DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO._____ DMEA NO. 4964

Application
- [ ] Denied
- [ ] Withdrawn

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

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

Folder No. 1:

Left Side

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

Right Side

- [x] Project summary (final)
- [x] 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
- [x] Final Field Team Report (Tab)
- [x] 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. 2 : 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
- [x] Operator's Monthly Reports with transmittal, narrative and maps.

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

Folders No. 3 : Settlement Sheets and Semiannual Report for Cert. Project

Folders No._____: Drill Logs

Folders No._____: Royalty material

17963

Ching
Kuonel
Long
Sheppard
Fisher
Martin
Selfridge

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

INTERIOR DEPT.
DEC 29 1959
SOLICITOR

To: Jen, Inc.
P. O. Box 458
Moab, Utah

Pursuant to the provisions of Exploration Project Contract No. Idm-11198, dated June 3, 1958, (Docket No. DMEA-4964), hereinafter called the "Contract," between Jen, Inc., a Utah corporation, and the United States of America, hereinafter called the "Government", to establish and fix the Government's percentage royalty on production and its lien therefor and on the land described in the contract, the Government considers and therefore certifies that a discovery or development from which production may be made has resulted from the exploration work.

SOLICITOR
MAR 9 - 1959
INTERIOR DEPT.

The nature of said discovery or development is described broadly or indicated as follows:

Exploratory drilling in the project area resulted in the discovery of flat-lying deposits of uranium ore in the basal arkosic sandstone lenses of the Chinle formation of Triassic age.

Dated: MAR 13 1959

THE UNITED STATES OF AMERICA

By Frank E. Johnson
Acting Director, Office of
Minerals Exploration

MChing/gla
12-24-58
cc to: Director's R. File
Frank E. Johnson
Operating Committee
Frank D. Lamb, Rm. 3608
T. H. Kiilsgaard, Rm. 5224
Finance Office
Docket
OME Field Team, Region III (2)
Division of Contract Adm. & Audit
Operator
Edward D. Neuhoff, 650 S. Grand Ave., Los Angeles 17, Calif.
Jesse C. Johnson, Director, Div. of Raw Materials, AEC
Elton A. Youngberg, AEC Grand Junction Operations Office
Mr. Ching

DMEA FORM 6 REFERENCE SLIP

REV. 12-56 DEFENSE MINERALS EXPLORATION ADMINISTRATION

TO:	INITIALS	DATE
1. Mr. Frank Johnson	FJ	11/24
2. ~~Mr.~~ George C. Selfridge		
3. Mr. ~~F. L. Knouse~~ Ching		11/25
4.		
5.		
FROM: Jay L. Chambers JLC		11/24

FOR: Check items for action desired

____ Action ____ Reply for signature of _____

____ Approval ____ Investigate ____ Surname

____ Comment ____ Recommendations ____ Signature

____ Conference ____ Rewrite ____ File

____ Instructions xxx Your information

REMARKS:

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

EXTRA COPY O. M. E. RECEIVED NOV 24 1958		
DATE	INITIALS	CODE

REPORT OF REVIEW

I have reviewed the Monthly Reports of:

Jen, Inc.
P. O. Box 498
Moab, Utah

pertaining to Exploration Project Contract No. IAm-11198, MMA No. 4964, for the months of July, 1958 to August, 1958, inclusive, covering a project for the exploration of Uranium on property known as Uncle Sam and Pasco Claims located in San Juan County, Utah.

My review included an examination of the Monthly Reports (Form MF-104) and supporting documents attached thereto, comparison of the costs claimed with the contract and pertinent schedules, verification of work performed by reference to Field Team reports and correspondence, and a determination of the reasonableness and propriety of the costs.

This review was made in lieu of a final audit of the Operator's accounts and records for the reasons given on the attachment to this report.

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

Total cost as billed by Contractor		$13,282.85
Exceptions: (Schedule attached)		
Prior to this review	$1,016.95	
Herewith	0.00	1,016.95
Total Accepted Cost		$12,265.90

The contract calls for a 50 percent participation of exploration expenses by the United States Government. Therefore, payment to the contractor by the Government in the amount of Six thousand, one hundred thirty-two, and 96/100ths Dollars is valid and proper, provided that the Regional Executive Officer, the Administrator, or other competent official has accepted or will accept the project as having otherwise met the terms of the contract.

Amount payable to Operator	$ 6,132.96
Amount reimbursed	5,132.96
Balance due Operator	1,000.00

Pd to Opr 12/2/58

Donald L. Finch

Donald L. Finch, OME Auditor

November 20, 1958

REASONS FOR REPORT OF REVIEW IN LIEU OF FINAL AUDIT

CONTRACT NO. 14m-X1198 DOCKET NO. [illegible]-4964

JEM, INC.

(a) The monthly reports were supported by documentary proof of that portion ($11,001.05) of the costs which covered work performed at unit rates under independent contract and that portion ($96.27) covered by direct cost of sample analyses and core boxes. (See summary attached.)

(b) The balance ($1,168.58) of the costs incurred were under a contract provision for payment by the Government on the basis of fixed unit costs of work actually performed; and

(c) The administrative cost to the Government of an on-site audit would be excessive in relation to the estimated amount of possible disallowances thereunder.

SCHEDULE OF EXCEPTIONS

CONTRACT NO. Idg-R198 DOCKET NO. IBCA-4964

FEM, INC.

Prior Disallowances by Field Team

7 Hours bulldozing by Company. Equipment at $10.00 per hour. Not authorized by contract.		$ 70.00
Costs applicable to Hole No. 121 - Not acceptable, misloated: -		
500 Feet non-core drilling at $1.35 per foot	$675.00	
35 Feet core drilling at $4.00 per foot	140.00	
Incidental allowance 535 feet at 17¢ per foot	90.95	
4 Core boxes at $1.25 each	5.00	
3 Hours bulldozing at $12.00 per hour	36.00	
Total Cost Applicable to Hole No. 121		$946.95
TOTAL PRIOR DISALLOWANCES		$1,016.95

The Executive Officer of the OSE Field Team, Region III, and the Auditor concur with the above disallowances.

SUMMARY OF ACCEPTED COSTS

CONTRACT NO. Yan-11198 DOCKET NO. [illegible]-4964

[illegible], INC.

Independent Contracts

Bulldozing			
35 hours at $12.00 per hour		$ 420.00	
Drilling			
Non-core 6,383 feet at $2.35 per foot	$8,617.05		
Core 491 feet at $4.00 per foot	1,964.00		
Total Drilling		10,581.05	
Total Independent Contracts			$11,001.05

Miscellaneous

48 Hardsburg core boxes at Average cost $1.349 each	$ 64.77	
9 Chemical analyses at $3.50 each	31.50	
Total Miscellaneous		96.27

Fixed Unit Costs

Incidental Allowance

6,874 feet of accepted drilling at 17¢ per foot	$ 1,168.58
TOTAL ACCEPTED COSTS	$12,265.90

Government's copy

RECEIVED
JUL 3 1958
D.M.E.A.

MF-200
(Revised June 1954)

Docket No. DMEA 4964

Commodity Uranium

Contract No. Idm-E 1198

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] Jen, Inc., a Utah corporation, whose mailing address is P. O. Box 458 Moab, Utah, 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~~ Annex II, and Map (Figure 3)

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 Utah, County of San Juan, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] owner 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] ....., [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: Promissory note secured by mortgage, held by E. L. Cord partnership

(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 and Subordination Agreement of the E. L. Cord partnership

(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 July 14, 1958 shall commence the work, and on or before October 31, 1958 (unless the Operator's obligation to prosecute the work is terminated—see Article 10) shall either have completed the work ~~or shall have expended allowable costs (see Article 8) in a sum not less than the estimated total allowable cost set forth in Exhibit "A"~~ except as otherwise provided in Exhibit "A" with respect to stages of work. See Annex II.

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

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

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

ARTICLE 5. *Contribution by the Government.*—The estimated total allowable cost of the project, set forth in Exhibit "A," is the sum of $30,758.00. The Government shall contribute 50 percent of the allowable costs as they are incurred in a total sum not in excess of $15,379.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last

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

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

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. See Annex II.

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~~ 8. See Annex II.

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.*—
See Annex II.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C. Mitteudorf
Administrator, Defense Minerals
Exploration Administration

JEN, INC.
(Operator)

By C. L. Jensen

Title President

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]

Long
Dedeyer
App'd. Sol. Off.
Ching
Ellis
Chambers
Selfridge
Johnson

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

35485

EXPLORATION PROJECT CONTRACT
JEN, INC.
DOCKET NO. DMEA-4964

ANNEX I

The land referred to in Article 2 of the Contract is situated in section 33, T. 29 S., R. 24 E., S.L.M. & B., San Juan County, Utah, and is shown on the map entitled, "Figure 3 - Map of Underground Mine workings, Drill Holes, and Proposed DMEA Work at The Cord Mine, Jen Inc., San Juan County, Utah," attached and made a part hereof. It consists of all of the Pasco unpatented lode mining claim and that portion of the Uncle Ben unpatented lode mining claim lying east and north of a line described as follows:

Beginning at a point on the northern boundary of the claim 175 feet due west of the northeast corner of the claim, thence due south 690 feet, thence parallel to the western boundary of the claim to a junction with the southern boundary of the claim.

The notices of location of the claims, to which reference is hereby made for a more complete description, are recorded in the official records of San Juan County, Utah, in Book 243, pages 350 through 353.

The Operator is the owner of the claims, having purchased the same under Contract dated March 14, 1957, from the E. L. Cord partnership.

A Consent to Lien and Subordination Agreement executed by the E. L. Cord partnership is attached and made a part hereof.

MF-205
(Combines and supercedes MF-201 and MF-203)
June 1956

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator
Docket No. DMEA- 4964
Contract No. Idm-E
Contract Date

CONSENT TO LIEN
and
SUBORDINATION AGREEMENT 1/

To the United States of America:

Referring to that certain land in the County of San Juan, State of Utah, described as follows: 2/

Certain Lode Mining Claims located in the Big Indian Mining District further described in Annex I which is attached hereto and made a part hereof.

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;

3. Subordinates the undersigned's right, title, claim, or interest in or against the land and in any production therefrom to the rights of the Government under the contract with respect to royalty on production and liens to secure same;

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

None

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

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

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

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

7. Added provision: None (State "None" or "See Annex No.____")

Dated this 3rd day of June, 1958.

Edward D. Faulk	[Seal]	650 S. Grand Ave. Los Angeles 17, California	[Address]
Individually as co-owner and duly authorized agent for the other co-owners, E.L.Cord, Norman Biltz, Esther A. Biltz, C.E.Cord, John V. Mueller, Ben Edwards, Peter W. Hummel, Robert C. Phelps, Wanda H. Murray J. C. Beazley, and J.F.Dunn.	[Seal]		[Address]
	[Seal]		[Address]
	[Seal]		[Address]
	[Seal]		[Address]
	[Seal]		[Address]

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]

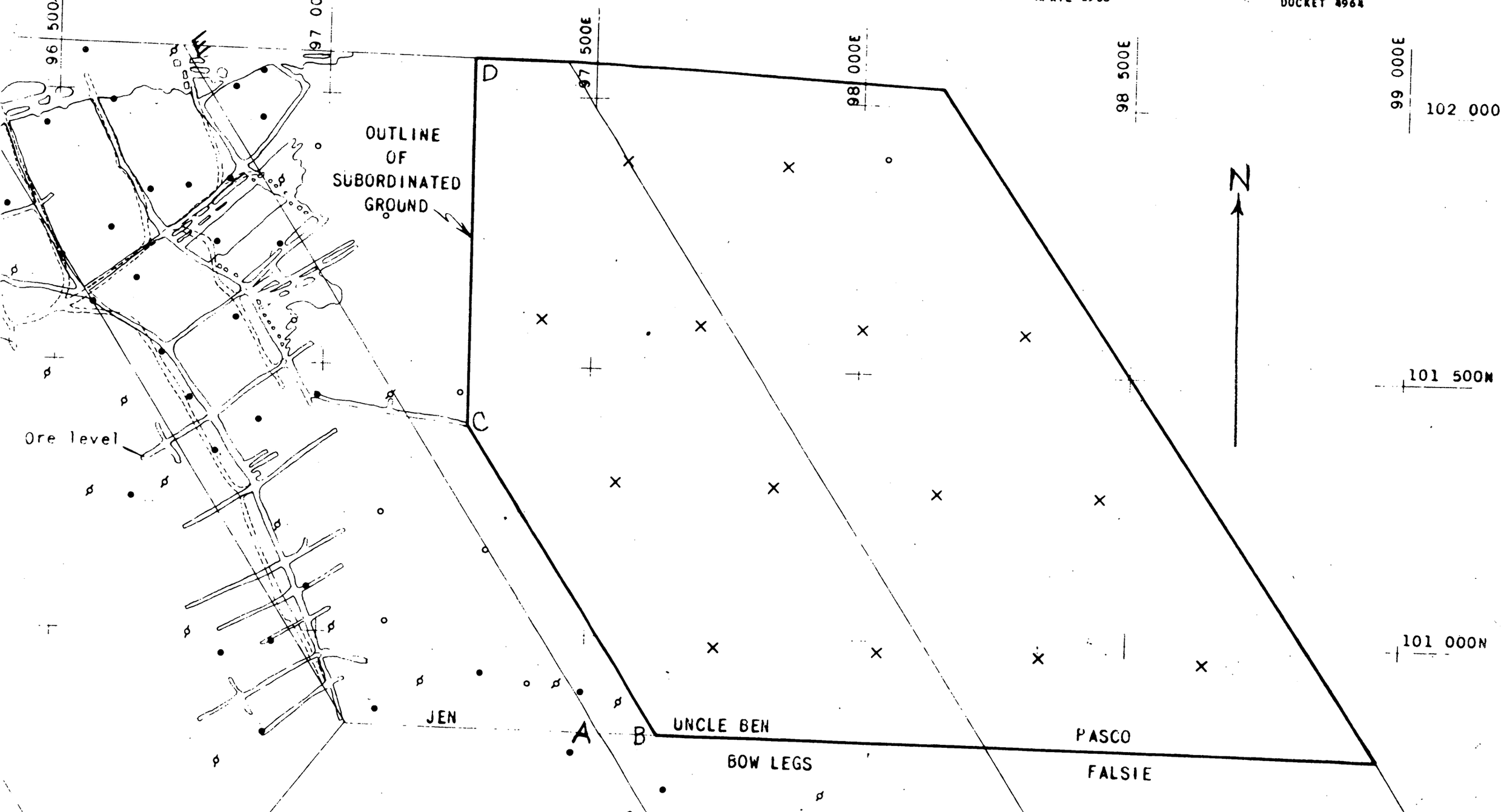
ANNEX I

The Uncle Ben and Pinzo Lode Mining Claims recorded in Book 243, Pages 350-353, in the County Clerk and Recorder's Office in San Juan County, Utah, excluding that part of the Uncle Ben Claim hereinafter described: Beginning at Point "A", which is the southwest corner of the Uncle Ben Claim; thence due east 110 feet along the south end line of the Uncle Ben Claim to Point "B"; thence northwesterly parallel to the west side line of the Uncle Ben Claim to the point of intersection with the center line of the existing drift or crosscut, a distance of approximately 680 feet, Point "C"; thence due north approximately 690 feet to the north boundary of the Uncle Ben Claim, Point "D"; thence due west to the northwest corner of the Uncle Ben Claim, a distance of approximately 530 feet, Point "E"; thence southeasterly to the point of beginning, a distance of approximately 1300 feet, as shown on Claim Map No. 1, attached hereto and made a part hereof.

THE INTERIOR
SURVEY

CLAIM MAP No. 1

DEFENSE MINERALS EXPLORATION ADMINISTRATION
APRIL 1958
DOCKET 4964



EXPLORATION PROJECT CONTRACT
JEN, INC.
DOCKET NO. DMEA-4964

ANNEX II

Article 13. Changes and added provisions.--

(a) That part of the last sentence of Article 3 beginning with the word "either" is deleted and replaced by the words "have completed the work, except as otherwise provided in Exhibit 'A' with respect to stages of work."

(b) That part of the last sentence in the first paragraph of Article 6(a) commencing after the semicolon is deleted.

(c) Categories (2) through (6) of Article 6(a) are deleted.

(d) 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.

(e) In the last sentence of Article 6(c), the words "Article 8" are substituted for the words "Article 9."

(f) Notwithstanding any other provision of the Contract, the allowable unit cost per foot of a drilling item is the average unit cost per foot computed on the basis of all the actual unit costs of said drilling item incurred by the Operator: Provided, That the Government will not contribute to any portion of an average unit cost of a drilling item that exceeds the estimated unit cost of said item set forth in the Contract.

EXPLORATION PROJECT CONTRACT
JEN, INC.
DOCKET NO. DMEA-4964

EXHIBIT "A"

Description of the Work

General Provisions

The work consists of exploration for uranium by core and noncore drilling to test the basal part of the Chinle formation of Triassic age.

Each hole shall be drilled noncore through the upper formations to a point approximately 40 feet above the contact between the Chinle formation and the underlying Cutler formation and then core drilled until the hole is bottomed not more than 10 feet below the Cutler-Chinle contact.

Drilling depths are expected to average 650 feet, with cored sections of the drill holes averaging approximately 50 feet in length. The minimum size of core shall be BX.

All core and cuttings from the cored section of drill holes shall be saved and checked for radioactivity. Core sections indicating significant mineralization shall be split, one-half shall be analyzed chemically for uranium and one-half shall be properly labeled and stored for the use of the Government. The nonmineralized core and related cuttings also shall be labeled and stored for inspection by the Government. With Government approval, the Operator may dispose of any stored samples.

All core and cuttings from the drill holes shall be logged geologically, the holes shall be probed radiometrically, and the record of such logging and probing, together with certified copies of all assay certificates, shall be submitted with the Operator's monthly progress reports.

No hole shall be drilled closer than 100 feet to the outer boundaries of the land described in Annex I.

The Government will not contribute to the cost of any incompleted drill holes.

Access roads and drill sites shall be prepared with a D-6 or D-7 Caterpillar tractor-dozer, or with equivalent units of the same or of another make.

The project shall be supervised at all times by an experienced geologist or mining engineer, who shall devote full time to the project work.

The location, direction, inclination and extent of all project work are subject to the approval of the Government.

The work shall be divided into two stages as hereinafter described. The Operator shall complete Stage I, and shall perform as much of Stage II as the Government approves in writing in advance.

Stage I

Prepare access roads and drill sites and drill 14 holes aggregating an estimated 9,100 feet as indicated on the attached "Figure 3" map. The holes are in four east-west rows spaced 300 feet apart with the holes in each row also spaced 300 feet apart, and staggered with respect to holes in adjoining rows. If the 14 holes require more than 9,100 feet of drilling to reach the desired horizon, the additional footage and funds required may, with the written approval of the Government, be transferred and deducted from Stage II.

Stage II

Prepare access roads and drill sites and drill not more than 12 holes aggregating not more than 7,800 feet as offsets to

previously drilled holes that show significant mineralization or highly favorable structural conditions for ore occurrence. These offset holes shall be drilled not closer than 150 feet to any previously drilled hole that reached the target.

Estimated Cost of the Project

Stage I

Actual Costs

Category (1) Independent Contracts

8,400 feet noncore drilling @ $1.35/ft.	$11,340.00	
700 feet core drilling @ $4/ft.	2,800.00	
60 hours bulldozing, D-7 or equivalent, @ $12/hr; or 72 hours D-6 or equivalent, @ $10/hr.	720.00	

Categories (2) through (6)

None

Category (7) Miscellaneous

None except:

70 cardboard core boxes @ $1.25/each	87.50	
40 chemical sample analyses @ $3.50/each	140.00	$15,087.50

Fixed Unit Costs (See Annex II(d))

Incidental allowance for each foot of hole drilled, 9,100 feet @ $0.17/ft 1/	1,547.00
Estimated Total Cost of Stage I.....	$16,634.50

Stage II

Actual Costs

Category (1) Independent Contracts

7,200 feet noncore drilling @ $1.35/ft.	$9,720.00

600 feet core drilling @ $4/ft.	$2,400.00	
40 hours bulldozing, D-7 or equivalent @ $12/hr.; or 48 hours, D-6 or equivalent, @ $10/hr.	480.00	
Categories (2) through (6)		
None		
Category (7) Miscellaneous		
None except:		
60 cardboard core boxes @ $1.25/each	75.00	
35 chemical sample analyses @ $3.50/each	122.50	$12,797.50
Fixed Unit Costs (See Annex II(d))		
Incidental allowance for each foot of hole drilled, 7,800 feet @ $0.17/ft. 1/		1,326.00
Estimated Total Cost of Stage II.....		$14,123.50

Summary of Costs

Estimated Total Cost of Stage I	$16,634.50	
Estimated Total Cost of Stage II	$14,123.50	
Estimated Total Cost of the Project		$30,758.00
Government Participation @ 50 percent		$15,379.00

1/ Includes all costs that might be allowable costs of the project under Categories (1) through (7) of Article 6(a), except as otherwise scheduled in Exhibit "A."

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 19 1958

DATE	INITIALS	CODE

224 New Customhouse
Denver 2, Colorado

March 17, 1958

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA aid, Jen, Inc. (Uranium) (Cord Mine) San Juan County, Utah

Enclosed are the original and one copy of the subject application in the amount of $75,400.00. One copy of the application is being forwarded to the Grand Junction Office, DMEA and one copy is retained in our file.

The Applicant proposes an exploration program to consist of drifting and rotary drilling. His estimated cost of drifting at $31.85 per foot appears reasonable. Drilling bids from the Moab Drilling Company and Pioneer Drilling Company were included with the application.

W H King

W. H. King

Form MF–103
Revised Feb. 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42–R1035.3
Approval expires June 30, 1958

APPLICATION FOR AID IN AN EXPLORATION PROJECT

PURSUANT TO DMEA ORDER I, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

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

JEN, INC.
P.O. BOX 458
MOAB, UTAH

RECEIVED MAR 19 1958 D.M.E.A.

DMEA
DEPARTMENT OF THE INTERIOR
MAR 17 1958
REGION III
DENVER, COLORADO

APPLICANT NOT TO USE THIS BLOCK

Docket Number	4964
Date Received	3-19-58
Government Participation %	50
Region	III
Division Code	700

BUSINESS ORGANIZATION (Check one)

- Individual [ ]
- Corporation [X]
- Partnership [ ]
- Other (Specify) [ ]

State in which firm is organized: Utah

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

Name	Address	Title
C. E. Tuttle	P.O. Box 458, Moab, Utah	President
C. M. Christensen	218 Felt Bldg., SLake City, Ut.	Sec.-treasurer
E. H. Snyder	218 Felt Bldg., SLake City, Utah	Board Chairman

Mineral(s) for which you wish to explore: Uranium (U3O8)

Estimated Cost of Project: $ 75,400

LOCATION OF PROPERTY

Name	County	State
Cord Mine	San Juan	Utah

GENERAL INSTRUCTIONS

Before filling out this application, please read DMEA Order–I, Amended, "Government Aid in Defense Exploration Projects." To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit four copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 1, existing mine workings and geology in item 2, and the proposed exploration project in item 4. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 2(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest DMEA Field Office.*

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

March 4 - 1958
Dated

Jen inc
C. E. Tuttle
BY (Signature)

President
Title

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

INFORMATION REQUIRED WITH THIS APPLICATION

1. *Applicant's Property Rights:*

(a) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all land adjacent to the proposed project area which you own or control. Describe any part of the project land or workings which should not be subject to Government lien for royalty payments. If the land consists of unpatented claims, state the book and page number for each recorded location notice, including amended locations, and the place where recorded (courthouse, recorder's office, county, and state).

(b) State all the names by which you know the property.

(c) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise. If you are not the owner, submit with this application one exact copy of the lease, contract, or other document (with address of owner) under which you control the property.

(d) Describe all liens, mortgages, or other encumbrances on the property.

2. *Physical Description:*

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

(b) State your interest, if any, in operations stated in 2*(a)*.

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

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

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

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

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

3. *Accessibility of Project:*

(a) To aid DMEA representatives who may be required to examine the property, state the name and address of the person who will meet the DMEA representative; give directions for reaching the property; and describe accessibility of the property including the mine workings.

(b) Name the shipping and supply points and places where employees reside and state the distances between them and the property.

4. *The Exploration Project:*

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

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

(c) In the event that an exploration contract with DMEA is executed, how soon will the work start and how many months will be required to complete it? State your anticipated average daily or monthly rate of progress for each type of work.

5. *Experience:*

State your operating experience and background with relation to your ability to carry out this exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of Costs:*

Furnish detailed estimates of the costs *for each item of the work proposed in 4(a)* under the headings listed below with a total for each heading and the estimated total cost of the project. Costs for any work to be performed by an independent contractor should be shown separately under category *(a)* below. Costs for any work that is not to be performed by an independent contractor should be given in detail under categories *(b)* through *(g)*.

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

(b) Personal services. For necessary supervision, engineering and geological services, and labor, include an itemized schedule of numbers, classes, rates of wages, salaries or fees, and periods of employment. State whether these technicians and employees are available.

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

(d) Operating equipment. List items of operating equipment to be used giving specifications and indicating how each item is to be acquired – i.e., rented, purchased, or provided by the applicant. If it is rented or purchased, state the estimated rental or purchase price. If it is to be furnished by the applicant, give its present fair market value.

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

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

(g) Miscellaneous. For the operating equipment listed in 6*(d)*, describe the type and estimate the cost of repairs and maintenance expected during project operations. Do not repeat initial repairs listed in 6*(e)*. Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories.

Note – 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)* State whether you are prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation stated in Sec. 7 of DMEA Order–I, Amended.

(b) Explain to what extent you propose to furnish your share of the costs by providing money, by use of equipment owned by you, or otherwise.

* * * * *

INT.-DUP. SEC., WASH., D.C. 15539

JEN, INC.

218 FELT BUILDING
SALT LAKE CITY 11, UTAH
TELEPHONE
EM 4-9564

February 24, 1958
Box 458 - Moab, Utah

MINE OFFICE
MOAB, UTAH
TELEPHONE
19 R 1

DMEA
DEPARTMENT OF THE INTERIOR
MAR 17 1958
REGION III
DENVER, COLORADO
OFFICIAL FILE COPY
DMEA
RECEIVED MAR 19 19
DATE | INITIALS | CODE

(Form MF-103 Revised)

APPLICATION FOR DMEA LOAN FOR URANIUM DEVELOPMENT

APPLICANT: JEN, INC. (Cord Mine)

1. Applicant's Property Rights.
(a) It is desired to explore the east three-fourths of the Uncle Ben Claim and all of the Pasco Claim.

The above claims are in San Juan County, Utah, in the Big Indian Mining District. The claims are unpatented. Notice of amended location is recorded in San Juan County Courthouse in Montecello, Utah

Uncle Ben	Book 243	Page 352-353
Pasco	243	350-351

Production from the Jen Claim, Jackie Claim and the portion not listed above of the Uncle Ben would not be subject to government lien. The area subjected to government lien is indicated on Map #D26 attached. The claims are located in Sec. 33, T29S, R24E.

(b) Names of the Property.
The property is known as Jen, Inc. or the Cord Mine.

(c) The four mining claims, Jen, Jackie, Uncle Ben and Pasco were purchased from E. L. Cord Partnership March 14, 1957. Claims have been surveyed by Mineral Surveyor for patent, Survey No. 7278.

(d) The only liens against the property are a promissary note and mortgage held by the E. L. Cord Partnership.

2. Physical Properties.
(a) During 1954-55-56 the E. L. Cord Partnership drilled 60 holes on the four claims. These holes averaged 650 feet deep with coring the last 25 or 50 feet. An ore body was blocked out on the Jen and Jackie Claim containing an estimated 400,000 tons of high grade uranium ore.

A surface plant was then built consisting of offices, warehouse, change-room shop, compressor room, hoist room, carpenter shop, truck scales, ore storage area, etc. A three-compartment shaft was sunk 670 feet to 40 feet below the ore horizon.

Since the shaft was completed in early 1956, 7,542 feet of development drift has been driven on the ore level, mostly in ore; 3,500 feet drifting in waste on the haulage level and 56,159 tons of ore has been produced by stoping. Production from stoping and from drift development on the ore level total 86,313 tons of ore assaying. 57% U_3O_8. See Maps #D-3 and #D-2.

The method of mining in the Cord Mine is slightly different from that used in other properties in the district. Before shaft sinking was started an ore body was blocked out by drilling. The ore occurred in a bed about 600 feet below the surface. The bed averaged about 5 feet in thickness, was roughly 600 feet wide and extended the length of the claims. The bed had a dip of about 6 degrees to the west.

The three-compartment shaft was located to cut the ore horizon near the lower extremety of the ore body. One station was cut on the ore horizon and another station 20 feet below.

There is no haulage on the ore level. The method of development was to run slusher drifts on the ore level and to closely parallel these drifts with conventional drifts on the haulage level below. From these haulage level drifts raises were extended upward to the ore level. Muck from the drifts on the ore level was slushed into these raises.

This type of development continued until the ore body appeared on the map as a checker board with 175 foot squares and a raise at each corner of the square.

Stoping is performed by a modified system of entry-and-pillar, retreating from the outer edges of the ore body. The ground is heavy and caves quickly when pillars are removed. By drilling and blasting holes in the back, caving is controlled when pillars are removed and seldom causes trouble. Wooden stulls and cribs are used to hold the back until caving is desired. Broken ore is slushed into the raises where it is picked up on the haulage level and taken to the shaft station.

Production rate covering all personnel at the plant is 4 tons to 5 tons per man shift. The mining costs are approximately $10.00 per ton.

(b) Jen, Inc. Interest in the Operation.

Since this company purchased the property on March 14, 1957 it has produced 86,313 tons of ore assaying .57% U_3O_8, driven 5,487 feet of drift development on the ore level, driven 1,062 feet of drift development on the haulage level, driven 692 feet of transfer raise and added to equipment and facilities of the plant.

(c) Production.

Mine production began in October 1956 when E. L. Cord Partnership produced 42 tons. The total Cord Production to March 14, 1957 was 9,502 tons .688% U_3O_8. Since that time this company has produced as follows to January 1, 1958:

March 1957	1,923 Tons	.79% U_3O_8
April	4,123	.58
May	6,234	.49

June	7,115 Tons	.55% U_3O_8
July	7,241	.50
August	8,894	.56
September	9,084	.57
October	10,293	.53
November	10,456	.53
December (Not Final)	11,440	.62
Total for Mine	86,313 Tons	.57% U_3O_8

(d) Ore Reserves.

As of January 1, 1958 ore reserves of the Cord Mine were estimated at:

259,220 tons	.66% U_3O_8	3,421,704 lbs. U_3O_8

The above reserves were determined by the shipment of 86,313 tons of ore, by hundreds of samples taken of drift development and by samples of drill hole cores. (Maps #D-12 and #D13) Also attached is S. E. Craig's report of December 28, 1957.

(e) Geology. Following is an extract from a report by L. G. Thomas of Lottridge-Thomas and Associates, Professional Engineers, Salt Lake City, Utah, dated January 15, 1958.

"The Cord, or Jen Mine lies on the West limb of the fractured Lisbon anticline - on the famous Big Indian ore zone trending North 25-30° West for several miles. This ore trend is cut at a point about one mile North of the property by the prominent Lisbon Valley Fault - a 1,400 feet normal fault - which strikes North 50° West. A deep drill test across the fault is reported to be under consideration.

"The deep fracturing of the Lisbon Fault is considered a major channel through which hydrothermal solutions could pass upward from a deep-seated underlying magma.

"The three sedimentary formations of concern at Cord or Jen Mine consist in descending order of: Wingate, Chinle, Cuttler.

"General attitude of beddings, or stratification is North to N 10° W - dipping 7 to 10 degrees to the West. There is no major faulting or folding directly on the area of the property.

"Wingate Sandstone (Triassic)

"About 260 feet thick covers the surface of the entire Jen area.

"It has a bleached buff color, as distinct from usual reddish, is aeolian and cross bedded appearing as ancient sand dunes.

"There are numerous fractures with little or no throw over the ore zones, as well as elsewhere.

"Chinle Formation (Triassic)

"440 feet thick at mine - Color gray.

"Composed of thin beds of clay or mudstone, a few sandstones and bentonitic shales - mostly devitrified volcanic sediments, with scattered carbonaceous materials.

"The black uranium ores are found disseminated irregularly in and adjacent to a fluvial arkosic sandstone at the old disconformable erosion contact with the underlying Cutler sandstone. No oxidization ores have been encountered at Jen.

"Cutler Formation (Permian)

"A dark red, fine, even-grained marine sandstone, several hundred feet thick.

"Some uranium bearing arkose have been found at depth in this formation elsewhere in the district.

"There are only very minor fractures under the ore beds at the Jen workings, although many exist above the Cutler through Chinle and Wingate to the surface. "A number of deposition theories have been successfully applied to many ore discoveries in this immediate area, such as: Paleostream-hydrothermal, devitrification of volcanics, fractured oil domes, and etc.

"These you are familiar with and require no repetition here. No doubt some degree of merit applies to all of them."

(See attached maps prepared by Jen Engineer L. C. Moore.)

(f) Reason to expect to find Ore.

The main ore body in the Cord Mine as now open averages about 6 feet in thickness, is in a nearly flat sandstone bed at the base of the Chinle formation, 600 feet below the surface. The dip of the bed is 6 degrees to the west. The strike of the bed is N20W and the ore body extends the length of the claims. The ore body is continuous for a mile to the north where the Hidden Splendor and Hecla Mining Companies are each producing 6,000 to 12,000 tons per month of ore of character and grade similar to that produced by Jen, Inc. in the Cord Mine.

To the south, the ore body is intermittent but there is substantial production from the Ike and Columbia shafts of the Hidden Splendor, Homestake, Mi Vida, Standard Uranium, Continental and others.

The main ore values seem to occur in coarse arkose sand beds that filled depressions in the old erosian surface on the Cutler formation. The operators of adjoining properties indicate they have found ore in areas outside the main channel. There are indications

near the south end of the Jen Claim that "scours" opened in that area are extending into the area that is to be prospected.

In this mine to date development work has been discontinued very quickly after work has passed out of the commercial ore zone. There are no drill holes in the area to be prospected. Ground so close to a large high grade ore body merits prospecting.

(g) Geological Reports.
None attached. Geology described under 2 (e) above.

3. Accessibility of Project.
(a) DMEA representative wishing to inspect the property should contact S. E. Craig, Assistant to the President, or W. J. Franklin, Superintendent. The mine phone number is Moab LD 19R1. The nearest depot on a railway is at Thompson, Utah, a distance of 75 miles. There is bus service into Moab, Utah, 35 miles from the mine.

The Cord Mine is reached by paved road from Moab to the mine. From Moab proceed south for 22 miles until the LaSal Junction is reached. Proceed on this road toward La Sal for seven miles. There turn south. There are many mine signs on this intersection. One sign reads Jen, Inc., Cord Mine. There are two other right hand turns each clearly marked. The total distance from Moab is 35 miles.

(b) Ore is trucked from the mine to the AEC mill in Montecello, 46 miles or to Crescent Junction on the D&RG Railroad from which it is shipped to the Vitro Uranium Company Mill in Salt Lake City, Utah.

Mining supplies come from supply houses in Grand Junction, Colorado, Moab and from Salt Lake City, Utah. Supplies come to the mine by truck.

Employes, now 90 in number, reside in Moab or La Sal. The number is divided about 50-50. Most men stay in trailer courts with their families. The Company maintains a bunkhouse and boardinghouse in LaSal. The mine is seven miles from LaSal.

4. The Exploration Project.
(a) Reference Map #D-26 and #D-27.
1. Drive a drift from the present face of the 3 South 2-1/2 East drift east for 1,300 feet to the east boundary of the Pasco claim. The drift would be driven on a plus 6 degree incline but would follow the slightly irregular Chinle-Cutler contact. Drift section to be 6 feet by 7-1/2 feet in the clear. Roof bolts and mats would probably be required but little or no timber would be used.

The above prospect drift plus the development work already performed would provide a cross section of the area covered by the four mining claims.

2. 500 feet of lateral drifting from the above prospect drift if geological features exposed should warrant. This work would be done only with the approval of the representative of the DMEA.

3. Drill 13 holes with 4.75" rotary drill to a depth of 650 feet, plus or minus, coring the last 25 to 50 feet, producing a 2.5" core. Holes would be located approximately as shown on Map #D-26. After more information was obtained, the location of some of the holes might be changed by mutual agreement.

There would be 5 holes on Uncle Ben Claim.
There would be 8 holes on Pasco Claim.

Approximate log of the holes:

Wingate Sandstone	185 feet
Chinle Red Shale and Mudstone	125 "
Chinle Various colored Siltstone	130 "
Chinle Gray Mudstone, Conglomerate	200 "
Cutler, Red Sandstone	20 "

The drifts would be driven by use of a diesel-driven Scootcrete 3-ton, using slusher to load. From the east drift the rock produced would be dumped into a transfer raise near the end of the 3-South drift. From there it would be picked up on the haulage level, trammed by storage battery motor to the shaft station and hoisted to the surface.

(b) Access Roads.

As before mentioned the road is paved to the mine shaft. However, the area in which it is desired to locate the drill holes is rough and covered with scrub pines. For most holes some dozer work will be required.

(c) Time.

Work could start within two weeks from date of contract approval. An advance of 100 feet per month would be made.

1.	East Drift	1,300 feet
2.	Lateral drifting	500 "
	Total drifting	1,800 "

Total time required for the project: 18 months.

Drilling 13 holes at the rate of 2 per week: 2 months. This work would be done concurrently with drift development.

4. Experience.

Jen, Inc. has been in existence for less than a year. The supervisory personnel are well-experienced in mine operation.

C. E. Tuttle, President, has operated steel mills, coal mines, chrome mines and other projects successfully.

E. H. Snyder, Chairman of the Board, is President of Combined Metals Reduction Company and has operated mines for more than 30 years.

S. E. Craig, Assistant to the President, has been mine engineer, foreman, superintendent and general superintendent for more than 30 years.

L. C. Moore, Engineer-Geologist, has been engineer, mine foreman and superintendent of mines during the past 15 years.

W. J. Franklin, Superintendent, has been contractor and worked in mines with supervisory responsibilities for 35 years. The Foreman, H. K. Jones, has worked in all capacities in mines during the past 30 years.

The above staff have increased production from 2,125 tons in February 1957 to 11,661 tons in December 1957.

5. Estimate of Cost.

(a) Independent Contracts.

The 13 drill holes with approximate depth of 650 feet each will be contracted to professional drillers. Total: 8,450 feet.

Estimate of cost as indicated by bids but not including preparation of drilling sites is $1.65 per foot plus $6.00 per foot core.

Total per Hole:	600 feet at $1.65	$990.00
	50 feet Core at $6.00 ...	300.00
	Total per Hole	$1,290.00

13 Holes	$16,770.00
Road and site preparation	
13 holes @ $100.00 each hole	1,300.00
Total cost of drilling project	$18,070.00

(b) Personal Services.

Some time and service would be required by each of the following classes of personnel. All are available at the mine.

Superintendent	$800. Month	Carpenter	$2.35 per hour
Engineer-Geologist	700 "	Nipper	2.35 "
Foreman	700 "	Motorman	2.35 "
Shifter	650 "	Motorman-Helper	2.25 "
Master Mechanic	575 "	Skip Tender	2.25 "
Engineer Helper	2.25 per hour	Top Man	2.25 "
Sampler	2.35 "	Truck Drivers	2.25 "
Electrician	2.45 "	Miners, Class A	2.35 "
Mechanics-Welder	2.40 "	Miners, Class B	2.15 "

Excepting the miners, all personnel would devote only part time to the project. Their cost for work on the underground projects would be prorated on a rock-ton basis.

Those devoting full time to the project would be two miners in each heading on two shifts.

For preparing drill sites and roads leading to the drill hole sites a dozer and operator would be rented at the cost of $10.00 per hour.

(c) Operating Materials and Supplies (Per foot of Drift)

Drift Development will produce 3.5 tons rock per foot.

	Per Foot
Water	$ .17
Electric Power	.49
Diesel Oil	.24
Air and Water Lines	.76
Roof Bolts and Mats	1.92
Fuse and Caps	.56
Powder	2.45
Drill Steel and Bits	.73
Electric Cable	.45
Vent Lines	2.00
Slusher Ropes and Pins	.77
Air and Water Hose	.10

(d) Operating Equipment.

	Cost	Rental per Foot
1 - Scoot-Crete Diesel Truck	$4,000	$1.15
4 - Rock Drills	4,000	.57
1 - Slusher	3,500	1.06
1 - Switch	150	.13
1 - 15 HP Fan	600	.42

(e) Initial Rehabilitation and Repairs.

Initial repairs necessary for the project would be made by the Company at no expense to the project.

(f) New Buildings, Fixtures, Installations.

None

(g) Miscellaneous.

Repairs to Equipment:	Per Foot of Drift
Scoot-Crete Trucks	$1.00
4 - Rock Drills	.63
Slusher	.60
Switch	.05
15 HP Fan	.10

Other:

In calculating the per foot cost for drifting it is considered that each foot of drift will produce 3.5 tons of rock. Cost for services, supplies, etc., are shown in the Profit and Loss Statements in terms of cost per ton. Thus the cost for Engineer, etc., will be based on prorata cost per rock ton. Production is expected to be in the neighborhood of 10,000 tons monthly.

Labor for drifting, that is, miners at the face, are usually on bonus contract basis. Average cost per foot for these men not including payroll taxes is $10.00

Drifting Costs (Recapitulation):	Per Foot of Drift	
Engineering	$ .45	
Supervision	1.00	
Accounting	.60	
Sampling and Assaying	.20	
Electrical	.05	
Nippers	.05	
Motor Haulage	1.15	
Hoisting	1.10	
Contract Miners	10.00	
Scoot-Cretes	2.15	(Rental and Repair)
Rock Drills	1.10	"
Slushers	1.66	"
Switches	.18	"
Fans	.52	"
Water	.17	
Electric Power	.49	
Diesel Oil	.24	
Air and Water Lines	.76	
Roof Bolts and Mats	1.92	
Fuse and Caps	.56	
Powder	2.45	
Drill Steel and Bits	.73	
Electric Cable	.45	
Vent Lines	2.00	
Slusher Rope and Pins	.77	
Air and Water Hose	.10	
Payroll Taxes, Insurance	1.00	
Total Per Foot of Drift	$31.85	

Recapitulation of Projects:

1. East Drift 1,300 feet @	$31.85	$41,405.00
2. Lateral Drift 500 feet @	31.85	15,925.00
3. Drilling 13 Holes @	1,390.00	18,070.00
Total Estimated Cost of Projects:		$75,400.00

Because of the difficulties of obtaining and maintaining accurate costs of projects within and adjacent to other mine workings, it is recommended that the project price be set up on a fixed price per foot of development.

The Company will pay cash for its share of the development. The Company would pay all current costs and bill the DMEA at the end of each month for work performed during the month.

C. E. Tuttle

C. E. TUTTLE
President

Attachments

Attachments:

Maps D-2 - D-3
D-12 D-13
D-26 D-27
Estimate of Ore Reserves
Drilling Bids

COPY

Ore Reserves, Cord Mine

December 29, 1957

Mr. C. E. Tuttle

S. E. Craig

Accompanying this letter is a recent estimate of mine of ore reserves as of Jan. 1, 1958, also an estimate of Mr. Moore and one I made from Mr. Thomas' notes. These estimates indicate the reserves as of Jan. 1, 1958. Mr. Thomas' estimate is adjusted to this date.

Craig	259,220 Tons	.66% U_3O_8	3,421,704 #U_3O_8
Moore	227,000	.63	2,877,000
Thomas	250,803	.62	3,109,957

To the above must be added the ore shipped to Jan. 1, 1958 to get the estimate of total ore on the property:

	85,692 tons	.57% U_3O_8	976,886 #U_3O_8
Hagen Estimate	441,145	.75	6,617,175
Craig	344,912	.637	4,397,590
Moore	312,692	.622	3,853,886
Thomas	336,495	.606	4,086,843

S. E. Craig

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Ore Reserves, Cord Mine January 1, 1958

December 28, 1958

Mr. C. E. Tuttle, President

S. E. Craig

Ore reserves in the Cord mine as of Jan. 1, 1958 are estimated to be:

	259,220 tons	.66%U3O8	3,421,704#U3O8
Shipped	85,692	.57	976,886
Total Mine	344,912	.637	4,397,590
Orig Est	441,145	.75	6,617,175

(The original estimate used 12 cu.ft/ton. This estimate used 13 cu.ft/ton)

This estimate Jan. 1, 1958 may appear to be slightly liberal as stoping height in many blocks exceeded that indicated by drift samples.

Drill hole assays were almost entirely discarded and assays of drift samples were used.

The accompanying maps D-12 and D-13 indicate the block method of estimating the reserves. Block 1 is made large because of geological inference that there should be ore in that area. The south area may appear small but that is the present indications.

The printed tonnages shown on Mr. Moore's map were not used. The accompanying tables show the area, thickness and grade of each block.

My report of September 27th indicated that the grade shipped was slightly less than drift sample assays. There is some indication that stoping in some blocks of the north area is producing a grade better than drift sample assays indicated. It appears that this may balance out so drift sample assays are used in this estimate.

Block	Area and Thickness (ft.)	Cu.Ft.	Tons	Grade
1	240 x 375 x 7	612,000	43,000	.24%
2	120 x 175 x 7	147,000	11,300	.41
3	113 x 180 x 7.5	152,550	11,730	1.10
4	140 x 50 x 7.5	52,500	4,000	.76
5	160 x 37 x 8	47,360	3,640	1.45
6	155 x 160 x 8	198,400	15,260	1.45
7	170 x 170 x 9	260,100	20,000	1.43
8	160 x 50 x 9	72,000	5,540	.86

Block	Area and Thickness (ft.)	Cu. Ft.	Tons	Grade
9	180 x 170 x 9	275,400	21,180	1.22
10	120 x 160 x 8	153,600	11,810	.18
11	115 x 180 x 7.5	155,250	11,940	.96
12	60 x 150 x 7.5	67,500	5,190	.20
13	165 x 160 x 7.5	198,000	15,200	1.08
14	170 x 145 x 7.5	184,875	14,300	.66
15	230 x 90 x 6	124,200	9,550	.18
16	120 x 115 x 6	82,800	6,350	.20
17	90 x 140 x 6	75,600	5,810	.15
18	140 x 150 x 6	126,000	9,690	.17
19	180 x 170 x 6	183,600	14,120	.30
20	200 x 60 x 6	72,000	6,000	.25
21	170 x 50 x 6	51,000	3,920	.25
23	140 x 150 x 6	126,000	9,690	.15
			259,220	.66

Shipments (Not entirely correct):

To Mar. 13	9502.00	.688%U3O8
Mar. 14-31	1929.88	.787
April	4125.21	.610
May	6233.77	.470
June	6448.31	.555
July	6968.29	.540
August	8894.41	.564
September	9083.79	.568
October	10,293.24	.527
November*	10,415.00	.539
December*	11,800.00	.600
	85,692.90	.570

*Estimated

S. E. Craig

Ura[illegible] Core Drilling

Air & Water Combination Rigs

PIONEER DRILLING CO.

Box 471

ALpine 3-2821

J. F. COSTANZA

FRANK D. COSTANZA

MOAB, UTAH

DMEA
RECEIVED MAR 19
DATE | INITIALS

1-28-58

Jen Inc.
Box 458
Moab, Utah

Attem: Mr S. E. Craig

Gentlemen:

Let this serve as our bid on the Drilling under the DMEA contract, you are now applying for on the Cord Claims now owned by Jen, Inc. in the Big Indian District, near La Sal, Utah.

Plug Drilling	Coring
$1.65 per ft.	$6.00 per ft.

Yours Truly

J. F. Costanza

J. F. Costanza

Uni Core Drilling

Air & Water Combination Rig.

PIONEER DRILLING CO.

Box 471

ALpine 3-2821

J. F. COSTANZA

FRANK D. COSTANZA

MOAB, UTAH

DMEA
RECEIVED MAR 19 1958

DATE	INITIALS	CODE

L-28-58

Jen Inc.
Box 458
Moab, Utah

Atten: Mr S. E. Craig

Gentlemen:

Let this serve as our bid on the Drilling under the DMEA contract, you are now applying for on the Cord Claims now owned by Jen, Inc. in the Big Indian District, near La Sal, Utah.

Plug Drilling
$1.65 per ft.

Coring
$6.00 per ft.

Yours Truly

J. F. Costanza

J. F. Costanza

MOAB DRILLING COMPANY

DIAMOND CORE DRILLING CONTRACTORS

BOX 487

MOAB, UTAH

TELEPHONE ALPINE 3-4181

CHARLES A. STEEN
PRESIDENT

RAY MEDLOCK
GENERAL MANAGER

January 27, 1958

S. E. Craig
Jen, Inc.
Box 458
Moab, Utah

Dear Sir,

We hereby submit our bid to drill and core 19 holes plus or minus on the Cord Claims in the Big Indian District near La Sal, Utah.

Drilling 4 3/4" hole to coring point	$2.75 / ft.
Coring 2 1/4" core	$4.50 / ft.

The above bid price does not include roads or drill sites.

Many thanks for your consideration.

MOAB DRILLING COMPANY

Ray Medlock

Ray Medlock
General Manager

M:c

Kouse

Docket copy

Project Summary Report

By: Michael Ching March 6, 1959

1. Docket No. DMEA-4964 (Uranium)
Contract No. Idm-E1198

Operator - Jen, Inc.
P. O. Box 458
Moab, Utah

Property - The Pasco unpatented lode mining claims and that portion of the Uncle Ben claim lying east and north of a line described as follows: Beginning at a point on the northern boundary of the claim 175 feet due west of the northwest corner of the claim, thence due south 690 feet, thence parallel to the western boundary of the claim to a junction with the southern boundary of the claim. Both claims are situated in sec. 33, T. 29 S., R. 24 E., S.L.M.& B., San Juan County, Utah.

Operator's Property Rights -
Owner. Consent to Lien and Subordination Agreement, dated June 3, 1958, signed by Edward D. Neuhoff as Agent for the E. L. Cord partnership.

2. Contract (Long Form) dated June 3, 1958

Final contract starting date - July 14, 1958
Actual starting date - July 8, 1958
Contract completion date - October 31, 1958
Actual completion date - September 7, 1958

Work Authorized -

Test the basal part of the Chinle formation of Triassic age for uranium by core and non-core drilling in two stages as follows:

Stage I (14 holes)

Actual Costs

8,400 ft. non-core drilling @ $1.35/ft.	$11,340.00
700 ft. core drilling @ $4.00/ft.	2,800.00
60 hrs. bulldozing, D-7 or equivalent, @ $12.00/hr.	720.00
70 cardboard core boxes @$1.25 each	87.50

2. Contract (continued)

Work Authorized (continued)

Stage I - Actual Costs (continued)

40 chem. analyses @ $3.50 each	$ 140.00	
Fixed Unit Costs		
9,100 fet. @ $0.17/ft. incidental allowance	1,547.00	$16,634.50

Stage II (Not more than 12 holes)

Actual Costs		
7,200 ft. non-core drilling @ $1.35/ft.	9,720.00	
600 ft. core drilling @ $4.00/ft.	2,400.00	
40 hrs. bulldozing, D-7 or equivalent, @ $12.00/hr.	480.00	
60 cardboard core boxes @ $1.25 each	75.00	
35 chem. analyses @ $3.50 each	122.50	
Fixed Unit Costs		
7,800 ft. @ $0.17/ft. incidental allowance	1,326.00	14,123.50

Estimated total cost of the project	$30,758.00
Government participation @ 50%	$15,379.00

Amendments - None

Work Completed (Work was confined to Stage I)

Stage I (13 holes)

6,383 ft. non-core drilling @ $1.35/ft.	$8,617.05
491 ft. core drilling @ $4.00/ft.	1,964.00
35 hrs. bulldozing @ $12.00/hr.	420.00
48 core boxes @ $1.349 each	64.77
9 chem. analyses @ $3.50 each	31.50

2. Contract (continued)

Work Completed - Stage I (continued)

6,874 ft. @ $0.17/ft. incidental allowance	$ 1,168.58
Total cost of the project	$12,265.90
Government participation @50%	$6,132.96

Final Reports Received -

Operator - dated October 23, 1958, received November 10, 1958
Field Team - dated January, 1959, received February 2, 1959

3. Auditor's Report of Review - dated November 20, 1958

Total cost as billed by Operator	$13,282.85
Exceptions	1,016.95
Total accepted cost	$12,265.90
Government participation @ 50%	$ 6,132.96

4. Certification of discovery, dated March 13, 1959.

5. Results and Comments -

Stage I drilling consisted of 13 acceptable holes on 300-foot centers in a staggered grid pattern. A 14th hole was drilled at an unacceptable location and disallowed for payment.

One hole (No. 108) penetrated ore-grade material at a depth of 521 feet which showed 2.1 feet of 0.81% eU_3O_8 or 2.5 feet of 0.67% cU_3O_8. A second hole 300 feet to the east of No. 108 showed 0.3 ft. of 0.39% cU_3O_8. All other holes were barren.

The foregoing two mineralized holes would have warranted offset drilling under Stage II. However, the Operator proceeded to drive a drift at its own expense toward the mineralized area, eliminating the necessity for further drilling. The drift encountered low-grade ore about 125 feet west of Hole No. 108. The drift eventually reached Hole No. 108, but, to date, has not been extended beyond it.

The examiners estimated reserves as 2,750 tons of inferred ore containing 0.34 percent U_3O_8 based upon the one ore hole. The results of the drifting

5. Results and Comments (continued) -

did not cause any change in this estimate. The estimate used a circle of influence having a radius of only 50 feet. Since the drift encountered low-grade ore 125 feet west of the hole and Hole No. 109 showed nearly ore-grade material 300 feet to the east, and the ore bodies in the Lisbon Valley area are known to be extensive, the above reserve estimate is believed to be conservative.

The project was well supervised and drilling was done efficiently with one rig. Including the disallowed hole, 7,409 feet of core and plug-bit drilling were completed in two months or an estimated 50 working days. Average depth of the accepted holes was 529 feet.

The ore body discovered is not extensive, but is now readily accessible for mining. A certification of discovery is in order.

Michael Ching

Michael Ching

DEFENSE MINERALS EXPLORATION ADMINISTRATION

WORK COMPLETED ANALYSIS

After final audit or review report is received, prepare original only and file in official docket

Operator Jen, Inc.		Actual Cost	X
State Utah		Agreed Unit Cost	
Final Report of Audit		Commodity	Docket No. DMEA-4964
Final Report of Review	x	Uranium	Contract No. Idm-E1198

Operation	Authorized by Contract and Amendments		Completed		Net cost after sale of Government Property
	Units	Cost	Units	Cost	
Drifting & Crosscutting					
Raising					
Shafts					
Winzes					
Drilling Rotary Non-Core	15,600	23,712.00	6,383	9,702.16	9,702.16
(Specify) Rotary Core	1,300	5,583.50	491	2,112.24	2,112.24
Surface Excavation					
Underground Excavation					
Roads and Trails		1,200.00		420.00	420.00
Operating Equipment Purchased					
Surface Rehabilitation & Repairs					
Underground Rehabilitation					
New Building, Improvements, etc.					
Other (Specify) Chem. Analyses		262.50		31.50	31.50
Totals		$ 30,758.00		$ 12,265.90	$ 12,265.90

* Net cost total must agree with final report of audit or review.

Prepared by Michael Ching Date 11-26-58

31398

Complete

OFFICIAL FILE COPY
O. M. E.
RECEIVED MAY 18 1959

DATE	INITIALS	CODE
5/18	G	220
5/18	[illegible]	800
5/19	[illegible]	700

25th New Customhouse
Denver 2, Colorado

May 14, 1959

Mr. S. E. Craig,
Assistant to the President
Jon, Inc.
P. O. Box 498
Moab, Utah

Re: Docket [illegible] 490 (Uranium)
Contract [illegible]-E1198
(Basin Jon and Pascal claims)
San Juan County, Utah

Dear Mr. Craig:

Thank you for your letter of May 2, 1959, and supporting data for ore production from [illegible] ground in December 1958.

In the future, a settlement sheet should be forwarded this office where any of the ore represented by the settlement sheet is [illegible] ore. The production of [illegible] ore in December amounted to 565 tons, and the settlement sheet shows only 530 tons.

Please advise this office if you have applied for bonus payments on ore produced from the Basin Jon and Pascal claims. When this bonus money is received, royalty is also payable on the bonus. For example, it appears that the 565 tons of [illegible] ore produced in December 1958, contained 2,717 pounds of U3O8, on which you will receive a bonus payment of $8,492.00. If and when this payment is received, you will owe the Government in royalty 5% of that amount, or $424.60.

Very truly yours,

Original signed by
J. W. TOWNSEND

J. W. Townsend
Executive Officer,
[illegible] Field Team, Region III

HMC:jy

cc: Chm. Op. Comm. (2)
Roy. Corres. E1198
Charon.

Form 7
(0-58)

OFFICIAL FILE COPY

Date	Surname	Code
12/8	Murphy	500
	Griswold	500
12/8	Talbert	800
12/9	Lefledge	130
		110
		~~220~~
12-10	gad	225

DEC 10 1959

Mr. C. K. Tuttle
President, Jon, Inc.
P. O. Box 458
Moab, Utah

Re: Docket No. DMEA-4964 (Uranium)
Contract No. Idm-E1198
Jon, Inc.
Uncle Ben and Pasco Claims
San Juan County, Utah

Dear Mr. Tuttle:

Thank you for your royalty payment of $1,289.93 which was received during November. This repays in full the Government's participation of $6,132.96 in the above-referenced exploration contract.

As a result of this repayment, the Government retains no lien or claim against the subject claims or any future production therefrom.

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Director

FMMurphy:gad 12/8/59
Copy to: Mr. Edward D. Neuhoff, 650 S. Grand Ave., Los Angeles 17, Calif.
Dir. R. File
Operating Committee
Mr. F. E. Johnson
Mr. F. D. Lamb, USBM
Mr. H. Kirkemo, USGS
Field Team, Region III (2)
Mr. Talbert
Mr. Griswold

43683

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
12/8	Murphy	500
	[illegible]	500
12/8	Talbert	800
12/9	Selfridge	190
12/10	[illegible]	110
		~~220~~
12/10	gad	225

DEC 10 1959

Mr. Edward D. Neuhoff, Co-Owner and Agent
650 S. Grand Avenue
Los Angeles 17, California

Re: Docket No. DMEA-4964 (Uranium)
Contract No. Idm-E1198
Jen, Inc.
Uncle Ben and Pasco Claims
San Juan County, Utah

Dear Mr. Neuhoff:

Enclosed is a copy of a self-explanatory letter to the Operator under the subject contract.

This letter relates to the Consent to Lien and Subordination Agreement signed by you on June 3, 1958, individually as Co-Owner and Agent for other Co-Owners, E. L. Cord, Norman Biltz, Esther A. Biltz, C. E. Cord, John V. Mueller, Ben Edwards, Peter W. Hummel, Robert C. Phelps, Wanda H. Murray, J. C. Beazley, and J. F. Dunn.

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Director

Enclosure

FMMurphy:gad 12/8/59
Copy to: Dir. R. File
Operating Committee
Mr. F. D. Lamb, USBM
Mr. H. Kirkemo, USGS
Field Team, Region III (2)
Mr. Talbert
Mr. Griswold

43683

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado

May 13, 1959

OFFICIAL FILE COPY
O. M. E.
RECEIVED MAY 15 1959

DATE	INITIALS	CODE
5/15/59	a	220
5/18	mc	700

Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Docket DMEA 4964 (Uranium) Contract Idm-E1198, JEN, Inc. (Uncle Ben and Pascal claims) San Juan County, Utah

Reference is made to our memorandum on royalty payments for March 1959, on the subject contract, in which we acknowledged receipt of a royalty payment for $559.35.

Enclosed are the following:

1. Settlement sheet for Liquidation No. 58/12-35.

2. Operator's record of assays in DMEA area for December.

3. Map showing advance in DMEA ground during December 1958.

Since the DMEA ore was commingled with other ore, the Operator was requested to furnish details as to how the grade and tonnage of DMEA ore was computed in our letter to him, dated March 12, 1959.

J. W. Townsend

J. W. Townsend

Enclosures

JEN, INC.

OFFICIAL FILE COPY
O. M. E.
RECEIVED MAY 15 1959

DATE	INITIALS	CODE

December Progress in D.M.E.A. Area

May 2, 1959

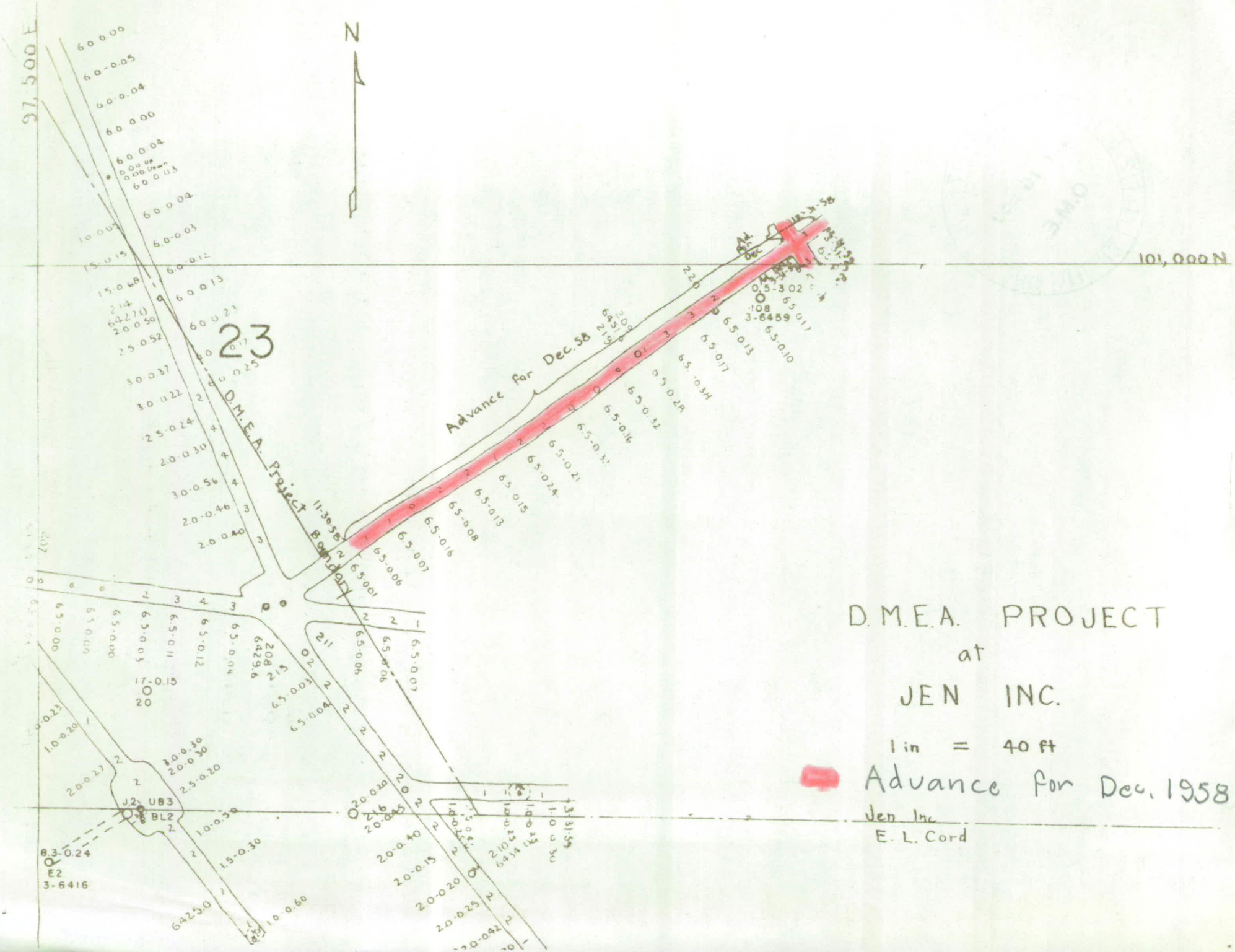
Mr. S. E. Craig

Mr. L. C. Moore

During the month of December 1958 180 ft. of drifting was done by Jen, Inc. in ground included in the Jen D.M.E.A. Project. From this work 565 tons of 0.24% U_3O_8 ore and 38 tons of waste were produced.

L. C. Moore

COPY


N
97,500 E
101,000 N
23
D.M.E.A. Project Boundary
Advance for Dec. 58
11-30-58
D.M.E.A. PROJECT
at
JEN INC.
1 in = 40 ft
Advance for Dec. 1958
Jen Inc
E. L. Cord

JEN, INC.

MAY 15 1959
O.M.E.

Assays of muckpile samples of development drift in DMEA area. December 1958

Dec 5 1959	.08% U_3O_8	
8	.04	
9	.07	
10	.10	
11	.16	.14% U_3O_8
12	.20	
13	.25	.20
14	.23	
16	.20	.46
17	.18	.08
18	.24	.22
19	.38	.26
20	.17	.40
21	.36	.16
22	.16	.18
23	.18	.08

Arithmetical average .20%

Due to the value of ore shipped in December being slightly higher than that indicated by my mine samples all samples were graded upward to cover all pounds shipped.

The above assay was raised to .24%

COPY

Vitro Uranium Company

A DIVISION OF VITRO CORPORATION OF AMERICA
[illegible] WEST 2500 SOUTH, SALT LAKE CITY, UTAH
POST OFFICE BOX 67, SOUTH SALT LAKE BRANCH

MAY 15 1959 O.M.E.

RECEIVING STATION _____ SALT LAKE CITY, UTAH Dec 15 1958

LIQUIDATION NO 59/12-35 VITRO ORE P O NO 28 VITRO LOT NO 92665 SHIPPERS LOT NO 578

PURCHASED FROM JCA, Inc. AEC LICENSE NO _____

ADDRESS _____

TYPE OF ORE _____ DATE RECEIVED Dec 12-31, 1958

MINING CLAIM _____

MINING DISTRICT _____ COUNTY AND STATE _____

ASSAY DATE 12-19-58 ASSAY CERTIFICATE NO 1873 [signature] CHIEF CHEMIST

NET WEIGHT POUNDS	% H_2O	DRY WEIGHT POUNDS	ASSAY U_3O_8	ASSAY V_2O_5	ASSAY $CaCO_3$	CONTENT POUNDS U_3O_8	CONTENT POUNDS V_2O_8	CONTENT POUNDS $CaCO_3$
487 960		460,341	.21	6.12		966 72		28,172.87
NET WEIGHT TONS		DRY WEIGHT TONS						
243.980	5.65	230.171						

U_3O_8	.21 %	966 72 LBS AT	3.50 PER LB	$3,383 52
DEVELOPMENT ALLOWANCE		966 72 LBS AT	.50 PER LB.	483 36
CONTENT AT 4 LBS PER TON		920 68 LBS		
PREMIUM FOR LBS IN EXCESS 4 LBS PER TON		46.04 LBS. AT	.75 PER LB	34 53
CONTENT AT 10 LBS PER TON		LBS		
PREMIUM FOR LBS IN EXCESS 10 LBS. PER TON		LBS AT	PER LB	
TOTAL U_3O_8 VALUE				3,901 41
WET HAULAGE ALLOWANCE	243.980	WET TONS AT	1.10 PER WET TONS	268 32
LESS MILEAGE PENALTY				( )
V_2O_8	%	LBS. AT	PER LB	
		TOTAL GROSS		$4,169 73

OME
DEPARTMENT OF THE INTERIOR
MAY 6 - 1959
REGION III
DENVER, COLORADO

I certify that I am the lawful owner or authorized Representative of the Lawful Owner of the [illegible] Shed and have legal right to deliver the same to the Vitro Uranium Co.
I certify that I hold the A. E. C. Source Material License numbered above.
I hereby transfer to the Vitro Uranium Co., effective as of the date of delivery of the ore, all my right, title and interest in and to said ore I agree to save Vitro Uranium Co. harmless in the event any right to convey title is contested for any reason
I will accept the amount as shown above as "Total Gross Price" in full settlement

_____ Seller or Agent

Buyer accepts [illegible] if Seller fails to submit his [illegible] prior to acceptance of [illegible] to be billed for. All [illegible] paid on board [illegible]

m. c.
2

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado

April 15, 1959

Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Docket DMEA 4964 (Uranium) Contract Idm-E1198, Jen, Inc. (Uncle Ben and Pascal claims) San Juan County, Utah. Royalty Correspondence

Enclosed for your information are two copies of all royalty correspondence to date on the subject contract. The correspondence consists of the following:

1. Letter from the operator dated March 24, 1959.
2. Our reply dated March 31, 1959.
3. Memorandum to Robertson dated March 31, 1959.
4. Robertson's letter to the operator dated April 13, 1959.
5. Sketch of Cord mine workings.
6. Robertson's memorandum to the Executive Officer dated April 13, 1959.
7. Executive Officer's reply to Robertson dated April 14, 1959.

J. W. Townsend

Enclosures

OFFICIAL FILE COPY
O. M. E.
RECEIVED APR 17 1959

DATE	INITIALS	CODE
4/17	C	220
4/20	Chung	700

Old New Customhouse
Denver 2, Colorado

April 14, 1959

Memorandum

To: H. F. Robertson

From: Executive Officer, OME Field Team, Region III

Subject: Docket DMEA 4974 (Uranium) Contract Edm-81198, Jen, Inc. (Uncle Ben and Pascal claims) San Juan County, Utah

This will acknowledge receipt of your memorandum dated April 13, 1959, and the copy of your letter to the subject operator on the same date.

It would be hard to imagine a mining operation where DMEA ore would lose its identity any quicker than in this project. We concur in the suggestions to the operator outlined in your letter to him, dated April 13, 1959. It appears to us that the biggest problem concerns the computation of the volume of DMEA ore extracted, and all workings, especially scaping, must be measured accurately. This fact should be stressed to the operator when consulting results.

Original signed by
W. TOWNSEND

J. W. Townsend

JWT:jy

cc: Royalty File 81198
Chron.

Official
O. M. E.
RECEIVED APR 17 1959
DATE INITIALS CODE

Extra Copy

OME
DEPARTMENT OF THE INTERIOR

APR 14 1959
REGION III
DENVER, COLORADO

P. O. Box 360
Grand Junction, Colorado

April 13, 1959

Memorandum

To: Executive Officer, OME Field Team, Region III

From: H. F. Robertson

Subject: Docket No. DMEA 4964 (Uranium), Contract Idm-E 1198, Jen, Inc., San Juan County, Utah.

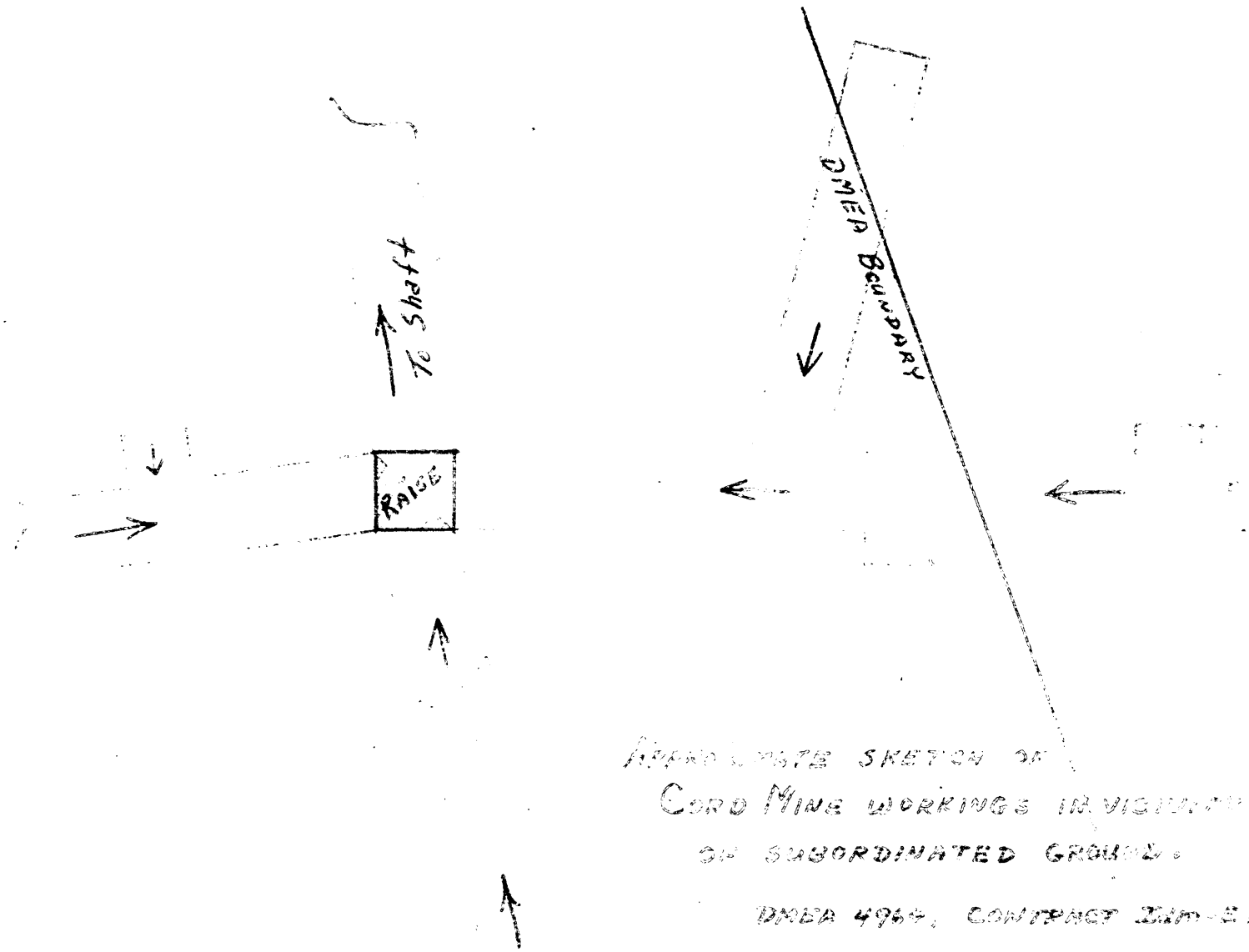
In accordance with your memorandum of March 31, 1959, I visited the Cord Mine and contacted Mr. Craig and the engineer. We discussed the matter of supporting material for the estimated amounts of royalty due the DMEA on production from subordinated ground. I will describe briefly the Company mining procedure in the area concerned.

The enclosed sketch is not drawn to scale and is intended only to demonstrate the procedure by which the ore from the subordinated ground loses it's identity. A large slusher is mounted at the raise and drags ore from three directions into the raise (essentially a temporary storage pocket). All of the headings are currently active. The ore is then drawn from the raise and hauled to the shaft pocket where it becomes mixed with total mine production; drawn from the shaft pocket, lifted to the surface, and placed in a large surface stockpile. Ore from the surface stockpile is loaded into trucks and hauled to the mill. At the mill (Vitro Uranium Company, Salt Lake City, Utah) the ore is divided into about 20 lots and settlement made each month, at which time, settlement sheets for each lot processed during the period are returned to Jen, Inc. The total production from the Cord Mine amounts to about 5,000 tons per month and an average of 20 settlement sheets per month are received--according to Mr. Craig.

I am enclosing a copy of my letter to Mr. Craig which outlines the material needed to support his estimate of royalty due. I discussed the matter with Mr. Craig on April 10, 1959, and he was of the opinion that he could furnish the material listed therein. Please advise me immediately if this does not meet your requirements.

H. F. Robertson

H. F. Robertson
Mining Engineer



APPROXIMATE SKETCH OF
CORD MINE WORKINGS IN VICINITY
OF SUBORDINATED GROUND.

DMEA 4964, COMPANY DUMP-EAVE

P. O. Box 360
Grand Junction, Colorado

April 13, 1959

Mr. S. E. Craig, Assistant to the President
Jen, Incorporated
P. O. Box 458
Moab, Utah

Re: Docket No. DMEA 4964
Contract Idm-E 1198

Dear Mr. Craig:

I have been going over all the points we discussed Friday afternoon relative to supporting your estimate of grade and tonnage of ore subject to DMEA royalty.

I will list briefly the material we decided to include with each estimate.

1. Three copies each of settlement sheets to cover tonnage from subordinated ground.

2. Sheet showing assay of muck pile samples from ore concerned.

3. Engineer's letter stating drift advance on subordinated property and his calculations of amount of ore and/or waste removed. A letter-size map (about the scale of the mine map in your office), covering the DMEA area being mined, and showing the drifts, stopes, etc., completed during the reporting period would help greatly in supporting the estimated tonnage.

I suggest that you apply this procedure to the December production on which you have already paid royalty and see if it is workable. Send the material to the Executive Officer in Denver and his office will inform you as to whether or not it is sufficient support for your estimated production.

Very truly yours,

H. F. Robertson
Mining Engineer

224 New Customhouse
Denver 2, Colorado
March 31, 1959

Memorandum

To: H. F. Robertson

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 496 (Uranium), Contract No. Idm-E1198
JEN, Inc. (Uncle Ben and Pascal claims), San Juan County, Utah

Enclosed are the following:

1. Copy of remittance advice received in this office March 31, 1959
2. Copy of a memorandum signed by S. E. Craig, dated February 23, 1959
3. Copy of our letter to Mr. Craig, dated March 12, 1959
4. Copy of a letter from Mr. Craig to the Executive Officer, dated March 24, 1959
5. Copy of our reply dated March 31, 1959.

Will you please visit the property and explain to the engineer and to Mr. Craig, who has moved from Salt Lake City to Moab, what they must furnish this office when DMEA ore is comingled with other ore.

We must have three copies of each settlement sheet where any amount of DMEA ore has been included. Records must be kept as to the weight and assay value of all DMEA ore. A copy of these records, including assays, must be forwarded this office to support the Operator's estimate of the value and tonnage of the DMEA ore.

Please advise this office after you have thoroughly explained the situation to Mr. Craig and the engineer at the mine.

Original signed by
J. W. TOWNSEND

J. W. Townsend

HMC/ac
cc: Royalty File Elig. ✓
Chron.

224 New Customhouse
Denver 2, Colorado
March 31, 1959

Mr. S. E. Craig,
Assistant to the President
[illegible], Inc.
P. O. Box [illegible]
[illegible], Utah

Re: Docket No. DMEA [illegible] (Uranium)
Contract No. Idm-[illegible]
(Uncle Ben and Pascal claims)
San Juan County, Utah

Dear Mr. Craig:

Thank you for your letter dated March 24, 1959, regarding commingling DMEA ore with other ore.

As stated in our letter to you dated March 12, it will be necessary that you furnish this office with three copies of the settlement sheet, which includes the December DMEA ore production. It will also be necessary for you to keep accurate records as to tonnage and grade of DMEA ore shipped and commingled with other ore, so that you can support with [illegible] and figures your estimate of the grade and tonnage of DMEA ore included in each shipment commingled with other ore. Three copies of settlement sheets are to be forwarded this office whenever any DMEA ore is concerned.

An engineer from this office will visit your property in the near future and should you have any further questions, he will be glad to answer them.

Very truly yours,

Original signed by
J. W. TOWNSEND

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

[illegible]
[illegible]
[illegible]

JEN, INC.

P. O. BOX 458 PHONE L. D. 1981

MOAB, UTAH

March 24, 1959

OME
DEPARTMENT OF THE INTERIOR
MAR 26 1959
REGION III
DENVER, COLORADO

Mr. J. W. Townsend
Executive Officer, OME Field Team, Region III
Department of the Interior
224 New Customhouse
Denver 2, Colorado

Re: DMEA 4964 (Uranium)
Contract No. Idm-E1198

Dear Mr. Townsend:

Relative to your letter of March 12th requesting method of obtaining tonnage and grade of DMEA ore commingled with other ore, the following is submitted:

December production of ore from within the area covered by the DMEA contract listed above was commingled with other production from the mine. The ore passes through a transfer raise used for other ores in the area, a common shaft slusher pocket, through a crusher and stockpiled with ore of similar grade.

Engineer report shows 180 ft. of drift development in DMEA area during December. At 3.35 tons per foot there was a production of 603 rock from this development. 38 tons were listed as waste - 565 tons as ore.

During the month 34 muckpile samples were taken of drift rounds. These were averaged to give the average grade of the ore produced.

Value of the ore was calculated on the basis of Cir. 5.

Yours very truly,

S. F. Craig
Asst. to the President

Operating Committee 3/5/59

Certification in run on order.
No further information on
reserves available from F.T.
4 Months have passed since
Operator's final report was received.
No known production from property.
MC.

Hold
[illegible]

Hold as ✓
1-23 [illegible]
The [illegible] of operator
[illegible]
[illegible]
JMC

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
12/24/58	Ching	700
12/29	Knowal	700
12/30	Long	140
12/30	Sawyer	140
12/31	Fisher	800
1/2	Martin	130
1/4/59	Barol	150
1/25/59	Nelson	130
	On leave	110
3/16	C	220
		700
3/13	Chambers Selfridge	30

Mr. C. E. Tuttle, President
Jen, Inc.
P. O. Box 458
Moab, Utah

MAR 13 1959

Re: Docket No. DMEA-4964 (Uranium)
Contract No. Idm-E1198
Uncle Ben and Pasco Claims
San Juan County, Utah

Dear Mr. Tuttle:

Enclosed is a "Certification by the United States of America of a Discovery or Development Under an Exploration Project Contract." This certification covers all the land described in Article 2 of the subject contract.

By the terms of the Exploration Project Contract and of the certification, all minerals mined or produced from June 3, 1958, to June 3, 1968, are subject to the Government's percentage royalty as set forth in the contract until the sum of $6,132.96 is repaid to the Government.

Payments should be made to the Executive Officer, OME Field Team, Region III, 224 New Customhouse Building, Denver 2, Colorado. Checks should be payable to the Office of Minerals Exploration, which is the successor to the Defense Minerals Exploration Administration. The purchaser should be advised to deduct the royalties from the amount due on each shipment and forward the check directly to the Executive Officer. Any bonus payments or allowances received by you from production are considered to be a part of the purchase price to which the Government's royalty applies. Royalty payments to the Government should be accompanied by suitable evidence, such as copies of settlement sheets, showing quantity and grade of the products sold, the name of the purchaser, and the price and charges, certified to be correct by the purchaser.

You are requested to notify the Executive Officer of any changes in ownership or production rights that might have any effect on the Government's right to its percentage royalty. Your attention is especially called to Article 2(d) of the contract relating to the preservation of the Government's right to a percentage royalty on production. Also, if production

8623

ceases at any time for an extended period, please notify the Executive Officer at six-month intervals that no production has been made, when that is the case.

Sincerely yours,

Frank E. Johnson (for)

Acting Director

MChing/gla
12-24-58
cc to: Director's Reading File
Frank E. Johnson
Operating Committee
Frank D. Lamb, Rm. 3608
T. H. Kiilsgaard, Rm. 5224
Mr. Ching
Div. of Contract Ad. & Audit
OME Field Team, Region III (2)
Edward D. Neuhoff, Co-owner and Agent, 650 S. Grand Av., L.A.17,Calif.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
12/24/58	Ching	700
12/29	Kuoske	700
12/30	Long	140
12/30	Dunger	140
12/31	Fisher	800
1/2	Martin	130
1/4/59	Burch	130
1/2/59	Nelson	130
	On leave	110
	~~100~~	
		220
		700
3/13	Selfridge	130

MAR 13 1959

Mr. Edward D. Neuhoff, Co-owner and Agent
650 S. Grand Avenue
Los Angeles 17, California

Re: Docket No. DMEA-4964 (Uranium)
Contract No. Idm-E1198
Jen, Inc.
Uncle Ben and Pasco Claims
San Juan County, Utah

Dear Mr. Neuhoff:

Enclosed is a copy of a certification of discovery or development, with copy of covering letter to the Operator, which has been issued pursuant to the terms of the above-cited contract.

This correspondence relates to the Consent to Lien and Subordination Agreement signed by you on June 3, 1958, individually as co-owner and duly authorized agent for other co-owners, E. L. Cord, Norman Biltz, Esther A. Biltz, C. E. Cord, John V. Mueller, Ben Edwards, Peter W. Hummel, Robert C. Phelps, Wanda H. Murray, J. C. Beazley, and J. F. Dunn. The Government's prior lien on the land and upon any production therefrom will continue in existence for the length of time mentioned in the enclosed copy of the letter to the Operator. You are obligated during that period to commit no act and to assert no claim in conflict with the Government's rights under the agreement signed by you, and to give advance notice of the Government's rights to any transferee or lessee of any part of your interest in the land or the production therefrom.

Sincerely yours,

Frank E. Johnson (for)

ACTING Director

Enclosures
MChing/gla 12-24-58
cc to: Director's Reading File
F. E. Johnson
Operating Committee
Frank D. Lamb, Rm. 3608
T. H. Kiilsgaard, Rm. 5224
Mr. Ching
OME Field Team, Region III (2)

8623

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
3/5/59	Ching	700
3/6	Kuanic	700
		140
		140
3/	Chambers	800
3/13	Lillie	130
3/13	Pilsgaard	130
3/13	Lefgo	130
		~~110~~
		~~100~~ 345
		220
		700

Mr. Jesse C. Johnson
Director, Division of Raw Materials
Atomic Energy Commission
Washington 25, D. C.

MAR 13 1959

Re: Docket No. DMEA-4964 (Uranium)
Contract No. Idm-E1198
Jen, Inc.
Uncle Ben and Pasco Claims
San Juan County, Utah

Dear Mr. Johnson:

I am enclosing one copy of a certification of discovery or development relating to the subject exploration contract.

The contract, dated June 3, 1958, covered an exploration project estimated to cost $30,758.00, with Government participation amounting to 50 percent, or $15,379.00. The total accepted cost of the project was $12,265.90, of which the Government paid $6,132.96.

The project work was carried out on all of the Pasco and the eastern portion of the Uncle Ben unpatented lode mining claims, located in sec. 33, T. 29 S., R. 24 E., S.L.M.& B., San Juan County, Utah. It consisted of 6,383 feet of non-core and 491 feet of core drilling in 13 holes.

The exploration work resulted in the discovery of an estimated 2,750 tons of inferred ore containing 0.34 percent U_3O_8.

RECEIVED
MAR 9 1959
ASSOC. SOLICITOR
MINERAL RESOURCES

Sincerely yours,

Frank E. Johnson

Acting Director

Enclosure

MChing/gla 3-5--59
cc to: Director's Reading File
Frank E. Johnson
Operating Committee
W. N. Chamberlain
Frank D. Lamb, 3608
THKiilsgaard, 5224
OME Field Team, Reg.III(2
Mr. Ching

Copy: Elton A. Youngberg
AEC Grand Junction Operations Office
with copy of certification

43683

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
12/24/58	Ching	700
12/29	Knoche	700
12/30	Long	140
12/30	Sawyer	140
12/31	Fisher	800
1/2	Martin	130
1/2/59	Burch	130
1/2/59	Nelson	130
	On leave	110
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		700

Mr. Jesse C. Johnson
Director, Division of Raw Materials
Atomic Energy Commission
Washington 25, D. C.

Re: Docket No. DMEA-4964 (Uranium)
Contract No. Idm-E1198
Jen, Inc.
Uncle Ben and Pasco Claims
San Juan County, Utah

Dear Mr. Johnson:

I am enclosing one copy of a certification of discovery or development relating to the subject exploration contract.

The final report of the Field Team has not been completed. Accordingly, we will supply additional information for your records upon receipt of this report.

Sincerely yours,

Acting Director

Copy to:
Elton A. Youngberg
Assistant Manager of Operations
AEC Grand Junction Operations Office
Grand Junction, Colorado
with copy of certification

MChing/gla 12-24-58
cc to: Director's Reading File
F. E. Johnson
Operating Committee
Frank D. Lamb, Rm. 3608
T. H. Killsgaard, Rm. 5224
Mr. Ching
OME Field Team, Region III (2)

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Old New Customhouse
Denver 2, Colorado

March 12, 1959

Mr. S. E. Craig,
Assistant to President
JEM, Inc.
Felt Building
Salt Lake City, Utah

Re: Docket No. DMEA 496 (Uranium)
Contract No. Ida-E1198
(Uncle Ben and Pascal Claims)
San Juan County, Utah

Dear Mr. Craig:

Thank you for your check for $559.35 dated March 5, 1959, which you state is for December 1958 production.

Please furnish this office with three copies of the settlement sheet which includes the December ore production. In the event that the DMEA ore was commingled with other ore in the shipment, please furnish this office with the details as to how the grade and tonnage of DMEA ore was computed.

Very truly yours,

Original signed by
J. W. TOWNSEND

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

HMC:ff
cc: Roy. File E1198
Chm. Op. Comm. (2)
Harshman
Robertson
Finance Office
Chron.

w/copy of remittance advice and memo. dtd. 2/23/59, signed by S. E. Craig.

Copy

J E E, INC.

Production from DMEA Contract Ikm K1198-DMEA 4964

February 23, 1959

Mr. L. K. Madsen, Office Manager

S. E. Craig

During December 1958 a development drift was driven into the ores covered by the DMEA contract listed above. In addition to the waste extracted the company retained 565 tons ore assaying .24% U_3O_8.

The grade of the ore was determined by daily muckpile samples. These samples along with all mine samples were balanced against monthly shipments.

Value of ore	.24% U_3O_8	$19.80 per ton
Total value		$11,187.00
Due Government 5% gross		$ 559.35

There was no production from this area during January 1959.

/s/ S. E. Craig
Asst. to Pres.

f

Office of [illegible]
[illegible] Field [illegible]
[illegible]
Denver 2, Colorado

Deduction [illegible]
for [illegible] 1942 production

[illegible]

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado
February 26, 1959

ORIGINAL FILE COPY
RECEIVED MAR 2 1959

DATE	INITIALS	CODE
3/2	C	220
		700

Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 4964 (Uranium) Contract Idm-E1198 Jen, Inc., (Uncle Ben and Pascal claims) San Juan County, Utah

Enclosed are the original and two copies of a joint memorandum dated February 20, 1959, from J.W. Hasler, Geologist, Geological Survey, and H. F. Robertson, Mining Engineer, Bureau of Mines, which is in response to your letter of February 13, 1959, pertaining to certification of the project as a discovery or development.

The Operator's drift has reached DMEA ore hole No. 108; however, the additional drifting does not alter the ore reserve estimate contained in the Joint Final Engineering and Geologic Report, by the OME field examiners. As the Operator has discontinued work in the area of ore hole No. 108, and does not contemplate additional work in the area for some time, we believe that the final decision regarding certification of the project must be based on the ore reserve data presently available.

J. W. Townsend

Enclosures

OME
DEPARTMENT OF THE INTERIOR
FEB 25 1959
REGION III
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. Box 360
Grand Junction, Colorado

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O./M. E.
RECEIVED
MAR 2 1959

MINERAL DEPOSITS
IN REPLY REFER TO:
O. M. E.
RECEIVED
FEB 24 1959
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

DATE	INITIALS	CODE

February 20, 1959

Memorandum

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

Through: E. N. Harshman EMH

From: J. W. Hasler
H. F. Robertson

Subject: Docket No. DMEA 4964 (Uranium) Contract Idm-E 1198, Jen, Inc., (Uncle Ben and Pascal claims) San Juan County, Utah. Supplementary recommendations regarding certification as a discovery or development.

This memorandum is written in reply to W. S. Martin's request to the OME Field Team dated February 13, 1959, relative to possible calculation of additional reserves on DMEA Docket 4964 (Uranium) Idm-E 1198, Jen Inc., San Juan County, Utah.

The inferred ore reserves as calculated, and shown on page 16 of the joint final Engineering and Geologic report took into account the interval from which the operator first contacted ore-grade material in the exploratory drift. To date, the operator has drifted to ore hole No. 108, and does not contemplate further work in this area for some time. The 50-foot circle of inferred ore, or the 2,750 tons of ore containing 0.34 percent eU_3O_8 is all that can now be inferred. Considerably more exploration work must be done by the operator before additional inferred or indicated reserves can be developed.

The examining team still recommends certification of the project on the basis of the calculated reserve, as shown in the joint final report on page 18, as a discovery or development with probable future repayment of the Government's portion of the project costs.

J. William Hasler
J. William Hasler
Geologist

H. F. Robertson
H. F. Robertson
Mining Engineer

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
2/11/59	Ching	700
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2/13	Martin	130
"	Johnson	110
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2/16	"	220
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FEB 13 1959

Mr. J. W. Townsend
Executive Officer
OME Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-4964 (Uranium)
Contract No. Idm-E1198
Jen, Inc.
Uncle Ben and Pasco Claims
San Juan County, Utah

Dear Mr. Townsend:

We note that the examining team's estimate of ore reserves is based on the single hole which encountered ore under the subject project. Assuming that the Operator's drift has now reached or progressed beyond the ore hole, we would like to have an ore reserve estimate based upon information revealed by both the drilling and the drifting. A special trip and examination for this purpose is not warranted, but the information might be secured through correspondence or a telephone conversation with the Operator. We will delay certification of the project until we receive further word from you.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee (WB)

APPROVED:

H. G. Iverson (WB)
Member, Bureau of Mines

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

MChing/gla
2-11-59
cc to: Director's Reading File
Operating Committee
THKiilsgaard, 5224
MChing

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

Date February 25, 1959
DMEA Docket No. 4964
DMEA Contract No. Idm-E1198
Commodity Uranium
Name of Applicant Jen, Inc.
Location of property San Juan County, Utah
Estimated cost of project $12,265.90

Memorandum

To: Frederick L. Knouse, Acting Director, OME
Rare and Misc. Minerals Division

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

Subject: Review of Final Summary Report
(Application, Field Team Report, etc.)

1. Date of subject document: 2/3/59 2. Date received by reviewer: 2/4/59

3. Prior reports on this property known to reviewer: Yes ☐ No ☐

4. Prior reports on nearby properties known to reviewer: Yes ☐ No ☐

5. Information available on past production: Yes ☐ No ☐

6. Other pertinent factors known to reviewer: Yes ☐ No ☐

7. Explain items marked 'yes' above:

8. Factors meriting special consideration:

a. Location ☐
b. Ownership ☐
c. Evidence of mineralization ☐
d. Geology ☐
e. Proposed exploration method ☐
f. Alternate exploration method ☐
g. Costs
h. ☐

9. Action advised:

a. Obtain information from applicant ☐
b. Refer to Field Team ☐
c. Denial ☐
d. Agree with Field Team ☒
e. Disagree with Field Team ☐
f. Suggest alternate plan ☐
g. Request another consultation ☐
h. Approval ☐
i. Consult with Mr. _____ at _____ AEC Office

10. Remarks: (Use back of page if necessary). Recommend that the project be certified as a discovery.

FORM 6 REFERENCE SLIP

REV. 12-56 DEFENSE MINERALS EXPLORATION ADMINISTRATION

TO:	INITIALS	DATE
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2. ~~800~~	[illegible]	2/10
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5.		
FROM:		

FOR: Check items for action desired

____ Action ____ Reply for signature of _____

____ Approval ____ Investigate ____ Surname

____ Comment ____ Recommendations ____ Signature

____ Conference ____ Rewrite ____ File

____ Instructions ____ Your information

REMARKS:

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado
January 26, 1959

ORIGINAL FILE COPY
O. M. E.
RECEIVED FEB 2 1959

DATE	INITIALS	CODE
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Memorandum

To: Chairman, Operating Committee, OME

From: OME Field Team, Region III

Subject: Docket No. DMEA 4964 (Uranium) Contract Idm-E1198, Jen, Inc., (Uncle Ben and Pascal claims) San Juan County, Utah - FINAL SUMMARY REPORT

Enclosed are the original and two copies of a Joint Final Geologic and Engineering Report, dated January 1959, by J. W. Hasler, Geologist, Geological Survey, and H. F. Robertson, Mining Engineer, Bureau of Mines, pertaining to work completed under the subject contract. The original and one copy of the Operator's final report were forwarded by memorandum of November 7, 1958.

The contract was considered completed on completion of work under Stage I, and the Operator was so notified by letter of October 29, 1958.

Final payment to the Operator was processed by this office December 1, 1958, in conformance with the Report of Review of reported project costs, by the Contract Administration and Audit Division, OME, dated November 20, 1958.

Exploration work completed consisted of drilling 13 acceptable holes, aggregating 6383 feet of non-core drilling and 491 feet of core drilling. Additional work or service incident to the drilling consisted of 35 hours bulldozing, purchase of 48 core boxes, chemical analysis of nine samples for U_3O_8 content, and incidental allowance for 6874 feet of drilling; all at a total accepted cost of $12,265.90, toward which the Government contributed 50 percent, or $6,132.96.

The report indicates that the project has been certified as a discovery or development, which is not the case. Certification was recommended by this office by memorandum of December 17, 1958; however, conclusive action has not yet been taken.

FINAL F.T. REPORT

Rev. by F.T.

Reviewed by
OME OPERATING COMMITTEE
2-6-59
(date)

By J. W. Townsend
J. W. Townsend

By E. N. Harshman
E. N. Harshman

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. Box 360
Grand Junction, Colorado

IN REPLY REFER TO:
MINERAL DEPOSITS
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GEOLOGICAL SURVEY
DENVER COLORADO

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OME
DEPARTMENT OF THE INTERIOR
JAN 26 1959
REGION III
DENVER, COLORADO

January 19, 1959

Memorandum

To: Executive Officer, OME Field Team, Region III

Through: E. N. Harshman EWH

From: J. W. Hasler
H. F. Robertson

Subject: Docket No. DMEA 4964 (Uranium), Contract Idm-E 1198, Jen, Incorporated, Uncle Ken and Pasco claims, San Juan County, Utah. Transmittal of final report.

Enclosed are 11 copies of a joint final engineering and geologic report on the above mentioned contract, prepared by H. F. Robertson, U. S. Bureau of Mines, and J. W. Hasler, U. S. Geological Survey.

Sepias for figures 1, 2, and 3, and table 3, will be sent under separate cover for reproduction. Please return the sepias of the figures.

J. William Hasler
J. William Hasler
Geologist

H. F. Robertson
H. F. Robertson
Mining Engineer

Reviewed by
OME OPERATING COMMITTEE
2-6-59
(date)

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DEPARTMENT OF THE INTERIOR
JAN 26 1959
REGION III
DENVER, COLORADO

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

FINAL REPORT BY EXAMINING TEAM
REGION III

DMEA 4964

Contract Idm-E 1198

Jen, Incorporated

Uncle Ben and Pasco claims

San Juan County, Utah

Uranium

Joint final Geologic and Engineering Report

by

J. W. Hasler
U. S. Geological Survey

H. F. Robertson
U. S. Bureau of Mines

Reviewed by
OME OPERATING COMMITTEE
2-6-59
(date)

January 1959

DMEA 4964
CONTRACT Idm-E 1198
JEN, INCORPORATED
UNCLE BEN AND PASCO CLAIMS
SAN JUAN COUNTY, UTAH

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Joint final geologic and engineering report — Page

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Original program and modifications 12
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Summary of Factual Data. 17
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2. Map showing distribution of uranium deposits in the vicinity of the Cord mine, Jen, Inc., San Juan County, Utah 21

3. Map of underground mine workings, drill holes, and DMEA project work Cord mine, Jen, Inc., San Juan County, Utah 21

DMEA 4964
CONTRACT Idm-E 1198
JEN, INCORPORATED
UNCLE BEN AND PASCO CLAIMS
SAN JUAN COUNTY, UTAH

INTRODUCTION

Summary

Jen, Incorporated, P. O. Box 458, Moab, Utah, applied for DMEA assistance on March 18, 1958, to explore for uranium on two mining claims in the Big Indian mining district, San Juan County, Utah. The project area is located immediately east of the operator's Jen and Jackie claims where a large uranium ore deposit of excellent grade is currently in production at the rate of 10,000 tons monthly.

A field examination was made on April 2, 1958, by DMEA examining team accompanied by S. E. Craig, Jen Incorporated, mine manager and assistant to the president of the corporation.

Uranium deposits in the Big Indian mining district, containing up to several hundred thousand tons of ore average up to 0.60 percent U_3O_8, are found in the basal part of the Chinle formation of Triassic age. The large deposits occur in a northerly trending belt where a friable sandstone unit of the underlying Cutler formation of Permian age is in contact with the base of the Chinle formation. A few deposits containing up to 200,000 tons of ore averaging 0.20 percent U_3O_8 are found on either side of the main belt. The area explored by the subject project lies along the east side of the main ore belt.

The operator proposed a program consisting of both underground drifting and drilling from the surface. The program was revised during a subsequent conference between the examining team and the operator. A two-stage drilling program, acceptable to all concerned, was approved. A contract was signed by representatives of the DMEA and the operator, on June 3, 1958, authorizing a two-stage exploration program consisting of 1,300 feet of core drilling and 15,600 feet of noncore drilling in not more than 26 holes at a maximum overall cost of $30,758.00. Government participation at 50 percent of the accepted cost would be a maximum of $15,379.00.

Work under the contract commenced on July 8, 1958, and progressed continuously until September 7, 1958. During the active period, 14 Stage I holes were completed and required a total of 526 feet of core drilling and 6,883 feet of noncore drilling at an accepted overall cost of $12,265.90. Government participation in the accepted costs was 50 percent of the total, or $6,132.96.

Hole No. 108 was the only hole which penetrated ore-grade material; hole No. 109 was strongly mineralized and the remaining 12 holes were barren. A drift was driven at company expense from the mine toward holes Nos. 108 and 109 and--since these two holes were the only ones meeting the requirements for second-stage drilling--no further work could be justified and the project was terminated, effective September 7, 1958. On the basis of the one ore hole and on later information that the company drift had penetrated ore-grade material about 125 feet west of hole No. 108, the project was certified as a discovery or development under an exploration project contract.

Recommendations

The project area was adequately explored by the drilling approved under the subject contract. The development drift driven by the operator has accomplished the only additional exploration work which could be justified, therefore, Government participation in further exploration work in the project area is not recommended.

An inferred ore reserve amounting to 2,750 tons averaging 0.34 percent U_3O_8 serves as the basis for certification of the project as a discovery.

LOCATION AND ACCESSIBILITY

The Uncle Ben and Pasco claims are part of the operator's Lisbon Valley property and are located in sec. 33, T. 29 S., R. 24 E., S.L.M., San Juan County, Utah (fig. 2). The Cord mine is about 900 feet immediately west of the project area. The property is 35 miles southeast of Moab, Utah, and 170 miles from Grand Junction, Colorado, the nearest major supply point. A hard-surfaced road connects the mine with Utah highways 46 and 160. The nearest uranium processing plants are at Moab and Monticello, Utah.

The claims cover a southwesterly dipping Wingate sandstone surface, easily accessible from the mine area. Access roads and drill sites are not difficult to prepare except when located in a deep steep-walled canyon which bisects the project area. By adjustment of drill sites in accordance with the actual terrain, the construction cost can be held to a moderate figure.

The climate of the region at an elevation of about 7,000 feet is moderate with warm summers and mild to cold winters. Year-round surface operations are feasible except for periods following normally infrequent winter storms.

There are no unusual problems of access, supply, power, or ore marketing. Housing is available at LaSal and Moab, Utah.

PROPERTY

The Uncle Ben and Pasco claims included in the DMEA project are 2 of 4 claims that were purchased under contract from the E. L. Cord partnership on March 14, 1957. The other two claims, the Jen and Jackie, cover the Cord ore body. A lien against the property, held by the E. L. Cord partnership, was subordinated to the Government's lien.

The claims are held by location and are recorded on pages 350-353 in Book 243, San Juan County records. Application for patent under Survey No. 7278 has been made. The U. S. Atomic Energy Commission included the four claims in a group certified for initial production bonus which has been paid in full.

Specifically included in the project area are all of the Pasco claim and most of the Uncle Ben claim, reserving, however, the western portion of the Uncle Ben claim as shown in figure 3. This was done in order to exclude an eastward extension of the Jen-Jackie ore body which has not been delimited in this direction, and also to reserve a 90-foot strip along the west side line at the south end of the Uncle Ben claim where three ore holes had been drilled prior to the project work, thus limiting the DMEA project to an essentially unexplored area.

HISTORY AND PRODUCTION

Vanadium was produced from Morrison formation deposits near Lisbon Valley during both World Wars. In 1943, uranium-vanadium minerals were found in Cutler sandstone outcrops overlooking Big Indian Valley in the Lisbon Valley area. However, no discovery of economic value was made until 1952 when the results of exploration drilling in Big Indian Valley indicated the presence of large uranium deposits at the base of the Chinle formation. Since 1952, other discoveries along Big Indian Valley have resulted in the development of the largest uranium reserves and current production in Utah.

The daily production from four operations in the immediate vicinity of the property totals more than 1,000 tons (table 1). The operator's Cord mine is currently producing 400 tons per day and the total production, through September 1958, amounts to 176,038 tons averaging 0.56 percent U_3O_8.

All prior production has been from ground not included in the DMEA project area. However, on December 10, 1958, a company drift driven eastward toward DMEA holes Nos. 108 and 109 entered the ore deposit discovered by hole No. 108 (fig. 3). Production from the ore body will be subject to the Government's royalty.

Before the DMEA project, the Uncle Ben and Pasco claims were unexplored except for one barren hole in the northeast corner of the Pasco claim. The hole was drilled prior to the operator's acquisition of the property and a log of the hole is not available.

The adjoining Jen and Jackie claims were explored initially by 60 holes which blocked out part of the ore body now being mined. The present mine workings, developed through a 700-foot three-compartment vertical shaft, include 3,500 feet of haulage drift below the ore horizon, over 700 feet of transfer raises, and over 8,000 feet of development openings on the ore horizon. Mining is carried out by a retreating system whereby the ore body is blocked out by driving strike drifts 150 to 175 feet apart to the ore or property limits, and then driving panel drifts up or down dip between the strike drifts leaving a 10- to 15-foot pillar between the new panel drift and the previous one which has had its protecting pillar removed. Successive panel drifts are driven always leaving a pillar next to the previous drift. These pillars are mined after the panel drift is connected through. Caving of mined out panels is induced by drilling and blasting the roof. Very little ore is left in pillars or lost in the cave. A considerable amount of timber is needed to support the back next to the cave while the pillars are being mined, but, with ore worth $50.00 to $75.00 per ton, it is profitable to remove all that can be recovered safely. Room and pillar methods must be used in some sections of the mine where the limits of the ore body are irregular.

All drilling on the ore horizon is done with jack-leg drills. Scraper loading is used exclusively, the ore being moved to raises driven on 175-foot centers and dropped to a haulage level where battery-powered rail equipment moves the ore to the shaft pocket. The whole operation is well planned and efficient.

The Cord mine operation is completely equipped with facilities for 500 tons daily production on a two-shift basis. The surface plant, including office building, change room, service shops, compressor building, and head frame, is well-planned and substantially constructed. Electric-powered hoisting and compressor equipment is supplied from the lines of the Utah Power and Light Company.

GENERAL GEOLOGY

The property belonging to Jen, Incorporated, lies on the southwest flank of the Lisbon Valley anticline where sedimentary formations dip about 10° to the southwest. The Lisbon Valley anticline, with its associated faulting, is the major structural feature in the area. The anticline trends northwesterly and, on its southeastern end, is continuous with the Dolores anticline in Colorado. The two anticlines form a structure which can be traced for about 45 miles. Near the northwestern end of the anticline, a high-angle normal fault, with the northeast side downthrown, traverses the anticline essentially parallel to its axis. This fault has a maximum throw of about 4,000 feet which decreases abruptly toward either end of Lisbon Valley. The fault cuts the anticline so as to displace the anticlinal axis in the Cretaceous strata northeastward approximately 4,000 feet, whereas, the anticlinal axis in the Pennsylvanian strata has been undistributed. The faulting and subsequent erosion have resulted in a present land surface on which is exposed the main Lisbon Valley fault with a parallel anticlinal axis on each side. Smaller faults, trending parallel to the main fault, are present further down on the flanks of the anticline, but no faults are known on the Jen property. The major joint pattern trends northwesterly, roughly parallel to the axis of the anticline and the main Lisbon Valley fault.

No igneous or metamorphic rocks are exposed in the immediate area, although the La Sal Mountain intrusives are exposed about 8 miles to the north of the property. Sedimentary rocks exposed in the area range in age from Pennsylvanian to Cretaceous. In ascending order they are: the Hermosa and Rico formations of Pennsylvanian age; the Cutler formation of Permian age; the Chinle formation of Triassic age; the Wingate, Kayenta, Navajo, Carmel, Entrada, Summerville, and Morrison formations of Jurassic age; and the Burro Canyon, Dakota, and Mancos formations of Cretaceous age. Only the Cutler, Chinle, and Wingate formations would be concerned with an exploration project at the Cord mine; therefore, only these formations will be described.

The Cutler formation of Permian age is exposed in Big Indian Valley to the east of the Cord mine; it consists of reddish-brown fine-grained micaceous sandstone. Near the top of the Cutler there is a thin unit of soft, friable light-gray sandstone containing abundant flakes of biotite. This unit is colloquially called the Cutler "sugar sand." As a result of the slight angular unconformity between the Cutler formation and the overlying Chinle formation, the Cutler "sugar sand" immediately underlies the Chinle formation in a northerly trending belt about 500 feet wide along the southwestern flank of the Lisbon Valley anticline (fig. 2).

A very gentle angular unconformity separates the Chinle formation from the underlying Cutler formation. Locally this unconformity is marked by sharp erosional features. The Chinle formation of Triassic age is about 440 feet thick in the vicinity of the Cord mine. It is exposed in Big Indian Valley to the east of the mine and consists mainly of reddish-brown, bentonitic mudstone, although the basal 50 feet contains scattered sandy lenses and is greenish gray. Locally, a medium coarse-grained, tightly cemented, arkosic sandstone is present at the base of the Chinle formation. This sandstone ranges up to 10 feet in thickness and seems to occupy irregular erosional depressions in the top of the Cutler formation. It may be correlative with the Moss Back member of the Chinle formation. Coalified plant fragments are widely scattered in the sandstone and mudstone near the base of the Chinle formation.

The Wingate sandstone of Jurassic age is about 260 feet thick and is exposed on the surface of the property. It is light buff and consists of fine-grained crossbedded and massive sandstone.

ORE DEPOSITS

Major uranium deposits in the Lisbon Valley area occur at the base of the Chinle formation. Locally, the deposits extend for a short distance across the unconformity at the base of the Chinle and into the Cutler formation. The deposits form a northerly trending belt along the southwest flank of the Lisbon Valley anticline. This belt coincides closely with the area where the Cutler "sugar sand" is in contact with the overlying Chinle (fig. 2). Deposits within this belt may contain up to several hundred thousand tons of ore with average grade ranging from 0.5 to 0.6 percent U_3O_8 as it is mined. Lower grade deposits occur off to the sides of the main belt (fig. 2) and these deposits contain up to 200,000 tons of ore with average grade ranging from 0.15 to 0.20 percent U_3O_8. The exploration project on the Jen property was designed to search for this type of deposit away from the main ore belt.

Uranium deposits in the base of the Chinle formation in the Lisbon Valley area occur as flat-lying, irregularly shaped bodies up to 1,000 feet across and 15 feet thick with poorly defined edges. The deposits are commonly associated with basal arkosic sandstone lenses and with bleaching in the underlying Cutler formation, and these may be considered as favorable indications. It has not been shown that deposits in the Lisbon Valley area are localized in paleostream channels. On the contrary, the main belt of deposits appears to trend normal to the direction of known sedimentary trends.

Ore minerals are relatively unoxidized and uranium occurs principally in the minerals uraninite and coffinite. The minerals are disseminated through the host rock and commonly replace calcite and coalified plant fragments as well as quartz and feldspar grains.

THE PROJECT

The purpose of the project was to explore by means of drilling from the surface, the ore horizon at the base of the Chinle formation of Triassic age. The project area, about 1,000 feet east of the main ore belt in the Lisbon Valley area, was considered favorable for the occurrence of substantial lower grade deposits similar to the North Alice and San Juan ore bodies (table 1 and fig. 2).

Original Program and Modifications

The operator proposed concurrent underground exploration and drilling from the surface. The underground work would have required 1,300 feet of drifting in an easterly drift across the Uncle Ben and Pasco claims and an additional 500 feet of lateral work north and/or south of the east drift. Drilling from the surface would have required 7,800 feet of noncore drilling and 650 feet of core drilling in 13 holes averaging 650 feet in depth. The holes were laid out in a rectangular grid with east-west spacing of 300 feet and north-south spacing of 530 feet. The operator's detailed cost estimate was based on a contractor's bid for the drilling, and the current costs at the Cord mine as derived from monthly cost distributions. The total amount was $75,400.00 in which Government participation at 50 percent would have been $37,700.00.

The examining team's analysis of the above project indicated that the original proposal was not entirely suitable from an exploration standpoint. Factors which led to this conclusion are as follows:

(a) Concurrent operation of the surface drilling and underground exploration would not be satisfactory because there would be little benefit accruing to one phase from the exploration results of the other.

(b) The cost of the operator's proposal is too high for exploration of an area of less than two claims adjacent to--but not within--the known Lisbon Valley ore belt.

(c) A drilling project alone would result in better coverage of the area, yield more information, have as good a chance of locating worthwhile ore deposits as one including underground work, and would cost considerably less.

(d) Contrary to the operator's belief that a northerly trending channel would be intersected by the east-west crosscut, results of studies by the U. S. Geological Survey and the U. S. Atomic Energy Commission do not indicate the presence of any channel on the Uncle Ben and Pasco claims, nor do they show that deposits are localized within such channels.

A revised program, mutually agreeable to the operator and the DMEA examiners and which would more efficiently explore the project area, was recommended for approval. The modified proposal provided for a two-stage drilling program consisting of 1,300 feet of core drilling and 15,600 feet of noncore drilling at a maximum overall cost of $36,744.50; Government participation would be 50 percent of the total costs or a maximum of $18,372.25.

The recommended program was incorporated in a contract (Idm-E 1198), effective June 3, 1958, providing for exploration work estimated to cost $30,758.00, toward which the Government would contribute 50 percent, or not more than $15,379.00. The work consisted of a two-stage drilling program providing for the completion of 26 drill holes within the project boundaries. The first stage consisted of 14 holes forming a staggered grid pattern on 300-foot centers and requiring an estimated 8,400 feet of noncore drilling and 700 feet of core drilling. The second stage provided for a maximum of 12 holes (7,200 feet noncore and 600 feet core drilling) offsetting, on minimum spacing of 150 feet, any previously drilled holes that penetrated significant mineralization or highly favorable structural conditions for ore occurrence. The holes in both stages were to be drilled noncore through the upper formations to a point approximately 40 feet above the contact between the Chinle formation and the underlying Cutler formation and then core drilled to a point not more than 10 feet below the Chinle-Cutler contact.

No amendments to the contract were necessary during the project.

Description of Work Completed

Exploration under Contract Idm-E 1198 started on July 8, 1958, and was carried on continuously until September 7, 1958. During this period, the 14 authorized Stage I holes were completed (fig. 3). One of the holes, No. 121, was drilled at an unacceptable location and payment was disallowed.

The results obtained by the exploration drilling are briefly described as follows. Hole No. 108 penetrated ore-grade material (2.1 feet-0.81 percent eU_3O_8/0.5 feet-3.017 percent U_3O_8) at a depth of 521 feet. One hole (No. 109) was mineralized (0.7 feet-0.16 percent eU_3O_8/0.3 feet-0.385 percent U_3O_8) at a depth of 505 feet. The remaining 12 holes were barren. A drift, at the sole expense of the operator, was driven from the mine toward holes No. 108 and No. 109 and--since these two holes were the only ones meeting the requirements for additional drilling--no offset drilling was warranted. Therefore, the second stage work provided for by the contract was considered unnecessary and the project was terminated, effective September 7, 1958.

The operator continued the development drift easterly toward hole No. 108 and, on December 11, 1958, notified the OME that ore-grade material had been encountered about 125 feet west of the hole.

ORE RESERVES

The project drilling resulted in the discovery of one ore body in the vicinity of hole No. 108. Since the calculated tonnage is based on a single ore hole, the reserve is classed as inferred. The operator's development drift indicates that the ore deposit probably covers more than the estimated area used in computation of the reserve tonnage.

An inferred reserve of 2,750 tons of ore containing 0.34 percent eU_3O_8 is calculated by the examining team. On consideration of the type of ore bodies known in the Lisbon Valley area, a circle of influence having a diameter of 100 feet is reasonable and is used in determining the size of the inferred ore body. The thickness and grade, as determined by chemical assay, is distributed over a 5-foot mining thickness by the weighted average method and a tonnage factor of 14.3 cu. ft. per ton used.

Reserve calculations are as follows:

Hole No.	Area	Thickness	Volume	Tonnage	U_3O_8
108	7,854 sq.ft.	5.0 feet	39,270 cu.ft.	2,750 tons	0.34%

SUMMARY OF FACTUAL DATA

Work under the subject contract was accomplished between July 8 and September 7, 1958. All holes were drilled noncore to a point about 40 feet above the Chinle-Cutler contact, then core drilled to a point less than 10 feet below the contact. The total footage drilled during the project amounted to 6,883 feet of noncore drilling and 526 feet of core drilling. The overall cost of the project, as accepted by the Government, was $12,265.90 (table 3) according to the OME Auditor's Report of Review dated November 20, 1958. The Government's share of the accepted costs was 50 percent of the overall amount, or $6,132.96.

There was no production from the subordinated area during the project, consequently, no repayment of the Government's participating share has been made to date. The operator, however, informed the OME on December 11, 1958, that the development drift had entered low-grade ore (0.10--0.12 percent U_3O_8) about 125 feet west of hole No. 108. Royalty payments on ore mined from the subordinated area should commence in the near future.

No equipment was purchased for use on the project. The exploration drilling was done by an independent contractor who furnished all necessary equipment and supplies for the actual drilling operation. All other operating equipment and supplies were expendable or included in the incidental allowance as a fixed unit cost, thereby leaving no salvage or disposal problems.

CONCLUSIONS

No unusual difficulties were encountered in the completion of the approved exploration drilling. One hole, No. 121, was drilled at a location not acceptable to the Government (less than the minimum distance from other project holes) and resulted in the disallowance of all drilling footage and related costs expended on the hole. The only other disallowance involved the use of company equipment not authorized by the contract.

The project was well supervised and drilling performance by the subcontractor was satisfactory. One drill rig was employed on the project work.

The project area was adequately explored by the DMEA drilling program. No additional drilling, with or without Government assistance, is recommended because the operator's development drift can now fully explore the only favorable area discovered by the project.

Data obtained by project drilling and subsequent company work permits the calculation of an inferred reserve of 2,750 tons of ore averaging 0.34 percent U_3O_8. The project can be certified on the basis of the calculated reserve, as a discovery or development with probable future repayment of the Government's portion of the project costs.

Table 1.--Production and reserves[1] on Jen, Inc., property and from mines subsidiary to the main ore belt.

Mine or Claim	Production		Reserves		
	Tons	% U_3O_8	Indicated	Inferred	% U_3O_8
Cord mine	176,038	0.56	168,875	--	0.66
Bowlegs claim	None		50,000	25,000	0.33
North Alice mine	65,137	0.20	194,863	50,000	0.20
San Juan mine	14,528	0.14	(Inactive since January 1956)		

1/ Data from files of the U. S. Atomic Energy Commission through September 1958.

Table 2.--Summary of drilling results.
DMEA 4964 Contract Idm-E 1198

Hole No.	Drilling footages			Mineralization			
				Radiometric		Chemical	
	Noncore	Core	Total	Interval	% eU_3O_8	Interval	% U_3O_8
108	500	30	530	517.5-519.6	0.81	516.0-519.0	0.015
						519.0-521.0	0.086
						521.0-521.5	3.017
						521.5-522.0	0.036
						522.0-524.0	0.009
						524.0-525.5	0.004
109	470	42	512	504.4-505.1	0.16	502.7-504.7	0.033
						504.7-505.0	0.385
						505.0-507.0	0.019
110	480	29	509	Barren		--	--
111	460	35	495	Barren		--	--
112	515	34	549	Barren		--	--
113	480	55	535	Barren		--	--
114	480	41	521	Trace at 494-497		--	--
115	563	27	590	Barren		--	--
116	485	39	524	Barren		--	--
117	450	38	488	Barren		--	--
118	460	33	493	Barren		--	--
119	535	54	589	Barren		--	--
120	505	34	539	Barren		--	--
121 1/	500	35	535	Barren		--	--
Totals	6,883	526	7,419				
Totals accepted 2/	6,383	491	6,884				

1/ Note: Hole drilled at unauthorized location and not approved for payment.

2/ Note: Does not include footage contained in disapproved hole.

Table 3.--Summary of costs incurred during project.
DMEA 4964 Contract Idm-E 1198

Contract Items	Unit	Actual unit cost	Claimed Units	Claimed Cost	Accepted Units	Accepted Cost	Contract Maximums Units	Contract Maximums Unit costs	Contract Maximums Total cost
Actual Costs									
Stage I									
Noncore drilling	foot	$ 1.35	6,883	$ 9,292.05	6,383	$ 8,617.05	8,400	$ 1.35	$11,340.00
Core drilling	foot	4.00	526	2,104.00	491	1,964.00	700	4.00	2,800.00
Bulldozing	hour	12.00	45	526.00	35	420.00	60	12.00	720.00
Core boxes	each	1.349	52	69.77	48	64.77	70	1.25	87.50
Chemical assays	each	3.50	9	31.50	9	31.50	40	3.50	140.00
Stage II (total actual costs)		No Stage II work was performed					--	--	12,797.50
Fixed Unit Costs									
Stage I									
Incidental allowance	foot	$ 0.17	7,409	$ 1,259.53	6,874	$ 1,168.58	9,100	$ 0.17	$ 1,547.00
Stage II (total fixed unit costs)		No Stage II work was performed					--	--	1,326.00
Totals				$13,282.85		$12,265.90 1/			$30,758.00

1/ In agreement with OME Auditor's report of review dated November 20, 1958.

Government participation in accepted costs at 50 percent - $ 6,132.96

Average overall cost of drilling per foot - $ 1.78

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

OFFICE OF MINERALS EXPLORATION
JANUARY 1959, Idm-E 1198, DMEA 4964

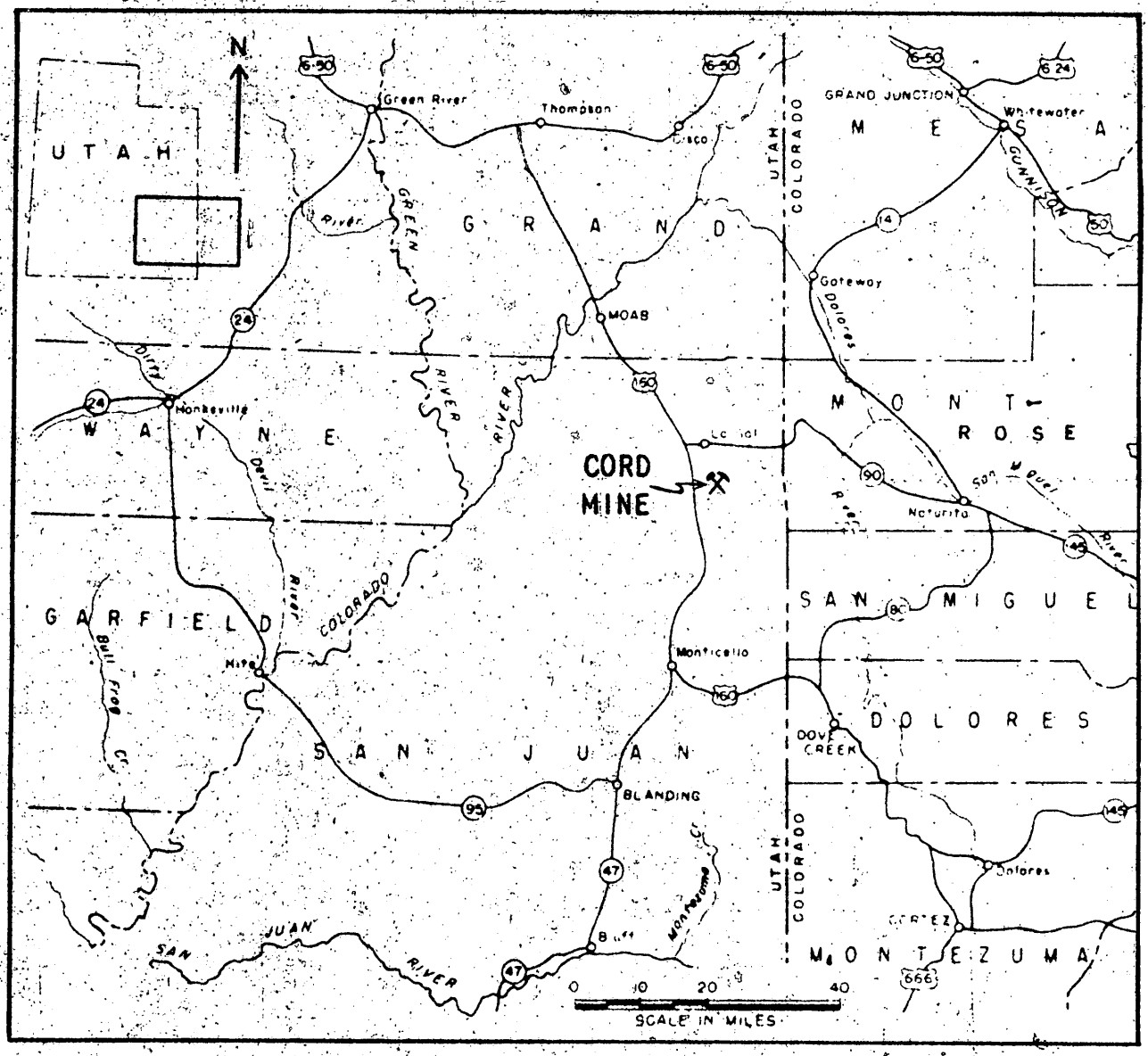
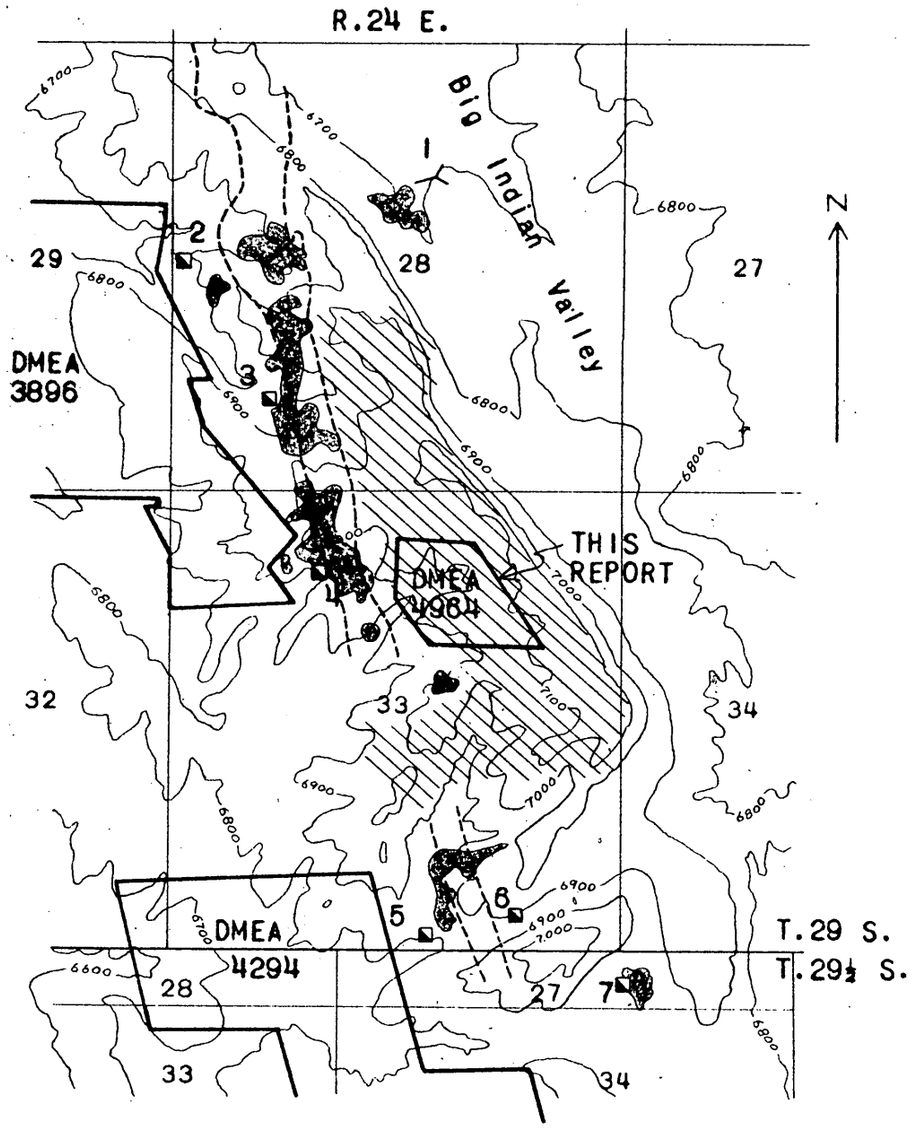


FIGURE 1.--INDEX MAP OF PART OF COLORADO PLATEAU SHOWING LOCATION OF THE CORD MINE, JEN, INC., SAN JUAN COUNTY, UTAH.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

OFFICE OF MINERALS EXPLORATION
JANUARY 1959, Idm-E 1198, DMEA 4964



EXPLANATION

APPROXIMATE AREA WHERE FRIABLE SANDSTONE UNIT OF THE CUTLER IS IN CONTACT WITH THE BASE OF THE OVERLYING CHINLE FORMATION

APPROXIMATE POSITION OF HIGH-GRADE URANIUM DEPOSIT

UNEXPLORED AREA

AREAS COVERED BY DMEA APPLICATIONS

SHAFT AND INCLINE

INDEX TO MINES

1	NORTH ALICE	5	LASAL
2	FAR WEST	6	COLUMBIA
3	RADON	7	SAN JUAN
4	CORD		

Note: TOPOGRAPHY MODIFIED FROM USGS TOPOGRAPHIC QUADRANGLES. ORE DEPOSITS AND EXTENT OF FRIABLE SANDSTONE TAKEN FROM UNPUBLISHED MAPS OF THE U.S. ATOMIC ENERGY COMMISSION.

2000 0 6000 FEET

FIGURE 2.--MAP SHOWING DISTRIBUTION OF URANIUM DEPOSITS IN THE VICINITY OF THE CORD MINE, JEN, INC., SAN JUAN COUNTY, UTAH.

OFFICIAL FILE COPY
O. M. E.
RECEIVED DEC 22 1958

DATE	INITIALS	CODE
12/22	C. Ching	220 700

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado
December 17, 1958

Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 4964 (Uranium) Contract Idm-E1198, Jen, Inc., (Uncle Ben and Pascal claims) San Juan County, Utah

In conjunction with our memorandum of October 29, 1958, and in accordance with your instructions by letter of November 7, 1958, enclosed are the original and two copies of a joint memorandum dated December 12, 1958, from H. F. Robertson, Mining Engineer, Bureau of Mines, and J. W. Hasler, Geologist, U. S. Geological Survey, pertaining to drifting by the Operator, at its sole expense, toward DMEA drill Hole No. 108.

The above drift is now within 125 feet of Hole No. 108 and is in ore grade material, therefore the field examiners reiterate their previous recommendation that the project be certified as a discovery or development, in which this office concurs.

J. W. Townsend

Enclosure

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
P. O. Box 360
Grand Junction, Colorado

MINERAL DEPOSITS
O M E
RECEIVED
DEC 15 1958
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

OME
DEPARTMENT OF THE INTERIOR
DEC 16 1958
REGION III
DENVER, COLORADO

O. M. E.
RECEIVED DEC 22 1958
INITIALS

December 12, 1958

Memorandum

To: Executive Officer, OME Field ~~Team, Region III~~

From: H. F. Robertson
J. W. Hasler

Subject: Docket No. DMEA 4964 (Uranium), Contract Idm-E 1198, Jen, Inc. (Uncle Ben and Pascal claims), San Juan County, Utah. Supplemental recommendations regarding certification as a discovery or development.

Certification of the subject property has been postponed (see Chairman's letter to Executive Officer, Region III, dated November 7, 1958) pending results of company development work toward DMEA hole No. 108.

The operator notified this office on December 11, 1958, that the subject drift was within 125 feet of hole No. 108 and had encountered ore averaging 0.10 to 0.12 percent U_3O_8, thus ore shipments would be started immediately. The operator plans to keep production from DMEA ground segregated from the remainder of the mine output and should commence repayment of the DMEA loan in the near future.

On consideration of the above, OME/GJ again recommends that the project be certified as a discovery or development.

H. F. Robertson
H. F. Robertson
Mining Engineer

J. William Hasler
J. William Hasler
Geologist

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
11/24	G. McCarthy	800
11/24	Talbot	800
11/25	C	220
"	Ching	700

NOV 24 1958

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

Re: Docket No. DMEA-4964 (Uranium)
Jen, Inc.
Contract No. Idm-E1198

Dear Mr. Finch:

Your Report of Review covering the referenced project is acceptable and normal distribution is authorized.

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers
Contract Administration
and Audit Division

[redacted]

cc: Docket
Director's Reading File
Mr. Chambers

8623

OFFICIAL FILE COPY
O. M. E.
RECEIVED NOV 10 1958

DATE	ACTIONS	CODE
11/10	C	220
11/13	chang	700

OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado

November 7, 1958

Memorandum

TO: Mr. Ronald T. Finch, OME Auditor, Region III

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 4964 (Uranium) Contract No. Ida-81198, Jam Inc. (Uncle Ben & Pascal claims) San Juan County, Utah

The subject contract was considered to be completed on completion of the work under Stage I, and the Operator was so notified by Field Team letter of October 29, 1958. A copy of the letter is enclosed for your record. The Operator has rendered a final Engineering and Geologic Report and a final accounting as required by the contract; therefore, final payment of the Operator's account is in order, contingent on release to this office of a Certificate and Report of Audit, or a Report of Review of reported project costs whichever the case indicates.

Acceptable units of work or service completed on a "Fixed Unit Cost" basis, consists of incidental allowance on 6,874 ft. of drilling.

The sum of $500 was withheld from reimbursement to the Operator in processing its final Accounting Report, which was for the month of August 1958.

Original signed by
J. W. TOWNSEND

J. W. Townsend

Enclosure

JWT:ltm

cc: Chmn. Op. Comm. (2)
Harshman
Corres. File
Cooper
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR

~~BUREAU OF MINERALS EXPLORATION~~
OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado

November 7, 1958

OFFICIAL FILE COPY
O. M. E.
RECEIVED
NOV 10 1958

DATE	INITIALS	
11-10	C	220
11/12	[illegible]	800
11/13	[illegible]	700

Memorandum

TO: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region ~~III~~

Subject: Docket No. DMEA 4964 (Uranium) Contract No. Idm-E1198, Jen Inc. (Uncle Ben & Pascal claims) San Juan County, Utah

Enclosed are the original and one copy of a final report submitted by the subject Operator pertaining to the work completed under subject contract.

The final report does not include an estimate of ore reserves; however, only one hole penetrated a minable thickness of ore grade material. Under the circumstances, this office recommends that the Operator's final report be accepted as complying with the provisions of article 7(c) of contract form.

J. W. Townsend

Enclosures

OPR'S FINAL REPORT

JEN, INC.
P. O. BOX 458 PHONE L. D. 19R1
MOAB, UTAH

OME
DEPARTMENT OF THE INTERIOR
NOV 6 - 1958
REGION III
DENVER, COLORADO
OFFICIAL FILE COPY
O. M. E.
RECEIVED NOV 10 1958
DATE

October 23, 1958

Mr. J. W. Townsend
Alternate Acting Executive Officer
DMEA Field Team Region III
224 New Customhouse
Denver 2, Colorado

Subject: Final Report
Docket No. DMEA 4964 (Uranium)
Contract No. Idm - E1198
Jen, Inc. San Juan County, Utah

Dear Mr. Townsend:

This contract provided for prospect drilling of 26 holes of an estimated depth of 650 feet each. Access roads and preparation of drill sites were included. The contract was divided into two stages. Stage one provided for roads, drill site preparation and drilling of 14 holes. Stage II, contingent on information obtained by drilling in Stage I was for 12 offset holes with the necessary site preparation.

Drilling provided for in stage I is completed. The results were mostly negative so it is not desired to do any drilling under stage II.

The contract provided:

	Stage I		Stage II	
Non core drilling @ $1.35	8400 ft.	$ 11,340.00	7200 ft.	$ 9,720.00
Core drilling @ $4.00	700 "	2,800.00	600 "	2,400.00
Bulldozing @ $10 or $12	60 hrs.	720.00	40 hrs.	480.00
Core Boxes @ $1.25	70	87.50	60	75.00
Assaying @ $3.50	40 samples	140.00	35 samples	122.50
Allowance @ 17¢ ft.	9100 ft.	1,547.00	7800 ft.	1,326.00
Total		$ 16,634.50		$ 14,123.50

Total 2 Stages $30,758.00
Government Participation (50%) 15,379.00

Work completed: 14 drill holes Stage I

Cost:

Non Core drilling @ $1.35	6883 ft.	$ 9,292.05
Core drilling @ $4.00	526 "	2,104.00
Bulldozing @ $10 or $12	45 hrs.	526.00

W.O

Cost Continued:

Core Boxes @ $1.25	52	69.77
Assaying @ $3.50	9	31.50
Misc. Allowance @ 17¢	7409	1,259.53
		$13,282.85

Disallowed by Government:

Drill hole No. 121 $946.95 Government stated it was too close to hole previously drilled (107).

7 hours of dozer work by Company. $70.00. This work was done by Company when contractor was not available.

Hole No.	Plug Drilling	Core Drilling	Total	Mineralization
108	500 ft.	30 ft.	530 ft.	2.5 ft. .67% U_3O_8
109	470	42	512	0.3 ft. .39% U_3O_8
110	480	29	509	None
111	460	35	495	"
112	515	34	549	"
113	480	55	535	"
114	480	41	521	"
115	563	27	590	"
116	485	39	524	"
117	450	38	488	"
118	460	33	493	"
119	535	54	589	"
120	505	34	539	"
121	500	35	535	"
	6,883	526	7,409	

In addition to the above, hole No. 112 was extended 241 ft. into the Cutler formation. There was no count in this hole. All other holes were drilled two to four feet into the red Cutler formation.

Holes 111, 114, 115, 117 and 118 each cut a few inches of bleached Cutler on top of the red Cutler. Hole 108 had one and one-half feet of the bleached Cutler below the arkosic bed that contained the mineralization.

Hole 108 indicates the presence of some ore in that area. A drift is being driven to that hole from the Jen, Inc. workings on the ore level. The hole is 250 feet east of this development heading.

Attached is Map D-26 showing position of holes drilled and log of hole 108 and 109. These are the only holes to show mineralization.

Yours truly,

S. E. Craig

S. E. Craig
Asst. to the Pres.

CET

JEN, INC.

INTER-OFFICE CORRESPONDENCE

SUBJECT C.D.H. U.B. 108

DATE July 18, 1958

TO Mr. C. E. Tuttle

FROM L. C. Moore

C.D.H. U.B. 108

Collar Coordinates: 100,981N, 97,739E 6,974 Elev.
Depth: 530 Elev. Cu-Ch Contact: 6,449

Driller

Lithologic Log

Footage	% Recovery	Rock Type
0 - 114	Not Coring	Wingate SS
114 - 500	"	Chinle Formation
500 - 509.5	100%	Shaley Fine Gr., Light grey SS, some mica, a few mudstone pebbles.
509.5 - 510.5	"	Shaley Fine Gr., light grey SS. Many mudstone pbls, carbon trash.
510.5 - 514.5	"	Conglomerate - matrix of light grey fine gr. SS, pebbles of mudstone and coarse grains of mudstone, dark shale, quartz, feldspar and carbon trash.
514.5 - 519	"	Fine gr. dark grey mudstone (last 1 ft. is more silty and lighter colored.)
519 - 521	"	Coarse SS or fine cong. (1/30" - 1/8" grains) quartz, dark shale, carbon trash.
521 - 521.5	"	Fine gr. pinkish arkose cong.
521.5 - 522	"	Mudstone cong. with mudstone matrix.
522 - 525.5	"	Light grey mudstone.
525.5		Cutler-Chinle Contact.
525.5 - 530	"	Coarse Cutler SS, bleached to 527 grading to red @ 528.

Probe Analysis

Moore

Footage	Reading	Footage	Reading	Footage	Reading
Remainder	0.00	523.5	0.03	523.0	0.05
523.8	0.00	.4	0.03	.9	0.05
.7	0.01	.2	0.05	.8	0.03
.6	0.02	.1	0.06	.7	0.02

Probe Analysis Continued

Footage	Reading
523.6	0.02
.5	0.02
.4	0.01
.3	0.01
.2	0.01
.1	0.00
522.0	0.00
.9	0.01
.8	0.01
.7	0.01
6	0.01
.5	0.00
.4	0.00
.3	0.00
.2	0.00
.1	0.01
521.0	0.02
.9	0.02
.8	0.02
.7	0.02
.6	0.02
.5	0.02
.4	0.02
.3	0.02
.2	0.03
.1	0.05
520.0	0.06
.9	0.07
.8	0.07
.7	0.10
.6	0.11
.5	0.18
.4	0.29
.3	0.34
.2	0.51
.1	0.63
519.0	1.10
.9	1.70
.8	2.10
.7	2.60
.6	2.10
.5	1.60
.4	1.10
.3	0.88
.2	0.63

Footage	Reading
519.1	0.60
518.0	0.41
.9	0.32
.8	0.22
.7	0.18
.6	0.18
.5	0.12
.4	0.08
.3	0.07
.2	0.05
.1	0.05
517.0	0.04
.9	0.03
.8	0.02
.7	0.02
.6	0.01
.5	0.02
.4	0.01
.3	0.01
.2	0.01
.1	0.01
516.0	0.01
.9	0.01
.8	0.00
Remainder.	0.00

From 519.6 - 517.5 (should be 521.5 - 519.4) 2.1 feet of 0.81% U_3O_8

Chemical Analysis

Footage	Width	Assay			
516 - 519	3	0.02 U_3O_8	--	4.84	Ca CO_3
519 - 521	2	0.09 "		39.5	"
521 - 521.5	0.5	3.02 "		38.15	"
521.5 - 522	0.5	0.04 "		9.08	"
522 - 524	2	0.01 "		1.16	"
524 - 525.5	1.5	0.00 "		1.05	"

From 521 to 521.5, 0.5 feet of 3.02 U_3O_8 and 38.15% $CaCO_3$

JEN, INC.

INTER-OFFICE CORRESPONDENCE

SUBJECT C.D.H. U.B. 109

DATE July 25, 1958

TO Mr. C. E. Tuttle

FROM Lyman Moore

Collar Coordinates: 100,984N 98,054E Elev: 7,009
Depth: 512 Elev Cu-Ch Contact: 6,499

Lithologic Log

Footage	% Recovery	Rock Type
0-96	Not Coring	Wingate SS
96-370	"	Chinle Formation Red
370-470	"	Chinle Green Beds
470-471	100	Light Grey Med. Gr. SS
471-474.5	"	Mudstone Cong., pebbles mudstone and matrix coarse grains sand and mudstone.
474.5-486.5	"	Light grey med gr SS
486.5-487.5	"	Mudstone Cong.
487.5-499.5	"	Dark Grey mudstone
499.5-505	"	Cong: pebbles of mudstone, dark shale, carbon trash pyrite.
505-510.5	"	Grey mudstone
510.5		Cu-Ch Contact
510.5-512	"	Red Cutler SS

Probe Analysis

Footage	Reading	Footage	Reading	Footage	Reading
500.0	0.00	503.3	0.00	.8	0.19
.1	0.00	.4	0.00	.9	0.18
.2	0.00	.5	0.01	505.0	0.12
.3	0.00	.6	0.01	.1	0.12
.4	0.01	.7	0.01	.2	0.04
.5	0.01	.8	0.01	.3	0.03
.6	0.02	.9	0.02	.4	0.02
.7	0.02	504.0	0.02	.5	0.02
.8	0.02	.1	0.02	.6	0.02
.9	0.02	.2	0.03	.7	0.01
501.0	0.02	.3	0.03	.8	0.00
.1	0.02	.4	0.09	.9	0.00
.2	0.02	.5	0.18	506.0	0.00
.3	0.01	.6	0.18		
.4	0.00	.7	0.18		

From 504.4 to 505.1 is 0.7 ft. of 0.16%

Chemical Analysis

Footage	Width	Assay	
502.7 - 504.7	2.0	0.03 U_3O_8	58.6 $CaCO_3$
504.7 - 505	0.3	0.39 "	47.3 "
505 - 507	2.0	0.02 "	11.2 "

From 504.7 to 505 is 0.3 ft. of 0.39%

Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
11/7/58	Ching	700
11/7	Knowsek	700
11/7	[illegible]	130
11/7	Johnson	110
		~~100~~
11/7	C	220
		700

Mr. J. W. Townsend
Executive Officer
OME Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

NOV 7 1958

Re: Docket No. DMEA-4964 (Uranium)
Contract No. Idm-E1198
Jen, Inc.
Uncle Ben and Paseo Claims
San Juan County, Utah

Dear Mr. Townsend:

Reference is made to Mr. Harshman's memorandum of October 29, recommending that the subject property be certified as a discovery or development.

Because a certification at this time, supported by only one ore hole, would be based upon rather inconclusive results, we will postpone any action until more conclusive information is at hand. Accordingly, it is suggested that the Field Team keep in touch with progress on the drift being driven toward the ore hole and advise us of any results that will more thoroughly justify a certification, or show that certification is not in order.

Sincerely yours,

George C. Selfridge (esf)
ACTING Chairman, Operating Committee

APPROVED:

P. F. Yopes (esf)
Member, Bureau of Mines

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

MChing/gla
11-7-58
cc to: Director's Reading File
Operating Committee
THKiilsgaard, 5224
Mr. Ching

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
~~DEFENSE MINERALS EXPLORATION ADMINISTRATION~~
OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado

October 29, 1958

OFFICIAL FILE COPY
O. M. E.
RECEIVED OCT 31 1958

DATE	INITIALS	CODE
11/3	C	220
		130
		700

Memorandum

To: Chairman, Operating Committee, OME

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

Subject: Docket DMEA 4964 (Uranium) Contract Idm-E1198, Jen, Inc. (Uncle Ben and Pascal claims) San Juan County, Utah

Enclosed are the original and two copies of a memorandum, dated October 22, 1958, from H. F. Robertson, Mining Engineer, Bureau of Mines and J. W. Hasler, Geologist, Geological Survey, recommending termination of the contract in its present status. Also enclosed are two copies of a letter from this office to the Operator advising that the contract work is considered completed on completion of Stage I work.

The field examiners recommend that the contract be certified as a discovery or development on the basis of ore grade material encountered in hole No. 108. This office concurs in the recommendation.

E. N. Harshman

E. N. Harshman

Enclosures

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado
October 29, 1958

RECEIVED
OCT 31 1958
O.M.E.

Mr. C. E. Tuttle, President
Jam, Inc.
P. O. Box 458
Moab, Utah

Re: Docket EMEA-496b (Uranium)
Contract 14m-E1195
Jam, Inc.
(Whale Rock and Pascal claims)
San Juan County, Utah

Dear Mr. Tuttle:

In reference to the letter from Mr. S. E. Craig, dated October 16, 1958, requesting termination of the contract and since the Government's approval will not be forthcoming for the performance of work under the provisions of Stage II of the contract, the contract is to be considered completed upon completion of the work provided for under Stage I of the contract, except for the drilling of one hole, Hole No. 181, which was drilled at an unacceptable location.

As the contract is to be considered completed on completion of the work under Stage I, you are referred to the provision of Article 7.(c) under the contract, relative to the rendering by your company of five copies of an acceptable final Engineering and Geologic report pertaining to the work completed under the contract.

Very truly yours,

OME Field Team, Region III

Original signed by
E. N. HARSHMAN

E. N. Harshman

Original signed by
J. W. TOWNSEND

J. W. Townsend

JWT:jy
cc: Chm. Op. Comm. (2)
Finance Office, Reg. III
OME Auditor, Reg. III
Harshman
Hasler
Robertson, OME/G.Jct.
Amendment file, Reg. III
Corres. file
Cooper
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. Box 360
Grand Junction, Colorado

OME
DEPARTMENT OF THE INTERIOR
OCT 24 1958
DENVER, COLORADO

MINERAL DEPOSITS
IN REPLY REFER TO:
O M E
RECEIVED
OCT 24 1958
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

October 22, 1958

Memorandum

To: Acting Executive Officer, OME Field Team, Region III

From: H. F. Robertson
J. W. Hasler

Subject: Docket No. DMEA 4964 (Uranium), Contract Idm-E 1198, Jen, Inc. (Uncle Ben and Pascal claims), San Juan County, Utah

The subject operator, in a letter dated October 16, 1958, requested the Government's permission to terminate the project in its present status without performing the balance of the work specified by the contract.

Briefly, the contract provided for an exploration program to be performed in two stages and designed to explore the lower 40 feet of the basal Chinle formation for significant uranium ore deposits. The first stage consisted of 14 noncore and core drilled holes on about 300-foot centers and staggered to form a diamond-shaped pattern. The second stage provided for 12 drill holes as offsets to the Stage I holes which were significantly mineralized or indicated highly favorable structural conditions for ore occurrence.

During the period, July 8, 1958, through September 7, 1958, the 14 Stage I holes were completed. The holes required a total of 526 feet of core drilling and 6,883 feet of noncore drilling at an overall cost of $13,282.85. The overall cost accepted by the Government amounted to $12,265.90 (subject to Auditor's review). Disallowances were made for the unauthorized use of a company bulldozer and for hole No. 121 drilled at an unacceptable location.

The results obtained by the exploration drilling are briefly described as follows. Diamond drill hole No. 108 penetrated ore-grade material (2.1 feet --0.81 percent eU_3O_8/0.5 feet--3.017 percent U_3O_8) at a depth of 521.0 feet. One hole (No. 109) was mineralized (0.7 feet --0.16 percent eU_3O_8/0.3 feet--0.385 percent U_3O_8) at a depth of 505 feet. The remaining 12 holes were barren. A drift is currently being driven from the mine toward holes Nos. 108 and 109, and--since these two holes were the only ones meeting the requirements for additional drilling--no offset drilling is warranted and the examining team recommends that the project be terminated as requested by the operator.

On the basis of the thickness and grade of uranium ore penetrated by hole No. 108, a small reserve of 650 to 1,000 tons of ore averaging 0.40 percent U_3O_8 can be inferred. It is entirely possible that a much larger uranium ore deposit will be delineated by the operator's mining operation sufficient to repay the Government's portion of the project costs. Therefore, certification of the project as a discovery is also recommended.

H. F. Robertson

H. F. Robertson
Mining Engineer

J. William Hasler

J. William Hasler
Geologist

Table 1.--Summary of drilling results
Jen, Inc., DMEA 4964, Contract Idm-E 1198

Hole No.	Drilling footages			Mineralization			
				Radiometric		Chemical	
	Noncore	Core	Total	Interval	% eU_3O_8	Interval	% U_3O_8
108	500	30	530	517.5-519.6	0.81	516.0-519.0	0.015
						519.0-521.0	0.086
						521.0-521.5	3.017
						521.5-522.0	0.036
						522.0-524.0	0.009
						524.0-525.5	0.004
109	470	42	512	504.4-505.1	0.16	502.7-504.7	0.033
						504.7-505.0	0.385
						505.0-507.0	0.019
110	480	29	509	Barren		--	--
111	460	35	495	Barren		--	--
112	515	34	549	Barren		--	--
113	480	55	535	Barren		--	--
114	480	41	521	Trace at 494-497		--	--
115	563	27	590	Barren		--	--
116	485	39	524	Barren		--	--
117	450	38	488	Barren		--	--
118	460	33	493	Barren		--	--
119	535	54	589	Barren		--	--
120	505	34	539	Barren		--	--
121 1/	500	35	535	Barren		--	--
Totals	6,883	526	7,419				
Totals accepted 2/	6,383	491	6,884				

1/ Note: Hole drilled at unauthorized location and not approved for payment.

2/ Note: Does not include footage contained in disapproved hole.

[redacted]

[redacted]

[redacted]

To: [redacted]

From: [redacted]

Subject: [redacted]

[redacted]

[redacted]

[redacted]

Original signed by
E. N. HARSHMAN

[redacted]

[redacted]

[redacted]

OFFICIAL FILE COPY
O. M. E.
RECEIVED OCT 23 1958

DATE	INITIALS	CODE
10/23	C	220
10/24	[illegible]	800
	[illegible]	700

OME
DEPARTMENT OF THE INTERIOR
OCT 17 1958
REGION III
DENVER, COLORADO

October 14, 1958

Mr. E. N. Hershman
DMEA
224 New Customhouse
Denver 2, Colorado

Dear Mr. Hershman:

Re: Docket No. DMEA 4964 (Uranium)
Contract No. Idn-E1198

The contract provided for two stages of drilling. The first stage consisted of 14 drill holes, the second, 12 offset holes if results of the first stage drilling should make extra drilling advisable.

The first stage is now completed. Fourteen holes have been drilled. In only one hole (No. 108) was ore encountered. This company does not wish to do any drilling under stage two of the contract.

We request permission to terminate the contract without performing any work under the provisions of stage two.

Yours truly,

S. E. Craig
Assistant to the President

OFFICIAL FILE COPY
O. M. E.
RECEIVED OCT 16 1958

DATE	INITIALS	CODE
10/16	C	220
10/17	BEG	800
10/20	Chron	700

224 New Customhouse
Denver 2, Colorado
October 13, 1958

Mr. C. E. Tuttle, President
Jen, Inc.
P. O. Box 458
Moab, Utah

Re: Docket No. DMEA 1964 (Uranium)
Contract IAm-E1198
Jen, Inc.
(Uncle Ben and Pascal claims)
San Juan County, Utah

Dear Mr. Tuttle:

Form MF-104, Operator's Monthly Report and Voucher, for August 1958, has been received in this office and is being processed for payment.

The reported costs for hole No. 112 which were suspended in processing Form MF-104 for July 1958, are reinstated, as it has been determined that hole No. 112 satisfies the intent of the contract.

Hole No. 121 was drilled near previously drilled hole No. 107, and therefore does not satisfy the intent of the contract, therefore previously suspended costs for hole No. 121 are now considered to be disallowed.

Stage I work has been completed, therefore an amount of $500.00 is withheld from reimbursement to Jen, Inc., pending possible performance of additional work under the provisions of Stage II. If additional work is not approved by the Government, and performed by Jen, Inc., the amount of $500.00 will continue to be withheld pending resolution of matters prerequisite to closing the account, which include:

1. Rendering to the Government a final report as required under Article 7(c) of the contract form.
2. Release to this office of an Audit Certificate and Audit Report, or Report of Review of the reported project costs by an Auditor of the Office of Minerals Exploration.

JDC:hmh

cc: Chmn. Op.Comm. (2)
Harshman
OME/DFC
Hasler
Robertson, OME/GJ
Cooper
Corres. file, Reg. III
Chron

Very truly yours,
Original signed by
E. N. HARSHMAN
E. N. Harshman
Acting Executive Officer
OME Field Team, Region III

OFFICIAL FILE COPY
DMEA
RECEIVED SEP 25 1958

DATE	INITIALS	CODE
9-25	C	220
9/26		800
		700

224 New Customhouse
Denver 2, Colorado
September 23, 1958

Mr. C. E. Tuttle, President
Jen, Inc.
P. O. Box 458
Moab, Utah

Re: Docket No. DMEA 4964 (Uranium)
Contract No. Ida-11198
(Uncle Ben and Rascal claims)
San Juan County, Utah

Dear Mr. Tuttle:

Information available in this office indicates that all authorized work under Stage I of the contract has been completed.

The date fixed in Article 3 of the contract form on or before which the contract work is to be completed is October 31, 1958. Therefore, if additional work is considered warranted under the provisions of Stage II of the contract, you should immediately submit to this office for consideration by the Government the original and five copies of a request for Government approval for such additional work as you plan to perform.

If you do not consider that the results of Stage I drilling warrant additional work under the provisions of Stage II of the contract, you should submit to this office the original and 5 copies of a request for Government approval to terminate the contract in its present status without requiring performance of the balance of work originally provided for.

Very truly yours,

Original signed by
E. N. HARSHMAN
E. N. Harshman

JDC:bh
cc: OME/Wash.D.C.
Harshman
Hasler
Robertson OME/GJ
OME/DFC
Corres. File
Cooper
Chron.

CENTRAL FILE COPY
DMEA
RECEIVED SEP 15 1958

DATE	INITIALS	CODE
9-15	C	220
9/15	[illegible]	800
"	~~[illegible]~~	~~700~~
	(Ellis)	

[illegible] Star Customhouse
Denver 2, Colorado
Sept. 10, 1958

Mr. C. E. Tuttle, President
Jan, Inc.
P. O. Box 458
Moab, Utah

Re: Docket No. [illegible] 496 (Uranium)
Contract IAm-E1198
Jan, Inc.
(Uncle Ben and Pennsi claims)
San Juan County, Utah

Dear Mr. Tuttle:

Form MF-104, Operator's Monthly Report and Voucher, for the month of July 1958, is being presented for payment.

The reported costs for 7 hours bulldozing with Company bulldozer is disallowed inasmuch as the contract does not provide for use of company owned bulldozer.

The reported costs for drilling holes 11F and 16L, including Incidental Allowance, bulldozing, and core boxes, have been suspended inasmuch as the location of the two holes does not meet the contract requirements as to location or spacing of holes.

You will be further advised of the above deductions by means of an Administrative Audit Difference Statement, which will be forwarded to you by the Finance Office, Region III.

Very truly yours,

Original signed by
E. N. HARSHMAN
E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III

MHO:hmh
cc: Chem. Op. Comm. (2)
Robertson, DMEA/G.Jct.
Harshman
Hasler
DMEA/DFC
Cooper
Corres. file, Reg. III
Chron

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado
June 30, 1958

OPERATIONS DEPT.
DMEA
RECEIVED JUL 3 1958
DATE | REMARKS | CODE
7/3 | C | 220
7/3 | B | 215
• | Chief | 700

Memorandum

To: Chairman, Operating Committee, DMEA

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

Subject: Docket No. DMEA 4964 (Uranium), Contract No. Idm-E1198, Jen, Inc. (Uncle Ben and Pascal claims), San Juan County, Utah

Enclosed are the following, pertaining to the subject docket:

1. The Government's and Audit copies of executed contract No. Idm-E1198, which was forwarded by your letter of June 3, 1958 for signature by the Operator, provided that a suitable final starting date was inserted in Article 3 and that Consent to Lien and Subordination Agreement, executed by E. L. Cord Partnership was attached to the contract.

2. The original and one copy of the Operator's letter of June 20, 1958, with Certification by Edward D. Neuhoff and Agency Agreement designating E. L. Cord and Edward D. Neuhoff as agents for the owners.

3. Two copies of a letter from this office, dated June 30, 1958, whereby we forwarded the "Operator's Copy" of the contract, blank report forms, instructions relative to reporting on the work performed under the contract, and procedures to be followed in communicating with this office in all matters pertaining to the contract.

The contract, dated June 3, 1958, provides for exploration work estimated to cost $30,758.00, toward which the Government will contribute 50 percent, or not in excess of $15,379.00.

Copies of the contract have been distributed to the Finance Office and others concerned in Region III.

J. W. Townsend

J. W. Townsend

W.O.

[redacted]

JUN 30 1958

[redacted]

[redacted]

Dear Mr. [redacted]:

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

In reference to the drilling work under Category (b) of Article "X", please refer to item (f) of Item II, Article II of the contract, including other provisions under Article II of the contract. If work discovered any much cause the storage unit such to be in excess of the maximum allowable storage unit cost, such excess storage will be suspended, subject to determination, as a lump sum amount the aggregate of such suspensions, should the state terminate any subsequent period when the storage unit cost to fall below the maximum allowable storage unit cost. The dangling options to work expansion phase of drilling under such work "Stage."

In the event you wish to perform the work under Category (b) on company account (except of subcontracting fee), as provided in the contract, it will be necessary that you request and obtain an appropriate amendment to the contract before subdivisions will be made to you for the Government's portion of the allowable incurred costs.

Your request to this office for work approval, changes in the contract, or any other communication pertaining to operations under the contract, must be in writing, or which please supply the subject and file copies, such copy complete with map of other pertinent data. Such request for action must provide to the letter only. Such requests are not to be incorporated in your monthly report accompanying monthly progress report Forms DD-1671 and DD-1672.

The location of the hole to be drilled under Stage I may initial as approximate on the map, "Figure 1," attached to the contract. Should conditions encountered necessitate any appreciable change in the location of any of the holes, approval of this office for the change must be obtained prior to performance of the drilling. Otherwise, the drilling may not be acceptable for reimbursement to you under the terms of the contract.

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

When work under Stage I has been completed, or sufficiently so to permit evaluation of results of the work, you must request approval from this office for the work you propose to perform under the next stage. Your request for the work approval must be in duplicate, each copy complete with a map showing the location and extent of the work completed and the location of the additional work proposed. Also, your request must include an evaluation of the work completed and include any pertinent hole and any other pertinent data which will be of value to the Government in appraising the results of the work.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Very truly yours,

Original signed by
J. W. TOWNSEND

J. W. Townsend
Assistant Acting Executive Officer
[redacted] Field Team, Region III

Enclosure

JWTtyrl

cc: Chm., Ex. Comm. (2)
[redacted] Office, Reg. III
[redacted] File, Reg. III
[redacted]
[redacted] (Schertzer)
[redacted]
[redacted]
[redacted] File
[redacted]
[redacted]

JEN, INC.

218 FELT BUILDING
SALT LAKE CITY 11, UTAH
TELEPHONE
EM 4-9564
DA 2-0531

June 20, 1958
P.O. Box 458 - Moab, Utah

MINE OFFICE
P. O. BOX 458
MOAB, UTAH
TELEPHONE
L.D. 19 R1

Mr. J. W. Townsend
Alternate Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

DMEA
DEPARTMENT OF THE INTERIOR
JUN 23 1958
REGION III
DENVER, COLORADO

Dear Mr. Townsend:

This will acknowledge your letter of June 5th. We have been delayed in pursuing this matter by delay in receiving the Consent and Subordination Agreement from the Cord Partners. However, they have been received and the original and four copies are enclosed herewith together with a Certification of Authority to Sign as well as a reproduction of the Agency Agreement.

As we are desirous of prosecuting this exploratory work as quickly as it can be done, if it were possible I would arrange to come over to Denver to execute the contract; but other engagements will prevent this unless I am able to change my schedule, and if it meets with your approval I will telephone you either Monday afternoon or Tuesday morning to see what arrangements can be made.

Very truly yours,

C. E. Tuttle
President

OFFICIAL FILE COPY
DMEA
RECEIVED
DATE

DMEA
DEPARTMENT OF THE INTERIOR
JUN 23 1958
REGION III
DENVER, COLORADO

CERTIFICATION

The undersigned does hereby certify that the attached Agency Agreement dated January 16, 1958, is a true and correct copy of the original executed by the parties thereto.

The undersigned does hereby certify that said Agency Agreement has not been modified or amended in any particulars, nor has the same been cancelled or terminated as therein provided.

And, the undersigned does hereby certify that the said Agency Agreement dated January 16, 1958, was in full force and effect at the time the undersigned executed the Consent to Lien and Subordination Agreement requested by the United States of America in connection with DMEA Loan No. 4964.

DATED: June 12, 1958.

Subscribed and sworn to before me
this 12th day of June, 1958.

Notary Public in and for Los Angeles
County, State of California.

LUCY MACKENZIE

My Commission Expires Oct. 7, 1959

ORIGINAL FILE COPY
DMEA
RECEIVED

AGENCY AGREEMENT

THIS AGREEMENT made and entered into on this 16th day of January, 1958, by and between NORMAN BILTZ, JOHN V. MUELLER, BEN EDWARDS, C. E. CORD, ESTHER A. BILTZ, PETER W. HUMMEL, ROBERT C. PHELPS, WANDA H. MURRAY, J. C. BEAZLEY, and J. F. DUNN, hereinafter referred to for convenience as "Owners", and E. L. CORD and EDWARD D. NEUHOFF, hereinafter referred to as "Agents";

W I T N E S S E T H:

WHEREAS Owners, and each of them, own an undivided interest in and to all of the real and personal property described and set forth in Schedule "A" attached hereto and incorporated herein by reference, in the percentages set forth after their respective names:

NAME	PERCENTAGE INTEREST
Norman Biltz	6-3/4%
John V. Mueller	6-3/4%
Ben Edwards	6-3/4%
C. E. Cord	10%
Esther A. Biltz	6-3/4%
Peter W. Hummel	1%
Robert C. Phelps	1%
Wanda H. Murray	1%
J. C. Beazley	1%
J. F. Dunn	1%

and;

WHEREAS Agents likewise own an undivided interest in and to the real and personal property described in said Schedule "A" in the following percentages:

EDWARD D. NEUHOFF
ATTORNEY AT LAW
650 SO. GRAND AVE.
LOS ANGELES 17

NAME	PERCENTAGE INTEREST
E. L. Cord	48%
Edward D. Neuhoff	10%

and;

WHEREAS in the real property mortgage executed by Jen, Inc., as Mortgagor dated March 14, 1957, described and referred to in Schedule "A", subdivision 3 (a), it was provided:

> "To permit mortgagee or any of its agents or representatives at any and all reasonable time or times to inspect the underground workings, and to examine and to furnish mortgagee upon request copies of all assays and maps of underground workings, drifts, and stopes. Mortgagor shall also permit Mortgagee to take samples from any and all faces."

and;

WHEREAS it is deemed advisable by the parties hereto that someone be employed by Agents to inspect the mining properties and records of Jen, Inc., to protect the security of the parties hereto for the payment of the sums due by Jen, Inc., all as provided in the clause quoted from the foregoing Mortgage; and

WHEREAS other matters and things, including but not limited to the following, should be done and performed from time to time for the protection of the interested parties, of the property described in Schedule "A" attached hereto:

(a) Annual assessment work will have to be performed on or before July 1, 1958, on the unpatented lode mining claims, known as the Bow Legs, Falsie, Enigma Fraction, and Enigma No. 2.

(b) A dispute exists as to the common boundary line between the Bow Legs claim and the Dirty Dish claim now owned by the Lisbon Uranium Corporation, a Utah corporation, and in the event

EDWARD D. NEUHOFF
ATTORNEY AT LAW
650 SO. GRAND AVE.
LOS ANGELES 17.

an amicable settlement is not reached, then it will be necessary and required that attorneys be employed in Utah to file a Court action to have the Court determine the exact location of the boundary line between the Bow Legs and Dirty Dish claim.

(c) Mill returns will have to be checked and verified as submitted by Jen, Inc. in payment of the sums or installments due under the promissory note dated March 14, 1957, referred to in subdivision 3 of Schedule "A";

and;

WHEREAS Owners desire to appoint and engage Agents as their agent to protect their interest and do such things as shall be necessary and required in the discretion of Agents, in connection with the property described in Schedule "A"; and

WHEREAS Agents are willing to accept such appointment, subject to all of the terms and conditions hereinafter set forth;

NOW, THEREFORE, it is mutually understood and agreed as follows:

I.

It is expressly understood and agreed that this Agreement shall be limited to the property described in Schedule "A", and no other.

II.

Owners do hereby appoint, designate, and engage Agents with the power to act, either jointly or individually, to do the matters and things specifically referred to herein, and such other matters and things as in their discretion may be necessary and required from time to time, to protect the interest of Owners and Agents in and to all of the property described in Schedule "A".

III.

Agents shall not be entitled to any compensation for their

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services rendered under the terms and provisions of this Agreement, but shall be entitled to reimbursement from Owners, and each of them, in accordance with their percentage interest, of all money expended or paid out by Agents, or either of them, for their benefit under the terms and provisions of this Agency Agreement. Agents will render to Owners, semi-annually or annually, at their option a statement showing all disbursements and expenditures made, and Owners agree to reimburse Agents for all sums so expended, as based upon their percentage interest in the subject property.

IV.

This Agreement shall terminate upon the happening of any one of the following events, whichever shall first occur:

(a) The death of any Owner;

(b) The death of either of the Agents; or

(c) The sale by any Owner or Agent of all of his or her interest in the property described in Schedule "A" and notice thereof shall have been given to the other parties hereto; or

(d) The expiration of thirty-days after notice in writing shall have been given by any Owner or Owners to the other individual Owners and the Agents, or by Agent or Agents to the individual Owners, of his or their intention to cancel this Agreement; provided, however, that during such thirty-day period Agents shall continue to perform all of their duties hereunder.

Upon the termination of this Agreement, as herein provided, Agents shall render a final account to Owners of expenditures made to the date of termination and contracts or committments incurred, but not paid. Settlement shall be made by and between the parties hereto as provided in paragraph one of Article III, and any unpaid committments shall be assumed

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and paid by the parties hereto in accordance with their percentage interest.

Upon the termination of this Agreement as herein provided, Agents shall be relieved from any and all further duties or obligations hereunder.

V.

Nothing in this Agreement shall be construed to require Agents to perform the commission of any act contrary to law, public regulation or ordinance, and whenever there is any conflict between the provisions of this Agreement and any statute, law, public regulation or ordinance, the latter shall prevail, but in such event the provisions of this Agreement affected thereby shall be limited only to the extent necessary to bring it within legal requirements. Agents shall be excused from the performance of any obligation assumed by them hereunder, so long and to the extent that performance is prevented by reason of act of God, act of public enemy, strikes, war, insurrection, labor disputes, priorities, inability to obtain materials, fire, flood, earthquakes, washouts, action of the elements, explosions, inability to obtain supplies, labor, governmental action of any kind, loss or shortage of transportation facilities for the reason of any order, ruling, or regulation of any officer, board or commission under governmental authority, or any court order or decree, or other similar cause or causes beyond the control of Agents, or either of them. Agents or either of them, shall not be liable to Owners, or any of them, for any claim, demand, or alleged cause of action, for loss, damage, or otherwise, which Owners, or any of them, may contend or claim arose out of any action taken, or thing made, done, or performed, or any act of omission, by Agents, or either of them, hereunder, and Owners, and each of them, do hereby waive and release Agents, and each of them, from any such claims or demands.

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650 SO. GRAND AVE.
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IN WITNESS WHEREOF the parties hereto have executed this Agreement the day and year first above written.

Robert C. Pelger

Peter Dumke

J. Dunn

E. E. Ford

Ben Edwards By Wm. Ambrose
attorney-in-fact

Norman Bilt by John T. Lark
Atty-in-fact.

Andrew Bilt by John T. Lark
Atty-in-fact.

J. P. Geofler

Lawrence E. Mooney

OWNERS

E. Ford

Lawrence E. Mooney

AGENTS

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ATTORNEY AT LAW
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SCHEDULE "A"

(1) Those certain unpatented lode mining claims located in the Big Indian Unorganized Mining District, County of San Juan, State of Utah, known as the Bow Legs, Falsie, Enigma Fraction, and Enigma No. 2 claims.

(2) An Agreement of Sale dated March 14, 1957, made and entered into by and between E. L. Cord, a limited partnership, and Jen, Inc., a Utah corporation.

(3) A Promissory Note dated March 14, 1957, executed by Jen, Inc., to E. L. Cord, a limited partnership, for the principal sum of Sixteen Million Eight Hundred Thousand Dollars ($ 16,800,000.00), and secured by the following mortgages:

(a) A real property mortgage covering certain mining claims and fee land dated March 14, 1957, executed by Jen, Inc., as Mortgagor, to E. L. Cord, a limited partnership, as Mortgagee.

(b) A chattel mortgage covering personal property dated March 14, 1957, executed by Jen, Inc., as Mortgagor, to E. L. Cord, a limited partnership, as Mortgagee.

(4) An interest in the following described boundary line agreements:

(a) Agreement dated July 26, 1957, by and between E. L. Cord, a limited partnership, as First Party and Jen, Inc., a corporation, as Second Party.

(b) Agreement dated April 21, 1955, between Almar Minerals, Inc., et al, as First Parties, and Zeke J. Johnson et al, as Second Parties, insofar as the same pertains to the Falsie claim.

(5) Easement granted to E. L. Cord, a limited partnership, by Lisbon Uranium Corporation on October 3, 1956, pertaining to the

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right to run, drive, maintain, or use an addit or tunnel through the Dirty Dish claim for the purpose of mining on the Bow Legs claim.

(6) A Settlement Agreement entered into on the 7th day of August, 1956, pertaining to the Bow Legs claim by Dennis E. Byrd and Mary Ruth Byrd as First Parties, E. L. Cord, individually, as Second Party, and E. L. Cord, a limited partnership, as third party.

(7) A Settlement Agreement entered into on the 7th day of August, 1956, relative to the Bow Legs dispute between the Dirty Dish and Bow Legs claim as entered into between Lisbon Uranium Corporation, and E. L. Cord, a limited partnership, which said agreement was consented to and approved by Dennis E. Byrd, Jacobs Chair Mining Corporation, and C. Allen Elggren.

(8) Letter Agreement dated December 16, 1957, which was entered into by and between Lisbon Uranium Corporation and the parties hereto, relative to the deferring of mining operations on the Bow Legs claim until the boundary line dispute has been settled between the Bow Legs and Dirty Dish claims.

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ATTORNEY AT LAW
650 SO. GRAND AVE.
LOS ANGELES 17

EXHIBIT "A"

Office Copy
DMEA
RECEIVED JUN 23 1958
CODE
6/23 C 220
" Chiz 700

224 New Customhouse
Denver 2, Colorado
June 19, 1958

Mr. C. H. Tuttle
Jun, Inc.
P. O. Box 498
Moab, Utah

Re: Docket No. DMEA 4964 (Uranium)
Jun, Inc.
(Uncle Sam and Pascal claims)
San Juan County, Utah -
Proposed Exploration Project
Contract No. DMe-31195

Dear Mr. Tuttle:

Reference is made to our letter of June 5, 1958, concerning the referenced matter.

Since the authority under which DMEA is presently operating will expire as of the close of June 30, 1958, it is necessary that the Contract be forwarded to you for signature, be executed by an authorized official of Jun, Inc., and returned to this office on or before June 30, 1958, for it to become effective.

As advised in our letter of June 5, a prerequisite to release of the proposed Contract for execution by your company is the receipt in this office of the original and four copies of Form NP-205, Consent to Lien and Subordination Agreement, properly executed by the E. L. Card Partnership.

Since the time limit on DMEA is drawing close, the matter should be resolved without further delay if you are desirous of having the Contract become effective.

Very truly yours,

Original signed by
J. W. TOWNSEND

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

JWT:prl

cc: Chmn. Op. Comm. (2)
Hartshman
Hasler
DMEA/Gr.Jct.
DMEA/DFC
Docket
Townsend
Chron.

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 9 1958

DATE		FILE
6/9	C	220
6/9	~~Kuenn~~ (Ching)	700

[illegible] Corporation
Denver 8, Colorado
June 3, 1958

CERTIFIED MAIL

Mr. G. R. Ketels
Pres. Dir.
T. R. Dot Ltd
Ham, Va.

Re: Project No. [illegible] ([illegible])
Ltd. Inc.
(Hills Dam and Power Station)
Ham County, Va.

Dear Mr. Ketels:

We have at hand proposed Implementation Project Contract No. [illegible], which was sent proposed pursuant to your application, dated June [illegible], for proposed assistance in implementation under the Pressure Hydroelectric Administration program.

Release of the proposed contract to you for signature is contingent on your providing this office with the original and four copies of your [illegible], dated [illegible], and Implementation Agreement signed by the T. R. Dot Corporation, six copies of which have been furnished to you for this purpose by our letter of April [illegible], 1958.

Because of the uncertainty as to continuation of the [illegible] after June 30, 1958, if the contract is to become effective prior to that date, it must be signed and returned to this office after receipt. Therefore, the properly executed Contract to Lease and Implementation Agreement should be supplied this office without delay.

If you are interested in expediting the matter to the extent, copies of the contract could be signed in this office by an appropriate authorized official of Dot, Inc., provided the signature of the corporation is present to accompany the signature and affix the corporate seal.

Very truly yours,
Original signed by
J. W. TOWNSEND

J. W. Townsend
Alternate Acting Executive
Officer, [illegible] Area,
Region III

Enclosure
cc: Chief, Op. Cont. (2)
Northern
Rudder
[illegible]/Gr. Jr.
[illegible]/[illegible]
Rodgers
} w/copy of Contract's letter of June 3, 1958.

Initialed
Carrol.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
5/29/58	Ching	700
"	Ellis	700
"	Chambers	800
6/2	[illegible]	130
6/3	Johnson	110
"	Gustenson	100
6/4	C	220
		700

JUN 3 1958

Mr. J. W. Townsend
Alternate Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-4964 (Uranium)
Jen, Inc.
Uncle Ben and Pasco Claims
San Juan County, Utah

Dear Mr. Townsend:

Enclosed are the original and four copies of a proposed long-form contract between the Government and Jen, Inc., signed by the Administrator. The contract consists of Form MF-200, Annex I, Annex II, Exhibit "A" (4 pages), and a map (Figure 3). Also enclosed are two extra copies each of Annex I, Annex II, Exhibit "A," and the map (Figure 3), for the use of the Field Team.

If you and the Applicant find the proposed contract satisfactory, it is ready for the signature of the Applicant, provided that a suitable final starting date is inserted under Article 3 and a Consent to Lien and Subordination Agreement, executed by the E. L. Cord partnership, is attached to each copy of the contract.

The Applicant should be warned to expedite the signature because of a possible June 30 deadline.

The costs as suggested by the examiners have been incorporated into the contract without significant change except for a modification of the drilling costs in accordance with the bid, dated April 25, 1958, of the Vivian Drilling Co.

MChing/gla
5-29-58
cc to: Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224
Enclosures Mr. Ching

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

APPROVED:

Frank D. Lamb
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
5/14	Ellis	700

May 14, 1958

Memorandum

To: The File

From: Michael Ching, Mining Engineer
Div. of Rare & Misc. Metals

Subject: Proposed Contract Costs
Docket No. DMEA-4964 (Uranium)
Jen, Inc.
Pasco and Uncle Ben Claims
San Juan County, Utah

The following costs are based upon those recommended by the field examiners in a report, dated April, 1958. Principal modifications were due to a late drilling bid which was received after the report was prepared.

Independent Contracts

15,600 ft. non-core drilling @ $1.35/ft.	$21,060.00	
1,300 ft. core drilling @ $4.00/ft.	5,200.00	
100 hrs. D-7 bulldozing @$12/hr., or 120 hrs. with D-6 @ $10/hr.	1,200.00	$27,460.00

Other Actual Costs

130 cardboard core boxes @ $1.25/each	$162.50	
75 chemical sample analyses @ $3.50/each	262.50	$425.00

Incidental Allowance

Labor, supervision, etc.	$2,280.00
Operating materials and supplies	210.00
Operating equipment	155.02
Miscellaneous	211.80

Total equivalent to 16,900 ft. @ $.17/ft. (rounded) $2,873.00

Estimated Total Cost of the Project $30,758.00

Michael Ching
Michael Ching

MChing/izm 5-14-58
cc: Mr. Ching

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
5-14	Ching	700
		140

C

INTERIOR DEPT.
MAY 15 1958
SOLICITOR

May 14, 1958

Memorandum

To: Associate Solicitor
Division of Mineral Resources

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

Subject: Proposed Contract
Docket No. DMEA-4964 (Uranium)
Jen, Inc.
Pasco and Uncle Ben Claims
San Juan County, Utah

Please prepare a long-form contract between the Government and Jen, Inc., in accordance with the attached draft.

Eight copies of the map (Figure 3) are attached for use with the contract.

Consent to Lien and Subordination Agreement forms, executed by the E. L. Cord Partnership, have been requested, but are not yet at hand.

/s/ Ernest Wm. Ellis

Ernest Wm. Ellis

MChing/izm 5-14-58
cc: Mr. Ching

RECEIVED
MAY 15 1958
ASSOC. SOLICITOR
MINERAL RESOURCES

8623

DRAFT
MChing/izm
5-14-58

MF-200
(Revised June 1954)

Docket No. DMEA 4964

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] Jen, Inc., a Utah corporation, whose mailing address is P. O. Box 458 Moab, Utah, 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~~ xxx Annex II and Map (Figure 3)

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 Utah, County of San Juan, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] owner 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] ....., [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: Interest of E. L. Cord Partnership

(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 and Subordination Agreement of the E. L. Cord Partnership

(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 October 31, 1958 ..... (unless the Operator's obligation to prosecute the work is terminated—see Article 10) shall either have completed the work or shall have incurred allowable costs (see Article 6) in a sum not less than the estimated total allowable cost set forth in Exhibit "A." See Annex II

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

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

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

ARTICLE 5. *Contribution by the Government.*—The estimated total allowable cost of the project, set forth in Exhibit "A," is the sum of $ 30,758.00 ..... The Government shall contribute 50 ..... percent of the allowable costs as they are incurred in a total sum not in excess of $ 15,379.00 ..... : *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last

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

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

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. **See Annex II**

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 Annex II**

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.*—

See Annex II

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By .....

.....
(Operator)

By .....

.....

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

.....

[CORPORATE SEAL]

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

ANNEX I

The land referred to in Article 2 of the Contract is situated in section 33, T. 29 S., R. 24 E., S.L.M. & B., San Juan County, Utah. It consists of all of the Pasco unpatented lode mining claim and that portion of the Uncle Ben unpatented lode mining claim lying east and north of a line described as follows:

Beginning at a point on the northern boundary of the claim, 175 feet due west of the northeast corner of the claim, thence due south 690 feet, thence parallel to the western boundary of the claim to a junction with the southern boundary of the claim.

The land is shown on the map entitled "Figure 3 - Map of Underground Mine Workings, Drill Holes, and Proposed EMEA Work at The Cord Mine, Jen Inc., San Juan County, Utah," attached hereto and made a part hereof.

The notices of location of the claims are recorded in the official records of San Juan County, Utah in Book 243, Pages 350 through 353.

ANNEX II

(a) That part of the last sentence of Article 3 beginning with the word "either" is deleted and replaced by the words "have completed the work, except as otherwise provided in Exhibit 'A' with respect to stages of work."

(b) That part of the last sentence in the first paragraph of Article 6(a) commencing after the semicolon is deleted.

(c) Categories (2) through (6) of Article 6(a) are deleted.

(d) 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.

(e) In the last sentence of Article 6(c), the words "Article 8" are substituted for the words "Article 9."

(f) Notwithstanding any other provision of the Contract, the allowable unit cost per foot of a drilling item is the average unit cost per foot computed on the basis of all the actual unit costs of said drilling item incurred by the Operator: Provided, That the Government will not contribute to any portion of an average unit cost of a drilling item that exceeds the estimated unit cost of said item set forth in the contract.

EXHIBIT "A"

Description of the Work

General Provisions

The work consists of exploration for uranium by core and non-core drilling to test the basal part of the Chinle formation of Triassic age.

Each hole shall be drilled non-core through the upper formations to a point approximately 40 feet above the contact between the Chinle formation and the underlying Cutler formation. Core drilling shall follow until the hole is bottomed not more than 10 feet below the Cutler-Chinle contact.

Drilling depths are expected to average 650 feet, and the cored sections of the drill holes are expected to average 50 feet in length. The minimum size of core shall be BX.

All core and cuttings from the cored section of drill holes shall be saved and checked for radioactivity. Core sections indicating significant mineralization shall be split, one-half shall be analyzed chemically for uranium and one-half shall be properly labeled and stored for the use of the Government. The non-mineralized core and related cuttings also shall be labeled and stored for inspection by the Government. Any stored samples may be disposed of by the Operator after approval of the Government has been secured.

All core and cuttings from the drill holes shall be logged geologically and the holes probed radiometrically, and the record of such logging and probing, together with certified copies of all assay certificates, shall be submitted with the Operator's monthly progress reports.

No hole shall be drilled closer than 100 feet to the outer boundaries of the land described in Annex I.

No contribution shall be made by the Government for incompleted drill holes.

Access roads and drill sites shall be prepared with a D-6 or D-7 tracter-dozer, or with equivalent units of the same or other make.

The project shall be supervised at all times by an experienced geologist or mining engineer, who shall devote full time to the project work.

The location, direction, inclination and extent of all project work are subject to the approval of the Government.

The work shall be divided into two stages as hereinafter described. The Operator shall complete Stage I, and shall perform as much of Stage II as the Government approves in writing in advance.

Stage I

Prepare access roads and drill sites and drill 14 holes aggregating an estimated 9,100 feet as indicated on the map (Figure 3) referred to in Annex I. The holes are in 4 east-west rows 300 feet apart with the holes in each row also 300 feet apart, and staggered with respect to holes in adjoining rows. If the 14 holes require more than 9,100 feet of drilling to reach the desired horizon, the additional footage and funds required may, upon the written approval of the Government, be transferred and deducted from Stage II.

Stage II

Prepare access roads and drill sites and drill not more than 12 holes aggregating not more than 7,800 feet as offsets to previously drilled holes that show significant mineralization or highly favorable structural conditions for ore occurrence. These offset holes shall be drilled not closer than 150 feet to any previously drilled hole that reached the target.

Estimated Cost of the Project

Stage I

Actual Costs

Category (1) Independent Contracts

8,400 ft. non-core drilling @ $1.35/ft.	$11,340.00	
700 ft. core drilling @ $4.00/ft.	2,800.00	
60 hrs. bulldozing, D-7 or equivalent, @ $12/hr; or 72 hrs. D-6 or equivalent, @ $10/hr.	720.00	
Categories (2) through (6)		
None		
Category (7) Miscellaneous		
None except		
70 cardboard core boxes @ $1.25/each	87.50	
40 chemical sample analyses @ $3.50/each	140.00	$15,087.50

Fixed Unit Costs (See Annex II-d)

Incidental allowance for each foot of hole drilled, 9,100 ft. @ $0.17/ft.1/	1,547.00
Estimated Total Cost of Stage I	$16,634.50

Stage II

Actual Costs

Category (1) Independent Contracts

7,200 ft. non-core drilling @ $1.35/ft.	$9,720.00
600 ft. core drilling @ $4.00/ft.	2,400.00
40 hrs. bulldozing, D-7 or equivalent @ $12/hr.; or 48 hrs. D-6 or equivalent, @ $10/hr.	480.00

Categories (2) through (6)

None

Category (7) Miscellaneous

None except

60 cardboard core boxes @ $1.25/each	75.00	
35 chemical sample analyses @ $3.50/each	122.50	$12,797.50

Fixed Unit Costs (See Annex II-d)

Incidental allowance for each foot of hole drilled, 7,800 ft. @ $0.17/ft.[1/]	1,326.00
Estimated Total Cost of Stage II	$14,123.50

Summary of Costs

Estimated Total Cost of Stage I	$16,634.50
Estimated Total Cost of Stage II	$14,123.50
Estimated Total Cost of the Project	$30,758.00
Government Participation @ 50%	$15,379.00

1/ Includes all costs that might be allowable costs of the project under Categories (1) through (7) of Article 6(a), except as otherwise scheduled in Exhibit "A."

IN REPLY REFER TO:

DMEA

RECEIVED MAY 9 1958

DATE	INITIALS	CODE
5/9	C	220
"	Chang	700
	Complete	

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

Memorandum

May 8, 1958

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

From: W. P. Williams, U. S. Geological Survey

Subject: Review of field examination report, DMEA 4964, (uranium), Jen, Inc., Uncle Ben and Pasco claims, San Juan County, Utah.

The examining team report that conditions on the applicant's property are good for the presence of large undiscovered uranium deposits.

The subordinated land consists of two mining claims located to the east of, and adjacent to, the Cord mine in the Big Indian mining district. The Cord mine is owned by the applicant and is producing uranium ore at the rate of 10,000 tons monthly.

The only previous exploration on the property is one barren drill hole in the corner of the property. The examining team recommend approval of a modified project of exploration drilling. The examiners have deleted the applicant's drifting proposal on the grounds that underground work would not be in keeping with the geologic conditions involved.

The examiner's proposed drilling project seems to have an excellent chance for success. I agree with their findings and their recommendations for approval of the application.

W. P. Williams

W. P. Williams

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	Chmij	700

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

Date May 8, 1958

DMEA Docket No. 4964
DMEA Contract No.
Commodity Uranium
Name of Applicant Jen, Inc.
Name of property Uncle Ben and Pasco claims
Location of property San Juan County, Utah
Estimated cost of project $37,854.50

Memorandum

To: ~~Ernest~~ William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Review of Field Team Report
(Application, Field Team Report, etc.)

1. Date of subject document: 4/29/58. 2. Date received by reviewer: 4/30/58

3. Prior reports on this property known to reviewer: Yes ☐ No ☐

4. Prior reports on nearby properties known to reviewer: Yes ☐ No ☐

5. Information available on past production: Yes ☐ No ☐

6. Other pertinent factors known to reviewer: Yes ☐ No ☐

7. Explain items marked 'yes' above:

8. Factors meriting special consideration:
   a. Location ☐
   b. Ownership ☐
   c. Evidence of mineralization ☐
   d. Geology ☐
   e. Proposed exploration method ☐
   f. Alternate exploration method ☐
   g. Costs ☐
   h. _____ ☐

9. Action advised:
   a. Obtain information from applicant ☐
   b. Refer to Field Team ☐
   c. Denial ☐
   d. Agree with Field Team [x]
   e. Disagree with Field Team ☐
   f. Suggest alternate plan ☐
   g. Request another examination ☐
   h. Approval [x]
   i. Consult with Mr. _____ at _____ AEC office.

10. Remarks: (Use back of page if necessary)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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RECEIVED MAY 8 1958

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	Chas	700

224 New Customhouse
Denver 2, Colorado
May 6, 1958

AIR MAIL

Memorandum

To: Chairman, Operating Committee

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

Subject: Docket No. DMEA 4964 (Uranium) Jen, Inc. (Uncle Ben and Pasco claims) San Juan County, Utah

This has further reference to our teletype of May 5, 1958, on the subject docket.

Enclosed are the original and one copy of a drilling bid submitted by the Vivian Drilling Company, which is the lowest bid that has been submitted for this project.

E. N. Harshman

E. N. Harshman

Vivian Drilling Co.

ROCK BIT & DIAMOND CORE DRILLING CONTRACTORS

P. O. BOX 1025
MOAB, UTAH

PHONE: ALPINE 3-4366

OR

April 25, 1958

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DMEA
RECEIVED MAY 8 1958
DATE | INITIALS | CODE

DMEA
DEPARTMENT OF THE INTERIOR
MAY 6 1958
REGION III
DENVER, COLORADO

Jen Inc.
Box 458
Moab, Utah

Gentlemen:

We are submitting the following figures for drilling on the Cord Claims now owned by Jen, Inc. in Big Indian district near La Sal, Utah.

Plugging	$1.35 per ft.
Coring	$4.00 per ft.

This agreement void if drilling is started after August 15, 1958 due to possible severe weather conditions before the job is completed.

Yours truly,

VIVIAN DRILLING CO.

C. B. Vivian

C. B. Vivian

CBV/em

224 New Customhouse
Denver 2, Colorado
May 6, 1958

RECEIVED 8

AIR MAIL

Memorandum

To: Chairman, Operating Committee

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

Subject: Docket No. DMEA 4964 (Uranium) Jen, Inc. (Uncle Ben and Pasco claims) San Juan County, Utah

This has further reference to our teletype of May 5, 1958, on the subject docket.

Enclosed are the original and one copy of a drilling bid submitted by the Vivian Drilling Company, which is the lowest bid that has been submitted for this project.

Original signed by
E. N. HARSHMAN
E. N. Harshman

HMC:dp
cc: Harshman
Salsbury
Hasler
Docket
Chron.

Vivian Drilling Co.

ROCK BIT & DIAMOND CORE DRILLING CONTRACTORS

P. O. BOX 1025
MOAB, UTAH

PHONE: ALPINE 3-4366

April 25, 1958

RECEIVED MAY 8
DATE CODE

DMEA
DEPARTMENT OF THE INTERIOR
MAY 6 1958
REGION III
DENVER, COLORADO

Jen Inc.
Box 458
Moab, Utah

Gentlemen:

We are submitting the following figure for drilling on the Cord Claims now owned by Jen Inc. in Big Indian district near La Sal, Utah.

Plugging	$1.35 per ft.
Coring	$4.00 per ft.

This agreement is void if drilling is started after August 15, 1958, due to possible severe weather conditions before the job is completed.

Yours truly,

VIVIAN DRILLING CO.

C. B. Vivian

C. B. Vivian

CBV/em

Chairman D.M.E.A
Operating Comm.

RECEIVED MAY 17 1958		
DATE	INITIALS	CODE
5/7	C	220
"	Chang	700

DN 235 BUR MINES 5-5-58 - 4- 4-15

CHAIRMAN, OPERATING COMMITTEE, DMEA

RE EXAMINATION REPORT DMEA-4964, JEN, INC., SAN JUAN COUNTY, UTAH, FORWARDED BY OUR MEMORANDUM 4-29-58. FOURTH DRILLING BID BY VIVIAN BROTHER, MOAB, UTAH, IS LOW WITH PLUG AT $1.2 XXX $1.35 AND CORE DRILLING AT $4.00 PER FOOT FOR ALL DEPTHS. SUGGEST REVISION COSTS ON BASIS VIVIAN BID WHICH WILL BE FORWARDED WHEN RECEIVED FROM GRAND JUNCTION.

E N HARSHMAN

Denver, Colorado.

MAY 8 8 46 AM '58
BUREAU OF MINES
MAIL ROOM
WASHINGTON, D. C.

ORIGINAL FILE COPY
DMEA
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224 New Customhouse
Denver 2, Colorado
April 30, 1958

Mr. C. E. Tuttle, President
Jem, Inc.
P. O. Box 458
Moab, Utah

Re: Docket No. DMEA 4964 (Uranium)
(Uncle Ben and Fuego claims)
San Juan County, Utah

Dear Mr. Tuttle:

Enclosed are the original and five copies of Form NF-205, Consent to Lien and Subordination Agreement, to be signed by all of the partners, unless one partner has the authority, and evidence thereof is obtained by you and forwarded us, in which case the partner having such authority may sign for all partners. In any event the instrument should indicate that it is executed by the co-partnership (indicating the name thereof).

One copy may be retained by the E. L. Cord Partnership, but the original and four signed copies must be returned to this office to enable us to continue processing the application.

Very truly yours,

Original signed by
E. N. HARSHMAN

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

EHC:dp
cc: Harshman
Sec. Op. Comm. (2)
Hasler
Salsbury
Docket
Caron.

MF-205
(Combines and supercedes MF-202 and MF-203)
June 1956

Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator
Docket No. DMEA- 4964
Contract No. Idm-E
Contract Date

CONSENT TO LIEN
and
SUBORDINATION AGREEMENT 1/

RECEIVED MAY 5 1964 U.S.M.A.

To the United States of America:

Referring to that certain land in the County of San Juan, State of Utah, described as follows 2/

Certain Lode Mining Claims located in the Big Indian Mining District further described in Annex I which is attached hereto and made a part hereof.

, 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;

3. Subordinates the undersigned's right, title, claim, or interest in or against the land and in any production therefrom to the rights of the Government under the contract with respect to royalty on production and liens to secure same;

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

None

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

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

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

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

7. Added provision: None (State "None" or "See Annex No.____")

Dated this _____ day of _____, 195__.

E. L. Cord Partnership [Seal] _____ [Address]

_____ [Seal] _____ [Address]

_____ [Seal] _____ [Address]

_____ [Seal] _____ [Address]

_____ [Seal] _____ [Address]

_____ [Seal] _____ [Address]

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]

ANNEX I

The Uncle Ben and Fanny Lode Mining Claims recorded in Book 241, Pages 350-353, in the County Clerk and Recorder's Office in San Juan County, Utah, excluding that part of the Uncle Ben Claim hereinafter described: Beginning at Point "A", which is the southwest corner of the Uncle Ben Claim; thence due east 110 feet along the south end line of the Uncle Ben Claim to Point "B"; thence northwesterly parallel to the west side line of the Uncle Ben Claim to the point of intersection with the center line of the existing drift or crosscut, a distance of approximately 680 feet, Point "C"; thence due north approximately 690 feet to the north boundary of the Uncle Ben Claim, Point "D"; thence due west to the northwest corner of the Uncle Ben Claim, a distance of approximately 530 feet, Point "E"; thence southwesterly to the point of beginning, a distance of approximately 1500 feet, as shown on Claim Map No. 1, attached hereto and made a part hereof.

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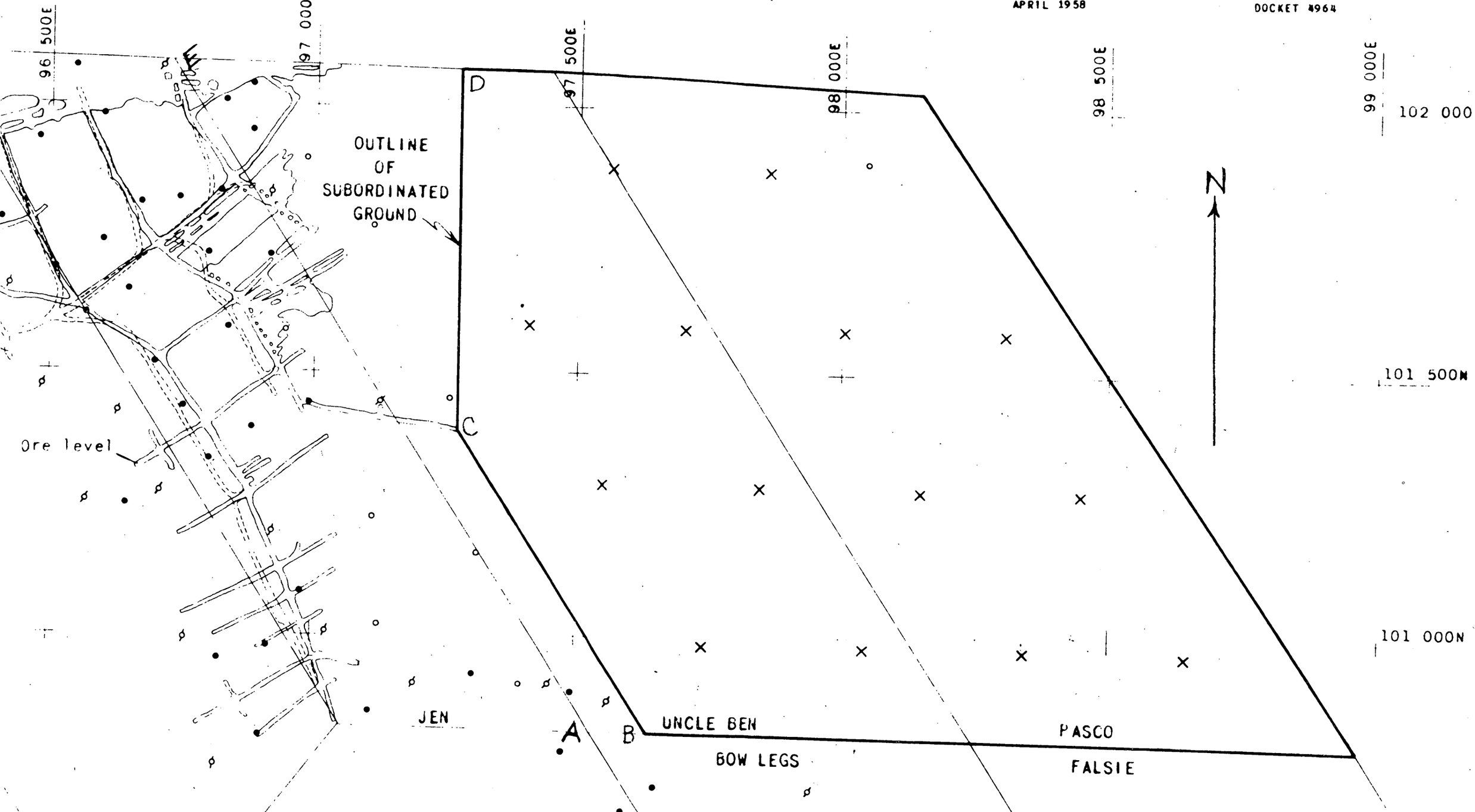
RTMENT OF THE INTERIOR
ICAL SURVEY

CLAIM MAP No. 1

DEFENSE MINERALS EXPLORATION ADMINISTRATION
APRIL 1958
DOCKET 4964



DMEA Form 7
(12-56)

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Date	Surname	Code
5/7/58	Ching	700
"	Ellis	700
		225

May 6, 1958

Memorandum

To: The File

From: Michael Ching, Mining Engineer
Division of Rare and Miscellaneous Metals

Subject: Long Distance Telephone Conversation
with Mr. E.N. Harshman
Docket No. DMEA-4964 (Uranium)
Jen, Inc., San Juan County, Utah
Docket No. DMEA-4721 (Uranium)
La Salle Mining Co., Boulder County, Colorado

Mr. Murphy spoke to Mr. Harshman first on another project.

Mr. Harshman advised that a late drilling bid had been received from Vivian Drilling Co. in connection with the recommended contract with Jen, Inc., Docket 4964. Vivian's bid was $1.35 per foot for non-core and $4.00 per foot for core drilling. This is considerably less than the prices suggested by the field examiners.

Regarding the proposed contract with La Salle, Docket 4721, I inquired whether the proposed NX coring for all drilling up to 250 feet in depth was justified and agreeable to the Applicant. Mr. Harshman believed it was justified by the fact that NX drilling was only $0.50 per foot higher than BX drilling and a better core recovery may be expected from the NX drilling. Also, the cost of reaming was high and by drilling NX size reaming could be eliminated by a reduction to BX size where necessary. He believed that the Applicant was agreeable to the NX drilling.

I asked whether he did not think that the suggested timbering cost of nearly $18.00 per foot was excessive. He agreed that it was, but said that the engineer appeared to have backed the figure with considerable detail. He thought that the figure should not exceed $9.00 per foot.

I asked about the incidental allowance of $2.58 per foot for underground core drilling. The figure includes the cost of air. He agreed that since the drill bid added only $1.10 per foot for supplying air, the incidental allowance should consist of $1.10 plus a reasonable amount for other costs, resulting in a total that would be considerably less than $2.58.

I asked about W. H. King and he said that King did not appear to be getting any better.

Michael Ching

Michael Ching

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado
April 29, 1958

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DATE	INITIALS	CODE
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5/5	HB	130
5/6	C	220
"	Chief	700
"	Chief	700

Memorandum

To: Secretary to the Operating Committee

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

Subject: Docket No. DMEA 4964 (Uranium) Jen, Inc. (Uncle Ben and Pasco claims) San Juan County, Utah - Joint Report of Examination

Enclosed are the original and two copies of the Joint Report of Examination on the subject property.

The field examiners conclude that the probability for making a significant discovery is sufficiently promising to justify Government participation. Accordingly, they recommend that the Applicant's work proposal be approved as modified by them, in which the Field Team concurs.

The errors in the cost estimate in the original report have been corrected in ink to facilitate processing the application. Please note, the supplemental cost estimate is also attached, which is based on the bid by Fritz-Erickson Drilling Company, which was submitted after the report of examination was prepared. A copy of this bid is attached to each of your copies of the report.

Assistance has been obtained from the Solicitor's Office in Denver in preparing the Consent to Lien and Subordination Agreements which are being forwarded to the Applicant for signatures.

Eight extra copies of Figure 3 are attached for use in the contract.

E. N. Harshman

E. N. Harshman

Reviewed by
DMEA OPERATING COMMITTEE
5-5-58
(date)

ON-SITE EXAM. REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. Box 360
Grand Junction, Colorado

DMEA
DEPARTMENT OF THE INTERIOR
APR 28 1958
REGION III
DENVER, COLORADO

MINERAL DEPOSITS
IN REPLY REFER TO:
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RECEIVED
APR 28 1958
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

April 24, 1958

Memorandum

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APR 28 1958

To: W. H. King, Executive Officer, DMEA Field Team, Region III

Through: E. N. Harshman

From: J. William Hasler

Subject: Transmittal of a joint geologic and engineering report on Docket No. DMEA 4964 (Uranium), Jen, Inc., Uncle Ben and Pasco claims, San Juan County, Utah.

5/5 2/8 130
220

Jen, Inc., a Utah corporation, applied on March 18, 1958, for DMEA assistance in exploration for uranium on 2 located claims adjoining the applicant's Cord mine in the Big Indian mining district, San Juan County, Utah.

The application was referred to the field and an examination was made on April 2, 1958 by a DMEA examining team in company with Mr. S. E. Craig, mine manager and assistant to the president of the applicant corporation.

The proposed DMEA project area is located east and immediately adjoining the applicant's Jen and Jackie claims where a large uranium ore deposit of excellent grade is currently in production at the rate of 10,000 tons monthly. The DMEA area is essentially unexplored.

Uranium deposits containing up to several hundred thousand tons of ore averaging up to 0.6 percent U_3O_8 occur in the basal part of the Chinle formation of Triassic age, in the Big Indian mining district. The large deposits occur in a northerly trending belt where a friable sandstone unit of the underlying Cutler formation of Permian age is in contact with the base of the Chinle formation. A few deposits containing up to 200,000 tons of ore averaging 0.2 percent U_3O_8 are found on either side of the main belt. The area considered for exploration lies along the east side of the main ore belt.

After a detailed study of geologic information obtained from U. S. Geological Survey project work and A.E.C. work in the area, as well as economic factors, the conclusion was reached that a drilling project alone was preferable from an exploration standpoint to a dual project including underground work. It is believed that the cost of underground work is not justified because of the limited area actually explored by this type of exploration. The applicant's drift proposal was based on probable indications of the channeling to the east; however, results of studies do not indicate the presence of any channel on the Uncle Ben and Pasco claims nor do they show that deposits are localized within such channels.

Reviewed by
DMEA OPERATING COMMITTEE
5-5-58
(Date)

The drilling project proposed by the examining team would cover the essentially unexplored claims at a cost which would be more in keeping with the size of the area. Mr. S. E. Craig was consulted at a later date and concurred with the alternate program which is suggested to be completed in two stages totaling an estimated 15,600 feet of non-core drilling and 1,300 feet of core drilling in a maximum of 26 holes. It is believed that this program would insure discovery of any deposits in the area of the type of the North Alice or San Juan ore bodies. This is considered the kind of ore body which is likely to be found in the project area. The estimated cost is $37,854.50, in which Government participation at 50 percent would be $18,927.25. I concur with the conclusions and recommendations of the examining team and propose that the alternate program herein outlined be prepared for contract.

The applicant furnished an adequate brochure with maps and costs with the application. Results of studies in the Lisbon Valley area by both U. S. Geological Survey and Atomic Energy Commission personnel were available. Production and reserve figures quoted by the applicant were verified by A.E.C. records.

Enclosed are ten copies of a joint geologic and engineering report of examination by N. L. Archbold, U.S. Geological Survey, and M. H. Salsbury, U. S. Bureau of Mines; ten copies each of figure 1, index map of part of Colorado Plateau showing location of Cord mine, Jen, Inc., San Juan County, Utah; figure 2, showing distribution of uranium deposits in vicinity of Cord mine, Jen, Inc., San Juan County, Utah. Enclosed also are 21 copies of figure 3, map of underground mine workings, drill holes, and proposed DMEA work at Cord mine, Jen, Inc., San Juan County, Utah. The 11 extra copies of this figure are included for possible contract use. Enclosed also is the applicant's brochure.

J. William Hasler

J. William Hasler,
Geologist

JWH/bh
Enclosures

MINERAL DEPOSITS
DMEA
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APR 28 1958
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
P. O. Box 360
Grand Junction, Colorado

DMEA
DEPARTMENT OF THE INTERIOR
APR 28 1958
REGION III
DENVER, COLORADO

April 24, 1958

Memorandum

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

From: M. H. Salsbury

Subject: Docket No. DMEA 4964 (Uranium), Jen, Inc. (Uncle Ben and Pasco claims), San Juan County, Utah. Supplemental cost estimate on proposed DMEA project.

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The subject applicant originally submitted only two bids for drilling from independent contractors. In order not to delay completion of the report of examination, it was written before the third bid which had been requested by the examining team, was received on April 24, 1958.

The third bid from the Fritz-Erickson Drilling Company, Box 365, Dove Creek, Colorado, four copies of which are being forwarded with this memorandum, proves to be the lowest of the three bids submitted on core drilling, $5.00 per foot, and the same as the bid by Pioneer Drilling Company, $1.65 per foot, for non-core drilling. The Pioneer bid was the one on which the DMEA cost estimate was based.

Recomputation of all costs is not necessary to correct the DMEA estimate in line with the new bid because only 1 item is affected. Consequently only the Summary of Costs Suggested for Contract Use (pages 20 and 21 of the examination report) and the estimated unit cost for core drilling and for all drilling (page 19) need to be changed. Following are corrected figures:

Summary of Costs Suggested for Contract Use
(Based on bid by Fritz-Erickson Drilling Co.)

Stage I

Actual Cost Items:

Preparation of roads and drillsites
Use of D-7 tractor-dozer or equiv.
for 60 hours at $12.00/hr. $ 720.00
or
alternate use of D-6 tractor-dozer
at $10.00/hr. but not to exceed $720.00
or
alternate use of air compressor, rock drill,
labor and supplies at $7.50/hr. plus use of
D-7 or D-6 tractor-dozer at the specified hourly
rates at a maximum cost for all items of $720.00

Reviewed by
DMEA OPERATING COMMITTEE
5-5-58
(date)

8,400 feet non-core drilling at $1.65/ft.	$13,860.00	
700 feet core drilling at $5.00/ft.	3,500.00	
Fixed Cost Items:		
Incidental allowance for 9,100 feet drilling at $0.18/ft.	1,638.00	
Chemical analyses of 40 core samples for U_3O_8 at $3.50 each	140.00	
Total Stage I		$19,858.00

Stage II

Actual Cost Items:		
Preparation of roads and drillsites Use of D-7 tractor-dozer or equiv. for 40 hours at $12.00/hr or alternate use of D-6 tractor-dozer at $10.00/hr. but not to exceed $480.00 or alternate use of air compressor, rock drill, labor and supplies at $7.50/hr. plus use of D-7 or D-6 tractor-dozer at specified hourly rates at a maximum cost for all items of $480.00	$ 480.00	
7,200 feet non-core drilling at $1.65/ft.	11,880.00	
600 feet core drilling at $5.00/ft.	3,000.00	
Fixed Unit Costs:		
Incidental allowance for 7,800 feet of drilling at $0.18/ft.	1,404.00	
Chemical analyses of 35 samples for U_3O_8 at $3.50 each	122.50	
Total Stage II		$16,886.50

Summary

Estimated Cost - Stage I	$19,858.00	
Estimated Cost - Stage II	16,886.50	
Total Estimated Cost of Project		$36,744.50
Government Participation at 50 percent		$18,372.25
Calculated overall cost of core drilling		$ 5.95/ft.
Calculated overall cost of all drilling		$ 2.17/ft.

THE FRITZ-ERICKSON MINING CO.
DRILLING CONTRACTORS
Phone 2042 Box 365
DOVE CREEK, COLORADO

April 21, 1958

Jen, Inc.
Box 458
Moab,
Utah.

Gentlemen:

Following is our bid for drilling as described in your letter of April 17, 1958. Work to be performed on the Cord Claims, Big Indian District near LaSal, Utah.

Plug Bit Drilling	0 - 600'	$1.65
Core Drilling	to bottom	$5.00

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Sincerely

Clyde C. Fritz

Clyde C. Fritz
President
The Fritz-Erickson Mining Co.

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

DMEA
DEPARTMENT OF THE INTERIOR
APR 28 1958
REGION III
DENVER, COLORADO

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DMEA 4964

Jen, Inc.

Uncle Ben and Pasco claims

San Juan County, Utah

Uranium

Joint Geologic and Engineering Report

by

N. L. Archbold
U. S. Geological Survey

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

April 1958

Reviewed by
DMEA OPERATING COMMITTEE
5-5-58
(date)

DMEA 4964
JEN, INC.
UNCLE BEN AND PASCO CLAIMS
SAN JUAN COUNTY, UTAH

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Joint geologic and engineering report

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DMEA 4964
JEN, INC.
UNCLE BEN AND PASCO CLAIMS
SAN JUAN COUNTY, UTAH

INTRODUCTION AND SUMMARY

Jen, Inc., a Utah corporation, applied on March 18, 1958, for DMEA assistance in exploration for uranium on 2 located claims adjoining the applicant's Cord mine in the Big Indian Mining District, San Juan County, Utah.

A program of 1,800 feet of underground drifting and crosscutting and 8,450 feet of core and non-core drilling in 13 holes averaging 650 feet in depth to be drilled from surface was proposed. The estimated cost was $75,400.00 in which Government participation at 50 percent would have been $37,700.00.

A field examination was made on April 2, 1958 by a DMEA examining team in company with S. E. Craig, mine manager and assistant to the president of the applicant corporation.

The proposed DMEA project area is located east and immediately adjoining the applicant's Jen and Jackie claims where a large uranium ore deposit of excellent grade is currently in production at the rate of 10,000 tons monthly. The DMEA area is essentially unexplored.

Uranium deposits containing up to several hundred thousand tons of ore averaging up to 0.6 percent U_3O_8 occur in the basal part of the Chinle formation of Triassic age, in the Big Indian mining district. The large deposits occur in a northerly trending belt where a friable sandstone unit of the underlying Cutler formation of Permian age is in contact with the base of the Chinle formation. A few deposits containing up to 200,000 tons of ore

averaging 0.2 percent U_3O_8 are found on either side of the main belt. The area considered for exploration lies along the east side of the main ore belt.

The applicant purchased the property under contract from the E. L. Cord partnership. The claims are in process of being patented under Survey No. 7278. The property is subject to a promissory note and mortgage held by the E. L. Cord partnership. Title to the property appears to be satisfactory and the applicant states that the mortgagor will sign a subordination agreement.

After study of geologic and economic factors the conclusion was reached that a drilling project alone was preferable from an exploration standpoint to a dual project including underground work. It is believed that the cost of underground work is not justified because of the limited area actually explored by this type of exploration. A drilling project would cover the essentially unexplored claims at a cost which would be more in keeping with the size of the area.

Accordingly a drilling program in two stages is recommended for approval. An estimated 15,600 feet of non-core drilling and 1,300 feet of core drilling in a maximum of 26 holes is planned.

It is believed this program would insure discovery of any deposits in the area of the type of the North Alice or San Juan ore bodies. This is considered to be the kind of ore body which is likely to be found in the project area. The estimated cost is $38,044.50 ~~$37,854.50~~, in which Government participation at 50 percent would be $19,022.25 ~~$18,927.25~~.

ACKNOWLEDGMENTS

The applicant furnished an adequate brochure with maps and cost estimate with the application. Results of studies made in the Lisbon Valley area by both Geological Survey and Atomic Energy Commission personnel were available. Production and reserve figures quoted by the applicant were verified by A.E.C. records.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Uncle Ben and Pasco claims are 2 out of a group of claims in sec. 33, T. 29 S., R. 24 E., SLM, San Juan County, Utah, owned by the applicant (figs. 1 & 2). They adjoin on the east the applicant's Cord mine. The property is 35 miles southeast of Moab, Utah and 132 miles farther from Grand Junction, Colorado, the nearest major supply point. A hard-surfaced road connects the mine with Utah highways 46 and 160. The nearest delivery points for uranium ore are at Moab, Utah, and at Monticello, Utah, 45 miles south of the property. However, the production from the Cord mine is currently being sold to the Vitro Uranium Company in Salt Lake City, Utah.

The claims are on a southwesterly dipping Wingate sandstone surface, easily accessible from the mine area. Primary access roads have been completed and preparation of drill roads and sites can be done at moderate cost. Some rock excavation requiring blasting may be necessary because much of the exposed Wingate sandstone is devoid of soil cover.

The climate of the region at an elevation of about 7,000 feet is moderate with warm summers and mild to cold winters and year-around surface operations are feasible except for periods following normally infrequent winter storms.

There are no unusual problems of access, supply, power, or ore marketing. There is an adequate supply of competent labor available. Housing is available at La Sal, Utah and at Moab. The proposed drilling would be done by a drilling contractor and the applicant would furnish only supervisory personnel. The underground work would have been carried on as part of the Cord mine operation.

HISTORY AND PRODUCTION

Vanadium was produced from Morrison formation deposits near Lisbon Valley in both World Wars, but the first discovery of uranium in another formation was made in 1943 in Cutler sandstone outcrops overlooking Big Indian Wash in the Lisbon Valley area. No uranium discovery of economic value, other than in Salt Wash deposits, was made until 1952 when a deposit in the base of the Chinle formation was found in Big Indian Wash (Mi Vida and Standard mines). Since 1952 other discoveries along Big Indian Wash (Valley) have resulted in development of the largest uranium reserves and current production in Utah.

The Cord ore deposit was discovered in 1954 by drilling carried on by E. L. Cord, a Nevada operator, and associates. A large ore body of excellent grade was blocked out on the Jen and Jackie claims and development through a 700-foot shaft was undertaken. When the present applicant acquired the property in 1957, the mine was already in production.

The daily production from 4 operations in the immediate vicinity of the property totals more than 1,000 tons. The applicant's Cord mine is currently producing 400 tons per day through a 700-foot 3 compartment shaft. Production quoted by the applicant and verified by A.E.C. records through December 1958 totals 86,000 tons with an average content of 0.57 percent U_3O_8.

There have been five DMEA projects completed in the Lisbon Valley area and 2 are in the immediate vicinity of the Cord mine. These are Docket No. DMEA 3896, Contract Idm-E 910, Hecla Mining Company and Docket No. DMEA 4294, Contract Idm-E 1010, La Sal Mining and Development Company (fig. 2). Both projects were certified as discoveries. The Hecla Mining Company is presently engaged in underground development of the DMEA ore body. Reserves from the La Sal Mining and Development Company project were small and probably will not be mined except possibly in connection with a future operation on an adjoining property.

OWNERSHIP AND EXTENT

The Uncle Ben and Pasco claims included in the proposed DMEA project are 2 of 4 claims purchased under contract from the E. L. Cord Partnership on March 14, 1957 (fig. 3). The other 2 claims, the Jen and Jackie, cover the Cord ore body.

The claims are held on location and are recorded on pages 350-353 in Book 243, San Juan County records. Application for patent under Survey No. 7278 has been made. The Atomic Energy Commission included the four claims in a group certified for initial production bonus which has been paid in full.

There is a lien against the property secured by a promissory note and mortgage held by the E. L. Cord Partnership. The applicant's ownership rights are believed to be valid. The applicant's manager, Mr. Craig, states that the E. L. Cord partnership will sign a subordination agreement.

The applicant has included in the DMEA block all of the Pasco claim and most of the Uncle Ben claim, reserving, however, the western portion of the Uncle Ben claim as shown in figure 3. This was done so as to exclude an eastward extension of the Jen-Jackie ore body which has not been delimited in this direction, and also to reserve a 90-foot strip along the west sideline at the

south end of the Uncle Ben claim where three ore holes have been drilled. This limits the DMEA project to an area in which no mineralization is known to date. The Bow Legs and Falsie claims adjoining the Uncle Ben and Pasco claims on the south are still owned by the E. L. Cord Partnership. The Dirty Dish and Cobbler claims south of the Jen and Jackie claims are owned by Lisbon Uranium Corporation.

PRESENT STATUS

Exploration and Development

The Uncle Ben and Pasco claims are unexplored except for one barren hole in the northeast corner of the Pasco claim. The hole was drilled prior to the applicant's acquisition of the property and a log of the hole is not available.

The adjoining Jen and Jackie claims were explored initially by 60 holes which blocked out part of the ore body now being mined. The present mine workings, developed through a 700-foot 3-compartment vertical shaft, include 3,500 feet of haulage drift below the ore horizon, over 700 feet of transfer raises, and over 8,000 feet of development openings on the ore horizon. Mining is carried out by a retreating system whereby the ore body is blocked out by driving strike drifts 150 to 175 feet apart to the ore or property limits, and then driving panel drifts up or down dip between the strike drifts leaving a 10-15-foot pillar between the new panel drift and the previous one which has had its protecting pillar removed. Successive panel drifts are driven always leaving a pillar next to the previous drift. These pillars are mined after the panel drift is connected through. Caving of mined out panels is induced by drilling and blasting the roof. Very little ore is left in pillars or lost in the cave. A considerable amount of timber is needed to support the back

next to the cave while the pillars are being mined, but, with ore worth $50.00 to $75.00 per ton, it is profitable to remove all that can be recovered safely. Room and pillar methods must be used in some sections of the mine where the limits of the ore body are irregular.

All drilling on the ore horizon is done with jack leg drills. Scraper loading is used exclusively, the ore being moved to raises driven on 175-foot centers and dropped to a haulage level where battery-powered rail equipment moves the ore to the shaft pocket. The whole operation is well planned and efficient.

The proposed east drift would have been carried on in conjunction with the regular mining operations.

Mining Equipment and Other Facilities

The Cord mine operation is completely equipped with facilities for 500 tons daily production on a two-shift basis. The surface plant, including office building, change room, service shops, compressor building, and head frame, is well-planned and substantially constructed. Electric-powered hoisting and compressor equipment is supplied from the lines of the Utah Power and Light Company.

GENERAL GEOLOGY

The property belonging to Jen, Incorporated lies on the southwest flank of the Lisbon Valley anticline where sedimentary formations dip about 10 degrees to the southwest. The Lisbon Valley anticline, with its associated faulting, is the major structural feature in the area. The anticline trends northwesterly and, on its southeastern end, is continuous with the Dolores anticline in Colorado. The two anticlines form a structure which can be traced for about 45 miles. Near the northwestern end of the anticline, a high angle normal fault, with the northeast side downthrown, traverses the

anticline essentially parallel to its axis. This fault has a maximum throw of about 4,000 feet which decreases abruptly toward either end of Lisbon Valley. The fault cuts the anticline so as to displace the anticlinal axis in the Cretaceous strata northeastward approximately 4,000 feet, whereas the anticlinal axis in the Pennsylvanian strata has been undisturbed. The faulting and subsequent erosion have resulted in a present land surface on which is exposed the main Lisbon Valley fault with a parallel anticlinal axis on each side. Smaller faults, trending parallel to the main fault, are present further down on the flanks of the anticline, but no faults are known on the Jen property. The major joint pattern trends northwesterly, roughly parallel to the axis of the anticline and the main Lisbon Valley fault.

No igneous or metamorphic rocks are exposed in the immediate area, although the La Sal Mountain intrusives are exposed about 8 miles to the north of the property. Sedimentary rocks exposed in the area range in age from Pennsylvanian to Cretaceous. In ascending order they are: the Hermosa and Rico formations of Pennsylvanian age; the Cutler formation of Permian age; the Chinle formation of Triassic age; the Wingate, Kayenta, Navajo, Carmel, Entrada, Summerville, and Morrison formations of Jurassic age; and the Burro Canyon, Dakota, and Mancos formations of Cretaceous age. Only the Cutler, Chinle, and Wingate formations would be concerned with an exploration project at the Cord mine; therefore, only these formations will be described.

The Cutler formation of Permian age is exposed in Big Indian Valley to the east of the Cord mine; it consists of reddish brown fine-grained, micaceous sandstone. Near the top of the Cutler there is a thin unit of soft, friable light gray sandstone containing abundant flakes of biotite. This unit is colloquially called the Cutler "sugar sand." As a result of the slight angular

unconformity between the Cutler formation and the overlying Chinle formation, the Cutler "sugar sand" immediately underlies the Chinle formation in a northerly trending belt about 500 feet wide along the southwestern flank of the Lisbon Valley anticline (fig. 2).

A very gentle angular unconformity separates the Chinle formation from the underlying Cutler formation. Locally this unconformity is marked by sharp erosional features. The Chinle formation of Triassic age is about 440 feet thick in the vicinity of the Cord mine. It is exposed in Big Indian Valley to the east of the mine and consists mainly of reddish brown, bentonitic mudstone, although the basal 50 feet contains scattered sandy lenses and is greenish gray. Locally, a medium coarse-grained, tightly-cemented arkosic sandstone is present at the base of the Chinle formation. This sandstone ranges up to 10 feet in thickness and seems to occupy irregular erosional depressions in the top of the Cutler formation. It may be correlative with the Moss Back member of the Chinle formation. Coalified plant fragments are widely scattered in the sandstone and mudstone near the base of the Chinle formation.

The Wingate sandstone of Jurassic age is about 260 feet thick and is exposed on the surface of the property. It is light buff and consists of fine-grained, crossbedded and massive sandstone.

ORE DEPOSITS

Major uranium deposits in the Lisbon Valley area occur at the base of the Chinle formation. Locally, the deposits extend for a short distance across the unconformity at the base of the Chinle and into the Cutler formation. The deposits form a northerly trending belt along the southwest flank of the Lisbon Valley anticline. This belt coincides closely with the area where the Cutler "sugar sand" is in contact with the overlying Chinle (fig. 2). Deposits

within this belt may contain up to several hundred thousand tons of ore with average grade ranging from 0.5 to 0.6 percent U_3O_8 as it is mined, lower grade deposits occur off to the sides of the main belt (fig. 2) and these deposits contain up to 200,000 tons of ore with average grade ranging from 0.15 to 0.20 percent U_3O_8. The proposed exploration project on the Jen property is designed to search for this type of deposit away from the main ore belt.

Uranium deposits in the base of the Chinle formation in the Lisbon Valley area occur as flat-lying, irregularly shaped bodies up to 1,000 feet across and 15 feet thick with poorly defined edges. The deposits are commonly associated with basal arkosic sandstone lenses and with bleaching in the underlying Cutler formation, and these may be considered as favorable indications. It has not been shown that deposits in the Lisbon Valley area are localized in paleo-stream channels. On the contrary, the main belt of deposits appears to trend normal to the direction of known sedimentary trends.

Ore minerals are relatively unoxidized and uranium occurs principally in the minerals uraninite and coffinite. The minerals are disseminated through the host rock and commonly replace calcite and coalified plant fragments as well as quartz and feldspar grains.

Production and reserve figures from the Cord mine, from E. L. Cord's Bowlegs claim, and from nearby mines which are out of the main ore belt, are listed in Table 1.

Table 1.--Production and reserves on Jen, Inc., property and from mines subsidiary to main ore belt.

Mine or claim	Production			Measured & Indicated			Inferred Reserves			Remarks
	Tons	$\%U_3O_8$	$\%V_2O_5$	Tons	$\%U_3O_8$	$\%V_2O_5$	Tons	$\%U_3O_8$	$\%V_2O_5$	
Cord mine 1/	85,693	0.57	--	259,220	0.66	--	--	--	--	Through 12/31/57 Property of Jen, Inc.
Bowlegs claim 2/	none			50,000	0.33	--	25,000	0.33	--	Property of E. L. Cord Partnership
North Alice mine 2/	9,906	0.16	0.14	240,094	0.20	--	50,000	0.20	--	Through 1/1/58
San Juan mine 2/	14,528	0.14	--	156,000	0.18	--	--	--	--	inactive

1/ Figures from Jen, Inc.

2/ Figure from files of U. S. Atomic Energy Commission

PROPOSED EXPLORATION

Applicant's Proposal

The applicant has proposed concurrent underground exploration and drilling from the surface. The underground work would have required 1,300 feet of drifting in an easterly drift across the Uncle Ben and Pasco claims and an additional 500 feet of lateral work north and/or south of the east drift. Drilling from the surface would have required 7,800 feet of non-core drilling and 650 feet of core drilling in 13 holes averaging 650 feet in depth. The holes were laid out in a rectangular grid with east-west spacing of 300 feet and north-south spacing of 530 feet. The applicant's detailed cost estimate was based on a contractor's bid for the drilling, and the current costs at the Cord mine as derived from monthly cost distributions. The total amount was $75,400.00 in which Government participation at 50 percent would have been $37,700.00.

Recommended Program

The exploration proposal was first discussed in conference with C. E. Tuttle and S. E. Craig, the president and vice-president of the applicant corporation. Later Mr. Craig was consulted on a revision of the program after an analysis of the project indicated that the original proposal was not entirely suitable from an exploration standpoint.

Factors which led to this conclusion are as follows:

(a) Concurrent operation of the surface drilling and underground exploration would not be logical because there would be little benefit accruing to one phase from the exploration results of the other.

(b) The cost of the applicant's proposal would be too high for exploration of an area of less than 2 claims adjacent to but not within the known Lisbon Valley ore belt. The area is only semi-favorable in its present state of development. A more definite evaluation is not feasible because the ground is unexplored except for 1 barren hole drilled in the northeast corner.

(c) A drilling project alone would result in better coverage of the area, yield more information, have as good a chance of locating worthwhile ore deposits as one including the proposed underground work, and would cost considerably less. The possible target is an ore body similar to the San Juan or North Alice deposits (fig. 2). The individual deposits at the North Alice property, which are in semi-favorable ground east of the main mineralized trend, vary considerably in size: one of them is 400 feet by 700 feet in lateral extent and another is 100 by 200 feet. They are estimated to contain 5,000 to 50,000 tons each. The grade of ore as carried in the A.E.C. reserve estimates is low, 0.20 percent U_3O_8, but any similar deposits adjacent to the Cord mine would probably be mined in conjunction with the richer ore bodies.

(d) The applicant believes deposits are localized in paleo-stream channels and believes a northerly trending channel would be intersected by the east-west crosscut. However, results of studies by the U.S.G.S. and A.E.C. do not indicate the presence of any channel on the Uncle Ben and Pasco claims, nor do they show that deposits are localized within such channels.

Recommended Exploration

The following revised project was agreed on in conference with Mr. Craig:

Stage I. An estimated 8,400 feet of non-core drilling and 700 feet of core drilling in 14 holes in a staggered grid pattern on 300-foot centers (fig. 3). Holes are estimated to average 650 feet in depth of which the lowermost 50 feet will be cored.

Stage II. An estimated 7,200 feet of non-core drilling and 600 feet of core drilling in a maximum of 12 holes offsetting on minimum spacing of 150 feet any mineralization or favorable structural conditions found in Stage I holes.

Cost Estimate

The following cost estimate is based on the bid of the Pioneer Drilling Company, independent contractor, which gives the lowest overall cost of two submitted by the applicant. Submission of a third bid was requested by the DMEA examiners but had not been received by the time the examination report was ready for printing. The applicant did not make an estimate of supervisory costs separate from the underground exploration costs, so employment of one full time engineer-geologist is assumed.

The time required is based on use of 2 drill rigs one shift daily, 25 days per month. The drilling rate is based on experience under Docket No. DMEA 4294, Contract Idm-E 1010, La Sal Mining and Development Co., carried on in the same area with the Pioneer Drilling Company as the sub-contractor. On this project average progress per drill shift was 150 feet.

Stage I

Estimated time for completion	$1\frac{1}{2}$ months
Estimated number of drills to be employed	2 (1 shift daily)
Estimated non-core footage	8,400 feet
Estimated core footage	700 feet
Estimated number of holes	14

(1) Independent Contracts

Bulldozing for roads and drillsites with D-7 or equivalent tractor-dozer 60 hours at $12.00/hr.		$ 720.00	
1st alternate for bulldozing use of D-6 tractor-dozer 72 hours at $10.00/hr.			
2nd alternate use of air compressor, rock drill, labor and supplies for rock excavation at $7.50/hr. plus use of a D-7 or D-6 tractor-dozer at the specified rate for a maximum overall cost for roads and drillsites of $720.00			
Total bulldozing			~~$ 720.00~~
Drilling			
non-core-8,400 feet at $1.65/ft.	$13,860.00		
core-700 feet at $6.00/ft.	4,200.00		
Total drilling-9,100 feet		$18,060.00	
Total independent contracts			$18,780.00

(2) Labor, Supervision and Technical Services

1 supervisor-engineer-geologist 1.5 months at $700.00/mo.	$ 1,050.00	
1 engineer's helper for surveying 40 hours at $2.25/hr.	90.00	
Total labor, supervision, etc.		$ 1,140.00

(3) Operating Materials and Supplies

70 core boxes for 700 feet of core at $1.25 each	$ 87.50	
Gasoline, oil and repairs for 1 vehicle for field use 1.5 months at $50.00/mo.	75.00	
Surveying, drafting and office supplies for 1.5 months at $20.00/mo.	30.00	
Total operating supplies		$ 192.50

(4) Operating Equipment

1 pickup	$1,800.00		
1 Babbel counter and probe	800.00		
1 transit	500.00		
Total value of equipment	$3,100.00		
Depreciated on 60 month basis $\frac{\$3,100}{60}$ = $51.67 per month			
1.5 months at $51.67/mo.		$ 77.51	
Total operating equipment			$ 77.51

(5) (6) Initial Rehabilitation Buildings, etc.

None

(7) Miscellaneous

Accounting, 1.5 months at $25.00/mo.	$ 37.50	
Sampling and analyses, maximum of 40 samples analyzed for U_3O_8 at $3.50 each	140.00	
Compensation insurance, payroll taxes, etc. on salaries of supervisor and helper 6 percent of $1,140.00	68.40	
Total miscellaneous		$ 245.90
Total Stage I		$20,435.91

Stage II

Estimated time for completion	$1\frac{1}{2}$ months
Estimated number of drills to be employed	2 (1 shift daily)
Estimated non-core footage	7,200 feet
Estimated core footage	600 feet
Estimated number of holes	12

(1) Independent Contracts

Bulldozing for roads and drillsites:			
40 hours with D-7 tractor-dozer or equivalent at $12.00/hr.	$480.00		
or			
48 hours with D-6 tractor-dozer or equivalent at $10.00/hr.			
or			
Use of air compressor, rock drill, labor and supplies for rock excavation at $7.50/hr. plus use of a D-6 or D-7 tractor-dozer at the specified hourly rate for a maximum overall cost of roads and drillsites of $480.00			
Total bulldozing		$ 480.00	
Drilling			
non-core, 7,200 feet at $1.65/ft.	$11,880.00		
core, 600 feet at $6.00/ft.	3,600.00		
Total drilling		$15,480.00	
Total independent contracts			$15,960.00

(2) Labor, Supervision and Technical Services

1 supervisor-engineer-geologist 1.5 months at $700.00/mo.	$ 1,050.00	
1 engineer-helper for surveying 40 hours at $2.25/hr.	90.00	
Total labor, supervision, etc.		$ 1,140.00

(3) Operating Materials and Supplies

60 core boxes for 600 feet of core at $1.25 each	$ 75.00	
Gasoline, oil, and repairs for vehicle for field use, 1.5 months at $50.00/mo.	75.00	
Surveying, drafting and office supplies for 1.5 months at $20.00/mo.	30.00	
Total operating supplies		$ 180.00

(4) Operating equipment

Depreciation 1.5 months at $51.67/mo.	$ 77.51	
Total operating equipment		$ 77.51

(5) (6) None

(7) Miscellaneous

Accounting 1.5 months at $25.00/mo.	$ 37.50	
Sampling and analysis, maximum of 35 samples analyzed for U_3O_8 at $3.50 each	122.50	
Compensation insurance, payroll taxes, etc. on salaries of supervisor and helper, 6 percent of $1,140.00	68.40	
Total miscellaneous		$ 228.40
Total Stage II		$17,585.91
Total for Project		$38,021.82
Government participation at 50 percent		$19,010.91

BREAKDOWN OF COSTS

Distributed as to type of drilling

Item	Units	Sub-Total	Total	Non-core 80 percent	Core 20 percent
(1) Independent contracts					
Bulldozing	100 hrs.		$ 1,200.00	$ 960.00	$ 240.00
Non-core drilling	15,600 ft.		25,740.00	25,740.00	
Core drilling	1,300 ft.		7,800.00		7,800.00
(2) Labor, supervision and technical services	3 mo.	$2,280.00	2,280.00	1,824.00	456.00
(3) Materials and supplies	3 mo.	372.50	372.50	168.00	204.50
(4) Operating equipment	3 mo.	155.02	155.02	124.02	31.00
(7) Miscellaneous					
Chemical analyses	75		262.50		262.50
Other		211.80	211.80	169.44	42.36
Totals for project		$3,019.32	$38,021.82	$28,985.46	$9,036.36

Calculated overall cost non-core drilling $\frac{\$28,985.46}{15,600 \text{ ft.}}$ = $1.86 per foot

Calculated overall cost core drilling $\frac{\$9,036.36}{1,300 \text{ ft.}}$ = $6.95 per foot

Calculated overall cost all drilling $\frac{\$38,021.82}{16,900 \text{ ft.}}$ = $2.25 per foot

Calculated cost items (2),(3),(4), and (7) less chemical analyses (items which go to make up incidental allowance) $\frac{\$3,019.32}{16,900 \text{ ft.}}$ = $0.18 per foot

Summary of Costs Suggested for Contract Use

Stage I

Actual Cost Items:

Preparation of road and drillsites use of D-7 tractor-dozer or equiv. for 60 hours at $12.00/hr. (or alternate use of D-6 tractor-dozer at $10.00/hr but not to exceed $720.00 maximum) (or alternate use of air compressor, rock drill, labor and supplies at $7.50/hr plus use of D-7 or D-6 tractor at the specified hourly rates at a maximum overall cost not exceeding $720.00)	$ 720.00	
8,400 feet non-core drilling at $1.65/ft.	13,860.00	
700 feet core drilling at $6.00/ft.	4,200.00	

Fixed Cost Items:

Incidental allowance for 9,100 feet drilling at $0.18/ft.	1,638.00	
Chemical analyses of 40 core samples for U_3O_8 at $3.50 each	140.00	
Total Stage I		$20,558.00 ~~$20,568.00~~

Stage II

Actual Cost Items:

Preparation of roads and drillsites use of D-7 tractor-dozer or equiv. for 40 hours at $12.00/hr. (or alternate use of D-6 tractor-dozer or equiv. at $10.00/hr. but not to exceed $480.00 maximum) (or alternate use of air compressor, rock drill, labor and supplies at $7.50/hr. plus use of D-7 or D-6 tractor-dozer at the specified hourly rates at a maximum overall cost not exceeding $480.00)	$ 480.00	
7,200 feet non-core drilling at $1.65/ft.	11,880.00	
600 feet core drilling at $6.00/ft.	3,600.00	

Fixed Unit Cost Items:

Incidental allowance for 7,800 feet of drilling at $0.18/ft.	$1,404.00	
Chemical analyses of 35 samples for U_3O_8 at $3.50 each	122.50	
Total Stage II		17,486.50 ~~$17,286.50~~

Summary

Estimated Total Cost - Stage I	$20,558.00	
Estimated Total Cost - Stage II	17,486.50	
Total Estimated Cost of Project		$38,044.50 ~~$37,854.50~~
Government participation at 50 percent		19,022.25 ~~$18,927.25~~

It is recommended that the General Provisions as included in Exhibit "A" "Description of the Work" of Contract No. Idm-E 1010, Docket No. DMEA 4294 be incorporated in the contract with the following changes:

(1) Holes shall be bottomed not more than 10 feet below the Cutler-Chinle contact.

(2) Chemical analyses for U_3O_8 only shall be made.

(3) Minimum hole spacing in Stage I shall be 300 feet and in Stage II 150 feet.

(4) Transfer of drilling footages from core to non-core type within stages and from Stage II footage allowances to Stage I should be permitted with written Government authorization if required to complete Stage I.

CONCLUSIONS AND RECOMMENDATIONS

The examining team concludes that there is a good chance of finding a large low-grade ore deposit on the Uncle Ben and Pasco claims, but there is little likelihood of finding any large high-grade deposit such as those commonly identified with the main Lisbon Valley mineralized belt. Ore from a large low-grade deposit could be blended with ore from the adjacent Cord mine to make a good shipping grade.

The examining team believes that an exploratory drilling program would be more feasible and economical than underground exploration, and accordingly they recommend for approval a drilling program consisting of a maximum of 26 holes for an estimated total of 1,300 feet of core drilling and 15,600 feet of non-core drilling.

Total maximum cost of the program is estimated at ~~$37,854.50~~ $38,044.50 with the Government's share being ~~$18,927.25~~ $19,022.25, with 50 percent participation.

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
APRIL 1958
DOCKET 4964

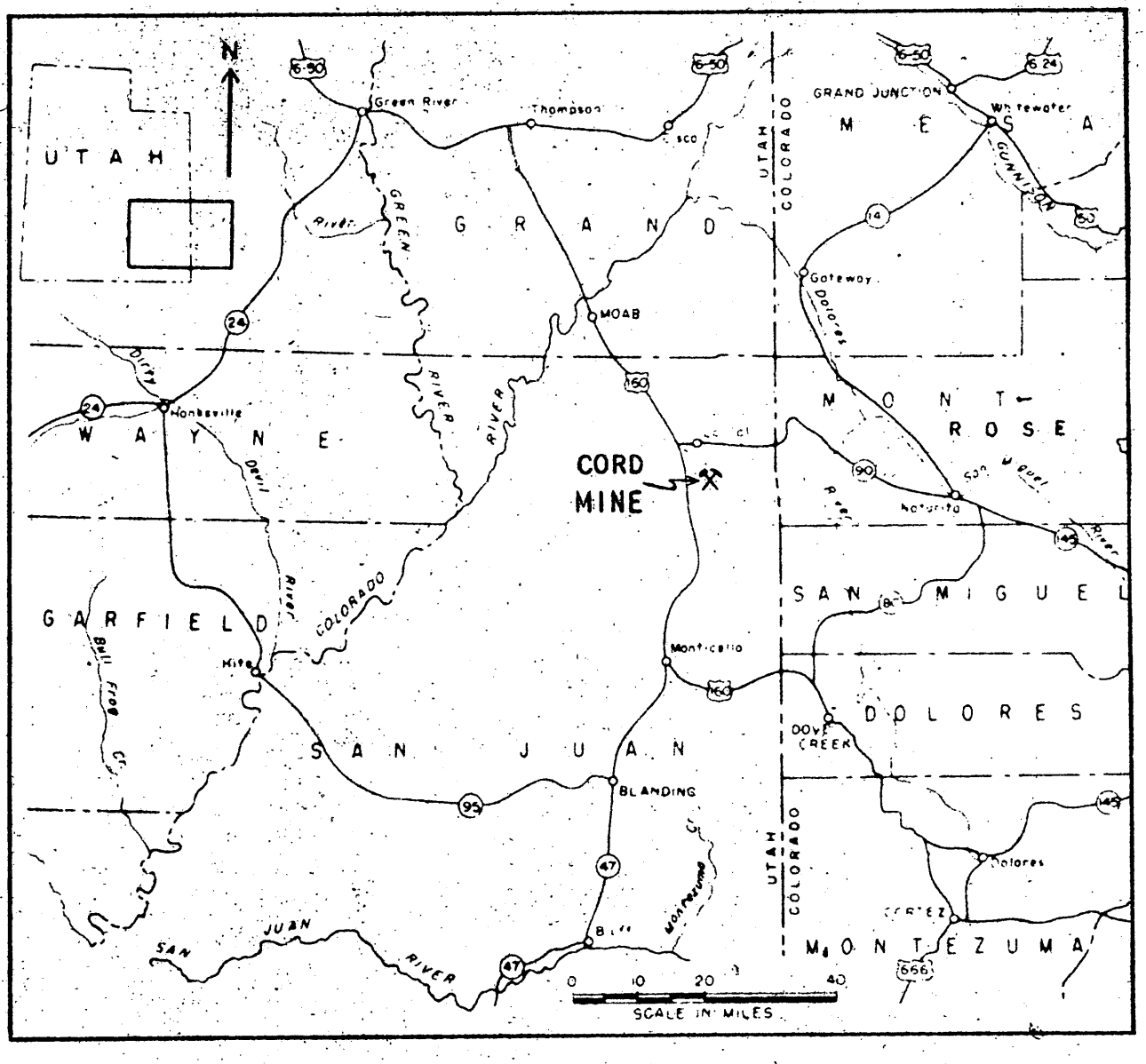
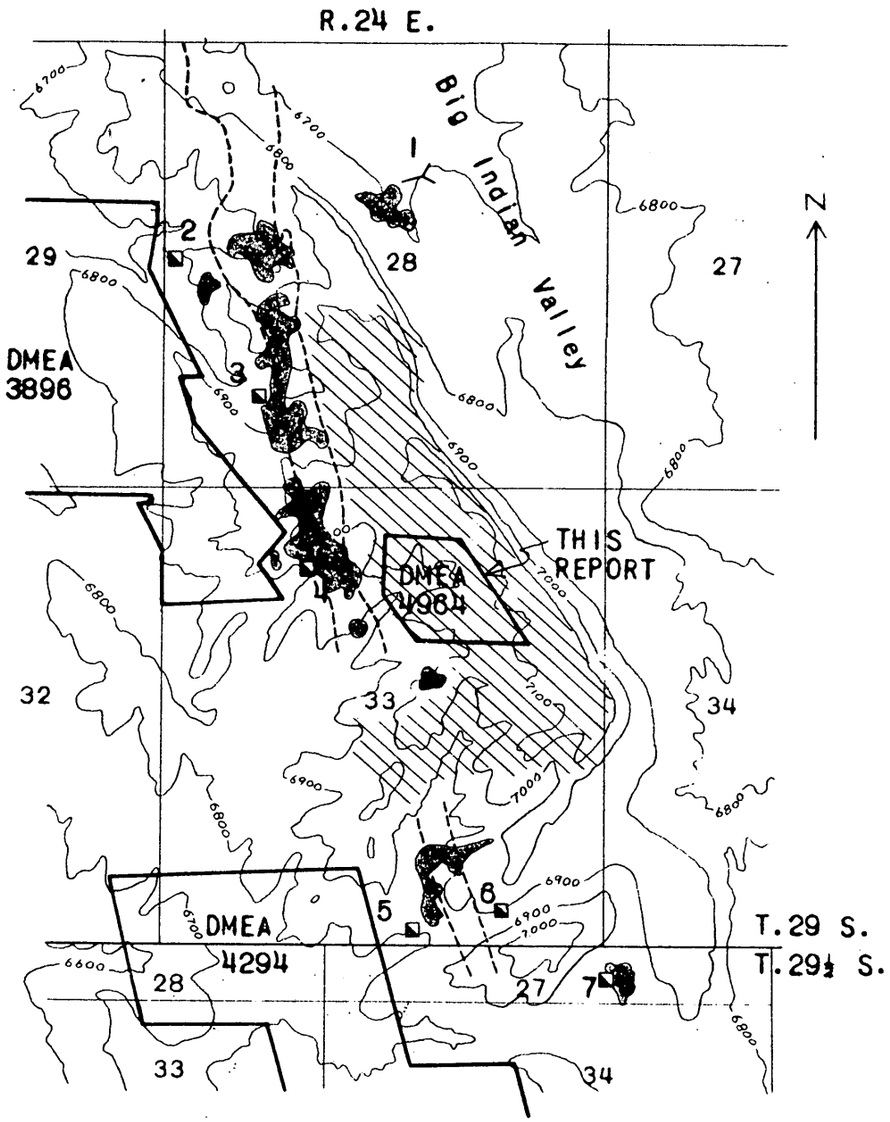


FIGURE 1.--INDEX MAP OF PART OF COLORADO PLATEAU SHOWING LOCATION OF THE CORD MINE, JEN, INC., SAN JUAN COUNTY, UTAH.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
APRIL 1958
DOCKET 4964



EXPLANATION

APPROXIMATE AREA WHERE FRIABLE SANDSTONE UNIT OF THE CUTLER IS IN CONTACT WITH THE BASE OF THE OVERLYING CHINLE FORMATION

APPROXIMATE POSITION OF HIGH-GRADE URANIUM DEPOSIT

UNEXPLORED AREA

AREAS COVERED BY DMEA APPLICATIONS

SHAFT AND INCLINE

INDEX TO MINES

1	NORTH ALICE	5	LASAL
2	FAR WEST	6	COLUMBIA
3	RADON	7	SAN JUAN
4	CORD		

Note: TOPOGRAPHY MODIFIED FROM USGS TOPOGRAPHIC QUADRANGLES. ORE DEPOSITS AND EXTENT OF FRIABLE SANDSTONE TAKEN FROM UNPUBLISHED MAPS OF THE U.S. ATOMIC ENERGY COMMISSION.

2000 0 6000 FEET

FIGURE 2.--MAP SHOWING DISTRIBUTION OF URANIUM DEPOSITS IN THE VICINITY OF THE CORD MINE, JEN, INC., SAN JUAN COUNTY, UTAH.

DMEA
RECEIVED APR 7 1958
DATE
4/7

224 New Customhouse
Denver 2, Colorado
April 2, 1958

Memorandum

To: M. H. Salsbury w/enclosures 1-5
J. W. Hasler w/enclosures 2-5

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

Subject: Docket No. DMEA 4964 (Uranium) Jen Inc. (Uncle Ben and Pasco claims) San Juan County, Utah

Enclosed is the following material relating to the subject docket.

1. Copy of application for Government assistance in exploration work under the DMEA program.

2. Memorandum of Review by James Paone, USBM.

3. Memorandum of Review by W. P. Williams, USGS.

4. Letter of transmittal of the foregoing to this office dated March 28, 1958, from the Chairman, Operating Committee, DMEA.

5. Routing Control sheet.

A field examination of the property and a joint report of findings and recommendations pertaining to the Applicant's work proposal are requested.

If the field examiners recommend Government participation in the proposed exploration program, please submit 11 extra copies of each map used in the joint report which show the land to be subordinated and the location and extent of recommended work relative to property boundaries.

Original signed by
E. N. HARSHMAN

E. N. Harshman

EMC:dp

cc: Sec. Op. Comm. (2)
Harshman
DMEA/DFC
Docket
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
3/27	Ching	700
3/27	Ellis	700
3/28	GCS	130
"	Jones	110
"	Weatherby	100
		~~240~~
		220
		700

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

MAR 28 1958

Re: Docket No. DMEA-4964 (Uranium)
Jen, Inc.
Uncle Ben and Pasco Claims
San Juan County, Utah

Dear Mr. King:

The subject application is being referred to you for investigation, a field examination if warranted, and recommendations.

Enclosed for your information are memoranda, dated March 25 and 26, 1958, by James Paone, USBM, and W. P. Williams, USGS, respectively, relating to the application. Also enclosed is a copy of the application for the use of the Field Team.

If a contract is recommended, the Applicant should be advised that a Consent to Lien and Subordination Agreement will be required of the E. L. Cord Partnership. However, the Applicant should also be advised that, while early submission of this form will expedite the processing of the application, its presentation does not imply that a contract will be approved.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GB)

Enclosures
APPROVED:

P. F. Yopes (GB)
Member, Bureau of Mines

Thor H. Kiilsgaard (GB)
Member, Geological Survey

MChing/izm 3-27-58
cc: Mr. Ching
Operating Committee
Admr.'s Reading File
THKiilsgaard, 5224

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
3/27	Ching	700
3/27	Eddy	700
3/28	Selfridge	430
"	[illegible]	110
"	[illegible]	100
		220
3/26		700

MAR 28 1958

Mr. C. E. Tuttle, President
Jen, Inc.
P. O. Box 458
Moab, Utah

Re: Docket No. DMEA-4964 (Uranium)
Uncle Ben and Pasco Claims
San Juan County, Utah

3/28 Yoder (130)
3/28 Selfridge (130)

Dear Mr. Tuttle:

The application for assistance in exploring your property, under the captioned docket number, has been reviewed by the Division of Rare and Miscellaneous Metals of the Defense Minerals Exploration Administration. It has been referred to:

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

The Regional Office will contact you in regard to your project if additional information is required.

Sincerely yours,

(for)

Administrator

MChing/izm 3-27-58
cc: Mr. Ching
Admr.'s Reading File
DMEA FT Reg. 3 (2)

8623

RECEIVED MAR 26 1958
DATE | INITIALS | CODE
3/26 C
4 700
MC
Complete

IN REPLY REFER TO:

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

Memorandum

March 26, 1958

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

From: W. P. Williams, U. S. Geological Survey

Subject: Review of application, DMEA 4964 (uranium), Jen, Inc., Cord mine, San Juan County, Utah.

The applicant proposes an exploration project to seek for an extension of the known ore deposits in the Cord mine. The property is located about 3 miles northeast of Steen's famed Mi Vida mine in the Big Indian district of Utah.

According to the applicant, the Cord mine has produced 86,313 tons of ore at an average grade of 0.57 percent U_3O_8. The applicant estimates ore reserves in the Cord mine at about 260,000 tons at a grade of 0.66 percent U_3O_8.

The proposed project would consist of 1,800 feet of crosscutting and drifting and 8,450 linear feet of drilling at a total estimated cost of $75,400.

Judging from drill holes that exist nearest the site of the proposed work, (viz. holes nos. UB 5, 71, 62, 24, 20, DD 16, BL 23, et al) it appears that thickness of ore and grade are becoming poorer on the eastern part of the property. If such a trend is present, perhaps not all of the proposed work is now justified. On the other hand, not a great deal of drilling has been done on the Pasco and Uncle Ben claims, and a sizeable extension to the Cord mine is a worthwhile exploration target. Furthermore, the property is located directly on the trend of other large ore deposits in the district.

I recommend that the application be referred to the Field Team for their review and suitable report. From information available here, some exploration work seems warranted. If so, perhaps an initial stage of drilling followed by later stages of underground openings might be advisable.

?

W. P. Williams

W. P. Williams

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 26 1958

DATE	INITIALS	CODE
3/26	C	220
"	CWE	700
	Ching	700

March 25, 1958

4964

Uranium
Jen, Inc.
Cord Mine
San Juan County, Utah
$75,400.

Ernest William Ellis, DMEA Member
Uranium Commodity Committee
James Paone, Bureau of Mines Member
Uranium Commodity Committee

Application

3/21/58 3/24/58

COPY

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

March 21, 1958

Jen, Inc.
P. O. Box 458
Moab, Utah

Subject: DMEA-4964

Dear Mr. Tuttle:

Your application for exploration assistance, dated March 4, 1958 submitted to our office at Denver, Colorado has been assigned Docket Number DMEA-4964 and referred to the Rare & Miscellaneous Division in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

Sincerely yours,

Allen S. Dakan, Director
Operations Control and
Statistics Division

Copy to: Region III

Office of Director
DMEA
RECEIVED MAR 19
DATE

20A New Customhouse
Denver 2, Colorado

March 17, 1958

Mr. C. E. Tuttle, President
Inc., Ent.
818 Felt Building
Salt Lake City 11, Utah

Re: Application for DMEA assistance
(Uranium) (Dead Mine) San Juan
County, Utah

Dear Mr. Tuttle:

Receipt is acknowledged of your letter dated March 13, 1958, together with four copies of the subject application.

Should further information be required, you will be advised.

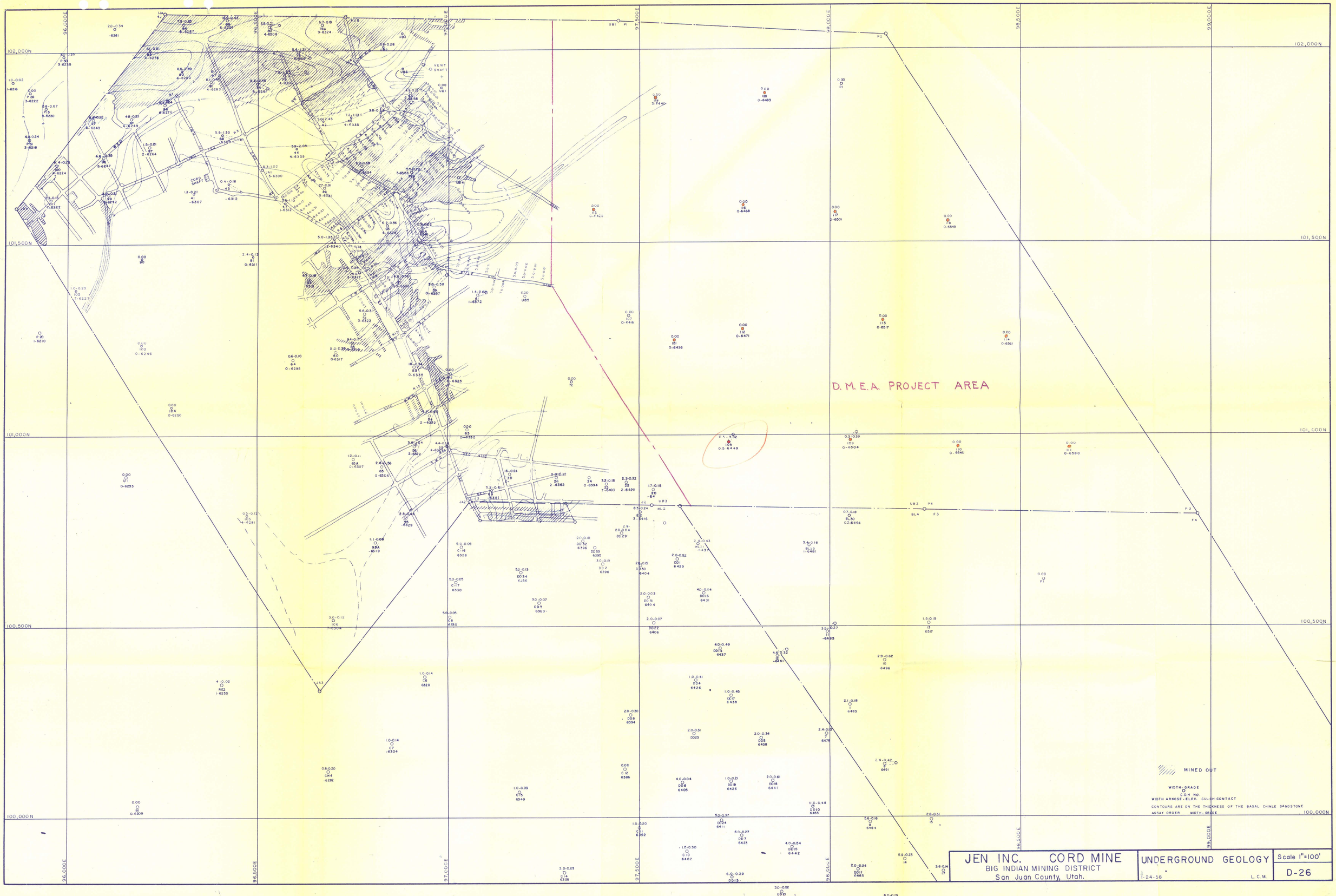
Very truly yours,

Original signed by
W. H. KING

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

WHC:dy

cc: Mec. Oper. Comm.
Harshman
Hasler
Salsbury
DMEA/DFC
Docket
Chron.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100,500N
100,000N
D. M. E. A. PROJECT AREA
VENT SHAFT
CORD SHAFT
MINED OUT
WIDTH-GRADE
C.D.H. NO.
WIDTH ARKOSE-ELEV. CU-CH CONTACT
CONTOURS ARE ON THE THICKNESS OF THE BASAL CHINLE SANDSTONE
ASSAY ORDER WIDTH-GRADE
JEN INC. CORD MINE
BIG INDIAN MINING DISTRICT
San Juan County, Utah.
UNDERGROUND GEOLOGY
1-24-58
L.C.M.
Scale 1"=100'
D-26

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

OFFICE OF MINERALS EXPLORATION
JANUARY 1959, Idm-E 1198, DMEA 4964

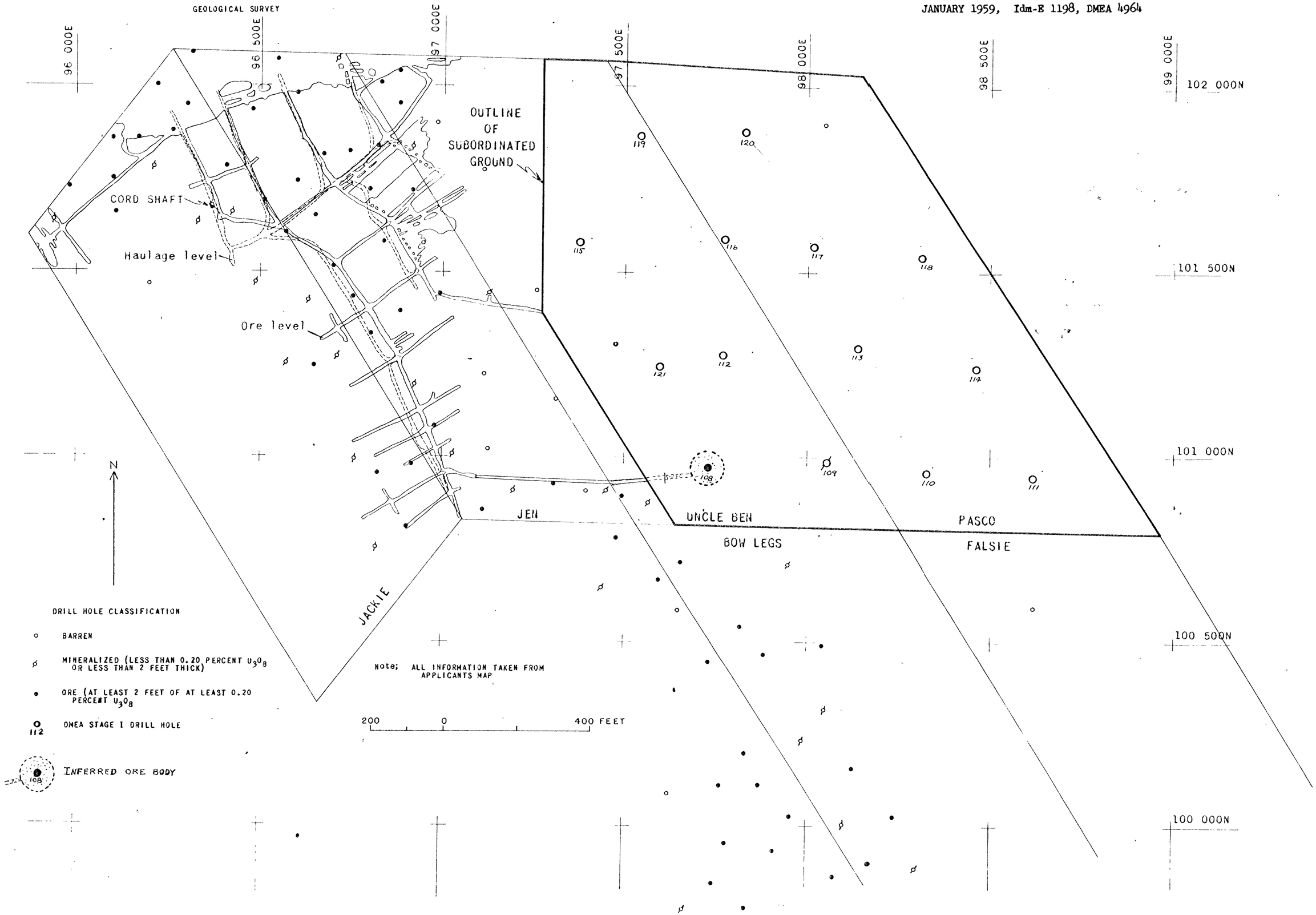
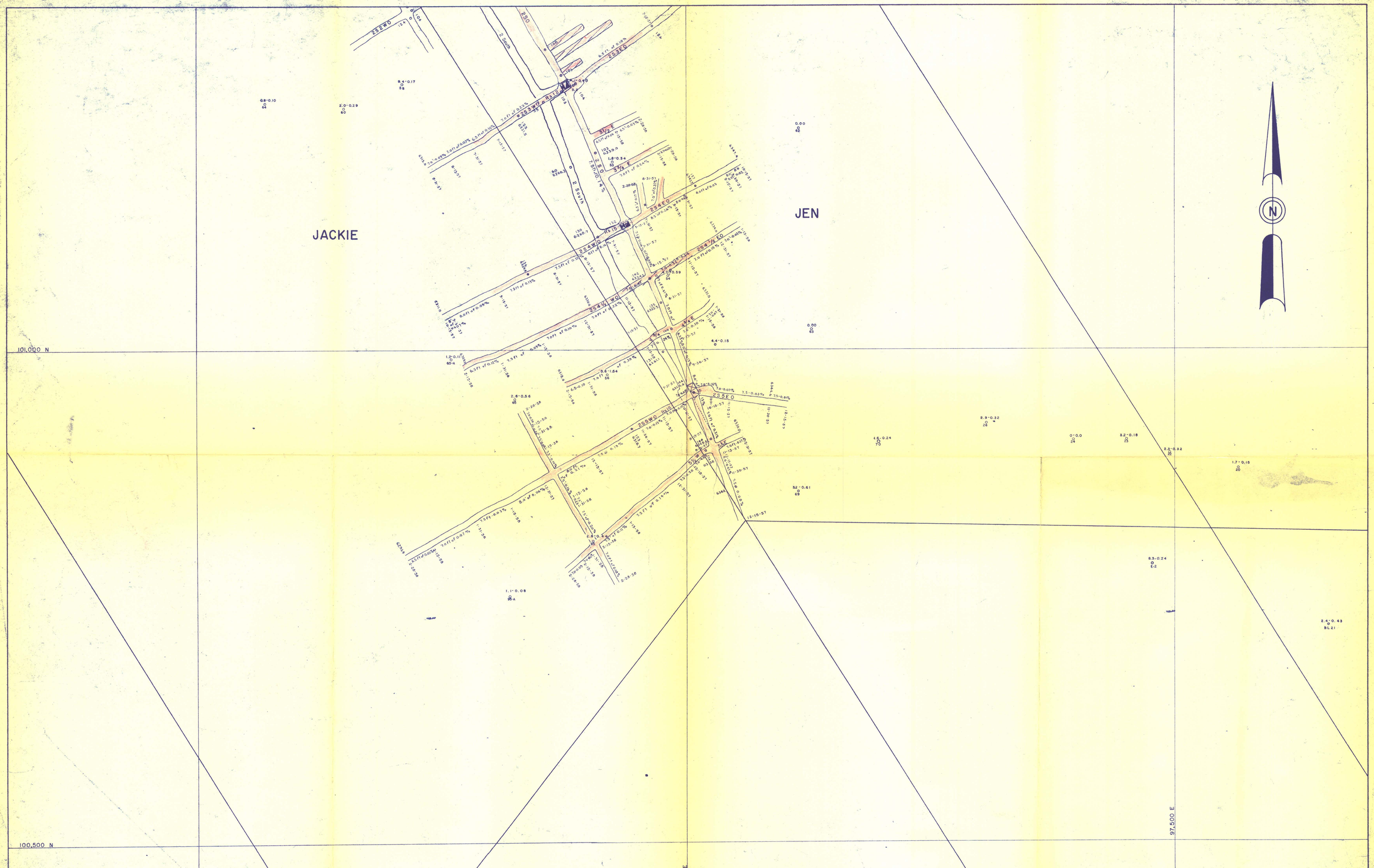
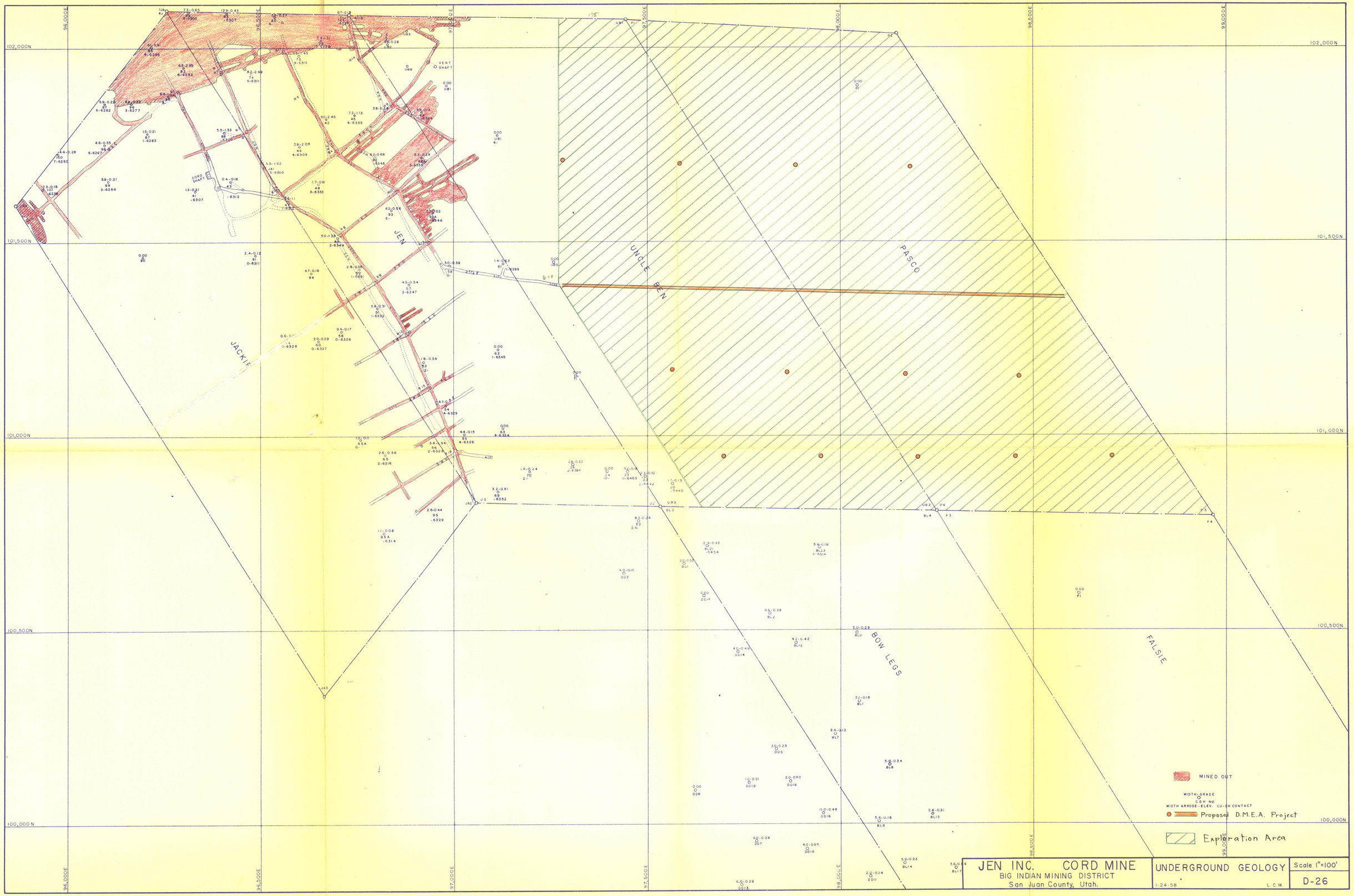


FIGURE 3.--MAP OF UNDERGROUND MINE WORKINGS, DRILL HOLES, AND DMEA PROJECT WORK CORD MINE, JEN, INC., SAN JUAN COUNTY, UTAH.


JACKIE
JEN
N
101,000 N
100,500 N
96,500 N
97,000 E
97,500 E
2 South
BIG INDIAN MINING DISTRICT
San Juan County, Utah
Date: 3-1-58
RDC
JEN INC. — CORD MINE
DEVELOPEMENT & MINING
Scale 1" = 40'
D-3


96,000E
96,500E
97,000E
97,500E
98,000E
98,500E
99,000E
102,000N
101,500N
101,000N
100,500N
100,000N
JEN
JACKIE
UNCLE BEN
PASCO
BOW LEGS
FALSIE
CORD SHAFT
VENT SHAFT
MINED OUT
WIDTH-GRADE
C.D.H. NO.
WIDTH ARKOSE-ELEV. CU-CH CONTACT
Proposed D.M.E.A. Project
Exploration Area
JEN INC. CORD MINE
BIG INDIAN MINING DISTRICT
San Juan County, Utah.
UNDERGROUND GEOLOGY
1-24-58
L.C.M.
Scale 1"=100'
D-26

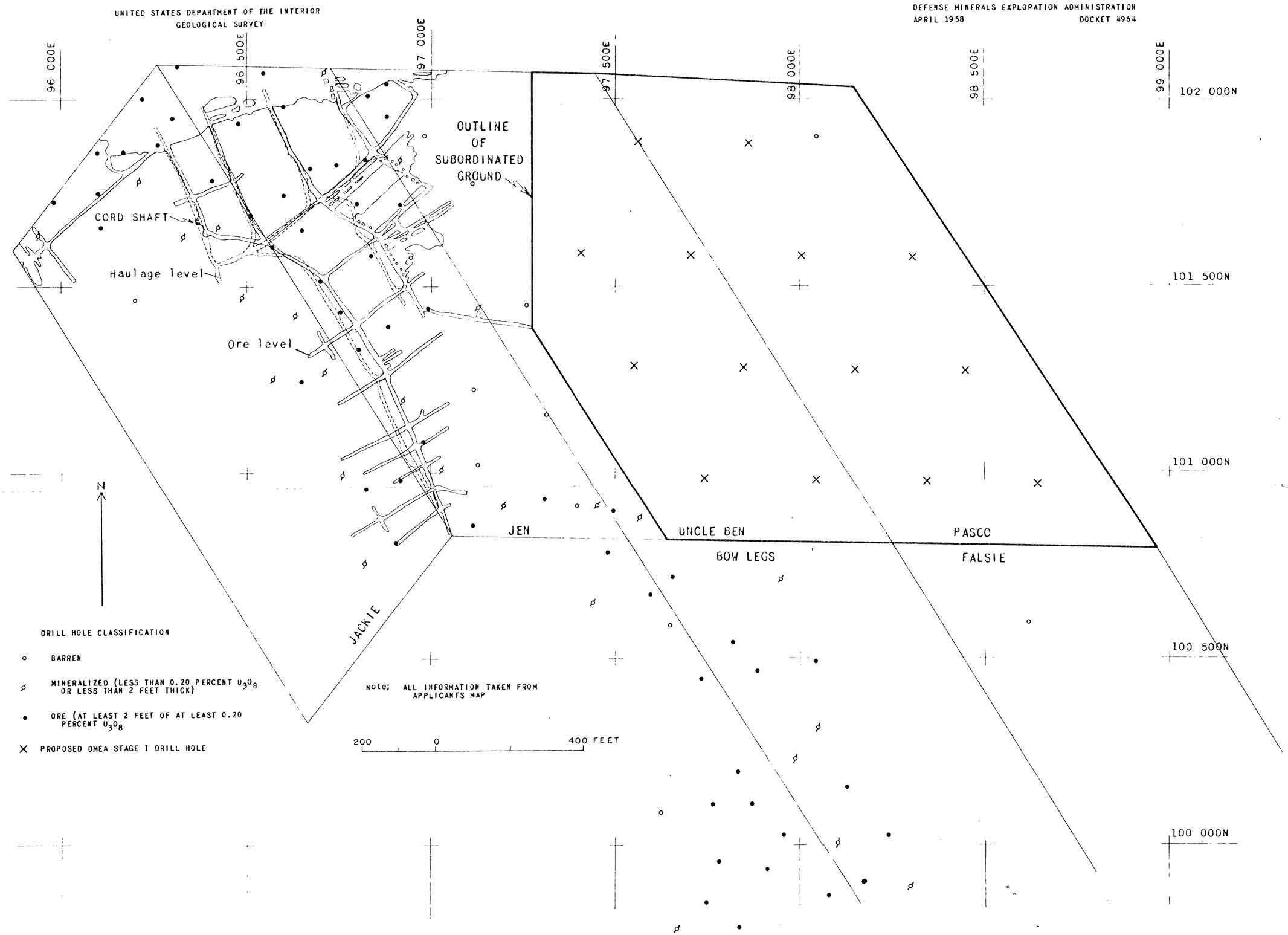
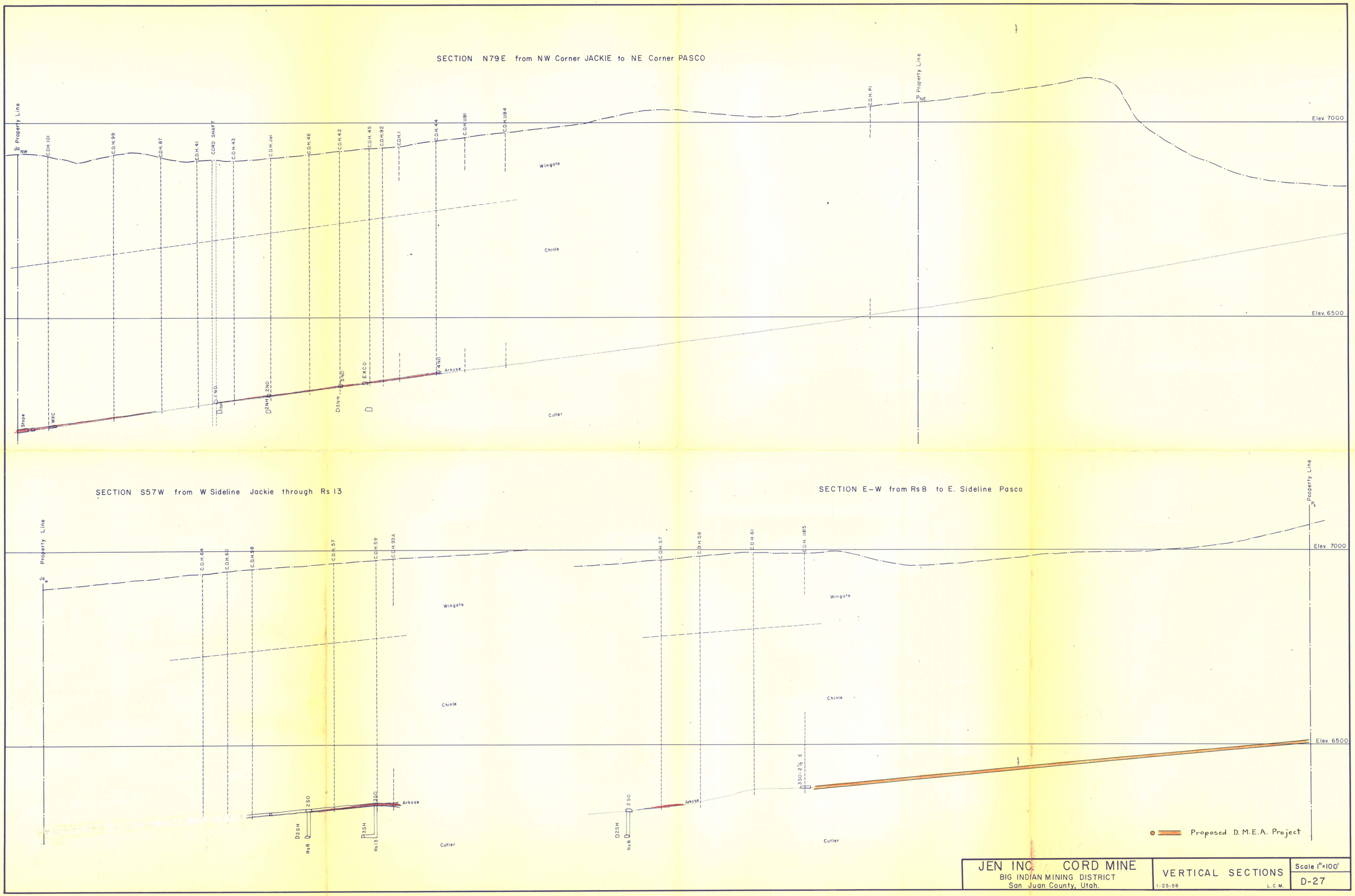
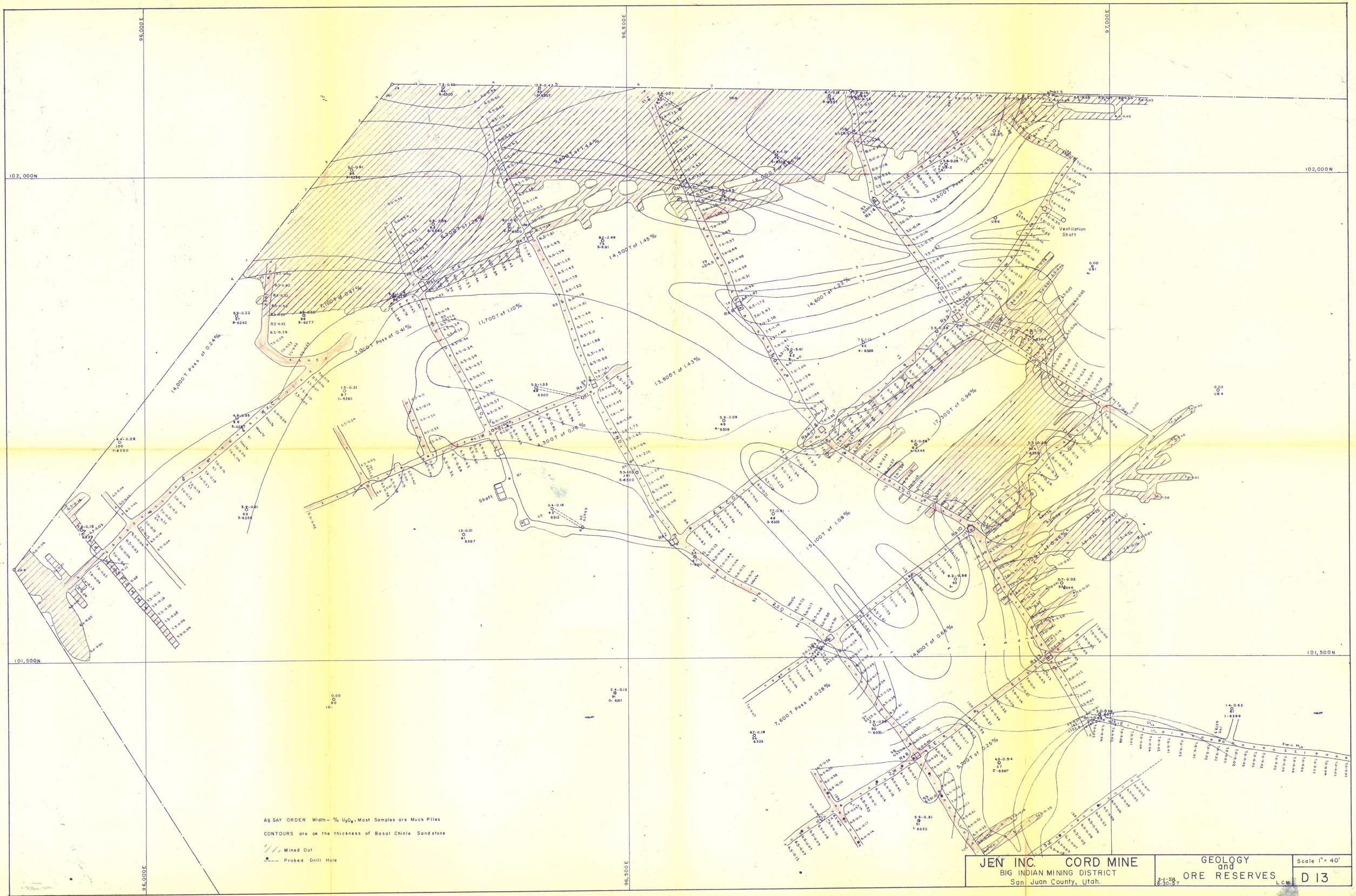
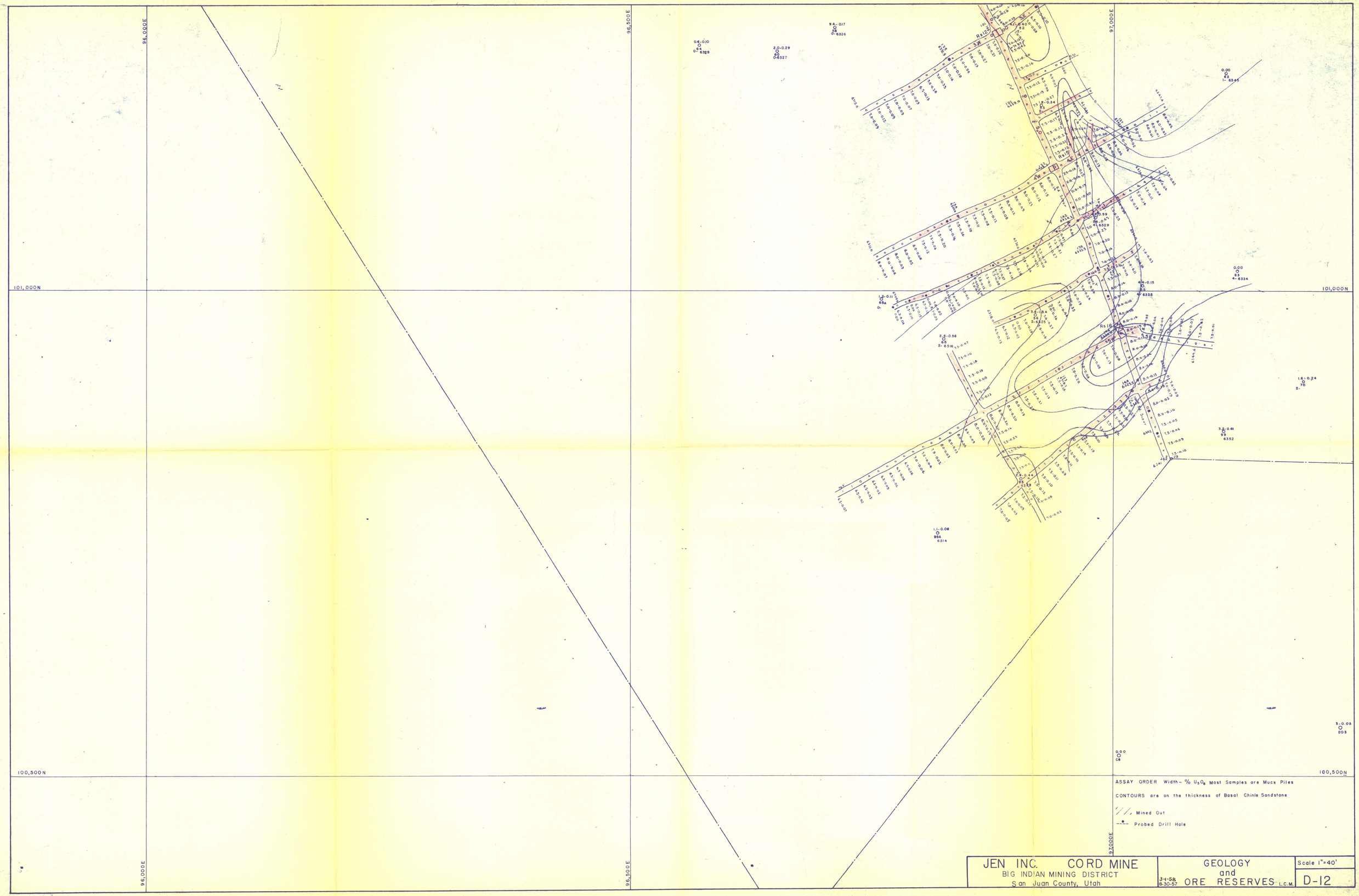
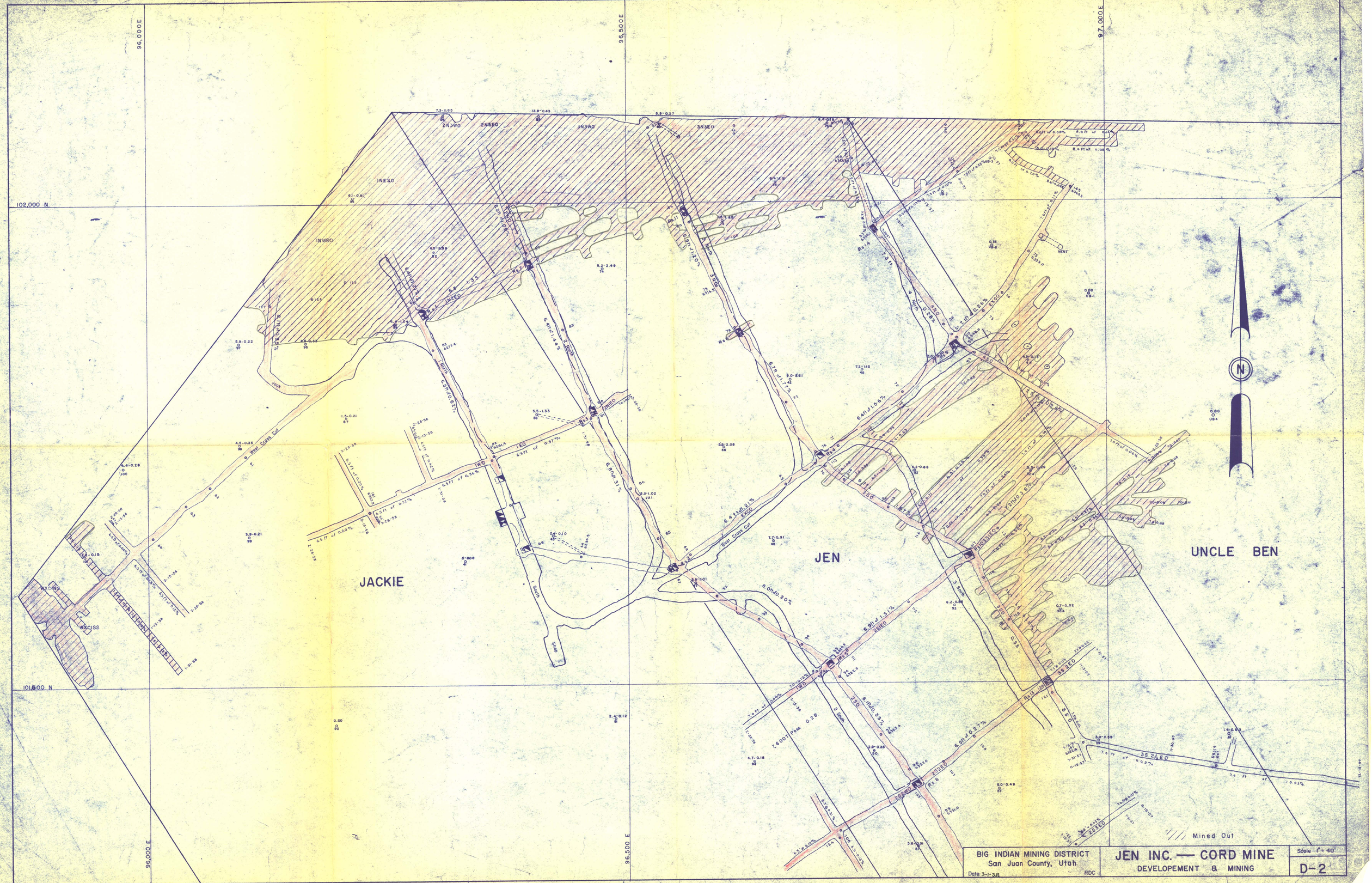


FIGURE 3.--MAP OF UNDERGROUND MINE WORKINGS, DRILL HOLES, AND PROPOSED DMEA WORK AT THE CORD MINE, JEN, INC., SAN JUAN COUNTY, UTAH.


SECTION N79E from NW Corner JACKIE to NE Corner PASCO
Property Line
Ja NW
C.D.H. 101
C.D.H. 99
C.D.H. 87
C.D.H. 41
CORD SHAFT
C.D.H. 43
C.D.H. 101
C.D.H. 46
C.D.H. 42
C.D.H. 45
C.D.H. 92
C.D.H. 1
C.D.H. 44
C.D.H. UB1
C.D.H. UB4
C.D.H. P1
P NE
Property Line
Elev. 7000
Elev. 6500
Wingate
Chinle
Cutler
Arkose
Slope
WXC
1 NO
2 NO
3 NO
4 NO
EXCO
D1N
D2N
D3N
D
SECTION S57W from W Sideline Jackie through Rs 13
Ja W
Property Line
C.D.H. 64
C.D.H. 60
C.D.H. 38
C.D.H. 57
C.D.H. 59
C.D.H. 93A
Wingate
Chinle
Cutler
Arkose
2 SO
3 SO
D2SH
D3SH
Rs 8
Rs 13
SECTION E-W from Rs 8 to E. Sideline Pasco
C.D.H. 57
C.D.H. 59
C.D.H. 61
C.D.H. UB5
350-2½ E
Wingate
Chinle
Cutler
Arkose
2 SO
D2SH
Rs 8
Property Line
R E
Elev. 7000
Elev. 6500
Proposed D.M.E.A. Project
JEN INC. CORD MINE
BIG INDIAN MINING DISTRICT
San Juan County, Utah.
VERTICAL SECTIONS
1-25-58
L.C.M.
Scale 1"=100'
D-27


95,000E
96,500E
97,000E
102,000N
101,500N
96,000E
14,500T of 1.45%
14,000T Poss of 0.24%
7,100T of 0.47%
7,000T Poss of 0.41%
11,700T of 1.10%
13,800T of 1.43%
13,600T Poss of 0.24%
14,600T of 2.2%
17,500T of 0.36%
15,100T of 1.08%
14,800T of 0.66%
7,600T Poss of 0.28%
5,700T of 0.25%
Ventilation Shaft
Shaft
AS SAY ORDER Width – % U_3O_8, Most Samples are Muck Piles
CONTOURS are on the thickness of Basal Chinle Sandstone
Mined Out
Probed Drill Hole
JEN INC. CORD MINE
BIG INDIAN MINING DISTRICT
San Juan County, Utah.
GEOLOGY and ORE RESERVES
3-1-58
8-30-57
L.C.M.
Scale 1" = 40'
D 13


96,000E
96,500E
97,000E
101,000N
100,500N
ASSAY ORDER Width- % U_3O_8 Most Samples are Muck Piles
CONTOURS are on the thickness of Basal Chinle Sandstone
Mined Out
Probed Drill Hole
JEN INC. CORD MINE
BIG INDIAN MINING DISTRICT
San Juan County, Utah
GEOLOGY
and
ORE RESERVES
3-1-58
8-30-57
L.C.M.
Scale 1"=40'
D-12


96,000 E
96,500 E
97,000 E
102,000 N
101,500 N
JACKIE
JEN
UNCLE BEN
West Cross Cut
East Cross Cut
1 South
2 South
3 South
Shop
Jack
VENT
Mined Out
N
BIG INDIAN MINING DISTRICT
San Juan County, Utah
Date: 3-1-58
RDC
JEN INC. — CORD MINE
DEVELOPEMENT & MINING
Scale 1" = 40'
D-2