DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO._____ DMEA NO. 4104

Application
- [ ] Denied
- [x] Withdrawn

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

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

Folder No. 1:

Left Side

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

Right Side

- [ ] Project summary (final)
- [ ] Work Comoleted analysis (final)

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

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

Additional Folders:

Left Side

Folders No._____: Reports
- [ ] Analysis of Semi-Annual Inspection Reports
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

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

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

Folders No._____: Settlement Sheets

Folders No._____: Drill Logs

Folders No._____: Royalty material

Docket Copy

MF-200
(Revised June 1954)

Docket No. DMEA 4104

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] Caleb V. Haynes, Jr. and Glen A. Boyd, Jr., a partnership, whose mailing address is Post Office Box 5, Golden, Colorado, and 41 Prospector's Park, Golden, 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 2 maps (Figure 2 and Figure 4)

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 Jefferson, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] lessee of [5] the 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] two leases, [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: Royalties as are set forth in the lease.

(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: Consent to Lien of Lessors

(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 ..... shall commence the work, and on or before December 1, 1956 (unless the Operator's obligation to prosecute the work is terminated—see Article 10) shall have completed the work [redacted] See Article 13.

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 $ 20,410.00. The Government shall contribute 75 percent of the allowable costs as they are incurred in a total sum not in excess of $ 15,307.00: *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 excess in a category, subcategories, or items the Operator is not obligated to incur in excess of a specified percentage of the estimated total allowable cost of the work~~ See Article 13.

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. **See Article 13.**

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.*—
(a) In Article 3 all of the words following the reference to Article 10, except the words "shall have completed the work," are deleted. (b) Categories (2) through (7) of Article 6(a) are deleted except for sample analyses. (c) In addition to the costs of work estimated in Exhibit "A" by categories of actual costs, the costs of work requirements specified in Exhibit "A" as "Fixed Unit Costs" are allowable costs of the project. The Government will contribute to the fixed unit costs as work units are performed. A "Fixed Unit Cost" is an agreed price for each unit of work to be performed regardless of costs incurred by the Operator. Costs set forth in Exhibit "A" include all allowable costs of the work to be performed under the contract.
(d) That part of the last sentence in the first paragraph of Article 6(a) commencing after the semicolon, is deleted.
(e) In Article 6(c), the reference to Article 9 is changed to Article 8.
(f) In Category (1) of Article 6(a), the phrase "the estimated cost of each unit of work" shall be construed to mean, for the purposes of this contract, "the average cost per foot of drilling, including transportation, drill site, and access trail preparation, for each individual drill hole."

Executed in sextuplicate the day and year first above written.

Indrtg 7/16/56
Dunyer
"Appd. Sol. Off."
Hlugque
Ellis
Chamber

THE UNITED STATES OF AMERICA

By .....

Administrator, Defense Minerals
Exploration Administration

Selfridge
F E Johnson

.....

Caleb V. Haynes, Jr. (Partner)

By .....

Glen A. Boyd, Jr. (Partner)

.....

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
CALEB V. HAYNES, JR., AND GLEN A. BOYD, JR.
DOCKET NO. DMEA-4104

ANNEX I

The land referred to in Article 2 of the Contract consists of the following:

The West one-half ($\frac{1}{2}$) of the Southwest one-quarter ($\frac{1}{4}$) and the Southwest one-quarter ($\frac{1}{4}$) of the Northwest one-quarter ($\frac{1}{4}$) of Section Three (3), and the Northeast one-quarter ($\frac{1}{4}$) of the Southeast one-quarter ($\frac{1}{4}$) of Section 4, Township Seven (7) South, Range 70 West of the Sixth P.M. (160 acres more or less), leased by the Operator from Carl L. Hishster.

The East one-half ($\frac{1}{2}$) of the Southwest one-quarter ($\frac{1}{4}$) and the Southeast one-quarter ($\frac{1}{4}$) of the Northwest one-quarter ($\frac{1}{4}$) of Section Three (3), Township Seven (7) South, Range 70 West of the Sixth P.M. (120 acres more or less), leased by the Operator from Louis S. Malach, excluding, however, a tract conveyed by Louis S. Malach to Reinhardt and Ruth Henke by deed recorded in Book 527, page 105 of the records of Jefferson County, Colorado, a portion of which tract occupies approximately 1.6 acres of the aforesaid 120 acres of land, which portion is bounded by the North line beginning at the northeast corner of the NE$\frac{1}{4}$ SW$\frac{1}{4}$ sec. 3, thence west 107 feet, thence south 660 feet, thence east 107 feet to the quarter section line, thence north 660 feet to the point of beginning.

The location of the land is shown on the map entitled "Figure 2 - Property Map, Black Knight and Billikin Lodes, Caleb V. Haynes, Jr., and Glen A. Boyd, Jr., Jefferson County, Colo., DMEA 4104," attached hereto and made a part of this Contract.

EXPLORATION PROJECT CONTRACT
CALEB V. HAYNES, JR., AND GLEN A. BOYD, JR.
DOCKET NO. DMEA-4104

EXHIBIT "A"

Description of the Work

General Provisions

The work consists of exploration by diamond core drilling from the surface for the downward projection of the uranium ore bearing Black Knight and Billikin breccia zones.

Each hole shall be diamond core drilled the entire length. No payment shall be made for any uncompleted drill hole. The minimum collar size of core shall be EX, and no part of any hole shall be less than AX size without prior approval of the Government.

All core and cuttings shall be saved by such methods and at such drilling intervals, and shall be checked for radioactivity in such manner, as may be specified by the Government. The sections of the drill core and cuttings that indicate significant radioactivity shall be split into halves. One-half of each of the radioactive drill cores shall be analyzed chemically for uranium, and one-half of each of the radioactive cores and cuttings shall be furnished to the Government. The remaining half of the radioactive cuttings, and all the non-radioactive cores and cuttings, shall be properly boxed, labeled, and stored pending Government inspection and disposition.

All drill holes shall be logged geologically and probed for radioactivity and four copies of each log shall be furnished to the Government.

No drill hole shall be drilled closer than 100 feet to the outside boundary of the land, and no Stage II drill hole shall be drilled closer than 75 feet from any Stage I hole from where it intersects the breccia zones.

The project shall be supervised at all times by a qualified geologist or mining engineer, approved by the Government, who shall perform the required surveying, mapping, sampling, and hole logging, and shall prepare reports required pursuant to this Contract.

Stage I

Stage I shall consist of five (5) vertical core drill holes to intersect the Black Knight breccia zone approximately 150 feet down-dip below the surface and one inclined core drill hole to intersect the Billikin breccia zone about 150 feet down-dip below the

surface. The holes that shall be drilled are designated as B, C, D, E, F, and G and their locations are shown on the attached map entitled "Figure 4 - Map Showing Location of Recommended Drill Holes, Black Knight and Billikin Lodes, Caleb V. Haynes Jr., and Glen A. Boyd, Jr., Jefferson County, Colo., DMEA-4104."

The depths, directions, and inclinations that these holes shall be drilled are as follows:

Hole No.	Direction and Inclination	Depth Feet
B	Vertical	190
C	Vertical	220
D	Vertical	190
E	Vertical	170
F	Vertical	160
G	N. 70° W at -60° Inclination	350

Stage II

Stage II consists of drilling not more than eight holes aggregating not more than 1,600 feet to explore for the extension of favorable mineralization intersected in Stage I drill holes. The location, inclination and depth of each hole are subject to the prior written approval of the Government.

Estimated Cost of the Project

(in addition to maximum set forth in Article 6
an asterisk indicates maximum)

Stage I

Actual Costs

Category (1) Independent Contracts

1,250 feet of core drilling, including transportation, drill site, and access trail preparation thereto, @ $5.97/ft. $7,641.60

Categories (2) through (6) None

Category (7) Miscellaneous

None except 20 Chemical sample analyses @ $5.00*/each sample	$ 100.00	$7,741.60

Fixed Unit Costs (See Article 13)

Incidental allowances for each foot of core drilling completed, 1,280 feet @ $1.03/ft.	$1,318.40	1,318.40
Estimated Total Cost of Stage I		$9,060.00

Stage II

Actual Costs

Category (1) Independent Contracts

1,600 feet of core drilling, including transportation, drill site, and access trail preparation thereto, @ $5.97/ft.	$9,552.00	
Categories (2) through (6) None		

Category (7) Miscellaneous

None except 30 Chemical sample analyses @ $5.00*/each sample	150.00	$9,702.00

Fixed Unit Costs (See Article 13)

Incidental allowances for each foot of core drilling completed, 1,600 feet @ $1.03/ft.	$1,648.00	$1,648.00
Estimated Total Cost of Stage II		$11,350.00

SUMMARY

Estimated Total Cost of Stage I	$ 9,060.00
Estimated Total Cost of Stage II	11,350.00
Estimated Total Cost of the Project	$20,410.00
Government participation @ 75% (rounded to)	$15,307.00

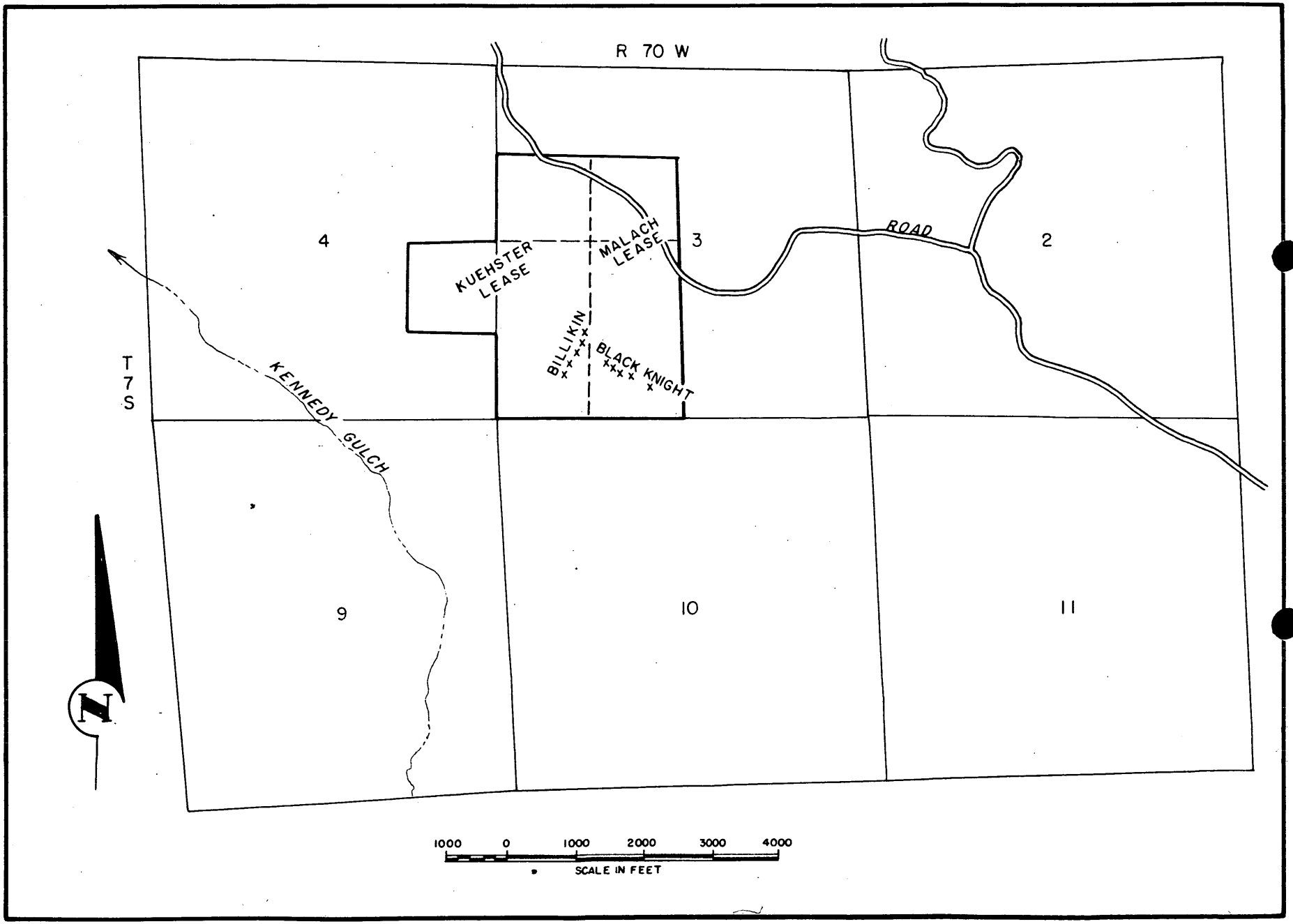


FIGURE 2 - PROPERTY MAP, BLACK KNIGHT AND BILLIKIN LODES, CALEB V. HAYNES, JR., AND GLEN A. BOYD, JR., JEFFERSON COUNTY, COLO. DMEA 4104

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

RECEIVED
DEC 27 1955

December 23, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

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

Subject: Application for DMEA Assistance (Uranium) Caleb V. Haynes and Glen A. Boyd, Parts of Sec. 3, T. 7 S., R. 70 W., Jefferson County, Colorado

Enclosed are three copies of the subject application in the amount of $28,369.36. Only two copies of the application contained copies of leases. One copy of the application containing leases is being retained in our files and the other copy is attached hereto.

E. N. Harshman

E. N. Harshman

Enclosures

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DMEA
Date Rec'd.
DEC 22 1955
BUREAU OF MINES
Denver, Colorado

Form Approved.
Budget Bureau No. 46-R1035.2.

DEC 27 1955

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. DMEA-4104
Metal or Mineral Uranium
Date Received 12-22-55
Estimated Cost $28,369.36
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: Caleb V. Haynes Jr. P. O. Box 5, Golden, Colorado.
Glen A. Boyd Jr., 41 Prospector Park, Golden, Colorado.

Partnership - 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 The west half of the southwest quarter and the southwest quarter of the northwest quarter of Section 3, and the northeast quarter of the southeast quarter of Section 4, plus the east half of the southwest quarter and the southeast quarter of the northwest quarter of Section three, all in T7S,R70W, 6th P.M.

(*b*) State any mine name by which the property is known. N/A

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise leases

(*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 N/A

(*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.

16—66551-1

SEE APPLICATION REPORT pp. 1-12

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore Primary and secondary uranium minerals

(*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. SEE APPLICATION REPORT p. 14-21

(*c*) The work will start within 30 days and be completed within 14 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. SEE APPLICATION REPORT p. 20

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: pp. 15-18

(*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.). pp. 15-18

(*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. pp. 15-18

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. pp. 15-18

(*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. pp. 15-18

(*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. N/A

(*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. N/A

(*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. pp. 15-18

(*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 SEE APPLICATION REPORT

(*b*) How do you propose to furnish your share of the costs? SEE APPLICATION REPORT p. 20

☐ 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 20 December, 195

Caleb V. Haynes Jr. Glen A. Boyd Jr.
(Applicant)

By

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

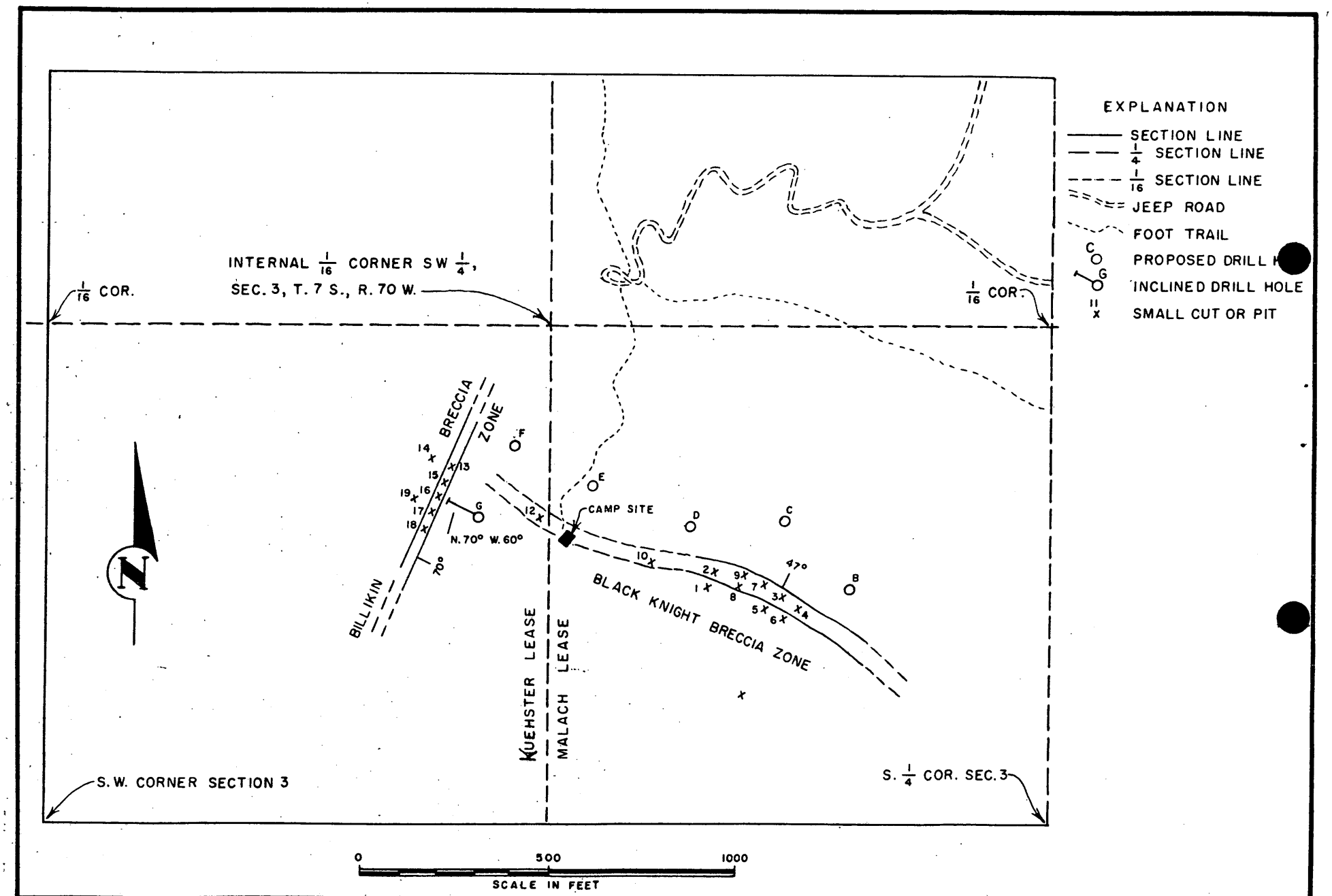


FIGURE 4 - MAP SHOWING LOCATION OF RECOMMENDED DRILL HOLES, BLACK KNIGHT AND BILLIKIN LODES, CALEB V. HAYNES, JR., AND GLEN A. BOYD, JR., JEFFERSON COUNTY, COLO. DMEA 4104

RECEIVED
DEC 27 1955

MINING LEASE

THIS AGREEMENT OF LEASE, made and entered into this 21st day of May, A. D. 1955, between CARL L. KUERSTER of the County of Jefferson, State of Colorado, hereinafter referred to as Lessor, and CALEB V. HAYNES, JR., and GLEN A. BOYD, JR., of the County of Jefferson, State of Colorado, hereinafter referred to as Lessees,

W I T N E S S E T H :

NOW, THEREFOR, in consideration of the premises, the rents, royalties, covenants and agreements hereinafter expressed to be paid, kept and performed by the Lessees, the Lessor leases, let and demised, and by these presents leases, lets and demises unto the Lessees, the following described mining property and premises, situate in the County of Jefferson, State of Colorado, to-wit:

> The West one-half (½) of the Southwest one-quarter (¼) and the Southwest one-quarter (¼) of the Northwest one-quarter (¼) of Section Three (3), and the Northeast one-quarter (¼) of the Southeast one-quarter (¼) of Section 4, Township Seven (7) South, Range 70 West of the Sixth P.M. (160 acres more or less).

To have and to hold the above described premises and privileges for the purpose of mining all ores, from this date and a period of three years thereafter, and as much longer thereafter as minerals are found in paying quantities thereon, and are continually mined, unless sooner terminated or forfeited through the violation of any of the covenants and conditions herein contained, and provided that during said period Lessor receive as a minimum annual rent or royalty a sum equivalent to ONE DOLLAR ($1.00) for each acre of said described land, payable in advance to such annual period, which sum shall be credited to any excess payments, if any, at the end of the annual period.

The Lessees, in consideration of the premises, have covenanted, contracted and agreed and by these presents do covenant, contract and agree to and with the Lessor, his executors, administrators and assigns as follows:

1. To conduct prospecting and mining operations in such a manner as not to create hazards to persons or livestock and with a minimum of resulting permanent injury to the surface of said lands, and all such operations at their own risk and expense.

2. To allow the Lessor the right at all times to inspect the premises and all ores, assays and samples obtained during and through the exploration or prospecting or mining operations, and to make available unto Lessor all reports obtained therewith for his inspection or reproduction.

3. To comply with Colorado Workman's Compensation Acts and the Occupational Disease Act, saving Lessor harmless from any liability resulting from injury or illness of lessees, their agents or employees.

4. To pay unto Lessor during the period of commercial mining operations the equivalent of the following sums based upon net mill receipts from the uranium ores;

Percentages of Proceeds	Quantity of Uranium Oxide (U3O8) Present in Milled Ore
12½%	.1 up to 2.5%
15%	commencing at 2.5 up to 5.0%
20%	commencing at 5.0 up to 7.5%
25%	commencing at 7.5 and over

said payments to be due and payable as the ores are paid for upon delivery.

5. To pay unto the Lessor 25% of any bonus that may be allowed under the rules and regulations of the United States Atomic Energy Commission or other federal or state agencies for the discovery of uranium ores, or laws relating thereto, and to pay for current taxes that may be assessed against any improvements placed on such property by Lessees, and current taxes assessed against the mineral rights during the term thereof.

6. That should minerals other than uranium be exploited or taken hereunder, Lessor shall receive and Lessees shall pay 12½% of the net proceeds that may be received from the purchases thereof, without including any allowances received for transportation, but less milling costs and/or charges.

7. That the term "net mill receipts" shall mean the payments received at the mill for all ores including bonuses and freight allowance after deduction of actual costs of milling, smelting, treatment, freight, less penalties imposed by virtue of existing impurities of the ore, or the imposition of other penalties.

8. That any payments to be received or to be paid as herein provided shall in no event exceed those permitted or allowed by Federal or state regulation, or law, if any.

9. To conduct all operations, whether for exploration, prospecting or mining or otherwise, in a prudent, energetic, workmanlike and efficient manner, and with reasonable diligence carry on said operations, and in all events with a minimum of resulting injury to the surface of said lands, and with safeguards to persons and livestock by erection of barriers, fences or other means, providing at all times proper gates or cattle guards for the containment of livestock upon the premises; to work the same in mine fashion in manner necessary to good and economical mining, so as to take out the greatest amount of ore possible, with due regard to the development and preservation of the mining premises, and to the special covenants herein contained.

10. To prospect for, explore, uncover, and to work and mine discovered minerals on said premises as aforesaid in as diligent and continuous a manner as reasonably possible,

unless prevented by conditions of weather, federal or state regulations or laws, or acts of God.

11. All ores mined which are too low grade for present shipment shall remain the property of and subject to the control and disposition of the lessor unless such ores are shipped from premises by the Lessees.

12. That Lessees are not by this agreement invested with any property in any uranium or other minerals unless and until the same are severed from the ground, and all property taxes assessed upon or against said demised premises for ores mined and shipped under this lease shall be paid by the Lessees, except income taxes.

13. All bills and expenses incurred by the Lessees or those in privity with Lessees shall be promptly paid by the Lessees, and by such prompt payment said Lessees shall prevent the filing of any and all liens of miners, mechanics, or materialmen, against said demised premises; and, if by reason of the failure of Lessees to pay such bills or expenses, Lessor may forthwith pay off and discharge the same, and the Lessor may hold Lessees bound to pay to Lessor all sums so advanced or paid to clear said premises from liens which may be filed as aforesaid, and the Lessor may also at his election declare a forfeiture of this lease. Lessor may upon demand inspect the books of Lessees to determine if all bills for labor, material and subcontractors have been paid and also shall be entitled to full information as to the names and addresses of all laborers, suppliers, subcontractors and principal contractors.

14. Lessees further covenant that no person not in privity with the parties hereto shall be allowed to hold possession of said premises or any part thereof under any pretext whatever.

15. That upon the termination of this agreement, however occurring, to surrender back the premises and Lessees rights hereunder to Lessor, with such written releases, quit claim deeds or other instruments as necessary to effectively show the same.

16. To make the payments unto Lessor in the form and manner herein specified.

It is mutually agreed that;

1. The periods of time herein granted and provided wherein the Lessees shall do and perform anything or take certain action, shall be extended by any delay occasioned or incurred by any official act of federal or state agency or department.

2. As between the parties hereto all improvements placed on the premises by Lessees shall be deemed personal property, to be removed by the said Lessees within sixty (60) days of the expiration hereof, however occurring.

3. That sub-leases or assignments, total or partial, shall be made only after the receipt of prior written permission of the Lessor.

4. Upon the violation of any covenant or condition herein contained, this lease shall at the option of the Lessor expire, and terminate, and the said premises shall revert to the Lessor, and the Lessor or his agent may thereupon, after demand in writing, for possession, enter upon said premises and dispossess all persons found occupying said premises or any part thereof, and such persons may be proceeded against as guilty of unlawful detainer, subject to the conditions of the preceeding paragraph.

This agreement shall extend to, inure to the benefit of, and be binding upon the heirs, lawful assigns and legal representatives of the parties hereto.

IN WITNESS WHEREOF, The parties hereto have hereunto set their hands and seals the day and year first above written.

LESSOR:

Earl L. Kuehster (SEAL)

LESSEES:

Glen A. Bagley (SEAL)

Calvert V. Haynes (SEAL)

STATE OF COLORADO)
: ss.
COUNTY OF JEFFERSON)

I, Bessie F. Paulsen, Notary Public, do hereby certify that the foregoing four (4) pages are a true and correct copy of the original document.

My commission expires January 26, 1959.

Bessie F. Paulsen
Notary Public

DMEA
Date Rec'd DEC 27 1955

DEC 22 1955

BUREAU OF MINES
Denver, Colorado

APPLICATION REPORT

for

DMEA EXPLORATION PROJECT CONTRACT

on the

Black Knight and Billikin Lodes

Jefferson County, Colorado

By

Caleb V. Haynes Jr. and Glen A. Boyd Jr.

Post Office Box 5
Golden, Colorado

1955

CONTENTS

Part I — Page

Objective 1

Introduction 1

Description of properties 3

Mining history 4

Regional geology 6

Description of sites 7

Conclusion 12

Bibliography 13

Illustrations

Figure 1. Index map of central Colorado 5

Figure 2. Geologic map of the lodes 11

Plate I. Platte Canyon Quadrangle sheet .....In pocket

Part II

Proposed exploration program 14

Cost estimates 15

Availability of water 19

Availability of power 19

Shipping point 19

Qualifications of applicants 20

Illustrations

Figure 3. Plan and cross-section of Phase I exploration program 21

INTRODUCTION

In an effort to locate a favorable area for uranium prospecting in the Front Range of the Colorado Rockies, a careful review was made of the literature pertaining to the geology and occurrence of uranium mineralization in the area. The occurrences of uranium in the Ralston Creek and Golden Gate Canyon areas (Adams, Gude and Beroni, 1953) appeared interesting and several outstanding relationships were noted; namely, the uranium deposition appears to have been controlled by Laramide faulting, hornblende gneiss seems to have had a favorable effect on the concentration (probably due to iron) of uranium and, in most cases, the uranium mineralization is associated with copper.

With these relationships in mind geologic literature was studied and reconnaissance field trips were made in order to locate a favorable yet relatively unexplored area for uranium prospecting. By the end of August 1954 an area in the southern portion of Jefferson County seemed to stand out. Some maps (Stose, 1935) show a tongue (fig 1) of the Swandyke hornblende gneiss within the gneisses and schists of the Idaho Springs formation. This tongue extends from Douglas County in a northwesterly direction, crossing the South Platte River near the settlement of South Platte and continuing into Jefferson County Sandstone filled faults in the Platte Canyon area have been studied by P W. Vintanage (1954) and plutons in the northwest corner of the quadrangle have been described by Boos and Aberdeen (1940). Other than these papers little geological work has been done in the area. Although no Laramide faults were definitely known to exist the area appeared worthy of investigation. I was joined in this work by Glen A. Boyd, Jr. in November 1954.

When word was had of a uranium discovery in gneisses of the Idaho Springs formation on the South Platte River near Waterton the potentials of the Platte Canyon area seemed unquestionable. Inspection of the Waterton discovery provided additional data to work with, but at the same time discouraged further exploration in the immediate vicinity as it had suddenly become too popular and land disputes appeared inevitable. It was then decided to work the territory further west to the contact of the gneisses with the granites of the Pikes Peak batholith.

RECEIVED
DEC 27 1955

OBJECTIVE

It is the objective of this report to interest the Defense Minerals Exploration Administration in the granting of Government aid in the form of an Exploration Project Contract in order that the applicants may search for indicated sources of uranium within the parcel of ground herein described.

On April 24, 1955, after tracing mineralized float to its source, secondary uranium minerals were found coating schistose zones in gneiss strongly mineralized with magnetite and outcropping in a steep ravine two miles south of Critchell, Colorado. Several strong radioactive anomalies were also noted. Further investigation has revealed additional outcrops of uranium minerals and points showing anomalous radioactivity extending along a northwest-southeast belt for a quarter mile and including several abandoned prospect pits and shallow workings. Dump material has revealed considerable copper mineralization in breccia and indicates a breccia reef (Lovering and Goddard, 1950) similar to the copper-uranium bearing faults north and west of Golden, Colorado. Investigation of several of the aforementioned anomalies has uncovered narrow veins of pitchblende in shear zones paralleling the foliation of magnetite gneiss.

RECEIVED DEC 27 1955

The properties are now under lease and underground exploration is planned for the near future.

DESCRIPTION OF PROPERTIES

Two adjoining properties totaling 280 acres are involved. One, consisting of 160 acres, is under lease from Carl L. Kuehster of Critchell, Colorado. The adjoining 120 acres on the east are being leased from Louis S. Malach of Denver. All but 40 acres are in sec 3, T. 7 S., R. 70 W. and lie approximately 1½ airline miles south-southwest of Critchell. Forty acres in sec. 4 join sec. 3.

The leases are accessable by 2½ miles of county maintained road leading south out of Critchell, then west over 1.1 miles of private road. From this point the deposits themselves are approached by Jeep over 0.7 miles of steep obscure road, and the final 700 feet are covered on foot down a 20° slope to where a tent is maintained near the boundary of the two properties. The tent is in the center of the mineralization.

The terrain is steep and rugged with elevations on the properties ranging from 8,650 feet in the northeast portion to 7,500 feet in the southwest. All drainage from the properties flows southwesterly to Castro Creek at an elevation of 7,100 feet in Kennedy Gulch.

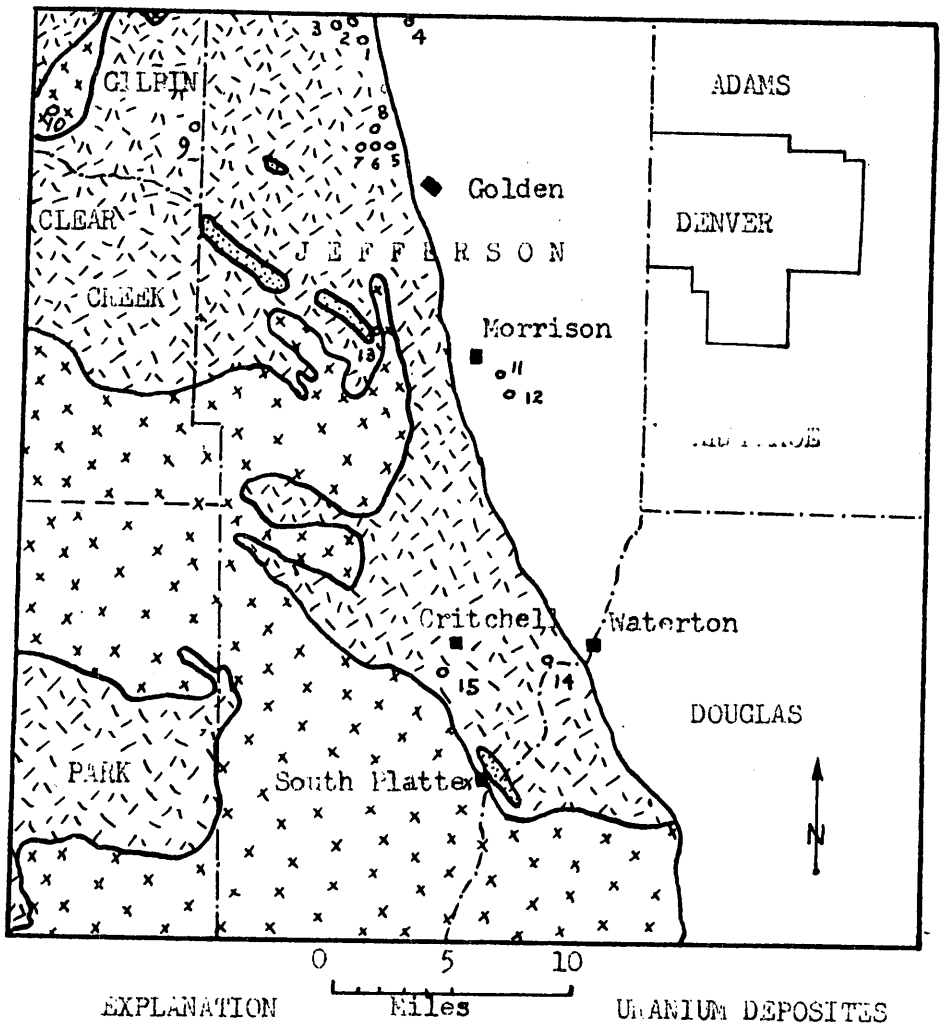
MINING HISTORY

As far as is known, what few mines that do exist in the immediate area have been long abandoned and have never appeared in literature. Mining was done intermittently and on a small scale. Local miners used the name Riley Peak Mining District in filing location certificates on Government reserved mineral rights.

From local residents it has been learned that gold, silver, copper, lead and zinc have all been sought at one time or another. Other than a little gold no production has been realized.

The latest mining activity was at the Cook mine on the property of Mrs. John A. Reynolds in Kennedy Gulch. Some gold was produced prior to 1949, and several radioactive anomalies on the property have been brought to the attention of the U. S. Geological Survey (Robert Knight, U. S. Geological Survey, 1955, personal communication). No uranium mineralization has been detected to date.

Although the existence of uranium on the properties herein described was unknown prior to this discovery, a uraniferous magnetite gneiss outcrop was claimed by one Elmer J. Feemster in 1937 in spite of the fact that he possessed the mineral rights. He called the claim the Black Knight Extension and Black Knight has been retained in naming the lode.



EXPLANATION

Undiferentiated Sediments

Swandyke Hornblende gneiss

Idaho Springs Formation

Pikes Peak Granite

URANIUM DEPOSITES

1. Schwartzwalder mine
2. North Star mine
3. Nigger Shaft
4. Leyden Mine
5. Ladwig prospects
6. Union Pacific
7. Buckman prospects
8. Freiden discovery
9. Bowman discovery
10. Central City area
11. Stevenson discovery
12. Strauss discovery
13. Idledale discovery
14. Bonzo lode
15. Black Knight and Billikin lodes

Figure 1. Index map of central Colorado.

REGIONAL GEOLOGY

Typical gneisses and schists of the Idaho Springs formation form most of the country rock on and around the properties. This formation has been intruded, lit-par-lit, along the foliation by granite and, in some places, pegmatites. The Swandyke hornblende gneiss outcrops sparingly throughout the region.

Within the typical gneisses and schists and paralleling the northwest-southwest foliation there is an unusual zone of magnetite gneiss and schist. This zone has been found in outcrop three-fourths of a mile further east and indications are that it is continuous. Within the properties a pitchblende bearing vein is confined to the magnetite zone and strikes approximately N. 70° W. and dips 47° NE. Another zone contains copper minerals and some uranium minerals in brecciated zones. It strikes almost at right angles to the one in the magnetite and dips 70° E. The exact relationship of the two faults is not fully understood at this time, however, it has been suggested (J. W. Adams, U. S. Geological Survey, personal communication) that the smaller vein in the magnetite might be a split off of the breccia reef.

The Waterton discovery, called the Bonzo Lode, is 4½ miles east-northeast and shows structural trends and uranium mineralization similar to the aforementioned pitchblende vein except that no magnetite gneiss or schist occurs. Instead the host rock is typical Idaho Springs formation with small granitic injections. The structural trends are repeated in several abandoned prospects in sec. 6, T. 7 S., R. 69 W., one mile southwest of the Bonzo Lode.

The granite of the Pikes Peak Batholith contacts the Idaho Springs formation about a mile southwest of the Black Knight and Billikin Lodes and the Castro Creek plutons (Boos and Aberdeen, 1940) outcrop a mile to the northwest. P. W. Vintanage (1954) shows a northwest-southeast, sandstone filled Precambrian fault passing just to the southwest of the properties and continuing up Kennedy Gulch. Another fault further east, if extended, would bisect the property.

In addition, investigation in NE¼, sec. 10 has revealed a porphyry dike extending over a mile in a southwesterly direction and dipping moderately to the southeast.

* Refer to Plate 1, U. S. Geological Survey, Platte Canyon Quadrangle, 1945, in pocket.

DESCRIPTION OF SITES

The various workings, pits and outcrops on the properties have been designated as sites on figure 2. Sites 1 through 11 lie along a zone of magnetite gneiss and are related to a northwest-southeast trending fault within the magnetite gneiss. This structure dips approximately 47° to the northeast and is called the Black Knight Lode. Sites 13 through 19 are abandoned workings that appear to have been concerned with a copper bearing breccia reef trending north-northeast and dipping steeply to the east. This zone is here named the Billikin Lode. It is not yet known exactly how the other sites tie into the structural picture.

The individual sites are here described briefly as to their mineralogy, lithology, anomalous radioactivity and the like.

Site 1.--Discovery site. Minerals tentatively identified as autunite, torbernite and uranophane coat fracture surfaces in pegmatite and fill schistose zones paralleling the foliation in gneiss showing exceptionally high percentage of magnetite. Gamma intensity - 1.0 MR/Hr. Assays - grab sample - 0.136 percent U_3O_8 Chem. Due to strong magnetic intensity Brunton readings are unreliable.

Site 2.--Pitchblende and several hydrous uranium oxides fill a tight shear zone exposed for several feet by blasting. Seams of pitchblende vary in thickness from less than a millimeter to nearly a centimeter. Small fractures in granite near the shear zone are filled with pitchblende. Secondary minerals tentatively identified as autunite, torbernite, uranopilite and kasolite occur in the wall rock in varying amounts. The foot wall is magnetite gneiss and schist whose foliation meets the shear plane at an acute angle. A tabular injection of granite forms the hanging wall. Wedged between the granite and the magnetite gniess above there is a small injection of fine grained pegmatite. Prior to excavation a Gamma intensity of 0.7 MR/Hr. was recorded. Initial excavation revealed radioactive fault gouge that assayed 0.191 percent U_3O_8 Chem. After blasting and exposing pitchblende a selected sample assayed 51.40 percent U_3O_8 Chem. and 0.26 percent ThO_2 Chem. On the exposed shear Gamma intensity exceeds 5.0 MR/Hr. Shear strikes approximately N. 70° W. with a dip of 47° to the northeast.

A one foot channel sample taken by Eugene Grossman of the U. S. Atomic Energy Commission assayed 0.53 percent U_3O_8 Chem. and 0.45 percent eU.

Site 3.--Originally a zone of anomalous radioactivity showing a Gamma intensity of 1.5 MR/Hr. through overburden. Shallow excavation revealed a block of biotite schist impregnated with uranophane and buried several inches. At a depth of two feet a tight shear zone was encountered that thickens into lenses of pitchblende surrounded by up to an inch or more of becurelite, schoepite and other hydrated oxides. Some of the yellow oxides form a micro-breccia in a red-brown matrix surrounding the pitchblende, and small veinlets of orange red fourmarierite criss-cross the hydrated zone. Again, as at Site 2, the wall is magnetite gneiss and schist with the hanging wall being granite. Also the strike and dip approximates that at Site 2. Shear exposed for 20 feet.

Site 4.--Narrow belt of anomalous radioactivity showed 0.15 MR/Hr. Excavation along 20 feet revealed lithology, mineralogy and structure identical to that at Site 3 and are more than likely continuous.

Site 5.--Small excavation in a zone of anomalous radioactivity, 0.15 MR/Hr., revealed secondary iron mineralization and increasing radioactivity. This site is also in magnetite gneiss and lies approximately 30 feet west of Site 3.

Site 6.--Outcrop. Uranophane coats fracture surfaces in a granite gneiss overlying magnetite gneiss. Site lies ten feet down slope and west of Site 4. The structure may be continuous with Site 5. Gamma intensity - 1.0 MR/Hr.

Site 7.--Overburden has been removed from shear zone filled with secondary iron minerals and showing anomalous radioactivity in the order of 0.7 MR/Hr. This shear is continuous with the exposures at Sites 3 and 4 and is probably continuous with that exposed at Site 2.

Site 8.--Old pit in magnetite gneiss. No anomalous radioactivity.

Site 9.--Old caved working adjacent to Site 7 on the west. No anomalous radioactivity or mineralization exposed. Appears to have been sunk above shear zone.

Site 10.--Outcrop of magnetite gneiss. No anomalous radioactivity.

Site 11.--Old caved working 200 feet or so south and down hill from Sites 1 through 10. No anomalous radioactivity and no mineralization apparent on dump.

Site 12.--Abandoned incline 50 feet northwest of tent and on same prominence. Extends down dip at about 35° to the northeast for approximately 30 feet then levels off for the final 15 feet. Brecciated zone some 18 inches thick is well exposed in lower part of the workings. While no anomalous radioactivity was noted several specimens showing secondary copper minerals were found on the dump. The structure here could be a continuation of those exposed in Sites 2, 3, 4, and 7 and as such it would support the idea of a split.

Site 13.--Old prospect pit. Shear zone in magnetite gneiss and schist showed flecks of autunite. Several shears and minor displacements are implied and could prove to be the junction of the implied split and the main reef. Grab sample assayed 0.132 percent eU and 0.184 percent Chem.

Site 14.--Small pit showing no radioactivity or mineralization.

Site 15.--Old pit and shallow incline are slumped in. Radioactivity in the order of 0.10 MR/Hr. has been detected. Grab samples of breccia showing secondary copper minerals assayed 0.336 percent eU and 0.385 percent Chem. These came from a pile of samples on the dump that were collected some time prior to the present day interest in uranium.

Site 16.--Partially filled incline shows 0.10 MR/Hr. radioactivity and secondary copper minerals on dump. Shear zone with chrysocolla, malachite and azurite is exposed near the portal.

Site 17.--Partially filled incline 15 feet south of Site 16 shows secondary copper minerals in brecciated material on the dump but no anomalous radioactivity.

Site 18.--Prospect pit covered by large boulder weighing several tons. Upon removal of boulder copper minerals were found filling a silicanate breccia reef trending N. 32° E. and dipping 70° to the east. Since this pit lies 15 feet approximately south-southwest of the Site 17 incline a continuous structure is implied. Anomalous radioactivity appears to emanate from an ocherous dull yellow mineral closely associated with the secondary copper minerals. Primary copper in the form of tenorite, bornite and chalcopyrite was found in the brecciated zone.

Site 19. - Abandoned adit extends approximately 50 feet east in an apparent effort to intersect the breccia reef at Sites 16, 17, and 18. 0.10 MR/Hr. radioactivity was detected in a zone of weathered gneiss about 15 feet in from the portal. The only mineralization appears to be Precambrian sulfides within the typical gneiss.

Site 20. - Very old workings include a caved adit and an incline above, near a small intermittent stream and several hundred feet down hill to the northwest of sites 13 through 19. No radioactivity or mineralization of consequence has been observed, however, a large altered rock in float several hundred feet downhill was slightly radioactive.

Site 21. - Two shallow pits show 0.06 MR/Hr. radioactivity and no mineralization.

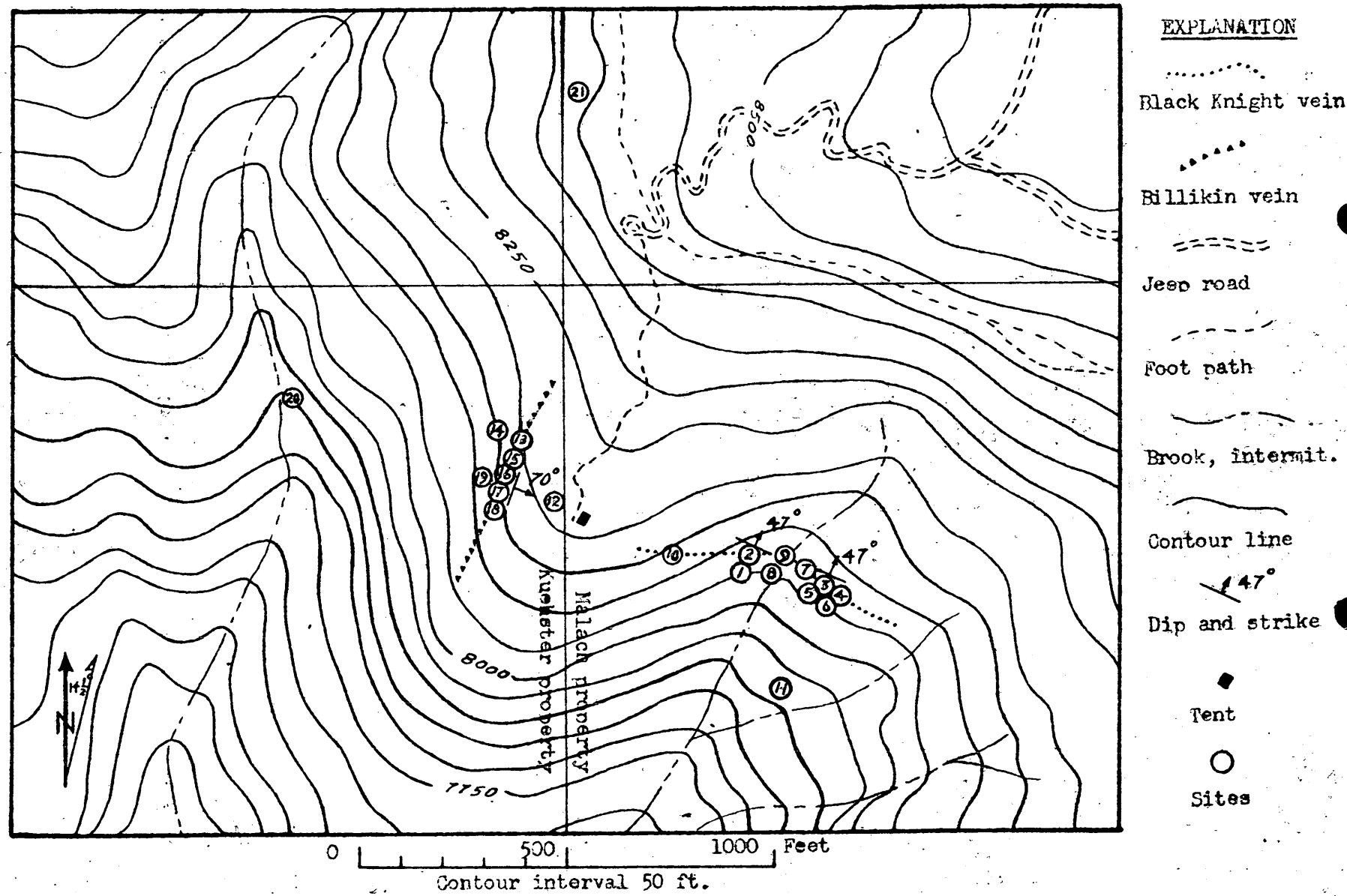


Figure 2. Geologic map of mineralized area (120 acres).

CONCLUSION

Because the structural trends of the Black Knight Lode parallels those of the Bonzo Lode 4½ miles away a family of northwest-southeast faults is indicated. This was further supported by observing strikes and dips in old prospects in Bear Gulch a mile southwest of the Bonzo Lode. Even though no uranium mineralization has been found in these old prospects the area east and west and between the uranium discoveries may reveal mineralized veins upon careful investigation. The presence of iron minerals as well as copper appears to be a favorable sign. It was the tracing of magnetite gneiss float to its source that led to the discovery of the Black Knight Lode.

Another point of interest is that the outcrop of the Black Knight vein is approximately 2,400 feet above that of the Bonzo Lode. Both lodes contain pitchblende and associated secondary minerals. There is reason, therefore, to speculate that the Black Knight pitchblende persists to a depth of 2,400 feet. However, the exact nature of the fault has not been determined. At Site 3 it was noted that there is a roll in the dip and slickensides parallel the dip. If these striations indicate the direction of major movement and if the walls of the vein continue to roll or undulate at depth then favorable spaces for ore deposition can be expected.

The commercial potentials of the Black Knight and Billikin Lodes can be further surmised from a number of additional facts. There are two structures striking at approximately right angles to each other and dipping toward each other. Additional structures are indicated. Both of the main structures contain uranium. Their point of intersection could constitute a favorable ore body. The Black Knight vein contains primary pitchblende and the wall rock contains secondary uranium minerals, in some places in sufficient quantities to constitute ore. The Billikin vein, being brecciated, silicified, and containing copper and uranium minerals, is similar to the initial discovery made by Fred Schwartzwalder on Ralston Creek. The Ralston Creek mine is now considered to be the largest vein-type uranium deposit in the United States (U. S. Atomic Energy Commission.)

The deposits of the Platte Canyon area extend the occurrence of vein-type uranium in the foothills about 20 miles further south from the Golden Gate Canyon area. The foothills deposits along with recent discoveries under similar environments near Shawnee and Idledale, Colorado may reveal that uranium deposition tends to favor areas outlying the main Front Range Mineral Belt, possibly because of hydrothermal gradient decreasing away from the belt as suggested by some members of the U. S. Geological Survey.

BIBLIOGRAPHY

Adams, J. W., Gude, A. J. and E. P. Beroni, 1953, Uranium occurrences in the Golden Gate Canyon and Ralston Creek areas, Jefferson County, Colorado; U.S. Geol. Survey Circular 320.

Boos, M. F., Aberdeen, E. J., 1940, Indian Creek Pluton Area, Geological Society of America Bulletin, v. 51, p. 695.

Lovering, T. S., and Goddard, E. N., 1950, Geology and ore deposits of the Front Range, Colorado; U.S. Geol. Survey Prof. Paper 223.

Stose, G. W., 1935, Geologic Map of Colorado.

Vintanage, P. W., 1954, Sandstone dikes in the South Platte area, Colorado, Jour. of Geol., v-62, no. 5.

PROPOSED EXPLORATION PROGRAM

The "target" is to test the strength, persistency, and tenor of the Black Knight and Billikin structures, and to determine their structural relations. Due to the foliated and jointed nature of the country rock and the unconsolidated nature of the mineralized zone it is believed that better information could be gained and more efficient exploration accomplished through working underground rather than by core drilling from the surface.

It is suggested that exploration be conducted in two phases, the second phase being contingent upon the results of the first phase. The phases, with time and cost estimates, are outlined as follows:

Phase I

A. Construction of approximately 3000 feet of one-way access road by grading with a bull-dozer and with a minimum of rock blasting. 2 months - $6,212.06

B. Cross cutting for approximately 350 ft in a N 24 E direction from a point some 50 ft below Site 8 in order to intersect the Black Knight fault approximately 160 ft below the surface. 6 months - $14,184.68

C. Drifting on a general heading of N 66 W for approximately 350 ft along the Black Knight structure. 6 months - $14,184.68

Total time and cost estimate for Phase I - 14 months - $36,576.42

Phase II (A, B, or C depending upon the results of Phase I)

A. Sinking a 100 ft winz - structure and mineralization stronger at depth - 4 months - $8,000.

B. Driving a 100 ft raise - structure and mineralization strengthen up dip - 4 months - $8,000.

C. Continue drifting in a northwesterly direction until the Billikin shear zone is encountered at approximately 450 ft beyond the end of Phase I, Part C - structure and mineralization strengthen as the Billikin shear zone is approached - 8 months - $18,000.

COST ESTIMATE
ROAD - PHASE I-A

Labor, supervision, rentals, material- basis: 2 months

Bulldozer, D-8 @ 100.00/day	4,000.00
Jackhammer operator, @ 20.00/day	800.00
Supervision and surveying, @ 500.00/mo.	1,000.00
Rentals, compressor, jackhammer, and hose (refer pg.16)	157.06
Dynamite, caps, fuse, steel, and bits	140.00
Gas and oil	115.00
TOTAL	$6,212.06

Cost of the proposed 3,000 foot road (phase I-A) constructed over a 2 month period will amount to $6,212.06 or $2.08 per foot.

COST ESTIMATE

DRIFT AND CROSSCUT - PHASE I B&C

Equipment rentals - monthly basis

1	Gardner-Denver, S-33, jackleg	80.00
1	Air compressor, 125 cfm	160.00
	Water and air hose	8.00
	Total per month	248.00

Equity of 70% on above material, therefore allowable charges are:

0.3 X 248.00	74.40
1/60 X 0.7 X 248.00	4.13
Allowable cost	78.53

TOTAL COST FOR A 12 MONTH PERIOD 942.36

Labor, supervision, and professional services - monthly basis

1	Miner @ 18.00 per day	360.00
1	Mucker @ 15.00 per day	300.00
	Surveying and supervision	425.00
	Geologist	450.00
	Total	1,535.00

TOTAL COST FOR 9 MONTHS OF 12 MONTH PERIOD 13,815.00

Non-recoverable equipment and expendable materials

2	Ore cars, 1 ton, 16 cu. ft., @ 400.00 ea.	800.00
1	Exhaust fan, 3000 cu. ft./min.	400.00
1	Gardner-Denver oiler	23.00
1	Water tank, storage, 500 gal.	150.00
700 ft.	10 ft. lengths, $1\frac{1}{2}$ in. pipe plus reducers, elbows, and valves @ 25.35/100 ft.	177.45
800 ft.	10 ft. lengths, $\frac{1}{2}$ in. pipe plus reducers, elbows, and valves @ 20.00/100 ft.	160.00
1500 ft.	10 ft. lengths, 8 lb. rail plus fishplates, ties, and spikes @ 75.00/100lb.	750.00
700 ft.	Ventilation conduit, 16 in. dia. @ 35.25/25ft. .	987.00
	3 L's @ 18.35 ea.	55.05
120	Timken, $1\frac{3}{4}$ carbide insert bits @ 17.35 ea. . .	2,082.00
	Drill steel and steel loss, ref. Peele(1924) 0.70/ft. X 2 X 700	490.00
	Fuse and caps, ref. Peele(1924) 0.86/ft. X 2 X 700	602.00
85	50 lb. boxes, 40% dynamite @ 11.50/50lb. basis: 120 6-ft. rounds, 35lb. dynamite/round .	977.50
700 ft.	Timbering @ 4.00/ft.	2,800.00
Gasoline and oil:		
	Gasoline, $4\frac{1}{2}$gal./hr. @ 1800rpm, consumption is 9360 gal. @ 0.30/gal.	2,808.00
	Oil, 0.5pt./8hrs. @ 1800rpm, consumption is 125 pts. @.40/pt	50.00
Miscellaneous small tools and accessorys		300.00
	TOTAL	13,612.00

COST ESTIMATE - TOTALS
DRIFT AND CROSSCUT - PHASE I B&C

RENTALS	942.36
LABOR, SUPERVISION, AND PROFESSIONAL SERVICES	13,815.00
NON-RECOVERABLE EQUIPMENT AND EXPENDABLE MATERIALS . . .	13,612.00
GRAND TOTAL	28,369.36

COST PER FOOT OF ADVANCE

$$\frac{28,369.36}{700} = 40.527$$

The cost for drifting 700 feet at a rate of 3 feet per day over a period of 12 months is herein calculated to be $40.527 per foot of advance.

AVAILABILITY OF WATER

Water for exploration will have to be hauled in by truck from Deer Creek and stored in a tank above the portal. Water for development and mining can be obtained by tapping springs, trucking in, or by raising from Castro Creek in Kennedy Gulch. Hauling water is not only inconvenient, it is expensive. Springs in the area are unreliable but a strong source of water may be found by drilling. Raising water approximately 1000 ft. from Castro Creek would be expensive but it would be a dependable source.

AVAILABILITY OF POWER

The Intermountain Rural Electric Association has a 220 volt power line extended to cabins approximately 1200 ft. from the proposed portal. Extension of the lines to the proposed workings would be a relatively simple matter.

SHIPPING POINT

The nearest railroad shipping point is Littleton, Colorado, a suburb of Denver. It is approximately 21 miles by road from the proposed adit to the Littleton railhead.

QUALIFICATIONS OF APPLICANTS

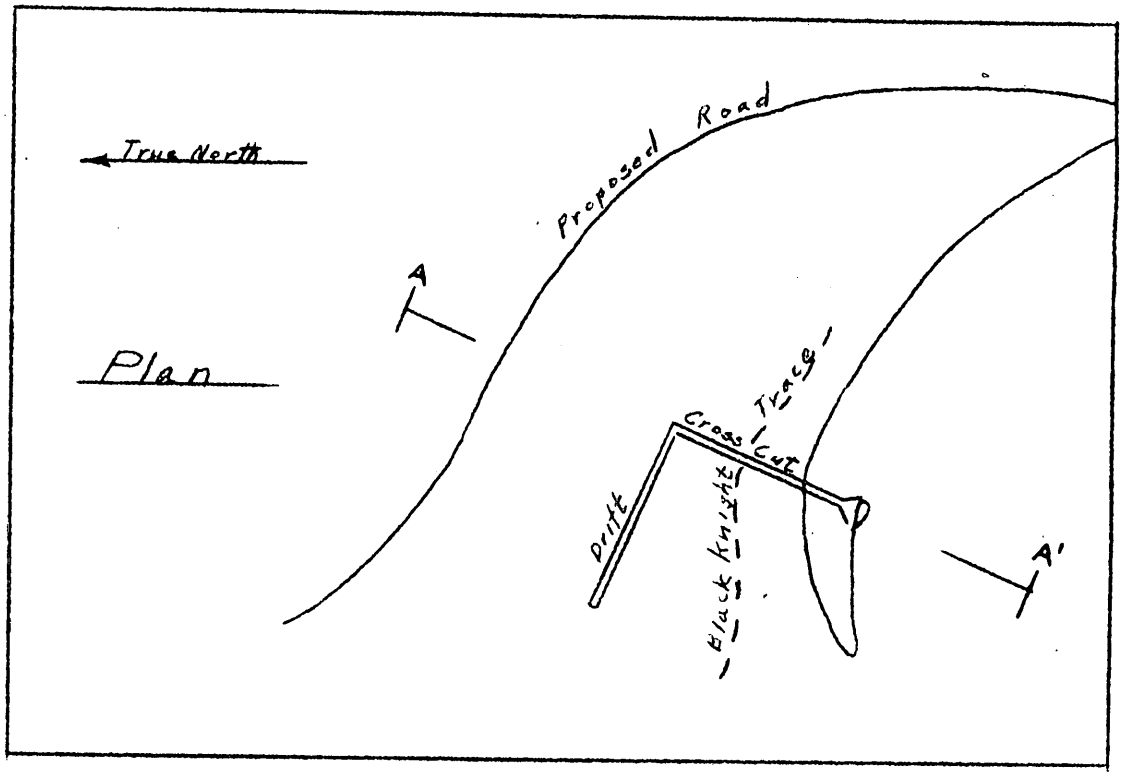
The applicants intend to share 25% of the exploration costs by full time participation in the proposed exploration program.

Both applicants, Caleb V. Haynes Jr. and Glen A. Boyd Jr., expect to graduate from the Colorado School of Mines in late May, 1956 with degrees of Geological Engineer, Mining. Their curriculum has included several courses in mining methods and mining principles and evaluation.

Mr. Boyd has a wife and two daughters. He has served two years in the U. S. Marine Corps, has five years banking experience, and has worked for the Golden Fire Brick Company as a fireman.

Mr. Haynes has a wife and a daughter. He has served four years in the U. S. Air Force and has worked as a hoist and compressor operator, mine track layer and roustabout at the Smuggler Mine, Silver Plume, Colorado.

The applicants feel certain that they can carry out the proposed exploration in an efficient and bussiness-like manner.



Horizontal Scale 0 500 100 feet Verticle Scale

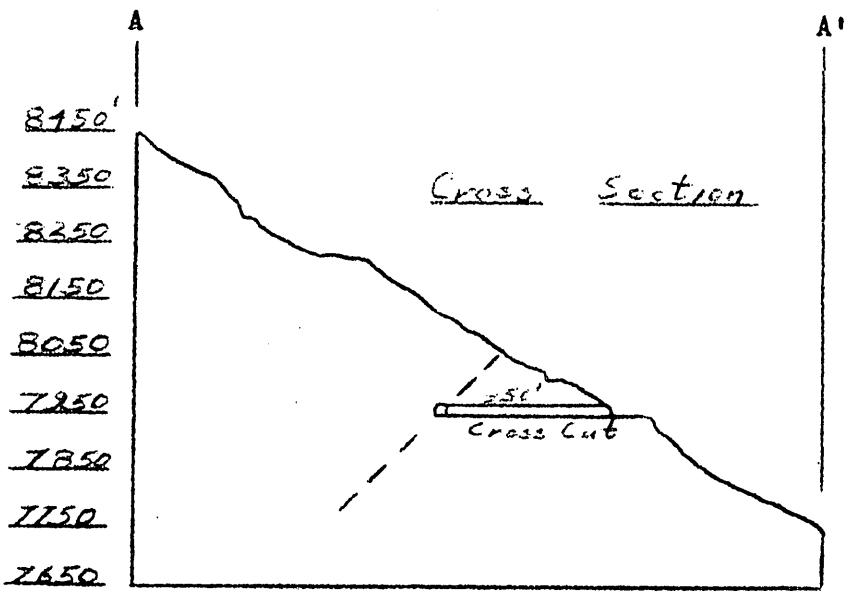


Figure 3. Plan and cross section of Phase I exploration program.

LA Form 7
(2-56)

OFFICIAL FILE COPY

Date	Surname	Code
6/18	Knouse	700
6/18	Ellis	700
	Kiilsgaard	USGS
JP 6/21	Lamb	USBM
6/21	Selfridge	130
6/26	Johnson	110
		100
		220
		700

JUN 26 1957

Mr. Caleb V. Haynes, Jr.
P. O. Box 5
Golden, Colorado

Re: Docket No. DMEA-4104 (Uranium)
Black Knight and Billiken Lodes
Jefferson County, Colorado

6/26 Gopen (130)
4/26 Nelson (130)
4/26 Selfridge (130)

Dear Mr. Haynes:

As requested in your letter, dated June 11, 1957, to Mr. E. N. Harshman, your application has been reinstated. However, before further processing can be done it will be necessary that you submit a new application on Form 103 in quadruplicate, outlining your proposed changes in the exploration project and any changes in estimated costs. Five copies of Form 103 are enclosed for this purpose. It will not be necessary to resubmit all the information in your previous application, but you should refer to it by the above DMEA docket number. A new number will be assigned to your new application when received. You should also forward two copies of each of the leases referred to in your letter.

see DMEA-4791

Please forward your new application and leases to Mr. William H. King, Executive Officer, DMEA Field Team, Region III, 224 New Customhouse Building, Denver 2, Colorado. Upon receipt of your new application, the Regional Office will contact you at the earliest opportunity in regard to your property.

Sincerely yours,

G. D. Mittendorf

Administrator

Enclosures
FLKnouse/
FEJohnson/izm/gla
(6/18/57) 6/24/57
cc to: Mr. Knouse
Adm.r's Reading File
DMEA Field Team, Region III (2)
THKiilsgaard, Rm. 5224

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
6/18	Knouse	700
6/18	Ellis	700
	Kilsgaard	USGS
6/21	Lamb	USBM
6/21	Selfridge	430
		110
		100
		220
		700

Mr. Caleb V. Haynes, Jr.
P. O. Box 5
Golden, Colorado

Re: Docket No. DMEA-4104 (Uranium)
Black Knight and Billikin Lodes
Jefferson County, Colorado

Dear Mr. Haynes:

As requested in your letter, dated June 11, 1957, to Mr. E. N. Harshman, your application has been reinstated. It has been referred to Mr. William H. King, Executive Officer, DMEA Field Team, Region III, 224 New Customhouse Building, Denver 2, Colorado.

In the meantime, to speed the processing of your application, please forward one copy of each of the leases referred to in your letter to Region III, and this office.

The Regional Office will contact you at the earliest opportunity in regard to your project.

Sincerely yours,

Administrator

FLKnouse/gla/izm 6-18-57
cc to: Mr. Knouse
Admr.'s Reading File
DMEA FT Reg. 3 (2)

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
6/17	Knouse	700
6/17	Ellis	700
6/21	GCS (130)	USGS
JP		USBM
6/26	GCS	130
"	Johnson	110
"	Attendorn	100
		220
		700

JUN 26 1957

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

Re: Docket No. DMEA-4104 (Uranium)
Caleb V. Haynes, Jr.
Black Knight and Billikin Lodes
Jefferson County, Colorado

Dear Mr. King:

As requested by Caleb V. Haynes, Jr., in his letter of June 11, 1957, to Region III, the subject application is being reinstated, deleting the name of Glen A. Boyd, Jr. However, it will be given a new docket number and name since it would be a different project, would require another field examination, and a change of name.

We are requesting the applicant to submit a new application on Form 103 and two copies of each of the new leases to you.

Since the applicant states work performed on the property after the previous field examination was made has exposed encouraging mineralization, it will be necessary to re-examine the property. In order to avoid delay, you may do this as soon as you have received the new application from Mr. Haynes. Upon receipt of our copies of the new application (and copies of the leases), we will advise you of the new number assigned to it.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (24B)

APPROVED:

P. F. Yopes (24B)
Member, Bureau of Mines

N. E. Nelson (24B)
Member, Geological Survey

FLKnouse/FEJohnson/izm/gla
(6-18-57) 6-24-57

cc to: Admr.'s Reading File
Operating Committee
Code 700, Mr. Knouse
THKiilsgaard, Rm. 5224

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
6/17	Knouse	700
6/17	Elling	700
6/21	GCS	USGS
		USBM
		130
		110
		100
		220
		700

JP

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

Re: Docket No. DMEA-4104 (Uranium)
Caleb V. Haynes, Jr.
Black Knight and Billikin Lodes
Jefferson County, Colorado

Dear Mr. King:

As requested by Caleb V. Haynes, Jr., in his letter of June 11, 1957, to Region III, the subject application is reinstated with the above docket number and name, deleting the name of Glen A. Boyd, Jr. Future communications regarding this application should be referenced accordingly.

We have requested the Applicant to submit copies of the new leases to you and to Washington that he referred to in the above letter.

Since the Applicant states work has been done on the property that exposed encouraging mineralization, after the field examination was made, a re-examination of the property should be made and the recommendations of the Field Team submitted to Washington.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (SHB)

APPROVED:

Frank D. Lamb (SHB)

Member, Bureau of Mines

Thor H. Kiilsgaard (SHB)

Member, Geological Survey

FLKnouse/gla/izm 6-18-57

cc to: Mr. Knouse
Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 14 1957

DATE	INITIALS	CODE
6/14	C	220
"	Kramer	700

June 12, 1957

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 4104 (Uranium) Caleb V. Haynes, Jr. and Glen A. Boyd, Jr., (Black Knight and Billikin Lodes) Jefferson County, Colorado

Enclosed are the following which relate to the subject application considered as withdrawn by our letter of July 26, 1956, to the Applicant:

1. Original and five copies of MF-205 Consent to Lien signed by Carl L. Kuehster.
2. Original and five copies of MF-205 Consent to Lien signed by Louis S. Malach.
3. Letter dated June 11, 1957, transmitting Items 1 and 2 to this office from Caleb V. Haynes, Jr.

From the developments reported by Mr. Haynes, it appears that a new application for DMEA aid is in order. We will take no action to advise Mr. Haynes, however, whether or not he should submit a new application until we have received your comments.

W H King
W. H. King

DMEA
DEPARTMENT OF THE INTERIOR

JUN 12 1957
REGION III
DENVER, COLORADO

WSK
#MC
T

P. O. Box 5
Golden, Colorado
11 June 1957

Mr. E. N. Harshman
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: Docket DMEA-4104 (Uranium)

Dear Mr. Harshman:

Transmitted herewith are the "Consent to Lien and Subordination Agreement" forms (MF-205) completed and signed by the landowners.

As a result of this action I would like the loan application to be considered as re-submitted. In re-submitting the application I would like to carry out the program of diamond core drilling discussed and agreed upon with Mr. R. U. King and Mr. W. M. Traver (Proposed Unnumbered Contract).

Since the application was considered as withdrawn (letter from Mr. Traver dated 26 July, 1956) several developments have taken place on the properties under consideration. A one-way jeep road has been constructed to the Black Knight vein. Bull dozing has exposed the vein for approximately 200 ft. At Site 3 (see original application report) a 60° inclined shaft was bottomed at 55 ft. Because the vein dips at 47° and the shaft follows the foliation the vein had to be reached by cross cutting approximately 16 ft in a north northeasterly direction. At this point the upper left corner, the right wall, and part of the floor adjoining the right wall showed anomalous radioactivity. These directions refere to the observer facing away from the shaft.

Mineralization from the deeper part of the vein shows pyritization of the wall rock and pitchblende occuring both as black glassy fracture fillings and as black sooty coatings. No secondary minerals have been noted at depth. This is in contrast to the near-surface mineralization.

In addition, a new lease has been exercised with the following changes: (1) royalties have been changed to a more workable range (5% - 10%) based upon a sliding scale, (2) the lease period has been extended to ten years, (3) the leased area has been reduced to 80 acres from each landowner with the option to lease more if necessary, and (4) I am the sole lessee as Mr. Boyd has withdrawn from the partnership (personal letter dated 28 May, 1957).

An inspection of the properties by members of your field team is welcomed and is requested at your convenience.

Sincerely yours,

Caleb V. Haynes, Jr.

Caleb V. Haynes, Jr.

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 14 1957

DATE	INITIALS	CODE

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 1957

DATE		CODE
5-17	C	220
5/18	~~FSK~~	225

224 New Customhouse
Denver 2, Colorado

May 14, 1957

Mr. Caleb V. Haynes, Jr.
P. O. Box 5
Golden, Colorado
and
Mr. Glen A. Boyd, Jr.
41 Prospector's Park
Golden, Colorado

Re: Docket DMEA-4104 (Uranium)
Proposed Unnumbered Contract,
Caleb V. Haynes, Jr. and Glen A.
Boyd, Jr., (Black Knight and
Billiken Lode) Jefferson County,
Colorado

Gentlemen:

In compliance with your request by telephone today, there are enclosed seven additional copies of Form MF-205, "Consent to Lien and Subordination Agreement."

The original and five copies of each set should be returned to this office when executed.

Very truly yours,

Original signed by
E. N. HARSHMAN

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

Enclosures

JWT:jy
cc: Chm. Op. Comm. (2)
Harshman
Konselman (2)
Docket 4104
Chron.

224 New Customhouse
Denver 2, Colorado

May 13, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 16 1957
DATE | INITIALS | CODE
5/16 | C | 220 225

Mr. Caleb V. Haynes, Jr.
P. O. Box 5
Golden, Colorado
and
Mr. Glen A. Boyd, Jr.
41 Prospector's Park
Golden, Colorado

Re: Docket DMEA-4104 (Uranium)
Proposed Unencumbered Contract,
Caleb V. Haynes, Jr. and Glen A.
Boyd, Jr., (Black Knight and
Billiken Lode) Jefferson County,
Colorado

Gentlemen:

In compliance with your request by telephone today, there are enclosed seven copies of Form MF-205, "Consent to Lien and Subordination Agreement."

If they are returned executed for the purpose of reviving the application, the original and five copies should be submitted, together with your request for reviving the application, Docket DMEA-4104.

Very truly yours,

Original signed by
E. N. HARSHMAN

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

Enclosures

JWT:jy
cc: Chm. Op. Comm. (2)
Harshman
Konselman (2)
Docket 4104
Chron.

Surname copy

F Knouse 700
Ellis

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

July 31, 1956

Memorandum

To: Robert E. Adams, Chief
Operations Control and Statistics Division

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

Subject: Proposed contract
Docket No. DMEA-410 (Uranium)
Caleb V. Haynes, Jr. and
Glen A. Boyd, Jr.
Black Knight and Billiken Lode
Jefferson County, Colorado

As you will note by Mr. Traver's memorandum to the Operating Committee, dated July 26, 1956, all copies of the proposed contract have been returned to Washington, and the Applicant was advised by Mr. Traver as of the above date that the application is considered as withdrawn.

Accordingly, this Division has closed our records on this application by withdrawal.

Ernest Wm. Ellis
Ernest Wm. Ellis

Attachments

cc to: Docket
Mr. Knouse

7/30/56

RECEIVED

JUL 30 1956

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

224 New Customhouse
Denver 2, Colorado

July 26, 1956

Memorandum

To: Chairman of the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-4104 (Uranium) Proposed Unnumbered Contract, Caleb V. Haynes, Jr. and Glen A. Boyd, Jr. (Black Knight and Billiken Lode) Jefferson County, Colorado

Returned herewith in compliance with your teletype of July 24, 1956 are the six copies of the subject proposed contract forwarded to this office by your memorandum of July 23.

The applicants have been notified that the application is considered as withdrawn as per attached letter.

W. M. Traver

W. M. Traver

Enclosures

Government's Copy

MF-200
(Revised June 1954)

Docket No. DMEA 4104

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] Caleb V. Haynes, Jr. ~~and Glen A.~~ Boyd, Jr., a partnership, whose mailing address is Post Office Box 5, Golden, Colorado, and 41 Prospector's Park, Golden, 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 2 maps (Figure 2 and Figure 4)

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 Jefferson, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] lessee of [5] the 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] two leases, [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: Royalties as are set forth in the lease.

(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: Consent to Lien of Lessors

(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 shall commence the work, and on or before December 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 8) in an amount not less than the estimated total allowable cost set forth in Exhibit "A"~~ See Article 13.

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 $20,410.00 The Government shall contribute 75 percent of the allowable costs as they are incurred in a total sum not in excess of $15,307.00: *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 be made, the Operator is not obligated to incur more than his agreed percentage of the estimated total allowable cost of the work~~ **See Article 13.**

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. **See Article 13.**

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.*—
(a) In Article 3, all of the words following the reference to Article 10, except the words "shall have completed the work," are deleted. (b) Categories (2) through (7) of Article 6(a) are deleted except for sample analyses. (c) In addition to the costs of work estimated in Exhibit "A" by categories of actual costs, the costs of work requirements specified in Exhibit "A" as "Fixed Unit Costs" are allowable costs of the project. The Government will contribute to the fixed unit costs as work units are performed. A "Fixed Unit Cost" is an agreed price for each unit of work to be performed regardless of costs incurred by the Operator. Costs set forth in Exhibit "A" include all allowable costs of the work to be performed under the contract.
(d) That part of the last sentence in the first paragraph of Article 6(a) commencing after the semicolon, is deleted.
(e) In Article 6(c), the reference to Article 9 is changed to Article 8.
(f) In Category (1) of Article 6(a), the phrase "the estimated cost of each unit of work" shall be construed to mean, for the purposes of this contract, "the average cost per foot of drilling, including transportation, drill site, and access trail preparation, for each individual drill hole."

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By .....

Administrator, Defense Minerals Exploration Administration

.....

Caleb V. Haynes, Jr. **(Partner)**

By .....

Glen A. Boyd, Jr. **(Partner)**

.....

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
CALEB V. HAYNES, JR., AND GLEN A. BOYD, JR.
DOCKET NO. DMEA-4104

ANNEX I

The land referred to in Article 2 of the Contract consists of the following:

The West one-half ($\frac{1}{2}$) of the Southwest one-quarter ($\frac{1}{4}$) and the Southwest one-quarter ($\frac{1}{4}$) of the Northwest one-quarter ($\frac{1}{4}$) of Section Three (3), and the Northeast one-quarter ($\frac{1}{4}$) of the Southeast one-quarter ($\frac{1}{4}$) of Section 4, Township Seven (7) South, Range 70 West of the Sixth P.M. (160 acres more or less), leased by the Operator from Carl L. Kuehster.

The East one-half ($\frac{1}{2}$) of the Southwest one-quarter ($\frac{1}{4}$) and the Southeast one-quarter ($\frac{1}{4}$) of the Northwest one-quarter ($\frac{1}{4}$) of Section Three (3), Township Seven (7) South, Range 70 West of the Sixth P.M. (120 acres more or less), leased by the Operator from Louis S. Malach, excluding, however, a tract conveyed by Louis S. Malach to Reinhardt and Ruth Henke by deed recorded in Book 527, page 105 of the records of Jefferson County, Colorado, a portion of which tract occupies approximately 1.6 acres of the aforesaid 120 acres of land, which portion is bounded by the North line beginning at the northeast corner of the NE$\frac{1}{4}$ SW$\frac{1}{4}$ sec. 3, thence west 107 feet, thence south 660 feet, thence east 107 feet to the quarter section line, thence north 660 feet to the point of beginning.

The location of the land is shown on the map entitled "Figure 2 - Property Map, Black Knight and Billikin Lodes, Caleb V. Haynes, Jr., and Glen A. Boyd, Jr., Jefferson County, Colo., DMEA 4104," attached hereto and made a part of this Contract.

EXPLORATION PROJECT CONTRACT
CALEB V. HAYNES, JR., AND GLEN A. BOYD, JR.
DOCKET NO. DMEA-4104

EXHIBIT "A"

Description of the Work

General Provisions

The work consists of exploration by diamond core drilling from the surface for the downward projection of the uranium ore bearing Black Knight and Billikin breccia zones.

Each hole shall be diamond core drilled the entire length. No payment shall be made for any uncompleted drill hole. The minimum collar size of core shall be BX, and no part of any hole shall be less than AX size without prior approval of the Government.

All core and cuttings shall be saved by such methods and at such drilling intervals, and shall be checked for radioactivity in such manner, as may be specified by the Government. The sections of the drill core and cuttings that indicate significant radioactivity shall be split into halves. One-half of each of the radioactive drill cores shall be analyzed chemically for uranium, and one-half of each of the radioactive cores and cuttings shall be furnished to the Government. The remaining half of the radioactive cuttings, and all the non-radioactive cores and cuttings, shall be properly boxed, labeled, and stored pending Government inspection and disposition.

All drill holes shall be logged geologically and probed for radioactivity and four copies of each log shall be furnished to the Government.

No drill hole shall be drilled closer than 100 feet to the outside boundary of the land, and no Stage II drill hole shall be drilled closer than 75 feet from any Stage I hole from where it intersects the breccia zones.

The project shall be supervised at all times by a qualified geologist or mining engineer, approved by the Government, who shall perform the required surveying, mapping, sampling, and hole logging, and shall prepare reports required pursuant to this Contract.

Stage I

Stage I shall consist of five (5) vertical core drill holes to intersect the Black Knight breccia zone approximately 150 feet down-dip below the surface and one inclined core drill hole to intersect the Billikin breccia zone about 150 feet down-dip below the

surface. The holes that shall be drilled are designated as B, C, D, E, F, and G and their locations are shown on the attached map entitled "Figure 4 - Map Showing Location of Recommended Drill Holes, Black Knight and Billikin Lodes, Caleb V. Haynes, Jr., and Glen A. Boyd, Jr., Jefferson County, Colo., DMEA-4104."

The depths, directions, and inclinations that these holes shall be drilled are as follows:

Hole No.	Direction and Inclination	Depth Feet
B	Vertical	190
C	Vertical	220
D	Vertical	190
E	Vertical	170
F	Vertical	160
G	N. 70° W at -60° Inclination	350

Stage II

Stage II consists of drilling not more than eight holes aggregating not more than 1,600 feet to explore for the extension of favorable mineralization intersected in Stage I drill holes. The location, inclination, and depth of each hole are subject to the prior written approval of the Government.

Estimated Cost of the Project

(in addition to maximum set forth in Article 6
an asterisk indicates maximum)

Stage I

Actual Costs

Category (1) Independent Contracts

1,280 feet of core drilling, including transportation, drill site, and access trail preparation thereto, @ $5.97/ft. $7,641.60

Categories (2) through (6) None

Category (7) Miscellaneous

None except 20 Chemical sample analyses @ $5.00*/each sample	$ 100.00	$7,741.60

Fixed Unit Costs (See Article 13)

Incidental allowances for each foot of core drilling completed, 1,280 feet @ $1.03/ft.	$1,318.40	1,318.40
Estimated Total Cost of Stage I		$9,060.00

Stage II

Actual Costs

Category (1) Independent Contracts

1,600 feet of core drilling, including transportation, drill site, and access trail preparation thereto, @ $5.97/ft.	$9,552.00	
Categories (2) through (6)	None	

Category (7) Miscellaneous

None except 30 Chemical sample analyses @ $5.00*/each sample	150.00	$9,702.00

Fixed Unit Costs (See Article 13)

Incidental allowances for each foot of core drilling completed, 1,600 feet @ $1.03/ft.	$1,648.00	$1,648.000
Estimated Total Cost of Stage II		$11,350.00

SUMMARY

Estimated Total Cost of Stage I	$ 9,060.00
Estimated Total Cost of Stage II	11,350.00
Estimated Total Cost of the Project	$20,410.00
Government participation @ 75% (rounded to)	$15,307.00

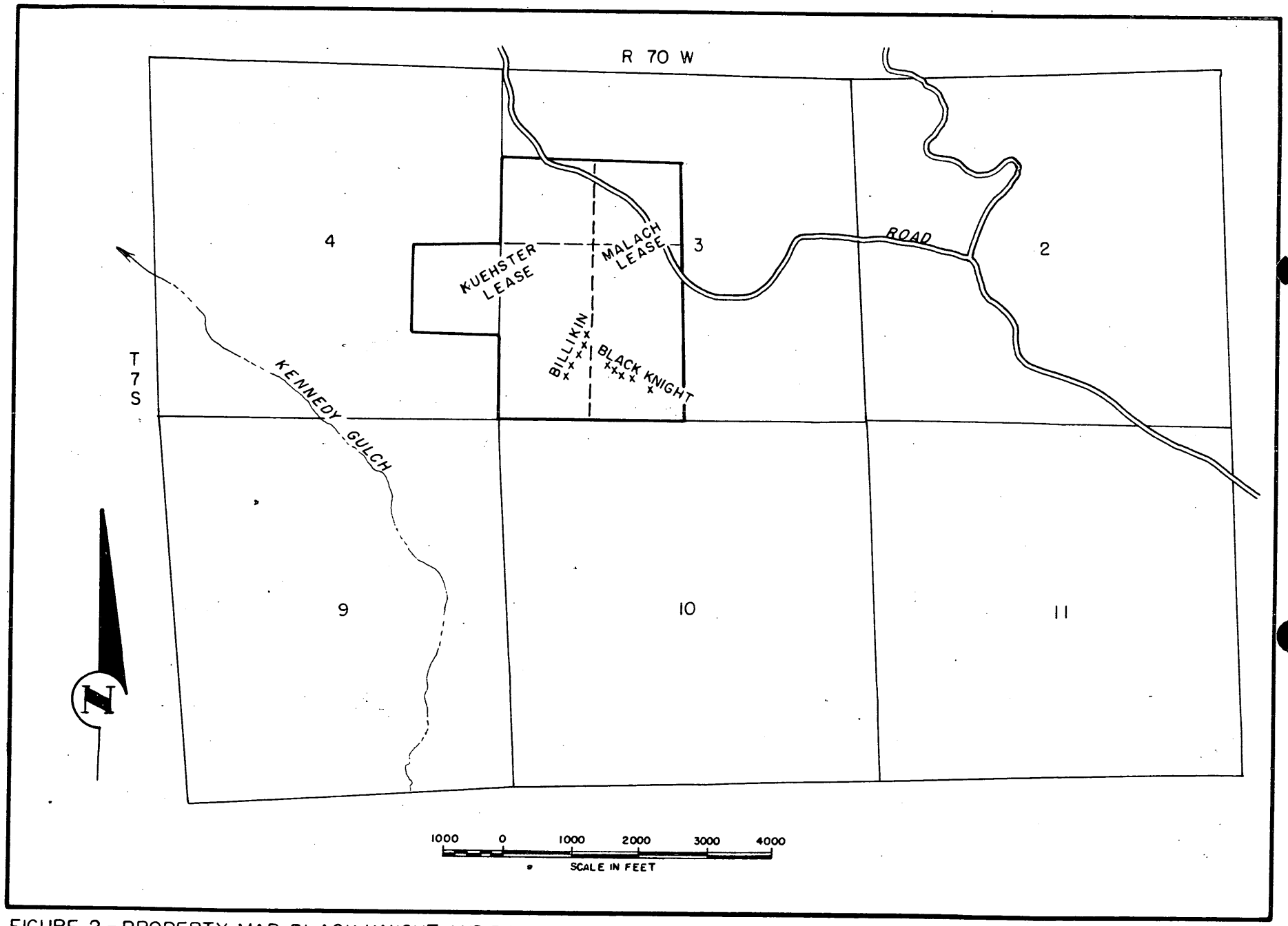


FIGURE 2 - PROPERTY MAP, BLACK KNIGHT AND BILLIKIN LODES, CALEB V. HAYNES, JR., AND GLEN A. BOYD, JR., JEFFERSON COUNTY, COLO. DMEA 4104

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

RECEIVED
JUL 30 1956

224 New Customhouse
Denver 2, Colorado

July 26, 1956

Mr. Caleb V. Haynes, Jr.
P. O. Box 5
Golden, Colorado
and
Mr. Glen A. Boyd, Jr.
41 Prospector's Park
Golden, Colorado

Re: Docket DMEA-4104 (Uranium), Proposed Unnumbered Contract, Caleb V. Haynes, Jr. and Glen A. Boyd, Jr., (Black Knight and Billiken Lode) Jefferson County, Colorado

Gentlemen:

This replies to your letter of July 11, 1956.

All copies of a proposed contract prepared by the Washington DMEA pursuant to your application for Government assistance under the captioned docket have been returned to them and your application is considered as withdrawn.

We will consider a new application in the event you are able to obtain Consents to Lien from the landowners or a Performance Bond or other suitable third party guarantee as a substitute for the Consent to Lien forms at some later date.

Very truly yours,

W. M. TRAVER

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

WMT/pw
cc: Chairman, Op.Comm. (2)
Harshman
Shaw (2)
DMEA-4104
Chron

DEPARTMENT OF THE INTERIOR

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

DMEA
14X4401(01) Revolving Fund
Defense Production Act, Int.
(Allocation Working Fund to the Office of the Secy.)

FILE COPY
Surname:

T E L E T Y P E

JUL 2 4 1956

W. M. TRAVER, EXECUTIVE OFFICER
DMEA FIELD TEAM, REGION III
224 NEW CUSTOMHOUSE BUILDING
DENVER 2, COLORADO

REURTELMO JULY 17 DMEA 4104 HAYNES AND BOYD. RETURN ALL COPIES OF PROPOSED CONTRACT ALSO ADVISE APPLICANT WE CONSIDER APPLICATION WITHDRAWN AND WILL CONSIDER NEW APPLICATION WHEN HE CAN OBTAIN PERFORMANCE BOND OR CONSENTS TO LIEN FROM LANDOWNERS.

George C. Selfridge

CHAIRMAN, OPERATING COMMITTEE

FLKnouse/izm 7-24-56

cc to: Docket
Code 700
Mr. Knouse
Admr.'s Reading File
Operating Committee
Confirmation to Region III
Messrs. JECrawford, Rm. 3643
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

R.C.S.

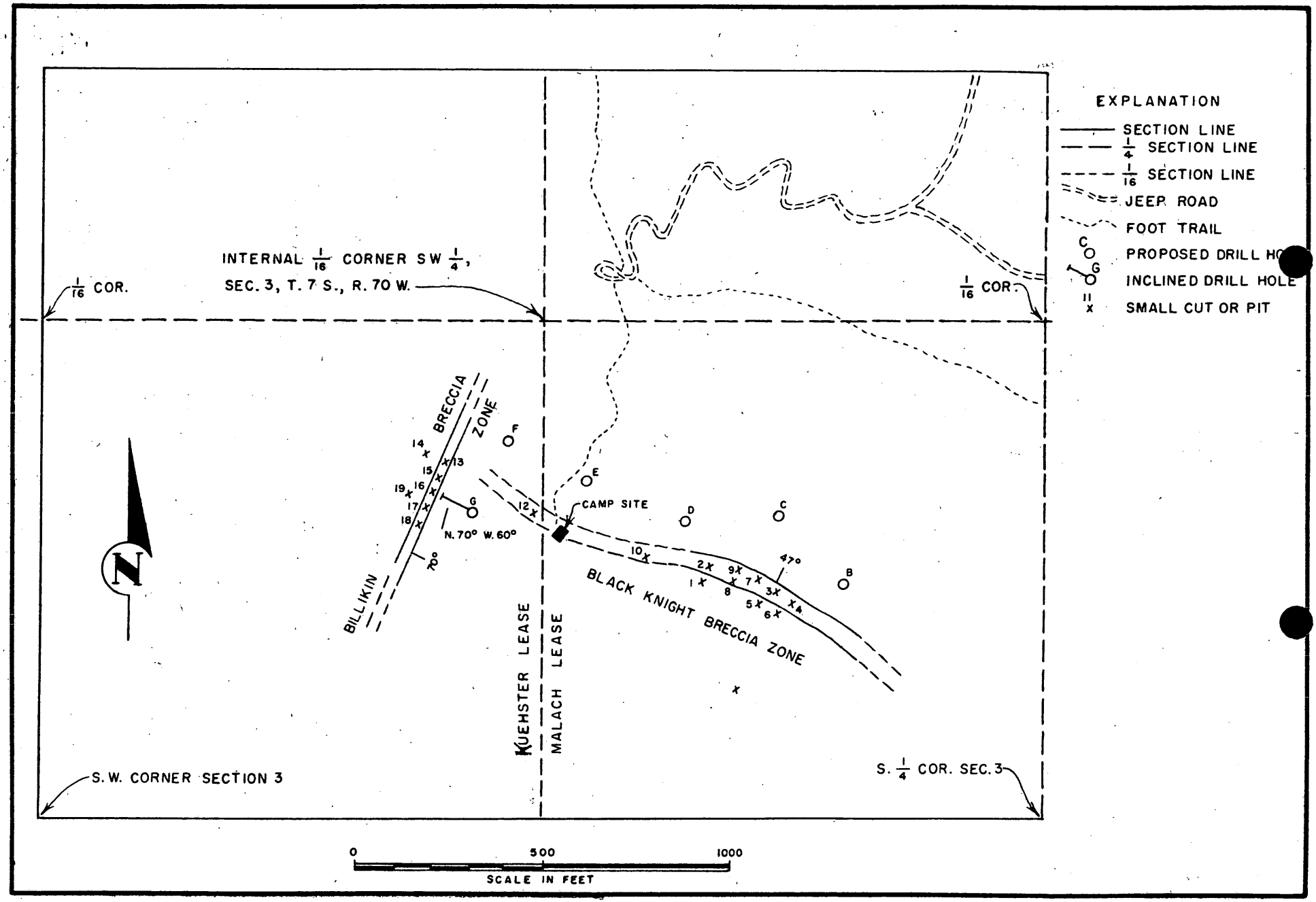


FIGURE 4 - MAP SHOWING LOCATION OF RECOMMENDED DRILL HOLES, BLACK KNIGHT AND BILLIKIN LODES, CALEB V. HAYNES, JR., AND GLEN A. BOYD, JR., JEFFERSON COUNTY, COLO. DMEA 4104

700

Surname Copy

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

JUL 23 1956

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

Re: Docket No. DMEA-4104 (Uranium)
Caleb V. Haynes, Jr., and Glen A. Boyd, Jr.
Black Knight and Billikin Lodes
Jefferson County, Colorado

Dear Mr. Traver:

Enclosed are the original and five copies of a proposed long-form contract between the Government and the subject Applicants. The contract consists of Form MF-200, Annex I, Exhibit "A" (3 pages), and two maps, Figures 2 and 4. Also enclosed are two extra copies of Annex I, Exhibit "A," and maps, (Figures 2 and 4) for the use of the Field Team.

If you and the Applicants find the contract satisfactory, it is ready for the signatures of the Applicants provided the following requirements are met:

1. The insertion of a suitable final starting date under Article 3.

2. Receipt by you and attachment to the contract of Consents to Lien of Carl L. Huehster and Louis S. Malach, referred to in Article 2(s) of the contract.

When the signatures of the Applicants have been obtained, please return all copies of the contract to this office for the signature of the Administrator.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

Enclosures

APPROVED:

P. F. Yopes
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

FLKnouse/ai (7-9-56) 7-19-56
cc to: Docket
Admr. Reading File
Operating Comm.
Messrs. THKiilsgaard, Rm. 5224
JECrawford, Rm 3643
JOHosed Rm. 3210, GSA
Code 700
Mr. Knouse

700
Surname copy

FL Knouse
Ellis
Chamberlin

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-4104 (Uranium)
Caleb V. Haynes, Jr., and Glen A. Boyd, Jr.
Black Knight and Billikin Lodes
Jefferson County, Colorado

Dear Mr. Traver:

Enclosed are the original and five copies of a proposed long-form contract between the Government and the subject applicants. The contract consists of Form MF-200, Annex I, Exhibit "A" (3 pages), and two maps, Figures 2 and 4. Also enclosed are two extra copies of Annex I, Exhibit "A," and maps, (Figures 2 and 4) for the use of the Field Team.

If you and the Operator find the contract satisfactory, it is ready for the signature of the Operator provided the following requirements are met:

1. The insertion of a suitable final starting date under Article 3.

2. Receipt by you and attachment to the contract of Consents to Lien of Carl L. Kuehster and Louis S. Malach, referred to in Article 2(c) of the contract.

When the signatures of the Operator have been obtained, please return all copies of the contract to this office for the signature of the Administrator.

Sincerely yours,

Chairman, Operating Committee

Enclosures

FLKnouse/ai 7-9-56
cc to: Docket
Admr. Reading File
Operating Committee
Messrs. THKiilsgaard, Rm. 5224
JECrawford, Rm. 3643
JOHosted, Rm. 3210, GSA
Code 700
Mr. Knouse

APPROVED:

Member, Bureau of Mines

Member, Geological Survey

EXPLORATION PROJECT CONTRACT
CALEB V. HAYNES, JR., AND GLEN A. BOYD, JR.
DOCKET NO. DMEA-4104

EXHIBIT "A"

Description of the Work

General Provisions

The work consists of exploration by diamond core drilling from the surface for the downward projection of the uranium-bearing ore, Black Knight and Billikin Breccia Zones.

Each hole shall be diamond core drilled the entire length. No payment shall be made for any uncompleted drill hole. The minimum collar size of core shall be BX, and no part of any hole shall be less than AX size without prior approval of the Government.

All core and cuttings shall be saved by such methods and at such drilling intervals, and shall be checked for radioactivity in such manner, as may be specified by the Government. The sections of the drill core and cuttings that indicate significant radioactivity shall be split into halves. One-half of each of the radioactive drill cores shall be analyzed chemically for uranium, and one-half of each of the radioactive cores and cuttings shall be furnished to the Government. The remaining half of the radioactive cuttings, and all the non-radioactive cores and cuttings, shall be properly boxed, labeled, and stored pending Government inspection and disposition.

All drill holes shall be logged geologically and probed for radioactivity and four copies of each log shall be furnished to the Government.

No drill hole shall be drilled closer than 100 feet to the outside boundary of the land, and no Stage II drill hole shall be drilled closer than 75 feet from any Stage I hole from where it intersects the Breccia zones.

The project shall be supervised at all times by a qualified geologist or mining engineer, approved by the Government, who shall perform the required surveying, mapping, sampling, and hole logging, and shall prepare reports required pursuant to this Contract.

Stage I

Stage I shall consist of five (5) vertical core drill holes to intersect the Black Knight Breccia zone approximately 150 feet down-dip below the surface and one inclined core drill hole to intersect the Billikin Breccia zone about 150 feet down-dip below the

surface. The holes that shall be drilled are designated as B, C, D, E, F, and G and their locations are shown on the attached map entitled "Figure 4 - Map Showing Location of Recommended Drill Holes, Black Knight and Billikin Lodes, Caleb V. Haynes, Jr., and Glen A. Boyd, Jr., Jefferson County, Colo., DMEA-4104."

The depths, directions, and inclinations that these holes shall be drilled are as follows:

Hole No.	Direction and Inclination	Depth Feet
B	Vertical	190
C	Vertical	220
D	Vertical	190
E	Vertical	170
F	Vertical	160
G	N. 70° W at -60° inclination	350

Stage II

Stage II consists of drilling not more than eight holes aggregating not more than 1,600 feet to explore for the extension of favorable mineralization intersected in Stage I drill holes. The location, inclination, and depth of each hole are subject to the prior written approval of the Government.

Estimated Cost of the Project
(in addition to maximum set forth in Article 6
an asterisk indicates maximum)

Stage I

Actual Costs

Category (1) Independent Contracts

1,280 feet of core drilling, including transportation, drill site, and access trail preparation thereto, @ $5.97/ft. $7,641.60

Categories (2) through (6) None

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.*—**(a) In Article 3, all of the words following the reference to Article 10, except the words "shall have completed the work," are deleted. (b) Categories (2) through (7) of Article 6(a) are deleted except for sample analyses. (c) To the extent that costs are set forth in Exhibit "A" as "Fixed Unit Costs" they are in lieu of the actual costs that otherwise would be allowable costs of the project under Article 6 of the contract. The Government will contribute to the Fixed Unit Costs as they accrue, on the basis of units of work actually performed. The fixed unit costs include all costs of the work necessary to complete the project. (d) That part of the last sentence in the first paragraph of Article 6(a) commencing after the semicolon, is deleted.**

(e) In Article 6(c), the reference to Article 9 is changed to Article 8.

(f) In category (1) of Article 6(a), the phrase "the estimated cost of each unit of work" shall be construed to mean, for the purposes of this contract, "the average cost per foot of drilling, for each individual drill hole," including transportation, drill site, and access trail preparation,

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By .....

Administrator, Defense Minerals Exploration Administration

.....

Caleb V. Haynes, Jr. **(Partner)**

By .....

Glen A. Boyd, Jr. **(Partner)**

.....

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

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.*—(a) In Article 3, all of the words following the reference to Article 10, except the words "shall have completed the work," are deleted. (b) Categories (2) through (7) of Article 6(a) are deleted except for sample analyses. (c) To the extent that costs are set forth in Exhibit "A" as "Fixed Unit Costs" they are in lieu of the actual costs that otherwise would be allowable costs of the project under Article 6 of the contract. The Government will contribute to the Fixed Unit Costs as they accrue, on the basis of units of work actually performed. The fixed unit costs include all costs of the work necessary to complete the project.
(d) That part of the last sentence in the first paragraph of Article 6(a) commencing after the semicolon, is deleted.
(e) In Article 6(c), the reference to Article 9 is changed to Article 8.

Executed in sextuplicate the day and year first above written.

Indrtg 7/5/56
Lawyer
"Appr Sol Off."
Ellis

THE UNITED STATES OF AMERICA

By .....
Administrator, Defense Minerals Exploration Administration

.....
Caleb V. Haynes, ~~Jr.~~ (Partner)

By .....
Glen A. Boyd, Jr. (Partner)

.....

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

7/23/56

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

RECEIVED
JUL 23 1956

July 17, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Docket DMEA 4104 (Uranium) Caleb V. Haynes, Jr. and Glen A. Boyd, Jr., (Black Knight and Billikin Lodes), Jefferson County, Colorado

Enclosed are the original and three copies of a letter from the subject Applicant dated July 11, 1956 stating that the landowners have refused to sign Owner's Consent to Lien.

The Applicant verbally stated that the Partnership had no money for a Performance Bond.

DMEA Field Team, Region III

By W. M. Traver
Executive Officer

Enclosures

(5)

DMEA
Date Rec'd.
JUL 13 1956
BUREAU OF MINES
Denver, Colorado

RECEIVED
JUL 23 1956

P. O. Box 5
Golden, Colorado
~~11 July 1956~~

Mr. W. M. Traver
Executive Office, DMEA
224 New Customhouse
Denver 2, Colorado

Sir;

In reference to DMEA Docket 4104, the landowners have refused to consent to lien. This word appears to be final so treat our application accordingly and inform us of its disposition.

Mr. Boyd and myself thank you and all concerned for your time and consideration.

Respectfully,

Caleb V. Haynes Jr.

Caleb V. Haynes Jr.

Su[illegible]ame copy

Ellis

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

June 25, 1956

To: File

From: F. L. Knouse F L Knouse

Subject: Docket No. DMEA-4104 (Uranium)
Haynes and Boyd
Black Knight and Billikin Lodes
Jefferson County, Colorado

Proposed Contract Costs Justification

Field Team Report
Remarks:

"The hillside is very steep and contains a number of small cliffs. The drillrig will be light and "snaked" in by men and horses. Drilling will be slow and the ground will be too hard for tri-cone or finger bits. These features result in high drilling cost."

Stage I

Independent Contracts

		Cost/ft.
1280 ft. of core drilling	$7,040.00	
6 drill site and access preparation @ $100 ea.	600.00	
	$7.640.00	5.97

$\frac{\$7,640.00}{1,280 \text{ feet drillrig}}$ = $5.97/ft. $5.97

Fixed Unit Costs

Labor and Supervision

Engineer-Geologist @ $500/mo. 2 mos.	$1,000.00

Operating material and supplies

100 core boxes @ $1.00 ea.	100.00
Jeep (1000 mi. @ $0.10/mi)	100.00

Miscellaneous		Cost/ft.
Accounting - 2 mos. @ $30/mo.	$ 60.00	
Payroll taxes and Ins. 7% of $1060	74.20	
Total	$1,334.20/1,280 feet=	$1.04
Total cost per foot		$7.01
Rounded to		$7.00

Summary

Stage I

Independent Contracts

1,280 feet drilling @ $5.97/ft. including access trail and drill site preparation @ $5.97/ft.	$7,641.60

Fixed Unit Cost

Incidental allowances for each foot drilled $1.03/ft. - 1,280 ft. @ $1.03	1,318.40

Miscellaneous

20 chemical analysis @ $5.00/ each sample	100.00
	$9,060.00

Stage II

Calculated on same basis per foot.

6/21/56
A.L.

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

RECEIVED
JUN 21 1956

June 19, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Chairman, Operating Committee, DMEA

From: Field Team, Region III

Subject: Docket DMEA 4104 (Uranium) Caleb V. Haynes, Jr. and Glen A. Boyd, Jr., (Black Knight and Billikin Lodes), Jefferson County, Colorado

Enclosed are nine copies of Figure 2 and Figure 4 for possible use in the contract on the subject application.

The Applicants telephoned this office June 18 and stated that the executed copies of Owner's Consent to Lien would be forwarded this office in a few days.

DMEA Field Team, Region III

By W. M. Traver
Executive Officer

Enclosures

6-18-56

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

RECEIVED
JUN 18 1956

June 15, 1956

224 New Customhouse
Denver 2, Colorado

RECEIVED
JUN 18 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Field Team, Region III

Subject: DMEA Docket 4104 (Uranium) Caleb V. Haynes, Jr. and Glen A. Boyd, Jr. (Black Knight and Billikin Lodes) Jefferson County, Colorado

Reference is made to your teletype on the subject docket dated June 15, 1956.

A follow-up letter was written to Haynes and Boyd June 12, 1956 requesting the date we might expect the return to this office of the Owner's Consent to Lien. As yet, we have had no reply to this letter.

The engineer reports that the maps for possible use in the contract will be forwarded this office early in the week beginning June 18, 1956. These maps will be forwarded you immediately upon receipt by this office.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Surname copy

Department of the Interior

UNITED STATES DMEA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25

14X4001(01) Revolving Fund, Defense Production Act, Interior (Allocated Working Fund to the Office of the Secy.)

FLKnouse
Ellis
Kiilsgaard
Kehan
Martin
FE Johnson
McKendry

TELETYPE

W. M. CRAVER, EXECUTIVE OFFICER
DMEA FIELD TEAM, REGION III
224 NEW CUSTOMHOUSE BUILDING
DENVER 2, COLORADO

JUN 15 1956

REFERENCE LETTER TO MEMORANDUM MAY 23, 1956 DMEA A104

HAYNES AND BOYD. WHEN MAY WE EXPECT TO RECEIVE PLANS AND CONSENTS TO LEASE.

W. S. Martin
ACTING CHAIRMAN, OPERATING COMMITTEE (HB)

FLKnouse/ai
6/15/56
cc to: Admr.'s Reading File
Operating Committee
Docket
Messrs. JECRawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA
Code 700
Mr. Knouse
DMEA FieldTeam, Region III - confirmation

RCS.

6-4-56 W. L. Martin
Oper. Committee DMEA

RECEIVED
JUN - 4 1956

DN 235 BUR MINES " 6-1-56 4-22

W S MARTIN, ACTING CHAIRMAN, OPERATING COMMITTEE, DMEA

REURTT 6-1-56 DOCKET DMEA 4104, HAYNES AND BOYD. EXAMINERS RECOMMEND ORIGINAL HANGING WALL LOCATION OF DRILL HOLE G UNDER STAGE I BECAUSE AT YOUR PROPO ED FOOTWALL LOCATION HILLSIDE IS STEEP REQUIRING COSTLY ACCESS ROAD AND DRILL SITE PREPARATION. ALSO A POOR ANGLE OF INTERSECTION OF THE DRILL HOLE WITH THE VEIN WOULD RESULT UNLESS AN EXTREMELY FLAT HOLE WERE DRILLED WHICH WOULD BE UNDESIRABLE.

W M TRAVER

Denver, Colorado

Surname copy

Department of the Interior

DMEA

14X4001(01) Revolving Fund, Defense Production Act, Interior (Allocated working Fund to the Office of the Secy.)

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

T E L E T Y P E

JUN - 1 1956

F.L. Knouse
Ellis
Geehan
Kulsgaard
Martin
Johnson
Mottenger

W. M. TRAVER, EXECUTIVE OFFICER
DMEA FIELD TEAM, REGION III
224 NEW CUSTOMHOUSE BUILDING
DENVER 2, COLORADO

REFERENCE FIELD TEAM REPORT DMEA-4164 HAYNES AND BOND. COULD STAGE I DRILL HOLE G BE DRILLED FROM FOOTWALL SIDE OF BILLIKIN BRECCIA ZONE FOR SAME TARGET INTERCEPT THEREBY REDUCING HOLE LENGTH ABOUT 150 FEET. IF SATISFACTORY, MAKE NECESSARY CHANGES ON MAPS THAT ARE TO BE FORWARDED AND REFERRED TO IN TOMORROW MEMORANDUM MAY 23. PLEASE ADVISE.

W. S. Martin
ACTING CHAIRMAN, OPERATING COMMITTEE (WS)

FLKnouse/gla
6-1-56
cc to: Admr.'s Reading File
Operating Committee
Docket
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA
Code 700
Mr. Knouse
DMEA Field Team, Region III - confirmation

R.C.S.

5/31/56

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

May 31, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Report of Examination, DMEA Docket 4104, Caleb V. Haynes, Jr., and Glen A. Boyd, Jr. (Black Knight and Billikin Lodes), Jefferson County, Colorado

I have reviewed the report of examination, DMEA Docket 4104, Caleb V. Haynes, Jr., and Glen A. Boyd, Jr. (Black Knight and Billikin Lodes), Jefferson County, Colorado, dated May 15 and received in this office May 29, 1956. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The examining team recommend that an exploration project on the subject property be approved because the probability of discovering significant uranium ore bodies in the existing structure is good. A two-stage project consisting of 2,880 feet of core drilling in 14 holes at an estimated total cost of $20,410 is recommended. Government participation at 75 percent is $15,307.50.

We concur in the recommendation that a modified drilling program be approved.

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

John E. Crawford
John E. Crawford

RECEIVED
MAY 31 1956

5/31/56

IN REPLY REFER TO:

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

RECEIVED
MAY 31 1956

May 29, 1956

Re: DMEA 4104 - Uranium
Caleb V. Haynes, Jr. and
Glen A. Boyd, Jr.
Black Knight and Billiken Lodes
Jefferson County, Colorado
Appl. Est. $28,369.36
Rec. Est. 20,410.00

Memorandum

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

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

Subject: Review of Field Team report

The applicants applied for assistance in exploring by crosscutting and drifting two structures from which samples of uranium-bearing material had been taken. The examiners recommend staged diamond drilling in place of the underground work. The estimated cost of the recommended work is $20,410.00. The structures or lodes were once prospected for gold and copper ores. The uranium is associated with copper minerals in limonite-stained breccia zones.

The Stage I drilling recommended by the examiners and the Field Team consists of 5 vertical holes to intersect the Black Knight zone and one angle hole to the Billiken lode. Stage II work, dependent on the results of the Stage I work, is limited to 8 holes.

The estimated costs are:

Stage I			
	1,280 feet diamond drilling at $7.00/ft.	$8,960.00	
	20 chemical assays at 5.00	100.00	
	Total		$9,060.00
Stage II			
	1,600 feet core drilling at $7.00	$11,200.00	
	30 chemical assays at 5.00	150.00	
	Total		11,350.00
	Total Stages I and II		$20,410.00
	Government participation 75%		$15,307.50

I concur with the recommendation of the examiners and the Field Team.

N. E. Nelson

N. E. Nelson

6-4-56

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

RECEIVED MAY 25 1956

May 23, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, DMEA Docket 4104 (Uranium) Caleb V. Haynes, Jr. and Glen A. Boyd, Jr. (Black Knight and Billikin Lodes) Jefferson County, Colorado

ON-SITE EXAM.

Enclosed are the original and three copies of a joint engineering and geologic report on the subject property.

The field examiners conclude that the property warrants exploration, and they recommend a program of diamond drilling at an estimated total cost of $20,410.00, Government participation $15,307.50. We concur in this recommendation.

Copies of the Applicants' Leases have been forwarded your office and Owner's Consent to Lien covering both leased properties have been forwarded the Applicants for signatures.

Figures 2 and 3 accompanying the report appear to be unsatisfactory for use in the contract, because there is no definite tie-in of the proposed work and the property boundaries. This office has requested a map or a correction to the maps in the report to show a definite tie-in to the quarter section corner. When we receive these maps, we will forward you nine copies for possible use in the contract.

DMEA Field Team, Region III

Enclosures

By J. W. Townsend
J. W. Townsend
Acting Executive Officer

Reviewed by
DMEA OPERATING COMMITTEE
6-1-56
(Date)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED
MAY 25 1956

Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

May 18, 1956

TRANSMITTED
MAY 23 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: John Shaw
E. N. Harshman

Subject: DMEA Docket 4104 (Uranium), Caleb V. Haynes, Jr., and Glen A. Boyd, Jr., Black Knight and Billikin Lodes, Jefferson County, Colorado

Enclosed are the original and nine copies of a joint engineering and geologic report by Carl Belser, Bureau of Mines, and R. U. King, Geological Survey, covering their examination of the subject property.

The applicants propose to explore the property by 300 feet of crosscut, and 400 feet of drift at a estimated total cost, including an access road, of $34,581.42.

The examining team concludes that the property warrants exploration and they recommend a program of diamond drilling at an estimated cost of $20,410.

We concur with the recommendations of the examining team.

Data necessary for outlining a program of diamond drilling was received from the applicants late in April 1956. The applicants are being requested to furnish DMEA with three bids for diamond drilling on the property.

Reviewed by
DMEA OPERATING COMMITTEE
6-1-56
(date)

John F. Shaw
John F. Shaw
Superintendent of the Denver
Experiment Station

E. N. Harshman
E. N. Harshman
Member, Field Team

Enclosures (10)
ENHarshman:mp

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

RECEIVED
MAY 25 1956

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

TRANSMITTED
MAY 23 1956

DMEA 4104

Black Knight and Billikin Lodes

Caleb V. Haynes, Jr., and Glen A. Boyd, Jr.

Jefferson County, Colorado

Uranium

Reviewed by
DMEA OPERATING COMMITTEE
6-1-56
(date)

Joint Engineering and Geologic Report

by

Robert U. King, Geologist
Geological Survey

Carl Belser, Mining Engineer
Bureau of Mines

May 15, 1956

CONTENTS

Page

Introduction and Summary..... 1

Acknowledgments..... 2

Location, Topography, and Climate..... 2

History and Production..... 3

Ownership and Extent..... 3

Present Status..... 5

Exploration and development..... 5

Mining and milling equipment and other facilities..... 5

Geology and Ore Deposits..... 5

Ore Reserves..... 9

Applicants' Proposed Exploration and Costs..... 9

Recommended Exploration and Costs..... 12

Conclusions and Recommendations..... 16

ILLUSTRATIONS

Figure		Follows page
1.	Location map, Black Knight and Billikin Lodes, Caleb V. Haynes, Jr., and Glen A. Boyd, Jr., Jefferson County, Colorado. DMEA 4104	2
2.	Property map, Black Knight and Billikin Lodes, Caleb V. Haynes, Jr., and Glen A. Boyd, Jr., Jefferson County, Colorado. DMEA 4104	4
3.	Geologic map showing recommended exploration of Black Knight and Billikin Lodes, Jefferson County, Colorado. DMEA 4104	16
4.	Profiles of diamond drill holes recommended for exploration of Black Knight and Billikin Lodes, Jefferson County, Colorado. DMEA 4104	16

DMEA 4104

RECEIVED
MAY 25 1956

BLACK KNIGHT AND BILLIKIN LODES
CALEB V. HAYNES, JR., AND GLEN A. BOYD, JR.
JEFFERSON COUNTY, COLORADO

INTRODUCTION AND SUMMARY

Caleb V. Haynes, Jr., and Glen A. Boyd, Jr., P. O. Box 5, Golden, Colorado, on December 20, 1955, applied for aid to explore for uranium ore on the Black Knight and Billikin lodes. The applicants propose to build a difficult access road to the workings and to drive 300 feet of crosscut and 400 feet of drift at a total estimated cost of $34,581.42.

The property, which was examined on February 24, 1955, consists of about 280 acres of patented land, the mineral rights of which have been leased by the applicants. It is 44 miles southwest of Denver in sections 3 and 4, T. 7 S., R. 70 W., Jefferson County, Colorado, at an altitude of about 8,100 feet. Development consists of 21 shallow pits and short adits, some of them old and caved. No ore has been produced from the property.

The country rocks are chiefly of Precambrian age and consist of schists and gneisses of the Idaho Springs formation, the Swandyke hornblende gneiss, and some pegmatite. A band of magnetite gneiss 5 to 50 feet wide occurs in the schist in the area of proposed exploration. Locally the rocks are foliated and banded, the foliation trending N. 70° W. and dipping from 50° to 60° N. E.

Two major faults are thought to be related to the breccia-reef fault system of the Front Range region. The Black Knight lode is

along one of these faults that has a strike of about N. 70° W. and a dip of 47° NE. The second fault zone strikes N. 35° E. and dips 70° SE and contains the Billikin lode.

The uranium mineralization occurs mostly as yellow and green secondary uranium minerals with some stringers of pitchblende. Small quantities of pyrite and chalcopyrite are present.

The examining team concludes that there is a good probability of discovering significant uranium ore bodies in the Black Knight and Billikin structures by drilling.

A two-stage project consisting of 2,880 feet (14 holes) of core drilling at an estimated total cost of $20,410 (Government participation 75 percent or $15,307.50) is recommended.

ACKNOWLEDGMENTS

Caleb V. Haynes, Jr., and Glen A. Boyd, Jr., accompanied the team during the examination.

The A. E. C. was consulted regarding the area before the examination was made and they concur with the conclusions reached by the examining team.

LOCATION, TOPOGRAPHY, AND CLIMATE

The property to be explored is in the SW 1/4, the S 1/2 NW 1/4 sec. 3, and the NE 1/4 SE 1/4 sec. 4, T. 7 S., R. 70 W., 6th P. M., Jefferson County, Colorado (fig. 1). It is on a steep hillside on the northeast

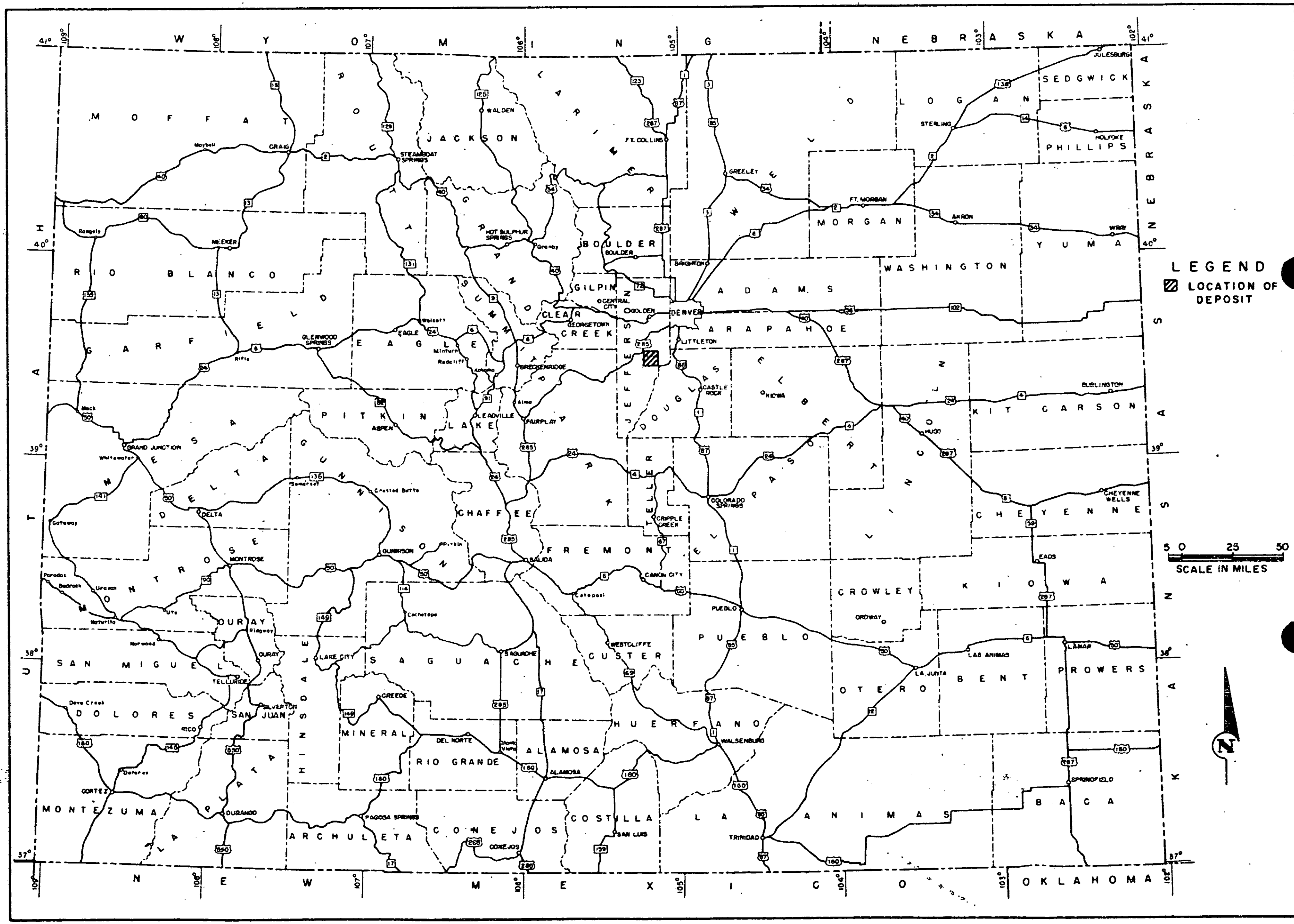


FIGURE 1 - LOCATION MAP, BLACK KNIGHT AND BILLIKIN LODES, CALEB V. HAYNES, JR., AND GLEN A. BOYD, JR., JEFFERSON COUNTY, COLO. DMEA 4104

side and 850 feet above Kennedy Gulch at an altitude of about 8,100 feet (proposed tunnel about 7,950 feet in altitude).

Rainfall, in general, is light, but heavy snow falls, blocking traffic on access roads, have occurred during some winters. A good dirt road passes through the northeast corner of the property at an altitude of 8,600 feet but the area around the Billikin and Black Knight lodes is without an access road. Denver is 44 miles northeast of the property by road and Littleton, on the Denver and Rio Grande Western and Colorado and Southern railroads, is 22 miles by road to the east.

Mining supplies can be purchased in Denver, labor can be obtained from nearby settlements, and some local timber is available. Water for mining purposes can be trucked from Critchell, 3 miles distant, and, at times, from springs or small streams closer to the property.

HISTORY AND PRODUCTION

Some prospecting for gold, silver, and copper was done before 1900, and several of the old workings on the Black Knight and Billikin lodes were driven during this period. In 1954 Boyd and Haynes began to prospect the area. Several small pits which were dug in 1955 contained uranium mineralization.

No uranium ore has been produced from the property.

OWNERSHIP AND EXTENT

The property consists of approximately 280 acres in the SW 1/4, the S 1/2 NW 1/4 sec. 3, and the NE 1/4 SE 1/4 sec. 4, T. 7 S., R. 70 W.

6th P. M., Jefferson County, Colorado (fig. 2). A check of the records in the Jefferson County Courthouse shows that the W 1/2 SW 1/4 and the SW 1/4 NW 1/4 of sec. 3 and the NE 1/4 SE 1/4 of sec. 4, T. 7 S., R. 70 W., 6th P. M. are assessed to Carl L. Kuehster. A Federal patent was issued to Fred Kuehster on the NE 1/4 SE 1/4 sec. 4 and the W 1/2 SW 1/4 sec. 3 on September 29, 1921, upon which the mineral rights are not reserved by the Government (Book 211, page 504).

The SE 1/4 NW 1/4 and the E 1/2 SW 1/4 sec. 3 were transferred by Lewis W. Feemster to Louis S. Malach on November 24, 1944 (Book 498, page 505). The book and page of the original patent could not be found in the assessor's office. A check with the Office of Land Management showed that the Government had not reserved the mineral rights in any of the land submitted in the application.

However, a small tract for a house was transferred by Louis S. Malach to Reinhardt and Ruth Henke, the description of which follows: Beginning on the north line of the SE 1/4 of sec. 3 at a point 58 feet east of the northwest corner, thence 165 feet west, thence 660 feet south, thence 165 feet east, thence 660 feet north to the point of beginning, comprising 2-1/2 acres. This transfer did not reserve the mineral rights (Book 527, page 105). The portion of the tract that falls within the subject property contains 1.6 acres, and, although it cuts down the total acreage from about 280 acres to 278.4 acres, it will not interfere with the area to be explored.

The Malach property was leased to the applicant on September 20, 1955, and the Kuehster property on September 21, 1955. Both leases

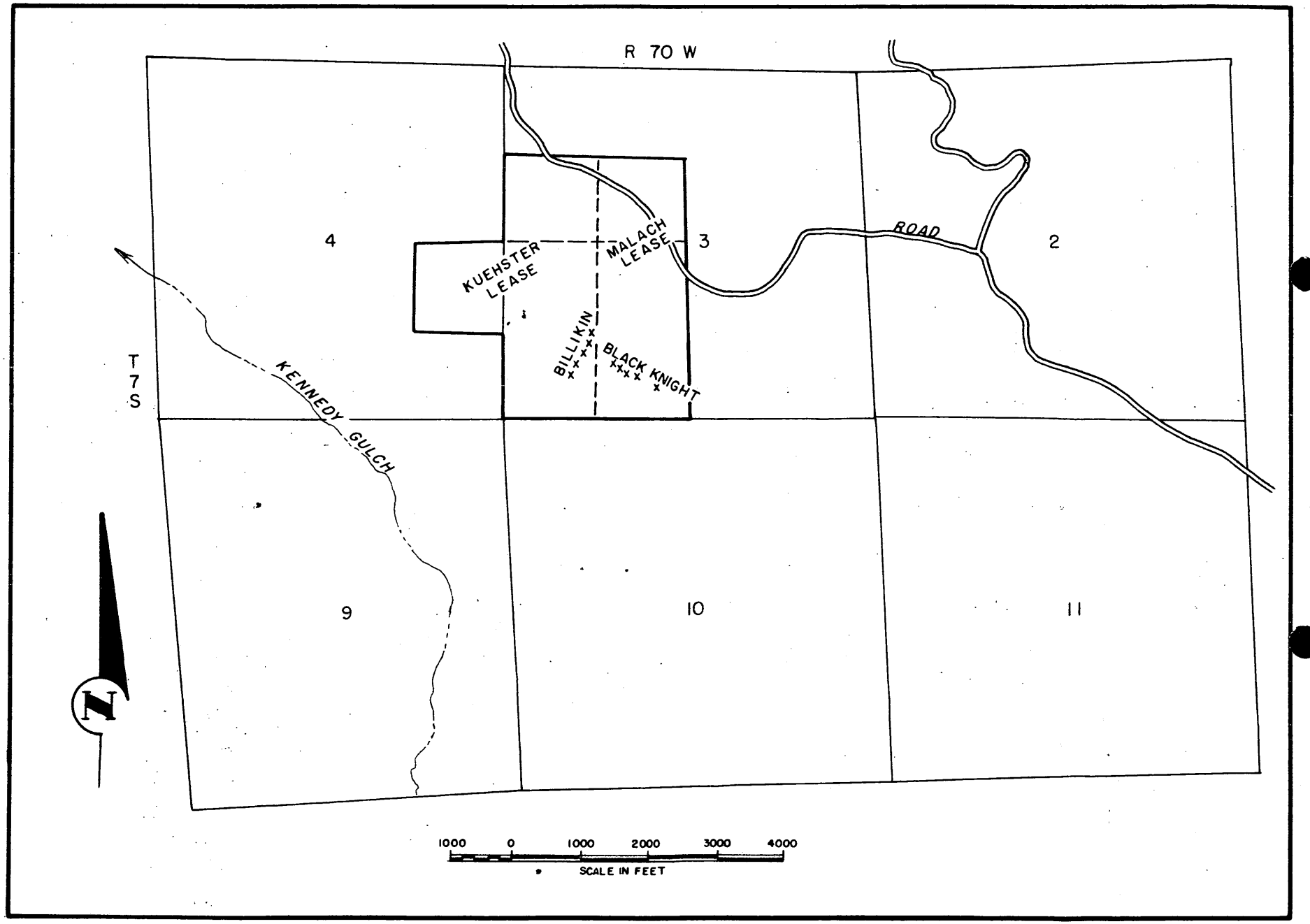


FIGURE 2 - PROPERTY MAP, BLACK KNIGHT AND BILLIKIN LODES, CALEB V. HAYNES, JR., AND GLEN A. BOYD, JR., JEFFERSON COUNTY, COLO. DMEA 4104

are for a period of three years with the right of extention "as much longer thereafter as minerals are found in paying quantities thereon".

The property and leases appear to be in order.

PRESENT STATUS

Exploration and development

Eleven shallow pits have been dug on or near the Black Knight lode. Three of these pits are old and caved.

The Billikin lode and the area nearby has been prospected by an old 30-foot incline and nine small pits or openings of which seven are old copper prospects.

Mining and milling equipment and other facilities

There is no milling equipment on the property. Mining equipment consists of a Pionjar gasoline hammer and hand tools.

GEOLOGY AND ORE DEPOSITS

The Billikin and Black Knight lodes lie along the upper southwest facing slope of a prominent ridge of the Colorado Front Range and between Kennedy Gulch and Deer Creek in Jefferson County, Colorado.

The country rocks in the vicinity of the applicants' property are chiefly of Precambrian age; they consist of schists and gneisses of the Idaho Springs formation and the Swandyke hornblende gneiss. Pegmatite, also of Precambrian age, although fairly common throughout

the area, makes up only a small part of the country rock. A single band or zone of magnetite gneiss 5 to 50 feet wide occurs in the schist within the area of proposed exploration. From meager exposures on the property, it appears that the copper-uranium deposits are at least in part associated with the magnetite gneiss.

Locally, the Precambrian rocks are foliated and banded, the foliation in the immediate area trending N. 70° W. and dipping from 50° to 60° N.

Two major faults that are thought to be related to the Laramide breccia-reef fault system of the Front Range region _/ cut the Precambrian

---

_/ Lovering, T. S., and Goddard, E. N., 1950, Geology and Ore Deposits of the Front Range, Colorado: U. S. Geol. Survey Prof. Paper 223, p. 61, 79, and fig. 21.

---

rocks on the applicants' property. The faults are commonly filled with a cemented breccia of hematite, quartz, and feldspar, and in places contain valuable mineral deposits. They have been prospected by pits, adits, and shallow shafts (fig. 3). One such fault that trends west-northwestward across the southern part of the property is called the Black Knight breccia zone. It dips 47° NE. It has been traced continuously for 300 feet along the surface and is inferred from exposures in a shaft and pits (localities 12 and 15 on fig. 3) to continue 60 feet farther.

The second fault zone strikes N. 35° E. across the western part of the property and is called the Billikin breccia zone. This fault,

that dips 70° E., is exposed in three pits (pits 16, 17, and 18, fig. 3). Based on structural relationships that the applicants have worked out as a result of their detailed field mapping, they concluded that the Billikin breccia zone trends N. 65° E., as delineated by exposures of mineralized breccia and magnetite gneiss in pits 13 to 18, and they postulate a juncture of the two breccia zones in the vicinity of pits 13 and 15. Evidence to support this interpretation was not demonstrated to the examining team. However, a N. 65° E. trend for the Billikin zone is not considered wholly improbable.

The ore deposits of the Black Knight-Billikin lodes consist of uranium-copper veins in the breccia zones. Stringers and veinlets of pitchblende and associated secondary uranium minerals occur irregularly distributed through the Black Knight breccia zone, and sub-parallel veinlets occupy limonite-rich bands as much as 1-foot wide. In the Billikin zone both primary and secondary copper minerals are present, but no uranium minerals were observed.

At pit No. 1 the discovery cut of the Black Knight lode, sparse autunite and other secondary uranium minerals coat fractures in altered magnetite gneiss, and pegmatite. Radioactivity amounting to 1 mr/hr was measured over a width of 1 foot in weathered thin banded gneiss. Background radioactivity amounts to 0.01 mr/hr at the campsite. The applicants report a uranium content of 0.136 percent U_3O_8 in a grab sample from this pit. This pit does not appear to be on the Black Knight breccia zone proper.

Pits 2, 3, 4, 6, 7, and 9 all expose a weathered limonite-stained breccia that is moderately to highly radioactive for widths of up to 2 feet. Yellow and green secondary uranium minerals occur in veinlets and scattered crystal aggregates in the breccia. Small quantities of pyrite and chalcopyrite accompany stringers of pitchblende in the breccia.

Pits 5, 8, and 10, although not on the breccia zone, expose favorable host rocks and contain weakly to moderately radioactive material.

The inclined shaft at locality No. 12 is in the mineralized breccia zone, but material on the dump is barren of radioactive minerals. At pit No. 13 weathered magnetite gneiss and schist contain sparse secondary uranium minerals along fracture surfaces. A grab sample containing 0.184 percent uranium from this locality was submitted by the applicants. From the pits at locality 15 a sample of mineralized breccia from the dump contained 0.385 percent uranium.

Pits 16, 17, and 18 are reported to expose a breccia shear zone that strikes N. 32° E. and dips 70° E. and contains secondary copper and unidentified radioactive minerals.

Locality 19 is an abandoned adit in unmineralized country rock that is reported to exhibit weak radioactivity.

Localities No. 16, 17, 18, and 19 were not accessible at the time of the examination due to snow cover.

Eugene Grossman of the U. S. Atomic Energy Commission collected a 1-foot channel sample from across the pitchblende-bearing part of the breccia zone in pit No. 2 that contained 0.53 percent U_3O_8.

ORE RESERVES

Although some uranium mineralization of ore grade occurs on the surface there are no known ore reserves.

APPLICANTS' PROPOSED EXPLORATION AND COSTS

The applicant has submitted a single stage program in two parts. The first part consists of building a 3,000-foot access road, the lower 1,500 feet of which are over difficult terrain. The second part consists of about 300 feet of crosscutting and 400 feet of drifting on the Black Knight lode.

The applicants' costs follow:

Access Road

Individual contracts		
Bulldozing 40 days at $100/day	$ 4,000.00	
Total individual contracts		$ 4,000.00
Labor and supervision		
Jackhammer operator 40 days at $20/day	$ 800.00	
Supervision and surveying 2 months at $500/month	1,000.00	
Total labor and supervision		$ 1,800.00
Operating materials and supplies		
Powder, caps, fuse, steel, and bits	$ 140.00	
Gasoline and oil	115.00	
Total operating material and supplies		$ 255.00

Operating equipment (rentals)

Compressor, jackhammer, and hose	$ 157.06	
Total operating equipment		$ 157.06

Rehabilitation and repairs

None

New buildings, improvements, installations

None

Miscellaneous

None

Total estimated cost of road	$ 6,212.06
Time for completion	2 months

Crosscutting and Drifting

Independent contracts

None

Labor and supervision

1 miner 180 days at $18/day	$ 3,240.00	
1 mucker 180 days at $15/day	2,700.00	
Surveyor and superintendent 9 months at $425/mo.	3,825.00	
Geologist 9 months at $450/mo.	4,050.00	
Total labor and supervision		$13,815.00

Operating material and supplies

120 1-3/4 inch Carbide insert bits at $17.25	$ 2,082.00	
Drill steel loss 700 feet at $0.70/foot	490.00	
Fuse and caps, 700 feet at $0.86/foot	602.00	
4,250 lbs powder at $23/cwt.	977.50	
Timber 700 feet at $4/foot	2,800.00	
Gasoline 9,360 gal. at $0.30/gal.	2,808.00	
Oil 125 qts. at $0.40/qt.	50.00	
Miscellaneous small tools	300.00	
Total operating materials and supplies		$10,109.50

Operating equipment

70 percent of rental to apply on purchase

(Gardner-Gardner, S-33, jackleg,	
(and hoses	$ 88.00/mo.
(Air compressor, 125 cfm.	160.00/mo.
	$248.00/mo.

0.3 X $248.00 = $74.40/mo. for 12 months	$ 942.36	

Recoverable equipment

2 16 cu. ft. cars at $400.00 each	$ 800.00	
1 3,000 c.f.m. fan	400.00	
1 Gardner-Denver oiler	23.00	
1 500 gal. water tank	150.00	
700 feet 1-1/2" iron pipe at $25.35/100 feet	177.45	

800 feet 1/2" pipe at $20 per 100 feet	$ 160.00	
1,500 feet 8lb. rail, spikes, ties, etc. at $75/100 lb.	750.00	
700 feet 16" ventilation pipe at $35.25/25 feet	987.00	
3 16" ventpipe LS at $18.35 each	55.05	
Total operating equipment		$ 4,444.86

Rehabilitation and repairs

None

New building, improvements, installations

None

Miscellaneous

None

Total estimated cost of 700 feet of cross-cutting and drifting	$28,369.36
Estimated cost per foot	40.53
Total estimated cost of project	$34,581.42

RECOMMENDED EXPLORATION AND COSTS

The examining team believes that the Billikin-Black Knight lodes can be explored more economically by core drilling than by either crosscutting and drifting or by sinking. It is recommended that the drilling be done in two stages as follows:

Stage I to consist of five vertical holes to intersect the Black Knight lode approximately 150 feet down dip from the surface, and

one inclined hole to intersect the Billikin lode at the same depth. Stage II to consist of eight offset holes to explore favorable ground discovered as a result of Stage I drilling. The applicants indicated their approval of a program of diamond drilling in lieu of the requested exploration by crosscutting and drifting.

The locations of the recommended Stage I holes are shown on figures 3 and 4. The depths of the Stage I holes are as follows:

Hole No.	Depth of Hole
B 1/	190
C 1/	220
D 1/	190
E 1/	170
F 1/	160
G 2/	350

1/ Vertical holes

2/ Hole G bears N. 70° W. at 60° inclination

The average depth of Stage II holes is estimated to be 200 feet.

All holes shall be collared at least Bx size and no hole shall be smaller than Ax size without prior approval of the Government.

The estimated cost of Stage I and Stage II core drilling is as follows:

Stage I

Independent contracts

1,280 feet of core drilling at $5.50/ft.	$ 7,040.00	
6 drill sites at $100 each	600.00	
Total independent contracts		$ 7,640.00

Labor and supervision			
Engineer-geologist 2 months at $500/mo.	$ 1,000.00		
Total labor and supervision		$ 1,000.00	
Operating materials and supplies			
100 core boxes at $1 each	$ 100.00		
Jeep (1,000 miles at $0.10 per mile)	100.00		
Total operating materials and supplies		$ 200.00	
Operating equipment			
None			
Rehabilitation and repairs			
None			
New buildings, improvements, installations			
None			
Miscellaneous			
Accounting 2 months at $30/mo.	$ 60.00		
Payroll taxes, compensation and liability insurance 7 percent of $1060	74.20		
Total miscellaneous		$ 134.20	
Total estimated cost for 1,280 feet of drilling			$ 8,974.20
Estimated cost per foot			$ 7.01

Stage II

Stage II would be drilled under approximately the same conditions as Stage I and consists of 1,600 feet (8 holes) of core drilling.

The estimated cost of 1,600 feet of core drilling at $7.00 a foot is $11,200.00

Recapitulation

Stage I

Estimated total cost of 1,280 feet of core drilling at $7 a foot	$ 8,960.00	
20 chemical assays at $5 each	100.00	
Total estimated cost of Stage I		$ 9,060.00

Stage II

Estimated total cost of 1,600 feet of core drilling at $7/foot	$11,200.00	
30 chemical assays at $5/each	150.00	
Total estimated cost of Stage II		$11,350.00
Total estimated cost of project		$20,410.00
Government participation 75 percent or		$15,307.50
Length of time for completion		5 months

Remarks

The hillside is very steep and contains a number of small cliffs. The drill rig will be light and "snaked" in by men and horses. Drilling will be slow and the ground will be too hard for tri-cone on finger bits. These features result in high drilling costs.

CONCLUSIONS AND RECOMMENDATIONS

The Black Knight and Billikin breccia zones have certain characteristics that are common to two other uranium-producing breccia-reef deposits in the Colorado Front Range, namely, the Schwartzwalder mine in Ralston Creek, and the Foothills Uranium Company mine at Idledale. Two breccia-reef type fault zones that are uranium-bearing have been sufficiently prospected on the Billikin-Black Knight property to permit plotting of a trend and dip and to indicate the presence of uranium ore-grade material.

The examining team concludes that there is a probability of discovering significant uranium ore bodies in the Black-Knight-Billikin structures and that the most practicable method would be to explore by diamond drilling.

It is recommended that the drilling program described above, estimated to cost $20,410 be approved and that a short form contract be prepared.

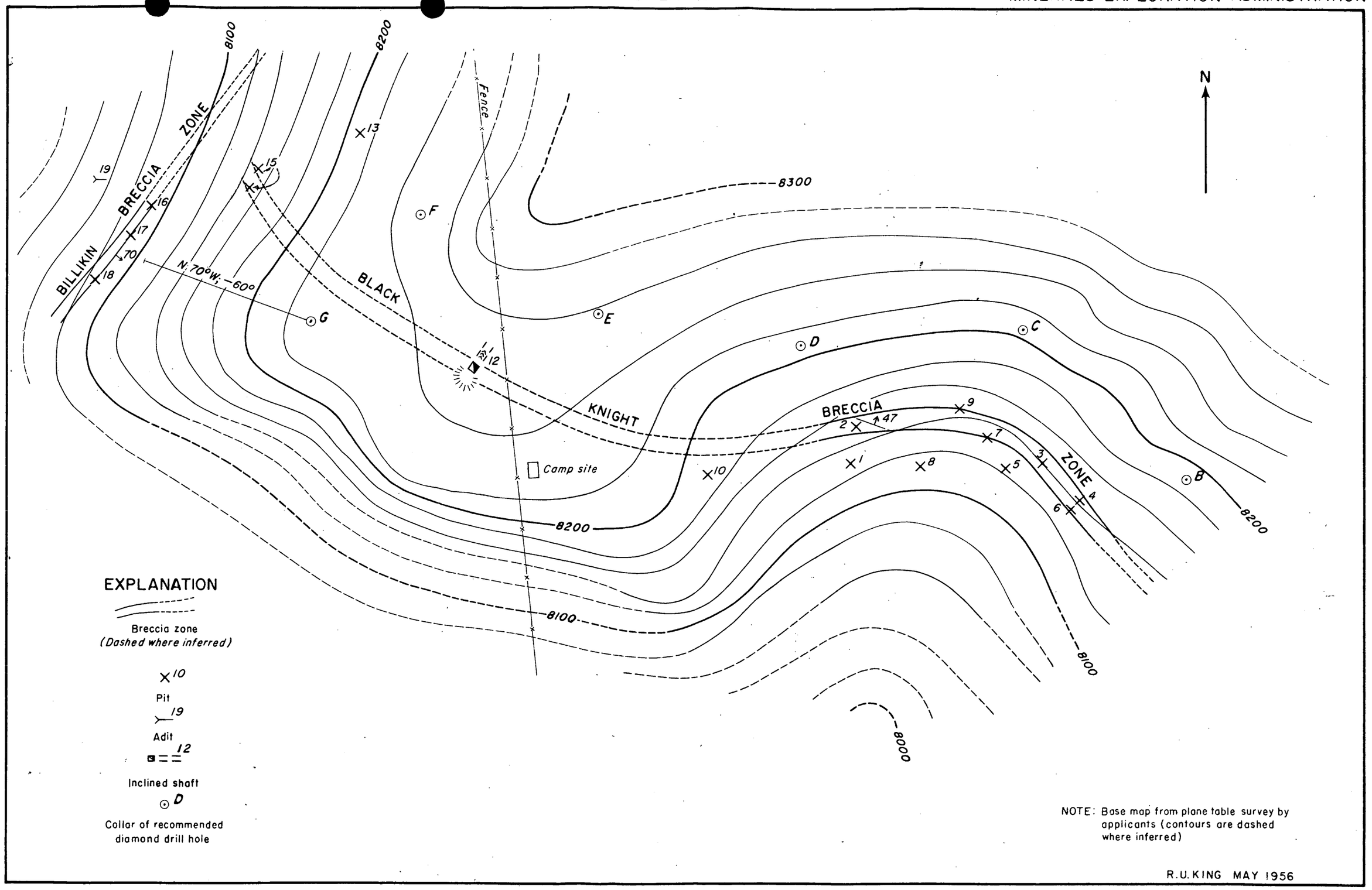


FIGURE 3.—GEOLOGIC MAP SHOWING RECOMMENDED EXPLORATION OF BLACK KNIGHT AND BILLIKIN LODES, JEFFERSON COUNTY, COLORADO

100 50 0 200 Feet

Contour interval 20 feet
Datum is approximately mean sea level

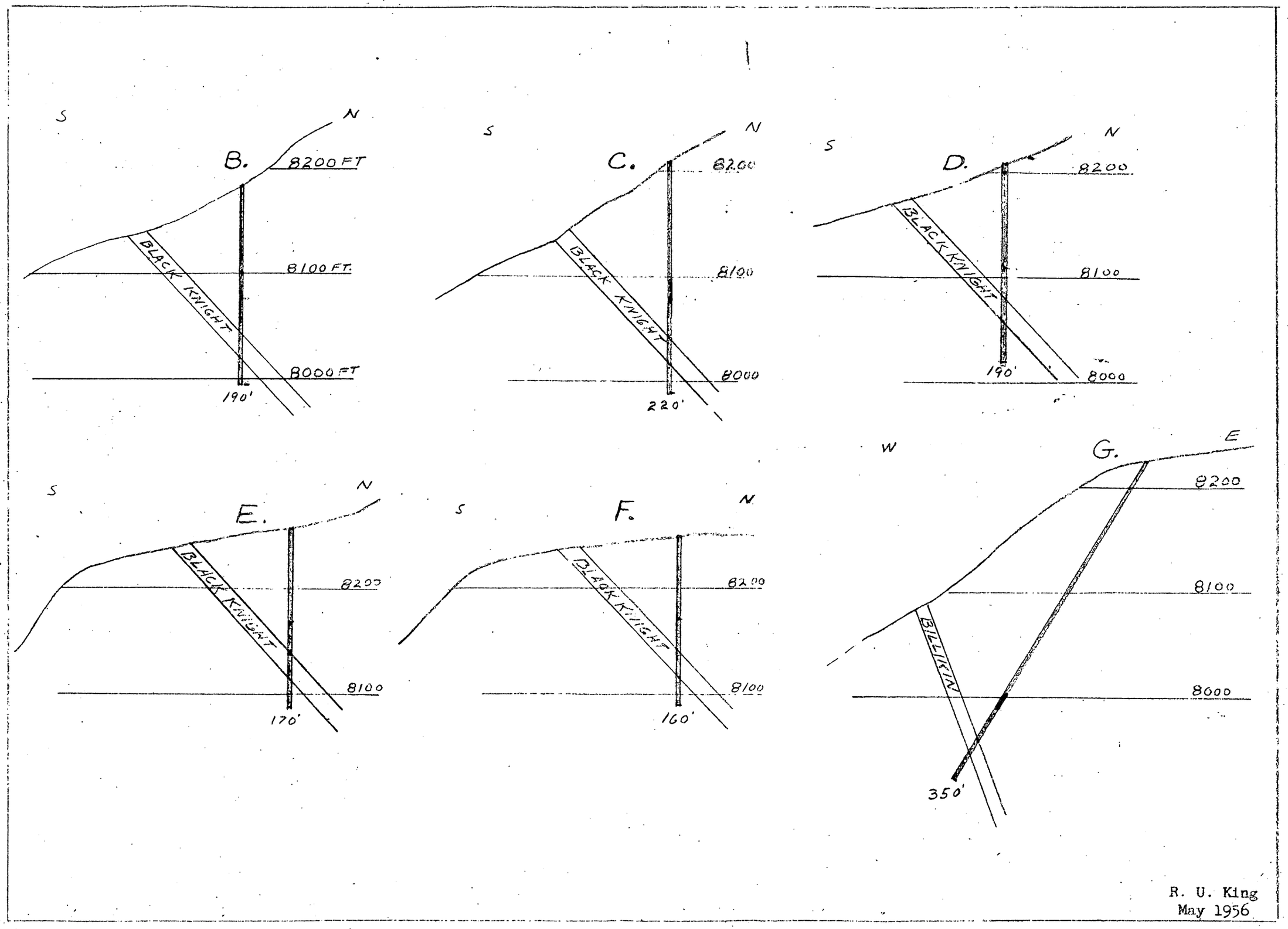


FIGURE 4 --PROFILES OF DIAMOND DRILL HOLES RECOMMENDED FOR EXPLORATION OF BLACK KNIGHT AND BILLIKIN LODES, JEFFERSON COUNTY, COLORADO

Scale 1 inch = 100 feet

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

RECEIVED
MAY 25 1956

May 23, 1956

224 New Customhouse
Denver 2, Colorado

Mr. Caleb V. Haynes, Jr.
P. O. Box 5
Golden, Colorado
and
Mr. Glen A. Boyd, Jr.
41 Prospector Park
Golden, Colorado

Re: DMEA Docket 4104 (Uranium) Black Knight and Billikin Lodes, Jefferson County, Colorado

Gentlemen:

Enclosed are the original and 6 copies of Form MF-203, Owner's Consent to Lien, covering the Kuhster Lease. Please have Carl L. Kuhster sign and return all copies to this office.

Also enclosed are the original and 6 copies of Owner's Consent to Lien covering the Malach Lease. Please have Louis S. Malach sign and return all copies to this office.

When we receive all of the above Consents to Lien, we will continue to process your application.

Very truly yours,

J. W. Townsend

J. W. Townsend
Acting Executive Officer, DMEA
Field Team, Region III

Enclosures
HMC:ab
cc: Glen A. Boyd, Jr.
Sec. Op. Comm. (2)
Harshman
Docket 4104
Chron.

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

May 23, 1956

224 New Customhouse
Denver 2, Colorado

RECEIVED
MAY 25 1956

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: DMEA Docket 4104 (Uranium) Caleb V. Haynes, Jr. and Glen A. Boyd, Jr., (Black Knight and Billikin Lodes), Jefferson County, Colorado

Enclosed are the following:

on application 1. Copy of Mining Lease dated May 21, 1955 between Carl L. Kuehster and the subject Applicants

2. Two copies of Owner's Consent to Lien which have been forwarded the Applicants to obtain the owner's signatures

3. Copy of Mining Lease dated May 20, 1955 between Louis S. Malach and the subject Applicants

4. Two copies of Owner's Consent to Lien which we have forwarded the Applicants to obtain the required signatures.

DMEA Field Team, Region III

By J. W. Townsend
Acting Executive Officer

Enclosures

RECEIVED
MAY 25 1956

MINING LEASE

THIS AGREEMENT OF LEASE, made and entered into this 20th day of May, A. D. 1956, between LOUIS S. MALACH, of the City and County of Denver, State of Colorado, hereinafter referred to as Lessor, and CALEB V. HAYNES, JR., and GLEN A. BOYD, JR., of the County of Jefferson, State of Colorado, hereinafter referred to as Lessees;

W I T N E S S E T H :

NOW, THEREFOR, In consideration of the premises, the rents, royalties, covenants and agreements hereinafter expressed to be paid, kept and performed by the Lessees, the Lessor leased, let and demised, and by these presents leases lets and demises unto the Lessees, the following described mining property and premises, situate in the County of Jefferson, State of Colorado, to-wit:

> The East one-half (½) of the Southwest one-quarter (¼) and the Southeast one-quarter (¼) of the Northwest one-quarter (¼) of Section Three (3), Township Seven(7) South, Range 70 West of the Sixth P. M. (being 120 acres more or less).

To have and to hold the above described premises and privileges for the purpose of mining all ores, from this date and a period of three years thereafter, and as much longer thereafter as minerals are found in paying quantities thereon, and are continually mined, unless sooner terminated or forfeited through the violation of any of the covenants and conditions herein contained, and provided that during said period Lessor receive as a minimum annual rent or royalty a sum equivalent to ONE DOLLAR ($1.00) for each acre of said described land, payable in advance to such annual period, which sum shall be credited to any excess payments, if any, at the end of the annual period.

The Lessees, in consideration of the premises, have covenanted, contracted and agreed and by these presents do covenant, contract and agree to and with the Lessor, his executors, administrators and assigns as follows:

1. To conduct prospecting and mining operations in such a manner as not to create hazards to persons or livestock and with a minimum of resulting permanent injury to the surface of said lands, and all such operations at their own risk and expense.

2. To allow the Lessor the right at all times to inspect the premises and all ores, assays and samples obtained during and through the exploration or prospecting or mining operations, and to make available unto Lessor all reports obtained therewith for his inspection or reproduction.

3. To comply with Colorado Workman's Compensation Acts and the Occupational Disease Act, saving Lessor harmless from any liability resulting from injury or illness of Lessees, their agents or employees.

4. To pay unto Lessor during the period of commercial mining operations the equivalent of the following sums based upon net mill receipts from the uranium ores:

Percentages of Proceeds	Quantity of Uranium Oxide (U_3O_8) Present in Milled Ore
12½%	.1 up to 2.5%
15%	commencing at 2.5 up to 5.0%
20%	commencing at 5.0 up to 7.5%
25%	commencing at 7.5 and over

said payments to be due and payable as the ores are paid for upon delivery.

5. To pay unto the Lessor 25% of any bonus that may be allowed under the rules and regulations of the United States Atomic Energy Commission or other federal or state agencies for the discovery of uranium ores, or laws relating thereto, and to pay for current taxes that may be assessed against any improvements placed on such property by Lessees, and current taxes assessed against the mineral rights during the term hereof.

6. That should minerals other than uranium be exploited or taken hereunder, Lessor shall receive and Lessees shall pay 12½% of the net proceeds that may be received from the purchases thereof, without including any allowances received for transportation, but less milling costs and/or charges.

7. That the term "net mill receipts" shall mean the payments received at the mill for all ores including bonuses and freight allowance after deduction of actual costs of milling, smelting, treatment, freight, less penalties imposed by virtue of existing impurities of the ore, or the imposition of other penalties.

8. That any payments to be received or to be paid as herein provided shall in no event exceed those permitted or allowed by Federal or state regulation, or law, if any.

9. To conduct all operations, whether for exploration, prospecting or mining or otherwise, in a prudent, energetic, workmanlike and efficient manner, and with reasonable diligence carry on said operations, and in all events with a minimum of resulting injury to the surface of said lands, and with safeguards to persons and livestock by erection of barriers, fences or other means, providing at all times proper gates or cattle guards for the containment of livestock upon the premises; to work the same in mine fashion in manner necessary to good and economical mining, so as to take out the greatest amount of ore possible, with due regard to the development and preservation of the mining premises, and to the special covenants herein contained.

10. To prospect for, explore, uncover, and to work and mine discovered minerals on said premises as aforesaid in as diligent and continuous a manner as reasonably possible unless prevented by conditions of weather, federal or state regulations or laws, or acts of God.

11. All ores mined which are too low grade for present shipment shall remain the property of and subject to the control and disposition of the lessor unless such ores are shipped from premises by the Lessees.

12. That Lessees are not by this agreement invested with any property in any uranium or other minerals unless and until the same are severed from the ground, and all property taxes assessed upon or against said demised premises for ores mined and shipped under this lease shall be paid by the Lessees, except income taxes.

13. All bills and expenses incurred by the Lessees or those in privity with Lessees shall be promptly paid by the Lessees, and by such prompt payment said Lessees shall prevent the filing of any and all liens of miners, mechanics, or materialmen, against said demised premises; and, if by reason of the failure of Lessees to pay such bills or expenses, Lessor may forthwith pay off and discharge the same, and the Lessor may hold Lessees bound to pay to Lessor all sums so advanced or paid to clear said premises from liens which may be filed as aforesaid, and the Lessor may also at his election inspect the books of Lessees to determine if all bills for labor, material and subcontractors have been paid and also shall be entitled to full information as to the names and addresses of all laborers, suppliers, subcontractors and principal contractors.

14. Lessees further covenant that no person not in privity with the parties hereto shall be allowed to hold possession of said premises or any part thereof under any pretext whatever.

15. That upon the termination of this agreement, however occurring, to surrender back the premises and Lessees rights hereunder to Lessor, with such written releases, quit claim deeds or other instruments as necessary to effectively show the same.

16. To make the payments unto Lessor in the form and manner herein specified.

It is mutually agreed that:

1. The periods of time herein granted and provided wherein the Lessees shall do and perform anything or take certain action, shall be extended by any delay occasioned or incurred by any official act of federal or state agency or department.

2. As between the parties hereto all improvements placed on the premises by Lessees shall be deemed personal property, to be removed by the said Lessees within sixty (60) days of the expiration hereof, however occurring.

3. That sub-leases or assignments, total or partial, shall be made only after the receipt of prior written permission of the Lessor.

Upon the violation of any covenant or condition herein contained, this lease shall at the option of the Lessor expire, and terminate, and the said premises shall revert to the Lessor, and the Lessor or his agent may thereupon, after demand in writing, for possession, enter upon said premises and dispossess all persons found occupying said premises or any part thereof, and such persons may be proceeded against as guilty of unlawful detainer, subject to the conditions of the preceeding paragraph.

This agreement shall extend to, inure to the benefit of, and be binding upon the heirs, lawful assigns and legal representatives of the parties hereto.

IN WITNESS WHEREOF, the Parties hereto have hereunto set their hands and seals the day and year first above written.

LESSOR:

Louis S. Hilaski (SEAL)

LESSEES:

Glen A. Boyd Jr. (SEAL)

Caleb T. Haynes Jr. (SEAL)

STATE OF COLORADO)
: ss.
COUNTY OF JEFFERSON)

I, Bessie F. Paulsen, Notary Public, do hereby certify that the foregoing four (4) pages are a true and correct copy of the original document.

My commission expires January 26, 1959.

Bessie F. Paulsen
Notary Public

MF-203
Revised March 24, 1955

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator [redacted]
Docket No. DMEA-[redacted]
Contract No. Idm-E_____
Contract Date_____

CONSENT TO LIEN

RECEIVED
MAY 25 1956

To the United States of America:

Referring to that certain land in the County of [redacted], State of [redacted], described as follows:1/

[redacted]

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/

[redacted]

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: _____

_____

_____

_____

_____

_____

_____

_____

Dated this _____ day of _____, 195__.

_____ [Seal]

_____ [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

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator [redacted]
Docket No. DMEA-[redacted]
Contract No. Idm-E_____
Contract Date_____

CONSENT TO LIEN

To the United States of America:

RECEIVED
MAY 25 1956

Referring to that certain land in the County of [redacted], State of [redacted], described as follows:1/

[redacted]

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/

[redacted]

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: _____

_____

_____

_____

_____

_____

_____

_____

Dated this _____ day of _____, 195__.

_____ [Seal]

_____ [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]

DMEA
Date Rec'd.

JAN 23 1956

BUREAU OF MINES
Denver, Colorado

RECEIVED
JAN 2 6 1956

January 20, 1956

Memorandum

To: W. M. Traver, Executive Officer, DMEA Field Team, Reg. III

From: Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA 4104 (Uranium), Caleb V. Haynes, Jr., and Glen A. Boyd, Jr., Black Knight and Billikin Lodes, Jefferson County, Colorado

The subject application in the amount of $28,369.36 was received in this office on January 20.

A field examination will be made and suitable report prepared by an engineer from the Denver office.

John F. Shaw

cc: W. M. Traver (2)
E. N. Marshman
J. F. Shaw
Sec. Op. Com (2)

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

RECEIVED JAN 23 1956

January 19, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: J. F. Shaw (With brochure)
E. N. Harshman

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 4104 (Uranium), Caleb V. Haynes, Jr., and Glen A. Boyd, Jr., Black Knight and Billikin Lodes, Jefferson County, Colorado

Enclosed is the subject application in the amount of $28,369.36. Also attached is a copy of a letter from the Chairman of the Operating Committee dated January 16, 1956 and memoranda of review of the application by members of the Uranium Commodity Committee.

A field examination and suitable report are requested.

W. M. TRAVER,

W. M. Traver

Enclosures

HMC:ab

cc: Sec. Op. Comm. (2)
Docket 4104
Chron.

700

FILE COPY
Surname: Haynes
Mrs
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

JAN 13 1956

Re: Docket No. DMEA-4104 (Uranium)
Caleb V. Haynes, Jr., and
Glen A. Boyd, Jr.
Black Knight and Billikin Lodes
Jefferson County, Colorado

Dear Mr. Traver:

The captioned application is referred to your office for a field examination and report on the proposed project.

Enclosed are copies of memoranda dated January 3 and 4, 1956, from Mr. James Paone, USBM, and Mr. N. E. Nelson, USGS, respectively, relating to the subject project.

If the Field Team recommends an exploration program as submitted or revised by the Applicant, we will require nine copies of a map showing the proposed work and mineralized exposures in relation to the property boundaries. Also, in this connection, we will require Consents to Lien signed by all the property owners.

Your attention is directed to page 3 of the narrative attached to the application under "Description of Properties", where it is stated, "The adjoining 120 acres on the east are being leased from Louis S. Malach of Denver." Since it is apparent from the application that this land is to be included in a contract, we will require a copy of the lease and also Consents to Lien from the property owners.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GAB)

Enclosures

APPROVED: /s/ Robert W. Gechon (GAB)
Member, Bureau of Mines

N. E. Nelson (GAB)
Member, Geological Survey

Messrs. JECrawford, Rm. 3641
THKilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

FLKnouse/izm 1411-56
cc to: Docket
Code 700
Mr. Knouse
Admr's Reading File
Operating Committee

700

FILE COPY
Surname:
F L Knouse
Ill.
Nelson
Leffman
Leffridge
B Johnson

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

Mr. Caleb V. Haynes, Jr.
Post Office Box 5
Golden, Colorado
and
Mr. Glen A. Boyd, Jr.
41 Prospector Park
Golden, Colorado

JAN

Re: Docket No. DMEA-410h (Uranium)
Black Knight and Billikin Lodes
Jefferson County, Colorado

Gentlemen:

The application for assistance in exploring the subject property in Jefferson County, Colorado, under the captioned docket number, has been reviewed by the Rare and Miscellaneous Metals Division of the Defense Minerals Exploration Administration. It has been referred for a field examination to the Executive Officer of Region III at the following address:

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
22h New Customhouse Building
Denver 2, Colorado

The Regional Office will contact you at the earliest opportunity in regard to your project.

Sincerely yours,

C. O. Mitterdorf

Administrator

FLKnouse/izm 1-11-56
cc to: Docket
Code 700
Mr. Knouse
Admr.'s Reading File
DMEA Field Team, Region III (2)
cc: Boyd

1-5-56 dgm

IN REPLY REFER TO:

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

RECEIVED
JAN 5 1956

January 4, 1956

Memorandum

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

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

Subject: Review of application, DMEA 4104, Caleb V. Haynes, Jr., and Glen A. Boyd, Jr., Black Knight and Billikin Lodes, Jefferson County, Colorado. $28,369.36 - Uranium.

The applicants request assistance in exploring by drifting, two radioactive iron formations, found, after good reasoning, where the applicants decided such might be found.

Radioactivity was found at 12 "sites" out of 21 listed. Samples taken showed:

Site	Width	MR/Hr.	$\%U_3O_8$(chem.)	$\%eU_3O_8$	Type
1	-	1.0	0.136	-	Grab
2	-	0.7	0.191	-	Fault gouge
	-	5.0	51.40	-	Selected
	1.0 ft.	-	0.45	-	A.E.C.
3	-	1.5	-	-	Shear zone
4	-	0.15	-	-	" "
5	-	0.15	-	-	" "
6	-	1.0	-	-	" "
7	-	0.7	-	-	" "
13	-	-	0.132	0.184	Grab
15	-	0.10		0.336	Grab
	-		0.385	-	Grab
16	-	0.10	-	-	-
19	-	0.10	-	-	-
21		0.06	-	-	-

The proposed work consists of:

Phase I		Cost
A	3,000 feet Access road	$6,212.06
B	350 feet Crosscut)	21,214.94
C	350 feet Drifting)	
	Rentals	942.36
		$28,369.36

Phase II (A, B, or C depending upon the results of Phase I.)	Cost
A Sinking 100 feet winze	$8,000
B Raising 100 " raise	8,000
C Drifting 450 "	18,000
	$34,000

The Phase II work is not formally applied for.

The application is well supported by geologic information. With one exception the samples are not representative of specific widths of radioactive materials, but they indicate significant mineralization.

Examination is warranted and referral to the Field Team is recommended.

N. E. Nelson

N. E. Nelson

1-4-56 ofm

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

January 3, 1956

Memorandum

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

From: James Paone, Bureau of Mines Alternate Member
Uranium Commodity Committee

Subject: Application for Assistance, DMEA Docket 4104, Caleb V. Haynes, Jr. and Glen A. Boyd, Jr., Black Knight and Billikin Lodes, Jefferson County, Colorado

I have reviewed the attached application of the Black Knight and Billikin Lodes, DMEA Docket 4104, dated December 20 and received in this office December 28. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The applicant has requested Federal assistance in a uranium exploration program on some property in the Front Range area in Jefferson County, Colorado. The project consists of 700 feet of crosscutting and drifting at $40.527 per foot of advance or a total estimated cost of $28,369.36.

Assays shown in the application reveal the presence of ore-grade material, some even as high as 51.40 percent U_3O_8 chemical.

We recommend a field examination and that the Field Team be requested to consult with D. L. Everhart, Acting Chief, Atomic Energy Commission, Denver, Colorado.

James Paone
James Paone

Attachment

RECEIVED
JAN 4 1956

December 28, 1955
Subject: DMEA-4104
Re: Exploration Assistance
N/A

Mr. Caleb V. Haynes, Jr.
P. O. Box 5
Golden, Colorado

My dear Mr. Haynes:

The receipt of your application dated December 20, 1955, for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-4104 and referred to the Rare & Misc. 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

60932

December 28, 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 - 4104 Caleb V. Haynes, Jr. & Glen A. Boyd, Jr.

Robert E. Adams
Chief, Operation's Control
and Statistics Division

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF COLORADO
CITY AND COUNTY OF DENVER
DENVER BOARD OF WATER COMMISSIONERS

COLORADO
PLATTE CANYON QUADRANGLE
7½-MINUTE SERIES

Mapped by the Geological Survey
1945

ROAD CLASSIFICATION

Heavy-duty — 4 LANE | 6 LANE
Medium-duty — 4 LANE | 6 LANE
Light-duty
Unimproved dirt
U. S. Route
State Route

TRUE NORTH
MAGNETIC NORTH
14°
APPROXIMATE MEAN DECLINATION, 1945

SCALE 1:24000

1 ½ 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 .5 0 1 KILOMETER

Contour interval 50 feet
Datum is mean sea level

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—1955
M R-7127

Polyconic projection. 1927 North American datum
10000 foot grid based on Colorado (Central) rectangular coordinate system.

PLATTE CANYON, COLO.

N 3922.5—W 10507.5/7.5
1945

FOR SALE BY U. S. GEOLOGICAL SURVEY, FEDERAL CENTER, DENVER, COLORADO OR WASHINGTON 25, D. C.
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST