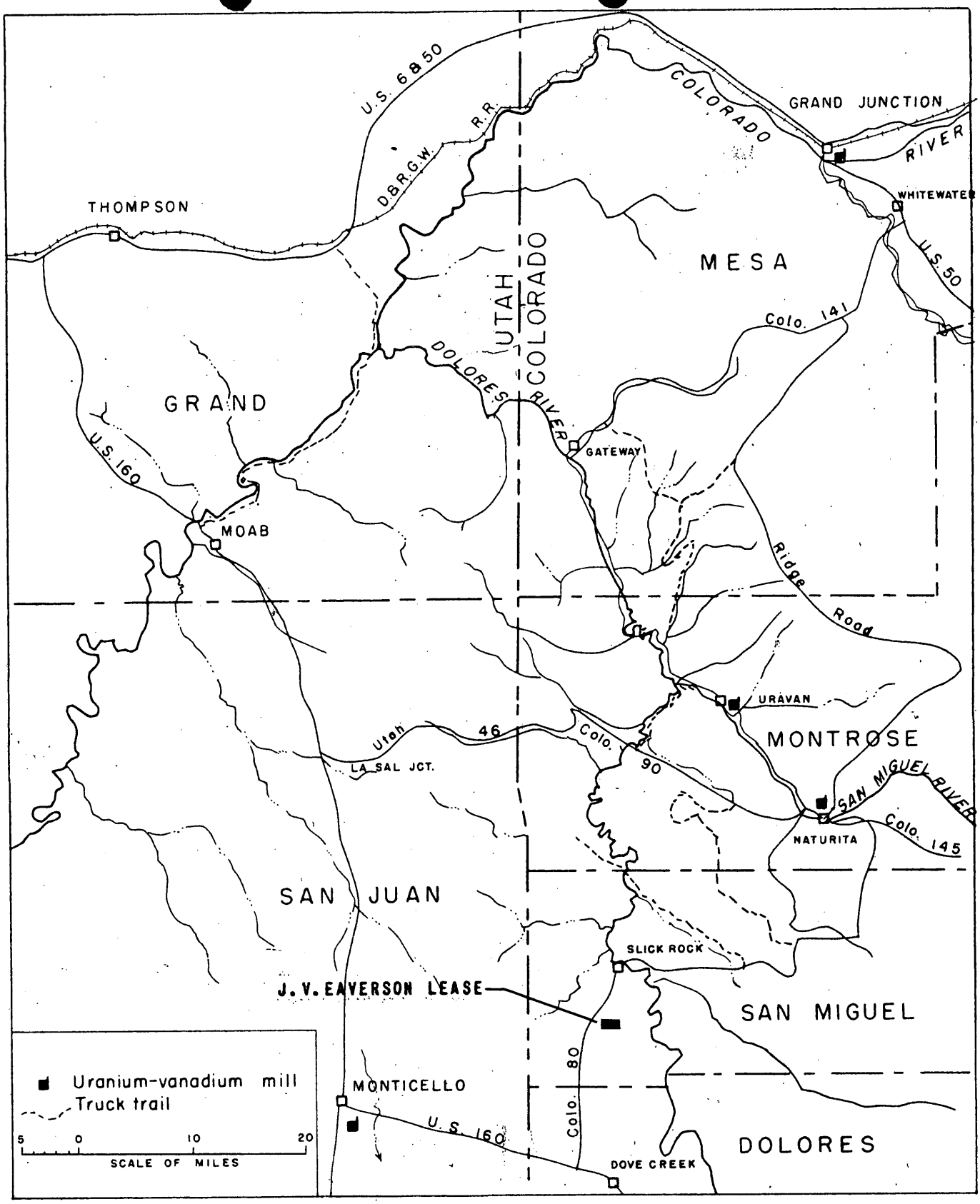
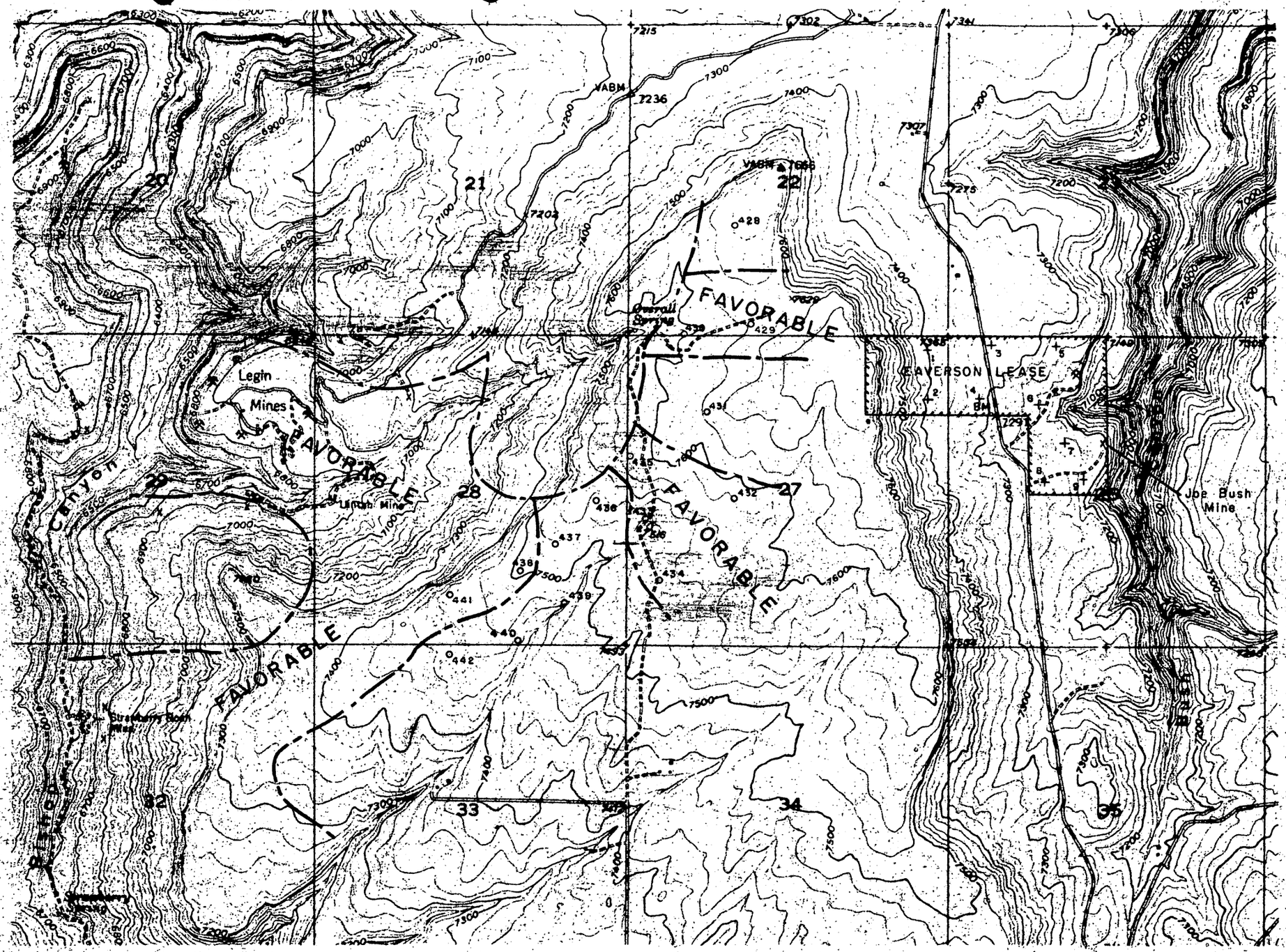


Figure 1. INDEX MAP OF PART OF COLORADO PLATEAU SHOWING LOCATION OF J. V. EAVERSON LEASE, BOWLES-HEFLIN MINING CO., SAN MIGUEL COUNTY COLORADO

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET NO. 3655



EXPLANATION

OUTLINE OF KNOWN FAVORABLE AREA

BOUNDARY OF EAVERSON LEASE

MINE OR PROSPECT

DIAMOND-DRILL HOLE, U.S. GEOLOGICAL SURVEY

PROPOSED DIAMOND-DRILL HOLE

N

1000 0 2000 FEET

CONTOUR INTERVAL
20 FEET

DATUM IS MEAN SEA LEVEL

T. 43 N., R. 19 W.
S.L.M.

Note: BASE FROM U.S. GEOLOGICAL SURVEY QUADRANGLE MAP, EGNAR

Figure 2. MAP SHOWING PROPOSED HOLE LOCATIONS ON J.V. EAVERSON LEASE AND TRENDS OF FAVORABLE GROUND IN VICINITY, BOWLES-HEFLIN MINING CO.
SAN MIGUEL COUNTY, COLORADO

Surname 700
Murphy
Hedges
Kilsgaard
Selfridge
Johnson

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

Mr. Melvin C. Bowles
Partner and General Manager
Bowles-Heflin Mining Company
1200 Chester Street
Aurora 8, Colorado

FEB 21 1955

Re: Docket No. DMEA-3655 (Uranium)
J. V. Lavenson Lease
Slick-Rock Mining District
San Miguel County, Colorado

Dear Mr. Bowles:

The application for assistance in exploring your property in San Miguel County, Colorado, under the above-captioned docket number, has been reviewed by the Rare and Miscellaneous Metals Division of the Defense Minerals Exploration Administration. It has been referred to the Executive Officer of Region III at the following address:

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

The Regional Office will contact you in regard to your project if additional information is required.

Sincerely yours,

C. O. Mittendorf
by ESF
Administrator

FMurphy:am
2-21-55
cc to: Admr. Reading File
Docket
Code 700
Mr. Murphy
DMEA Field Team, Region III(2)

Surname 700

Murphy
Selfridge.

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

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

FEB 21 1955

Re: Docket No. 3655 (Uranium)
Bowles-Heflin Mining Company
J. V. Lavenson Lease
Slick-Rock Mining District
San Miguel County, Colorado

Dear Mr. Traver:

The captioned application is referred to Region III Field Team for a field examination and recommendation. A copy of the application was retained by your office.

Enclosed are copies of memoranda from R. D. Trace, dated February 2, and John E. Crawford, dated February 16, 1955, members of the Uranium Commodity Committee.

As you mention in your letter to this office transmitting the subject application, copies of the assignment of the lease from Mr. Bowles to the applicant company are lacking. Also, we suggest that you advise the Applicant that executed copies of an Owner's Consent to Lien will be required in the event that a contract is recommended.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Enclosures 4

APPROVED:

J. H. Hedges
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

FMurphy:am
2-21-55
cc to: Admr. Reading File
Operating Committee
Docket
Messrs. J. E. Crawford, Rm. 3641
J. O. Hosted, Rm. 3210, GSA
T. H. Kiilsgaard, Rm. 5224
Code 700
Mr. Murphy

2/17/55 gla

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

Defense Minerals Administration
RECEIVED
FEB 17 1955

February 16, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4445

From: Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Docket 3655, Bowles-Heflin Mining Co.,
1200 Chester St., Aurora, Colorado

I have reviewed the application included in the subject docket and have discussed it with Joseph O. Hosted, representative of the Atomic Energy Commission.

We recommend that the attached application be referred to the Field Team for investigation and report, and that the Field Team be requested to discuss the application with Ernest R. Gordon, Atomic Energy Commission, Grand Junction, Colorado.

John E. Crawford
John E. Crawford

Attachment

Copy to: Branch of Rare and Precious Metals
Division of Minerals
J. C. Hosted (2)
J. E. Crawford

IN REPLY REFER TO:

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB - 3 1955

February 2, 1955

Re: DMEA-3655
Bowles-Heflin Mining Company
J. V. Eaverson lease
Slick Rock District
San Miguel Co., Colo.
$43,750 - Uranium

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: R. D. Trace, U. S. Geological Survey

Subject: Review of application

The Eaverson (Eavenson? Evanson?) lease, in the south part of the Slick Rock district, has produced a few tons of uranium ore from small deposits of carnotite in the Salt Wash member of the Morrison formation.

When the writer examined the property in 1950, it was scarcely more than a prospect, and apparently only a little work has been done since. The adit described by the applicant was not accessible in 1950. The few open cuts and pits on the property contained only small scattered areas of sub-ore grade material. At that time, at least, the area did not look particularly promising.

Since 1950, the Geological Survey has drilled several core holes both to the east and west of the property. Several holes were drilled in sec. 25; all were barren. Several holes were drilled also in sec. 27; a few holes contained weak mineralization. The exact location of the holes and the assays are not available to the writer.

The applicant proposes only rotary drilling. If a project were granted, a few core holes would be desirable. A geologic appraisal of the host rock would be difficult to make from cuttings only.

The applicant proposes to drill the first (top) and also the second rim of the Salt Wash. This poses two questions: 1) Are the known deposits in the first rim, as the applicant states, or are they in the second rim; and 2) although some good deposits have been mined from the second rim in the nearby Spud Patch area -- in general the second rim has produced only a small quantity as compared to the quantity produced from the first (top) rim.

Although the property probably does not justify any exploration, I recommend that it be referred to the Field Team in Grand Junction. They have the results of the Survey drilling and also they may have examined recently the adit and other openings on the property.

Bob Trace

R. D. Trace

IN REPLY REFER TO:

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB - 3 1955

February 2, 1955

Re: DMEA-3655
Rawlins-Hadlin Mining Company
J. V. Ravenscroft lease
Slick Rock District
San Miguel Co., Colo.
$43,750 - Uranium

Memorandum

To: E. V. Ellis, Defense Minerals Exploration Administration

From: R. D. Trace, U. S. Geological Survey

Subject: Review of application

The Ravenscroft (Ravenscroft? Evanscroft?) lease, in the south part of the Slick Rock district, has produced a few tons of uranium ore from small deposits of carnotite in the Salt Wash member of the Morrison formation.

When the writer examined the property in 1950, it was scarcely more than a prospect, and apparently only a little work has been done since. The adit described by the applicant was not accessible in 1950. The few open cuts and pits on the property contained only small scattered areas of sub-ore grade material. At that time, at least, the area did not look particularly promising.

Since 1950, the Geological Survey has drilled several core holes both to the east and west of the property. Several holes were drilled in sec. 25; all were barren. Several holes were drilled also in sec. 27; a few holes contained weak mineralization. The exact location of the holes and the assays are not available to the writer.

The applicant proposes only rotary drilling. If a project were granted, a few core holes would be desirable. A geologic appraisal of the host rock would be difficult to make from cuttings only.

The applicant proposes to drill the first (top) and also the second rim of the Salt Wash. This poses two questions: 1) Are the known deposits in the first rim, as the applicant states, or are they in the second rim; and 2) although some good deposits have been mined from the second rim in the nearby Spud Patch area — in general the second rim has produced only a small quantity as compared to the quantity produced from the first (top) rim.

Although the property probably does not justify any exploration, I recommend that it be referred to the Field Team in Grand Junction. They have the results of the Survey drilling and also they may have examined recently the adit and other openings on the property.

R. D. Trace

RDTrace:hlm
G-2/2/55

Copy to: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641 Interior

Bowles-Heflin Mining Co.
1200 Chester Street
Aurora 8, Colorado

January 31, 1955
Subject: DMEA 3655
Re: Exploration Assistance
J. V. Eaverson Lease
Eavenson Lease

Gentlemen:

The receipt of your application dated January 21, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA 3655 and referred to the Rare and Miscellaneous Metals Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

January 31, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region III.

DMEA - 3655 Bowles-Heflin Mining Co.

Robert E. Adams,
Chief, Operation's Control
and Statistics Division

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

224 New Customhouse
Denver 2, Colorado

January 28, 1955

3658

Memorandum

To: Secretary to the Operating Committee
Defense Minerals Exploration Administration

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Uranium), Bowles-Heflin Mining Company, J. V. Eaverson lease, Slick-Rock Mining District, San Miguel County, Colorado

Enclosed are three copies of the subject application in the amount of $43,750.00.

This application is well prepared but does lack an Assignment of Lease from Melvin C. Bowles to the applicant company (Bowles-Heflin Mining Company) and Permission for Assignments where required.

W. M. Traver

W. M. Traver

Enclosures

WMT:ad

Copy to: Subject (Bowles-Heflin Mining Co.)
Administrator, DMEA
Chron

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

224 New Customhouse
Denver 2, Colorado

January 28, 1955

Memorandum

To: Secretary to the Operating Committee
Defense Minerals Exploration Administration

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Uranium), Bowles-Heflin Mining Company, J. V. Eaverson lease, Slick-Rock Mining District, San Miguel County, Colorado

Enclosed are three copies of the subject application in the amount of $43,750.00.

This application is well prepared but does lack an Assignment of Lease from Melvin C. Bowles to the applicant company (Bowles-Heflin Mining Company) and Permission for Assignments where required.

W. M. Traver

Enclosures

Company Files

MF-103
(Revised April 1952)

send to field

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Date Rec'd. 1

Form Approved
Budget Bureau No. 85.2.

JAN 20 1955

BUREAU OF MINES
Denver, Colorado

Company File Copy

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. 3655
Metal or Mineral Uranium
Date Received 1-31-55
Estimated Cost $43,750
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Bowles-Heflin Mining Co., 1200 Chester St., Aurora, Colorado.
(A partnership consisting of)
Melvin C. Bowles 1200 Chester Street Aurora 8, Colorado.
Mr. A. L. Heflin 1350 Del Mar Prky. Aurora 8, Colorado.

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract, to-wit: North-half of the Northwest-Quarter (N½NW¼), Southeast-Quarter of the Northwest-Quarter (SE¼NW¼) of Section Twenty-Six (26), and the Northeast-Quarter of the Northeast-Quarter (NE¼NE¼) of Section Twenty-Seven (27), all in Township Fourty-three (43) North, Range Nineteen (19) West, N.M.P.M., San Miguel County, Colorado.

(*b*) State any mine name by which the property is known. The J. V. Eaverson Lease

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise
Lessee, see attached lease and assignments thereof.

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

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

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

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

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

(*c*) The work will start within 30 days and be completed within 12 months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

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

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)? YES.

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

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

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated January 21, 1955

Bowles-Heflin Mining Co.
(Applicant)

By Melvin C. Bowles
Partner & Gen. Mgr.

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

RECEIVED

4. Physical description:

(a) There has been a very limited amount of exploration work on this property, what little has been done consisted of a few shallow drill holes, a little bulldozer work and a short exploration drift, all on the rim on the west side of Bush Canyon. Back of this rim there has never been any exploration and this property extends over one/half mile west.

As we just recently aquired the lease on this property, the only work we have done ourselfs is to rehabilitate the short exploration drift and at present we are doing some additional drifting in it.

(b) We have no record of the past production, however, the work that has been done indicates there may have been several loads of ore produced from this property. We do have a copy of one settlement sheet which shows a recent lot of 24 tons shipped to the Vanadium Corporation of America by the Alarado Mining Corporation (party we aquired this lease from) which was settled at .19% U_3O_8-uranium and 1.69% V_2O_5-vanadium. They stated to us at the time we aquired this lease from them that this ore was saved from the work they did in the short exploration drift, which is where we are working at present and recovering a small amount of ore from our exploratory drifting. There is no known ore reserves on this property.

(c) This property lies along and over one/half mile back from the rim of Bush Canyon in which all three rims of the Morrison formation from which Carnotite ore is being produced in this area. This is one of the older and principal uranium producing area's located on the Colorado Plateau. This property being of particular interest to us because of the relatively shallow depths for drilling and a large portion of the surface being comparatively flat and covered with only scattered sage brush and a few ceder trees. There has been some drilling in this general area which was fairly successful in locating ore bodies back from the rims, which at least is somewhat indicative that we could expect a relative degree of success. We do have more rim showings that much of the property that has been developed into good producing mines.

(SEE ATTACHED MAPS AND GEOLOGIST REPORT)

(d) This property is easily accessable the year around as it is crossed in the middle by highway # 80, being located about 15 miles north of Dove Creek, Colorado, where additional living facilities are available, and most material and supplies are obtainable. Also being about 38 miles from Monticello, Utah, where the Government uranium mill is located, all over very good roads. There is two livable cabins located on the property, one which we are using at present and the other being available for use by additional personnel conducting this project if desired by them.

(e) There is sufficent manpower available in this immediate area for this project, All material, supplies and equipment can be secured locally either by purchase and a direct wage bases if we were to undertake the work ourselfs or by letting a contract for it to an independent contractor, of which there is several available in the area.

5. The exploration project:

(a) The mineral for which we wish to explore is URANIUM.

(b) The exploration project which we are desireous of conducting on this property at the present time is one of initial exploration, and will not consist of delineation nor blocking out of any ore bodies encountered, (we are willing to carry out this additional work on company account in any area's this initial exploration shows it to be justified).

This phase of the work will require drill holes of approximately 130 foot depths on the east side of the property back from the rim of Bush Canyon increasing in depth as one crosses the property to the west up to an estimated 330 foot depth, (see map of the area). This depth being necessary to cut both the top and middle sections of the Salt Wash member of the Morrison formation underlying this property. The middle section being the principal ore producing horizon in this general area.

The ore bodies in this general area seems to occur in trends running in a north-south direction. Therefore this initial exploration can be carried out satisfactorily by the placing of these drill holes on not less than 100 foot centers in an east and west direction and on not less than 200 foot centers in a north and south direction.

To drill out the entire area covered by this lease on this basis would require a maximum of 350 holes having an estimated depth of 230 feet which would equal approximately 80,000 feet of drilling. However, as the property is cut on the east side by the canyon and the extreme western side would be excessive drilling depths. We plan to drill only the most likely portions of that area which is accessible and of reasonable drilling depths, and in all cases the holes will not be placed the minimum distance between centers.

Therefore, we feel that a maximum of 150 holes with a maximum of 25,000 feet of drilling, which ever was completed first should be sufficent to reasonably determine the production potential of this property.

Of the varies methods of drilling available and being used, the rotary drill is the most practical for this project. The depth being a bit extreme for wagon drilling besides the formation being quite moist which makes wagon drilling more difficult, and the formations as well as the ore producing horizons being to well known in this general area by the surrounging operations to justify the use of a diamond drill with its excessive operating costs.

This project to be for not in excess of 25,000 feet of rotary drilling.

(c) This work will start within 30 days and be completed within 1 year from the date of an exploration project contract.

5. The exploration project:

(d) The Bowles-Heflin Mining Company, a partnership consisting of Melvin C. Bowles of 1200 Chester Street, Aurora 8, Colorado and Mr. A. L. Heflin of 1350 Del Mar Prky., Aurora 8, Colorado has been actively engaged in uranium exploration, development and production since 1948, having produced many tons of uranium ores. We operated the Yellow Circle mines in the Moab, Utah area from 1948 to 1952, on which we were granted a D.M.A. loan on in the fall of 1951 which was later assigned to Plateau Mining Co. in 1952 when we joined with Thornburgs in forming this new company. From 1952 to 1954 we joined with Mr. Ray Bennett and Mr. Howard Balsley for the purpose of rehabilitation, exploration and the development of certain properties in the Central City area with the aid of two A.E.C. exploration contracts for pitchblend ores, These properties now being operated by the Cherokee Uranium Mining Corporation to which we assigned them in consideration of stock. Also during 1952 to 1954 we joined with other parties in the operation of the Barnes Group of claims on Tenderfoot Mesa, Gateway, Colorado, which interest has recently been sold to the other party. Our only present operation being the limited exploration being conducted on this property.

Melvin C. Bowles has been and is the operating partner of this partnership and has been supervisor of all its operations. He is 34 years old and has been actively engaged in mining since 1939 as prior to this partnership he worked for varies companies in many different jobs aquiring a variety of experience.

Melvin C. Bowles will personally supervise this project and either himself or his brother Vernon K. Bowles who has been employed by this partnership since it started will be on the job at all times.

6. Estimate of costs:

(a) Independent Contracts.- It is our desire to engage the services of an independent contractor to do this drilling. We do not have the necessary equipment ourselfs, and from past experience do not feel it would be adviseable to purchase such. There is a number of drilling companies and drill owner-operators available in the area for this type work and we have observed that they are bidding very competively for work, particulary this fall and winter.

Therefore, it is our desire to put this project as approved out for competative bids and to let the contract to the lowest satisfactory bidder. (The per unit cost per foot of drilling under no circumstances to exceed $1.75 per foot).

This per unit cost per foot of drilling would enclude the furnishing of all necessary equipment, material, supplies, expenses, labor for drilling, supervision, spotting of holes, logging of cuttings, ore sampling, probing of holes, mapping and related work.

6. Estimate of costs:

(a) Independent Contracts.

25,000 feet of rotary drill hole at $1.75 per foot. $ 43,750.00

(b) Labor, supervision, consultants.

NONE - encluded in above.

(c) Operating materials and supplies.

NONE

(d) Operating equipment.

NONE

(e) Rehabilitation and repairs.

NONE

(f) New buildings, improvements, installations.

NONE

(g) Miscellaneous.

NONE

(h) Contingencies.

NONE

ESTIMATED TOTAL COST OF THE PROJECT - - - - - - - - - $ 43,750.00

7. Participation:

(a) We are prepared to furnish our share of the cost of this project.

(b) We propose to furnish our share of the cost in money.

(will prepare and furnish a financial statement of the partnership and of both partners if desired).

AMENDMENT

5. The exploration project:

(b) It has been found desireable to break this exploration project down into three separate phases, as follows:

Phase # 1. Preliminary, to consist of drilling on a grid pattern, placing the drill holes 200 feet between centers in a east - west direction and 400 feet between centers in a north - south direction, and to a depth that will penetrate at least the two top rims of the salt-wash member of the Morrison formation (SEE MAP # 2).
This phase consisting of sufficent drilling to determine at what depth ore and/or mineralization occurs, also if ithe frequency of occurance is enough to justify additional exploration.
This phase to be limited to fifty (50) drill holes or ten thousand (10,000) feet of drilling which ever is completed first.

Phase # 2. Secondary, to consist of drilling within the grid pattern placing the holes half way between the phase # 1 holes, making the holes 100 feet between centers in a east - west direction and 200 feet between centers in a north - south direction and to the depth necessary t o penetrate the mineralized parts of the formation, in such parts of the area that phase # 1 drilling shows sufficent ore and/or mineralization to justify the additional exploration to be conducted.
This phase to be limited to fifty (50) drill holes or seven thousand and five hundred (7,5000) feet of drilling which ever is completed first.

Phase # 3. Final, to consist of drilling within the grid pattern placing these holes half way between the phase # 1 and phase # 2 holes, making the holes 50 feet between centers in a east - west direction and 100 feet between centers in a north - south direction and to the depth necessary to penetrate the mineralized parts of the formation, in such parts of the area that Phase # 1 and phase # 2 drilling shows sufficent ore to justify additional exploration to be conducted.
This phase to be limited to fifty (50) drill holes or seven thousand and five hundred (7,500) feet of drilling which ever is completed first.

TOTAL PROJECT to be limited to one hundred and fifty (50) drill holes or twenty-five thousand (25,000) feet of drilling which ever is completed first.

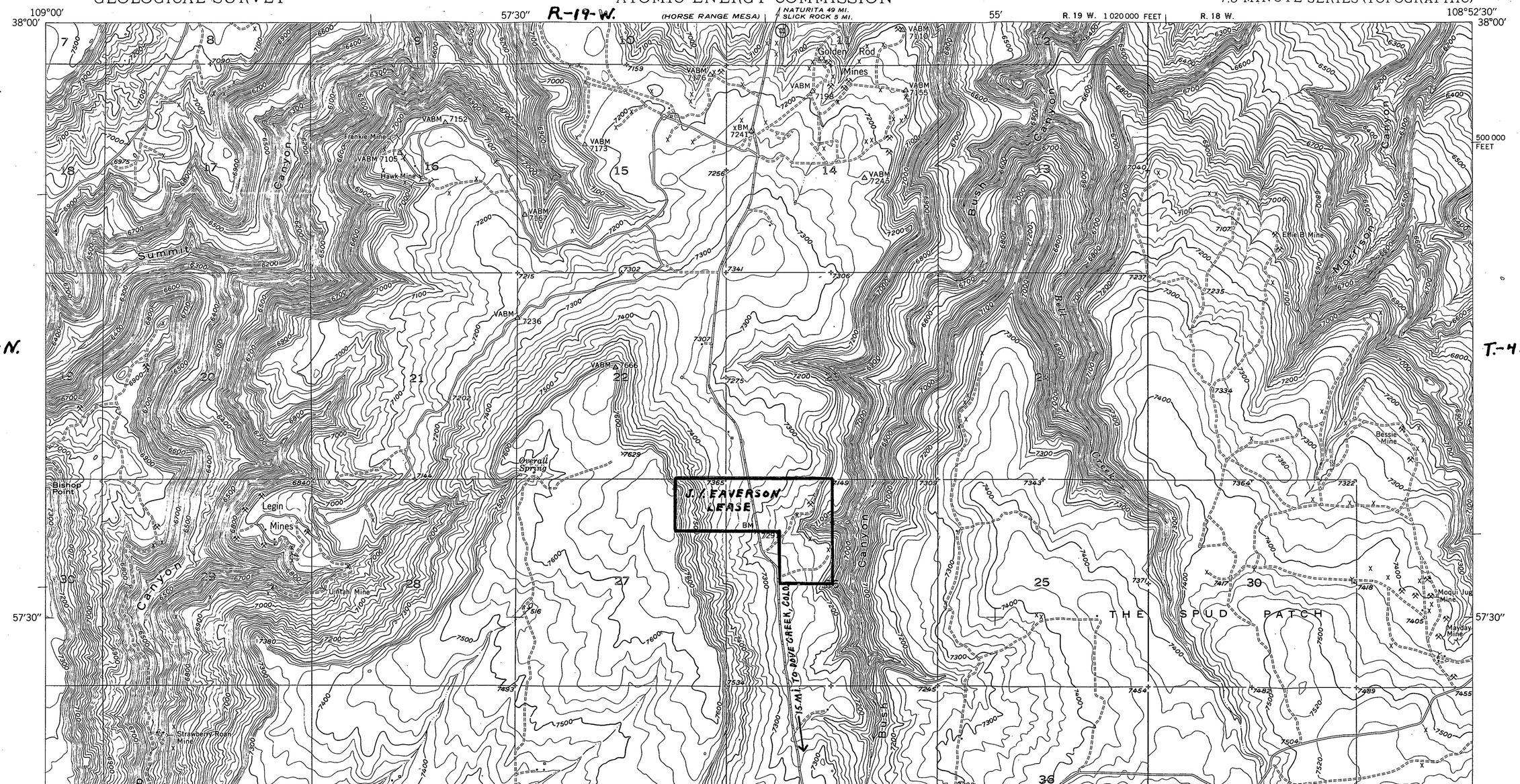
6. Estimate of costs:

(a) As can best be determined at present it will cost $1.75 per foot to get this work done by a suitable independent contractor and to cover expense of supervision, spotting of drill holes, roads and drill sites, logging of drill cuttings, ore sampling and assaying, probing of drill holes, mapping and all other related work and expense.

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

UNITED STATES
ATOMIC ENERGY COMMISSION

EGNAR QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)



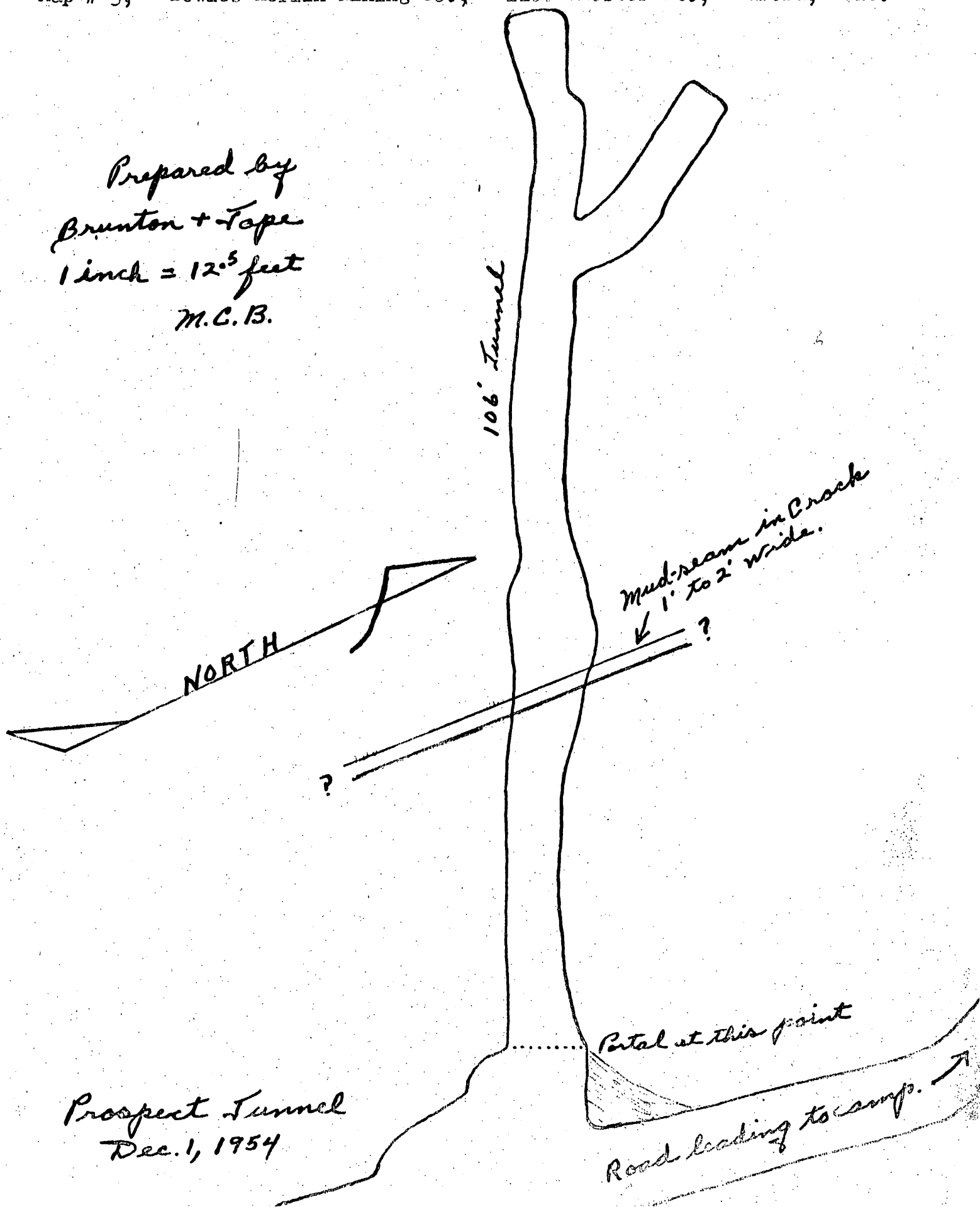
MAP # 1.

MAP OF THE AREA

J. V. EAVERSON LEASE

BOWLES-HEFLIN MINING CO.
1200 CHESTER ST.
AURORA, COLO.

Map # 3, Bowles-Heflin Mining Co., 1200 Chester St., Aurora, Colo.



Geologist Report, Bowles-Heflin Mining Co., 1200 Chester St., Aurora, Colo.

LORENZO C. DEMARS
Consulting Geologist
Grand Junction, Colorado
P. O. Box 1948

October 21, 1954

TO: The Buyers of the J. V. Evanson Lease:
BOWLES-HEFLIN MINING CO.

Dear Sirs:

This report briefly covers the geology and uranium possibilities of the J. V. Evanson lease which is a tract of land covering 160 acres located in T. 43 N., R. 19 W., section 26 in the southwestern part of the Slick Rock Mining district in western San Miguel County, Colorado. This tract of land is found approximately three miles north of the small town of Egnar on and around Bush Creek.

INTRODUCTION

Previous work in the area has consisted of bulldozing which has been done on the rim just west of Bush Creek. Some hot spots were found, and at least two of these hot spots were checked by the present writer. The results were encouraging. A tunnel has been driven in on the rim, in a westerly direction, an estimated 200 feet, and evidence on the surface shows that some drilling was done as a guide to the tunneling below.

STRATIGRAPHY

At this locality the Salt Wash member of the Morrison formation is the ore producer. This member consists of fine to coarse grained, cross bedded, and channeled fluviatile sandstones, and it contains considera-ble carbonized organic material. The thickness of the Salt Wash member in this area is probably over

350 feet. In this general area the ore horizon has been the middle section of the Salt Wash member of the Morrison formation. The Morrison formation is very well exposed in this locality, and the great thickness of this member is an encouraging factor for the possible localization of large deposits of uranium ore. It is believed that the present work in the area has been entirely too shallow. AND IN TOP RIM From gathered geologic data, and from personal communication with Russel Woods, mining engineer for Mc Cormick, it is concluded that two depths have the best chance for finding an accumulation of uranium ore. One is a depth of seventy feet, and the other is a depth of one hundred and thirty feet. Most of the work accomplished to date was done from about 15 to about 25 feet.

STRUCTURE

The property is located just about two miles in a southeasterly direction from the rather famous Skidmore and Mc Cormick mines. According to Russel Woods, mining engineer for Mc Cormick, the Skidmore property has brought in about 3 million dollars in five years of operation. The development of the Mc Cormick property is by no means complete, and still in one year it brought in about 180,000 dollars. These properties are along the Uravan Mineral belt, and the J. V. Evanson lease is rather close to the mineral belt. It is quite possible that the faulting at right angles to the trend of the Uravan Mineral belt passes through the Evanson land, ~~or~~ or very close to it. There is a system of jointing in this area similar to that found in the area of the Governor claims, and it has provided openings through which mineralizing solutions circulated. The rather

high scintillator readings are associated with this jointing system.

ORE DEPOSITS

Nothing of any great value has been taken off the property yet, however, the shallow depth of the workings is no doubt responsible for this. According to Robert Olesen, previous owner of the land, some 25 or 26 tons of ore was shipped from the property to Durango, and it assayed .24 percent in uranium and 2.08 percent in vanadium.

It is believed that at greater depth; 70 to 130 feet, the possibilities will be much greater for the localization of a large deposit of uranium ore. It is quite interesting that some good ore was found at such a shallow depth as 15 to 25 feet. The uranium found on the surface, and near the surface is proof of the presence of the ore in the area.. It is somewhat suggestive that greater values could be found at greater depth.

CONCLUSIONS

Geologic conditions appear favorable for the development of ore bodies within the J. V. Evanson property. Further exploration of the area is recommended, and offers good possibilities of success.

Very Sincerely Yours,

Lorenzo C. Demars

Lorenzo C. Demars
Consulting Geologist

ASSIONMENT OF MINING LEASE

THIS AGREEMENT, Made and entered into this 15TH day of December, 1954 by and between ALARADO MINING CORPORATION, a Colorado corporation, hereinafter referred to as the Assignor, and MELVIN C. BOWLES of Aurora, Colorado, hereinafter referred to as the Assignee.

WITNESSETH:

THAT WHEREAS, on the twelfth day of January, 1954, a lease was made and entered into by and between J. V. Lavenson, as Lessor and John Griffin and S. M. Sisk, as Lessees, covering the following described properties situate in San Miguel County, Colorado, to-wit:

> North half of the Northwest Quarter (N½NW¼), Southeast Quarter of the Northwest Quarter (SE¼NW¼) of Section Twenty-six (26), and the Northeast Quarter of the Northeast Quarter (NE¼NE¼) of Section Twenty-seven (27), all in Township Forty-three (43) North, Range Nineteen (19) West, N.M.P.M.

WHEREAS, said lease was recorded in the office of the County Clerk and Recorder of San Miguel County, Colorado on the eighteenth day of May, 1954 in Book 223 at page 102 of the records of said county; and

WHEREAS, on the eighth day of February, 1954, John Griffin and S. M. Sisk entered into a certain assignment of said lease to Alarado Mining Corporation; and

WHEREAS, said assignment was recorded in the office of the County Clerk and Recorder of San Miguel County, Colorado on the eighteenth day of May, 1954 in Book 223 at page 105 of the records of said county; and

WHEREAS, said lease and all rights thereunder or incident thereto are now owned by Alarado Mining Corporation;

NOW THEREFORE, for and in consideration of the sum of One Thousand Two Hundred Fifty ($1,250.00) Dollars to the said Assignor in hand paid by the said Assignee, the receipt whereof is hereby acknowledged by the Assignor, and in further consideration of the covenants and agreements herein contained, it is agreed as follows:

1. The Assignor, Alarado Mining Corporation, does hereby grant, bargain, sell, convey and assign unto the Assignee, Melvin C. Bowles, his heirs and assigns, the above-described Mining Lease and Assignment thereof, and the leasehold estate created thereby, and all rights, privileges and easements granted therein; to have and to hold said Mining Lease, leasehold estate and the rights, privileges and easements therein granted to the said Assignee, his heirs and assigns, forever.

2. The Assignee shall keep and perform each and all of the terms and conditions of said mining lease on the part of the lessee therein to be kept and performed, and shall keep and perform all of the terms and conditions of that certain assignment from John Griffin and S. M. Sisk to Alarado Mining Corporation on the part of the Assignee therein to be kept and performed.

3. The Assignee shall indemnify and save harmless the Assignor from all damages arising to the Assignor on account of the failure of the Assignee to keep and perform all the terms and conditions of the original lease and of the assignment from John Griffin and S. M. Sisk to Alarado Mining Corporation.

4. All royalties provided for by the terms of the original lease and of the assignment from John Griffin and S. M. Sisk to Alarado Mining Corporation shall be paid by the Assignee in accordance with the terms of the original lease and the assignment thereof.

5. This assignment shall be binding upon and shall inure to the benefit of the heirs, executors, administrators, successors and assigns of the respective parties hereto.

IN WITNESS WHEREOF the parties hereto have caused these presents to be executed the day and year first above written.

(Corporate Seal)

ALARADO MINING CORPORATION

ATTEST: M. Frances Lamb Secretary

By Robert Oleson President

ASSIGNOR

Melvin C. Bowles
MELVIN C. BOWLES

ASSIGNEE

STATE OF COLORADO }
County of } ss.

The foregoing instrument was acknowledged before me this 15 day of December, 1954 by ROBERT OLESEN as President and M. FRANCES GAMBLE as Secretary of ALARADO MINING CORPORATION, a corporation.

Witness my hand and official seal.

My commission expires My Commission expires Nov. 2, 1957.

Todd W. Bowman
Notary Public

TODD W. BOWMAN NOTARY PUBLIC EAGLE COUNTY, COLORADO

STATE OF COLORADO }
County of } ss.

The foregoing instrument was acknowledged before me this _____ day of December, 1954 by MELVIN C. BOWLES.

Witness my hand and official seal.

My commission expires My Commission expires Nov. 2, 1957.

Todd W. Bowman
Notary Public

TODD W. BOWMAN NOTARY PUBLIC EAGLE COUNTY, COLORADO

No. 113853 DATE: MAY 18, 1954 TIME: 1:55 P.M. Charles C. Carriere
Recorder

ASSIGNMENT OF MINING LEASE

THIS AGREEMENT Made and entered into this 8th day of February, 1954 by and between JOHN GRIFFIN and S. M. SISK of Dove Creek, Colorado of the first part hereinafter referred to as the Assignors and ALARADO MINING CORPORATION, a Colorado corporation hereinafter referred to as assignee.

WITNESSETH THAT:

WHEREAS, on the 12th day of January, 1954 a lease was made and entered into by and between J. V. Eavenson as lessor and John Griffin and S. M. Sisk as lessees covering the following described property located in San Miguel County, Colorado, to-wit:

> North half of the Northwest Quarter ($N\frac{1}{2}NW\frac{1}{4}$), Southeast Quarter of the Northwest Quarter ($SE\frac{1}{4}NW\frac{1}{4}$) of Section Twenty-six (26), and the Northeast Quarter of the Northeast Quarter ($NE\frac{1}{4}NE\frac{1}{4}$) of Section Twenty-seven (27), all in Township Forty-three (43) North, Range Nineteen (19) West, N.M.P.M.

And WHEREAS, said lease was recorded in the office of the County Clerk and Recorder of San Miguel County, Colorado in Book 223 at Page 102 of the records of said county on the 18TH day of MAY, 1954, and

WHEREAS, the said lease and all rights thereunder or instant thereto are now owned by the said John Griffin and S. M. Sisk.

NOW THEREFORE in consideration of the sum of one dollar and other good and valuable considerations the receipt whereof is hereby acknowledged by the assignors and in consideration of the covenants and agreements of the assignee herein contained the assignors, John Griffin and S. M. Sisk do hereby bargain, sell and convey unto Alarado mining Corporation, the assignee, its successors and assigns, the aforesaid mining lease and leasehold estate created thereby and all rights, privileges and easements granted therein. TO HAVE AND TO HOLD the said mining lease, leasehold estate and the rights, privileges and easements therein granted to said assignee, its successors and assigns forever.

It is hereby agreed by and between the assignors and assignee as follows:

1. That the assignee will keep and perform each and all of the terms and conditions of said mining lease on the part of the lessee therein to be kept and performed and will do all of the minimum work and development work required to be done on said mining property, and in the event of its failure so to do, this assignment shall be null void and the assignors may enter upon and take possession of all of the mining property as fully and with a like affect as though this assignment had not been executed.

2. The assignee may relinquish said lease to the assignors at any time provided that the current months minimum labor has been done as provided in said lease and that there are no liens, clouds or encumbrances upon the lease or leasehold estate and said assignee shall then and thereafter be relieved of all further liability by reason of this assignment.

3. The assignee shall indemnify and save harmless the said assignors from all damages arising to the assignors on account of the failure of said assignee to keep and perform all the terms and conditions of said original lease or of this assignment.

4. The assignors hereby reserve unto themselves a royalty and rent in the amount of seven per cent (7%) of the fair market value of the ores mined, recovered and sold from the claims f.o.b. stockpile at the mill where sold. Production bonuses, if any, shall accrue seven per cent (7%) to the assignors. Hauling and development allowances shall be the exclusive property of the assignee and no rent or royalty shall be payable thereon. A royalty shall be payable monthly for the ores mined, recovered and sold during the preceeding month and shall be payable on or before the 20th day of each month. True copies of all settlement sheets shall be furnished to the assignors together with the name and address of the buyer and at the election the assignors may file a copy of this lease with the buyer and the buyer may remit the assignors' share direct.

5. All royalties provided for by the terms of said original lease shall be paid by the assignee to the original lessor in accordance with the terms of the original lease.

IN WITNESS WHEREOF the parties have caused these presents to be executed on the 8th day of February, 1954.

John Griffin

S M Sisk

ALARADO MINING CORPORATION

BY Robert Olesen
President

STATE OF COLORADO)
: ss.
COUNTY OF DOLORES)

The foregoing instrument was acknowledged before me this 8th day of February, 1954 by JOHN GRIFFIN and S. M. SISK.

Guy B. Lyons, Jr.
Notary Public

My Commission Expires:
Dec. 10th, 1957

STATE OF COLORADO)
: ss.
COUNTY OF DOLORES)

The foregoing instrument was acknowledged before me this 8th day of February, 1954 by ROBERT OLESEN, president of ALARADO MINING CORPORATION, who stated that he executed said instrument for and in behalf of said Corporation as an officer and director of said Corporation.

Guy B. Lyons, Jr.
Notary Public

My Commission Expires:
Dec. 10th, 1957

No. 113852 DATE: MAY 18, 1954 TIME: 1:50 P.M.
Charles C. Carriere
Recorder

LEASE AGREEMENT

THIS AGREEMENT, made and entered into this 12th day of January, 1954, by and between J. V. EAVENSON, of Almont, Colorado, party of the first part, hereinafter referred to as Owner, and JOHN GRIFFIN and S. M. SISK, of Dove Creek, Colorado, of the second part, hereinafter referred to as Lessees, WITNESSETH:

The said Owner for and in consideration of Ten dollars ($10.00) and other good and valuable consideration, receipt of which is hereby acknowledged and of the covenants and agreements hereinafter formed, has granted, demised, leased and let, and by these presents does grant, demise, lease and let unto the said Lessees for the sole purpose of mining all of that certain tract of land situated in the County of San Miguel, State of Colorado and described as follows:

> North half of the Northwest quarter (N½NW¼), Southeast quarter of the Northwest quarter (SE¼NW¼) of Section Twenty-six (26), and the Northeast quarter of the Northeast quarter (NE¼NE¼) of Section Twenty-seven (27), all in Township Forty-three (43) North, Range Nineteen (19) West, N.M.P.M.

Said lease is upon the following conditions, to-wit:

1. Term: The lease shall extend until May 28, 1954 and so long thereafter as ore is produced in commercial quantities or an exploration and development program is being carried on.

2. Rent: As payment for rent, Lessees agree to pay Owner a royalty in the amount of Eight per cen (8%) of the fair market value of ores mined, recovered and sold from the claims F.O.B. stockpile at the mill where sold. Production bonuses, if any, shall accrue Eight per cen (8%) to the Owner. Hauling and development allowances shall be the exclusive property of Lessees and no rent or royalty shall be payable thereon. The royalty shall be payable monthly for ores mined, recovered and sold during the preceeding month and shall be payable on or before the 20th day of each month. True copies of all settlement statements shall be furnished the Owner, together with the name and address of the buyer, and at the election of Owner he may file a copy of this lease with the buyer and the buyer may remit Owner's share direct.

3. Work to be performed: Lessees agree to move onto the above described mining lands before the 28th of May, 1954 and to commence a drilling and exploration program or mining program and continue the same continuously throughout the term of this agreement, Provided, however, that the Lessees shall cause to be performed not less than thirty (30) man shifts of labor in core drilling, mine development work, or mining for each and every month that this lease is in effect, with the value of a man shift being fixed at $18.00 per eight (8) hour day, and where core or other drilling is done in an effort to prove the existence of ore bodies, credit shall be given for such drilling at the rate of a one man shift for each $18.00 expended for such drilling, with credit to be given for any drilling which may have been done during the last half of the year 1953 and to the date of this lease, as well as after the date of this lease, and should the Lessees default in the performance of the thirty (30) man shifts of labor required to be performed each and every month for a period of not to exceed two calendar months on account of inclement weather or other conditions beyond their control, they shall be permitted to make up the same during the succeeding sixty day period by doing additional shifts of work or the equivalent thereof equal to the amount in default. It is distinctly understood and agreed by and between the parties that the Lessees shall furnish to the Owner signed receipted bills for work and (or) drilling, showing the amount of work done and the sum or sums of money paid by the Lessees therefor, and where the Lessees, or either of them, or any of their assigns, should perform any of the labor so required, such person

shall furnish to the Owner a sworn statement giving the details and value of such work done. Such statements shall be furnished to the Owner on or before the 20th day of the month following the month in which the work or drilling has been done, and if the Lessees should fail so to do, the Owner shall not be required to give credit for the work or drilling done during the previous month. Credit for core or other drilling shall not aggregate more than 720 shifts during the life of this lease.

4. Compliance with legal requirements: Lessees agree to comply with all applicable rules and regulations concerning mining and Workman's Compensation as required by law, and agree that no workman shall be employed until there has been obtained a policy of Workman's Compensation Insurance. Lessees further agree that they will hold Owner harmless from any other debts or obligations due from mining or drilling operations, and they shall cause to be posted in prominent places at or adjacent to all places of operation, notices to laborers, miners, contractors and materialmen, containing the substance of this paragraph 4.

5. All work to be done in workmanlike manner: All mining and development shall be done in a first class and workmanlike manner, and mining shall be done in such a manner as to develop the property. Data obtained from work and explorations shall be furnished to owner at his request. Owner shall have the right to enter upon the property, mines and stockpiles of ore, inspect the same and may take samples thereof for assay purposes.

6. Notice of default: In the event Lessees shall fail to comply with the terms of this lease, the lease may be cancelled by Owner provided he has given Lessees thirty (30) days notice of the default, but if the grounds of default be removed during said thirty (30) day period, no forfeiture may be claimed. Notice of default shall be given by registered mail addressed to the addresses herein given. After the expiration of the said thirty (30) days, without the default having been completely removed, the Lessees shall have no further right, or rights, in or upon the said land, or the ores therein and shall be considered as trespassers thereafter, and the Owner shall have the right to take immediate possession of the said land and all shafts, tunnels, dumps and ores in place thereon, and the Owner shall be entitled to take possession of, and to sell any and all ores in dumps, first paying unto himself the amount of any delinquent payments due under this lease and all costs of sorting, grading and transporting to mill, paying unto the Lessees the residue and remainder, if any.

7. Surrender: In the event Lessees shall desire to surrender the premises they may do so by notice to Owner, in which event they shall be relieved from further obligation except to account for royalty on all ores mined to date of surrender, and ores which may be in dumps or stockpiles on the premises shall be forthwith transported to the mill by the Lessees at their own expense.

8. Upon termination of this lease, lessees shall have thirty (30) days from said termination date to remove all of their fixtures and mining equipment.

9. In the event that the above described lands are sold during the term of this lease, said sale shall be subject to all of the terms and provisions of said lease.

10. This agreement and lease may be assigned by the parties of the second part, subject to all of the terms and conditions hereinbefore set out, but no assignment of this lease shall be binding until the Owner has received from the Lessees, or the asignees, a true, signed copy of such assignment.

11. It is understood and agreed by and between the parties hereto that the said Lessees, and their successors and assigns, shall have the power to, and they shall eject from the said premises all persons or corporations,

Who or which may be trespassing upon the said land at this time, or who may trespass upon said land during the term of this lease, and they shall have the right to sue any and all such trespassers for the value of any ores which may have been removed from said premises in the past or in the future, and for any and all other damages done by such trespassers in the past or in the future, and shall account to the Owner for the equivalent of his royalty for any recoveries made by the Lessees, or their assigns, either with or without an action at law. The Lessees, or their assigns may issue notice to trespassers in their own names as Lessees, and if they desire the said Owner will join with the said Lessees, or assignees, in signing the said notices, provided, however, said Owner shall not be held accountable for any damages or expense on account thereof.

12. Binding upon heirs and assigns: This agreement shall be binding and obligatory upon the heirs, representatives, successors and assigns of the respective parties hereto.

Executed in quintuplicate this 12th day of January, 1954.

J. V. EAVENSON, Owner

By Earl T. Carroll
His Attorney-in-Fact

John Griffin

S M Sisk
Lessees

STATE OF COLORADO)
)SS.
County of Gunnison)

The foregoing instrument was acknowledged before me this 12th day of January, 1954 by EARL T. CARROLL, as Attorney-in-Fact for J. V. EAVENSON.

Witness my hand and seal.

My Commission expires My Commission Expires Dec. 11, 1956

Milford F. [illegible]
Notary Public

STATE OF COLORADO)
)SS.
County of Dolores)

The foregoing instrument was acknowledged before me this 6th day of ~~January~~ February, 1954, by JOHN GRIFFIN and S. M. SISK.

Witness my hand and seal.

My Commission expires December 10th, 1957

Guy B. Dyer, Jr.
Notary Public

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

Date Rec'd. JAN 23 1956 BUREAU OF MINES Denver, Colorado

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. 3655
Metal or Mineral Uranium
Date Received 1-31-55
Estimated Cost $43,750
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Bowles-Heflin Mining Co., 1200 Chester St., Aurora, Colorado.
(A partnership consisting of)
Melvin C. Bowles 1200 Chester Street, Aurora 8, Colorado.
Mr. A. L. Heflin 1350 Del Mar Pwky., Aurora 8, Colorado.

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract, to-wit: N½NW¼, and the SE¼NW¼ of Sec. 26, and the NE¼NE¼ of Sec. 27, all in T.-43-N., R.-19-W., of N.M.P.M., Slick-Rock Mining District, San Miguel County, Colorado.

(*b*) State any mine name by which the property is known. J. V. Eaverson Lease

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise
Lessee, see attached leases and assignments thereof.

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

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

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

(see attached sheets)

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

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

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

(*c*) The work will start within 30 days and be completed within 12 months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

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

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)? YES.

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

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

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated January 21, 1955

Bowles-Heflin Mining Co.
(Applicant)

By Melvin C. Bowles
Partner & Gen. Mgr.

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

Minerals Administration
RECEIVED

4. Physical description:

(a) There has been a very limited amount of exploration work on this property, what little has been done consisted of a few shallow drill holes, a little bulldozer work and a short exploration drift, all on the rim on the west side of Bush Canyon. Back of this rim there has never been any exploration and this property extends over one/half mile west.

As we just recently aquired the lease on this property, the only work we have done ourselfs is to rehabilitate the short exploration drift and at present we are doing some additional drifting in it.

(b) We have no record of the past production, however, the work that has been done indicates there may have been several loads of ore produced from this property. We do have a copy of one settlement sheet which shows a recent lot of 24 tons shipped to the Vanadium Corporation of America by the Alarado Mining Corporation (party we aquired this lease from) which was settled at .19% U_3O_8-uranium and 1.69% V_2O_5-vanadium. They stated to us at the time we aquired this lease from them that this ore was saved from the work they did in the short exploration drift, which is where we are working at present and recovering a small amount of ore from our exploratory drifting. There is no known ore reserves on this property.

(c) This property lies along and over one/half mile back from the rim of Bush Canyon in which all three rims of the Morrison formation from which Carnotite ore is being produced in this area. This is one of the older and principal uranium producing area's located on the Colorado Plateau. This property being of particular interest to us because of the relatively shallow depths for drilling and a large portion of the surface being comparatively flat and covered with only scattered sage brush and a few ceder trees. There has been some drilling in this general area which was fairly successful in locating ore bodies back from the rims, which at least is somewhat indicative that we could expect a relative degree of success. We do have more rim showings that much of the property that has been developed into good producing mines.

(SEE ATTACHED MAPS AND GEOLOGIST REPORT)

(d) This property is easily accessable the year around as it is crossed in the middle by highway # 80, being located about 15 miles north of Dove Creek, Colorado, where additional living facilities are available, and most material and supplies are obtainable. Also being about 38 miles from Monticello, Utah, where the Government uranium mill is located, all over very good roads. There is two livable cabins located on the property, one which we are using at present and the other being available for use by additional personnel conducting this project if desired by them.

(e) There is sufficent manpower available in this immediate area for this project, All material, supplies and equipment can be secured locally either by purchase and a direct wage bases if we were to undertake the work ourselfs or by letting a contract for it to an independent contractor, of which there is several available in the area.

5. The exploration project:

(a) The mineral for which we wish to explore is URANIUM.

(b) The exploration project which we are desireous of conducting on this property at the present time is one of initial exploration, and will not consist of delineation nor blocking out of any ore bodies encountered, (we are willing to carry out this additional work on company account in any area's this initial exploration shows it to be justified).

This phase of the work will require drill holes of approximately 130 foot depths on the east side of the property back from the rim of Bush Canyon increasing in depth as one crosses the property to the west up to an estimated 330 foot depth, (see map of the area). This depth being necessary to cut both the top and middle sections of the Salt Wash member of the Morrison formation underlying this property. The middle section being the principal ore producing horizon in this general area.

The ore bodies in this general area seems to occur in trends running in a north-south direction. Therefore this initial exploration can be carried out satisfactorily by the placing of these drill holes on not less than 100 foot centers in an east and west direction and on not less than 200 foot centers in a north and south direction.

To drill out the entire area covered by this lease on this basis would require a maximum of 350 holes having an estimated depth of 230 feet which would equal approximately 80,000 feet of drilling. However, as the property is cut on the east side by the canyon and the extreme western side would be excessive drilling depths. We plan to drill only the most likely portions of that area which is accessible and of reasonable drilling depths, and in all cases the holes will not be placed the minimum distance between centers.

Therefore, we feel that a maximum of 150 holes with a maximum of 25,000 feet of drilling, which ever was completed first should be sufficent to reasonably determine the production potential of this property.

Of the varies methods of drilling available and being used, the rotary drill is the most practical for this project. The depth being a bit extreme for wagon drilling besides the formation being quite moist which makes wagon drilling more difficult, and the formations as well as the ore producing horizons being to well known in this general area by the surrounging operations to justify the use of a diamond drill with its excessive operating costs.

This project to be for not in excess of 25,000 feet of rotary drilling.

(c) This work will start within 30 days and be completed within 1 year from the date of an exploration project contract.

(SEE AMENDMENT - SHEET # 5)

5. The exploration project:

(d) The Bowles-Heflin Mining Company, a partnership consisting of Melvin C. Bowles of 1200 Chester Street, Aurora 8, Colorado and Mr. A. L. Heflin of 1350 Del Mar Prky., Aurora 8, Colorado has been actively engaged in uranium exploration, development and production since 1948, having produced many tons of uranium ores. We operated the Yellow Circle mines in the Moab, Utah area from 1948 to 1952, on which we were granted a D.M.A. loan on in the fall of 1951 which was later assigned to Plateau Mining Co. in 1952 when we joined with Thornburgs in forming this new company. From 1952 to 1954 we joined with Mr. Ray Bennett and Mr. Howard Balsley for the purpose of rehabilitation, exploration and the development of certain properties in the Central City area with the aid of two A.E.C. exploration contracts for pitchblend ores, These properties now being operated by the Cherokee Uranium Mining Corporation to which we assigned them in consideration of stock. Also during 1952 to 1954 we joined with other parties in the operation of the Barnes Group of claims on Tenderfoot Mesa, Gateway, Colorado, which interest has recently been sold to the other party. Our only present operation being the limited exploration being conducted on this property.

Melvin C. Bowles has been and is the operating partner of this partnership and has been supervisor of all its operations. He is 34 years old and has been actively engaged in mining since 1939 as prior to this partnership he worked for varies companies in many different jobs aquiring a variety of experience.

Melvin C. Bowles will personally supervise this project and either himself or his brother Vernon K. Bowles who has been employed by this partnership since it started will be on the job at all times.

6. Estimate of costs:

(a) Independent Contracts.- It is our desire to engage the services of an independent contractor to do this drilling. We do not have the necessary equipment ourselfs, and from past experience do not feel it would be adviseable to purchase such. There is a number of drilling companies and drill owner-operators available in the area for this type work and we have observed that they are bidding very competively for work, particulary this fall and winter.

Therefore, it is our desire to put this project as approved out for competative bids and to let the contract to the lowest satisfactory bidder. (The per unit cost per foot of drilling under no circumstances to exceed $1.75 per foot).

This per unit cost per foot of drilling would enclude the furnishing of all necessary equipment, material, supplies, expenses, labor for drilling, supervision, spotting of holes, logging of cuttings, ore sampling, probing of holes, mapping and related work.

(SEE AMENDMENT - SHEET # 5)

6. Estimate of costs:

(a) Independent Contracts.

25,000 feet of rotary drill hole at $1.75 per foot. $ 43,750.00

(b) Labor, supervision, consultants.

NONE - encluded in above.

(c) Operating materials and supplies.

NONE

(d) Operating equipment.

NONE

(e) Rehabilitation and repairs.

NONE

(f) New buildings, improvements, installations.

NONE

(g) Miscellaneous.

NONE

(h) Contingencies.

NONE

ESTIMATED TOTAL COST OF THE PROJECT - - - - - - - - - $ 43,750.00

7. Participation:

(a) We are prepared to furnish our share of the cost of this project.

(b) We propose to furnish our share of the cost in money.

(will prepare and furnish a financial statement of the partnership and of both partners if desired).

(SEE AMENDMENT - SHEET # 5)

AMENDMENT

5. The exploration project:

(b) It has been found to be desireable to break this exploration project down into three separate phases, as follows:

Phase # 1. Preliminary, to consist of drilling on a grid pattern, placing the drill holes 200 feet between centers in a east - west direction and 400 feet between centers in a north - south direction, and to a depth that will penetrate at least the two top rims of the salt-wash member of the Morrison formation (SEE MAP # 2).
This phase consisting of sufficent drilling to determine at what depth ore and/or mineralization occurs, also if the frequency of occurance is enough to justify additional exploration.
This phase to be limited to fifty (50) drill holes or ten thousand (10,000) feet of drilling which ever is completed first.

Phase # 2. Secondary, to consist of drilling within the grid pattern placing these drill holes half way between the phase # 1 drill holes, making the holes 100 feet between centers in a east - west direction and 200 feet between centers in a north - south direction and to the depth necessary to penetrate the mineralized parts of the formation, in such parts of the area that Phase # 1 drilling shows sufficent ore and/or mineralization to justify the additional exploration to be conducted.
This phase to be limited to fifty (50) drill holes or seven thousand and five hundred (7,500) feet of drilling which ever is completed first.

Phase # 3. Final, to consist of drilling within the grid pattern placing these holes half way between the phase # 1 and phase # 2 drill holes, making the holes 50 feet between centers in a east - west direction and 100 feet between centers in a north - south direction and to the depth necessary to penetrate the mineralized parts of the formation, in such parts of the area that phase # 1 and phase # 2 drilling shows sufficent ore to justify additional exploration to be conducted.
This phase to be limited to fifty (50) drill holes or seven thousand and five hundred (7,500) feet of drilling which ever is completed first.

TOTAL Project to be limited to one hundred and fifty (150) drill holes or twenty-five thousand (25,000) feet of drilling which ever is completed first.

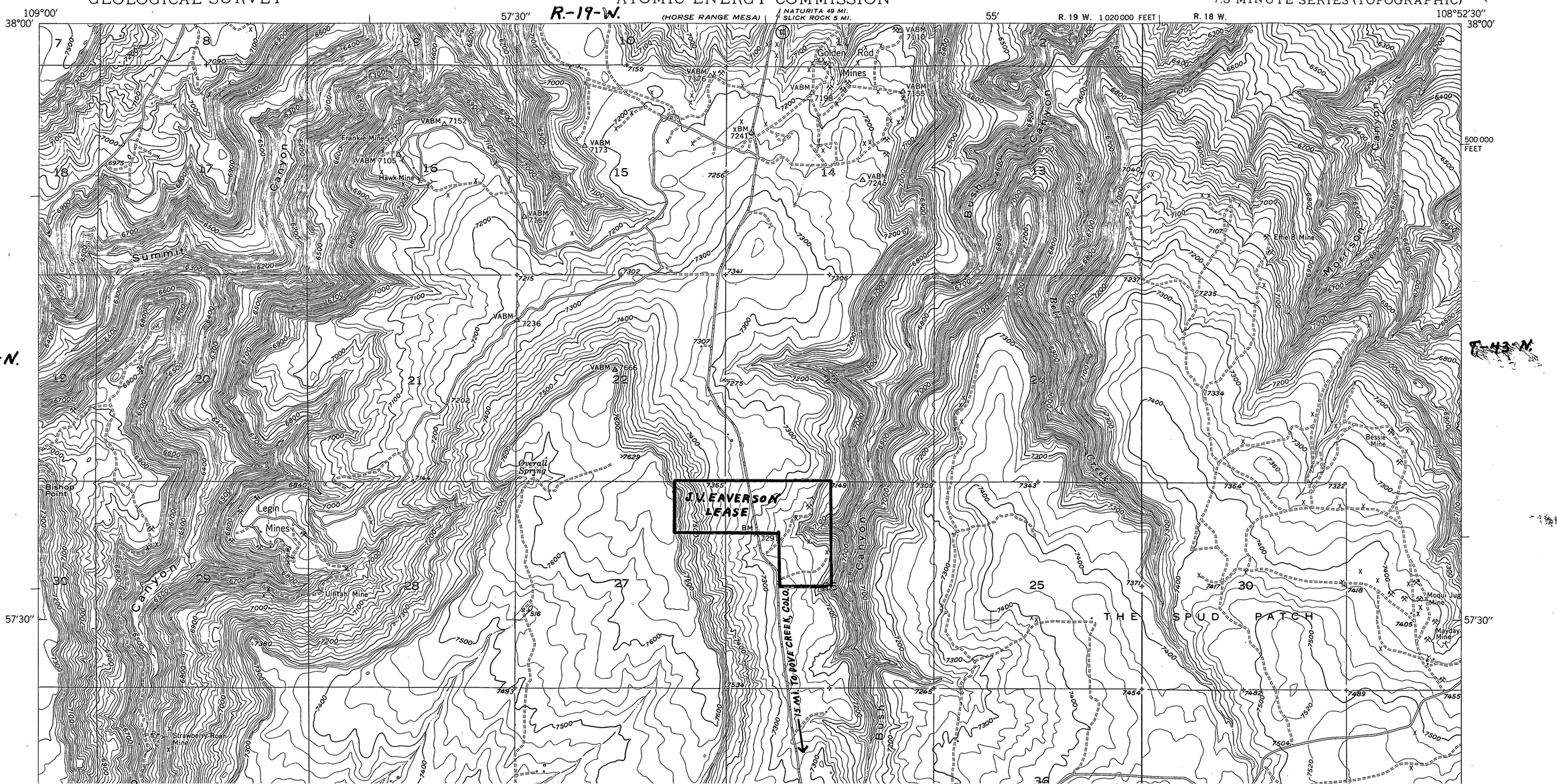
6. Estimate of costs:

(a) As can best be determined at present it will cost $1,75 per foot to get this work done by a suitable independent contractor and to cover expense of supervision, spotting of drill holes, roads and drill sites, logging of drill cuttings, ore sampling and assaying, probing of drill holes, mapping and all other related work and expense.

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

UNITED STATES
ATOMIC ENERGY COMMISSION

EGNAR QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)



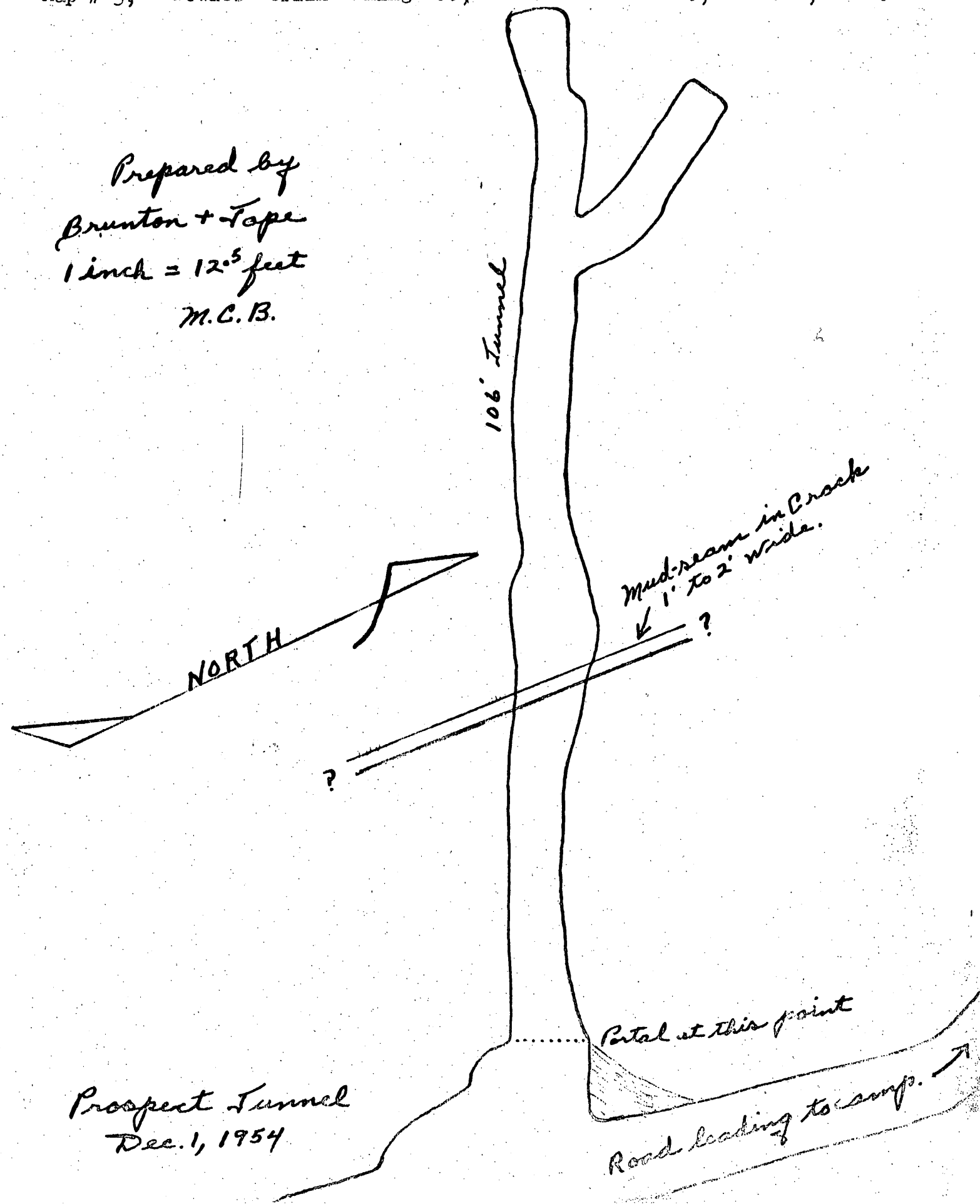
MAP #1.

MAP OF THE AREA

J. V. EAVERSON LEASE

BOWLES-HEFLIN MINING CO.
1200 CHESTER ST.
AURORA, COLO.

Map # 3, Bowles-Heflin Mining Co., 1200 Chester St., Aurora, Colo.



Geologist Report, Bowles-Heflin Mining Co., 1200 Chester St., Aurora, Colo.

LORENZO C. DEMARS
Consulting Geologist
Grand Junction, Colorado
P. O. Box 1948

October 21, 1954

TO: The Buyers of the J. V. Evanson Lease:
BOWLES-HEFLIN MINING CO.

Dear Sirs:

This report briefly covers the geology and uranium possibilities of the J. V. Evanson lease which is a tract of land covering 160 acres located in T. 43 N., R. 19 W., section 26 in the southwestern part of the Slick Rock Mining district in western San Miguel County, Colorado. This tract of land is found approximately three miles north of the small town of Egnar on and around Bush Creek.

INTRODUCTION

Previous work in the area has consisted of bulldozing which has been done on the rim just west of Bush Creek. Some hot spots were found, and at least two of these hot spots were checked by the present writer. The results were encouraging. A tunnel has been driven in on the rim, in a westerly direction, an estimated 200 feet, and evidence on the surface shows that some drilling was done as a guide to the tunneling below.

STRATIGRAPHY

At this locality the Salt Wash member of the Morrison formation is the ore producer. This member consists of fine to coarse grained, cross bedded, and channeled fluviatile sandstones, and it contains considera-ble carbonized organic material. The thickness of the Salt Wash member in this area is probably over

350 feet. In this general area the ore horizon has been the middle section of the Salt Wash member of the Morrison formation. The Morrison formation is very well exposed in this locality, and the great thickness of this member is an encouraging factor for the possible localization of large deposits of uranium ore. It is believed that the present work in the area has been entirely too shallow. AND IN TOP RIM From gathered geologic data, and from personal communication with Russel Woods, mining engineer for Mc Cormick, it is concluded that two depths have the best chance for finding an accumulation of uranium ore. One is a depth of seventy feet, and the other is a depth of one hundred and thirty feet. Most of the work accomplished to date was done from about 15 to about 25 feet.

STRUCTURE

The property is located just about two miles in a southeasterly direction from the rather famous Skidmore and Mc Cormick mines. According to Russel Woods, mining engineer for Mc Cormick, the Skidmore property has brought in about 3 million dollars in five years of operation. The development of the Mc Cormick property is by no means complete, and still in one year it brought in about 180,000 dollars. These properties are along the Uravan Mineral belt, and the J. V. Evanson lease is rather close to the mineral belt. It is quite possible that the faulting at right angles to the trend of the Uravan Mineral belt passes through the Evanson land, ~~or~~ or very close to it. There is a system of jointing in this area similar to that found in the area of the Governor claims, and it has provided openings through which mineralizing solutions circulated. The rather

high scintillator readings are associated with this jointing system.

ORE DEPOSITS

Nothing of any great value has been taken off the property yet, however, the shallow depth of the workings is no doubt responsible for this. According to Robert Olesen, previous owner of the land, some 25 or 26 tons of ore was shipped from the property to Durango, and it assayed .24 percent in uranium and 2.08 percent in vanadium.

It is believed that at greater depth; 70 to 130 feet, the possibilities will be much greater for the localization of a large deposit of uranium ore. It is quite interesting that some good ore was found at such a shallow depth as 15 to 25 feet. The uranium found on the surface, and near the surface is proof of the presence of the ore in the area.. It is somewhat suggestive that greater values could be found at greater depth.

CONCLUSIONS

Geologic conditions appear favorable for the development of ore bodies within the J. V. Evanson property. Further exploration of the area is recommended, and offers good possibilities of success.

Very Sincerely Yours,

Lorenzo C. Demars

Lorenzo C. Demars
Consulting Geologist

ASSIGNMENT OF MINING LEASE

THIS AGREEMENT, Made and entered into this 15TH day of December, 1954 by and between ALARADO MINING CORPORATION, a Colorado corporation, hereinafter referred to as the Assignor, and MELVIN C. BOWLES of Aurora, Colorado, hereinafter referred to as the Assignee.

WITNESSETH:

THAT WHEREAS, on the twelfth day of January, 1954, a lease was made and entered into by and between J. V. Lavenson, as Lessor and John Griffin and S. M. Sisk, as Lessees, covering the following described properties situate in San Miguel County, Colorado, to-wit:

> North half of the Northwest Quarter (N½NW¼), Southeast Quarter of the Northwest Quarter (SE¼NW¼) of Section Twenty-six (26), and the Northeast Quarter of the Northeast Quarter (NE¼NE¼) of Section Twenty-seven (27), all in Township Forty-three (43) North, Range Nineteen (19) West, N.M.P.M.

WHEREAS, said lease was recorded in the office of the County Clerk and Recorder of San Miguel County, Colorado on the eighteenth day of May, 1954 in Book 223 at page 102 of the records of said county; and

WHEREAS, on the eighth day of February, 1954, John Griffin and S. M. Sisk entered into a certain assignment of said lease to Alarado Mining Corporation; and

WHEREAS, said assignment was recorded in the office of the County Clerk and Recorder of San Miguel County, Colorado on the eighteenth day of May, 1954 in Book 223 at page 105 of the records of said county; and

WHEREAS, said lease and all rights thereunder or incident thereto are now owned by Alarado Mining Corporation;

NOW THEREFORE, for and in consideration of the sum of One Thousand Two Hundred Fifty ($1,250.00) Dollars to the said Assignor in hand paid by the said Assignee, the receipt whereof is hereby acknowledged by the Assignor, and in further consideration of the covenants and agreements herein contained, it is agreed as follows:

1. The Assignor, Alarado Mining Corporation, does hereby grant, bargain, sell, convey and assign unto the Assignee, Melvin C. Bowles, his heirs and assigns, the above-described Mining Lease and Assignment thereof, and the leasehold estate created thereby, and all rights, privileges and easements granted therein; to have and to hold said Mining Lease, leasehold estate and the rights, privileges and easements therein granted to the said Assignee, his heirs and assigns, forever.

2. The Assignee shall keep and perform each and all of the terms and conditions of said mining lease on the part of the lessee therein to be kept and performed, and shall keep and perform all of the terms and conditions of that certain assignment from John Griffin and S. M. Sisk to Alarado Mining Corporation on the part of the Assignee therein to be kept and performed.

3. The Assignee shall indemnify and save harmless the Assignor from all damages arising to the Assignor on account of the failure of the Assignee to keep and perform all the terms and conditions of the original lease and of the assignment from John Griffin and S. M. Sisk to Alarado Mining Corporation.

4. All royalties provided for by the terms of the original lease and of the assignment from John Griffin and S. M. Sisk to Alarado Mining Corporation shall be paid by the Assignee in accordance with the terms of the original lease and the assignment thereof.

5. This assignment shall be binding upon and shall inure to the benefit of the heirs, executors, administrators, successors and assigns of the respective parties hereto.

IN WITNESS WHEREOF the parties hereto have caused these presents to be executed the day and year first above written.

(Corporate Seal)

ALARADO MINING CORPORATION

ATTEST: M. Francis Smith Secretary

By Robert Olesen President

ASSIGNOR

Melvin C. Bowles

MELVIN C. BOWLES

ASSIGNEE

STATE OF COLORADO }
County of } ss.

The foregoing instrument was acknowledged before me this 15 day of December, 1954 by ROBERT OLESEN as President and M. FRANCES GAMBLE as Secretary of ALARADO MINING CORPORATION, a corporation.

Witness my hand and official seal.

My commission expires ~~My Commission expires Nov. 2, 1957~~.

Todd W. Bowman
Notary Public

TODD W. BOWMAN NOTARY PUBLIC EAGLE COUNTY, COLORADO

STATE OF COLORADO }
County of } ss.

The foregoing instrument was acknowledged before me this ____ day of December, 1954 by MELVIN C. BOWLES.

Witness my hand and official seal.

My commission expires My Commission expires Nov. 2, 1957.

Todd W. Bowman
Notary Public

TODD W. BOWMAN NOTARY PUBLIC EAGLE COUNTY, COLORADO

No. 113853 DATE: MAY 18, 1954 TIME: 1:55 P.M. Charles C. Carriere
Recorder

ASSIGNMENT OF MINING LEASE

THIS AGREEMENT Made and entered into this 8th day of February, 1954 by and between JOHN GRIFFIN and S. M. SISK of Dove Creek, Colorado of the first part hereinafter referred to as the Assignors and ALARADO MINING CORPORATION, a Colorado corporation hereinafter referred to as assignee.

WITNESSETH THAT:

WHEREAS, on the 12th day of January, 1954 a lease was made and entered into by and between J. V. Eavenson as lessor and John Griffin and S. M. Sisk as lessees covering the following described property located in San Miguel County, Colorado, to-wit:

> North half of the Northwest Quarter ($N\frac{1}{2}NW\frac{1}{4}$), Southeast Quarter of the Northwest Quarter ($SE\frac{1}{4}NW\frac{1}{4}$) of Section Twenty-six (26), and the Northeast Quarter of the Northeast Quarter ($NE\frac{1}{4}NE\frac{1}{4}$) of Section Twenty-seven (27), all in Township Forty-three (43) North, Range Nineteen (19) West, N.M.P.M.

And WHEREAS, said lease was recorded in the office of the County Clerk and Recorder of San Miguel County, Colorado in Book 223 at Page 102 of the records of said county on the 18TH day of MAY, 1954, and

WHEREAS, the said lease and all rights thereunder or instant thereto are now owned by the said John Griffin and S. M. Sisk.

NOW THEREFORE in consideration of the sum of one dollar and other good and valuable considerations the receipt whereof is hereby acknowledged by the assignors and in consideration of the covenants and agreements of the assignee herein contained the assignors, John Griffin and S. M. Sisk do hereby bargain, sell and convey unto Alarado mining Corporation, the assignee, its successors and assigns, the aforesaid mining lease and leasehold estate created thereby and all rights, privileges and easements granted therein. TO HAVE AND TO HOLD the said mining lease, leasehold estate and the rights, privileges and easements therein granted to said assignee, its successors and assigns forever.

It is hereby agreed by and between the assignors and assignee as follows:

1. That the assignee will keep and perform each and all of the terms and conditions of said mining lease on the part of the lessee therein to be kept and performed and will do all of the minimum work and development work required to be done on said mining property, and in the event of its failure so to do, this assignment shall be null void and the assignors may enter upon and take possession of all of the mining property as fully and with a like affect as though this assignment had not been executed.

2. The assignee may relinquish said lease to the assignors at any time provided that the current months minimum labor has been done as provided in said lease and that there are no liens, clouds or encumbrances upon the lease or leasehold estate and said assignee shall then and thereafter be relieved of all further liability by reason of this assignment.

3. The assignee shall indemnify and save harmless the said assignors from all damages arising to the assignors on account of the failure of said assignee to keep and perform all the terms and conditions of said original lease or of this assignment.

4. The assignors hereby reserve unto themselves a royalty and rent in the amount of seven per cent (7%) of the fair market value of the ores mined, recovered and sold from the claims f.o.b. stockpile at the mill where sold. Production bonuses, if any, shall accrue seven per cent (7%) to the assignors. Hauling and development allowances shall be the exclusive property of the assignee and no rent or royalty shall be payable thereon. A royalty shall be payable monthly for the ores mined, recovered and sold during the preceeding month and shall be payable on or before the 20th day of each month. True copies of all settlement sheets shall be furnished to the assignors together with the name and address of the buyer and at the election the assignors may file a copy of this lease with the buyer and the buyer may remit the assignors' share direct.

5. All royalties provided for by the terms of said original lease shall be paid by the assignee to the original lessor in accordance with the terms of the original lease.

IN WITNESS WHEREOF the parties have caused these presents to be executed on the 9th day of February, 1954.

John Griffin

S M Sisk

ALARADO MINING CORPORATION

BY Robert Olesen
President

STATE OF COLORADO)
: ss.
COUNTY OF DOLORES)

The foregoing instrument was acknowledged before me this 9th day of February, 1954 by JOHN GRIFFIN and S. M. SISK.

Guy B. Lyons, Jr.
Notary Public

My Commission Expires:
Dec. 10th, 1957

STATE OF COLORADO)
: ss.
COUNTY OF DOLORES)

The foregoing instrument was acknowledged before me this 9th day of February, 1954 by ROBERT OLESEN, president of ALARADO MINING CORPORATION, who stated that he executed said instrument for and in behalf of said Corporation as an officer and director of said Corporation.

Guy B. Lyons, Jr.
Notary Public

My Commission Expires:
Dec. 10th, 1957

No. 113852 DATE: MAY 18, 1954 TIME: 1:50 P.M.

Charles C. Carriere
Recorder

LEASE AGREEMENT

THIS AGREEMENT, made and entered into this 12th day of January, 1954, by and between J. V. EAVENSON, of Almont, Colorado, party of the first part, hereinafter referred to as Owner, and JOHN GRIFFIN and S. M. SISK, of Dove Creek, Colorado, of the second part, hereinafter referred to as Lessees, WITNESSETH:

The said Owner for and in consideration of Ten dollars ($10.00) and other good and valuable consideration, receipt of which is hereby acknowledged and of the covenants and agreements hereinafter formed, has granted, demised, leased and let, and by these presents does grant, demise, lease and let unto the said Lessees for the sole purpose of mining all of that certain tract of land situated in the County of San Miguel, State of Colorado and described as follows:

North half of the Northwest quarter ($N\frac{1}{2}NW\frac{1}{4}$), Southeast quarter of the Northwest quarter ($SE\frac{1}{4}NW\frac{1}{4}$) of Section Twenty-six (26), and the Northeast quarter of the Northeast quarter ($NE\frac{1}{4}NE\frac{1}{4}$) of Section Twenty-seven (27), all in Township Forty-three (43) North, Range Nineteen (19) West, N.M.P.M.

Said lease is upon the following conditions, to-wit:

1. Term: The lease shall extend until May 28, 1954 and so long thereafter as ore is produced in commercial quantities or an exploration and development program is being carried on.

2. Rent: As payment for rent, Lessees agree to pay Owner a royalty in the amount of Eight per cen (8%) of the fair market value of ores mined, recovered and sold from the claims F.O.B. stockpile at the mill where sold. Production bonuses, if any, shall accrue Eight per cen (8%) to the Owner. Hauling and development allowances shall be the exclusive property of Lessees and no rent or royalty shall be payable thereon. The royalty shall be payable monthly for ores mined, recovered and sold during the preceeding month and shall be payable on or before the 20th day of each month. True copies of all settlement statements shall be furnished the Owner, together with the name and address of the buyer, and at the election of Owner he may file a copy of this lease with the buyer and the buyer may remit Owner's share direct.

3. Work to be performed: Lessees agree to move onto the above described mining lands before the 28th of May, 1954 and to commence a drilling and exploration program or mining program and continue the same continuously throughout the term of this agreement, Provided, however, that the Lessees shall cause to be performed not less than thirty (30) man shifts of labor in core drilling, mine development work, or mining for each and every month that this lease is in effect, with the value of a man shift being fixed at $18.00 per eight (8) hour day, and where core or other drilling is done in an effort to prove the existence of ore bodies, credit shall be given for such drilling at the rate of a one man shift for each $18.00 expended for such drilling, with credit to be given for any drilling which may have been done during the last half of the year 1953 and to the date of this lease, as well as after the date of this lease, and should the Lessees default in the performance of the thirty (30) man shifts of labor required to be performed each and every month for a period of not to exceed two calendar months on account of inclement weather or other conditions beyond their control, they shall be permitted to make up the same during the succeeding sixty day period by doing additional shifts of work or the equivalent thereof equal to the amount in default. It is distinctly understood and agreed by and between the parties that the Lessees shall furnish to the Owner signed receipted bills for work and (Or) drilling, showing the amount of work done and the sum or sums of money paid by the Lessees therefor, and where the Lessees, or either of them, or any of their assigns, should perform any of the labor so required, such person

shall furnish to the Owner a sworn statement giving the details and value of such work done. Such statements shall be furnished to the Owner on or before the 20th day of the month following the month in which the work or drilling has been done, and if the Lessees should fail so to do, the Owner shall not be required to give credit for the work or drilling done during the previous month. Credit for core or other drilling shall not aggregate more than 720 shifts during the life of this lease.

4. Compliance with legal requirements: Lessees agree to comply with all applicable rules and regulations concerning mining and Workman's Compensation as required by law, and agree that no workman shall be employed until there has been obtained a policy of Workman's Compensation Insurance. Lessees further agree that they will hold Owner harmless from any other debts or obligations due from mining or drilling operations, and they shall cause to be posted in prominent places at or adjacent to all places of operation, notices to laborers, miners, contractors and materialmen, containing the substance of this paragraph 4.

5. All work to be done in workmanlike manner: All mining and development shall be done in a first class and workmanlike manner, and mining shall be done in such a manner as to develop the property. Data obtained from work and explorations shall be furnished to owner at his request. Owner shall have the right to enter upon the property, mines and stockpiles of ore, inspect the same and may take samples thereof for assay purposes.

6. Notice of default: In the event Lessees shall fail to comply with the terms of this lease, the lease may be cancelled by Owner provided he has given Lessees thirty (30) days notice of the default, but if the grounds of default be removed during said thirty (30) day period, no forfeiture may be claimed. Notice of default shall be given by registered mail addressed to the addresses herein given. After the expiration of the said thirty (30) days, without the default having been completely removed, the Lessees shall have no further right, or rights, in or upon the said land, or the ores therein and shall be considered as trespassers thereafter, and the Owner shall have the right to take immediate possession of the said land and all shafts, tunnels, dumps and ores in place thereon, and the Owner shall be entitled to take possession of, and to sell any and all ores in dumps, first paying unto himself the amount of any delinquent payments due under this lease and all costs of sorting, grading and transporting to mill, paying unto the Lessees the residue and remainder, if any.

7. Surrender: In the event Lessees shall desire to surrender the premises they may do so by notice to Owner, in which event they shall be relieved from further obligation except to account for royalty on all ores mined to date of surrender, and ores which may be in dumps or stockpiles on the premises shall be forthwith transported to the mill by the Lessees at their own expense.

8. Upon termination of this lease, lessees shall have thirty (30) days from said termination date to remove all of their fixtures and mining equipment.

9. In the event that the above described lands are sold during the term of this lease, said sale shall be subject to all of the terms and provisions of said lease.

10. This agreement and lease may be assigned by the parties of the second part, subject to all of the terms and conditions hereinbefore set out, but no assignment of this lease shall be binding until the Owner has received from the Lessees, or the asignees, a true, signed copy of such assignment.

11. It is understood and agreed by and between the parties hereto that the said Lessees, and their successors and assigns, shall have the power to, and they shall eject from the said premises all persons or corporations,

Who or which may be trespassing upon the said land at this time, or who may trespass upon said land during the term of this lease, and they shall have the right to sue any and all such trespassers for the value of any ores which may have been removed from said premises in the past or in the future, and for any and all other damages done by such trespassers in the past or in the future, and shall account to the Owner for the equivalent of his royalty for any recoveries made by the Lessees, or their assigns, either with or without an action at law. The Lessees, or their assigns may issue notice to trespassers in their own names as Lessees, and if they desire the said Owner will join with the said Lessees, or assignees, in signing the said notices, provided, however, said Owner shall not be held accountable for any damages or expense on account thereof.

12. Binding upon heirs and assigns: This agreement shall be binding and obligatory upon the heirs, representatives, successors and assigns of the respective parties hereto.

Executed in quintuplicate this 12th day of January, 1954.

J. V. EAVENSON, Owner

By Earl T. Carroll
His Attorney-in-Fact

John Griffin
S M Sisk
Lessees

STATE OF COLORADO)
)SS.
County of Gunnison)

The foregoing instrument was acknowledged before me this 12th day of January, 1954 by EARL T. CARROLL, as Attorney-in-Fact for J. V. EAVENSON.

Witness my hand and seal.

My Commission expires My Commission Expires Dec. 11, 1956

Mifford R. [illegible]
Notary Public

STATE OF COLORADO)
)SS.
County of Dolores)

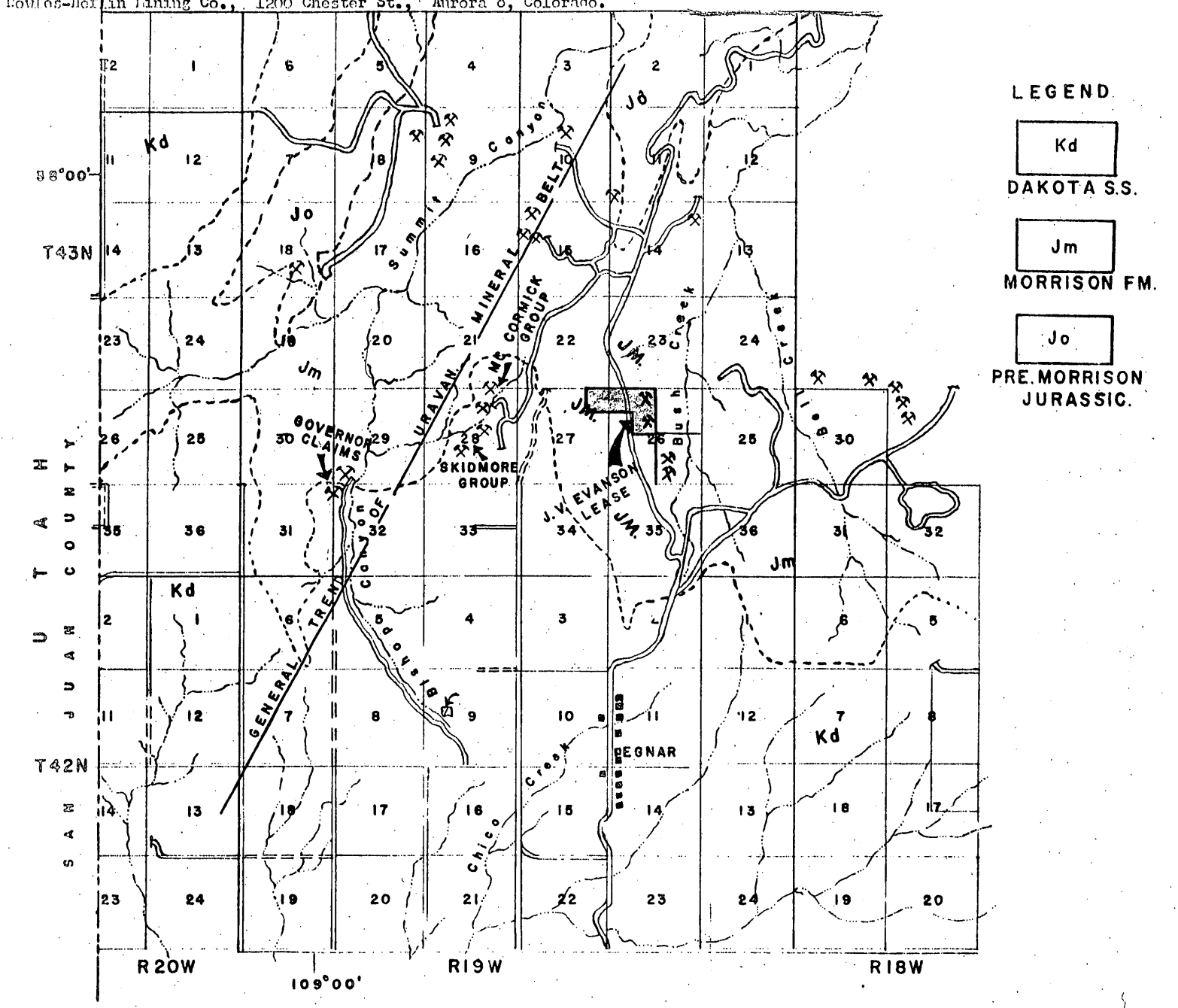
The foregoing instrument was acknowledged before me this 6th day of ~~January~~ February, 1954, by JOHN GRIFFIN and S. M. SISK.

Witness my hand and seal.

My Commission expires December 10th, 1957

Guy B. Sayer Jr.
Notary Public

Geologist Report Map.
Boulos-Hoffin Mining Co., 1200 Chester St., Aurora 8, Colorado.



GEOLOGIC MAP OF WEST PART OF SAN MIGUEL COUNTY, COLORADO,

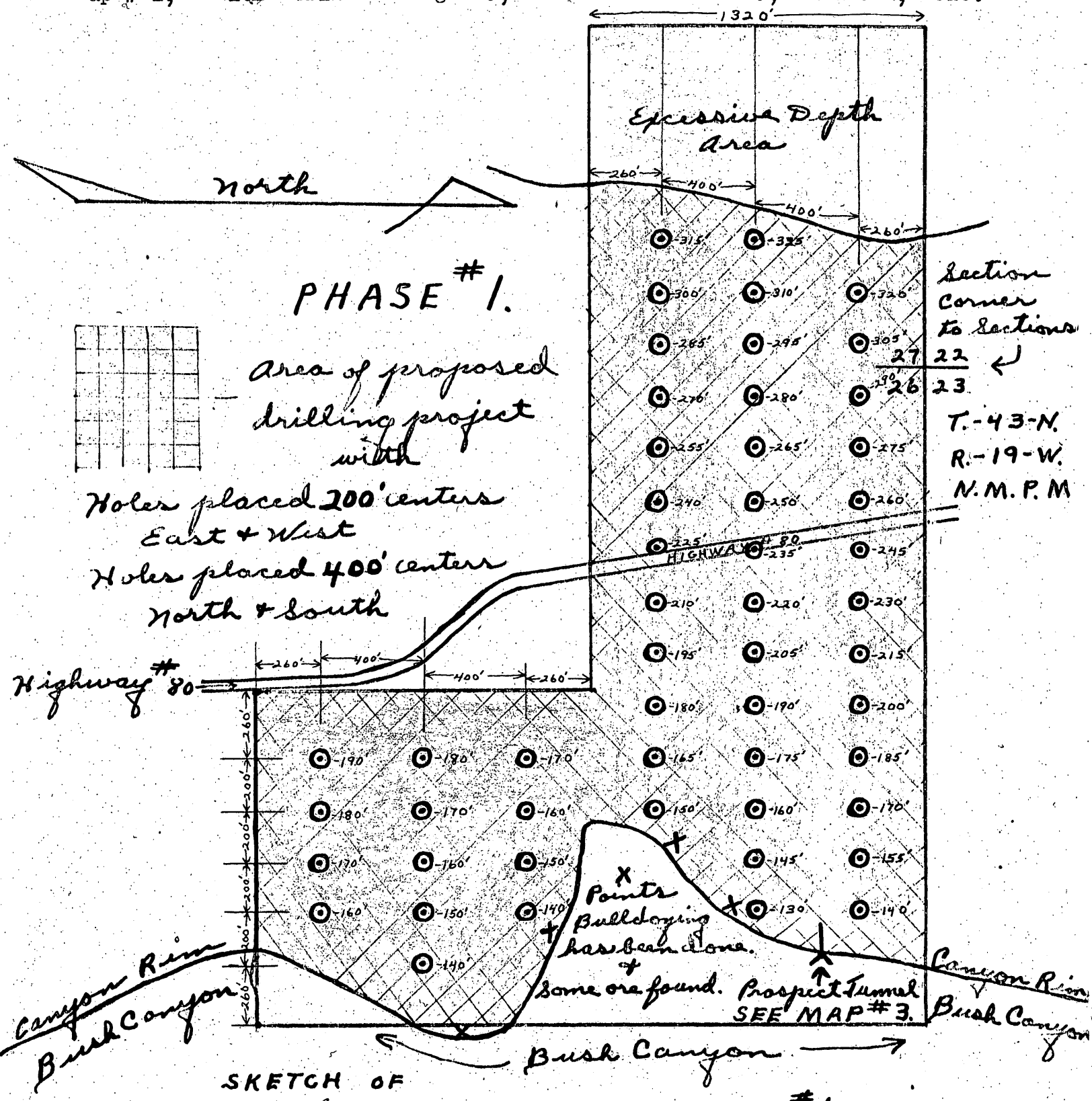
SHOWING LOCATION OF

Governor Claims, and J.V. EVANSON LEASE...

0 1 2 3 MILES.

Scale

Map # 2, Bowles-Heflin Mining Co., 1200 Chester St., Aurora, Colo.



SKETCH OF

J. V. EAVERSON LEASE

SCALE 1" = 500'

M. C. B.

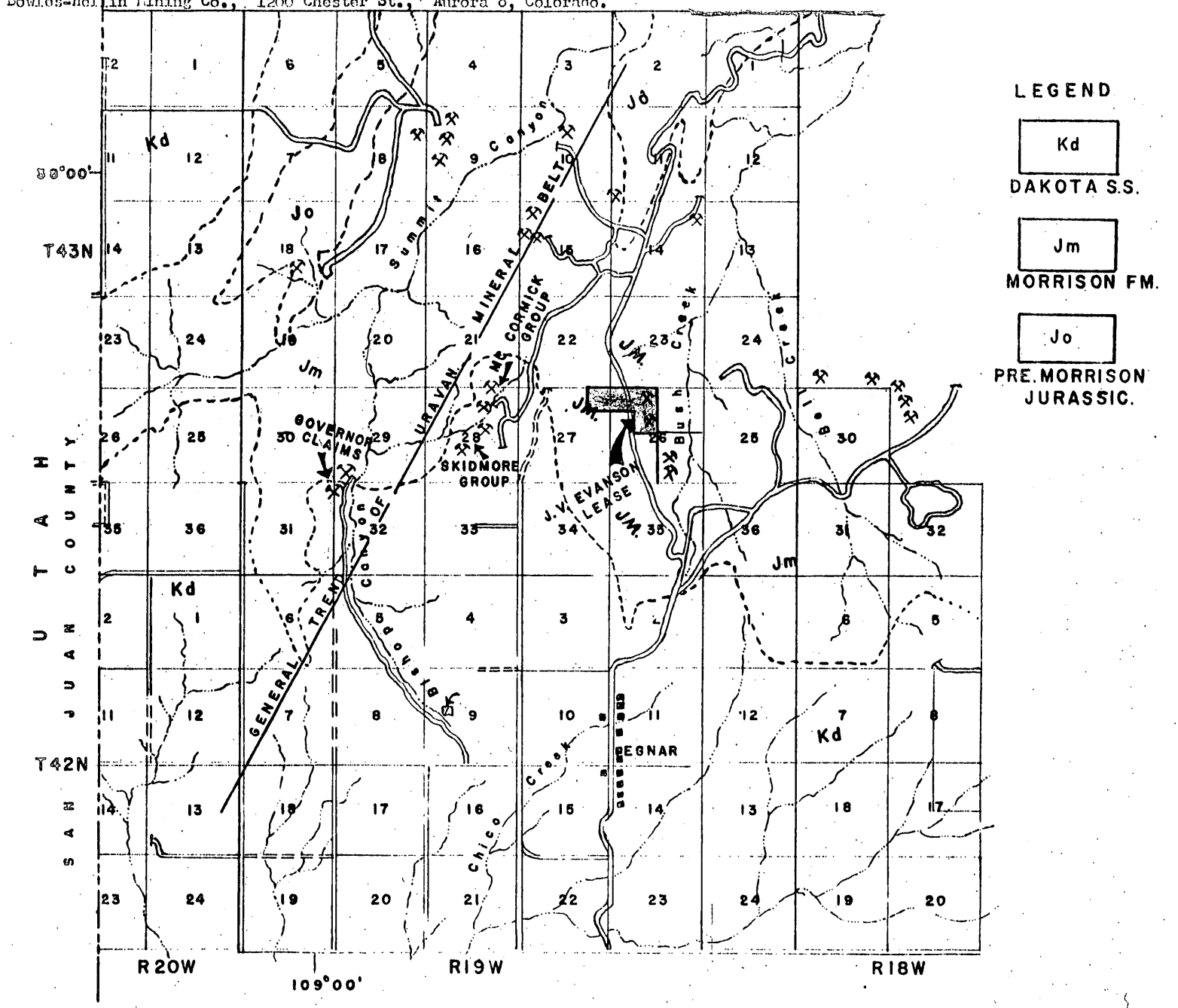
PHASE #1.

Location of Holes + Estimated Depths shown O -130'

MAXIMUM TOTALS

50 Holes or 10,000 Feet

Geologist Report Map.
Bowles-Heflin Mining Co., 1200 Chester St., Aurora 8, Colorado.



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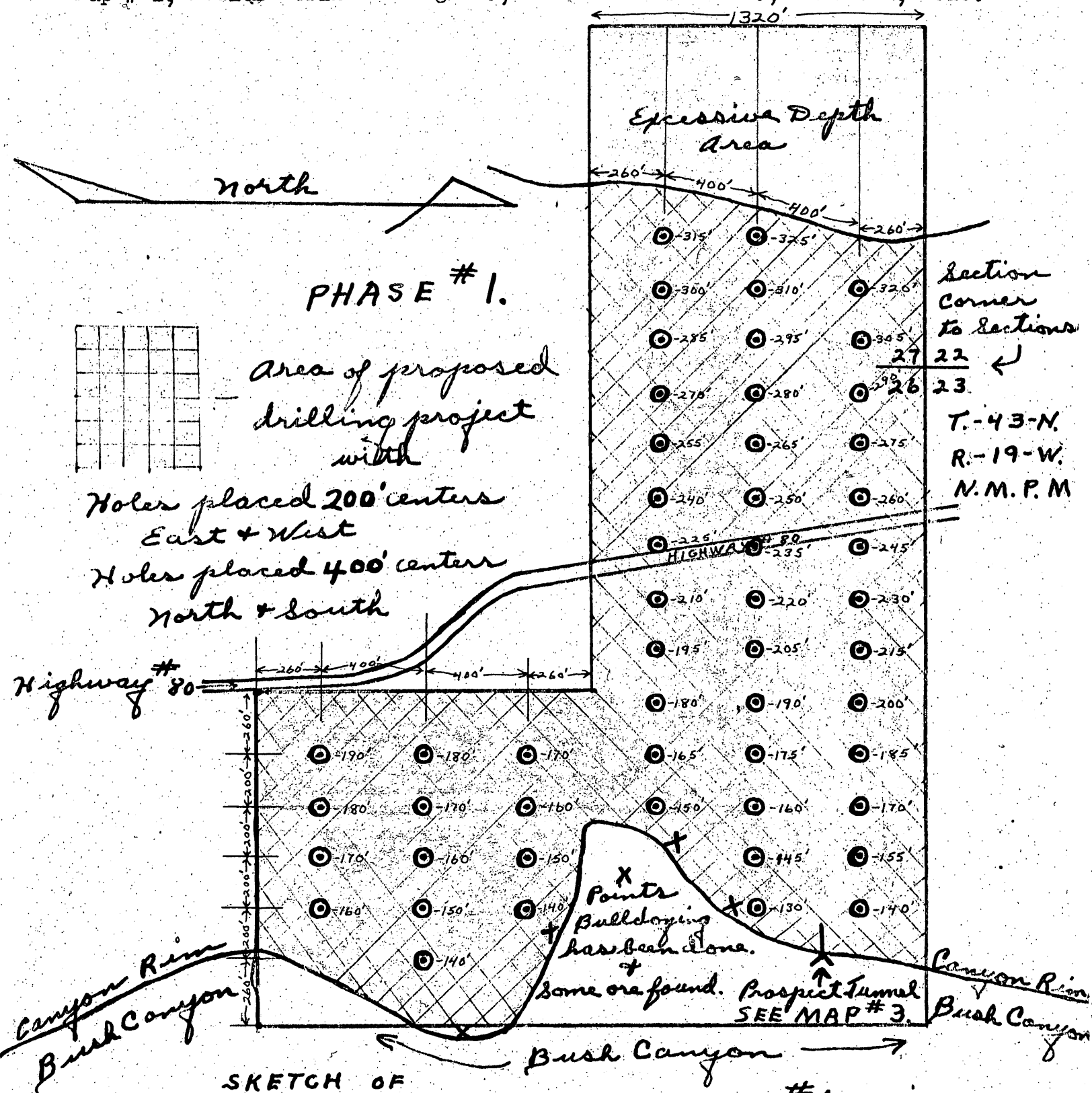

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Location of Holes + Estimated Depths Shown ⊙-130'

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