DMEA Form 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Adm-E 1010 DMEA NO. 4294

Application (Denied
(Withdrawn
(After disposition, delete items not applicable)

Contract (Terminated - not Certified
(Cancelled
(Terminated - Certified
(Royalty Agreement

This is the official contract file containing all official records of the project. The records contained in the files are checked and are arranged in this order:

Left Side

Interim Royalty Audits
✓ Reports of Royalty Review
✓ Certification of Discovery
Certificate of Audit (Final)
Interim Audit(s)
✓ Report of Review
✓ Termination Notice or Agreement
Recision Notice
Assignment of Contract
✓ Contract Amendments (latest on top)
✓ Contract with all exhibits and annexes
Owner's Consent to Lien
Subordination Agreement
✓ Leases and assignments of leases
✓ Application and attachments
(3) Envelope for maps

Right Side

✓ Project summary
✓ Work completed analysis
All other material is filed in chronological order with correspondence including the following reports as checked:

✓ Final Field Team Report (Tab)
✓ Operator's Final Report
(2R) Interim Reports
(2R) Operator's monthly reports and all attachments (latest on top)
✓ On-site Exam Report(s) (Tab)
(4) Settlement Sheets

When the volume of records is expected to warrant additional folders, or when convenience of reference warrants separate folders for certain records, they should be set up in this order:

Left Side

Folder No. 2: (In chron. order)
~~Interim Summary Reports by W. O. Engineers~~
MF's 104

Right Side

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

Folder No. 3: Maps (Use pocket folder or envelope. Fold maps with title block out and show reference to related document or correspondence.)

Folder No. 4: Settlement Sheets

Folder No. 5: Drill Logs

9775

MME FORM 6 REFERENCE SLIP

REV. 2-59 OFFICE OF MINERALS EXPLORATION

TO:	DATE	INITIALS
1. Mr. Fumich	6/7	
2. Mr. ~~Johnson~~ Meaver	6/18	
3. Mr. ~~Selfridge~~		
4. Mr. ~~Griswold~~ ~~Mr. Murphy~~		
~~Mr. Johnson~~ 220		
5.		
FROM: E. D. Talbert	6/7	

FOR: Check items for action desired

____ Action ____ Reply for signature of _____

____ Approval ____ Investigate ____ Surname

____ Comment ____ Recommendations ____ Signature

____ Conference ____ Rewrite ____ File

____ Instructions ____ Your information

REMARKS:

Is this area for exploration?

Tons deep or grade? Both

494' to 533' depths

11,520 Tons - 0.24% U_3O_8

Ore beds 2.0 to 2.3 feet thick

Murphy

INT.-DUP. SEC., WASH., D.C. M56300-62

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF ROYALTY REVIEW

I have reviewed the files of the Washington office pertaining to Contract Idm-E1010, Docket DMEA-4294 (uranium), dated September 19, 1956, with

La Sal Mining and Development Company
Box 563
Moab, Utah

for the purpose of determining the amount of royalty payable to the U. S. Government on sales of minerals from property referred to as the La Sal Project in the Big Indian Mining District, San Juan County, Utah, during the period June 18, 1959, through May 14, 1962.

A certification of discovery or development was issued on August 12, 1957, and, in accordance with Article 8 of the contract, royalty is payable on all minerals produced from the land described in Article 2 of the contract for a period of 10 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. A Report of Review dated May 22, 1957, indicated accepted costs under the exploration contract amounting to $46,700.11 with the Government's contribution on a 75 percent basis being $35,025.09.

The status of the project, the scope of review, and the reasons therefor are stated on page 2.

This review established no sales subject to the Government's royalty subsequent to the period covered by a prior Report of Royalty Review which also found no sales subject to the Government's royalty through June 17, 1959. Accordingly, as of May 14, 1962, the royalty account of this project was found to be:

Total Royalty Payable	$ -0-
Total Royalty Paid	-0-
Balance of Royalty Due	$ -0-

E. D. Talbert
E. D. Talbert, OME Auditor

June 7, 1962

Idm-E1010 La Sal Mining and Development Company DMEA-4294

STATUS OF PROJECT, SCOPE OF REVIEW
AND REASONS THEREFOR

This contract provides that the Operator, as principal if the producer or as surety if not the producer, shall pay to the Government a percentage royalty on all minerals produced from 13 unpatented lode mining claims in secs. 32 and 33, T. 29 S., R. 24 E. and secs. 27, 28, 33, and 34, T. 29½ S., R. 24 E., S.L.M. & B., excluding portions of 8 such claims in conflict with claims of the Ouray Group to the west thereof. At the time the contract was executed, the Operator owned all 13 claims, excepting the areas of 3 claims in conflict but held pursuant to a mining agreement with Lisbon Uranium Corporation. The Operator was a wholly-owned subsidiary of the Homestake Mining Company, 100 Bush Street, San Francisco 4, California, and in consideration of the contract the latter executed a Guaranty of Royalty on October 8, 1956.

Exploration work under the contract was terminated on March 8, 1957. No production occurred during the exploration work. Subsequent examinations of the property and a May 14, 1962, reply by the Operator to an inquiry on MME Form 63 have disclosed neither production from nor change in possessory status of the property.

This review was made in lieu of an on-site audit of the Operator's accounts and records for the following reasons:

(1) The files indicate no production of minerals from the property under the contract during the period covered by this review; and

(2) The administrative cost to the Government of an on-site royalty audit at this time would be excessive in relation to the amount of possible royalty which might be disclosed.

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF ROYALTY REVIEW

I have reviewed the files of the Executive Officer, OME Field Team, Region III, Denver, Colorado pertaining to Contract Ldm-E1010, Docket No. DMEA 4294, dated September 19, 1956, with

La Sal Mining and Development Company
Box 563
Moab, Utah

for the purpose of determining the amount of royalties due the U. S. Government on the sales of Uranium, from property referred to as La Sal Project, located in San Juan County, Utah, during the period September 19, 1956 to June 17, 1959.

A Certification of Discovery or Development was issued on August 12, 1957, and accordingly royalty is payable on all production from the land described in Article 2 of the contract for a maximum period of 10 years from the date of the contract. A Report of Review in lieu of Final Cost Audit dated May 22, 1957, indicated accepted costs under the exploration contract amounting to $46,700.11, with the Government's contribution on a 75 percent basis being $35,025.09.

No royalty has been paid to the Government todate in connection with this contract.

This review was made in lieu of an on-site audit of the Operator's accounts and records for the following reasons:

(a) According to the Field Team's Semi-Annual Report of certified project for the period July 1, 1957 to December 31, 1957, operation ceased about March 31, 1957; no ore has been shipped since September 19, 1956, (the date of the exploration contract). Subsequent semi-annual reports of Field Team during period January 1, 1958 to December 31, 1958, indicate the property inactive, and no operations or ore shipments are anticipated in 1959.

(b) The administrative costs to the Government of an on-site royalty audit at this time would be excessive in relation to the amount of possible royalty which might be disclosed.

June 17, 1959

JUN 22 1959
O.M.E.

Donald T. Finch
Donald T. Finch
OME Auditor

F L Knouse
Martin
Chambers
Robin
Johnson

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

To: La Sal Mining and Development Company
Box 563
Moab, Utah

Pursuant to the provisions of Exploration Project Contract No. Idm-E1010, dated September 19, 1956, (Docket No. DMEA-4294), hereinafter called the "contract," between the La Sal Mining and Development Company, a Delaware 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 discovery or development from which production may be made has resulted from the exploration work.

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

Core drilling in the southeastern area of the property described in the contract intersected uranium mineralization of ore grade in the Triassic Chinle sedimentary rocks.

Dated: AUG 12 1957

FLKnouse/gla
(8-5-57) 8-12-57

THE UNITED STATES OF AMERICA

By [signature]
Administrator, Defense Minerals
Exploration Administration

cc to: Operator
Homestake Mining Company
100 Bush Street
San Francisco 4, Calif.
Contract Adm. & Audit Division
DMEA Field Team, Region III (2)
Finance Office
Docket
Jesse C. Johnson, Director,
Division of Raw Materials, AEC
Admr.'s Reading File
F. E. Johnson
Operating Committee
Frank D. Lamb, Rm. 3608
T. H. Kiilsgaard, Rm. 5224
F. L. Knouse

Docket copy

FLKnouse
Ellis
Ryan
Shuger
Chamberlain

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

To: La Sal Mining and Development Company
Box 563
Moab, Utah

Pursuant to the provisions of Exploration Project Contract No. Idm-E1010, dated September 19, 1956, (Docket No. DMEA-4294), hereinafter called the "contract," between the La Sal Mining and Development Company, a Delaware 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 discovery or development from which production may be made has resulted from the exploration work.

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

Core drilling in the southeastern area of the property described in the contract intersected a uranium mineralized body (or bodies) of ore grade in the Triassic Chinle sedimentary rocks.

Dated: _____

THE UNITED STATES OF AMERICA

By _____
Administrator, Defense Minerals
Exploration Administration

FLKnouse/gla
8-5-57
cc to: Operator
Homestake Mining Company
100 Bush Street
San Francisco 4, Calif.
Contract Adm. & Audit Division
DMEA Field Team, Region III (2)
Finance Office
Docket
Jesse C. Johnson, Director,
Division of Raw Materials, AEC
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Operating Committee
Frank D. Lamb, Rm. 3608
T. H. Kiilsgaard, Rm. 5224
F. L. Knouse

DEPARTMENT OF MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

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DMEA
RECEIVED MAY 27 1957

DATE	REMARKS	CODE
2-28	Chambers	800
5/29	Corr	100
		120
6-3	Ellis	700

REPORT OF REVIEW

I have reviewed the Monthly Reports of:

La Sal Mining and Development Company
P.O. Box 563
Moab, Utah

pertaining to Exploration Project Contract No. Idm-K1010, Docket No. DMEA-4294, including Amendment No. 1, for the months of November, 1956 to March, 1957, inclusive, covering a project for the exploration of Uranium on property known as La Sal Project 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, consultation with the Executive Officer, DMEA Field Team, 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 following reasons:

(a) the administrative cost to the Government of an audit would be excessive in relation to the estimated amount of possible disallowances thereunder;

(b) the Monthly Reports were supported by documentary proof of the costs claimed under the contract provisions for contribution by the Government on the basis of actual costs incurred;

(c) a major portion ($42,835.65) of the costs incurred covered work performed at unit rates under independent contract; and

(d) the balance ($3,864.46) of the costs incurred were under a contract provision for payment by the Government on the basis of fixed unit costs for work actually performed.

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

Total cost as billed by Contractor		$47,141.86
Exceptions: (Schedule attached)		
By DMEA Finance Officer	$441.75	
Herewith	0.00	441.75
Total Accepted Cost		$46,700.11

The contract calls for a 75 percent participation of exploration expenses by the United States Government. Therefore, payment to the contractor by the Government in the amount of Thirty-five thousand, twenty-five and 09/100ths Dollars
** $35,025.09 **
is considered 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.

May 22, 1957

T. R. Brading, Auditor

SCHEDULE OF EXCEPTIONS

LA SAL MINING AND DEVELOPMENT COMPANY

DOCKET NO. DMRA-4894 CONTRACT IBM-E1010

14 Hours Compressor and Jack Hammer @ $7.00/hour Disallowed, as rental of this equipment is not covered in contract.		$ 98.00
November and December, 1956		
Operator claimed 51.5 feet of core drilling @ $6.00/ft.	$309.00	
Allowed by Amendment No. 1, 51.5 ft. core drilling @ $4.75/ft.	244.62	
Excess Disallowed		64.38
January, 1957		
Operator claimed 147.5 feet of core drilling @ $6.00/ft.	$885.00	
Allowed by Amendment No. 1, 147.5 ft. core drilling @ $4.75/ft.	700.63	
Excess Disallowed		184.37
February, 1957		
Operator claimed 76 feet of core drilling @ $6.00/ft.	$456.00	
Allowed by Amendment No. 1, 76 ft. of core drilling @ $4.75/ft.	361.00	
Excess Disallowed		95.00
Total Amount Disallowed		$441.75

Amendment No. 1 allowed $4.75 per foot for core drilling in the 400 - 600 foot interval. Operator claimed full amount, as billed by the subcontractor, or $6.00 per foot. Disallowances made by Finance Officer; approved by Auditor.

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DMEA
RECEIVED MAY 24 1957
DATE | INITIALS | CODE

Government's copy

Mr. Chambers
Selfridge
Johnson

TERMINATION AGREEMENT

It is agreed this 8th day of May, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and La Sal Mining and Development Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E1010 (Docket No. DMEA-4294), dated September 19, 1956, as amended, hereinafter called the "Contract," that:

1. Effective March 8, 1957, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and are hereby terminated.

2. Notwithstanding the effective date in paragraph numbered 1, the Government shall contribute to allowable costs of sample analyses incurred subsequent to the effective date.

3. The Operator shall promptly perform all winding-up and settlement actions provided for in the Contract, including the rendering of the final account.

4. All rights of the Government provided for in the Contract with respect to percentage royalty and liens for its payment, and all rights as to records and audits set forth in the Contract, and recovery of any overpayment, are preserved.

5. The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this termination agreement.

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

THE UNITED STATES OF AMERICA

By C. P. Mittendorf
Administrator, Defense Minerals Exploration Administration

LA SAL MINING AND DEVELOPMENT COMPANY

By Donald H. McLaughlin

Title President

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DMEA
RECEIVED JAN 22 1957

DATE	INITIALS	CODE
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Langer
Appd. Sol. Off.
Ilkerson
Chambers
Selfridge

EXPLORATION PROJECT CONTRACT
LA SAL MINING AND DEVELOPMENT COMPANY
DOCKET NO. DMEA 4294

AMENDMENT NO. 1

It is agreed this 4th day of January, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and La Sal Mining and Development Company that Exploration Project Contract No. Idm-E1010 (Docket No. DMEA-4294), dated September 19, 1956, is amended, effective September 19, 1956, as follows:

Under the heading "Estimated Costs of the Project":

1. The last item under "Category (1) Independent Contracts" in Stage I is revised to read as follows:

"1,700 feet core drilling
from 400 feet to 600 feet deep
@ $4.75/ft.
from 600 feet to 800 feet deep
@ $6.00/ft. 10,200.00"

2. The last item under "Category (1) Independent Contracts" in Stage II is revised to read as follows:

"1,350 feet core drilling
from 400 feet to 600 feet deep
@ $4.75/ft.
from 600 feet to 800 feet deep
@ $6.00/ft. 8,100.00"

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, the amount of any item designated as "maximum," or the fixed unit cost of any item of work.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By O. M. Stewart
Administrator, Defense Minerals
Exploration Administration

LA SAL MINING AND
DEVELOPMENT COMPANY

By M. A. Mason

Title Ass't. Secretary

Docket copy

RECEIVED
OCT 29 1956

MF-200
(Revised June 1954)

Docket No. DMEA 4294

Commodity Uranium

Contract No. Idm-E 1010

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

EXPLORATION PROJECT CONTRACT[1]

It is agreed this SEP 19 1956 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] LA SAL MINING AND DEVELOPMENT COMPANY, a Delaware corporation, whose mailing address is Box 563 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 map, Figure 2.

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

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of 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] See Annex I of [5] ..... in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a [6] See Annex I, [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: None.

(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: "Guaranty of Royalty of the Homestake Mining Company, dated October 8, 1956."

(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 December 1, 1956, shall commence the work, and on or before **April 1, 1957** (unless the Operator's obligation to prosecute the work is terminated—see Article 10) shall ~~either~~ have completed the work ~~or shall have incurred allowable costs (see Article 6) in a sum not less than the estimated total allowable cost set forth in Exhibit "A"~~ **except as otherwise provided in Exhibit "A" with respect to stages of work. (See Article 13.)**

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

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

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

ARTICLE 5. *Contribution by the Government.*—The estimated total allowable cost of the project, set forth in Exhibit "A," is the sum of $ **87,132.00**
The Government shall contribute **75** percent of the allowable costs as they are incurred in a total sum not in excess of $ **65,349.00** : *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 [redacted] **See Article 13.**

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

CATEGORY (1)—INDEPENDENT CONTRACTS.—Work to be performed under independent contracts (see Article 4(b)). The estimated total amount of this category and the estimated cost of each unit of work for performance under an independent contract are maximums. **See Article 13.**

CATEGORY (2)—PERSONAL SERVICES.

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

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

Subcategory (c)—Labor.

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

CATEGORY (4)—OPERATING EQUIPMENT.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(c) *Reductions in costs.*—The Operator shall account for and give the Government credit for any incidental benefits, credits, or money received in the ordinary course of business in prosecuting the work (as by salvage or sale of materials or equipment, furnishing of room or board, furnishing of power or services to third persons, rebates or discounts on purchases, etc.), in the same ratio in which the Government contributes to costs; and such amounts shall be treated as a reduction in costs incurred so that they are available for use within the limit of the original estimated total cost. This provision does not apply to receipts from production which are subject to the Government's percentage royalty under the provisions of Article 9. **See Article 13.**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 13. *Changes and added provisions.*—

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

(c) In addition to the costs of work estimated in Exhibit "A" by categories of actual costs, the costs of work requirements specified in Exhibit "A" as "Fixed Unit Costs" are allowable costs of the project. The Government will contribute to the fixed unit costs as work units are performed. A "Fixed Unit Cost" is an agreed price for each unit of work to be performed regardless of costs incurred by the Operator. Costs set forth in Exhibit "A" include all allowable costs of the work to be performed under the contract.

16—70617-1

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

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

(f) Notwithstanding any other provision of the contract, the allowable 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.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C O Mitteudorf
Administrator, Defense Minerals
Exploration Administration

LA SAL MINING AND DEVELOPMENT COMPANY
(Operator)

By Donald H. McLaughlin

Title President

I, M. A. MASON, certify that I am the assistant secretary of the corporation named as Operator herein; that Donald H. McLaughlin who signed this contract on behalf of the Operator, was then President 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.

M A Mason
Assistant Secretary

[CORPORATE SEAL]

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

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OCT 20 1959

EXPLORATION PROJECT CONTRACT
LA SAL MINING AND DEVELOPMENT COMPANY
DOCKET NO. DMEA-4294

ANNEX I

The land referred to in Article 2 of the contract consists of 13 unpatented lode mining claims in secs. 32 and 33, T. 29 S., R. 24 E., and secs. 27, 28, 33, and 34, T. 29½ S., R. 24 E., S.L.M. & B., San Juan County, Utah. Notices of location are recorded in the San Juan County records, at the book and page opposite the name of each claim shown below.

Claim	Original Location Book	Original Location Page	Last Amended Location Book	Last Amended Location Page
Alice	21	138	25	24
Billie Mike	21	154	25	22
Dana	21	155	25	24
Jimmie	21	136	25	23
Susie	21	137	25	23
Thirty-three	23	200	43	244
Thirty-four	23	201	43	244
Thirty-five	25	161	43	245
Chris	21	136	25	20
Hudson	21	153	25	20
John David	21	153	25	25
Richard	21	154	25	25
Robin Roy	21	137	25	19

The locations of the claims listed above are shown on the attached map entitled "Figure 2.--Claim Map of La Sal Mining and Development Company DMEA Project 4294 Showing Proposed Stage I Drilling, San Juan County, Utah."

All of the claims listed above are owned by the Operator, except that areas of the Chris, Hudson, and Robin Roy claims are in conflict with the Dynaflo and Wig claims owned by Lisbon Uranium Corporation, and the conflicting areas may be mined by the Operator pursuant to a Mining Agreement with Lisbon Uranium Corporation.

Excluded Land

Specifically excluded from the land referred to in Article 2 are those portions of the Dana, Alice, Susie, Jimmie, Billie Mike, Thirty-three, Thirty-four, and Thirty-five that are in conflict with the Ouray No. 1 through Ouray No. 5 and Ouray No. 8 as shown on the attached map (Figure 2).

Docket copy

RECEIVED
OCT 20 1956

GUARANTY OF ROYALTY

WHEREAS, negotiations are now pending between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and La Sal Mining and Development Company, for an Exploration Project Contract relating to certain land in the State of Utah, County of San Juan, described in Annex I attached hereto and made a part hereof;

NOW THEREFORE, in consideration of the Government entering into said contract, the undersigned hereby guarantees the payment to the United States of America of any royalties that may fall due under the provisions of said contract or any amendment (including a termination agreement) or assignment thereof, notice of any such amendment or assignment being hereby waived. If the records of any sales or other disposition of the production upon which any such royalties may accrue, whether the production is by the Operator or by others, are not made available to the Government for the computation of said royalties, the undersigned agrees that the amounts thereof may be determined according to the best estimates that can reasonably be made; and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or his successor, or by his representative authorized for that purpose, shall be final and binding upon the undersigned.

Dated October 8, 1956.

HOMESTAKE MINING COMPANY

By Donald H. McLaughlin

I, JOHN W. HAMILTON, certify that I am the secretary of the corporation named as Guarantor herein; that DONALD H. MCLAUGHLIN, who signed this Guaranty, was then PRESIDENT of said corporation; that said Guaranty 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.

John W. Hamilton [Corporate Seal]

ANNEX I

The land consists of 13 unpatented lode mining claims in secs. 32 and 33, T. 29 S., R. 24 E., and secs. 27, 28, 33, and 34, T. 29½ S., R. 24 E., S.L.M. & B., San Juan County, Utah. Notices of location are recorded in the San Juan County records, at the book and page opposite the name of each claim shown below.

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Richard	21	154	25	25
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Specifically excluded from the land are those portions of the Dana, Alice, Susie, Jimmie, Billie Mike, Thirty-three, Thirty-four, and Thirty-five that are in conflict with the Ouray No. 1 through Ouray No. 5 and Ouray No. 8.

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EXPLORATION PROJECT CONTRACT
LA SAL MINING AND DEVELOPMENT COMPANY
DOCKET NO. DMRA-4294

EXHIBIT "A"

Description of the Work

General Provisions

The work consists of exploration by non-core and core drilling to test the Moss Back member of the Chinle of Triassic age and the underlying Cutler formation of Permian age.

Each hole shall be drilled non-core through the upper formations to a point approximately 30 feet above the Cutler-Chinle contact and then core drilled until the hole is bottomed to approximately but not more than 20 feet below the Cutler-Chinle contact. Drilling depths are expected to range from approximately 700 to 800 feet, or an average of 736 feet, and the core sections of the holes are expected to average 50 feet in length. The minimum size of core shall be BX. All holes shall be reamed and cased as necessary.

All core and cuttings from the cored section of each drill hole shall be saved by methods and at drilling intervals, and shall be checked for radioactivity, as specified by the Government. Sections of drill core, and cuttings, that indicate significant radioactivity shall be split into halves. One-half of each drill core section that is split shall be analyzed chemically for U_3O_8 and V_2O_5, and the other one-half of said core section and one-half of the split cuttings shall be furnished to the Government. The remaining half of the cuttings that indicates significant radioactivity, and nonradioactive core and cuttings from the other cored sections of each hole shall be properly boxed, labeled, and stored pending Government inspection and disposition.

All drill holes shall be logged geologically and probed for radioactivity, and four copies of each log shall be furnished to the Government with the Operator's monthly report.

No hole shall be drilled closer than 100 feet to the outside boundary of the land described in Article 2. No payment shall be made for an incomplete drill hole.

The method of all sampling is subject to the approval of the Government. Not more than 125 samples shall be analyzed chemically under Stage I for U_3O_8 and V_2O_5, and not more than 100 samples shall be analyzed chemically under Stage II for U_3O_8 and V_2O_5.

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

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

The work is divided into two stages as set forth below. The Operator shall complete Stage I, and shall perform as much of the work under Stage II as the Government approves in writing in advance, either after the completion of Stage I or concurrently.

Stage I

The locations of Stage I holes are indicated by an X on the attached map (Figure 2).

Prepare access roads and drill sites with a Model D-7 Caterpillar tractor w/dozer or an equivalent size unit, and drill 34 holes aggregating not more than 25,020 feet (1,700 feet of core and 23,320 feet of non-core hole). The holes shall be drilled in five east-west rows spaced approximately 900 feet apart, and the holes in each row shall be spaced not less than 250 feet apart.

Stage II

Prepare access roads and drill sites with a Model D-7 Caterpillar tractor w/dozer or an equivalent size unit, and drill not more than 27 holes, aggregating not more than 19,879 feet (1,350 feet of core and 18,529 feet of non-core drilling), as off-set holes to Stage I holes that penetrated significant mineralization. These holes shall be drilled as follows:

Four off-set holes shall be drilled surrounding any of the 34 Stage I holes that penetrated significant uranium mineralization at spacing of not less than 300 feet, i.e., one 300 feet northeast, one 300 feet northwest, one 300 feet southeast, and one 300 feet southwest, except where such drilling would violate the provision set forth above against drilling closer than 100 feet to a boundary of the land described in Article 2.

Estimated Costs of the Project

(In addition to the maximums set forth in Article 6, an asterisk indicates maximum.)

Stage I

Actual Costs

Category (1) Independent Contracts

100 hours of actual tractor-dozer operating time (including operator and all necessary costs) @ $12.00/hr.	$ 1,200.00	
13,600 feet non-core drilling from 0 feet to 400 feet deep @ $1.25/ft.	17,000.00	
6,800 feet non-core drilling from 400 feet to 600 feet deep @ $1.50/ft.	10,200.00	
2,920 feet non-core drilling from 600 feet to 800 feet deep @ $1.95/ft.	5,694.00	
1,700 feet core drilling from 600 feet to 800 feet deep @ $6.00/ft.	10,200.00	
Categories (2) through (6)	None	
Category (7) Miscellaneous		
(The only item of cost allowable under this category is sample analyses.)		
125 sample analyses @ $4.00* each sample	500.00	$44,794.00

Fixed Unit Costs (See Article 13)

Incidental allowance 1/ for each foot of core and non-core hole completed 25,020 feet @ $0.15/ft.	3,753.00	3,753.00
Estimated Total Cost of Stage I		$48,547.00

Stage II

Actual Costs

Category (1) Independent Contracts

80 hours of actual tractor-dozer operating time (including operator and all necessary costs) @ $12.00/hr.	$ 960.00	
10,800 feet non-core drilling from 0 feet to 400 feet deep @ $1.25/ft.	13,500.00	
5,400 feet non-core drilling from 400 feet to 600 feet deep @ $1.50/ft.	8,100.00	
2,329 feet non-core drilling from 600 feet to 800 feet deep @ $1.95/ft.	4,541.55	
1,350 feet core drilling from 600 feet to 800 feet deep @ $6.00/ft.	8,100.00	
Categories (2) through (6)	None	
Category (7) Miscellaneous		
(The only item of cost allowable under this category is sample analyses.)		
100 sample analyses @ $4.00* each sample	400.00	$35,601.55

Fixed Unit Costs (See Article 13)

Incidental allowance 1/ for each foot of core and non-core hole completed 19,879 feet @ $0.15/ft.	2,981.85	2,981.85
Estimated Total Cost of Stage II		$38,583.40

SUMMARY

Estimated Total Cost Stage I	$48,547.00	
Estimated Total Cost Stage II	38,583.40	
Total Estimated Cost of Project (rounded to) 87 130 48		$87,132.00
Government Participation @ 75%		$65,349.00

1/ Includes all costs that might otherwise be allowable costs of the project under Categories (2) through (6) of Article 6(a).

MF-200
(Revised June 1954)

Docket No. DMEA -429

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] La Sal Mining and Development Company, incorporated in State of Delaware, whose mailing address is Box 563 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 map Figure 2.

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

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of 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 entire interest 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: None

(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: (Attention Legal Division -- If it is determined a guarantee from the parent company is required, this paragraph should be completed when the guarantee is received.)

(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 April 1, 1957 (unless the Operator's obligation to prosecute the work is terminated—see Article 10) shall have completed the work [redacted] See Article 13.

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

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

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

ARTICLE 5. *Contribution by the Government.*—The estimated total allowable cost of the project, set forth in Exhibit "A," is the sum of $87,132.00. The Government shall contribute 75 percent of the allowable costs as they are incurred in a total sum not in excess of $65,349.00: *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; [redacted] See Article 13.

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

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

CATEGORY (2)—PERSONAL SERVICES.

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

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

Subcategory (c)—Labor.

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

CATEGORY (4)—OPERATING EQUIPMENT.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(c) *Reductions in costs.*—The Operator shall account for and give the Government credit for any incidental benefits, credits, or money received in the ordinary course of business in prosecuting the work (as by salvage or sale of materials or equipment, furnishing of room or board, furnishing of power or services to third persons, rebates or discounts on purchases, etc.), in the same ratio in which the Government contributes to costs; and such amounts shall be treated as a reduction in costs incurred so that they are available for use within the limit of the original estimated total cost. This provision does not apply to receipts from production which are subject to the Government's percentage royalty under the provisions of Article 9. **See Article 13.**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 13. *Changes and added provisions.*—
(a) In Article 3, all of the words following the reference to Article 10, except the words "shall have completed the work," are deleted. (b) Categories (2) through (7) of Article 6(a) are deleted except for sample analyses. (c) in addition to the costs of work estimated in Exhibit "A" by categories of actual costs, the costs of work requirements specified in Exhibit "A" as "Fixed Unit Costs" are allowable costs of the project. The Government will contribute to the fixed unit costs as work units are performed. A "Fixed Unit Cost" is an agreed price for each unit of work to be performed regardless of costs incurred by the Operator. Costs set forth in Exhibit "A" include 16—70617-1
all allowable costs of the work to be performed under the contract.
(d) That part of the last sentence in the first paragraph of Article 6(a) commencing after the semicolon, is deleted.
(e) In Article 6(c), the reference to Article 9 is changed to Article 8.
(f) In Category (1) of Article 6(a), the phrase "the estimated cost of each unit of work" shall be construed to mean, for the purposes of this contract, "the average cost per foot of drilling, including transportation, ~~drill site, and access trail preparation,~~ for each individual drill hole." / ? To be determined by Legal Div.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

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

La Sal Mining and Development Company,
(Operator)

By .....

.....

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

.....

[CORPORATE SEAL]

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

DRAFT
8/29/56
FLKnouse/gla

EXPLORATION PROJECT CONTRACT
LA SAL MINING AND DEVELOPMENT COMPANY
DOCKET NO. DMEA-4294

ANNEX I

The land referred to in Article 2 of the contract form consists of 13 unpatented lode mining claims in secs. 32 and 33, T. 29 S., R. 24 E., and secs. 27, 28, 33, and 34, T. 29½ S., R. 24 E., S.L.M. & B., San Juan County, Utah. Notices of location are recorded in the San Juan County records, at the book and page opposite the name of each claim shown below.

Claim	Original Location Book	Original Location Page	Last Amended Location Book	Last Amended Location Page
Alice	21	138	25	24
Billie Mike	21	154	25	22
Dana	21	155	25	24
Jimmie	21	136	25	23
Susie	21	137	25	23
Thirty-three	23	200	43	244
Thirty-four	23	201	43	244
Thirty-five	25	161	43	245
Chris	21	136	25	20
Hudson	21	153	25	20
John David	21	153	25	25
Richard	21	154	25	25
Robin Roy	21	137	25	19

The locations of the claims listed above are shown on the attached map entitled, "Figure 2. --Claim Map of La Sal Mining and Development Company DMEA Project 4294 Showing Proposed Stage I Drilling, San Juan County, Utah."

Specifically excluded from the project are those portions of the above eight (8) claims that are in conflict with the Ouray Nos. 1, 2, 3, 4, 5, and 8 claims as is shown on the above map (Figure 2).

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8/29/56
Flknouse/gla

EXPLORATION PROJECT CONTRACT
LA SAL MINING AND DEVELOPMENT COMPANY
DOCKET NO. DMEA-429

EXHIBIT "A"

Description of the Work

General Provisions

The work consists of exploration by non-core and core drilling to test the Moss Back member of the Chinle Triassic age and the underlying Cutler formation of Permian age.

Each hole shall be drilled non-core through the upper formations to a point approximately 30 feet above the Cutler-Chinle contact. Core drilling shall follow until the hole is bottomed not more than 20 feet below the Cutler-Chinle contact. Drilling depths are expectedto average 736 feet and the core sections of the holes are expectedto average 50 feet in length. The minimum size of core shall be BX. All holes shall be reamed and cased as necessary.

All core and cuttings from the cored section of each drill hole shall be saved by methods and at drilling intervals, and checked for radioactivity as specified by the Government. The section of the drill core and cuttings that indicate significant radioactivity shall be split into halves, and one-half of the drill core shall be analyzed chemically for U_3O_8 and V_2O_5, and one-half each of the core and cuttings furnished to the Government. The remaining half of the cuttings that indicates significant radioactivity, and core and cuttings from the other cored sections of each hole shall be properly boxed, labeled, and stored pending Government inspection and disposition.

All drill holes shall be logged geologically and probed for radioactivity and four copies of each log shall be furnished to the Government with the Operator's monthly report.

No hole shall be drilled closer than 100 feet to the outside boundary of the property or an area in conflict which has been excluded by the Operator. No payment shall be made for an incomplete drill hole.

The method of all sampling is subject to the approval of the Government. Not more than 125 samples shall be analysed chemically for Stage I for U_3O_8 and V_2O_5 and not more than 100 samples shall be analysed chemically for Stage II for U_3O_8 and V_2O_5.

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

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

The work is divided into two successive stages as described hereafter. The Operator shall complete Stage I, and shall perform as much of the work under Stage II as the Government approves in writing in advance, either after the completion of Stage I or concurrently.

STAGE I

The locations of Stage I holes are indicated on the attached map (Figure 2). Prepare access roads and drill sites with a Model D-7 Caterpillar tractor w/dozer or an equivalent size unit, and drill 34 holes aggregating not more than 25,020 feet (1,700 feet of core and

and 23,320 feet of non-corehole) in five east-west rows spaced approximately 900 feet apart, and the holes in each row shall be spaced ~~about~~ not less than 250 feet apart.

STAGE II

Prepare access roads and drill sites with a Model D-7 Caterpillar tractor w/dozer or an equivalent size unit, and drill not more than 27 holes aggregating not more than 19,879 feet (1,350 feet of core and 18,529 feet of non-core drilling) as off-set holes to Stage I holes, that penetrated significant mineralization. These holes shall be drilled as follows:

Four off-set holes shall be drilled surrounding ~~either~~ any of the 34 Stage I holes that penetrated significant uranium mineralization at spacing of not less than 300 feet, i.e., one 300 feet northeast, one 300 feet northwest, one 300 feet southeast, and one 300 feet southwest, except where such locations conflict with the property boundary or an area in conflict which has been excluded by the Operator.

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

Stage I

Actual Cost

Category (1) Independent Contracts

100 hours of actual tractor dozer operating time, including operator and all necessary cost @ $12.00/hr.	$ 1,200.00
13,600 feet non-core drilling from 0 feet to 400 feet deep @ $1.25/ft.	17,000.00
6,800 feet non-core drilling from 400 feet to 600 feet in depth @ $1.50/ft.	10,200.00
2,920 feet non-core drilling from 600 feet to 800 feet in depth @ $1.95/ft.	5,694.00
1,700 feet core drilling from 600 feet to 800 feet in depth @ $6.00/ft.	10,200.00

Categories (2) through (7) except sample analyses

None

Category (7) Miscellaneous

125 sample analyses @ $4.00* each sample	500.00

Fixed Unit Cost (See Article 13)

Incidental allowance for each foot of core and non-core hole completed

25,020 feet @ $0.15/ft.	$ 3,753.00	
Estimated total cost of Stage I		$48,547.00

Stage II

Actual Cost

Category (1) Independent Contracts

80 hours of actual tractor-dozer operating time, including operator and all necessary cost @ $12.00/hr.	$ 960.00	
10,800 feet non-core drilling from 0 feet to 400 feet deep @ $1.25/ft.	13,500.00	
5,400 feet non-core drilling from 400 feet to 600 feet deep @ $1.50/ft.	8,100.00	
2,329 feet non-core drilling from 600 feet to 800 feet deep @ $1.95/ft.	4,541.55	
1,350 feet core drilling from 600 feet to 800 feet deep @ $6.00/ft.	8,100.00	

Categories (2) through (7) except sample analyses

None

Category (7) Miscellaneous

100 sample analyses @ $4.00* each sample $ 400.00

Fixed Unit Cost (See Article 13)

Incidental allowance for each foot

of core and non-core hole completed

19,879 feet @ $0.15/ft. 2,981.85

Estimated total cost of Stage II $38,583.40

S U M M A R Y

Estimated total cost Stage I	$48,547.00	
Estimated total cost Stage II	38,583.40	
Total Estimated Cost of Project (rounded to)		$87,132.00
Government Participation at 75%		$65,349.00

6/26/56

6/20/56
a.l.

LA SAL MINING & DEVELOPMENT CO.

MOAB, UTAH

June 18, 1956

RECEIVED
JUN 20 1956

United States Department of the Interior
Defense Minerals Exploration Administration
Rare and Miscellaneous Metals Division
Washington 25, D. C.

Re: Docket No. DMEA 4294
(Uranium) La Sal Project
San Juan County, Utah

Attention: Mr. F. L. Knouse, Acting Chief

Dear Mr. Knouse:

Your letter of May 25, 1956, which was addressed to Dr. McLaughlin has been forwarded to me for answering.

Enclosed are lithologic logs and more detailed gamma-ray assay data for the discovery holes listed in our DMEA loan application.

I trust the enclosed data will satisfy your request of May 25th.

Yours very truly,

LA SAL MINING & DEVELOPMENT CO.

Donald T. Delicate

Donald T. Delicate
Superintendent of Mines

Enclosures

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

Suppl. information for "MF 103"

DMEA 6/20/56
4294

LA SAL DRILL HOLES

Robin Roy #1

RECEIVED
JUN 20 1956

Geologic log of core

Depth	Description
505 - 511.6	Gray white, in part finely laminated and in part cg with clay galls, fg ss matrix 0.5-1 mm. Gall cg up to 1" across
511.6 - 514.5	Gray and brown gray, dense siltstone, slickensided, green ep (?) on slicks
Recovery	505 - 524 9.5 out of 19'
524 - 531	Gray, mostly dense but in part laminated siltstone, some slicks
Recovery	524 - 534 7 out of 10'
534 - 534.6	Same as above
534.6 - 536.2	Gray laminated siltstone and vfg ss
536.2 - 541.3	Gray white ss, with a few layers 1-3" thick of gray laminated siltstone. SS is coarse 1-3 mm, with some pebbles up to 5 mm. Kicks to .03
Cutler	
541.3 - 542.0	Gray, finely laminated vfg ss, layers of almost solid mica
Recovery	534 - 544 8 out of 10'
544 - 545.8	Gray, finely laminated vfg ss, layers of mica
545.8 - 549	White mg 1 mm ss, with some heavily micaceous layers
Recovery	544 - 549 5 out of 5'

LASAL DRILL HOLES

Robin Roy #1

RECEIVED
JUN 20 1956

A. E. C. radiometric log of hole:

Depth	Thickness	U_3O_8
95'	Wingate contact	
533.5 - 534	0.5'	.01
536 - 538.5	2.5'	.08
541	Cutler contact	
546.5	Bottom	

LASAL DRILL HOLES

Chris #1

Geologic log of core

Depth			Description
670	-	670.9	Arkosic ss 1 to 4 mm, scattered jasperoid pebbles, specks of U_3O_8
670.9	-	686	Red brown silty ss slightly micaceous, scattered bleaching in bands & spots
	Recovery		16 out of 20
690	-	692.5	Red brown silty ss slightly micaceous, scattered bleaching in bands & spots
692.5	-	699.4	White fine grained ss 1 to 2 mm loosely consolidated.

LASAL DRILL HOLES

Chris #1

AEC radiometric log of hole:

Depth	Thickness	U_3O_8
242'	Base of Wingate	
665' - 666'	1.0'	.01
669' - 670'	1.0'	.01 -
671'	Cutler contact	

LASAL DRILL HOLES

Hudson #1

Geologic log of core

Depth			Description
650	-	657.5	Light gray finely laminated silt stone, partly micaceous, scattered carbon flakes
657.5	-	661	Light gray vfg ss, less than 1mm specks of U_3O_8
661	-	662.9	Dark gray silty shale, slickensided, mottled with epidote

Recovery 12.9 out of 20

670	-	676	Dark gray shaly silt stone mottled with epidote alteration
676	-	686.9	Fine grained red brown silty ss, abundantly micaceous

Recovery 16.9 out of 20

LASAL DRILL HOLES

Hudson #1

RECEIVED
JUN 2 0 1956

A. E. C. radiometric log of hole:

Depth	
254'	Base of Wingate
	Barren
676'?	Top of Cutler ?

LASAL DRILL HOLES

John David #1

Geologic log of core

Depth	Description
600 - 600.8	Dark grey massive conglomerate -- matrix 2-5 mm. pebbles up to 2 cm.
600.8 - 601.3	Light grey banded sandstone 1-2mm.
601.3 - 602.5	Light grey massive sandstone 1-2 mm. with grey shale partings and clay galls up to 2 cm. across
602.5 - 610	Light to dark grey finely bedded sandstone 1-2 mm. scattered shale partings.
Recovery	600 - 610 - 10 ft.
610 - 612.3	Same as above
612.3 - 614.7	Light to dark grey banded sandstone and conglomerate. Matrix 1-2 mm. - pebbles up to 2 cm. some shale partings and clay galls and scattered carbon trash
614.7 - 619.5	Dark grey - finely bedded to dense shale.
Recovery	610 - 619.5 - 9½ ft.
619.5 - 628	Grey to greenish grey massive shale and silt stone scattered pebbles up to 5 mm. across. Green epidote (?) stain - slicken sides.
Recovery	619.5 - 628
628 - 629	Grey dense siltstone some red mottling
629 - 629.7	Red dense siltstone some grey mottling
629.7 - 630	Light grey massive sandstone 1-2 mm. scattered pebbles up to 5 mm.
630 - 630.2	Red dense siltstone
630.2 - 631.2	Light grey massive arkosic sandstone Cutler contact?
631.2 - 638	Red and grey mottled massive sandstone 1 mm. minus
Recovery	628 - 638.

LASAL DRILL HOLES

John David #1

A. E. C. radiometric log of hole:

Depth	Thickness	U_3O_8
629.0 - 633.0	4.0'	Trace of mineralization
636.5		Bottom

LASAL DRILL HOLES

Richard #1

Geologic log of core

Depth			Description
595	-	604.6	Wht, light gray 2-10 mm bands separated by 1-3 mm black bands, strongly banded mg ss to cg matrix 1-3 mm pebbles of qtz or felds up to 10 mm & shale pebbles to 2 cm.
604.6	-	604.9	Gray, finely banded fg ss or siltstone, with scattered 3-5 mm pebbles.
604.9	-	605.6	Wht, light gray, poorly banded cg, very small amount of fg gray matrix, mostly pebbles 5-10 mm.
605.6	-	609	Dark gray, dense, vfg siltstone, in part slickensided, part with brown coating
609	-	609.4	White vfg, dense limey cement in red vfg siltstone, giving mottled appearance, some ep.

Recovery 595 - 610 14.4 out of 15'

610	-	612.5	Dark gray, dense siltstone, in part slickensided with brown stain on slick surfaces
612.5	-	613.5	Same, with scattered pebbles up to 2 cm
613.5	-	615.7	Dark gray dense siltstone
615.7	-	617.0	Gray, gray white and red gray alternating bands of vfg siltstone, bands from 1 mm up to 3 mm thick
617	-	620	Gray, dense mg siltstone or fg ss, with scattered small pebbles 2-3 mm

Recovery 610 - 620 9.8 out of 10'

620	-	625.6	Same
625.6	-	629.7	Red & gray mottled, irregularly banded, fg ss, with scattered light gray irregular shaped pebbles up to 1 cm.
629.7	-	629.9	Light gray to white, dense ss, 1 mm, strongly cemented by lime (?)

Recovery 620 - 630 9.9 out of 10'

	630	-	631.8	White, weakly banded cg ss, in part arkosic, some scattered large up to 1" frags of red fg ss, well cemented by lime
				*******
Cutler	631.8	-	637	Red & gray wht, mottled, with red predominating, massive, vfg ss, little or no mica

Recovery 630 - 640 7.0 out of 10.0'

LASAL DRILL HOLES

Richard #1 (Continued)

RECEIVED
JUN 20 1956

Geologic log of core

Depth			Description
640	-	640.4	White to gray massive mg ss, arkosic
640.4	-	646.8	Red, weakly mottled with gray white, dense vfg 0.5 mm ss, scattered biotite
646.8	-	653.4	Red brown, very weakly mottled with gray white, dense vfg 0-3 mm ss, mica

Recovery 640 - 657 13.4 out of 17'

AEC probe 1' Tr

LASAL DRILL HOLES

Richard #1

A. E. C. radiometric log of hole:

Depth	Thickness	U_3O_8
450' - 451'	1.0'	Shale (?) with trace

LASAL DRILL HOLES

Dana #1

Driller's Log

Nov. 23 - Dec. 10

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JUN 20 1956

0-100 yellow ss

100-140 yellow ss with a red ss rib at 136

160-170 yellow ss

170-200 bl & red mud & red brn ss ribs

200-212 Red & blue sh & ss ribs

212-265 gray ss & red & blue mud lime ribs

265-300 hard red & brn ss with red & bl mud & lime ribs

300-380 hard red & brn ss with red & blue mud & limestone ribs

380-420 red brn ss with blue mud & ls

420-465 blue & red mud with hard gray ss & ls

465-500 red & brn ss with red & blue mud & ls

500-520 blue gray mud with gray ss & ls

520-600 blue gray sh with gray ss & lime ribs

600-643 red mud with ss ribs

Bottom

LASAL DRILL HOLES

Dana #1

AEC radiometric log of hole:

Absolutely negative

LASAL DRILL HOLES

Alice #1

Geologic log of core

Depth			Description
640	-	645.2	Gray white, weakly banded 0.5-1 mm ss, with flat clay galls up to 2 cm across
645-2	-	646.8	Gray, dense siltstone with scattered bands of gray white, weakly banded ss 0.5-1 cm
646.8	-	647.7	Gray white ss 0.5-1 mm.
647.7	-	649	Gray massive siltstone
649	-	650.3	Gray white, banded cg 1-5 mm ss, with pebble layers
650.3	-	657.5	Gray, in part finely cross laminated vfg ss or siltstone, some slickensides.

Recovery 640 - 660 17.5 out of 20.0'

660	-	663.7	Gray, dense siltstone, some slickensides, carbon flakes
663.7	-	666	White to light gray, banded ss, with abundant gray clay galls up to 1 cm.
666	-	676	Gray, dense siltstone, in part slickensided, with green ep (?) in slicks
Cutler 676	-	677.2	Purplish brown, gray mottled, fg 0.5-1 mm ss. Cutler?

Recovery 660 - 680 17.2 out of 20'

LASAL DRILL HOLES

Alice #1

RECEIVED
JUN 20 1956

A. E. C. radiometric log of hole:

Depth	Thickness	U_3O_8
235'	Base of Wingate	
665 - 666.5	1.5'	0.03
663 - 668	Mineralization	
680'	Top of Cutler	
690	Depth probed	

LASAL DRILL HOLES

Susie #1

Geologic log of core

Depth			Description
721	-	722.5	Light gray, faintly banded, with gray white vfg 05 mm ss
722.5	-	725.6	Gray, dense, vfg ss, or siltstone
725.6	-	725.8	Light gray vfg 05 mm ss
725.8	-	726.1	Gray, dense siltstone
726.1	-	729.1	Gray white, weakly banded fg to mg ss, with scattered coarser layers and pebbles
729.1	-	730	Gray white, banded, mg ss matrix, with shale pebbles and clay galls up to 2 cm
730	-	733	Gray white, weakly banded mg ss, scattered 1 mm black bands
733	-	735.8	Gray cross bedded fine laminae, vfg ss or siltstone with 2 or 3 layers of gray white cg ss 1-2 mm up to 4 inches thick
735.8	-	737.4	Gray white, weakly banded mg ss up to 1-3 mm
737.4	-	739	Gray, finely laminated and cross bedded mg ss, coarser near base and heavily pyritized, some calcite veined carbon
739	-	740	Gray, dense siltstone

Recovery 721 - 740 19 out of 19'

740	-	751	Gray, dense siltstone

Cutler?

751	-	756	Red, dense siltstone or vfg ss, in part bleached to gray, almost no mica

LASAL DRILL HOLES

Susie #1

A. E. C. radiometric log of hole:

Depth	U_3O_8
-	Tr

LASAL DRILL HOLES

Jimmie #1

Geologic log of core

Depth			Description
740	-	749.8	Light gray to almost white, finely bedded almost laminated, vfg ss 0.1 mm, mica on parting planes
749.8	-	750	Clay gall cg in matrix of white fg ss
750	-	753.7	Light gray alternate layers of fg ss & clay gall cg with carbon trash
			Recovery 740 - 760 13.7 out of 20'
760	-	760.8	Gray, dense to weakly banded siltstone to vfg ss. Clay galls near base up to 2 cm across
760.8	-	763.8	Gray, massive to weakly banded cog ss, with cg pebbles up to 1 cm across
763.8	-	768.5	Gray & red brown mottled, massive to weakly banded siltstone, carbon flakes
768.5	-	769.9	White & gray, massive, very coarse pebble cg. Most pebbles are clay, but rounded and up to more than 1 inch across
			Recovery 760 - 770 9.9 out of 10'
775	-	776.5	Purplish red and green gray msv silty shale with scattered sand grains, slickensides
776.5	-	778.1	Green gray and purplish red mottled msv pebble cg, pebbles up to 2 cm. across
778.1	-	780.6	Purplish red and green silty shale, slickensides
780.6	-	784	Gray msv siltstone
784	-	787	Green gray msv shale, slickensides
787	-	788	Gray msv siltstone
Cutler? 788	-	790	Red msv siltstone or vfg ss
			Recovery 785 - 790 15'
790	-	792	Same as above
792	-	795	Red and light gray mottled vfg ss
			Recovery 790 - 795 5'
795	-	800	Same with weak banding and generally coarser ss but still fg
800	-	803	Light gray with spots of red mg ss, bands of gray clay galls, well cemented, scattered mica
803	-	805	Red brown msv soft silty shale
			Recovery 795 - 808 10'
804.8			AEC puts top of Cutler here.

LASAL DRILL HOLES

Jimmie #1

A. E. C. radiometric log of hole:

Depth	Thickness	U_3O_8
784.5 - 786.0	1.5'	Trace of Mineralization
805.5		Bottom

LASAL DRILL HOLES

Billie Mike

Geologic log of core

Depth			Description
740	-	740.7	Gray green, finely banded vfg ss, with mica in parting planes
740.7	-	750	Gray, massive, very coarse clay galls in matrix of cog ss. Galls up to several inches across, matrix pebbles up to 5 mm, Py and calcite in matrix

Recovery 740 - 750 10 out of 10'

750	-	751.8	Same as above
751.8	-	758.5	Gray, dense siltstone, slickensided, greenish and brownish coating on slick surfaces

Recovery 750 - 760 8.5 out of 10'

760	-	764.9	Grades imperceptibly from siltstone of 758.5 to vfg ss and siltstone, red brown and gray mottled, dense, vfg mixed ss and siltstone 0.1-0.2 mm

Cutler

764.9	-	769.1	White, gray white & some red, finely banded mg ss 0.5 mm, abundant mica
769.1	-	770	White, dense cog 0.5 mm sandstone, weakly cemented

Recovery 760 - 770 10 out of 10'

A. E. C. radiometric log of hole:

Barren

Depth	
313'	Base of Wingate
759'	Top of Cutler

LASAL DRILL HOLES

Thirty-five #1

RECEIVED
JUN 20 1956

Geologic log of core

Depth			Description
690	-	696	Gray msv to finely laminated silty shale and siltstone, partly micaceous, carbon trash in siltstone
696	-	698.6	Grey banded 1-2 mm. ss heavy carbon bands near base
698.6	-	701.7	Gray msv siltstone irregular spots of fg and vfg texture
701.7	-	706.1	Light grey finely bedded well cemented 1-2 mm. ss, scattered bands of clay galls and carbon trash
706.1	-	710	Grey and white msv to weakly banded very coarse shale, siltstone and sand pebble cg up to 2 cm.

Recovery 690 - 710 20'

710	-	711	Dark grey msv vfg sh
711	-	712	Grey finely banded vfg ss
712	-	714	Grey pepper and salt banded mg ss
714	-	725.8	Grey white faintly banded fg ss with scattered layers of carbon trash
725.8	-	726.9	Grey msv coarse cg. pebbles 5-10 mm.
726.9	-	727.6	Grey finely cross laminated ss, some gravel layers
727.6	-	728	Grey msv coarse cg with clay galls up to 2 cm.
728	-	728.7	Grey finely banded to msy siltstone
728.7	-	729.4	Grey weakly banded very coarse cg of clay galls and siltstone pebbles up to 2 mm.
729.4	-	730.4	Grey finely banded vfg ss

Recovery 710 - 730 20.4'

730	-	746	Core ground up and lost

Cutler?

746	-	770	Mottled to banded red brown and white fg ss

Recovery 746 - 770 19.8'

A. E. C. radiometric log of hole:

Depth	Thickness	U_3O_8
744 - 745	1.0'	08
748		Trace

LASAL DRILL HOLES

Thirty-four #1

Geologic log of core

Depth			Description
635	-	649.6	Light grey finely bedded fine grained sandstone
649.6	-	651	Grey weakly bedded conglomerate - matrix 1-2 mm. pebbles up to 1 cm. and scattered shale partings and clay galls.

Recovery 635 - 651 15.6

651	-	656	Same as above
656	-	660	Light grey massive to finely bedded siltstone
660	-	662	Light grey alternating bands of finely bedded siltstone and coarse sandstone and conglomerate. Conglomerate pebbles up to 3 cms.
662	-	664.2	Light grey finely bedded siltstone
664.2	-	664.7	Light grey coarse sandstone to coarse conglomerate
664.7	-	665.2	Light grey weakly banded sandstone with clay galls. Sandstone 1 mm. clay galls up to 2 cm. across
665.2	-	665.8	Grey massive gravelly conglomerate 2-4 mm. wih scattered pebbles up to 1 cm.

Recovery 651 - 664.6 14.7 ft.

664.6	-	666.5	Same as above
666.5	-	668	Light grey finely banded fine grained sandstone 1 mm. micaceous
668	-	669.6	Grey finely banded fine grained sandstone - micaceous and carbon trash on partings

Recovery 664 - 670 5.8 ft.

669.6	-	671.1	Light grey finely bedded sandstone 1-2 mm.
671.1	-	673	Light grey finely bedded fine grained sandstone - carbon trash on partings
673	-	673.5	Interbedded light grey fine grained and coarse grained sandstone carbon trash
673.5	-	674	Grey conglomerate and large shale fragments
674	-	675.3	Grey massive siltstone - carbon bands
675.3	-	678	Greenish grey massive fine grained sandstone
678	-	678.8	Grey banded coarse grained sandstone to gravelly conglomerate

Recovery 664 - 670 5.8 ft.

678.8	-	680.7	Grey massive fine grained sandstone 1 mm.
680.7	-	681.5	Grey banded gravelly conglomerate. Pebbles up to 6 mm.
681.5	-	683.3	Light grey massive fine grained sandstone

Recovery 670 - 683.3 12.8 ft.

683	-	686.4	Same as above
686.4	-	690	Grey green massive shale with abundant sand and pebbles up to 1 cm.
690	-	695.5	Light grey weakly banded coarse grained arkosic sandstone 2-5 mm.

Recovery 683 - 696 12.3 ft.

LASAL DRILL HOLES

Thirty-four #1 (Cont'd)

Geologic log of core

Depth			Description
696	-	698.7	Same as above with 2 inch band of dark grey finely banded fine grained sandstone at 697.5
698.7	-	699.2	Dark grey finely banded very fine grained sandstone
Cutler			
699.2	-	711.8½	Red massive micaceous siltstone and fine grained sandstone

Recovery 696 - 716 15.9 ft.

A. E. C. radiometric log of hole:

Depth	Thickness	U_3O_8
678 - 679	1.0'	.03
691.5 - 693	1.5'	.03

LASAL DRILL HOLES

Thirty-Three #1

Geologic log of core

Depth			Description
640	-	656	Red finely bedded shale with scattered bands of red grey and grey white cross laminated shales. 2 inches of gravel conglomerate at 649½
656	-	658	Dark grey finely bedded shale
658	-	660	Grey finely bedded shale

Recovery 640 - 660 20'

740	-	743.5	Light to dark grey conglomerate - matrix 1-3 mm. pebbles up to 1 cm.
743.5	-	760	Red massive fine grained sandstone 1 mm. min.

Recovery 740 - 760 20'

A. E. C. radiometric log of hole:

Depth	Thickness	U_3O_8
733.5 - 734.5	1.0'	Tr

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

RECEIVED
MAY 17 1956

May 14, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Application for DMEA Aid (Uranium), LaSal Mining and Development Company, (LaSal Project), San Juan County, Utah

Enclosed are two copies of the subject application in the amount of $117,044.50.

One copy of the application is being forwarded to the Grand Junction office, DMEA, and one copy is being retained in our file.

DMEA Field Team, Region III

E. N. Harshman

By E. N. Harshman
Acting Executive Officer

Enclosures

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

May 16, 1956

224 New Customhouse
Denver 2, Colorado

Mr. Don Delicate
LaSal Mining and Development Company
P. O. Box 563
Moab, Utah

Re: Application for DMEA Aid (Uranium) LaSal Project, San Juan County, Utah

Dear Mr. Delicate:

Your application for DMEA aid on the LaSal Project was received in this office May 11, 1956 and has been forwarded the Washington office, DMEA, for further processing.

Very truly yours,

W. M. TRAVER,

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

WMC:ab

cc: Mr. Keller
Homestake Mining Company
Lead, South Dakota
Chair. Op. Comm. (2)
Subject
Chron.

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

RECEIVED
MAY 17 1956

May 14, 1956

294 New Customhouse
Denver 2, Colorado

Memorandum

To: J. W. Hasler

From: Field Team, Region III

Subject: Application for DMEA Aid (Uranium), LaSal Mining and Development Company, (LaSal Project), San Juan County, Utah

Enclosed is the subject application in the amount of $117,044.50.

Please discuss this application with the Bureau of Mines representative in the Grand Junction office and the AEC and forward this office nine copies of your recommendations concerning the advisability of making a field examination.

DMEA Field Team, Region III

E. N. Harshman

By E. N. Harshman
Acting Executive Officer

Enclosure

EHC:ab

cc: Sec. Op. Comm. (2)
Docket
Harshman
Shaw (2)
Chron.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DMEA
Date Rec'd
Form Approved.
Budget Bureau No. 42-R1035.2.

MAY 11 1956

BUREAU OF MINES

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by Applicant

Docket No. DMEA-4294
Metal or Mineral URANIUM
Date Received 5/17/56
Estimated Cost $ 117,044.50
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: LASAL MINING & DEVELOPMENT CO., BOX 563, MOAB, UTAH

A CORPORATION INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE AND QUALIFIED TO DO BUSINESS IN THE STATE OF UTAH.

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers. SEE SUPPLEMENTAL SHEET 1.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract

SEE SUPPLEMENTAL SHEETS 1 AND 2.

(*b*) State any mine name by which the property is known. LASAL PROJECT.

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

OWNER.

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property. NOT APPLICABLE.

(*e*) If you own the land, describe any liens or encumbrances on it

SEE SUPPLEMENTAL SHEETS 2 AND 3.

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

SEE SUPPLEMENTAL SHEET 1.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes. SEE SUPPLEMENTAL SHEET 3.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. SEE SUPP. SHEET 3.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you. SEE SUPPLEMENTAL SHEET 4 AND EXHIBITS D AND E.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

SEE SUPPLEMENTAL SHEET 5.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

16—66551-1

SEE SUPPLEMENTAL SHEET 5.

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore
THE PROJECT IS TO EXPLORE FOR URANIUM ORES WITH A MINOR CONTENT OF VANADIUM.

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc. SEE SUPPLEMENTAL SHEETS 5, 6 AND 7.

(*c*) The work will start within 30 days and be completed within 12 months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. SEE SUPP. SHEETS 7 AND 8.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.). SEE SUPPLEMENTAL SHEET 8.

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants. NOT APPLICABLE.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. NOT APPLICABLE.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be. NOT APPLICABLE.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project. NOT REQUIRED.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project. NOT REQUIRED.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes. NONE.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above. NONE.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)? YES.

(*b*) How do you propose to furnish your share of the costs?

[X] Money [ ] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated MAY 10, 1956

LA SAL MINING & DEVELOPMENT CO.
(Applicant)

By Donald H. McLaughlin
PRESIDENT

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

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MOAB, UTAH

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SUPPLEMENTAL SHEET I

INSTRUCTION I. (C) TITLES, NAMES AND ADDRESSES OF OFFICERS:

DONALD H. MCLAUGHLIN,	PRESIDENT
J. W. SWENT,	VICE-PRESIDENT
GUY N. BJORGE,	VICE-PRESIDENT
JOHN W. HAMILTON,	SECRETARY-TREASURER
M. A. MASON,	ASSISTANT SECRETARY

ALL ADDRESSES 100 BUSH STREET, 26TH FLOOR, SAN FRANCISCO 4, CALIFORNIA.

INSTRUCTION 3. (A) AND (F): APPLICANT'S PROPERTY RIGHTS--

THE UNPATENTED MINING CLAIMS TO BE INCLUDED IN THIS PROJECT ARE ALL LOCATED IN SECTIONS THIRTY-TWO AND THIRTY-THREE, IN TOWNSHIP TWENTY-NINE SOUTH, RANGE TWENTY-FOUR EAST OF SALT LAKE PERIMETER MERIDIAN, AND IN SECTIONS TWENTY-SEVEN, TWENTY-EIGHT, THIRTY-THREE AND THIRTY-FOUR IN TOWNSHIP TWENTY-NINE AND ONE-HALF SOUTH, RANGE TWENTY-FOUR EAST OF SALT LAKE PERIMETER MERIDIAN, IN SAN JUAN COUNTY, UTAH; THE NAMES OF THE CLAIMS IN SAID LASAL GROUP AND THE BOOKS AND PAGES IN OR UPON WHICH THE NOTICES OF LOCATION ARE RECORDED IN THE OFFICE OF THE COUNTY RECORDER OF SAID SAN JUAN COUNTY, UTAH, BEING AS FOLLOWS:

	ORIGINAL NOTICE OF LOCATION RECORDED		LAST AMENDED NOTICE OF LOCATION RECORDED	
NAME OF CLAIM	BOOK	PAGE	BOOK	PAGE
ALICE	21	138	25	24
BILLIE MIKE	21	154	25	22
DANA	21	155	25	24
JIMMIE	21	136	25	23
SUSIE	21	137	25	23
THIRTY-THREE	23	200	43	244
THIRTY-FOUR	23	201	43	244
THIRTY-FIVE	25	161	43	245

AS TO THE FOREGOING CLAIMS, SPECIFICALLY INCLUDING ONLY THOSE PORTIONS WHICH ARE NOT IN CONFLICT WITH ANY CLAIMS OF THE OURAY GROUP.

CHRIS	21	136	25	20
HUDSON	21	153	25	20
JOHN DAVID	21	153	25	25
RICHARD	21	154	25	25
ROBIN ROY	21	137	25	19

THE FOREGOING CLAIMS WERE DEEDED BY THE LOCATORS THEREOF, T. C. HUDSON, FRANK RICHARDSON, H. H. MUNDY, AND W. V. BAKER TO LASAL MINING & DEVELOPMENT CO. ON SEPTEMBER 11, 1953, BY DEED WHICH WAS RECORDED IN THE OFFICE OF THE COUNTY RECORDER OF SAID SAN JUAN COUNTY IN BOOK 35 AT PAGES 424 AND 425, AND COPY OF WHICH IS HERETO ATTACHED MARKED EXHIBIT A.

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SUPPLEMENTAL SHEET 2.

INSTRUCTION 3. (A) CONTINUED:

THE FOREGOING ARE THE CLAIMS WHICH WE WISH TO EXPLORE AND WHICH MAY BE BENEFITED BY THE EXPLORATION.

THE FOLLOWING ADDITIONAL CLAIMS ARE OWNED BY THE LASAL MINING & DEVELOPMENT CO. AND ARE SPECIFICALLY EXCLUDED FROM THIS APPLICATION:

ELOHIM
OPAL
PATSIE
RICHARDSON
STAR
STAR NO. 1
VICTORY

ALSO THE HEREINBEFORE REFERRED TO PORTIONS OF ALICE, BILLIE MIKE, DANA, JIMMIE, SUSIE, THIRTY-THREE, THIRTY-FOUR, AND THIRTY-FIVE LODES WHICH LIE IN CONFLICT WITH CLAIMS OF THE OURAY GROUP.

INSTRUCTION 3. (E). THERE ARE NO LIENS OR ENCUMBRANCES UPON THE LAND INCLUDED IN THE EXPLORATION PROJECT. HOWEVER, THERE ARE SEVERAL ASSERTED CLAIMS TO WHICH REFERENCE IS NOW MADE.

(1) THE OURAY MINING COMPANY ASSERTS A CLAIM OF OWNERSHIP TO A GROUP OF CLAIMS WHICH OVERLAP AND ARE IN CONFLICT WITH A PORTION OF THE WESTERN TIER OF CLAIMS OWNED BY APPLICANT. THE AREA IN DISPUTE IS SHADED TAN ON THE ATTACHED MAP MARKED EXHIBIT F. THE LASAL MINING & DEVELOPMENT CO. DOES NOT RECOGNIZE THE VALIDITY OF THE OURAY CLAIM, ALTHOUGH IT IS REGARDED AS A SERIOUS TITLE CONFLICT.

(2) REFERENCE IS ALSO MADE TO THE YELLOW SHADED AREA ON THE ATTACHED MAP, WHICH REPRESENTS ANOTHER AREA OF CONFLICT ON A PART OF THE LANDS OWNED BY APPLICANT INCLUDED IN THIS EXPLORATION PROJECT. THESE CONFLICTING CLAIMS WERE LOCATED BY A DR. SOELBERG OF GRAND JUNCTION, COLORADO, SUBSEQUENT TO THE LOCATION OF THE MINING CLAIMS OWNED BY THIS APPLICANT. FURTHERMORE, TO THE BEST OF OUR KNOWLEDGE AND BELIEF, NO ASSESSMENT WORK HAS EVER BEEN PERFORMED UPON THE SOELBERG CLAIMS, IN ADDITION TO WHICH SOELBERG VERBALLY STATED TO OUR REPRESENTATIVES THAT HE OVERSTAKED FOR THE SOLE PURPOSE OF PICKING UP ANY FRACTIONS THAT MIGHT EXIST IF SURVEYS WERE IN ERROR. APPLICANT DOES NOT RECOGNIZE IN ANY WAY THE VALIDITY OF THE SOELBERG CLAIMS OR HAVE ANY CONCERN OVER THE ASSERTED CONFLICT.

(3) FRANK RICHARDSON, OF OURAY, COLORADO, ONE OF THE ORIGINAL STOCKHOLDERS OF LASAL MINING & DEVELOPMENT CO., IS ASSERTING A CLAIM TO A 16.97% INTEREST IN THE CLAIMS INCLUDED IN THIS EXPLORATION PROJECT. APPLICANT DOES NOT REGARD THE RICHARDSON CLAIM OF ANY

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SUPPLEMENTAL SHEET 3.

INSTRUCTION 3.(E) CONTINUED:

CONSEQUENCE; IN FACT, WE DO NOT EVEN CONSIDER IT HAS ANY NUISANCE VALUE. RICHARDSON CONVEYED ALL OF HIS RIGHT, TITLE AND INTEREST IN AND TO ALL THE CLAIMS INCLUDED IN THIS EXPLORATION PROJECT (EXHIBIT A HERETO ATTACHED), UNDER THE TERMS OF AN AGREEMENT DATED SEPTEMBER 15, 1953, BETWEEN HIMSELF AND APPLICANT, WHICH AGREEMENT WAS FULLY PERFORMED. COPY OF SAID AGREEMENT IS HERETO ATTACHED MARKED EXHIBIT B. IN ADDITION, RICHARDSON SUBSEQUENTLY EXECUTED A RELEASE OF ANY AND ALL CLAIMS WHICH HE MIGHT HAVE AGAINST EITHER LASAL MINING & DEVELOPMENT CO. OR HOMESTAKE MINING COMPANY ARISING OUT OF SAID CONTRACT, COPY OF WHICH RELEASE IS ALSO ATTACHED MARKED EXHIBIT C.

INSTRUCTION 4. PHYSICAL DESCRIPTION.-(A):

IN THE YEAR 1954, LASAL MINING & DEVELOPMENT CO. DRILLED DISCOVERY HOLES ON EACH OF THE CLAIMS, WITH THE FOLLOWING RESULTS:

DRILL HOLE	THICKNESS	% U_3O_8
ALICE #1	1.5'	.03
BILLIE MIKE #1		TRACE
CHRIS #1	2.0'	.01
DANA #1		TRACE
HUDSON #1		TRACE
JIMMIE #1	1.5'	TRACE
JOHN DAVID #1	4.0'	TRACE
RICHARD #1	1.0'	TRACE
ROBIN ROY #1	2.5'	.08
SUSIE #1		TRACE
THIRTY-THREE #1	1.0'	TRACE
THIRTY-FOUR #1	2.5'	.03
THIRTY-FIVE #1	1.0'	.08

SUBSEQUENTLY, IN THE YEAR 1955, AN ADDITIONAL HOLE WAS DRILLED IN CLAIM THIRTY-FIVE WITH THE FOLLOWING RESULT:

THIRTY-FIVE #2 BARREN

INSTRUCTION 4. (B) PAST AND CURRENT PRODUCTION AND ORE RESERVES, IF ANY, GIVING QUANTITIES AND GRADES:

THERE HAS BEEN NO PAST PRODUCTION FROM THE PROPERTY AND NO KNOWN ORE IS IN RESERVE. NEVERTHELESS, ACCORDING TO THE HABIT OF THE DISTRICT, DRILL HOLES SHOWING MORE THAN A TRACE OF URANIUM MINERALIZATION ARE INTERPRETED AS INDICATIVE THAT IMPORTANT ORE BODIES MAY STILL BE UNDISCOVERED NEARBY.

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INSTRUCTION 4. (c). GEOLOGIC FEATURES OF THE PROPERTY, INCLUDING MINERALIZATION, TYPE OF DEPOSIT AND REASONS FOR WISHING TO EXPLORE:

ROCK OUTCROPPINGS ON THE CLAIMS CONSIST OF WINGATE SANDSTONE THROUGHOUT MOST OF THE PROJECT AREA. IF ANY KAYENTA FORMATION HAS BEEN LEFT IN THE AREA, IT CONSISTS OF ONLY A THIN VENEER OVERLYING THE WINGATE. EROSION OF THE SURFACE HAS LEFT WINGATE THICKNESSES VARYING FROM 100 TO 340 FEET. DRILLING INDICATES A THICKNESS OF 400 TO 420 FEET TO THE UNDERLYING CHINLE FORMATION. THE STRATA MOST FAVORABLE FOR URANIUM ORE OCCURRENCES ARE THE LOWERMOST MEMBERS OF THE CHINLE FORMATION. IN THIS AREA URANIUM ORE DEPOSITS ARE OF THE BEDDED TYPE, WITHURANINITE OCCURRING IN ARKOSIC-SANDSTONES IN PART AS INTERSTITIAL CEMENT AND IN PART REPLACING GRAINS OF FELDSPAR IN THE ARKOSE. THE BEDS STRIKE FROM DUE NORTH TO A FEW DEGREES WEST OF NORTH AND DIP 5° TO 12° WESTERLY.

THE LAND IN THE LASAL PROJECT IS LOCATED IN PART ALONG STRIKE TO THE SOUTH AND IN PART DOWN DIP TO THE WEST OF KNOWN ORE BODIES IN ADJACENT CLAIMS. THESE NEARBY ORE BODIES INCLUDE:

ORE BODY	OWNER	TONS RESERVE	GRADE
RICHARDSON	LASAL	210,000*	.41
JUDY LEE NO. 1	LISBON	26,000-	.38
JUDY LEE	LISBON	27,000	.24
MAMIE	STANDARD	117,000*	.24
PATTI ANN	LISBON	36,000-	.19
NIXON NO. 2	LISBON	13,000	2.52
IKE	LISBON	16,000	1.08
NIXON	LISBON	105,000	1.03

* - CONFIDENTIAL--ALL LISBON DATA IS FROM A LISBON PROSPECTUS
- DATED FEBRUARY 26, 1953.

SOME OF THESE PROVEN ORE BODIES LIE WITHIN 500 FEET OF CLAIMS IN LASAL PROJECT. NONE OF THEM ARE MORE DISTANT THAN 2,500 FEET FROM CLAIMS IN LASAL PROJECT.

REASONS FOR EXPLORATION. THE PROXIMITY OF KNOWN HIGH GRADE ORE BODIES, PLUS AT LEAST FIVE ENCOURAGING DRILL HOLES WITHIN LASAL PROJECT GROUND MAKES THIS AN EXTREMELY ATTRACTIVE PROSPECT. ORE HAS ALREADY BEEN FOUND IN THIS STRIKE AND UP AND DOWN DIP. NO POSITIVE ORE CONTROL PATTERN HAS YET BEEN WORKED OUT FOR THE AREA. THERE IS GOOD REASON TO SUPPOSE THAT MANY MORE SIMILAR PATCHES OF ORE SHOULD BE FOUND IN THIS VICINITY. CHANCES ARE EXCELLENT THAT A PERSISTENT DRILLING PROGRAM WILL BE ECONOMICALLY SUCCESSFUL.

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INSTRUCTION 4. (D) FACTS WITH RESPECT TO THE ACCESSIBILITY OF THE PROJECT:

THE LASAL PROJECT IS LOCATED SOUTHEAST OF THE TOWN OF MOAB, UTAH, A DISTANCE OF 42 MILES--24 MILES ON PAVED HIGHWAY, 8 MILES WHICH WILL SOON BE PAVED, 9 MILES OF GOOD GRAVELED COUNTY ROAD, AND ABOUT 1 MILE OF GRAVELED ACCESS ROAD. MOAB, A TOWN OF ABOUT 5,000 POPULATION, IS SITUATED SOME 38 MILES FROM THOMPSON, UTAH, A STATION ON THE DENVER & RIO GRANDE RAILROAD. SUPPLIES MAY BE OBTAINED IN MOAB; HEAVY EQUIPMENT, REPLACEMENT PARTS, ETC., CAN BE GOTTEN FROM GRAND JUNCTION, COLORADO (120 MILES), OR SALT LAKE CITY, UTAH (240 MILES). FOR THIS PARTICULAR PROJECT, MANY COMPETENT DIAMOND DRILLING CONTRACTORS ARE AVAILABLE IN THE MOAB AREA. MOST OF THE DIAMOND DRILL CREWS ARE BASED IN MOAB, BUT FOR A LONG JOB THEY COULD LIVE IN TRAILERS AT LASAL, OR EVEN OUT NEAR THE PROJECT AREA WHERE MINING CAMP FACILITIES ARE AVAILABLE.

INSTRUCTION 4. (E) AVAILABILITY OF MANPOWER, MATERIALS, SUPPLIES, EQUIPMENT, WATER AND POWER:

AS STATED UNDER 4. (D), MANPOWER, MATERIALS, SUPPLIES, AND EQUIPMENT CAN BE OBTAINED FOR THE MOST PART IN MOAB. THE PRESENCE OF MANY WELL ESTABLISHED DRILLING CONTRACTORS IN THE AREA GREATLY SIMPLIFIES THESE PROBLEMS.

IN THE EVENT THE DRILLING PROJECT IS SUCCESSFUL, THE DEVELOPMENT AND MINING PHASE OF THE PROGRAM CAN BE STARTED PROMPTLY AND EFFECTIVELY MERELY BY EXPANDING THE EXISTING FACILITIES OF LASAL MINING & DEVELOPMENT CO., WHICH CURRENTLY PRODUCES MORE THAN 4,000 TONS OF ORE PER MONTH FROM CLAIMS ADJACENT TO THE PROJECT AREA. WATER MUST BE HAULED FROM A PERENNIAL STREAM LOCATED ABOUT 5 MILES FROM THE PROJECT AREA. DRILLING WILL BE DONE BY SELF-POWERED TRUCK-MOUNTED MAYHEW RIGS. ELECTRIC POWER FOR MINE OPERATIONS HAS BEEN INSTALLED BY UTAH POWER & LIGHT COMPANY. ITS TRANSMISSION LINE COMES TO WITHIN A FEW HUNDRED FEET OF THE PROJECT AREA.

INSTRUCTION 5. (B) THE PROPOSED WORK OF THE EXPLORATION PROJECT:

IT IS PROPOSED THAT THE PROJECT AREA BE DRILLED ON A GRID PATTERN. ORE BODIES, THE ACTUAL TARGET OF THE DRILLING PROGRAM, MAY BE RATHER SMALL IN THE PROJECT AREA. SOME OF THE SMALLER ORE BODIES DRILLED OUT BY LISBON IN JUDY LEE, IKE AND NIXON NO. 2 CLAIMS MEASURE AS LITTLE AS 200 FEET EAST-WEST BY 300 FEET NORTH-SOUTH. MINERALIZATION, HOWEVER, MAY REACH OUT TO A TOTAL OF 250 FEET IN THE EAST-WEST DIRECTION AND A TOTAL OF 400 FEET IN THE NORTH-SOUTH DIRECTION.

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SUPPLEMENTAL SHEET 6

INSTRUCTION 5. (B) CONTINUED--

CONTOURING OF ORE THICKNESS TIMES ORE GRADE AND CONTOURING OF THICKNESS OF CHINLE BASAL ARKOSIC SANDSTONE IN THE CLOSELY DRILLED AREAS SUGGESTS THAT TRENDS FAVORABLE FOR ORE MAY BE RECOGNIZED EVEN BY WIDESPACED DRILLING. ACCORDINGLY, IT IS PROPOSED THAT DRILLING IN THE PROJECT AREA BE DONE ON A GRID WHICH WILL ULTIMATELY LEAD TO 250-FOOT SPACING EAST-WEST AND 400-FOOT SPACING NORTH-SOUTH.

THE PROPOSED LAYOUT OF HOLES IS SHOWN ON THE ACCOMPANYING MAP, MARKED EXHIBIT F. THE PROPOSED HOLES ARE LAID OUT IN TEN LINES. SPACING BETWEEN LINES IS 400 FEET. SPACING BETWEEN HOLES ON EACH LINE IS APPROXIMATELY 250 FEET. ALL OF THE PROPOSED HOLES ARE AT LEAST 200 FEET DISTANT FROM THE NEAREST FOREIGN (NON-OWNED) CLAIMS.

IT IS PROPOSED THAT THE DRILLING PROGRAM BE DIVIDED INTO THREE PHASES.

PHASE I. IN LINES 1, 4, 7 AND 10, WHICH ARE LOCATED 1200 FEET APART IN THE NORTH-SOUTH DIRECTION, EVERY HOLE SHOWN WILL BE DRILLED.

PHASE II. IF PHASE I REVEALS ANY FAVORABLE TRENDS OF MINERALIZATION OR GEOLOGICAL STRUCTURE, THEN OFFSETTING HOLES WILL BE DRILLED ON THE ADJACENT INTERMEDIATE LINES AS PLOTTED. THIS WILL GENERALLY CALL FOR SIX NEW HOLES FOR EACH SHOWING IN PHASE I, THREE HOLES IN THE LINE 400 FEET TO THE NORTH AND THREE HOLES IN THE LINE 400 FEET TO THE SOUTH.

PHASE III. ANY SHOWINGS IN PHASES I AND II WHICH AMOUNT TO A GRADE TIMES THICKNESS FACTOR OF .40 FEET OF U_3O_8 WILL BE OFFSET BY FOUR HOLES SPACED AT 200 FEET NORTH, 200 FEET SOUTH, 125 FEET EAST AND 125 FEET WEST, RESPECTIVELY. THE LOCATIONS OF THESE PHASE III HOLES ARE NOT SHOWN ON THE MAP.

DRILLING SHALL BE DONE IN THE MANNER WHICH HAS PROVEN TO BE MOST ECONOMICAL AND MOST SUCCESSFUL IN THIS AREA. SPECIFICALLY, EACH HOLE WILL BE DRILLED SWIFTLY AND INEXPENSIVELY WITH A HUGHES-TYPE TRICONE PLUGGED BIT DOWN THROUGH THE WINGATE, AND ALL BUT THE LAST 40 TO 50 FEET OF THE CHINLE FORMATION. THE LAST 40 TO 50 FEET IS DRILLED WITH AN NX CORE BIT, USUALLY RECOVERING COMPLETE CORE WHICH MAY BE STUDIED FOR LITHOLOGY AND SPLIT FOR CHEMICAL ASSAY.

IF 50 FEET OF CORING PER HOLE SEEMS UNDULY GREAT, IT MUST BE REMEMBERED THAT EXPERIENCE IN THE VICINITY HAS SHOWN AS MUCH AS A 40-FOOT SPREAD OF MINERALIZATION IN THE LOWERMOST CHINLE, AND OCCASIONAL SHOWS OF VALUES IN UNDERLYING CUTLER SANDS MAKE IT IMPERATIVE TO CORE AT LEAST TEN FEET OF CUTLER.

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INSTRUCTION 5. (B) PROPOSED PROGRAM:

PHASE I			PLUGGED	CORED
LINE 1	9 HOLES	3 AT 750'	2,100'	150'
		6 AT 800'	4,500'	300'
LINE 4	6 HOLES	3 AT 650'	1,800'	150'
		3 AT 750'	2,100'	150'
LINE 7	6 HOLES	6 AT 750'	4,200'	300'
LINE 10	7 HOLES	3 AT 800'	2,250'	150'
		2 AT 750'	1,400'	100'
		2 AT 700'	1,300'	100'
TOTALS		28 AT 752' AVG.	19,650'	1,400'

PHASE II. ASSUMING THAT THREE HOLES IN PHASE I WILL SHOW SOME ENCOURAGEMENT, THEN PHASE II WILL CALL FOR 18 HOLES WITH AN AVERAGE DEPTH OF 750 FEET:

TOTALS	18 AT 750'	12,600'	900'

PHASE III. ASSUMING THAT THREE HOLES OF PHASES I AND I WILL WARRANT CLOSER DRILLING, THEN PHASE III WILL CALL FOR 12 HOLES WITH AN AVERAGE DEPTH OF 750 FEET:

TOTALS	12 AT 750'	8,400'	600'

IT IS UNDERSTOOD THAT THE DRILLING PROGRAM CAN BE SUSPENDED AT THE OPTION OF EITHER PARTY AT THE END OF ANY SINGLE PHASE, BUT A PHASE ONCE STARTED SHOULD BE CARRIED THROUGH TO COMPLETION.

INSTRUCTION 5. (D) OPERATING EXPERIENCE AND BACKGROUND OF APPLICANT WITH RELATION TO THE ABILITY TO CARRY OUT SUCH EXPLORATION PROJECT, AND ALSO THAT OF PERSON OR PERSONS WHO WILL SUPERVISE THE OPERATIONS:

EXCEPT FOR WORLD WAR II SHUTDOWN, HOMESTAKE MINING COMPANY HAS OPERATED SUCCESSFULLY AND CONTINUOUSLY IN THE BLACK HILLS OF SOUTH DAKOTA FOR MORE THAN 78 YEARS. FOR THE PAST FIVE YEARS HOMESTAKE HAS BEEN CARRYING ON A SUCCESSFUL PROGRAM IN EXPLORATION AND DEVELOPMENT OF URANIUM PROPERTIES, BOTH THROUGH THE PARENT COMPANY AND

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SUPPLEMENTAL SHEET 8

INSTRUCTION 5. (D) CONTINUED--

THROUGH WHOLLY OWNED SUBSIDIARIES. LASAL MINING & DEVELOPMENT CO. IS ONE OF THESE WHOLLY OWNED SUBSIDIARIES.

THE LASAL PROJECT WILL BE CARRIED OUT UNDER THE DIRECTION OF EXPERIENCED OPERATORS, ENGINEERS AND GEOLOGISTS. THE LOCAL SUPERINTENDENT OF LASAL, LONG IN THE EMPLOY OF HOMESTAKE, IS FULLY CAPABLE OF COMPLETING THE PROJECT EFFICIENTLY AND EXPEDITIOUSLY.

ACTUAL DRILLING WILL PROBABLY BE CARRIED OUT BY A FIRM OF DRILLING CONTRACTORS WHICH HAS DONE FIRST CLASS WORK ON HOMESTAKE'S ALICE, LITTLE BEAVER AND LASAL PROPERTIES IN THE MOAB AREA.

INSTRUCTION 6. ESTIMATE OF COSTS:

PHASE I 28 HOLES, AVERAGE DEPTH 752 FEET				
PLUG DRILLING	19,650'	AT	$2.33	$45,784.50
CORE DRILLING	1,400'	AT	3.60	5,040.00
DRILL SITES, ENGINEERING, SUPERVISION, AND SAMPLING		AT	$130.00/HOLE	3,640.00
PROBING HOLES		AT	75.00/HOLE	2,100.00*
TOTAL COST OF PHASE I				$56,564.50
PHASE II 18 HOLES, AVERAGE DEPTH 750 FEET				
PLUG DRILLING	12,600'	AT	$ 2.33	$29,358.00
CORE DRILLING	900'	AT	3.60	3,240.00
DRILL SITES, ENGINEERING, SUPERVISION, AND SAMPLING		AT	130.00/HOLE	2,340.00
PROBING HOLES		AT	75.00/HOLE	1,350.00*
TOTAL COST OF PHASE II				$36,288.00
PHASE III 12 HOLES, AVERAGE DEPTH 750 FEET				
PLUG DRILLING	8,400'	AT	$ 2.33	$19,572.00
CORE DRILLING	600'	AT	3.60	2,160.00
DRILL SITES, ENGINEERING, SUPERVISION, AND SAMPLING		AT	130.00/HOLE	1,560.00
PROBING HOLES		AT	75.00/HOLE	900.00*
TOTAL COST OF PHASE III				$24,192.00
TOTAL COST OF PHASES I, II, AND III				$117,044.50

* - PROBING COST WOULD BE INCURRED ONLY WHEN CORE RESULTS INDICATE THE DESIRABILITY OF SUCH PROBING.

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SUPPLEMENTAL SHEET 9

INSTRUCTION 6. (A) INDEPENDENT CONTRACTS:

PROPOSED DRILLING WILL BE PERFORMED BY AN INDEPENDENT CONTRACTOR TO BE SELECTED BY APPLICANT FROM ONE OF THE FOLLOWING THREE FIRMS, WHO HAVE SUBMITTED BIDS TO DRILL ON THE FOLLOWING BASIS:

MINERALS ENGINEERING COMPANY
GRAND JUNCTION, COLORADO:

	PLUG BIT	BX CORE
0 - 200 FEET	$1.25	$3.25
200 - 400 FEET	1.25	3.75
400 - 600 FEET	1.50	4.75
600 - 800 FEET	1.95	6.00

STANDBY TIME TO BE AT $12.00 PER HOUR.

PIONEER DRILLING CO. BY J. F. COSTANZA:

PLUG BIT DRILLING		CORE DRILLING	
0 - 500 FEET	$1.90	0 - 750 FEET	$3.60
500 - 750 FEET	2.60	750 - 1000 FEET	3.85
750 - 1000 FEET	2.85		

G. W. SWANK, MOAB, UTAH:

FULL CONTRACT OF APPROXIMATELY 41,300 FEET OF DRILLING AND CORING AT $2.40 PER FOOT. ALL CORING OVER 50 FEET WILL BE $3.50 PER FOOT. ALL STANDBY TIME OVER ONE HOUR WILL BE $12.50 PER HOUR.

INSTRUCTION 6. (B) LABOR, SUPERVISION, CONSULTANTS:

ALL SUPERVISION, LOGGING OF HOLES AND SAMPLING OF CORE WILL BE DONE BY LASAL PERSONNEL LOCATED AT AND NEAR MOAB, UTAH, AND THEIR ACTUAL TIME WILL BE CHARGED TO THE HOLE. BASED UPON FORMER COSTS, WE ARE ASSIGNING $130 PER HOLE TO ALL COSTS IN ADDITION TO THE DRILLING CONTRACT WITH CONTRACTOR.

INSTRUCTION 6. (C) OPERATING MATERIALS AND SUPPLIES.

NONE WILL BE REQUIRED OTHER THAN THOSE SUPPLIED BY CONTRACTOR UNDER TERMS OF HIS CONTRACT.

INSTRUCTION 6. (D) OPERATING EQUIPMENT.

NONE REQUIRED EXCEPT AS WILL BE PROVIDED BY DRILLING CONTRACTOR.

EXHIBIT A

A S S I G N M E N T

T.C.Hudson, Frank Richardson,
H.H. MUNDY and W.V. BAKER

TO

LA SAL MINING & DEVELOPMENT CO.

DATED SEPTEMBER 11, 1953

RECORDED SEPTEMBER 22, 1953 9:20 -.M.-

RECORDS OF SAN JUAN COUNTY, UTAH

BOOK 35 PAGE 224-5

RECEIVED
MAY 17 1955

KNOW ALL MEN BY THESE PRESENTS, that the undersigned, T.C.HUDSON, FRANK RICHARDSON, H.H. MUNDY and W.V.BAKER, in consideration of $1.00 in hand paid, and the further consideration of stock which is to be issued to each of us in a corporation which is being organized under the name of LA SAL MINING & DEVELOPMENT CO. and the further consideration of the covenants and agreements herein contained, do hereby sell, transfer, assign and set over to said La Sal Mining & Development Co. all of our right, title, interest and estate in the following named mining claims in the Big Indian Mining District of San Juan County, state of Utah:

NAME OF CLAIM	BOOK AND PAGE WHERE NOTICE OF LOCATION IS RECORDED: BOOK	PAGE
Thirty-three	23	200
thirty-four	23	201
thirty- five	23	201
John David	21	153
Richard	21	154
Dana	21	155
Alice	21	137
Susie	21	137
Jimmie	21	136
Opal	21	138
Star	23	74
P atsie	21	155
Billie Mike	21	154
Elohim	23	76
Richardson	21	156
Hudson	21	153
Chris	21	136
Victory	21	150
Robin Roy	21	137
Venus	19	271
Venus 1	19	273
Venus 2	19	273
Venus 3	19	273
Venus 4	19	273
Venus 5	19	274
Venus 6	19	274
Venus 7	19	275
Venus 8	19	275

Right Full	17	298
Broadway	17	297
Slope	17	298
Renown	17	297
C herio	17	293
Orion	17	295
Elementis Lode	17	296
C herub	17	293
Nectar	17	294
Fult	17	294
Anna	23	78
Anna 1	23	78
Anna 2	23	79
Anna 3	23	79
Joan	23	75
March 26	23	75
Peace	17	293
Union	17	295
Charity	17	296
John T. Hudson	25	161
Tommie John	23	74
White Cloud	26	160
Dean Swift	23	76
Dean Swift 1	23	90
Doggie	23	77
Doggie 1	23	89
Donna J.	23	77
Donna J. 1	23	88
Lottie A.	23	80
Lottie A. 1	23	89
Anna B.	23	81
Anna B. 1	23	87
Scott Thomas	23	88
Scott Thomas 1	23	88
Spotted Horse	23	81
Spotted Horse 1	23	87

For the said consideration we further sell, transfer, assign and set over to said La Sal Mining & Development Co. all of right, title, interest and estate in those certain two Uranium and Vanadium Leases from the State of Utah-

All of section 32, Township 30 South, Range 24 East, SLM, and Approx. 360 acres in section 16, Twp 28 South, Range 23 East, S.L.M.,

This assignment includes all rights of action, and we hereby authorize said La Sal Mining & Development Co. in its own name to sure for and take all

legal steps it may deem proper or necessary in connection therewith, and we each agree to execute any further papers or instruments necessary to give effect to this assignment.

Witness our hands this 11th day of September, 1953.

T. C. Hudson /s/ H. H. Mundy /s/

Frank Richardson /s/ W. V. Baker /s/

STATE OF UTAH)
County of San Juan) ss.

On the 11th day of September, 1953 personally appeared before me T.C. Hudson, Frank Richardson, H. H. Mundy, and W. V. Baker, the signers of the foregoing instrument, each of whom duly acknowledged to me that he executed the same.

F. BERNICE REED /s/
Notary public, residing
at Monticello, Utah.

My commission expires 6-24-55.

(SEAL)

EXHIBIT B

AGREEMENT

MAY 17 1960

THIS AGREEMENT, made and entered into on this the 15th day of September, 1953, by and between La Sal Mining & Development Co., a Delaware corporation, party of the first part, and FRANK RICHARDSON, party of the second part,

WITNESSETH:

WHEREAS the second party hereto is the owner of an undivided three-tenths of the following described mining claims located in Big Indian Mining District of San Juan County, State of Utah, to-wit:

NAME OF CLAIM	BOOK AND PAGE WHERE NOTICE OF LOCATION IS RECORDED	
	Book	Page
Thirty-three	23	200
Thirty-four	23	201
Thirty-five	23	201
John David	21	153
Richard	21	154
Dana	21	155
Alice	21	137
Susie	21	137
Jimmie	21	136
Opal	21	138
Star	23	74
Patsie	21	155
Billie Mike	21	154
Elohim	23	76
Richardson	21	156
Hudson	21	153
Chris	21	136
Victory	21	150
Robin Roy	21	137

WHEREAS the second party has this date conveyed to the first party all of his right, title and interest in and to the above described mining claims.

WHEREAS the parties have agreed that the first party shall issue to the second party 15,000 shares of the common stock of the first party.

WHEREAS the parties have agreed that the first party shall pay to the second party the sum of $39,000.00 as hereinafter provided.

Now, THEREFORE, in consideration of the mutual covenants and agreements herein contained and in consideration of second party's granting to first party all his right, title and interest in and to the above described mining claims, and the parties agree as follows, to-wit:

First party, after a reasonable time after the date hereof, shall issue to second party 15,000 shares of its common stock.

The first party agrees to pay to second party the sum of $39,000.00 as a part of the purchase price of second party's interest in and to said mining claims; said sums to be paid in the following manner, to-wit:

(a) The sum of $12,500.00 cash in hand paid, receipt of which is hereby acknowledged by the second party, and

(b) The balance of $26,500.00 to be paid by the payment to the second party by the first party of 7½% of the net mill returns of all ore to be extracted from the mining claims above described, and 7½% of all bonuses received by first party as a result of the mining of ores from said premises, said royalty of 7½% shall be paid to the second party by the buyer or buyers of ores from the premises, and this agreement shall constitute the authority of said ore buyer or buyers to so pay said 7½% of the value of ores mined and sold from said premises to the second party until the total sum of $26,500.00 has been paid to second party.

In the event that second party does not elect to have the buyer or buyers of ores mined from said premises pay him 7½% of said ores direct, then and in that event, first party agrees to pay to the second party 7½% of the net mill returns for ores so mined and sold, within ten days after the receipt by first party of the purchase price of said ores, and first party agrees to furnish copies of settlement sheets furnished it by ore buyers of ores mined from said premises.

The first party agrees to enter upon the above described premises and work the same so as to take out the greatest possible amount of uranium and vanadium ores with due regard to the development and preservation of said property. First party further agrees to work said premises steadily and continuously from the date hereof until final payment has been made to the second party as herein provided.

First party agrees to pay all taxes including production taxes now on or hereafter levied on the property during the term of this agreement, before the same have become delinquent.

It is understood and agreed that should the second party be compelled to institute an action to foreclose upon this agreement then and in that event first party agrees to pay all costs by him incurred including attorneys' fees.

It is specifically understood and agreed by and between the parties hereto that the second party makes no representations herein as to the condition of the title of the above described premises and specifically does not agree to warrant or defend title to the same, but agrees to come to Utah to testify in any Court proceedings concerning the title to said claims.

It is understood and agreed by and between the parties hereto that the second party shall have the right to institute an action to foreclose, in accordance with the laws of the State of Utah relating to the foreclosure of mortgages on real estate, and sell at foreclosure sale an undivided 3/20 interest of the above described mining claims in the event of the failure or refusal of the first party to pay the payments as herein specified, or in the event of the default of the first party to keep and perform the covenants and agreements herein contained, to be kept and performed by it. Second party's right to foreclose under the terms of this agreement and sell said 3/20 interest in and to said mining claims shall and may be exercised by him only after written notice of default has been sent the first party by United States registered mail; with postage prepaid to Moab, Utah, and the first party shall then have the right to correct and cure such default during the period of 60 days after the receipt of such notice by a duly authorized officer of first party. And in the event of the failure to cure and correct such default within said 60 days period, second party's right to foreclose and sell said property under the terms of this agreement may then be pursued by him. Said notice shall state the default of the first party in specific terms.

It is finally mutually understood and agreed by and between the parties hereto that in the event the first party sells or agrees to sell the above described mining claims or transfers its interest in and to any third party, then and in that event, the balance of the purchase price then unpaid shall be due and payable forthwith.

This agreement shall extend and be binding upon the heirs, executors, administrators, successors and assigns of the respective parties.

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

La Sal Mining & Development Co.

By H. H. Mundy
President

Frank Richardson
Second Party

ATTEST:

T. C. Hudson
Secretary

EXHIBIT C

RELEASE

RECORDED

MAY 17 1965

WHEREAS, I, the undersigned, Frank Richardson, of [illegible] Colorado, entered into an agreement with the La Sal Mining & Development Co., a Delaware corporation, on or about the 15th day of September, 1953, and

WHEREAS, the said La Sal Mining & Development Co. agreed to pay the said Frank Richardson the sum of $39,000 for a part of his interest in certain mining claims located in the Big Indian District of San Juan County, Utah, and

WHEREAS, the sum of $12,500 has heretofore been paid,

NOW, THEREFORE, For and in consideration of the sum of $26,500 paid on this date by the Homestake Mining Company, the purchaser of the said La Sal Mining & Development Co., I, the undersigned, Frank Richardson, do hereby waive and release any and all claims which I may have against the said La Sal Mining & Development Co. and the said Homestake Mining Company arising out of said contract of September 15, 1953, and represent and agree that the said companies have fully performed all of the obligations and responsibilities required of them under the terms and provisions of said agreement.

Frank Richardson

Subscribed and sworn to before me this 13th day of July, 1954.

Leo S. Hagerman

Notary Public

My Commission expires 7/15/57

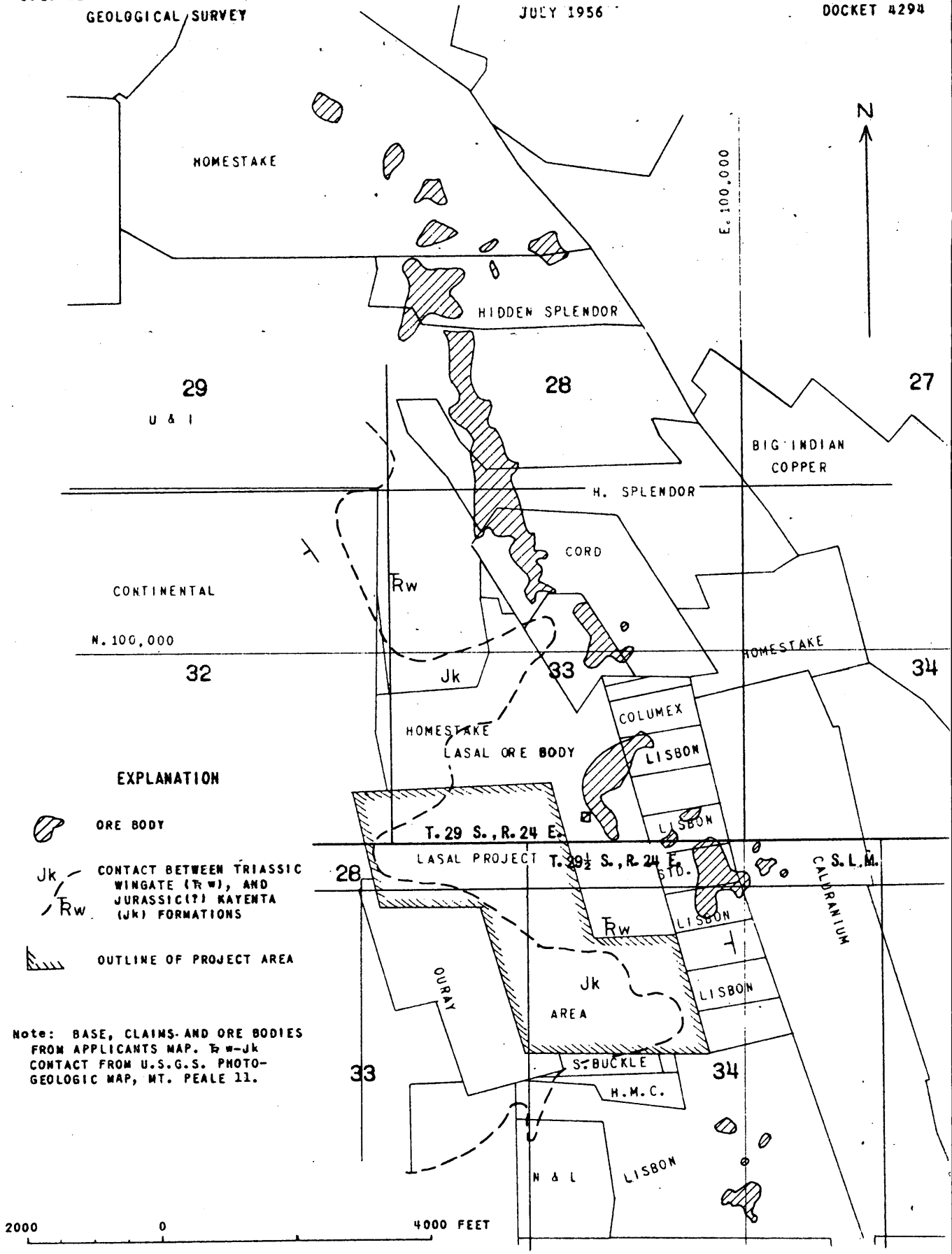

FIGURE 3. GENERALIZED MAP SHOWING PROJECT AREA OF LA SAL MINING AND DEVELOPMENT COMPANY, SAN JUAN COUNTY, UTAH.

Docket
Ellis

Project Summary Report

By: F. L. Knouse August 20, 1957

1. Docket No. DMEA-4294 (Uranium)
Contract No. Idm-E1010

Operator: La Sal Mining and Development Company
Box 563
Moab, Utah

Property: consists of 13 unpatented lode mining claims in Secs. 32 and 33, T. 29 S., R 24 E., and IN Secs. 27, 28, 33 and 34, T 29½ S., R. 24 E., SLM & B, San Juan County, Utah. The claim names are Alice, Billie Mike, Dana, Jimmie, Susie, Thirty-three, Thirty-four, Thirty-five, Chris, Hudson, John David, Richard and Robin Roy.

Property Rights:
All the claims listed above are owned by the Operator, except that areas of the Chris, Hudson and Robin Roy claims are in conflict with the Dynaflo and Wig claims owned by the Lisbon Uranium Corporation. Homestake Mining Company guaranteed payment of Government royalties on production, "Guarantee of Royalty" by "Homestake", dated October 8, 1956 is attached to the contract.

2. Contract dated September 19, 1956

Project work was started November 5, 1956 and was completed March 8, 1957

Work Authorized:
Consisted of a two stage core and non-core drilling program, from the surface, to explore the lower 20 - 30 feet of the Moss back number (Chinle formation) and the upper 20 feet of the underlying Cutler formation of Permian age.

Stage I
consisted of drilling 34 holes in five east-west rows approximately 900 feet apart with holes in each row spaced not less then 250 feet apart, aggregating not more than 25,020 feet (1,700 feet of core and 23,320 feet of non-core hole).

Stage II

consisted of drilling not more than 27 off-set holes aggregating not more than 19,879 feet (1,350 feet of core and 18,529 feet of non-core hole). The holes were limited to four holes surrounding Stage I holes that penetrated significant mineralization spaced not closer than 300 feet apart.

Also, there were allowed 100 hours of tractor operating for Stage I and 80 hours of tractor operating time for Stage II for drill site preparation and access roads thereto.

Estimated and completed cost of the project work:

Work allowed	Est. cost	Work completed Units	Work completed Cost
Stage I			
Actual cost			
100 hrs. bulldozing @ $12/hr.	$1,200.00	52.5	$ 630.00
13,600 ft. non-core drilling 0-400 ft. @ $1.25/ft.	17,000.00	13600	17,000.00
6,800 ft. non-core drilling 400-600 ft. @ $1.50/ft.	10,200.00	6446	9,669.00
2,920 ft. non-core drilling 600-800 ft. @ $1.95/ft.	5,694.00	2,125	4,143.75
1,700 ft. core drilling 400-600 ft. @ $4.75/ft. and/or		199	945.25
core drilling 600-800 ft. @ $6.00/ft.	10,200.00	1,080.5	6,483.00
Fixed Cost/ft. drilling			
25,030 ft. @ $0.15/ft.	3,753.00	23,450.5	3,517.58
Miscellaneous			
125 sample analyses @ $4.00	500.00	6	24.00
Total Stage I	$48,547.00		

Work Allowed	Est. cost	Work completed Units	Work completed Cost
Stage II			
Actual cost			
80hrs.bulldozing@$12/	960.00	28.5	$342.00
10,800 ft. non-core drilling 0-400 ft. @ $1.25/ft.	$13,500.00	1600	2,000.00
5,400 ft. non-core drilling 400-600 ft. @ $1.50/ft.	8,100.00	543	814.50
2,329 ft. non-core drilling 600-800 ft. @ $1.95/ft.	4,541.55	37	72.15
1,350 ft. core drilling 400-600 ft. @ $4.75/ft.		76	361.00
600-800 ft. @ $6.00/ft.	8,100.00	56.5	339.00
Fixed Cost/ft. Drilling			
19,879 ft. @ $0.15/ ft.	2,981.85	2312.5	346.88
Miscellaneous			
100 sample analyses @ $4/each	400.00	3	12.00

Total Stage II $38,583.40

Total Estimated Cost of Project (rounded to) ...
$87,132.00 $46,760.11

Government Participation @ 75% .....
$65,349.00 $35,025.09

Note: Av. cost non-core drilling $1.38/ft.
Av. cost core drilling $5.76/ft.
38 holes were completed under the contract

Amendments:

No. 1 - dated January 4, 1957. Provided a rate of $4.75/ft. for core drilling depth range from 400 to 600 feet. Original contract provided for core drilling depth of 600 to 800 feet @ $6.00/ft.

Termination Agreement - dated May 8, 1957, effective March 8, 1957.

Final Reports:

Operator - dated April 12, 1957, received April 19, 1957.
Field Team - dated July 1957, received August 9, 1957.

3. Audit Report of Review - dated May 22, 1957:

Total cost as billed by Contractor	$47,141.86
Exceptions: By DMEA Finance Officer	441.75
Total Accepted Cost	$46,700.11
Government Participation @ 75%	$35,025.09

4. Certification - dated August 12, 1957:
   Field Team recommended certification in their report. Commodity members, USGS & USBM concurred.

Ore Reserves (Inferred)

	Grade U_3O_8	Tons
Robin Ray Claims	0.24%	11,520*

* Depth below surface to ore body or bodies 474.5 and 533.5 feet.

Production - None

5. Comments:

Contract work was efficiently performed and no unusual difficulties were encountered. The Operator submitted a final report that furnished the necessary information. No comment was furnished by the Field Team re the acceptability of the Operator's Final Report.

The purpose of the project was to explore the lower 20 to 30 feet of the Moss Back member (Chinle formation) and the upper 20 feet of the underlying Cutler formation. An examination of the property indicated that the main southeast trending ore zone extended, in part, into the project area and that deposits in the 10,000 to 100,000 size such as are (Ike and Nixon ore bodies) south of the property might be discovered. Also, that an extension of the 250,000 ton Richardson ore body might be found on the property.

The claims are in the Big Indian Wash district on the Western flank of the northwest trending Lisbon Valley Anticline. A major fault longitudinally transects the Lisbon Valley anticline along which the Morrison formation of Jurassic age on the northeast is in contact with the Hermosa formation of Pennsylvanian age on the southwest.

The major uranium deposits occur in the target area described above, and are commonly within a few feet of the erosion surface that truncates the underlying Cutler beneath the deposits in the Moss Back. The princial ore minerals are uraninite, vanadium clay and montroseite, but coffinite, and an unnamed hydrated vanadium oxide that occurs in vanadium-rich zones, are also present.

Only two holes in 38 holes drilled on the property penetrated ore-grade mineralization 2.0 to 2.3 feet in thickness at depths of 475 to 533 feet. The drilling suggests that the western edge of the main northern-trending ore belt is at or near the eastern edge of the property. The host rock for the ore minerals is the Moss Back conglomerate, and the basal Moss Back sandstone.

Several large low-grade ore bodies within the belt of mineralized ground exists to the east and northeast of the (Robin Ray Claim) two holes that penetrated ore-grade mineralization. Under present economic conditions the reserves are not considered minable since depths to the ore are 475 to 599 feet. However, the ore may be mined when and if the other bodies are mined.

The work completed has adequately tested the subject property. Government participation in additional exploration of the property is not recommended.

F. L. Knouse

F. L. Knouse, Mining Engineer
Div. of Rare & Misc. Metals

[X] Audited

[X] Certified

WORK ANALYSIS SHEET - DMEA PROJECT

Analysis as of Oct 21, 1957
Incl. Voucher for March 1957

[✓] Actual Cost

[ ] Agreed Unit Costs

Name **La Sal Mining and Development Company**

Docket No. **DMEA-4294**

State **Utah**

Commodity **Uranium**

Idm-E No. **1010**

OPERATION	AUTHORIZED Units	AUTHORIZED Cost	COMPLETED Units	COMPLETED Cost	NET COST
Drifting & Crosscutting					
Raising					
Shafts					
Winzes					
Drilling (Specify) Core	3,050'	$18,757.50	1412'	$ 8,340.05	$8,340.05
Drilling (Specify) Non-core	41,849'	65,312.90	24,351'	37,352.06	37,352.05
Surface Excavation					
Underground Excavation					
Roads and ~~Trails~~ Drillsites		2,160.00		972.00	972.00
Operating Equipment Purchased					
Surface Rehabilitation & Repairs					
Underground Rehabilitation					
New Building, Improvements, etc.					
Other (Specify) Sample Analyses @ $4.00		900.00		36.00	36.00
(Rounded to) Totals		$87,132.00		$46,700.11	$46,700.11

Prepared by Kaucer

71626

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
		110
		120
		220

SEP 27 1966

Homestake Mining Company
P. O. Box 563
Moab, Utah

Re: DMEA-4294 (Uranium)
La Sal Mining and Development Company
La Sal Project
San Juan County, Utah
Contract Idm-E1010

Gentlemen:

By the terms of the subject Exploration Project Contract, as amended, and the certification of discovery or development dated August 12, 1957, all minerals mined or produced from September 19, 1956, to September 19, 1966, were subject to the Government's royalty as set forth in said contract.

As the period during which production was subject to royalty has now expired, the Government according to its present records retains no claim or lien against the property subject to the contract or any future production therefrom. We, therefore, are closing our books and records on this contract. Your attention, however, is called to the provisions of the contract which require the Operator to keep and preserve certain records for the periods indicated.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Division File
Economic Geology File
OME Reading File
DMEA Docket
Branch of Budget and Finance
Region III w/cy of incoming 63
120M

MMerrithew/mm (9/27/66)

23263

Building 20 - Federal Center
Denver 25, Colorado

OFFICIAL FILE COPY
O. M. E.
RECEIVED JUN 15 1962
DATE
6/15 Zla 500
220

June 13, 1962

Memorandum

To: Fiscal Section, Division of Administrative Services
Office of the Secretary, Department of the Interior
Washington 25, D. C.

From: Acting Field Officer, OME, Region III

Subject: DMEA-4294 (Uranium)
Contract Idm-E1010
La Sal Mining and Development Company
(La Sal Project)
San Juan County, Utah

Attached is the original Report of Royalty Review on the subject property dated June 7, 1962 covering the period June 18, 1959, through May 14, 1962.

Original signed by TMR

for
Hugh M. Connors

Attachments
HMC/lm
cc Chief, Division of Field Operations, OME
E. D. Talbert, Acting Chief
Contract Administration and Audit Division
Royalty Corres. Idm-E1010
Chron

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
		220

JUN 7 1962

Memorandum

To: Acting Field Officer, Region III

From: E. D. Talbert, Acting Chief (Signed) E. D. Talbert
Contract Administration and Audit Division

Subject: DMEA-4294 (Uranium)
La Sal Mining and Development Company
La Sal Project
San Juan County, Utah
Contract Idm-E1010

The original and one copy of a Report of Royalty Review covering the subject contract are enclosed. If you concur in the facts stated therein, please make the following distribution:

(a) Original to the Fiscal Section, Division of Administrative Services, Office of the Secretary, Department of the Interior, Washington 25, D. C.; and

(b) One copy for your files.

This Report of Royalty Review is made for record purposes only; therefore, no copy for the Operator is provided.

As evidence of your concurrence, a copy of your memorandum transmitting the original report to the Fiscal Section should be furnished this Division. If for any reason you do not concur, both copies of the report should be returned to this Division with your comments.

Enclosures

EDTalbert/ama 6-7-62

cc:
Docket
Director's Reading File
CA & A Division
Mr. Rothrock

43683

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
6/23	a	220
		700

JUN 23 1959

Memorandum

To: Mr. Donald T. Finch, OME Auditor

From: E. D. Talbert, Acting Chief (Signed) E. D. Talbert
Contract Administration and Audit Division

Subject: Docket No. DMEA-4294 (Uranium)
La Sal Mining and Development Company
Contract No. Idm-E1010

Your Report of Royalty Review on the subject contract is acceptable and distribution of the regional copies is authorized.

EDTalbert/ama
June 22, 1959

Copy to: Docket
Director's Reading File
Code 800

43683

IN REPLY REFER TO:

FILE COPY
DMEA
SEP 9 1957

9/6 Q 220
" ~~FLK~~ 700

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

September 6, 1957
Re: DMEA 4294, Idm-E1010
La Sal Mining and Development Co.
La Sal Project
San Juan County, Utah
Uranium

Memorandum

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

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

Subject: Review of Field Team Final Report

The contract, awarded September 19, 1956, authorized the expenditure of $87,132.00 for core and non-core drilling of a 13-claim group. The group is a spinoff of a larger original group, two or three claims of which contain large Moss Back orebodies.

Each claim of the 13-claim group had been prospected by at least one drill hole. The results, though tending to indicate most of the claims were outside the fairly determined favorable belt, were not conclusive and further staged drilling was recommended.

The 34 Stage I and 4 Stage II holes were drilled at a cost of $46,700.00. Two holes on the Robin Roy claim are classed as ore holes and 2 are mineralized. The ore holes and one mineralized hole on the Chris claim are near the easterly boundary of the project area and appear to be near the westerly edge of the favorable belt.

The examiners estimate 11,250 tons of mineralized rock, 0.24% U_3O_8, are represented by the 2 ore holes, but due to the depth at which it occurs, 477 and 536 feet, the material is not in itself worth going after. As it may tie in with large orebodies in adjoining claims and someday be mined, certification was recommended.

The project was certified August 12, 1957.

N. E. Nelson

N. E. Nelson

HOMESTAKE MINING COMPANY

100 BUSH STREET

SAN FRANCISCO 4, CALIFORNIA

August 27, 1957

OFFICIAL FILE COPY DMEA RECEIVED SEP 3 1957		
DATE	INITIALS	CODE
9-3	C	220
3	CM	100
"	FLK	700

Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
U. S. Department of the Interior
Washington 25, D. C.

Dear Mr. Mittendorf:

Docket No. DMEA-4294 (Uranium)
Contract No. Idm-E1010
La Sal Project
San Juan County, Utah

Receipt is acknowledged of your letter of August 13, 1957, and of the Certification by the United States of America of a Discovery or Development under an Exploration Project Contract dated August 12, 1957.

Ore was encountered in the drilling under this contract but it is not yet established that there is adequate tonnage to warrant the cost of development.

No production has been made.

You will be advised with regard to any further steps we may take leading to the mining of this ore.

Yours very sincerely,

Donald H. McLaughlin

Donald H. McLaughlin
President

DHMcL/jb

cc: Mr. A. H. Shoemaker
Mr. Gordon Miner

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
8/21	Knouse	700
8/21	Ellis	700
"	Johnson	110
22	Mittendorf	100
8/23	G.	220
		700

Mr. Jesse C. Johnson
Director, Division of Raw Materials
Atomic Energy Commission
1717 H Street, N.W., Rm. 800
Washington 25, D. C.

AUG 22 1957

Re: Docket No. DMEA-4294 (Uranium)
Contract No. Idm-E1010
La Sal Mining and Development Company
La Sal Project
San Juan County, Utah

Dear Mr. Johnson:

The information promised in my letter of August 13, 1957, regarding the subject exploration contract follows:

The contract was dated September 19, 1956, and covered an exploration program estimated to cost $87,132.00 with Government participation at 75 percent, or $65,349.00. Project contract work was started November 5, 1956 and was completed March 8, 1957. Thirty-eight widely-spaced holes were drilled on the subject property, aggregating 25,763 feet of drilling. The net cost of the drilling and related work thereto, was $46,700.11 and the Government's participation was 75 percent, or $35,025.09.

The project work was confined to 13 unpatented lode mining claims in secs. 32 and 33, T. 29 S., R. 24 E., and in secs. 27, 28, 33, and 34, T. 29½ S., R. 24 E., S.L.M.&B., San Juan County, Utah.

As a result of the exploration work, there were discovered the following estimated ore reserves:

Ore Reserves (Inferred Ore)

	Grade % U_3O_8	Tons
Robin Ray Claims	0.24	11,520*

*Depth of ore below surface 475 to 533 feet.

A certification of discovery or development was issued August 12, 1957, a copy of which was furnished you on August 13, 1957.

Sincerely yours,

C. O. Mittendorf (Rev)

Administrator

FLKnouse/lzm 8-21-57
cc to: Mr. Knouse
Admr.'s Reading File
THKillsgaard, 5224
DMEA FT Reg. 3(2)

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
8/5	Kroyer	700
8/6	Ellis	700
	Porter	140
	Sawyer	140
8-9	Chambers	800
8/9	Martin	130
8/9	Gomes	130
8/9	Nelson	130
8/12	Johnson	110
	Attendorf	100
		220
		700

AUG 13 1957

Mr. Donald H. McLaughlin, President
La Sal Mining and Development Company
Box 563
Moab, Utah

Re: Docket No. DMEA-4294 (Uranium)
Contract No. Idm-E1010
La Sal Project
San Juan County, Utah

Dear Mr. McLaughlin:

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, as amended, and of the certification, all minerals mined or produced from September 19, 1956, to September 19, 1966, are subject to the Government's percentage royalty as set forth in the contract until the sum of $35,025.09 is repaid to the Government.

Payments should be made to Mr. William H. King, Executive Officer, DMEA Field Team, Region III, 224 New Customhouse Building, Denver 2, Colorado. Checks should be payable 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 the sale of ore 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 Mr. King of any changes in ownership or production rights that might have any effect on the Government's right to its percentage royalty. Also, if

8623

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

Sincerely yours,

C. O. Mittendorf (for)

Administrator

Enclosure

FLKnouse/gla
8-5-57
cc to: Homestake Mining Company
100 Bush Street
San Francisco 4, California
Admr.'s Reading File
F. E. Johnson
Operating Committee
Frank D. Lamb, Rm. 3608
THKiilsgaard, Rm. 5224
Field Team, Region III (2)
Contract Adm. & Audit Division
Mr. Knouse

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
8/5	Knouse	700
8/6	Ellis	700
	Rutin	140
	Sheppard	140
8-9	Chamberlin	800
8/9	Martin	130
8/9	Yost	130
8/9	Wilson	130
8/12	Johnson	110
	Mittendorf	100
8/13	B	220
		700

AUG 13 1957

Mr. Donald H. McLaughlin, President
Homestake Mining Company
100 Bush Street
San Francisco 4, California

Re: Docket No. DMEA-4294 (Uranium)
Contract No. Idm-E1010
La Sal Mining and Development Company
La Sal Project
San Juan County, Utah

Dear Mr. McLaughlin:

For your information, a certification of discovery or development has been issued to the Operator as a result of the exploration program under the above-referenced contract.

The property as set forth in the contract is covered by the Guaranty of Royalty, dated October 8, 1956, signed by you.

We are enclosing the following for your records:

1. A copy of a "Certification by the United States of America of a Discovery or Development Under an Exploration Project Contract."

2. A copy of the transmittal letter to Mr. Donald H. McLaughlin, President, La Sal Mining and Development Company, Box 563, Moab, Utah.

Sincerely yours,

C. O. Mittendorf (fw)

Administrator

Enclosures

FLKnouse/gla 8-5-57

cc to: Admr.'s Reading File
F.E.Johnson
Operating Committee
Frank D. Lamb, Rm. 3608
T. H. Kiilsgaard, Rm. 5224
Field Team, Region III (2)
Contract Adm. & Audit Division
Code 700, Mr. Knouse

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
8/5	Knouse	700
8/6	Ellis	700
	Rufin	140
	Sanger	140
8-9	Chandler	800
8/9	Martin	130
8/9	Yoder	130
8/9	Dotson	130
8/12	Johnson	110
	Mittendorf	100
		220
		700

AUG 13 1957

Mr. Jesse C. Johnson
Director, Division of Raw Materials
Atomic Energy Commission
1717 H Street, N. W., Room 800
Washington 25, D. C.

Re: Docket No. DMEA-4294 (Uranium)
Contract No. Idm-E1010
La Sal Mining and Development Company
La Sal Project
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,

C. O. Mittendorf (for)

Administrator

Enclosure

FLKnouse/gla
8-5-57
cc to: Admr.'s Reading File
F. E. Johnson
Operating Committee
Frank D. Lamb, Rm. 3608
T. H. Kiilsgaard, Rm. 5224
Field Team, Region III (2)
Contract Adm. & Audit Division
Code 700, Mr. Knouse

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"	TCR	200
Memorandum		

[illegible]
[illegible]
[illegible]
Washington 25, D. C.

Date August 13, 1957

DMEA Docket No. 4294
DMEA Contract No. Idm-E1010
Commodity Uranium
Name of applicant La Sal Min. & Dev. Co.
Name of property La Sal Project
Location of property San Juan County, Utah
Estimated cost of project $46,700.11

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

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

1. Date of subject document: July 1957. 2. Date received by reviewer: 8/13/57

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 needing 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]
      1. Consult with Mr. _____ at _____ AEC office.
   e. Disagree with Field Team [ ]
   f. Suggest alternate plan [ ]
   g. Request another examination [ ]
   h. Approval [ ]

10. Remarks: (Use back of page if necessary)
Certification of property as discovery recommended.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

August 7, 1957

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DMEA
RECEIVED AUG 9 1957

DATE	INITIALS	CODE
8/9	O.K.	220
		100
8/12	O.K.	130
12		220
		600

Memorandum

To: Chairman, Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket No. DMEA 4294 (Uranium), Contract No. Idm-E1010, La Sal Mining and Development Company (La Sal Project), San Juan County, Utah - FINAL REPORT

Enclosed are the original and two copies of a joint final geologic and engineering report, dated July 1957, by D. P. Elston, Geologist, Geological Survey, and H. F. Robertson, Mining Engineer, Bureau of Mines; and transmittal thereof, dated August 1, 1957, from J. William Hasler, pertaining to work completed under the subject contract.

The original and one copy of the Operator's final report were forwarded by memorandum of April 17, 1957.

The contract was terminated before completion of all the work originally provided for, by a TERMINATION AGREEMENT, dated May 8, 1957, which was made effective March 8, 1957.

The exploration work completed under the contract consisted of the drilling of 38 holes, aggregating 24,351 feet of non-core drilling and 1,412 feet of core drilling. Incident to the core drilling, other charges to the project consisted of incidental allowance on a total of 25,763 feet of drilling, 81 hours of bulldozer time preparing access roads and drill sites, and chemical analysis of 9 samples; all at a total accepted cost of $46,700.11, toward which the Government contributed 75%, or an amount of $35,025.09.

Final payment to the Operator was processed by this office June 10, 1957, in conformance with the Report of Review of reported project costs by the Contract Administration and Audit Division, DMEA, dated May 22, 1957, which was released to this office June 3, 1957.

F.T. Final Report

Reviewed by
DMEA OPERATING COMMITTEE
8-12-57
(date)

The exploration work completed resulted in the discovery or development of inferred ore reserves estimated at 11,520 tons, containing an average of 0.24% U_3O_8; on the basis of which Certification of the project as a Discovery or Development is recommended.

By E. N. Harshman
E. N. Harshman
Acting Executive Officer

Enclosures

IN REPLY REFER TO:

UNITED STATES
DMEA DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

AUG 5 1957

AUG 5 - 1957
REGION III
DENVER, COLORADO

P. O. Box 360
Grand Junction, Colorado

U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

August 1, 1957

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: E. N. Harshman

From: J. William Hasler

Subject: Transmittal of joint final geologic and engineering report, La Sal Mining and Development Company, La Sal Project, DMEA docket No. 4294 (Uranium) contract Idm-E 1010, San Juan County, Utah.

Transmitted herewith are 10 copies of joint final report on the above-referenced contract. This report was prepared by D. P. Elston, Geological Survey, and H. F. Robertson, Bureau of Mines.

Figures 1, 2, and 3 are attached to each report.

J. William Hasler
J. William Hasler,
Geologist

MLR

Enclosures
Report w/ figs. 1, 2, 3 (10)

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DATE	INITIALS	CODE
		130
		220

Reviewed by
DMEA OPERATING COMMITTEE
8-12-57
(date)

DMEA
ARTMENT OF THE INTERIOR
AUG 5 - 1957
REGION III
DENVER, COLORADO

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

FINAL REPORT OF EXAMINING TEAM
REGION III

OFFICIAL FILE COPY
D M E A
RECEIVED AUG 9 1957

DATE	INITIALS	CODE
		130
		220

DMEA 4294

CONTRACT Idm-E 1010

La Sal Mining and Development Company

LaSal Project

San Juan County, Utah

Joint Final Geologic and Engineering Report

by

D. P. Elston
Geological Survey

H. F. Robertson
Bureau of Mines

July 1957

Reviewed by
DMEA OPERATING COMMITTEE
8-12-57
(date)

DMEA 4294
CONTRACT Idm-E 1010
LA SAL MINING AND DEVELOPMENT COMPANY
LA SAL PROJECT
SAN JUAN COUNTY, UTAH

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Joint Final Geologic and Engineering Report

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ANNEX

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ILLUSTRATIONS

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3.	Claim map and drill hole locations and classifications, La Sal Mining and Development Company, La Sal Project, San Juan County, Utah	24

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DMEA
RECEIVED AUG 9 1957
DATE | INITIALS | CODE

DMEA 4294
CONTRACT Idm-E 1010
LA SAL MINING AND DEVELOPMENT COMPANY
LASAL PROJECT
SAN JUAN COUNTY, UTAH

SUMMARY AND RECOMMENDATIONS

The La Sal Mining and Development Company, Box 563, Moab, Utah applied for Government assistance on May 11, 1956, to explore for uranium on 13 located mining claims in the Big Indian Mining District, San Juan County, Utah. The Homestake Mining Company of Lead, South Dakota, has a controling interest in the subject property. A three-stage drilling program, called the La Sal Project by the operator, was proposed to explore the Moss Back member (?) of the Triassic Chinle formation and the underlying Cutler formation of Permian age.

A field examination was made on June 20, 1956 by a DMEA examining team accompanied by Donald T. Delicate, superintendent of mines for the La Sal Company. A joint engineering and geologic report recommending approval of a revised exploration program was submitted.

On September 19, 1956, a contract was signed by representatives of the DMEA and the operator, authorizing a two-stage program consisting of 41,849 feet of non-core drilling and 3,050 feet of core drilling in 61 holes at an estimated cost of $87,132.00. Government participation at 75 percent was $65,349.00.

Exploration under the contract started on November 5, 1956 and continued until March 8, 1957. All of Stage I (34 holes) and four Stage II holes were completed during the period. No further work was requested or authorized. During the active period, a total of 24,351 feet of non-core drilling and 1,412 feet of core drilling was completed at an overall cost of $46,700.11.

An estimated 11,520 tons of mineralized rock containing an average of 0.24 percent U_3O_8 is inferred on the basis of two DMEA drill holes on the Robin Roy claim. Evaluation of available data indicate the eastern part of the Robin Roy claim is on the western edge of a northerly trending belt of continuously mineralized ground. The belt is more than 2,000 feet wide, and east and northeast of the Robin Roy claim contains several large low grade deposits that range in average grade between 0.12 and 0.23 percent U_3O_8. The nearest deposits are not being mined presently, but it is likely they will be mined in the future either in conjunction with mining of high grade ore for blending purposes, or when the reserves of higher grade ore become depleted. The inferred reserves on the Robin Roy claim are not adequate to justify sinking a shaft, but there are sufficient reserves to be exploited from the adjacent ore bodies. It is therefore recommended that the DMEA issue a certificate of discovery on the subject property.

Government participation in additional exploration of the subject claims is not recommended.

LOCATION AND ACCESSIBILITY

The La Sal project consists of 13 located claims in secs. 32 and 33, T. 29 S., R. 24 E., and secs. 27, 28, 33, and 34, T. 29½ S., R. 24 E., Salt Lake Base and Meridian, Big Indian Wash, San Juan County, Utah. The property is adjacent to the La Sal shaft operation of the operator and is 39 miles southeast of Moab, Utah by road. Twenty-five miles of the road is hard surfaced and the balance graveled. The property is 168 miles from Grand Junction, Colorado, the nearest major source of supplies. Buying stations and mills for uranium ore are located at Moab, and Monticello, Utah (fig. 1).

The claims are at an altitude of about 7,000 feet and are on the southwest dipping cuesta which to the northeast terminates in an escarpment that forms the southwest wall of Lisbon Valley. There are no prominent rims in the claim area, however the ground surface is moderately rough and there is very little soil cover.

The climate of the region is moderate with warm summers and mild to cold winters. Year around surface operations are feasible except for short periods following infrequent winter storms.

There were no unusual problems of access, supply, power, or labor. The drilling was contracted to Pioneer Drilling Company, an independent company who furnished the equipment, labor, and housing needed for the project. Domestic and drilling water was obtained from wells east of Big Indian Wash.

PROPERTY

The 13 claims included in the La Sal project are part of a larger group of claims purchased by the La Sal Mining and Development Company from the original locators, T. C. Hudson, Frank Richardson, H. H. Mundy, and W. V. Baker. The consideration was $1.00 and stock in the purchasing corporation. In a separate agreement Frank Richardson assigned an undivided three tenths interest in 19 of the claims to the same purchaser for a further consideration in stock and cash.

The claims included in the DMEA project, and shown on figure 2 are as follows:

Claim	Original Location Date	San Juan County Record: Original Location Book	Original Location Page	Last amanded Location Book	Last amanded Location Page
Alice	3-6-53	21	138	25	24
Billie Mike	3-9-53	21	154	25	22
Dana	3-9-53	21	155	25	24
Jimmie	3-6-53	21	136	25	23
Susie	3-6-53	21	137	25	23
Thirty-three	3-27-53	23	200	43	244
Thirty-four	3-27-53	23	201	43	244
Thirty-five	3-27-53	25	161	43	245
Chris	3-6-53	21	136	25	20
Hudson	3-9-53	21	153	25	20
John David	3-9-53	21	153	25	25
Richard	3-9-53	21	154	25	25
Robin Roy	3-6-53	21	137	25	19

The foregoing claims were deeded to La Sal Mining and Development Company on September 11, 1953 and the deed recorded in San Juan County, in Book 35, pages 424 and 425.

All of the claims listed above are owned by the operator, except that areas of the Chris, Hudson, and Robin Roy claims are in conflict with the Dynaflo and Wig claims (fig. 3) owned by Lisbon Uranium Corporation, and the conflicting areas may be mined by the operator pursuant to a Mining Agreement with Lisbon Uranium Corporation.

Specifically excluded from the explored area were those portions of the 8 claims in conflict with the Ouray Nos. 1 to 5 and the Ouray No. 8 claim (fig. 3).

The Homestake Mining Company has a controlling interest in the La Sal Mining and Development Corporation. Any profit from operations is divided between Homestake and the other stockholders. In lieu of subordination agreements, Homestake Mining Company guarranteed payment of any royalties that might fall due under the terms of the contract.

HISTORY AND PRODUCTION

Vanadium was produced from Morrison formation deposits in the area during both World Wars. Mining of small uranium occurrences in the Cutler formation, 100 to 150 feet below the Chinle-Cutler contact, dates from 1948. The first important discovery of uranium in the area was made in 1952 at the site of the Mi Vida mine. Since 1953, Big Indian Wash has furnished a substantial portion of uranium production in Utah. The operator's La Sal mine, north and east of the La Sal project, has produced through March 1957, 93,418 tons of ore with an average content of 0.45 percent U_3O_8, 0.03 percent V_2O_5, and 24.7 percent $CaCO_3$ from the Richardson

ore body. Several other mines have been developed in the immediate vicinity of the La Sal project, one of which is the San Juan Shaft in which operations were suspended in late 1955.

There has been no production from the claims subordinated for the subject contract and the DMEA project completed in March 1957 discovered an estimated 11,500 tons of inferred ore.

THE PROJECT

The purpose of the project was to explore the lower 20 to 30 feet of the Moss Back member (?) of the Chinle formation and the upper 20 feet of the underlying Cutler formation of Permian age. Results of a field examination and other data indicated that the main southeast trending ore zone extended at least in part into the project area, and that deposits similar in size to the Ike and Nixon ore bodies just south of the subject claims might be discovered. Since these ore bodies are in the 10,000 to 100,000 ton class, the exploration target was considered to be worthwhile. The possibility also existed that an extension of the 250,000 ton Richardson ore body might be found in the project area.

Original Program and Modifications

The operator originally proposed a non-core and core drilling program in two phases requiring a maximum of 40,650 feet of non-core and 2,900 feet of core drilling in 58 holes at an estimated cost of $117,044.50.

The program as outlined in the application entailed a series of fences or rows of diamond drill holes in an east-west direction, and was designed to intersect any south to southwesterly trending ore bodies. The plan was to ultimately drill on centers 250 feet in an east-west direction and 400 feet in a north-south direction. Proposed phase 1 drilling consisted of four fences of holes 1,200 feet apart with holes 400 feet apart along the fences. Proposed phase 2 drilling stipulated that six holes be drilled for each favorable hole found during phase 1 drilling, thus developing a grid of holes on a 250-foot by 400-foot pattern.

Previous holes drilled on the claims had not been considered as an integral part of the original proposal and it was suggested during the field examination that they should be utilized as a portion of phase 1 drilling where possible. In the opinion of the examining team, six offset holes for each favorable hole were not necessary to reasonably delineate or outline the trend of any ore bodies that might be discovered. It was deemed advisable for the operator to alter his proposed program; this was discussed with the operator's representative and a revised exploratory program was submitted and recommended for approval.

The 1,200-foot spacing between fences as proposed by the operator could easily miss ore bodies of significant size. The revised program called for a first stage of 34 holes in 5 east-west fences with a 250-foot spacing along the fences (fig. 3). While the 900-foot spacing between fences does not give complete coverage for the smaller ore bodies, a more

closely spaced drilling pattern of holes 700 to 800 feet deep was deemed not advisable in Stage I. The second stage drilling would offset in four directions previously drilled holes showing substantial mineralization. Completion of both phases would insure testing, initially, for mineralized areas with a minimum dimension north and south of 900 feet, and east and west of 250 feet, and secondly, testing within mineralized areas for ore bodies with a minimum dimension of 300 feet north and south and 250 feet east and west. While possible ore bodies of smaller size might remain undiscovered in using this drilling pattern, it was not considered economically feasible to drill on closer-spaced centers to a depth of over 700 feet.

The recommended program was incorporated in a contract, that became effective September 19, 1956, which specified a two-stage drilling program consisting of 34 holes in the first stage and not more than 27 holes in the second stage at an estimated overall cost of $87,132.00. The maximum amount of Government participation at 75 percent would be $65,349.00. The contract was amended once during the period that the project was active. Amendment No. 1 established a maximum allowable unit cost for core drilling at the 400-600 foot depth.

Description of Work Completed

Exploration under contract Idm-E 1010 started on November 5, 1956, and was carried on continuously until March 8, 1957. During this period, Stage I and all authorized Stage II work was completed.

Stage I, consisting of 34 holes located as shown on figure 3, was completed during January 1957. Results obtained were unfavorable with the exception of one hole, Robin Roy hole no. 2, which penetrated 2.0 feet of rock containing 0.17 percent U_3O_8 and 0.19 percent V_2O_5. The hole was probed by the operator but was caved above the ore horizon when logging was attempted with the DMEA gamma-ray logging unit. The mineralized interval is in a thin conglomerate which is considered to directly overlie the Cutler-Chinle contact. The basal Moss Back member(?) of the Chinle formation is thin and, in places, is absent in the southern part of the project area and is thicker and more persistent in the northern and northwestern parts.

The operator proposed drilling four Stage II offset holes around Robin Roy hole no. 2, his objective being a possible ore body in the vicinity of the hole. The examining team recommended that the holes be drilled as requested and approval was given on January 25, 1957 for the work.

The four Stage II holes, Robin Roy nos. 7 and 8, and Chris nos. 2 and 3, were drilled during February and March 1957. Only one of the offset holes showed significant mineralization. The weighted average of the chemical assay of the core from Robin Roy hole no. 7 was 2.3 feet of 0.296 percent U_3O_8. Although classed as an ore hole, the mineralized zone at a depth of 475 feet is too deep to be economically significant by itself.

After completion of the four offset holes the operator requested termination of the contract with no further work. The examining team concurred and, on April 16, 1957, recommended termination of the contract. The contract was officially terminated on May 8, 1957.

GEOLOGY

The subject claims are in the Big Indian Wash district on the western flank of the northwest trending Lisbon Valley anticline in San Juan County, Utah.

The Lisbon Valley anticline is undoubtedly a salt anticline as suggested by Baker (1933, p. 75), Dane (1935, p. 138), and Stokes (1948, p. 24). A major normal fault longitudinally transects the Lisbon Valley anticline along which, in the area of greatest displacement, the Morrison formation of Jurassic age on the northeast is in contact with the Hermosa formation of Pennsylvanian age on the southwest. The fault dips about 50-60° to the northeast and has a maximum displacement of about 4,000 feet, but the throw rapidly diminishes to the northwest and southeast. The general geology of the Lisbon Valley anticline is discussed by Lekas and Dahl (1956, p. 161-168).

The strata exposed on the subject claims are the Wingate sandstone of Triassic age and the Kayenta formation of Jurassic (?) age that strike northwest and dip about 3° southwest. Underlying strata penetrated by the drill are the Chinle formation of Triassic age, that includes the Moss Back member (?) at the base, and the uppermost beds of the undifferentiated

Rico-Cutler formations of Pennsylvanian-Permian age.

The Kayenta formation is composed of reddish irregularly bedded, locally conglomeratic sandstone that contains some thin interbedded shale. It has a characteristic flaggy or slabby appearance on outcrop and forms irregularly banded cliffs and benches. Only the lower part of the Kayenta formation is present on the subject claims but in the general area it has a thickness of about 230 feet.

The Wingate sandstone is a massive and cross-bedded, red to brown, fine-grained, cliff-forming sandstone. In the general area, it ranges in thickness from about 280-360 feet; on the claims, drill hole data suggest that the maximum thickness is about 310 feet. The Wingate sandstone is conformable with overlying and underlying strata.

The Chinle formation does not crop out on the subject claims but is exposed a short distance east of the claims. It is composed of irregularly bedded, poorly sorted, fluviatile sandstone, mudstone, shale, and conglomerate. The bulk of the formation is red but in places the lower one-third is gray-green in color. A basal or near basal discontinuous sandstone unit is tentatively correlated with the Moss Back member (Stewart, 1957, p. 456). The overall thickness of the Chinle formation in the general area ranges from about 340-480 feet, but in the area of the subject claims drill hole data indicate that the thickness ranges from about 420-445 feet.

The Moss Back member (?) is predominantly a fluviatile sandstone that contains interbedded lenses of mudstone, siltstone, limestone pebble conglomerate, and siltstone pebble conglomerate. The sandstone is arkosic and locally contains fine conglomeratic lenses. Carbonaceous material is locally abundant and calcite, uranium-vanadium minerals and some sulfides locally cement the rock. The characteristic colors are varying shades of gray and gray-green.

The Moss Back member (?) is somewhat variable in thickness, ranging from about 25 to 60 feet. It unconformably overlies the Cutler formation and thickening, due principally to filled ancient stream channels, occurs commonly at the base. The entire Moss Back was not cored in many of the DMEA drill holes on the subject claims as the drilling target for core was principally the sandstone beds in the lower part of the Moss Back member (?) and upper part of the underlying Cutler formation. The Moss Back member (?) in the northwestern part of the claims is locally as much as 65 feet thick with about 40 feet of that thickness consisting of sandstone. The overall thickness appears to be considerably less in the southeastern part of the claims. The total thickness is not precisely known but apparently is more than 20 feet with aggregate thicknesses of sandstone that range from a few feet to about 20 feet.

The undifferentiated Rico-Cutler formation of Pennsylvanian and Permian age which underlie the Chinle formation, aggregate about 1,500 feet in thickness and crop out east of the claims. The strata predominantly are red, locally lavender and white, arkosic and quartzose, medium-

to coarse-grained, thick bedded and lenticular sandstone with some conglomerate. Interbedded with the sandstone are thin-bedded, red-brown claystone and siltstone, and a few thin siliceous limestone beds. Only the top few feet of the Cutler was penetrated by the drill on the claims with the exception of a few drill holes that penetrated as much as 20 feet of sandstone classed as Cutler.

ORE DEPOSITS

The major uranium deposits of the Big Indian district are in the lower 20-30 feet of the Moss Back member of the Chinle formation. They commonly are on or within a few feet of the erosion surface that truncates the underlying Cutler formation with some ore occurring in the Cutler beneath the deposits in the Moss Back.

According to Lekas and Dahl (1956, p. 162),

> "The deposits occur on the southwest side of the (Lisbon Valley) anticline in a discontinuous mineralized belt parallel to the strike of the enclosing beds and of the major joint system. The mineralized belt terminates at the Lisbon Valley fault near the northwest and southeast ends of the anticline, and appears to be confined to a narrow strip between the 6,200 and 6,700 feet contours drawn on the top of the Cutler formation, although not occupying the full width of this strip. Within this strip, the ore belt rises up the dip to the southeast. The lower Moss Back has been removed by erosion from about one-third of this strip, but the mineralized belt is present throughout about 60 percent of the length in which the Moss Back is preserved and the remainder of the area has not been completely tested. Scattered drilling downdip.....has not disclosed any significant uranium deposits.

"The ore is not associated with a pronounced paleo-stream channel in the top of the Cutler formation. Some Moss Back ore bodies are in broad shallow topographic lows which may have been drainage channels in the top of the Cutler, but ore also occurs above Cutler topographic highs.

"The vanadium-uranium ratio varies from one mine to another, and apparently has no regular relation to the spatial distribution of ore bodies. In the Mi Vida mine, the average ratio of vanadium to uranium is about 2 to 1, but it varies considerably throughout the mine."

In the Moss Back member, scour and fill, rapid changes of facies, carbon, mudstone pebbles, and mudstone and siltstone lenses are more abundant in the ore horizon near the base than in the more massive and well sorted sandstone in the upper part of the Moss Back. Generally, the host rock is a calcareous fine- to coarse-grained, locally conglomeratic sandstone containing some mudstone lenses. However, in the area of the San Juan Shaft, northeast and east of the subject claims, the host rock is a calcareous siltstone in which the better grade ore is in sandy lenses within the siltstone. Elsewhere, the better grade ore in sandstone occurs in lenses that contain seams of carbonaceous material and flakes and pebbles of mudstone.

The principal ore minerals are uraninite, vanadium clay and montroseite, but coffinite, and an unnamed hydrated vanadium oxide that occurs in vanadium-rich zones, also are present. There are several sulfide minerals associated with the ore minerals. Pyrite is the most abundant; galena and greenockite (CdS) are relatively rare. Chalcopyrite associated with pyrite and uraninite has been identified in one polished section. Oxidized and partly oxidized ore minerals, metatyuyamunite, corvusite and pascoite, are sparse.

The ore deposits to the southeast, east, and north of the subject claims are among the largest on the Colorado Plateau. These are the Mi Vida (Steen), the Little Beaver on the Bob Cat claim of Homestake and the Big Buck ore body of Standard Uranium to the southeast; in addition there are the Richardson ore body of the La Sal Mining and Development Company to the east, and the E. L. Cord, Hecla, and Hidden Splendor ore bodies on the north. The ore bodies near the subject claims are shown on figure 2. Production has been in excess of 500,000 tons averaging about 0.35 percent U_3O_8 with reserves of about 1,000,000 tons of slightly lower grade material.

The results of DMEA drilling on the subject claims suggests that the western edge of the main northerly-trending ore belt is at or near the eastern edge of the property. This is shown in detail by hole nos. 2 and 7 in the eastern part of the Robin Roy claim which penetrated marginal and ore grade material, 2.0 and 2.3 feet thick (fig. 3, and Table 1). The host rock for the ore minerals in hole no. 2 is a Moss Back conglomeratic sandstone, 4.2 feet thick, that overlies Cutler sandstone and is overlain by Moss Back mudstone; in hole no. 7 the ore minerals are in basal Moss Back sandstone that is 6.5 feet thick that underlies mudstone in excess of 26 feet thick.

One other hole, hole no. 4 on the Thirty-five claim, penetrated marginal ore-grade material, 0.5 feet thick, in Moss Back sandstone about one foot above Cutler sandstone. The Moss Back sandstone is in excess of 16 feet thick here.

The mineralized rock in the northeastern part of the Robin Roy claim may be the westernmost feather edge and assay edge of a northerly-trending belt of mineralized ground that contains several large low-grade deposits, one of which has been partly mined by the San Juan shaft to the northeast (fig. 2). The mineralized rock penetrated by holes drilled by the operator on the Opal claim just north of the Robin Roy claim appear to be in a like position. The extent and plan configuration of mineralized ground in the vicinity of hole no. 4 on the Thirty-five claim is not known but it appears unlikely that there are minable extensions of the Richardson ore body on the northern part of the claim.

On the basis of hole nos. 2 and 7 on the Robin Roy claim, 11,500 tons of uranium-bearing rock containing an average of 0.24 percent U_3O_8 are inferred. Computations for the inferred tonnage are based on an area of 76,800 square feet, an average thickness of 2.1 feet, and a factor of 14 cubic feet per ton of rock. Under present economic conditions the reserves are not considered minable as depths to ore are 475 to 500 feet.
533 ?

Several large low-grade ore bodies within the belt of mineralized ground exist to the east and northeast of the Robin Roy claim (see Table 3 for reserves). The nearest is on the Elephant claim, 500 feet east of Robin Roy hole no. 7. Farther away are the Patti Ann and the Mamie, 800-1,000 feet to the northeast and the San Juan Shaft 1,700 feet to the northeast. Production and reserve figures indicate the general low-grade tenor of the ore east of the claims, part of which consist of

mineralized siltstone. The limited amount of mining and the numerous drill holes indicate that a large blanket-like area has been mineralized for laterally continuous distances of thousands of feet. It is quite possible that mining may take place on these ore bodies in the future, either through downdip mining from the San Juan Shaft, or through sinking a new shaft which probably would be located mainly downdip from the bulk of the known reserves and perhaps no further than 500 feet from the Robin Roy claim. Under such conditions the inferred ore on the Robin Roy claim would be of interest as hole no. 7 penetrated mineralized sandstone that contained about 0.30 percent U_3O_8, somewhat higher grade than the 0.12 to 0.23 percent U_3O_8 averages of the ore bodies to the east and northeast.

Because of the probable lateral continuity of ore minerals within the mineralized belt in the eastern part of the Robin Roy claim and because of the general proximity of the inferred ore on the Robin Roy claim to established large, low-grade ore bodies, it is recommended that the DMEA issue a Certificate of Discovery or Development.

SUMMARY OF FACTUAL DATA

Work under the contract was accomplished between November 5, 1956 and March 8, 1957. Exploration was done entirely by rotary drilling. A total of 38 holes aggregating 25,763 feet were drilled, of which 24,351 feet were drilled non-core and 1,412 feet were core drilled. The total cost of the actual drilling, as accepted by the Government was $41,827.15.

The accepted overall cost of the project was $46,700.11. The Government's share of the cost of the project was 75 percent of the overall amount, or $35,025.08.

There has been no production from the subordinated property to date, consequently, no repayment of the Government's participating share has been made.

No equipment was purchased for use on the project. Exploration drilling was done by Pioneer Drilling Company, an independent contractor, thereby leaving no salvage or disposal problems.

CONCLUSIONS AND RECOMMENDATIONS

Contract work was efficiently performed and supervised by the operator and no unusual difficulties were encountered in completion of the approved exploration drilling.

The work completed has adequately tested the subject property for significant ore bodies. All of the core from the holes drilled has been examined by DMEA representatives. Cores from the two mineralized holes, including splits of the portions taken for chemical assay, have been brought to Grand Junction and are in storage at the AEC compound. Of the 38 holes drilled, 30 holes were probed by the DMEA Barnaby unit, including Robin Roy hole no. 7, with results confirming those reported by the operator.

Inferred reserves totaling 11,500 tons containing 0.24 percent U_3O_8 are computed on the basis of drill hole nos. 2 and 7 on the Robin Roy claim. These reserves are near the western margin of a northerly-trending belt of continuously mineralized ground that, east and northeast of the Robin Roy claim, contains large low-grade deposits. The reserves on the Robin Roy claim are not considered to be minable at present because of lack of size, low grade, and the depth to the ore of 475 to 500 feet. However, these reserves are considered minable if worked in conjunction with deposits to the east and northeast. The nearest of these deposits is 500 feet east of Robin Roy hole no. 7 on the Elephant claim; other deposits, 800 to 1,000 feet to the northeast are on the Patti Ann and Mamie claims. It appears likely that these larger deposits will be mined in the future.

For the above reasons it is recommended that a certification of discovery be issued for the subject property. Government participation in additional exploration of the subject claims is not recommended.

ANNEX

Table I -- Drilling data, Docket DMEA 4294, Contract Idm-E 1010, La Sal Mining and Development Co., La Sal Project, San Juan County, Utah.

Claim	Hole No.	Non-core Footage Interval in feet 0-400	400-600	600-800	Core Footage Interval in feet 400-600	600-800	Total Depth feet
Susie	2	400	200	118	--	41.5	759.5
Robin Roy	5	400	200	115	--	31.0	746.0
Robin Roy	6	400	200	108	--	49.0	757.0
Billie Mike	2	400	200	96	--	51.5	747.5
Billie Mike	3	400	200	105	--	40.0	745.0
Billie Mike	4	400	200	118	--	40.5	758.5
Hudson	2	400	200	72	--	19.0	691.0
Hudson	3	400	200	78	--	37.0	715.0
Hudson	4	400	200	33	--	47.5	680.5
Hudson	5	400	200	75	--	40.0	715.0
Thirty-five	3	400	200	126	--	39.0	765.0
Thirty-five	4	400	200	108	--	32.5	740.5
Thirty-four	3	400	200	108	--	57.0	765.0
Thirty-four	4	400	200	119	--	40.0	759.0
Thirty-four	5	400	200	125	--	37.5	762.5
Richard	3	400	168	--	31.5	--	599.5
Richard	4	400	180	--	20.0	40.0	640.0
Richard	5	400	200	8	--	40.0	648.0
Richard	6	400	200	28	--	40.0	668.0
Richard	7	400	200	54	--	20.0	674.0
John David	2	400	200	16	--	37.0	653.0
John David	3	400	200	40	--	37.5	677.5
John David	4	400	200	65	--	39.0	704.0
John David	5	400	200	38	--	40.0	678.0
John David	6	400	200	113	--	40.0	753.0
John David	7	400	200	126	--	30.5	756.5
Robin Roy	2	400	122	--	24.0	--	546.0
Robin Roy	3	400	128	--	20.5	--	548.5
Robin Roy	4	400	180	--	20.0	21.0	621.0
Alice	2	400	160	--	40.0	0.5	600.5
Alice	3	400	178	--	22.0	20.0	620.0
Alice	4	400	200	8	--	38.0	646.0
Susie	3	400	200	125	--	34.0	759.0
Richard	2	400	130	--	21.0	--	551.0
sub-total Stage I		13,600	6,446	2,125	199.0	1,080.5	23,450.5

Table I (con't.)

Claim	Hole No.	Non-core Footage Interval in feet 0-400	400-600	600-800	Core Footage Interval in feet 400-600	600-800	Total Depth feet
Robin Roy	7	400	48	--	36.0	--	484.0
Robin Roy	8	400	115	--	20.0	--	535.0
Chris	2	400	180	--	20.0	17.5	617.5
Chris	3	400	200	37	--	39.0	676.0
sub-total (Stage II)		1,600	543	37	76.0	56.5	2,312.5
Totals (38 holes)		15,200	6,989	2,162	275.0	1,137.0	25,763.0

Table II -- Results of drilling showing chemical and operator's radiometric assays under DMEA 4294, Contract Idm-E 1010, La Sal Project, La Sal Mining and Development Company

Claim	Hole No.	Stage	Depth (feet)	Mineralized Interval	Assay Chemical	Assay Radiometric
Thirty-five	3	I	765.0	none	barren	barren
	4	I	740.5	723.0-723.5	0.5'-0.146%	0.5'-0.10%
Thirty-four	3	I	765.0	none	barren	barren
	4	I	759.0	747.8-748.8	1.0'-0.034%	1.0'-0.025%
	5	I	762.5	none	barren	barren
John David	2	I	653.0	none	barren	barren
	3	I	677.5	none	barren	barren
	4	I	704.0	none	barren	barren
	5	I	678.0	none	barren	barren
	6	I	753.0	none	barren	barren
	7	I	756.5	none	barren	barren
Richard	2	I	551.0	none	barren	barren
	3	I	599.5	none	barren	barren
	4	I	640.0	none	barren	barren
	5	I	648.0	none	barren	barren
	6	I	668.0	none	barren	barren
	7	I	674.0	none	barren	barren
Alice	2	I	600.5	none	barren	barren
	3	I	620.0	none	barren	barren
	4	I	646.0	none	barren	barren
Susie	2	I	759.5	none	barren	barren
	3	I	759.0	none	barren	barren
Billie Mike	2	I	747.5	none	barren	barren
	3	I	745.0	none	barren	barren
	4	I	758.5	none	barren	barren
Robin Roy	✓2	I	546.0	533.5-535.5	2.0'-0.166%	
				535.5-536.0	0.5'-0.038%	
	3	I	548.5	none	barren	barren
	4	I	621.0	none	barren	barren
	5	I	746.0	none	barren	barren
	6	I	757.0	none	barren	barren
	✓7	II	484.0	474.5-476.8	2.3'-0.296%	2.3'-0.21%
	8	II	535.0	none	barren	barren
Chris	2	II	617.5	600.3-602.1	1.8'-0.04%	hole plugged
	3	II	676.0	none	barren	barren
Hudson	2	I	691.0	none	barren	barren
	3	I	715.0	none	barren	barren
	4	I	680.5	none	barren	barren
	5	I	715.0	none	barren	barren
Totals			25,763.0			

Table III -- Production and Reserves of uranium ore from Moss Back deposits east and southeast of subordinated ground.1/ Docket DMEA 4294, Contract Idm-E 1010, La Sal Mining and Development Company, La Sal Project, San Juan County, Utah

Property	Date	Production	U_3O_8 Grade percent	RESERVES Indicated	U_3O_8 Grade percent	Inferred	U_3O_8 Grade percent
La Sal mine (Richardson)	4-57	93,418	0.45	161,319	0.38	20,000	0.38
Nixon	4-57	229	1.93	111,171	0.83	15,000	0.50
Elephant				41,370	0.14	10,080	0.12
Ike				6,000	0.76	4,000	0.76
Mamie				130,000	0.20	73,400	0.20
Nixon No. 2				15,000	1.84	8,300	1.00
Opal				2,500	0.18		
Patti Ann				50,000	0.23	22,600	0.23
San Juan Shaft	1-56	14,528	0.14	155,139	0.18		

1/ Data from Production and Ore Reserves Section, Grand Junction Operations Office, Atomic Energy Commission.

Table IV -- Summary of Costs, La Sal Mining and Development Company, DMEA 4294, Contract Idm-E 1010, San Juan County, Utah

ITEM	unit	allowed unit price	STAGE I OPERATIONS Claimed units	Claimed cost	Approved units	Approved cost	STAGE II OPERATIONS Claimed units	Claimed cost	Approved units	Approved cost	ENTIRE PROJECT Claimed units	Claimed cost	Approved units	Approved cost	CONTRACT MAXIMUMS units	cost
Actual Cost Items																
Non-core drilling																
0-400 feet	foot	$ 1.25	13600	$17000.00	13600	$17000.00	1600	$2000.00	1600	$2000.00	15200	$19000.00	15200	$19000.00	24400	$30,500.00
400-600 ft.	foot	1.50	6446	9669.00	6446	9669.00	543	814.50	543	814.50	6989	10483.50	6989	10483.50	12200	18,300.00
600-800 ft.	foot	1.95	2125	4143.75	2125	4143.75	37	72.15	37	72.15	2162	4215.90	2162	4215.90	5249	10,235.55
													24357	33699.40		
Core drilling				1/			1/				1/					
400-600 ft.	foot	4.75	199	1194.00	199	945.25	76	456.00	76	361.00	275	1650.00	275	1306.25	2/	--
600-800 ft.	foot	6.00	1080.5	6483.00		6483.00	56.5	339.00	56.5	339.00	1137	6822.00	1137	6822.00	3050	18,300.00
Bulldozing	hour	12.00	66.5	728.00	52.5	630.00	28.5	342.00	28.5	342.00	95	1070.00	81	972.00	180	2,150.00
Fixed Cost Items																
Incidental Allowance	foot	0.15	23450.5	3517.58	23450.5	3517.58	2312.5	346.88	2312.5	346.88	25763	3864.46	25763	3864.46	44899	6,734.85
Chemical Analyses	each	4.00	6	24.00	6	24.00	3	12.00	3	12.00	9	36.00	9	36.00 3/	225	900.00
Total for Contract												$47,141.86		$46,700.11		$87,130.40

1/ Operator claimed all core drilling at the unit price of $6.00 per foot.

2/ Amendment no. 1 established a maximum total coring footage and cost instead of maximums in each depth category.

3/ The amount expended under Contract Idm-E 1010 is subject to a report of review by the Contract Administration and Audit Division, DMEA.

Government participation in approved costs at 75 percent	$35,025.08
Average cost of non-core drilling per foot (drilling only)	$ 1.38
Average cost of core drilling per foot (drilling only)	$ 5.76
Average overall cost of drilling per foot	$ 1.81

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DATE	INITIALS	CODE

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
JULY 1957 CONTRACT Idm-E1010 DOCKET 4294

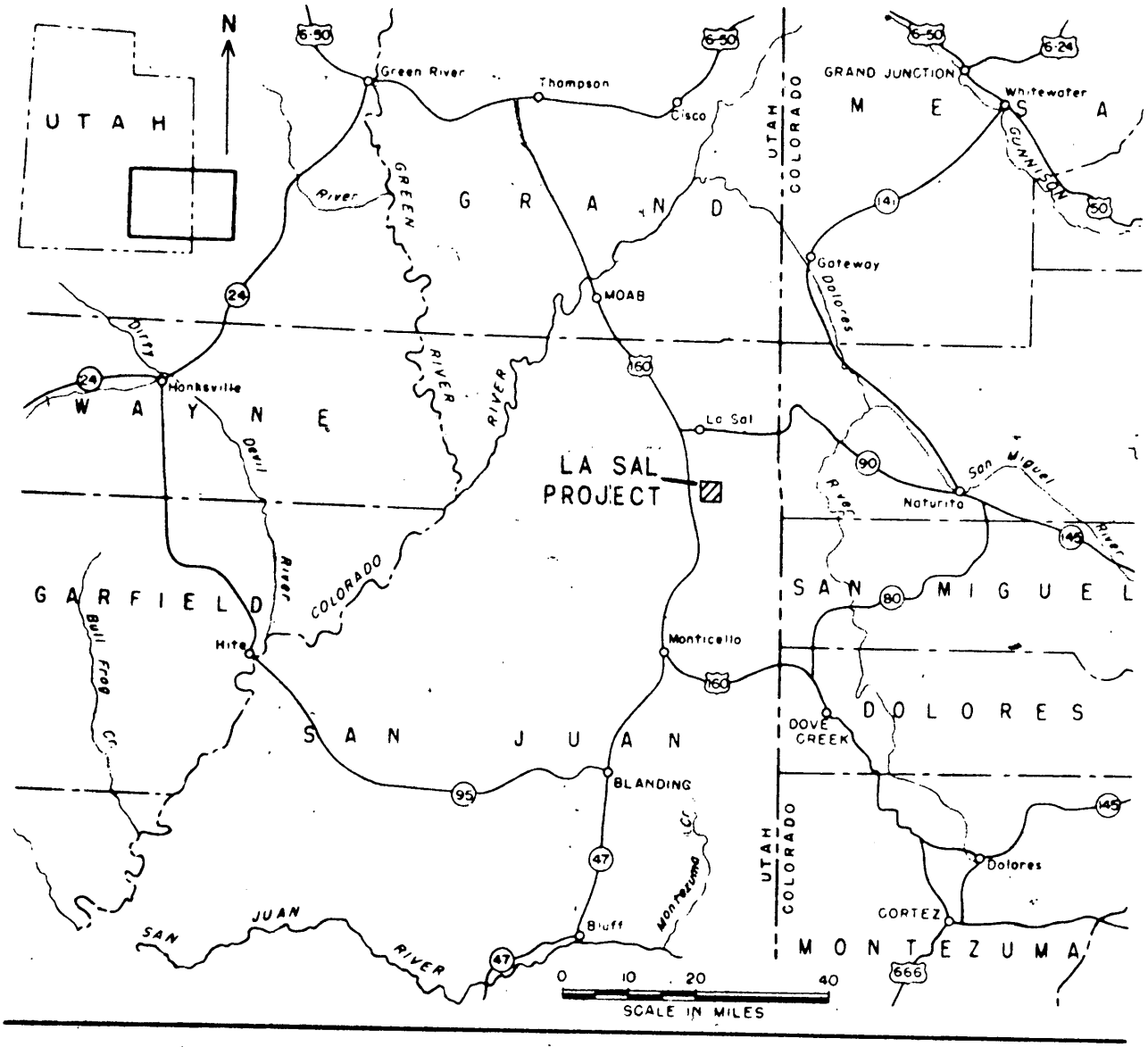

FIGURE 1.--LOCATION MAP, LA SAL PROJECT, LA SAL MINING AND DEVELOPMENT COMPANY, SAN JUAN COUNTY, UTAH.

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
JULY 1957 CONTRACT Idm-E1010 DOCKET 4294

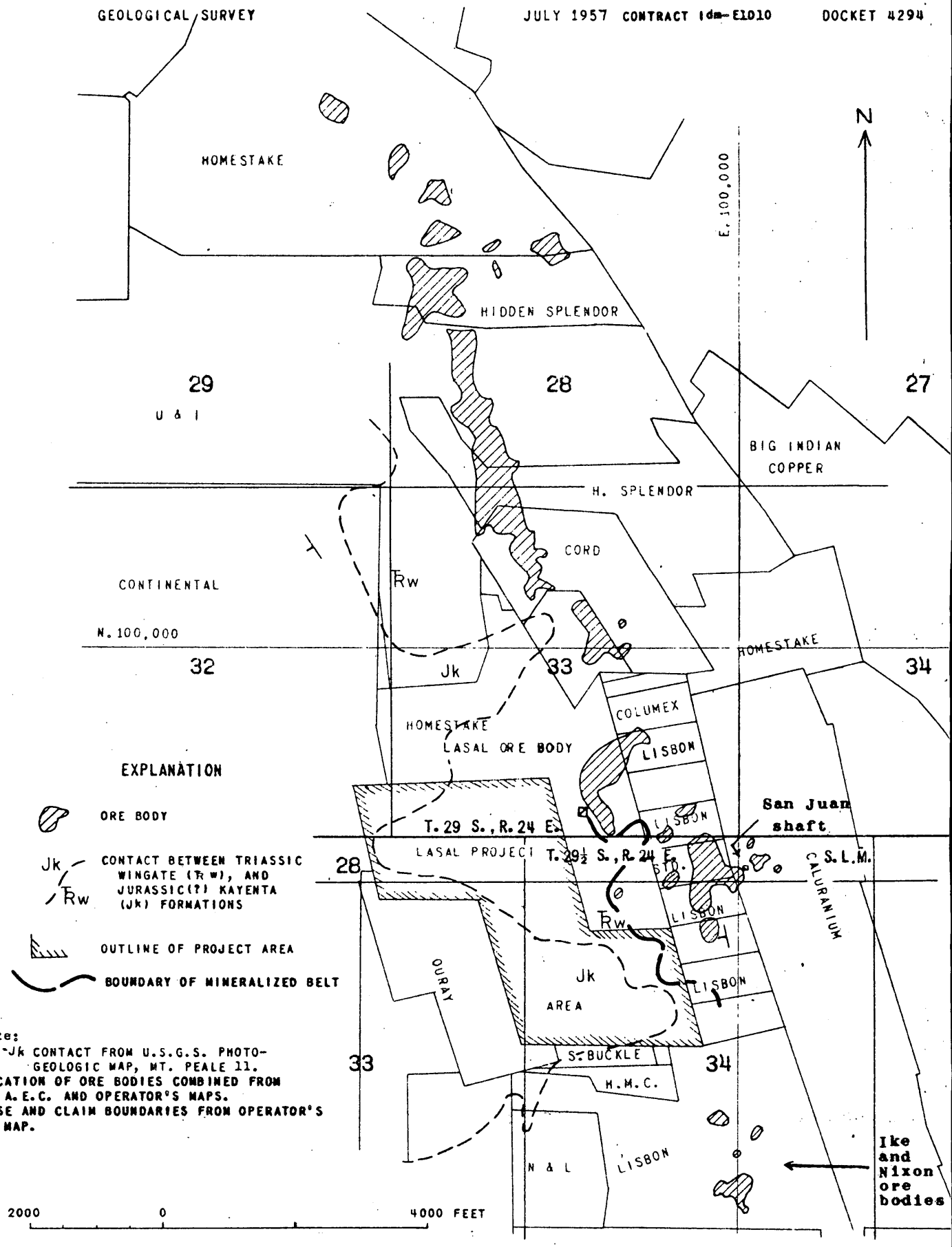

FIGURE 2. GENERALIZED MAP SHOWING PROJECT AREA OF LA SAL MINING AND DEVELOPMENT COMPANY, SAN JUAN COUNTY, UTAH.

IN REPLY REFER TO:

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

August 1, 1957
Re: DMEA 4294, Idm-E1010
La Sal Mining and Development Company
La Sal Project
San Juan County, Utah
Uranium

Memorandum

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

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

Subject: Review of Examiners' memorandum recommending certification.

In a memorandum dated April 19, 1957, the examiners recommended that the referenced contract be terminated and, conditionally, that the project not be certified.

Ore grade material was cut in 2 holes on the Robin Roy claims, the No. 2 and No. 7 holes. No map is at hand showing the relationship of the 2 holes, but No. 2 is 200 feet from the east end line of the Robin Roy claim.

A Steen interest claim, the Elephant, abuts the Robin Roy on the east end, the Patti Ann corners the Robin Roy on the northeast. Relatively large but not high grade ore bodies are known to exist on the Patti Ann and Elephant claims and there is a possibility they may connect in some way with Robin Roy showing.

DMEA assisted in prospecting claims outside the indicated favorable trend, whereas the Robin Roy, the adjoining Opal, and the Victory claims are in a tier and apparent trend containing the large Richardson-Judy Lee ore body of the applicant. In both the Opal and Victory claims there is at least one ore hole. Probably the Robin Roy showing will get further attention.

I concur with the recommendation of the examiners that a certification be imposed.

N. E. Nelson

N. E. Nelson

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~~Memorandum~~		

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

Date August 1, 1957

DMEA Docket No. 4294
DMEA Contract No. Idm-E1010
Commodity Uranium
Name of applicant LaSal Mining and Development Co.
Name of property La Sal Project
Location of property San Juan County, Utah
Estimated cost of project

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee
From: James Paone, Bureau of Mines Member JP
Uranium Commodity Committee
Subject: Review of Field Team Report
(Application, Field Team Report, etc.)

1. Date of subject document: 7/26/57. 2. Date received by reviewer: 8/1/57

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 needing 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] certification as discovery
   e. Disagree with Field Team ☐
   f. Suggest alternate plan ☐
   g. Request another examination ☐
   h. Approval ☐
   i. Consult with Mr. ____ at ____ AEC office.

10. Remarks: (Use back of page if necessary)

ACTION ON INTERIM
OR FINAL FIELD TEAM REPORT

Date 7-[illegible]-59

Referred to:

1. ~~Mr. Mitterdorf~~
2. ~~Mr. Johnson~~
3. ~~Mr. Chambers~~
4. Docket Control Mails and Files
5. [illegible] Division
6. ~~Docket Control Mails and Files~~
7. ~~700~~ Mr. Kwaine

Note comments in report regarding:

1. Certification Recommended
2.
3.
4.

and take appropriate action.

- - - - - - - - -

Action taken by Division:

Robert E. Adams

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

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DATE	INITIALS	CODE
7/29	P.K.	220
"		110
7-2		130
		220

July 26, 1957

VIA AIR MAIL

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 4294 (Uranium), Contract No. ~~Idm-E1010~~,
La Sal Mining and Development Company (La Sal Project),
San Juan County, Utah

In conjunction with matter discussed in our memorandum of April 19, 1957 and the last paragraph of your letter of May 8, 1957, we are enclosing the original and two copies of a joint memorandum, dated July 22, 1957, from D. P. Elston, Geologist, Geological Survey, and H. F. Robertson, Mining Engineer, Bureau of Mines.

Developments on the properties adjoining that explored under the DMEA Contract have caused the field examiners to change their opinion as stated in their memorandum of April 16, 1957, and they now recommend that the project be certified as a Discovery or Development, in which this office concurs.

W H King

W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
7-31-57
(date)

MINERAL DEPOSITS
DMEA
RECEIVED
JUL 25 1957
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

IN REPLY REFER TO:

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

DMEA
DEPARTMENT OF THE INTERIOR
JUL 26 1957
REGION III
DENVER, COLORADO

July 23, 1957

Memorandum

To: W. H. King, Executive Officer, DMEA Field Team, Region III

Through: E. N. Harshman
J. William Hasler

From: D. P. Elston
H. F. Robertson

Subject: Certification of discovery, Docket DMEA 4294 (Uranium), Contract Idm-E 1010, La Sal Mining and Development Co., (La Sal Project), San Juan County, Utah.

Reference is made to the memorandum by M. H. Salsbury and D. P. Elston, dated April 16, 1957, in which termination of the above contract and non-certification of the property were recommended. The latter recommendation was qualified because, although the ore penetrated by the drill on the eastern part of the Robin Roy claim is too limited in extent and too low in grade to constitute minable reserves, there appeared to be a chance that the reserves would be minable in conjunction with possible deposits to the east and northeast.

Subsequent evaluation of the DMEA drill hole data and of the results of private drilling on the claims immediately east and northeast of the Robin Roy claim indicate that the eastern part of the Robin Roy claim is within the western edge of a northerly trending belt of laterally continuous mineralized ground that contains several large low-grade ore bodies. These ore bodies range in grade from about 0.14 to 0.23 percent U_3O_8. Indicated reserves recorded by the Ore Reserves Section of the Atomic Energy Commission adjoining Elephant claim and on the Patti Ann and Mamie claims to the north are in excess of 225,000 tons. The nearest ore body to the Robin Roy claim is about 500 feet east on the Elephant claim where total indicated and inferred reserves are about 50,000 tons averaging about 0.14 percent U_3O_8.

On the basis of hole nos. 2 and 7 on the Robin Roy claim and postulating a blanket-like habit of mineralized ground, 11,500 tons of uranium-bearing rock averaging 0.24 percent U_3O_8 are inferred as the result of DMEA drilling.

OFFICIAL FILE COPY
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Reviewed by
DMEA OPERATING COMMITTEE
7-31-57
(date)

Because of the proximity of these reserves to larger reserves, that may be mined within the 10-year period covered by certification, it seems likely that the reserves on the Robin Roy claim also might be exploited, particularly as the grade of uranium in the vicinity of Robin Roy hole no. 7 is higher than the tenor of mineralized rock to the east. For the above reasons certification of discovery of the subject property appears to be warranted and is recommended.

The final geological and engineering report that is nearly completed, contains this same recommendation which is substantiated by a map showing the distribution of the ore bodies, a table of production and reserves, and assay data.

This memorandum is written to notify the Field Team of the revised recommendation of the examining team pursuant to certification of the property. The operator apparently has not yet been notified as to certification or non-certification of his property.

D P Elston

D. P. Elston,
Geologist

H. F. Robertson

H. F. Robertson,
Mining Engineer

DPE/bh

57-134

FINAL DISTRIBUTION

MADE JUN 11 1957

224 New Customhouse
Denver 2, Colorado

June 10, 1957

EXTRA COPY
DMEA
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6/14	9	~~HC~~
"	~~Mr. Kadunce~~	700

Memorandum

To: T. A. Christensen

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

Subject: Docket DMA-434 (Uranium) Contract Ida-EID10, La Sal Mining and Development Company (La Sal project), San Juan County, Utah - FINAL PAYMENT

Reference is made to our memorandum of April 18, 1957, whereby we transmitted the final Form MF-104, Operator's Monthly Report and Voucher for the month of March, 1957, and requested that you withhold the amount of $500.00 from reimbursement to the Operator pending resolution of matters prerequisite to closing the account.

The Operator's final report has been received, therefore we recommend that final payment to the Operator be made on the following basis, which is in conformance with the Report of Review of reported project costs by the Contract Administration and Audit Division, dated May 22, 1957:

Basis for Final Payment

Total acceptable cost	$46,700.11
Government participation at 75%	35,025.09
Total prior payments	34,525.09
Balance due the Operator	$ 500.00

Original signed by
E. N. HARSHMAN

E. N. Harshman

JRC:bmh

Paid $500.00
RRC

Randel R. Cooper
Authorized Certifying Officer
6-11-57 DMA-57-134

cc: Chron. Cp. Comm. (2)
Harshman
Konselman (2)
Healer
Townsend
Corres. file, Reg. III
MF-104 file, Reg. III
Chron

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

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5/28	Talbert	800
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		700

MAY 28 1957

Mr. Thomas H. Brading
DMEA Auditor
224 New Customhouse Building
Denver 2, Colorado

Re: Report of Review
La Sal Mining and
Development Company
Contract No. Idm-E1010
Docket No. DMEA-4294

Dear Mr. Brading:

Receipt is acknowledged of your Report of Review covering the above-cited project.

The report is acceptable and normal distribution is authorized.

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers, Director
Contract Administration
and Audit Division

EDTalbert/wb
May 28, 1957

Copy to: Docket
Admr. Reading File
Mr. Chambers

8623

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 24 1957

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5/24	JWG	220
5/27	[illegible]	800
5/27	Krowne	900

224 New Customhouse
Denver 2, Colorado

May 21, 1957

Memorandum

To: T. H. Brading, DMEA Auditor, Region III

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

Subject: Docket No. DMEA-4294 (Uranium), Contract No. Idm-E1010
La Sal Mining and Development Company (La Sal Project)
San Juan County, Utah

The subject contract was terminated by mutual agreement effective March 8, 1957, by Termination Agreement dated May 8, 1957, copy of which is enclosed for your records.

The Operator has rendered a final engineering and geologic report and 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 an Audit Certificate and Audit Report, or Report of Review of reported project costs, whichever the case indicates.

A review of our records indicates that the only work or service performed on a "Fixed Unit Cost" basis consists of incidental allowance on 25,763 feet of drilling.

The sum of $500.00 was withheld from reimbursement to the Operator in processing the final accounting report, which was for the period of February and March, 1957.

Original signed by
E. N. HARSHMAN

E. N. Harshman

Enc.

JWT:bh

cc-Chairman, Op. Comm. (2)
Harshman
Townsend
Corres. File E-1010
Chron.

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

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RECEIVED MAY 24 1957

DATE	INITIALS	CODE
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5/27	[illegible]	700

May 21, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

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

Subject: Docket No. DMEA-4294 (Uranium), Contract No. Idm-E1010
La Sal Mining and Development Company (La Sal Project)
San Juan County, Utah

Enclosed are the Government's, Division and Audit copies of Termination Agreement which were forwarded by your letter of May 8, 1957, for signature by the Operator.

Copies of the Termination Agreement have been forwarded to the Operator, Finance Office, Region III, and to others concerned.

E. N. Harshman

Encls.

E. N. Harshman

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224 New Customhouse
Denver 2, Colorado

May 15, 1957

Mr. Donald T. Delicate
Superintendent of Mines
La Sal Mining and Development Company
P. O. Box 563
Moab, Utah

Re: Docket No. DMRA 4294 (Uranium)
Contract No. Idm-E1010
La Sal Mining and Development Company
(La Sal Project)
San Juan County, Utah

Dear Mr. Delicate:

Reference is made to your letter of May 14, 1957, concerning paragraph 3 of the 'Termination Agreement', relative to the Operator's performing all winding up and settlement actions provided for in the Contract.

Your final narrative report has been received and if Form MF-104 for the Months of February and March, 1957 is the last accounting report to be submitted, then it appears that all winding up and settlement actions provided for in the Contract have been accomplished by the Operator.

Very truly yours,

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

JWT:prl

cc: Chmn.Op.Comm.-2) w/copy of Operator's
Harshman) letter of May 14.
Konselman)
Hasler)
Townsend)
Corres. file)
Chron.

LA SAL MINING & DEVELOPMENT CO.
MOAB, UTAH

DMEA
DEPARTMENT OF THE INTERIOR
MAY 15 1957
REGION III
DENVER, COLORADO

May 14, 1957

Mr. E. N. Harshman, Acting Executive Officer
DMEA Field Team, Region III
U. S. Department of the Interior
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 4294 (Uranium)
Contract No. Idm E1010
La Sal Mining & Development Co.
San Juan County, Utah

Dear Mr. Harshman:

I have received your letter dated May 10, 1957, and the termination agreement dated May 8, 1957.

I note that paragraph No. 3 of the termination agreement states "the operator shall perform all winding up and settlement actions provided for in the contract." To the best of my knowledge we have completed the necessary final reports and submitted all of the required maps and data to the proper parties.

Please advise if these reports are not in order.

Thank you for your assistance in this matter.

Yours very truly,

LA SAL MINING & DEVELOPMENT CO.

Donald T. Delicate

Donald T. Delicate
Superintendent of Mines

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224 New Customhouse
Denver 2, Colorado

May 10, 1957

Mr. Donald T. Delicate
Superintendent of Mines
La Sal Mining and Development Company
P. O. Box 363
Moab, Utah

Re: Docket No. DMEA 4294 (Uranium)
Contract No. IAm-E1010
La Sal Mining and Development Company
(La Sal Project)
San Juan County, Utah

Dear Mr. Delicate:

Enclosed are the Government's, Division, Audit, Finance Office, and Field Team copies of a proposed "Termination Agreement," which has been prepared in reference to your request of April 12, 1957, to terminate the Contract in its present status.

If the Termination Agreement is satisfactory, all copies are to be signed by an official of La Sal Mining and Development Company authorized to sign such an instrument, the signer's title inserted, the corporate seal affixed, and all copies promptly returned to this office; upon receipt of which the "Operator's Copy" will be forwarded to you.

Very truly yours,

Original signed by
E. N. HARSHMAN

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

JWT:prl

cc: Chairman, Op. Comm. (2)
Harshman) w/copy of Chairman's
Konselman-2) letter of May 8, 1957.
Hasler)
Townsend
Corres. file
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
5/7	Ellis	700
5-9	Chandler	800
5/8	Selfridge	130
5/8	Johnson	110
"	Rutherford	100
5/9	C	220
		700

MAY - 8 1957

Mr. B. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-4294 (Uranium)
Contract No. Idm-E1010
La Sal Mining and Development Company
La Sal Project
San Juan County, Utah

Dear Mr. Harshman:

Enclosed are the original and five copies of a Termination Agreement on the subject project, signed by the Administrator. Also enclosed are two extra copies for the use of the Field Team.

Kindly have the Termination Agreement signed by the Operator and thereafter make the usual distribution of the copies.

Regarding your memorandum of April 19, it has been determined that the relatively small tonnage of ore occurring at approximately 475 feet below the surface does not justify certification. However, it would be of interest to learn at some future date, if exploratory work is done on the adjoining property which results in a discovery of ore, the extent of the ore body found east of the Robin Roy claim and its relationship to the subject property area.

Sincerely yours,

George C. Selfridge
(Eyes)
Chairman, Operating Committee

Enclosures

APPROVED:

Frank D. Lamb (Eyes)
Member, Bureau of Mines

Thor H. Kiilsgaard (Eyes)
Member, Geological Survey

EWEllis/gla
5-7-57
cc to: Admr.'s Reading File
Operating Committee
Code 700, Mr. Knouse
THKiilsgaard, Rm. 5224

8623

Mr. Ellis -

Needs summary and analysis. Will take care of this in a few days when final report is rec'd. EWE

Cap:

It would be interesting if we knew what had been found, if anything, in area to east of Robin Roy Claim, and how far away.

An analysis indicates the maximum tonnage of ore that could be reasonably expected from 2 ore holes on Robin Roy Claim would not be significant (Est. 200 tons of .30% U_3O_8) and possible royalties would not pay for cost of policing.

In view of remote possibility of this small tonnage being mined within 10 years, do not believe that certification, or pseudo-certification, is justified.

5-2-57

FEJohnson

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
4-29	Ellis	700

April 29, 1957

Memorandum

To: Associate Solicitor,
Division of Mineral Resources

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

Subject: Contract Termination
Docket No. DMEA-4294 (Uranium)
Contract No. Idm-E1010
La Sal Mining and Development Company
La Sal Project
San Juan County, Utah

You are referred to the memorandum, dated April 19, 1957, of the Acting Executive Officer, Region III, regarding terminating the subject contract. As was requested, please prepare a termination agreement with an effective date of March 9, 1957, for the completion of the project work, except for the cost of sample chemical analyses completed after that date.

We recommend using the "Termination Agreement [All contract Forms - MF-200, MF-200A]" example attached to DMEA Circular 33, with the following paragraphs: Nos. 1, 2 (except delete (a), since there was no material to be disposed of and the final report of the Operator has been furnished), 3, 5, and 7.

Ernest Wm. Ellis

Ernest Wm. Ellis

FKnouse/dlm 4-29-57
cc to Mr. Knouse

8623

FINAL DISTRIBUTION
MADE APR 24 1957

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
REGION III

Administrative Audit Difference Statement

La Cal Mining & Development Company
Box 563
Moab, Utah

Date: April 22, 1957
Payee's Reference: February & March 1957

DMEA-4294

Gentlemen:

Upon examination of the above Payee's Reference a difference was found which made it necessary to suspend your account accordingly:

Amount Claimed	$	4,382.53
Difference	$	95.00
Amount Approved	$	4,287.53

The reason for the difference was due to:

Disallowance: Core Drilling
Claimed 400-600 ft interval, 76 ft @ 6.00 per ft. 456.00
Maximum allowable cost 400-600 ft interval, 76 ft @ 4.75. 361.00
Amount to be disallowed. 95.00

Withhold: $500.00 pending resolution of matters prerequisite to closing the account.

Any reclaim for deductions made above must be supported by the ORIGINAL of this form.

Very sincerely yours,

N. E. Stokes
Audit Section

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D M E A
RECEIVED APR 29 1957

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		~~700~~
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R-III-B & F Form No. 4
4-15-52 D

224 New Customhouse
Denver 2, Colorado

April 18, 1957

Memorandum

To: T. A. Christensen

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

Subject: DMEA Docket-4294, (Uranium) Contract Idm-E1010, La Sal Mining and Development Company (La Sal project) San Juan County, Utah - Operator's Monthly Progress Report for the period February and March, 1957

Enclosed are the original and four copies each of Forms MF-104 and MF-104A, Operator's Narrative Report, and Engineer's Report for the above period.

Except as otherwise indicated below we consider that the Operator has complied with the intent of the contract, and the work for which payment is recommended is acceptable to the Government. Payment is recommended on the following basis, contingent on your verification of the correctness of applicable rates and arithmetical accuracy of computations.

<u>Disallowance</u>, Core drilling:

Amount reported by Operator, 400-600 ft. interval, 76 ft. at $6.00 per foot	$456.00
Maximum allowable cost, 400-600 ft. interval, 76 ft. at $4.75 per foot	361.00
Amount to be disallowed	$ 95.00

<u>Withhold</u> an amount of $500.00 pending resolution of matters prerequisite to closing the account. All approved Stage II drilling has been completed and the Operator has submitted a request that the contract be terminated in its present status.

Reconciliation with Amount Reported by the Operator on Form MF-104 for February and March, 1957

Amount reported on Form MF-104 for January-February, 1957	$4,382.53
Amount to be disallowed	95.00
Total accepted cost for January-February, 1957	$4,287.53
Government Participation at 75 percent	3,215.65
Amount to be withheld	500.00
Balance due the Operator	$2,715.65

Remarks

Date of Report—March 15, 1957
Date Received in Field Office—March 18, 1957
Date Received in Region Office—April 5, 1957
Held pending receipt of supplemental Form MF-104A from Operator.

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

Enclosures
JDC:hh
cc: Chmn. Op. Comm. (2)
Shaw (2)
Harshman
Townsend
MF-104 File, Reg. III
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

REGION III

Building 20
Denver Federal Center
Denver 2, Colorado

DMEA
DEPARTMENT OF THE INTERIOR
APR 5 - 1957
REGION III
DENVER, COLORADO

April 3, 1957

EXTRA COPY
DMEA
RECEIVED APR 29 1957

DATE	INITIALS	CODE

Memorandum

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

Through: John F. Shaw
Supervising Mining Engineer

From: M. H. Salsbury

Subject: Docket No. DMEA 4294 (Uranium), Contract Idm-E1010, La Sal Mining and Development Co. (La Sal project) San Juan County, Utah -- Progress report for February and March 1957.

Operations on the subject contract were inspected on March 26, 1957, in company with W. B. Gazdik of the Geological Survey, and Donald T. Delicate, superintendent for the operator.

Authorized work under the contract had been completed on March 8, 1957, and was in accordance with contract specifications and a work authorization by the DMEA Field Team, Region III, for Stage II drilling, dated February 7, 1957.

The operator has submitted in quintuplicate Forms MF-104 and MF-104A, a narrative report, geologic and radiometric logs, and a map showing hole locations, together with one copy of driller's logs, signed invoices from the drilling and bulldozing contractors and a certified assay certificate. Failure of the operator to photostat the back of copies of the MF-104 forms was corrected by the DMEA office by stapling blank forms to those submitted.

The following claims for February - March 1957 are submitted covering 2,180 feet of non-core drilling and 132.5 feet of core drilling in 4 holes:

Independent Contracts	
Tractor-dozer operation 28-1/2 hours at $12.00 per hour	$ 342.00
Non-core drilling	
0-400-foot range 1,600 feet at $1.25 per foot	2,000.00
400-600-foot range 543 feet at $1.50 per foot	814.50
600-800-foot range 37 feet at $1.95 per foot	72.15
Core drilling	
400-600-foot range, 76 feet at $6.00 per foot	456.00
600-800-foot range 56-1/2 feet at $6.00 per foot	339.00
Fixed Costs	
Incidental allowance, 2312-1/2 feet of drilling at $0.15 per foot	346.88
Chemical analyses of 3 samples of core for U_3O_8 and V_2O_5 at $4.00 each	12.00
Total claims February-March 1957	$4,382.53

The unit prices claimed for drilling are based on an invoice from Pioneer Drilling Company. Footages claimed are in accordance with footage in the sub-contractor's invoices, drillers daily logs, and the operator's geologic logs. Documentation of all claims is complete. All claims are within contract maximums and otherwise in accordance with the contract and Amendment No. 1 there to except as follows:

(1) A total of 132-1/2 feet of core drilling, as invoiced by the sub-contractor, is claimed at the rate of $6.00 per foot, the rate specified in the subject contract for drilling in the 600-800-foot range. Actually 76 feet of the core drilling claimed was in the 400-600-foot range for which a unit price of $4.75 per foot was established by Amendment No. 1. The excess claimed above $4.75 per foot for drilling in the 400-600-foot range, $95.00, is recommended for disallowance.

Depth of holes and amount of coring were checked by inspecting the stored core and by comparing with probed depths reported in DMEA Barnaby results.

Monthly totals in the MF-104 and MF-104A forms show all items correctly except for core drilling which is not itemized as to depth range and is all claimed at $6.00 per foot. Cumulative totals do not reflect disallowances made on claims in the two previous reports submitted by the operator. The total of disallowances, including that recommended for February-March 1957, is $441.75. Cumulative totals on the MF-104A forms reflect claims by the operator for Stage II drilling only. Totals shown by the operator on the MF-104A forms for January 1957, are the claims made for Stage I drilling. Addition to the February-March 1957 report of photostats of this form would serve to make the data required for February-March 1957 complete.

Of four Stage II holes drilled in February-March 1957, hole Robin Roy No. 7 penetrated 2.3 feet of ore-grade material. The weight and average content by chemical analyses was 0.296 percent U_3O_8 and 0.09 percent V_2O_5. Hole Chris No. 2 penetrated 1.8 feet of material containing .039 percent U_3O_8 and .02 percent V_2O_5. The other two holes were barren.

Three of the holes were probed through the potential ore horizon. The operator reports that hole Chris No. 3 was caved above the ore horizon and could not be probed. However, the radiometric log submitted by the operator and the DMEA probing results show that the hole Chris No. 3 was probed but hole Chris No. 2 was not probed. Because, core recovery was 100 percent in hole Chris No. 2 and slight mineralization in the core was verified by chemical analysis, waiving of the contract requirement for probing is recommended in the case of hole Chris No. 2. Table No. 1 attached summarizes drilling results for February-March 1957.

The operator has concluded that further drilling is not justified, termination of the contract is being requested, and a final report will be rendered.

Payment of $3,215.65 or 75 percent of the amount claimed in February-March 1957 ($4,382.53) less $95.00 to be disallowed, is recommended for approval.

M. H. Salsbury
Mining Engineer

Attached - Table 1.

cc 6
MHSalsbury
Idm-E1010
Caron.

MHS:ph

TABLE 1. - Drilling Data February-March 1957, Pocket DMEA 4294, Contract IAm-21010, La Sal Mining and Development Co., La Sal Project, San Juan County, Utah.

Claim	Hole No.	INVOICED FOOTAGE: NON-CORE FOOTAGE Interval in feet 0-400	400-600	600-800	CORE FOOTAGE Interval in feet 400-600	600-800	Total Depth claimed feet	Depth by 1/ drillers' log, feet	Depth by 1/ geologic log, feet	Depth probed by DMEA feet
Robin Roy	7	400	48		36		484	484	484	482.9
Robin Roy	8	400	115		20		535	535	535	517.2
Chris	2	400	180		20	17-1/2	617-1/2	617-1/2	617-1/2	Not probed
Chris	3	400	200	37		39	676	676	676	672.6
Totals - 4 holes		1,200	543	37	76	56-1/2	2,312-1/2			

1/ Proportion of core and non-core drilling claimed is verified by driller's and geologic logs and measurement of stored core.

Claim	Hole No.	MINERALIZED INTERVAL From feet	To feet	Interval feet	Operator's probe reading percent eU_3O_8	Chemical Analyses of core Percent U_3O_8	Percent V_2O_5	DMEA Barnaby From feet	To feet	Percent eU_3O_8	Classification of hole
Robin Roy	7	474.5	475.5	1.0		0.102	0.04				Ore
		475.5	476.8	1.3		0.445	0.13	475.5	476.0	0.41	
		475.0	477.0	2.0	0.02 to 0.07						
		477.0 2/	478.6	1.6	0.13 to 0.60						
		478.6	479.3	0.7	0.02 to 0.07						
Robin Roy	8				Barren			Ore horizon not reached.			Barren
Chris	2	608.3	608.1	1.8	Hole blocked	0.039	0.02	Not probed			Mineralized
Chris	3				Barren			Barren			Barren

2/ There is a difference of approximately 2 feet in depth of mineralization between operator's probing and coring results. DMEA probing checks coring results.

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March 15, 1957

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

Subject: DMEA Exploration Project
Contract No. Idm-E1010
Docket No. 4294 (Uranium)
La Sal Mining & Development Co.
Narrative Report for the period
February 1 to March 15, 1957
Final Report

Dear Mr. Shaw:

Exploratory drilling on the property owned by La Sal Mining & Development Co. in the Big Indian District, San Juan County, Utah, was started in November, 1956. Stage I work was completed in January, 1957 and four offset holes were authorized in Stage II.

During February four drill sites were laid out with a transit offsetting the Robin Hoy No. 2 hole (see enclosed map). The sites were prepared with some difficulty due to terrain and weather and one hole drilled in February.

During March the three remaining holes were drilled to complete the drilling authorized in Stage II.

Drilling consisted of exploration by non-core and core drilling to test the Moss Back member of the Chinle formation of Triassic age. The holes were cored through approximately 25 to 30 feet of the Moss Back member with very good core recovery. All core which showed mineralization was split and one-half assayed for U_3O_8 and V_2O_5 (see assay results).

The holes were probed with a Gabriel counter reel and probe assembly and the results recorded. The favorable horizon was not reached in the Chris Hole No. 3

COPY

with the probe due to caving ground. However, the core recovery was 100% through the mineralization section so no attempt was made to open the hole.

Only one of the Stage II offset holes showed significant mineralization. The weighted average of the chemical assay of the core from the Robin Boy Hole No. 7 was 2.3 feet of 0.296% U_3O_8.

All authorized drilling in Stage I and Stage II has been completed and it is felt by the writer that no further work is justified.

Very truly yours,

LA SALLE PETRO & DEVELOPMENT CO.

Donald T. Delicate

Donald T. Delicate
Superintendent of Mines

CC: M. H. Calsbury
Box 360
Grand Junction, Colorado

COPY

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of Feb. and March, 1957 Docket No. DMEA 429h (Uranium) Contract No. Idm E-1010
Operator's Name La Sal Mining & Development Co. Minerals Uranium
Address Box 563, Moab, Utah
Contract Amount, $ 4,382.53 Government Participation: 75 % Amount, $ 3,286.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
Stage II	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:	Stage II	Stage I				
Drilling	3,681.65	38,489.75	42,171.40			
Building	342.00	728.00	1,070.00			
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis	12.00	24.00	36.00			
Payroll Taxes						
Liability Insurance						
Incidental Allowance	346.88	3,517.58	3,864.46			
(8) Contingencies (specify):						
TOTALS	4,382.53	42,759.33	47,141.86	4,287.53	42,759.33	47,046.86
				346.75		346.75
				3,940.78	42,412.58	46,700.11
				$ 27.15		

RECEIVED APR 29 1957 D.M.E.A.

I certify that the above bill is correct and just and that payment therefor has not been received.

Date March 15, '57 *Payee La Sal Mining & Development Co.

Per Donald J. Delicate Title Sup't of Mines

Pursuant to authority vested in me I certify that this account is correct and proper for payment in the amount of

Signature (Authorized Certifying Officer)

Date 4/22/57 Voucher DMA 57-114

(See other side)

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

Previous Disallowance

Note: Withhold 500.00

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of ....., 195..... Docket No. DMEA ..... Contract No. .....
Operator's Name ..... Minerals .....
Address .....
Contract Amount, $..... Government Participation: .....% Amount, $.....

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent / Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
TOTALS						

I certify that the above bill is correct and just and that payment therefor has not been received.

Date ..... *Payee .....

Per ..... Title .....

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$.....

Signature .....
(Authorized Certifying Officer)

Date ..... Vou. No. .....

(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. IdME1010 in accordance with the terms of the contract.

Signature M. N. Schoung 3215.65 Title Mining Engineer Date 3-29-57

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE

Signature E. M. Hawkins Title acting Executive Officer Date APR 17 1957

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(*a*) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(*b*) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(*c*) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

RECEIVED APR 30 1957 DMEA

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of Feb. & Mar. 1957 Docket No. DMEA 4294 Contract No. Idm E-1010
Operator's Name La Sal Mining & Development Co. Minerals Uranium
Address Box 563, Moab, Utah

OPERATION Stage II	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Non-core 0-400	ft.	2,000.00	1,600	2,000.00	1,600	$ 1.25	10,800	$ 1.25
Non-core 400-600	ft.	814.50	543	814.50	543	1.50	5,400	1.50
Non-core 600-800	ft.	72.15	37	72.15	37	1.95	2,329	1.95
Core 400-600	ft.	456.00	76	456.00	76	6.00	1,350	4.75
Core 600-800	ft.	339.00	56½	339.00	56½	6.00		6.00
Assay	each	12.00	3	12.00	3	4.00	100	4.00
Tractor dozer	hour	342.00	28½	342.00	28½	12.00	80	12.00
Incidental Allowance	ft.	346.88	2,312½	346.88	2,312½	0.15	19,879	0.15
Total Distributed Costs		4,382.53		4,382.53				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		4,382.53		4,382.53				38,583.40

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Remarks: W. H. Helsley

Date March 15, 1957 Operator La Sal Mining & Development Co.

Per Donald T. Delicate Title Sup't of Mines

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offence to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

(For Government use only)

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of Feb. & Mar. 1957 Docket No. DMEA 4294 Contract No. Idn - B 1010
Operator's Name La Sal Mining & Development Co. Minerals Uranium
Address Box 563, Moab, Utah

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Stage I								
Drilling - non core								
~~Drifting~~ 0-400'		none	none	17,000.00	13,600	1.25	13,600	@ 1.25
~~Crosscutting~~ 400-600'		"	"	9,669.00	6,446	1.50	6,000	1.50
~~Raising~~ 600-800'		"	"	4,143.75	2,125	1.95	2,920	1.95
~~Stopes~~ core		"	"	7,677.00	1,279½	6.00	1,700	6.00 & 4.75
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
~~Test Pits~~ assay	each	none		24.00	6	4.00	125	4.00
~~Roads and Trails~~ tractor	hour	"		720.00	66½	12.00	100	12.00
Incidental allowance dozer	foot	"		3,517.58	23,450½	0.15	25,020	0.15
Total Distributed Costs		none		42,759.33				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		none		42,759.33				48,547.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Remarks:

Date April 16, 1957 Operator La Sal Mining & Development Co.

Per Donald J. Delicate Title Superintendent of Mines

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

(For Government use only)

DMEA
DEPARTMENT OF THE INTERIOR
APR 17 1957
REGION III
DENVER, COLORADO

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

GEOLOGIC AND ASSAY LOGS

U.S. GEOLOGICAL SURVEY
COLORADO PLATEAU DISTRICT

Drill-hole No. 2 (NX)
Inclination Vertical Bearing —
Total depth 617 1/2
Collar elev. _____ T 6962 P
Area La Sal Drilling Project (DMEA)

Map coord (T) _____
Map coord (P) N 25011 E 22031
Sec. 34 T. 29½S R. 24E
Co., State San Juan, Utah

Claim Chris
Date completed 2-8-57
Date logged 3-11-57
Logged by WWW

Rev		
Ed		

Summary of log _____; OBSS from _____ to _____ thick _____; SS color _____; MS _____; Cbn. _____

Graphic log

DRILL LOG		LITHOLOGIC LOG									
Depth	Rec ft.	Base	Thick	Rec %	Rock	Color	Grain	Access. Min's.	Cbn	MS in SS	Remarks
580	3.5	583.5	3.5	100	CS	D Gy	VF	N			
583.5	2.0	585.5	2.0	100	SS	Gy	MF	N			Banded
585.5	3.3	588.8	3.5	94	MS	Gy	VF	N			S C sand grns, A MS Pebbles
589.0	10.5	600.7	11.7	90	MS//SS	D Gy	VF/MF	N	✓	A P	A C sand grns
600.7	1.3	603.0	1.3	100	SS	Gy	VF	A			A Pyrite Pe Fm
603.0	7.5	610.5	7.5	100	SS	Gy//Br	F	A			A Pyrite Mot
610.5	1.0	611.5	1.0	100	SS	Pk//Br	C	S			S Pyrite Mot
611.5	3.4	615.0	3.5	97	SS	Br//Gy	MF	A			A Pyrite Mot & Banded
615.0	2.4	617.5	2.5	96	SS	Gy	M	A			A Pyrite

Sample		Lab assay (%)			Sample		Lab assay (%)			Interval		γ-ray	γ-ray (%e) or Field est			
Base	Thick	U_3O_8 *	V_2O_5/Cu	$CaCO_3$	Base	Thick	U_3O_8 *	V_2O_5/Cu	$CaCO_3$	Base	Thick	%e U_3O_8	Base	Thick	U_3O_8	V_2O_5

*Assays marked "e" are from lab gamma-ray readings

GPO 830917

Hole No. _____

GEOLOGIC AND ASSAY LOGS

U.S. GEOLOGICAL SURVEY
COLORADO PLATEAU DISTRICT

Drill-hole No. 3 (NX)
Inclination Vertical Bearing —
Total depth 676
Collar elev. _____ T 6998 P
Area La Sal Drilling Project (DMEA)

Map coord (T) _____
Map coord (P) N 95062 E 28730
Sec. 34 T. 29½S R. 24E
Co., State San Juan, Utah

Claim Chris
Date completed 3-1-57
Date logged 3-11-57
Logged by MWW

Rev		
Ed		

Summary of log _____; OBSS from _____ to _____ thick _____; SS color _____; MS _____; Cbn. _____

Graphic log

DRILL LOG		LITHOLOGIC LOG									
Depth	Rec ft.	Base	Thick	Rec %	Rock	Color	Grain	Access. Min's.	Cbn	MS in SS	Remarks
637	11.5	649.0	12.0	96	SS//CS	Gy//DGy	MF//VF	M			
649.0	12.5	662.0	13.0	96	MS//SS	Gy	F/C	M		A G	S C sand grains, A MS Pebbles to MS
662.0	10.7	674.2	12.2	88	CS//MS	DGy//Gy	VF//F	M			
674.2	1.8	676.0	1.8	100	SS	Pr//Gy	VF	A			A Biotite, Mat, Pr Fm

Sample		Lab assay (%)			Sample		Lab assay (%)			Interval		γ-ray	γ-ray (‰) or Field est			
Base	Thick	U_3O_8 *	V_2O_5/Cu	$CaCO_3$	Base	Thick	U_3O_8 *	V_2O_5/Cu	$CaCO_3$	Base	Thick	‰e U_3O_8	Base	Thick	U_3O_8	V_2O_5

*Assays marked "e" are from lab gamma-ray readings

GPO 830917

Hole No. _____

GEOLOGIC AND ASSAY LOGS

U.S. GEOLOGICAL SURVEY
COLORADO PLATEAU DISTRICT

Drill-hole No. 7 (NX)
Inclination Vertical Bearing —
Total depth 484
Collar elev. _____ T 6860 P
Area La Sal Drilling Project (DMEA)

Map coord (T) _____
Map coord (P) N 95581 E 98925
Sec. 34 T. 29½S R. 24E
Co., State San Juan, Utah

Claim Robin Roy
Date completed 2-28-57
Date logged 3-11-57
Logged by WWW

Rev		
Ed		

Summary of log _____; OBSS from _____ to _____ thick _____; SS color _____; MS _____; Cbn. _____

Graphic log

DRILL LOG		LITHOLOGIC LOG									
Depth	Rec ft.	Base	Thick	Rec %	Rock	Color	Grain	Access. Min's.	Cbn	MS in SS	Remarks
448	8.0	456.2	8.2	97	MS	Gy	VF	N			Banded
456.2	3.8	460.0	3.8	100	MS	Gy	VF	N			A C Sand, A MS Pebbles
460.0	13.5	474.5	14.5	93	MS	Gy	VF	N			
474.5	5.5	480.0	5.5	100	SS	Gy	C	N		R B Gy P	
480.0	1.0	481.0	1.0	100	SS	GY	MF	N			
481.0	3.0	484	3.0	100	SS	BR	MF	A			A BIOTITE Pe Fm

Sample		Lab assay (%)			Sample		Lab assay (%)			Interval		γ-ray	γ-ray (%e) or Field est			
Base	Thick	U_3O_8 *	V_2O_5/Cu	$CaCO_3$	Base	Thick	U_3O_8 *	V_2O_5/Cu	$CaCO_3$	Base	Thick	%e U_3O_8	Base	Thick	U_3O_8	V_2O_5

*Assays marked "e" are from lab gamma-ray readings

GPO 030917

Hole No. _____

GEOLOGIC AND ASSAY LOGS

U.S. GEOLOGICAL SURVEY
COLORADO PLATEAU DISTRICT

Drill-hole No. 8 (NX)
Inclination Vertical Bearing —
Total depth 535
Collar elev. _____ T 6800 P
Area Lr Sal Drilling Project (DMEA)

Map coord (T) _____
Map coord (P) N 98520 E 20626
Sec. 34 T. 29½S R. 24E
Co., State San Juan, Utah

Claim Rebus Ray
Date completed 2-19-57
Date logged 2-22-57
Logged by WWW

Rev		
Ed		

Summary of log _____; OBSS from _____ to _____ thick _____; SS color _____; MS _____; Cbn. _____

Graphic log

DRILL LOG		LITHOLOGIC LOG									
Depth	Rec ft.	Base	Thick	Rec %	Rock	Color	Grain	Access. Min's.	Cbn	MS in SS	Remarks
515	1.8	516.9	1.9	97	MS	Gy	E	N			A C sand grains, S YC
516.9	11.1	528.1	11.2	99	SS	Br // Gy	MF	A			A Rutile, mt Br Fm
520.1	6.9	526.0	6.9	100	SS	Br	MF	A			A Rutile

Sample		Lab assay (%)			Sample		Lab assay (%)			Interval		γ-ray	γ-ray (%e) or		Field est	
Base	Thick	U_3O_8 *	V_2O_5/Cu	$CaCO_3$	Base	Thick	U_3O_8 *	V_2O_5/Cu	$CaCO_3$	Base	Thick	%e U_3O_8	Base	Thick	U_3O_8	V_2O_5

*Assays marked "e" are from lab gamma-ray readings

GPO 930917

Hole No. 8

HOMESTAKE MINING COMPANY

Moab, Utah

SURFACE DRILLING

Ore Hole _____

Mineralized Hole _____

Barren Hole ✓

Property La Sal Claim Chris Hole No. 2 Dates Drilled 3/1-6/57 Driller Costanza

Collar: N 25069 E 28730 Elev. 6998 Total Depth 676 Plugged Depth 637 Total Core 39

Depth Jw/Trc 242 Depth Trc/Pc 674 Total Trc Thickness 425 Trc Cored 37 Pc Cored 2

Depth	Interval & Strata	% Recovery	% U_3O_8 Chemical	% V_2O_5	% $CaCO_3$	Check % U_3O_8 Chemical	Composite Thickness & Grade

REMARKS:

Probed 3-6-57 on 3rd Scale

Depth Probed 676

Equipment:

Babble Probe & Reel Assembly

Babble Geiger Counter - Model 600A Serial 832

HOMESTAKE MINING COMPANY

Moab, Utah

SURFACE DRILLING

Ore Hole _____

Mineralized Hole _____

Barren Hole ✓

Property La Sal Claim Robin Roy Hole No. 8 Dates Drilled 2/18-19/57 Driller Costanza

Collar: N 95520 E 98696 Elev. 6880 Total Depth 535 Plugged Depth 515 Total Core 20

Depth Jw/Trc 101 Depth Trc/Pc 517 Total Trc Thickness 416 Trc Cored 2 Pc Cored 18

Depth	Interval & Strata	% Recovery	% U_3O_8 Chemical	% V_2O_5	% $CaCO_3$	Check % U_3O_8 Chemical	Composite Thickness & Grade

REMARKS:

Probed 2-20-57 on 3rd Scale

Depth Probed 535'

Equipment:

Babble Probe & Reel Assembly

Babble Geiger Counter - Model 600A Serial 832

HOMESTAKE MINING COMPANY

Moab, Utah

SURFACE DRILLING

Ore Hole _____

Mineralized Hole ✓

Barren Hole _____

Property La Sal Claim Robin Ray Hole No. 7 Dates Drilled 2/27-28/57 Driller Costanza

Collar: N 95581 E 98925 Elev. 6860 Total Depth 484 Plugged Depth 448 Total Core 36

Depth Jw/Trc 58 Depth Trc/Pc 481 Total Trc Thickness 423 Trc Cored 33 Pc Cored 3

Depth	Interval & Strata	% Recovery	% U_3O_8 Chemical	% V_2O_5	% $CaCO_3$	Check % U_3O_8 Chemical	Composite Thickness & Grade
	Probe Readings						
475.0 - 476.0	.02						
476.0 - 476.7	.03						
476.7 - 477.0	.07						
477.0 - 477.4	.17						
477.4 - 477.8	.22						
477.8 - 478.1	.60						
478.1 - 478.4	.22						
478.4 - 478.6	.13						
478.6 - 478.8	.07						
478.8 - 478.9	.03						
478.9 - 479.3	.02						
474.5 - 475.5	1.0'	97	.102	.04			
475.5 - 476.8	1.3'	100	.445	.13			

REMARKS:

Probed 2-28-57 on 3rd Scale

Depth Probed 484'

Equipment:

Babble Probe & Reel Assembly

Babble Geiger Counter - Model 600A Serial 832

HOMESTAKE MINING COMPANY

Moab, Utah

SURFACE DRILLING

Ore Hole _____

Mineralized Hole ✓

Barren Hole _____

Property La Sal Claim Chris Hole No. 2 Dates Drilled 3/6-8/57 Driller Costanza

Collar: N 95011 E 99031 Elev. 6962 Total Depth 617½ Plugged Depth 580 Total Core 37½

Depth Jw/Trc 185 Depth Trc/Pc 600½ Total Trc Thickness 415½ Trc Cored 20½ Pc Cored 17

Depth	Interval & Strata	% Recovery	% U_3O_8 Chemical	% V_2O_5	% $CaCO_3$	Check % U_3O_8 Chemical	Composite Thickness & Grade
600.3-602.1	1.8'	100	.039	.02			

REMARKS:

Probed 3-9-57 on 3rd Scale

Hole blocked at 140 ft

Equipment:

Babble Probe & Reel Assembly

Babble Geiger Counter - Model 600A Serial 832

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

OFFICIAL FILE COPY
DMEA
RECEIVED APR 24 1957

DATE	INITIALS	CODE
4/24	C	220
		130
4-25	Knouse	700

April 19, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

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

Subject: Docket No. DMEA 4294 (Uranium), Contract No. Idm-E1010, La Sal Mining and Development Company (La Sal Project), San Juan County, Utah

Enclosed is the following material pertaining to termination and certification of the subject project:

1. Original and three copies of the Operator's letter of April 12, 1957, requesting that the Contract be terminated in its present status.

2. Original and three copies of a joint memorandum, dated April 16, 1957, from M. H. Salsbury, Mining Engineer, Bureau of Mines, and D. P. Elston, Geologist, Geological Survey, wherein they recommend termination of the Contract but qualify their recommendation relative to issuing of a Certification.

The field examiners recommend that because of the limited extent of mineralization encountered on the property that the project not be certified. However, they go further and point out that in the event a significant ore body is developed on the adjoining property as a result of the mineralization encountered in the easterly portion of the Robin Roy claim that there is then a good possibility that the limited showing of ore developed as a result of the DMEA work could be profitably exploited, and if the property were certified considerable royalty might be forthcoming to the Government.

The matter seemingly involves DMEA policy, since it is very doubtful that the discovery as a result of the DMEA work could, by itself, be exploited profitably.

Under the circumstances, the matter is forwarded for your consideration and appropriate action, without specific recommendations.

Copies of the Operator's final report were forwarded by memorandum of April 17, 1957.

E. N. Harshman

E. N. Harshman

Enclosures

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DMEA
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DATE	INITIALS	CODE

MINERAL DEPOSITS
DMEA
RECEIVED
APR 17 1957
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

IN REPLY REFER TO:

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

April 16, 1957

Memorandum

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

Through: J. William Hasler
John F. Shaw
E. N. Harshman

From: M. H. Salsbury
D. P. Elston

Subject: Docket No. DMEA 4294 (Uranium), Contract No. Idm-E 1010, La Sal Mining and Development Company, (LaSal Project), San Juan County, Utah -- Recommendations on Certification of Discovery

Operations under the subject contract were recessed on March 8, 1957 after the completion of 4 authorized Stage II holes. All of the 34 holes provided for in Stage I were completed. One hole, Robin Roy No. 2, contained significant mineralization and was offset by four Stage II holes. One of the holes, Robin Roy No. 7, penetrated material of ore grade and thickness. The balance of Stage II drilling, 23 holes, does not appear to be justified, and therefore is not recommended.

Significant mineralization found is summarized as follows:

Hole No.	Depth of Mineralization from feet	to feet	Interval feet	Chemical Analyses percent U_3O_8	V_2O_5
Robin Roy No. 2	533.5	535.5	2.0	0.166	0.19
	535.5	536.0	0.5*	0.038	0.12
Robin Roy No. 7	474.5	475.5	1.0	0.102	0.04
	475.5	476.8	1.3	0.445	0.13

* reported by operator as 1.5 feet.

DMEA
DEPARTMENT OF THE INTERIOR
APR 18 1957
REGION III
DENVER, COLORADO

All of the core from the holes drilled has been examined by DMEA representatives. Cores from the two mineralized holes, including splits of the portions taken for assay, have been brought to Grand Junction and are in storage at the AEC compound. Of the 38 holes drilled, 30 holes were probed by the DMEA Barnaby Unit, including Robin Roy hole No. 7, with results confirming those reported by the operator.

Considering that ore grade material in holes Robin Roy No. 2 and 7 is thin, that the grade of the mineralized material is above 0.20 percent in only one hole, that the depth to the ore horizon is about 500 feet, and that results in all other drilling were essentially negative, the presence of an ore body which could be mined profitably at this time or in the foreseeable future appears to be remote. On this basis, certification of a discovery is not considered to be justified by the examining team, and termination of the contract without certification is recommended.

However, the mineralization found is near the east end line of the Robin Roy claim near the adjoining unexplored Elephant claim of the Lisbon Uranium Corporation. It is possible that a commercial ore body might be discovered by exploration on the Elephant claim at some future time. In this event, mineralization present on the Robin Roy claim might be of interest as representing a possible extension of minable ore across the property boundary.

M. H. Salsbury by DPE

M. H. Salsbury,
mining engineer

D. P. Elston

D. P. Elston,
geologist

MHS/bh

LA SAL MINING & DEVELOPMENT CO.

MOAB, UTAH

DMEA
DEPARTMENT OF THE INTERIOR
APR 15 1957
REGION III
DENVER, COLORADO

April 12, 1957

Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: Docket No. 4294 (Uranium)
Contract No. Idm E-1010
La Sal Mining & Development Co.
San Juan County, Utah

Dear Sir:

Request is hereby submitted to terminate the above mentioned DMEA contract. After analyzing the work done to date it is felt that further exploration under this contract is not justified. It is felt by the writer that no mineable, commercial ore has been found to date on the property explored and no further offset drilling should be done.

All approved drilling was completed on March 8, 1957, and all progress reports submitted to the proper government offices.

A final summary report has been sent to Mr. John Shaw, Supervising Engineer, Bureau of Mines, Denver Federal Center, Denver 2, Colorado under separate cover.

Your prompt consideration of this request will be greatly appreciated.

Yours very truly,

LA SAL MINING & DEVELOPMENT CO.

Donald T. Delicate

Donald T. Delicate
Superintendent of Mines

DTD:dn

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DMEA
RECEIVED APR 24 1957

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RECEIVED 1957

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"		700

224 New Customhouse
Denver 2, Colorado

April 18, 1957

Mr. Donald T. Delicate
Superintendent of Mines
La Sal Mining and Development Company
Moab, Utah

Re: Docket DMEA-4294 (Uranium)
Contract Idm-E1010
La Sal Mining and Development Company
(La Sal project)
San Juan County, Utah

Dear Mr. Delicate:

Form MF-104, Operator's Monthly Report and Voucher for February and March, 1957, is being processed for payment. The following deductions have been made.

Disallowance, Core drilling:

A total of 76 feet of core drilling was reported on Forms MF-104 and MF-104A for the 400-600 foot interval, at $6.00 per foot. The maximum allowable cost for core drilling in this interval is $4.75 per foot, therefore the excess cost for 76 feet of core drilling, is disallowed.

Amount withheld:

All approved contract work has been completed, therefore an amount of $500.00 is withheld from reimbursement to you pending resolution of matters which are prerequisite to closing the account, which includes:

1. Execution by the parties to the contract of a suitable agreement to terminate the contract in its present status.

2. Release to this office of a Report of Review of reported project costs by the Contract Administration and Audit Division, DMEA.

If you have any questions regarding the above, please feel free to contact this office or Mr. Shaw's office. You will be advised of the amounts disallowed and withheld by means of an Administrative Audit Difference Statement which will be mailed to you by the Finance Office, Region III.

Yours very truly,

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

JDC:hh
cc: Chmn. Op. Comm. (2)
Harshman
Shaw (2)
Townsend
Corres. File, Reg. III
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

OFFICIAL FILE COPY
DMEA
RECEIVED APR 19 1957

DATE	INITIALS	CODE
4/19	C	220
4/19	[illegible]	800
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April 17, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

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

Subject: Docket No. DMEA 4294 (Uranium), Contract No. Idm-E1010, La Sal Mining & Development Co. (La Sal Project), San Juan County, Utah

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

Data relative to termination of the Contract will be forwarded as soon as available.

E. N. Harshman

E. N. Harshman

Enclosures

W.O.

LA SAL MINING & DEVELOPMENT CO.

MOAB, UTAH

RECEIVED
APR 15 1957
Div. of Mineral Technology
BUREAU OF MINES
Denver Experiment Station
Denver, Colorado

April 12, 1957

Mr. John F. Shaw, Supervising Engineer
Bureau of Mines
Building 20
Denver Federal Center
Denver 2, Colorado

Re: DMEA Exploration Project
Contract No. Idm - E1010
Docket No. 4294 (Uranium)
Final Report

Dear Mr. Shaw:

All of the approved work under the above mentioned DMEA contract has been completed and the formal progress reports submitted. This report is a summary or final report listing the work completed and the results.

Under Contract No. Idm E-1010 there were 38 exploratory holes completed. Thirty-four holes were authorized in Stage I and all of these were completed.

In Stage II there were four offset holes which were approved and completed.

In both stages 25,763.0 feet of hole were drilled.

A summary of the drilling results is attached.

It is felt by the writer that no mineable, commercial ore has been found and no ore estimate can be made. Further offset drilling of the Stage I holes does not seem feasible.

Under the existing conditions such as depth to the mineralized horizon, location, and economic factors it is felt that a grade thickness factor of 0.80 is required before a hole can be classified as ore.

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DATE	INITIALS	CODE

DMEA
DEPARTMENT OF THE INTERIOR
APR 17 1957
REGION III
DENVER, COLORADO

OPR'S. FINAL REPORT

A summary of the costs of this DMEA project are as follows:

COST SUMMARY

Item	Cost
Drilling	$ 42,171.40
Roads and Sites	1,070.00
Assaying	36.00
Fixed Unit Costs	3,864.46
Total Costs to Date	$ 47,141.86

Very truly yours,

LA SAL MINING & DEVELOPMENT CO.

Donald T. Delicate

Donald T. Delicate
Superintendent of Mines

DTD:dn

Attachment

CENTRAL FILE COPY
DMEA
RECEIVED APR 19 1957
DATE | INITIALS | CODE

D.M.E.A. EXPLORATION PROJECT

Contract No. Idm E-1010, Docket No. 4294

La Sal Mining & Development Co.

Claim	Hole No.	Stage	Depth (feet)	Mineralized Interval	Assay: Chemical	Assay: Radiometric
Thirty Five	3	I	765.0	none	barren	barren
	4	I	740.5	723.0' to 725.5'	0.5' - 0.146%	0.5' - 0.10%
Thirty Four	3	I	765.0	none	barren	barren
	4	I	759.0	747.8' to 748.8'	1.0' - 0.034%	1.0' - 0.025%
	5	I	762.5	none	barren	barren
John David	2	I	653.0	none	barren	barren
	3	I	677.5	none	barren	barren
	4	I	704.0	none	barren	barren
	5	I	678.0	none	barren	barren
	6	I	753.0	none	barren	barren
	7	I	756.5	none	barren	barren
Richard	2	I	551.0	none	barren	barren
	3	I	599.5	none	barren	barren
	4	I	640.0	none	barren	barren
	5	I	648.0	none	barren	barren
	6	I	668.0	none	barren	barren
	7	I	674.0	none	barren	barren
Alice	2	I	600.5	none	barren	barren
	3	I	620.0	none	barren	barren
	4	I	646.0	none	barren	barren
Susie	2	I	759.5	none	barren	barren
	3	I	759.0	none	barren	barren
Billie Mike	2	I	747.5	none	barren	barren
	3	I	745.0	none	barren	barren
	4	I	758.5	none	barren	barren
Robin Roy	2	I	546.0	533.5' to 536.8'	3.3' - 0.11%	3.3' - 0.15%
	3	I	548.5	none	barren	barren
	4	I	621.0	none	barren	barren
	5	I	746.0	none	barren	barren
	6	I	757.0	none	barren	barren
	7	II	484.0	474.5' to 476.8'	2.3' - 0.296%	2.3' - 0.21%
	8	II	535.0	none	barren	barren
Chris	2	II	617.5	600.3' to 602.1'	1.8' - 0.04%	hole plugged
	3	II	676.0	none	barren	barren
Hudson	2	I	691.0	none	barren	barren
	3	I	715.0	none	barren	barren
	4	I	680.5	none	barren	barren
	5	I	715.0	none	barren	barren
Totals			25,763.0			

OFFICIAL FILE COPY
D M E A
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224 New Customhouse
Denver 2, Colorado

April 10, 1957

RECEIVED
APR 15 1957
D.M.E.A.

Memorandum

To: Chairman, Operating Committee, DMEA

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

Subject: Gamma-ray log interpretations

Enclosed are four copies each of gamma-ray log interpretations for the following DMEA contracts:

Docket DMEA-3094 (Uranium) Contract Idm-X649,
Cameron Uranium Mines of America, Inc.,
(Pennsylvanian group) Montrose County, Colorado

Docket DMEA-4073 (Uranium) Contract Idm-X987,
Hamilton et al and Simpson Mining Company (Denver Mesa group) Grand County, Utah and Mesa County, Colorado

Docket DMEA-4294 (Uranium) Contract Idm-X1010,
La Sal Mining and Development Company (La Sal project) San Juan County, Utah

Docket DMEA-4392 (Uranium) Contract Idm-X1050,
Walter Duncan Mining Company (Hartley Channel and Hartley mine) San Juan County, Utah

Docket DMEA-4411 (Uranium) Contract Idm-X1052,
Treasure Uranium and Manganese, Inc., (NW¼ Sec. 6, T 13 N, R 9 W, N.M. P.M.) McKinley County, New Mexico.

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

Enclosures

cc: Carver, File X649, X987, X1010, X1050, X1052
Harshman
Shaw (2)
Chron.

LaSal Mining Co.
(Homestake)
Big Indian Wash, Utah.
DMEA Docket No. 4294

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From*	Depth Logged To	Anomaly Detected From*	Anomaly Detected To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
Chris #2	617.0	none	471.7	592.7	Barren - not on bottom - Core showed low grade ore at 602.0 - hole full of mud.							
					Stage II completed							

* From top to bottom depths

224 New Customhouse
Denver 2, Colorado

April 8, 1957

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CODE
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700

Mr. Donald J. Delicate
Superintendent of Mines
LaSal Mining and Development Company
P. O. Box 563
Moab, Utah

Re: Docket [illegible]-1294 (Uranium)
Contract Adm-E1010
LaSal Mining and Development Company
(LaSal project)
San Juan County, Utah

Dear Mr. Delicate:

Form MT-104, Operator's Monthly Report and Voucher, for February and March, 1957, has been received in this office.

Form MT-104A, Operator's Unit Cost and Progress Report, for the period does not contain all of the data required, as the Stage I Units and Costs are not included. We are enclosing six copies of Form MT-104A, for your use in supplying the required data. Please complete the forms, showing Stage I data only, and return the Original and four signed copies to this office as soon as possible, so that we can continue to process the voucher for payment.

Yours very truly,

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

JDC:hh

Enclosures

cc: Chmn. Op. Comm. (2)
Harshman
Shaw (2)
Townsend
Corres. E1010, Reg. III
Chron.

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224 New Customhouse
Denver 2, Colorado

April 8, 1957

Mr. Donald T. Delicate
Superintendent of Mines
LaSal Mining and Development Company
P. O. Box 563
Moab, Utah

Re: Docket MEA-4294 (Uranium)
Contract Idm-E1010
LaSal Mining and Development Company
(LaSal project)
San Juan County, Utah

Dear Mr. Delicate:

In your narrative report for February and March 1957, you indicate that all approved Stage II work has been completed and that further work is not justified.

Only four of the 27 possible Stage II drill holes have been completed, therefore, if additional work is not justified it is a requirement that the contract be terminated in its present status, by means of a suitable agreement executed by the parties to the contract. The request for termination of the contract must originate with you. The Original and five copies of the request are required by this office.

Yours very truly,

E. N. Harshman

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

JDC:hh
cc: Chman. Op. Comm. (2)
Harshman
Shaw (2)
Townsend
Corres.E1010,Reg.III
Chron.

224 New Customhouse
Denver 2, Colorado

March 15, 1957

EXTRA COPY DMEA RECEIVED MAR 21 1957		
DATE	INITIALS	CODE
3-21	Murphy	700

Memorandum

To: Chairman, Operating Committee, DMEA

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

Subject: Gamma-ray log interpretations

Enclosed are four copies each of gamma-ray log interpretations for the following DMEA contracts:

Contract DMEA-4073 (Uranium) Contract Ida-E987, Hamilton et al and Simpson Mining Company (Denver Mesa group) Grand County, Utah and Mesa County, Colorado

Contract DMEA-4094 (Uranium) Contract Ida-E1010, La Sal Mining and Development Company (La Sal project) San Juan County, Utah

Contract DMEA-4081 (Uranium) Contract Ida-E1025, Standard-Cal-U-Mex, a Joint Venture composed of Standard Uranium Corporation and Cal-U-Mex Uranium Corporation (Ruby Hall et al claims) San Juan County, Utah

Contract DMEA-4088-(Uranium) Contract Ida-E1050, Walter Duncan Mining Company (Hurley Channel and Hurley mine) San Juan County, Utah

Private Hole - Union Carbide & Nuclear Co., Egnar, Colorado area

Original signed by
E. N. HARSHMAN

E. N. Harshman

Enclosures
JCE:RM
cc: Corres. E987, E1010, E1025, E1050
Subject
Harshman
Shaw (2)
Chron.

La Sal Mining Co. (Homestake)
Big Indian Wash, Utah.
DMEA Docket No. 4294

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From*	Depth Logged To	Anomaly Detected From*	Anomaly Detected To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
Robin Roy #7	484.0	none	382.7	482.9	475.7	476.7	1.0	12000			0.41	
Chris #3	676.0	none	551.7	672.6	Barren							

* From top to bottom depths

La Sal Mining Co. (Homestake)
Big Indian Wash, Utah
DMEA Docket 4294

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From*	Depth Logged To	Anomaly Detected From*	Anomaly Detected To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
Robin Roy #8	535.0	None	417.2	517.2	Not on Bottom -- Barren							

* From top to bottom depths

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DATE	INITIALS	CODE

224 New Customhouse
Denver 2, Colorado

March 5, 1957

ORIGINAL FILE COPY
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Mr. Donald T. Delicate,
Superintendent of Mines
La Sal Mining & Development Co.
Moab, Utah

Re: Docket No. DMEA-4294 (Uranium)
Contract No. Idm-E1010
La Sal Mining & Development Co.
(La Sal Project), San Juan
County, Utah.

Dear Mr. Delicate:

We have received your letter of March 1, 1957, in which you request permission to defer the next accounting report until the four approved Stage II holes have been completed.

You have the Government's permission to defer the next accounting report as requested if the holes are all completed on or before April 1, 1957.

Very truly yours,

Original signed by
E. N. HARSHMAN

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

JDC:bh
cc-Chmn. Op. Comm.(2)) w/copy
Harshman) of Opera-
Shaw (2)) tor's
Townsend) letter
Corres. File E-1010
Chron.

March 1, 1957

DMEA
DEPARTMENT OF THE INTERIOR
MAR 4 1957
REGION III
DENVER, COLORADO

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
U. S. Department of Interior
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 4294 Uranium
Contract No. Idm - E1010
La Sal Mining & Development Co.
San Juan County, Utah

Dear Mr. Traver:

Due to bad weather conditions only one hole of the four authorized holes in Stage II was completed in February.

If it meets with the approval of your office I would like to submit our monthly report when the four authorized holes in Stage II are completed. This should be some time in early March.

It would aid us greatly in this office if the February reporting could be done when all four offset holes are completed.

Your consideration of this matter will be greatly appreciated.

Yours very truly,

LA SAL MINING & DEVELOPMENT CO.

Donald T. Delicate

Donald T. Delicate
Superintendent of Mines

DTD:dn

COPY

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
224 New Customhouse
Denver 2, Colorado

February 14, 1957

RECEIVED FEB 18 1957 D.M.E.A.

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Gamma-ray log interpretations

Enclosed are four copies each of gamma-ray log interpretations for the following DMEA contracts.

Docket DMEA-4086 (Uranium) Contract Idm-E949,
David Borwick (Gray Horse group) San Juan County, Utah

Docket DMEA-4101 (Uranium) Contract Idm-E1000,
Four Corners Exploration Company (Divide claims)
McKinley County, New Mexico

Docket DMEA-4294 (Uranium) Contract Idm-E1010,
LaSal Mining and Development Company (LaSal Project)
San Juan County, Utah

Docket DMEA-4281 (Uranium) Contract Idm-E1025,
Standard Col-U-Mex (Ruby Bell et al claims)
San Juan County, Utah

Private holes - David Borwick, Brown's Hole area

W. M. Traver

W. M. Traver

Enclosures
JDC:hh
cc: Corres. E949, E1000, E1010, E1025
Subject
Harshman
Shaw (2)
Chron.

La Sal Mining Co.
(Homestake)
Big Indian Wash - Utah
DMEA DOCKET 4294

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
Susie #2	759.5	None	633.7-7540	Barren						
Susie #3	759.0	None	638.5-759.0	Barren						
Robin Ray #2	546.0	None	426.5-527.0	Could not get on	Button-	Ore reported	from 530.0	to 537.0		
Alice #4	646.5	None	522.1-642.8	Barren						

* From top to bottom depths

La Sal Mining Co.
(Homestake)
Big Indian Wash - Utah
DMEA DOCKET NO. 4294

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
Hudson #2	691.0	None	549.6-670.0	Barren	Could not get on bottom of hole.					
Hudson #3	715.0	None	594.0-714.4	Barren						
Robin Roy #5	746.0	None	670.2-740.6	Barren						
Robin Roy #6	757.0	None	634.7-755.0	Barren						

* From top to bottom depths

La Sal Mining Co.
(Homestake)
Big Indian Wash - Utah
DMEA DOCKET NO. 4294

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
35-#4	740.5	None	638.5-739.0	724.0-724.8	0.8	1200			.030	
				724.8-725.3	0.5	600			.025	
				725.3-726.3	1.0	1500			.039	
				727.1-728.1	1.0	300			<.010	
Hudson #4	680.5	None	574.6-675.0	Barren						
Hudson #5	715.0	None	607.4-707.8	Barren						
Billie Mike #2	747.5	None	624.5-745.0	Barren						
Billie Mike #3	745.0	None	621.8-742.0	Barren						

* From top to bottom depths

La Sal Mining Co.
(Homestake)
Big Indian Wash - Utah
DMEA DOCKET NO. 4294

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_eU_3O_8$	Remarks
Robin Roy #3	548.5	None	417.1-537.4	Barren						
Robin Roy #4	621.0	None	489.3-610.7	Barren						
Alice #2	600.5	None	475.5-598.0	Barren						
Alice #3	620.0	None	498.9-619.5	Barren						
Richard #2	551.0	None	427.8-548.0	Barren						

Stage I completed 1-15-57

* From top to bottom depths

OFFICIAL FILE COPY
DMEA
RECEIVED FEB 11 1957

DATE	INITIALS	CODE
2/11	C	220
2/11		800
		225

224 New Customhouse
Denver 2, Colorado

February 8, 1957

Mr. Ronald T. Delicate
Superintendent of Mines
LaSal Mining and Development Company
P.O. Box 563
Moab, Utah

4294

Re: Docket DMEA 1027 (Uranium)
Contract Ida-E1010
LaSal Mining and Development Company
LaSal Project
San Juan County, Utah

Dear Mr. Delicate:

In preparing Form MF--104A Operator's Unit Cost and Progress Report for November and December 1956, the following items were improperly reported by your company:

1. In the "Unit Costs to Date" column, you have entered the actual total costs rather than the cost per unit of work or service completed.

2. Core footage and costs for the intervals 400-600 feet and 600-800 feet were combined. The footage and costs are to be reported for each interval.

If Stage II work is approved by the Government, units and costs for all work performed under Stages I and II are to be reported separately each month on Form MF-104A, but are to be combined on Form MF-104. As there is not sufficient space on Form MF-104A to report Stage I and Stage II separately, it will be necessary to submit separate forms MF-104A for each stage of work.

Enclosed for your possible use are six extra copies of Form MF-104A, Operator's Unit Cost and Progress Report.

Yours very truly,

Original signed by
W. M. TRAVER

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

Enclosures
JDC:ytl
cc
Chmn. Op. Comm. (2)
Shaw (2)
Harshman
Townsend
Corres. E-1010
Chron.

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RECEIVED FEB 11 1957

DATE	INITIALS	CODE
2/12	C	220
2/14	[illegible]	800
		225

224 New Customhouse
Denver 2, Colorado

February 7, 1957

Mr. Donald T. Delicate
Superintendent of Mines
Lafal Mining and Development Company
P.O. Box 563
Moab, Utah

Re: Docket DMEA ~~4010~~ 4294 (Uranium)
Contract I4n-E1010
Lafal Mining and Development Company
Lafal Project
San Juan County, Utah

Dear Mr. Delicate:

Form MF-104, Operator's Monthly Report and Voucher for November-December 1956 has been received in this office and is being processed for payment. The following deductions have been made:

1. Bulldozing: The cost for use of a compressor and jack hammer was included in the bulldozer costs for the period. The contract does not provide for the cost of compressor and jack-hammer use; therefore, this cost is disallowed.

2. Core Drilling: A total of 51.5 feet of the core drilling was performed in the interval from 400-600 feet but was reported at the higher maximum drilling rate established for the interval from 600-800 feet. The excess cost is disallowed.

You will be informed as to the exact amount disallowed by means of an Administrative Audit Difference Statement which will be mailed to you by the Finance Office, Region III.

Yours very truly,

Original signed by
W. M. TRAVER

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

JDC:ytl
cc
Chman. Op. Comm. (2)
Harshman
Shaw (2)
Townsend
Corres. E-1010
Chron.

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

224 New Customhouse
Denver 2, Colorado

February 7, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 4294 (Uranium), Contract No. Idm-E1010, La Sal Mining and Development Company (La Sal mine), San Juan County, Utah

Enclosed are four copies of confirmation of verbal approval for work, issued by the DMEA Field Team, Region III.

Also enclosed are two copies of the Operator's request for the work approval and four copies of a joint memorandum, dated January 24, 1957, from D. P. Elston, Geologist, Geological Survey, and M. H. Salsbury, Mining Engineer, Bureau of Mines, pertaining to the matter.

Copies of the work approval have been distributed to the Operator, the Finance Office, Region III, and to others concerned.

W. M. Traver

W. M. Traver

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DMEA
RECEIVED FEB 11 1957

DATE	INITIALS	CODE
2/12	C	220
		225

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

224 New Customhouse
Denver 2, Colorado

February 7, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED FEB 11 1957

DATE	INITIALS	CODE

Mr. Donald T. Dalicate
Superintendent of Mines
La Sal Mining and Development Company
Moab, Utah

Re: Docket No. DMEA 4294 (Uranium)
Contract No. Idm-K1010
La Sal Mining and Development
Company (La Sal mine),
San Juan County, Utah

Dear Mr. Dalicate:

In reference to your request of January 18, 1957, this confirms verbal approval by the Government on January 25, 1957, for you to drill four (4) offset holes as provided under Stage II of the Contract to offset Stage I hole No. 2 on the Robin Ray claim.

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

Very truly yours,

DMEA Field Team, Region III

W. M. Traver

W. M. Traver

JWT:prl

E. N. Harshman

E. N. Harshman

cc: Chairman, Op. Comm. (4)
Finance Office, Reg. III
Amendment file, Reg. III
Harshman
Shaw (2)
Hasler
Townsend
Corres. file
Chron.

MINERAL DEPOSITS
DATA
RECEIVED
JAN 28 1957
U.S. GEOLOGICAL SURVEY
DENVER, COLORADO

EXTRA COPY
IN REPLY REFER TO:
DMEA
RECEIVED FEB 11 1957

DATE	INITIALS	CODE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DMEA
DEPARTMENT OF THE INTERIOR

JAN 30 1957
REGIONAL
DENVER, COLORADO

P. O. Box 361
Grand Junction, Colorado

January 24, 1957

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: J. William Mesler
A. W. Marsham
J. F. Shea

From: D. F. Alston
M. H. Salsbury

Subject: Proposed stage II drilling, DMEA docket No. 4294 (Uranium), contract Idm-I 1010, in Sai Mining and Development Company, San Juan County, Utah

Stage I of contract Idm-I 1010 has been completed with unfavorable results except for Robin Roy No. 2 hole which penetrated 2.[illegible] feet of rock containing 0.17 percent U_3O_8 and 0.19 percent V_2O_5 (fig. 1). The hole was probed by the operator but was caved above the ore horizon when logging was attempted with the DMEA Barnaby unit. The mineralized interval is in a thin conglomerate which, according to the operator's lithologic log, directly underlies the contact of the Permian Cutler formation with the Triassic Chinle formation. The basal Moss Back member of the Chinle formation is thin and, in places, is absent in the southeastern part of the project area and is thicker and more persistent in the northern and northwestern parts.

The operator has proposed four stage II offset holes around Robin Roy No. 2 hole (fig. 1). The objective is a possible ore body in the vicinity of this hole. The hole pattern, shown in figure 1, is distorted in order to keep the holes, northeast and southeast of Robin Roy No. 2 hole, at least 100 feet from the claim boundary as stipulated in the subject contract. The contract provision states that stage II holes shall be a minimum of 300 feet from stage I holes in which significant mineralization is present; the arrangement of offset holes as stipulated in the contract is one hole northeast, one hole northwest, one hole southeast and one hole southwest.

The proposed hole northeast of the Rob Roy No. 2 hole is only slightly east of north. The proposed holes are a minimum of 300 feet from Rob Roy No. 2 hole and not less than 100 feet from the property boundary and therefore conform to contract provisions in that respect. This positioning makes them about 250 feet from a barren DMEA hole, Robin Roy No. 3 hole, and from 2 other holes drilled prior to the DMEA project, Robin Roy No. 1

and Chris No. 1, the former of which is slightly mineralized. However, the contract does not designate a minimum distance from any hole except the one being offset. By a literal interpretation of the contract, two of the proposed holes, northeast and southeast of Rob Roy No. 2 hole may not qualify. It is believed that all four holes should be approved because this appears to be the only existing possibility of making a discovery.

The proposed drilling appears to be in an area that, in detail, is not considered especially favorable for ore as there is thinning and local pinchout of the Moss Back member. However, the thinning may have served as a trap for mineralizing solutions, providing suitable host rock conditions are present in the lower part of the Moss Back member and upper part of the Cutler formation. These four holes should provide the answer and approval of the operators proposal is recommended. The drilling requested, if approved, will complete contract work.

M. H. Salisbury,
Bureau of Mines

D. P. Elston,
Geological Survey

MHS: DPE/mlr

Enclosure (fig. 1)

LA SAL MINING & DEVELOPMENT CO.

MOAB, UTAH

DMEA
DEPARTMENT OF THE INTERIOR
JAN 21 1957
REGION III
DENVER, COLORADO

January 18, 1957

Mr. W. M. Travor, Executive Officer, DMEA
Field Team, Region III
U. S. Department of the Interior
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 4294
Contract No. Idm - E 1010
La Sal Mining & Development Co.
San Juan County, Utah

Dear Mr. Travor:

Request is hereby submitted to drill four (4) offset holes as part of Stage II drilling. These holes would offset the Robin Roy Hole No. 2. The chemical assay of the core from this hole shows 3.5 feet of 0.11% U_3O_8.

Offset holes would be drilled in accordance with the DMEA contract No. Idm - E 1010 and as shown on the enclosed map.

Enclosed is assay data and other pertinent information regarding the Robin Roy Hole No. 2 which is to be offset.

Your prompt attention to this matter will be greatly appreciated.

Yours very truly,

LA SAL MINING & DEVELOPMENT CO.

Donald T. Delicate

Donald T. Delicato
Superintendent of Mines

DTD:dn

Enclosures

CC: M. H. Salsbury
Box 360
Grand Junction, Colorado

EXTRA COPY
DMEA
RECEIVED FEB 11 1957

DATE	INITIALS	CODE

LA SAL MINING & DEVELOPMENT CO.

Evaluation of Stage I Drilling

January 18, 1957

Stage I of the La Sal Mining & Development Co. exploration project was completed with unfavorable results except for the Robin Roy No. 2 hole. (see enclosed map for hole locations and assay values).

Some weak mineralization was encountered in hole No. 4, Claim 35, and Hole No. 4, Claim 34, but not sufficient to justify offset holes.

Robin Roy Hole No. 2 is sufficiently mineralized for an appreciable thickness to warrant offset drilling. In view of the mineralization in the Robin Roy No. 1 hole (shown on the map in black) it seems possible that there could be ore in the east end of the Robin Roy Claim. It is recommended that four offset holes be drilled as shown on the enclosed map.

Smith's Laboratory

CHEMIST AND ASSAYER

MOAB, UTAH

La Sal Mining & Dev. Co.
Moab
Ut.

Jan. 7, 1957

Sample Description	% U_3O_8	% V_2O_5	%	%	%	%			
#558	0.166	0.19							
#559	0.038	0.12							

TOTAL CHARGES $ 8.00

J. Earl Smith
CHEMIST

HOMESTAKE MINING COMPANY

Moab, Utah

SURFACE DRILLING

Ore Hole _____

Mineralized Hole ✓

Barren Hole _____

Property La Sal Claim Robin Ray Hole No. 2 Date Drilled 12-31-56 1-4-57 Driller Castanza

Collar: N 95266.8 E 98874.9 Elev. 6901.7 Total Depth 546 Plugged Depth 522 Total Core 24

Depth Jw/Trc 122 Depth Trc/Pc 538 Total Trc Thickness 416 Trc Cored 30 Pc Cored 8

Depth	Interval & Strata	% Recovery	% U_3O_8 Chemical	% V_2O_5	% $CaCO_3$	Check % U_3O_8 Chemical	Composite Thickness & Grade
	Probe						
533.0 - 533.5	.04						
533.5 - 534.0	.18						
534.0 - 534.5	.18						
534.5 - 535.0	.18						
535.0 - 535.5	.18						
535.5 - 536.0	.11						
536.0 - 536.8	.11						
536.8 - 537.5	.04						
537.5 - 538.0	.02						
533.5 - 535.5	2.0'	100	0.166	0.19			
535.5 - 536.0	1.5'	100	0.038	0.12			

REMARKS:

Probed 1-5-57 on 4th Scale

Depth Probed - 546

Equipment used:

Babbel Probe & Reel Assembly

Babbel Geiger Counter Model 600A Serial 832

GEOLOGIC AND ASSAY LOGS

U.S. GEOLOGICAL SURVEY
COLORADO PLATEAU DISTRICT

Drill-hole No. 2 (NX)
Inclination Vertical Bearing —
Total depth 546
Collar elev. — T 6901.7 P
Area La Sal Drilling Project (D-25A)

Map coord (T) —
Map coord (P) N952444.8 E988749
Sec. 27 T. 29½S R. 24E
Co., State San Juan, Utah

Claim Robin Ray
Date completed 1-4-57
Date logged 1-5-57
Logged by H. L. S.

Rev		
Ed		

Summary of log ____; OBSS from ____ to ____ thick ____; SS color ____; MS ____; Cbn. ____

Graphic log

DRILL LOG		LITHOLOGIC LOG									
Depth	Rec ft.	Base	Thick	Rec %	Rock	Color	Grain	Access. Min's.	Cbn	MS in SS	Remarks
528-533.5	11.5			90	MS	GY	VF	M			
537.7	4.2			100	SS	GY	C	A	~	P	Abundant Mancos B Formation
538.8	1.1			100	SS	GY	MF	A			Abundant biotite
544.1	5.3			100	SS	Br	MF	A			Abundant biotite
546.5	2.4			95	SS	GY	MF	A			Abundant biotite

Sample		Lab assay (%)			Sample		Lab assay (%)			Interval		γ-ray	γ-ray (%eq) or Field est			
Base	Thick	U_3O_8 °	V_2O_5/Cu	$CaCO_3$	Base	Thick	U_3O_8 °	V_2O_5/Cu	$CaCO_3$	Base	Thick	%e U_3O_8	Base	Thick	U_3O_8	V_2O_5

°Assays marked "o" are from lab gamma-ray readings

GPO 855917

Hole No. 2

Known 1/28/57

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

224 New Customhouse
Denver 2, Colorado

January 24, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Gamma-ray log interpretations

Enclosed are four copies each of gamma-ray log interpretations for the following DMEA contracts.

DMEA Docket No. 4017, Contract Idm-E940, Colmesar Corp., McKinley County, New Mexico

DMEA Docket No. 4294, Contract Idm-E1010, LaSal Mining and Development Co., San Juan County, Utah

Private Hole - Food Machinery and Chemical Corp., Westvaco Minerals Products Division, McKinley County, New Mexico

Original signed by
W. M. TRAVER

W. M. Traver

Enclosures
JDC:jy
cc: Corresp. E940, E1010, Subject
Barshman
Shaw (2)
Chron.

La Sal Mining Co. E1016
(Homestake)
Big Indian Wash, Utah
DMEA DOCKET NO. 4294

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From* To	Anomaly Detected From* To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
John David #6	753.0	None	610.8-731.0	Barren - Could not get on bottom of hole - caved at 731.0 feet						
Jonn David #7	756.5	None	633.7-734.0	Barren - Could not get on bottom of hole						
34-#5	762.5	None	639.8-762.0	Barren						
35-#3	765.0	None	664.7-765.0	Barren						

* From top to bottom depths

~~Knouse~~ E1010 1/28/57

orig memo w/ DMEA-3989 DATED 1/24/57

La Sal Mining Co.
(Homestake)
Big Indian Wash - Utah
DMEA DOCKET NO. 4294

GAMMA-RAY LOG INTERPRETATION

Hole No.	Depth Drilled	Depth Cased	Depth Logged From*	Depth Logged To	Anomaly Detected From*	Anomaly Detected To	Anomaly Thickness	Counts per minute	CPM Corrected for Casing	CPM Corrected for G-M Tube	Grade $\%_e U_3O_8$	Remarks
Richard-6	668.0	None	561.8	662.0	Barren							
Richard-3	599.5	None	498.8	599.0	Barren							
Richard-7	674.0	None	573.5	673.7	Barren							
John David # 2	653.0	None	542.8	653.0	Barren							
Richard-4	640.0	None	536.8	637.0	Barren							
Richard-5	648.0	None	542.1	642.4	Barren							
John David # 3	677.5	None	576.3	676.6	Barren							
John David #4	704.0	None	603.7	704.0	Barren							
John David #5					Plugged could not log							
34 - #1	759.0	None	658.6	759.0	748.8	749.7	0.9	830			0.029	
					749.7	751.3	1.6	280			0.005	
					751.3	752.1	0.8	300			0.010	
					752.1	753.4	1.3	240			0.005	
34 - #3	765.0	None	662.0	762.4	Barren							

* From top to bottom depths

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

224 New Customhouse
Denver 2, Colorado

January 17, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 4294 (Uranium), Contract No. Idm-E1010, La Sal Mining and Development Company (La Sal mine), San Juan County, Utah

Enclosed are the Government's, Division, and Docket copies of Amendment No. 1 to Contract No. Idm-E1010, which was forwarded by your letter of January 4, 1957, for signature by the Operator.

Copies of the Amendment have been distributed to the Operator, the Finance Office, Region III, and to others concerned.

W. M. Traver

W. M. Traver

Enclosures

OFFICIAL FILE COPY
DMEA
RECEIVED JAN 22 1957

DATE	INITIALS	CODE
1-22	GW	220
		225

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

1/14 800 225

224 New Customhouse
Denver 2, Colorado

January 8, 1957

Mr. Donald T. Delicate
Superintendent of Mines
La Sal Mining and Development Company
Moab, Utah

Re: Docket No. DMEA 4294
Contract No. Idm-E1010
La Sal Mining and Development Company
(La Sal Project)
San Juan County, Utah

Dear Mr. Delicate:

Enclosed are the Government's, Division, Docket, Finance Office, and Field Team copies of proposed Amendment No. 1 to Contract No. Idm-E1010, which was prepared in Washington and has been signed by the Administrator, DMEA, for the Government, to establish a unit cost for core drilling at the interval from 400 feet to 600 feet in depth.

The bid on which the contract rates were based originally was the low bid of three submitted by the Applicant when the Application for Government assistance under the DMEA program was made. The low bid was made by Minerals Engineering Company and the rate for core drilling at the 400 foot - 600 foot range was $4.75 per foot. Therefore, Amendment No. 1 establishes the unit cost of drilling for that interval at $4.75 per foot instead of $6.00 per foot, as requested by you.

If the Amendment is satisfactory, all copies are to be signed by an official of La Sal Mining and Development Company authorized to sign such instruments, the signer's title inserted, the corporate seal affixed, and all copies promptly returned to this office.

Upon return of the properly signed copies of the Amendment, the Operator's Copy will be forwarded to you.

Very truly yours,

Original signed by
W. M. TRAVER

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

JWT:prl
cc: Chairman, Op. Comm. (2)
Harshman
Shaw (2)
Hasler
Townsend
Corres. file
Chron.

DMEA Form 7
(12-56)

700

OFFICIAL FILE COPY

Date	Surname	Code
1/3/57	FLKnouse	700
		~~700~~
1/3	Chamber	800
		130
1/4	Mitchell	100
1-7	C	225

4 JAN 1957

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

Re: Docket No. DMEA-4294
Contract No. Idn-B1010
La Sal Mining & Development Co.
La Sal Project
San Juan County, Utah

Dear Mr. Traver:

In accordance with your memorandum of December 20, 1956, we are enclosing the original and five copies of a proposed Amendment No. 1 to the subject contract, signed by the Administrator. Also enclosed are two extra copies of the amendment for the use of the Field Team.

If the amendment is in order, please have all copies executed as indicated and make the usual distribution. If the amendment is not satisfactory and cannot be amended within your delegated authority, please return all the copies to this office together with the suggested changes.

Sincerely yours,

George C. Selfridge
(654)

Chairman, Operating Committee

Enclosures

APPROVED:

Frank D. Lamb (657)
Member, Bureau of Mines

N. E. Nelson (657)
Member, Geological Survey

FLKnouse/izm 1-3-57
cc to: Code 700
JECrawford, Rm. 3643
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA
Operating Committee
Admr.'s Reading File
Mr. Knouse

A.G.

8623

Exti[illegible]

GUARANTY OF ROYALTY

WHEREAS, negotiations are now pending between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and La Sal Mining and Development Company, for an Exploration Project Contract relating to certain land in the State of Utah, County of San Juan, described in Annex I attached hereto and made a part hereof;

NOW THEREFORE, in consideration of the Government entering into said contract, the undersigned hereby guarantees the payment to the United States of America of any royalties that may fall due under the provisions of said contract or any amendment (including a termination agreement) or assignment thereof, notice of any such amendment or assignment being hereby waived. If the records of any sales or other disposition of the production upon which any such royalties may accrue, whether the production is by the Operator or by others, are not made available to the Government for the computation of said royalties, the undersigned agrees that the amounts thereof may be determined according to the best estimates that can reasonably be made; and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or his successor, or by his representative authorized for that purpose, shall be final and binding upon the undersigned.

Dated _____, 1956.

HOMESTAKE MINING COMPANY

By_____

I, _____, certify that I am the _____ secretary of the corporation named as Guarantor herein; that _____, who signed this Guaranty, was then _____ of said corporation; that said Guaranty 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/

ANNEX I

The land consists of 13 unpatented lode mining claims in secs. 32 and 33, T. 29 S., R. 24 E., and secs. 27, 28, 33, and 34, T. 29½ S., R. 24 E., S.L.M. & B., San Juan County, Utah. Notices of location are recorded in the San Juan County records, at the book and page opposite the name of each claim shown below.

	Original Location		Last Amended Location	
Claim	Book	Page	Book	Page
Alice	21	138	25	24
Billie Mike	21	154	25	22
Dana	21	155	25	24
Jimmie	21	136	25	23
Susie	21	137	25	23
Thirty-three	23	200	43	244
Thirty-four	23	201	43	244
Thirty-five	25	161	43	245
Chris	21	136	25	20
Hudson	21	153	25	20
John David	21	153	25	25
Richard	21	154	25	25
Robin Roy	21	137	25	19

Specifically excluded from the land are those portions of the Dana, Alice, Susie, Jimmie, Billie Mike, Thirty-three, Thirty-four, and Thirty-five that are in conflict with the Ouray No. 1 through Ouray No. 5 and Ouray No. 8.

Surname copy

700

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

December 28, 1956

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: F. L. Knouse, Acting Chief
Rare and Miscellaneous Metals Division

Subject: Docket No. DMEA-4294 (Uranium)
Contract No. Idm-E1010
La Sal Mining and Development Company
La Sal Project
San Juan County, Utah
Proposed Amendment No. 1

You are referred to the memorandum, dated December 20, 1956, and attachments thereto, from the Executive Officer, Region III.

Please draft Amendment No. 1 for the subject contract to allow the payment of $4.75/foot for core drilling (in Stages I and II) in the interval between 400 to 600 feet in depth. The contract date should be the effective date of the amendment.

/s/ F. L. Knouse

F. L. Knouse

FLKnouse/gla
cc to: Docket
Code 700
Mr. Knouse

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

224 New Customhouse
Denver 2, Colorado

December 20, 1956

RECEIVED DEC 20 1956 DMEA

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 4294 (Uranium), Contract No. Idm-E1010, La Sal Mining and Development Company, San Juan County, Utah.

Enclosed is the following material pertaining to an amendment to the subject contract:

1. The original and three copies of the Operator's request of December 14, 1956.

2. The original and three copies of a joint memorandum, dated December 18, 1956, from J. William Hasler, Geologist, Geological Survey, and M. H. Salsbury, Mining Engineer, Bureau of Mines.

The Operator requests that the rate of $6.00 per foot for core drilling in the interval of 600 feet to 800 feet be made applicable to the interval of 500 feet to 800 feet.

Preparation of an amendment of the nature involved is deemed not within the authority delegated to this office. Therefore, the matter is forwarded for your consideration and appropriate action, with the recommendation that a suitable amendment be prepared establishing a 400 foot to 600 foot interval for core drilling.

It is further recommended that the 1700 feet in Stage I and the 1350 feet in Stage II of core drilling in the interval of 600 feet to 800 feet in depth at $6.00 a foot be qualified to the extent that any drilling in the interval of 400 feet to 600 feet in depth be at the rate of $4.75 per foot.

W. M. Traver

W. M. Traver

IN REPLY REFER TO:
DMEA
DEPARTMENT OF THE INTERIOR
DEC 20 1956
REGION III
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P.O. Box 360
Grand Junction, Colorado

December 18, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: John F. Shaw
E. N. Harshman

From: J. William Hasler
M. H. Salsbury

Subject: Docket DMEA 4294 (Uranium), contract Idm-E 1010, La Sal Mining and Development Company, San Juan County. Request of operator to change coring interval.

RECEIVED DEC 26 1956 D.M.E.A.

On December 14, 1956, the operator requested a change in the subject contract to permit the contract rate of $6.00 per foot for core drilling to apply to a coring interval of 500-800 feet instead of 600-800 feet as provided.

This request is reasonable and based on the fact that total drilling depth to the potential ore horizon is less than estimated in some holes. Approval of the request is recommended in principle.

The subject contract did not provide for core-drilling at depths less than 600 feet. The bid on which the contract rates were based was the low bid of three submitted by the applicant when the application for the subject project was made. The bid was made by Minerals Engineering Company and the rate for core drilling in the 400-600-foot range was $4.75 per foot (See page 20 of the joint examination report).

It is believed that core drilling in the 400-600 foot range would have to be based on the $4.75 per foot rate rather than the $6.00 per foot quoted by the operator.

The operator is carrying on the project with a different contractor than the one on whose bid the subject contract was based. The Washington office DMEA has already rejected the operator's request for non-core drilling payment at different rates than in contract Idm-E 1010.

It is, therefore, believed that the rate at which core drilling not specifically provided for in contract Idm-E 1010 is done, should be set by Washington. We do not have a copy of the subcontract the operator has with the driller.

Inasmuch as the total depth of holes in which core drilling in depths less than 600 feet is done will be less, an amendment for core drilling under 600 feet in depth either at $6.00 per foot or $4.75 per foot would result in an overall lower cost.

M. H. Salsbury,
Bureau of Mines

J. William Hasler,
Geological Survey

MHS/mlr

LA SAL MINING & DEVELOPMENT CO.

MOAB, UTAH

DMEA
DEPARTMENT OF THE INTERIOR
DEC 17 1956
REGION III
DENVER, COLORADO

December 14, 1956

Mr. W. M. Traver, Executive Officer, DMEA
Field Team, Region III
U. S. Department of the Interior
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 4294 (Uranium)
Contract No. Idm-E1010
La Sal Mining & Development Co.
San Juan County, Utah

RECEIVED
DEC 26 1956
D.M.E.A.

Dear Mr. Traver:

Recent diamond drilling on our DMEA exploration project has indicated that eight of the Phase I holes will have some cored footage at less than 600 feet depth. To date, two holes have been cored at an interval which started between 550 and 600 feet depth.

It is hereby requested that the contract be changed so that the coring price of $6.00 per foot is applicable from 500 to 800 feet instead of 600 to 800 feet as presently shown.

Your prompt attention to this matter will be greatly appreciated.

Yours very truly,

LA SAL MINING & DEVELOPMENT CO.

Donald T. Delicate

Donald T. Delicate
Superintendent of Mines

DTD:dn

CC: M. H. Salsbury
U. S. Bureau of Mines
P. O. Box 360
Grand Junction, Colorado

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

RECEIVED
DEC 5 1956
D.M.E.A.

224 New Customhouse
Denver 2, Colorado

December 3, 1956

Memorandum

To: John F.Shaw - w/enclosure

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 4294 (Uranium), Contract No. Idm-E1010, La Sal Mining and Development Company, San Juan County, Utah.

Reference is made to the memorandum from M. H. Salsbury, dated November 26, 1956, which was in conjunction with the Operator's request of November 15, 1956 to substitute the rates of a revised drilling contract for the rates established in the contract on a footage interval basis.

Supplementing the letter, dated November 16, 1956, to the Operator denying the request of November 15, 1956, we are enclosing a copy of a teletype, dated November 30, 1956, from George C. Selfridge, Chairman, Operating Committee, DMEA, which is self-explanatory.

Original signed by
W. M. TRAVER

W. M. Traver

JWT:prl

cc: Chairman, Op. Comm. (2) - w/copy of memorandum from M. H. Salsbury, dated Nov. 26, 1956.

Harshman
Shaw (Extra)
Beasler
} w/copy of teletype and copy of memorandum from Salsbury.

Townsend
Corres. file
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Building 20
Denver Federal Center
Denver 2, Colorado
November 26, 1956

RECEIVED DEC 5 1956 D.M.E.A.

REGION III

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: John F. Shaw
Supervising Mining Engineer

From: M. E. Salsbury

Subject: Docket DMEA 4294 (Uranium), Contract Idm-E1010, La Sal Mining and Development Company, San Juan County, Utah - Contract costs

Please refer to your letter to the Operator dated November 16, 1956, in reply to the Operator's request of November 15, 1956.

Mr. Dalicate wrote the letter dated November 15, 1956, at my suggestion, after a conference in this office concerning procedures in carrying on and reporting the project under the subject contract. Inasmuch as the terms of the sub-contract under which the work is to be done are different than those quoted in Exhibit "A" of Contract Idm-E1010, I advised Mr. Dalicate to notify the executive officer of the matter and perhaps request an amendment if necessary. The thought was that it might obviate difficulties later on.

Based on the experience we had in administering Contract Idm-E906 (La Salle Mining Company, Docket DMEA 3863), it would be preferable to avoid a similar situation. Review of the two contracts indicates that they are essentially alike. Unless I am wrong in this assumption, we will get the same situation under Contract Idm-E1010 as we did under Contract Idm-E906. (See letter to the Executive Officer from the Operator under Idm-E906 dated May 15, 1956, and the Executive Officer's reply dated May 16, 1956.)

The Operator under Contract Idm-E1010 is going to drill under a sub-contract calling for all non-core drilling up to 800 feet in depth at a unit cost of $1.40 per foot. As I understand Contract Idm-E1010, the maximum allowable unit cost for drilling in the 0 - 400 foot non-core category is $1.25 per foot. This is based on the part of the sentence under Article 13 (f) of this contract after the colon: "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." I interpret this to mean that non-core drilling under 400 feet in depth must be paid for at not more than $1.25 per foot. If this analysis is not correct, no further action need be taken in the matter.

M. N. Salsbury
Mining Engineer

cc 9✓
MNSalsbury
Idm-E1010
Chron.

MN:ph

Department of the Interior

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

1LX1401(01) Revolving Fund, Defense Production Act, Interior (Allocated Working Fund to the Office of the Secy.)

FILE COPY

Symbols:
FLKnouse
File
Inquiry
Hosted
Lamb
Kiilsgaard
Selfridge
Jefferson
Wotkenday

T E L E T Y P E

W. H. TRAVER, EXECUTIVE OFFICER
DMEA FIELD BRANCH, REGION III
224 U.S. CUSTOMHOUSE BUILDING
DENVER 2, COLORADO

NOV 30 1956

REURTT NOVEMBER 27 DMEA 4294 LA SALLE MINING AND DEVELOPMENT COMPANY. CONTRACT COST FIGURES FOR DRILLING ARE BASED ON DRILLING BID SUBMITTED BY OPERATOR AND RECOMMENDED BY FIELD BRANCH, WHICH WERE AGREED TO BY THE OPERATOR WHEN IT EXECUTED THE CONTRACT. IT IS NOT WITHIN OUR LEGAL AUTHORITY TO GRANT THE REQUESTED AMENDMENT.

George C. Selfridge

CHAIRMAN, OPERATING COMMITTEE

FLKnouse/izm 11-29-56

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

R.G.C.

DEPARTMENT OF THE INTERIOR

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

DMEA
14X1401(01) Revolving Fund, Defense Production Act, Allocated Working Fund to the Office of the Secy.)

FILE COPY
Surname:
FLKnouse
Ellis
Lamb
Kiilsgaard

T E L E T Y P E

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

REURTT NOVEMBER 27 DMEA 4294 IA SAL MINING AND DEVELOPMENT COMPANY. CONTRACT COST FIGURES FOR DRILLING WERE BASED ON DRILLING BIDS SUBMITTED BY OPERATOR AND RECOMMENDED BY FIELD TEAM. CONSEQUENTLY CHANGES IN CONTRACTOR'S BID AFTER CONTRACT IS EXECUTED IS NOT JUSTIFICATION FOR REVISING ALLOWABLE COSTS.

CHAIRMAN, OPERATING COMMITTEE

FLKnouse/izm 11-28-56
cc to: Docket
Code 700
Mr. Knouse
Admr.'s Reading File
Operating Committee
Confirmation copy to Reg. III
Messrs. JECrawford, Rm. 3643
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

STANDARD FORM No. 14
APPROVED BY THE PRESIDENT
MARCH 10, 1926

TELEGRAM

OFFICIAL BUSINESS—GOVERNMENT RATES

FROM DEPARTMENT OF THE INTERIOR

BUREAU DMEA

CHG. APPROPRIATION 14X4401(01) Revolving Fund, Defense Production Act, Interior (Allocated Working Fund to the Office of the Secy.)

U. S. GOVERNMENT PRINTING OFFICE 10—1723

T E L E T Y P E

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

REURTT NOVEMBER 27 DMEA 4294 LA SAL MINING AND DEVELOPMENT COMPANY. CONTRACT COST FIGURES FOR DRILLING WERE BASED ON DRILLING BIDS SUBMITTED BY OPERATOR AND RECOMMENDED BY FIELD TEAM, ~~CONSEQUENTLY CHANGES~~ IN CONTRACTORS BID AFTER ~~CONTRACT IS~~ EXECUTED IS NOT JUSTIFICATION FOR REVISING ALLOWABLE COSTS.

CHAIRMAN, OPERATING COMMITTEE

Mr. George Selfridge

RECEIVED
NOV 27 1956
D.M.E.A

DN 235 BUR MINES 11-27-56 10-19

GEORGE C SELFRIDGE, CHAIRMAN, OPERATING COMMITTEE, DMEA

RE DOCKET DMEA 4294, CONTRACT IDM-E1010, LA SAL MINING AND DEVELOPMENT CO., OUR LETTER TO DONALD T DELICATE, DATED 11-16-56, AND HIS ATTACHED LETTER OF 11-15-56, TWO COPIES OF WHICH TERE FORWARDED TO YOU AT THE TIME OF ZRITING. TO SIMPLIFY AND FACILITATE REIMBURSEMENT TO THE OPERATOR, IT APPEARS OPERATOR S REQUEST HAS MERIT. AS A MATTER OF POLICY, WOULD YOU CONSIDER FAVORABLY AN AMENDMENT TO THE COXX CONTRACT AS REQUESTED/Q/ IMMEDIATE ADVICE IN THE MATTER IS REQUESTED.

W M TRAVER

MIN 3 LINE WERE 4 LINE WRITING

Denver, Colo.

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

224 New Customhouse
Denver 2, Colorado

November 16, 1956

Mr. Donald T. Delicate
Superintendent of Mines
La Sal Mining and Development Company
Moab, Utah

Re: Docket No. DMEA 4294 (Uranium)
Contract No. Idm-K1010
La Sal Mining and Development Company
San Juan County, Utah

Dear Mr. Delicate:

Reference is made to your letter of November 15, 1956, whereby you forwarded revised bids from the Pioneer Drilling Company and requested that the Contract be amended to substitute the revised drilling rates.

Inasmuch as the Contract provides that the work will be performed on an actual cost basis not to exceed the allowable maximum unit cost established for work outlined under Category (1), we see no useful purpose to amend the Contract to substitute the revised drilling rates, as reimbursement to you must necessarily be on the basis of documented actual costs which do not exceed the allowable maximum unit cost established in conformance with the provisions of Article 13 (f) of the Contract.

Very truly yours,

Original signed by
W. M. TRAVER

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

JWT:prl

cc: Chairman, Op. Comm. (2)
Harshman
Shaw (2)
Hasler
Townsend
Corres. file
Chron.

) w/copy of Operator's letter of November 15 and attached revised drilling bid.

RECEIVED NOV 19 1956

LA SAL MINING & DEVELOPMENT CO.

MOAB, UTAH

DMEA
DEPARTMENT OF THE INTERIOR
NOV 16 1956
REGION III
DENVER, COLORADO

November 15, 1956

Mr. W. M. Traver, Executive Officer DMEA
Field Team, Region III
United States Department of the Interior
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 4294 (Uranium)
Contract No. Idm E 1010
La Sal Mining & Development Co.
San Juan County, Utah

Dear Mr. Traver:

The diamond drilling bids which were submitted at the time our application for DMEA assistance was made were subject to revision at the time the loan was approved. Enclosed is a copy of our final drilling bid which is slightly lower than the drilling rates authorized in the contract.

It is hereby requested that the drilling rates as submitted on the enclosed bid be included as an amendment to Contract No. Idm E 1010. It is intended that the enclosed rates as shown in the agreement with Pioneer Drilling Company shall replace the drilling rates listed in Exhibit "A" of Contract No. Idm E 1010.

I would like to mention that Pioneer Drilling Company has drilled nearly 100 holes for our Company and their work has been very satisfactory.

Your prompt attention to this request will be greatly appreciated.

Yours very truly,

LA SAL MINING & DEVELOPMENT CO.

Donald T. Delicate

Donald T. Delicate
Superintendent of Mines

Enclosure

PC: M. H. Salsbury

PIONEER DRILLING CO.
Moab, Utah

November 14, 1956

La Sal Mining and Development Company
Box 563
Moab, Utah
Attention: Donald T. Delicate

Dear Mr. Delicate:

We submit the following bid for the proposed drilling on claims owned by the La Sal Mining and Development Company to be done under a DMEA Exploration Project.

Depth	Plug Drilling	Coring
0-900 feet	$1.40 per foot	$6.00 per foot

Standby and washout time @ $12.00 per hour.

It is understood that the drilling shall be done in accordance with the DMEA Exploration Project Docket No. 4294, Contract No. Idm E1010 specifications.

It is also agreed that:
1. There shall be no payment for holes which are not completed.
2. The core shall be properly boxed, marked and delivered, to the La Sal Shaft office. Core shall be BX size or larger.
3. There shall be two legible copies of the drillers log submitted to La Sal Mining and Development Company after each hole is completed.

The drilling shall proceed at a rate which will assure completion of Phase I drilling totaling a maximum of 25,020 feet and all of the Phase II drilling or any part of it by April 1, 1957. It is understood that Phase II may include all or any part of 19,879 feet of drilling.

It is further understood that Phase I shall consist of 34 holes totaling approximately 25,020 feet of drilling.

It is understood that La Sal Mining and Development Company shall not be liable for any claims resulting from injury or death of Pioneer Drilling Company employees.

It is also understood that La Sal Mining and Development Company shall not be responsible for any debts incurred by Pioneer Drilling Company or any of its employees.

J. F. Costanza

J. F. Costanza
Pioneer Drilling Company

JFC/aja

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

RECEIVED
OCT 29 1956

224 New Customhouse
Denver 2, Colorado

October 26, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 4294 (Uranium), Contract No. Idm-E1010, La Sal Mining and Development Company (La Sal Project), San Juan County, Utah.

Enclosed are the Government's, Division, and Docket copies of Exploration Project Contract No. Idm-E1010, which were forwarded by your letter of September 19, 1956, for forwarding to the Applicant for signature after receipt of "Guaranty of Royalty" for attachment to the Contract, and insertion of the starting date under Article 3 of the Contract. The "Guaranty of Royalty" has been attached to the Contract and the starting date has been inserted under Article 3.

Also enclosed are three copies of a letter, dated October 26, 1956, from this office, by which we forwarded the Operator's Copy of the Contract, forms, and instructions relative to reporting on work completed under the Contract.

Copies of the Contract have been distributed to the Finance Office, Region III, and to others concerned.

W. M. Traver

W. M. Traver

Enclosures

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

RECEIVED
OCT 29 1956

254 New Customhouse
Denver 2, Colorado

CERTIFIED MAIL

October 26, 1956

Mr. Ronald T. Delisnie
Superintendent of Mines
La Sal Mining and Development Company
P. O. Box 563
Moab, Utah

Re: Docket No. DMEA 4494 (Uranium)
Contract No. Ida-21010
La Sal Mining and Development Company
San Juan County, Utah

Dear Mr. Delisnie:

Enclosed herewith is the "Operator's Copy" of Exploration Project Contract No. Ida-21010, Docket No. DMEA 4494.

Also enclosed are six copies of Form MF-104, "Operator's Monthly Report and Voucher," and six copies of Form MF-104A, "Operator's Unit Cost and Progress Report." At the end of the first calendar month after work is commenced, and monthly thereafter, you are required to submit the original and four copies of each form to Mr. John F. Shea, U. S. Bureau of Mines, Room 137, Building 20, Denver Federal Center, Denver 2, Colorado. The extra copy is for your records.

Forms MF-104 and MF-104A are to be combined into five sets of one of each form, each set of the combined forms is to be accompanied by a map or sketch showing the location and extent of work performed, and a signed narrative report which describes the work performed, conditions encountered, and results of the work. The monthly accounting report will not be processed for reimbursement to you unless it is accompanied by a signed narrative report and other required or pertinent data. Additional copies of forms MF-104 and MF-104A will be furnished to you each month on receipt of your report for the prior month.

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

J. V. Hunter, U. S. Geological Survey
Telephone, Grand Junction, Chapel 3-8110, Ext. 282

H. H. Salsbury, U. S. Bureau of Mines
Telephone, Grand Junction, Chapel 3-8110, Ext. 274.

Both men can be reached by mail at

Post Office Box 360
Grand Junction, Colorado.

For your information and in reply to many questions that have been asked, after Forms MP-10b and MP-10bA are received, an engineer will check progress and approve your accounts, after which they will be sent to the Regional Office, Region III, U. S. Bureau of Mines, 824 New Customhouse, Denver 2, Colorado, for administrative consideration and vouchering. If the report is in order, a check will be issued by the Treasury Department for the Government's portion of the approved costs. If you have any difficulty in completing these forms and the reports, please call on either the field representatives, Mr. Shaw, or this office for assistance.

In the matter of your claim for reimbursement of drilling costs under the terms of the contract, reimbursement to you will be on the basis of a hole or holes completed to the objective, which has, or have been drilled in compliance with the conditions under the "General Provisions" section of Exhibit "A" of the contract and the special conditions pertaining to the drilling under each stage. Therefore, your monthly report should include only such holes which are completed to that extent, and the required records made a part of your claim for reimbursement.

The contract is prepared on form MP-800, and under its provisions and as outlined in Exhibit "A" of the contract, the allowable costs are a combination of actual costs with a maximum average unit cost established for work under "Category (1)" and fixed unit costs for performing the remaining items of work or services. Under the provisions of Exhibit "A", the work under "Category (1)" is to be performed by subcontract. The costs received under item "(1)" on form MP-10b for such work must be supported each month by a signed copy of the billing from the subcontractor; or, submit for our records a certified copy of the subcontract agreement. Amounts reported on the basis of the "Fixed Unit Costs" require no documentation, as they are otherwise verified.

Your requests to this office for work approval, changes in the contract, or any other communication pertaining to operations under the contract, must be in writing, of which please supply the original and five copies, each copy complete with maps or other pertinent data. Each request for action by this office must pertain to one matter only and such requests are not to be incorporated in your narrative report accompanying monthly progress report forms MP-10b and MP-10bA.

The locations of holes to be drilled under Stage I are indicated on the map, "Figure 2," attached to the contract. Should conditions encountered necessitate or make desirable a change in the location of any 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 the results obtained from Stage I, and performance of the work under Stage II is subject to the prior written approval of the Government.

When work under Stage I has been completed, or sufficiently so to permit cumulative evaluation of a part 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 assay returns and any other pertinent data which will be of value to the Government in appraising the results of the work.

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

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

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

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

Very truly yours,

Original signed by
W. M. TRAVER

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

JWT:pri
cc: Chairman, Op. Comm. (3)
Finance Office, Reg. III
Assessment file, Reg. III
Director
DMEA (2)

cc: La Sal Mining and Development Co.
c/o Homestake Mining Company
100 Bush Street, 26th Floor
San Francisco 4, California
Treasurer
Corres. file
Chron.

10-17-56

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

224 New Customhouse
Denver 2, Colorado

CERTIFIED MAIL

October 11, 1956

La Sal Mining and Development Company
c/o Homestake Mining Company
100 Bush Street, 26th Floor
San Francisco 4, California

Re: Docket No. DMEA 4294 (Uranium)
La Sal Mining and Development Company
(La Sal Project)
San Juan County, Utah -
Proposed Exploration Project
Contract No. Idm-E1010

Gentlemen:

Enclosed are the Government's, Division, Docket, Finance Office, and Field Team copies of proposed Exploration Project Contract No. Idm-E1010, which has been prepared pursuant to your application for Government assistance in exploration work under the Defense Minerals Exploration Administration program.

If the Contract is satisfactory to you, all copies are to be signed by an official of La Sal Mining and Development Company authorized to sign such instruments, the signature attested to by the Secretary of the Company, the corporate seal affixed, and all copies promptly returned to this office.

Upon return of the properly executed copies of the Contract, the "Operator's Copy" will be forwarded to you, together with forms and instructions relative to reporting on work performed under the Contract.

When the executed copies of the Contract are returned, please advise the date on or before which work will be commenced, for our insertion under Article 3 of the contract form.

Your attention is specifically directed to the two provisions in the contract:

1. The Contract requires completion of the exploration work on or before April 1, 1957. Approval must be obtained for any appreciable work stoppage which may

result in failure to complete the work by the date fixed therefor. If circumstances beyond your control prevent completion of the work outlined within the time fixed, you should forward for the Government's consideration a request for an extension of the date fixed in the Contract for completion of the work.

2. Royalty is due the Government on all production from the land described in the Contract, beginning on the date of the Contract.

In the event the Contract is not satisfactory to you, all copies are to be promptly returned to this office, together with your comments on or objections to the Contract as written.

Very truly yours,

E. N. Harshman

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

Enclosures

cc: Mr. Donald C. Delicate
Superintendent of Mines
La Sal Mining and Development Company
P. O. Box 563
Moab, Utah

JWT:prl

cc: Chairman, Oper. Comm. (2)
Harshman
Shaw (2)
Hasler
Townsend
Docket file
Chron.

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

RECEIVED
SEP 27 1956

AIRMAIL

224 New Customhouse
Denver 2, Colorado

September 25, 1956

Mr. Donald T. Delicate
LaSal Mining and Development Company
P. O. Box 563
Moab, Utah

Re: Docket DMEA-~~4249~~ 4294 (Uranium) Proposed Contract Idm-E1010, LaSal Mining and Development Company, (LaSal Project), San Juan County, Utah

Dear Mr. Delicate:

On September 14, 1956 in reference to the captioned Proposed Exploration Project Contract, we forwarded to Mr. Donald H. McLaughlin at your address the original and six copies of "Guaranty of Royalty" forms for signature as explained in the transmittal letter.

In the meantime we have received all copies of the proposed contract and are holding them pending receipt of the "Guaranty of Royalty" forms for attachment to the contract forms after which they will be forwarded for signature.

It is presumed that the contracts will have to be signed by Mr. McLaughlin. Therefore, it is suggested that you expedite return of the forms and advise if the contracts should be sent to some address other than Moab, Utah for signature.

Very truly yours,

W. M. TRAVER,

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

WMT/pw

cc: Sec.Op.Comm. (2)
Harshman
Hasler
Shaw (2)
Corres. E1010
Chron

Surname copy

700

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

SEP 1 4 1956

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

Re: Docket No. DM EA-4294 (Uranium)
La Sal Mining and Development Company
La Sal Project
San Juan County, Utah

Dear Mr. Traver:

Enclosed are the original and five copies of a proposed long-form contract between the Government and the subject Applicant, signed by the Administrator. The contract consists of Form 200; Annex I, one page; Exhibit "A," four pages; and onemap (Figure 2). Also enclosed are two extra copies of Annex I, Exhibit "A," and map (Figure 2) for the use of the Field Team.

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

1. Insertion of a suitable starting date under Article 3; and

2. Receipt by you and attachment to the contract of "Guaranty of Royalty" of the Homestake Mining Company transmitted to you for execution by letter, dated September 12, 1956, and the insertion in Article 2(e) the following: "Guaranty of Royalty of the Homestake Mining Company, dated _____."

After the contract is signed, please make the usual distribution of the document.

In the event that any part of this proposed contract does not meet with your approval or the Applicant's and cannot be amended within your delegated authority, the original and all copies are to be returned with the proposed changes for consideration.

You will note that the proposed cost recommended by the Field Team for rock excavation, relating to access road construction and drill site preparation, is included under item "Fixed Unit Costs," i.e., each foot of hole completed.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (24B)

Enclosures

APPROVED:

Frank D. Lamb (24B)

Member, Bureau of Mines

Thor H. Kiilsgaard (24B)

Member, Geological Survey

FIKnouse/gla
9-13-56
cc to: Admr.'s Reading File
Operating Committee
Docket
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA
Code 700
Mr. Knouse

RECEIVED
SEP 19 1956

224 New Customhouse
Denver 2, Colorado

September 14, 1956

Mr. Donald H. McLaughlin, President
LaSal Mining and Development Company
P. O. Box 563
Moab, Utah

Re: Docket DMEA-4294 (Uranium),
(LaSal Project), San Juan County,
Utah

Dear Sir:

There are enclosed for execution by the Homestake Mining Company the original and six copies of a "Guaranty of Royalty" for the subject project. The original and all copies should be signed by an official of the Homestake Mining Company who is authorized to sign such documents, the signature to be certified by the Company Secretary and then stamped with the corporate seal.

The copy marked "Homestake Mining Company's Copy" should be retained by said company and the remaining copies returned to this office.

When we receive the executed copies of the "Guaranty of Royalty", we will continue to process your application.

Very truly yours,

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

Enclosures

HMC/pw Sec. Op. Comm.
cc: Harshman
Shaw (2)
Townsend
DMEA-4294
Chron

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

SEP 12 1956

Memorandum

To: The Administrator, DMEA
Attention: Chief, Rare and Miscellaneous Metals Division

From: Associate Solicitor, Division of Mineral Resources

Subject: Docket No. DMEA-4294, La Sal Mining and Development Company (Uranium)

As requested in Mr. Ellis' memorandum of August 28, we have prepared the attached contract.

The Field Team's joint engineering and geologic report dated August 8, 1956, states that the easternmost tier of claims owned by the applicant (Robin Roy, Chris, and Hudson claims) are in conflict with the Dynaflow and Wig claims owned by the Lisbon Uranium Corporation, and that the applicant has a right to mine the areas in conflict by agreement with said corporation. Accordingly, a copy of said agreement, which has not been furnished with the application, should be submitted and the Consent to Lien of Lisbon Uranium Corporation should be obtained.

The application stated and the Field Team reported that there is also a conflict on the western side of the Applicant's group of claims, but the application and the report conclude that the Applicant's rights in these claims are paramount to all other claimants. Nevertheless, the conflicting areas are excluded from the land in the contract.

Finally, one of the grantors to the Applicant of the land set forth in Annex I, Frank Richardson, alleges that he still owns a fractional interest in said land. The application, in this regard, stated that the Applicant holds a release from Richardson of all interest in the land, and a copy of this release is attached to the application.

It would appear from the foregoing, that Applicant has a right to possession in all the land except those conflicting claims owned by Lisbon Uranium Corporation, and that a copy of the mining agreement Applicant has with that corporation, and a Consent to Lien of that corporation would qualify the Applicant for an exploration contract. However, it may well be, as suggested by the Field Team, that in view of the claim of a present interest in the land by Frank Richardson,

and the fact that the Applicant has only a mining agreement as to the conflicting areas on the eastern boundary, a guaranty by the Homestake Mining Company of all royalties that may become due under the contract should be obtained in lieu of the Consent to Lien of Lisbon Uranium Corporation. In the event the latter course is deemed by you to be the preferable one, an appropriate guaranty for use with this contract has been furnished to Mr. Knouse.

An insertion is required in Article 2(c) depending upon the decision as to which security for royalty is required.

Robert P. Dwyer

Attachments

Surname copy

F L Knouse 700

Jackson

Selfridge

F L Johnson

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

SEP 12 1956

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

Re: Docket No. DMEA-4294 (Uranium)
La Sal Mining and Development Company
La Sal Project
San Juan County, Utah

Dear Mr. Traver:

There are enclosed for execution by the Homestake Mining Company the original and six copies of a "Guaranty of Royalty" for the subject project. The original and all copies should be signed by an official of the Homestake Mining Company who is authorized to sign such documents, the signature to be certified by the company secretary and then stamped with the corporate seal.

The copy marked "Homestake Mining Company's copy" should be retained by said company, and the remaining copies returned to your office where they should be held (for attachment to copies of the contract) pending your receipt of the proposed contract.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Enclosures

FLKnouse/gla 9-10-56
cc to: Admr.'s Reading File
Operating Committee
Docket
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA
Code 700
Mr. Knouse

APPROVED:

Frank D. Lamb (GCS)
Member, Bureau of Mines

Thor H. Kiilsgaard (GCS)
Member, Geological Survey

R.G.S.

Surname copy

700

FLKnouse
Ellis

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

August 28, 1956

Memorandum

To: Associate Solicitor,
Division of Mineral Resources

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

Subject: Proposed contract
Docket No. DMEA-4294 (Uranium)
La Sal Mining and Development Company
La Sal Project
San Juan County, Utah

Attached is a draft of a long-form contract covering the subject application.

Before preparing this contract in final form, it is requested that you refer to page 5 of the Field Team's Joint Engineering and Geologic Report, dated August 8, 1956, under the heading "Ownership and Extent," and advise whether or not we will require a guarantee from the Homestake Mining Company. If a guarantee is required, please prepare the necessary document so it can be forwarded to that company for execution. It is suggested that your Division contact Mr. Knouse about this question. Nine prints of map Figure 2 are forwarded for attachment to the contract copies.

Ernest Wm. Ellis

FLKnouse/gla
cc to: Docket
Code 700
Mr. Knouse

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

August 28, 1956

Memorandum

To: The File

From: F. L. Knouse, Mining Engineer
Rare and Miscellaneous Metals Division

Subject: Docket No. DMEA-4294 (Uranium)
La Sal Mining and Development Company
LaSal Project
San Juan County, Utah

JUSTIFICATION FOR FIXED UNIT COST

The following shows a detailed breakdown of the cost items that make up that part of contract headed "Fixed Unit Cost."

You will note that the items listed in the examiners' report under "Category (1) Independent Contract" to excavate rock, for access roads and drill site preparation, are included in this item.

Stage I - completion within 3.5 mos.

Fixed Unit Cost

Category (2) Labor, Supervision and Technical Services	$2,625.15	
Category (3) Operating Materials and Supplies	432.50	
Category (4) Operating Equipment	180.85	
Categories (5) and (6) - None		
Category (7) Except sample analyses	245.01	
Subtotal		$3,483.51

$\frac{\$3483.51}{25,020 \text{ ft. of drilling}}$ = $0.~~15417~~ 18922/ft.

Category (1) Independent Contracts
Rock excavation cost for access roads and drill sites preparation 374.00

Total $3,857.51

$\frac{\$3,857.51}{25,020 \text{ ft. of drilling}}$ = $0.15417/ft.

Stage II

Fixed Unit Cost

Category (2) Labor, Supervision and Technical Services	$1,874.85	
Category (3) Operating Materials and Supplies	322.50	
Category (4) Operating Equipment	129.18	
Categories (5) and (6) - None		
Category (7) Except sample analyses	174.99	
Subtotal		$2,501.52

$\frac{\$2,501.52}{19,879 \text{ ft. of drilling}}$ = $0.12583/ft.

Category (1) Independent Contracts

Rock excavation cost for access roads and preparation for drill sites	275.00
Total	$2,776.52

$\frac{\$2,776.52}{19,879 \text{ ft. of drilling}}$ = $0.13967/ft.

Fixed Unit Cost Summary

	Total drilling feet	Total Cost
Stage I	25,020	$3,857.51
Stage II	19,879	$2,776.52
Total	44,899	$6,634.03

$\frac{\$6,634.03}{44,899 \text{ ft.}}$ = $0.1477/ft. rounded to 0.15/ft.

F. L. Knouse

Mr. George Sy
8/28/56

RECEIVED
AUG 28 1956

BUR MINES DN 25 XXX 235 8-28-56 10-10 AM

CHAIRMAN, OPERATING COMMITTEE, DMEA

REURTT 8-27 DMEA 4294 LA SAL MINING AND DEVELOPMENT COMPANY OMITTED HOLES FIGURE 2 FIELD ADVISES QUOTE PLACE ONE HOLE 250 FEET WEST OF MOST WESTERLY PROPOSED STAGE ONE HOLE ON THIRTY FOUR CLAIM AND PLACE ONE HOLE 250 FEET WEST FROM MOST EASTERLY PROPOSED STAGE HOLE ON THE ROBIN ROY CLAIM END QUOTE.

W M TRAVER

Denver, Colo.

AUG 28 2 27 PM '56
BUREAU OF MINES
MAIL ROOM
WASHINGTON, D. C.

DEPAR[redacted]OF THE INTERIOR

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

14X4401(01) Revolving Fund, Interior, Defense Production Act, (Allocated Working Fund to the Office of the Secy.)

FILE COPY

Surname:
Williams
Ellis
Lamb
Ralph
Selfridge
Gilmore

T E L E T Y P E

AUG 27 1956

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

FIELD TEAM REPORT IMEA 4294 LA SAL MINING AND DEVELOPMENT COMPANY RECOMMENDED DRILLING 34 STAGE I HOLES. LOCATION OF ONLY 32 HOLES ARE SHOWN ON MAP FIGURE 2, ADVISE LOCATIONS OF ADDITIONAL TWO HOLES.

George C. Selfridge
CHAIRMAN, OPERATING COMMITTEE (24B)

Confirmation Copy to Region III
~~FMMurphyxxxx~~
FLKnouse/izm 8-27-56
cc to: Docket
Code 700
Mr. Knouse
Admr.'s Reading File
Operating Committee
Messrs. JECrawford, Rm. 3643
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

8/23/56

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

August 22, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Report of Examination, DMEA Docket 4294 (Uranium) LaSal Mining and Development Company, (LaSal Project), San Juan County, Utah

I have reviewed the report of examination, DMEA Docket 4294, LaSal Mining and Development Company, (LaSal Project), San Juan County, Utah, dated August 8 and received in this office August 17, 1956. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The field examiners recommend for approval a two-stage exploration project consisting of 41,849 feet of plug- and 3,050 feet of core-drilling in 61 holes at a cost of $87,157.96. Government participation at 75 percent would be $65,368.34.

We concur in the recommendation of the field examiners.

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

James Paone
James Paone

RECEIVED
AUG 23 1956

8-20-56

IN REPLY REFER TO:

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

RECEIVED
AUG 17 1956

August 17, 1956

Memorandum

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

From: W. P. Williams, U. S. Geological Survey

Subject: Review of field examination report, DMEA 4294 (uranium), LaSal Mining and Development Company, Big Indian district, San Juan County, Utah.

The examining team is of the opinion that an exploration project on the property would have a good chance of discovering new uranium ore reserves. Principal reasons are: 1) known ore bodies in the vicinity are of 10,000 to 100,000 ton size, 2) the property is down-dip from the large Richardson ore body in a location where frequency of ore bodies should be high.

Although drilling depths would be deep the project proposed by the examiners appears feasible, with a good chance for success. I agree with the Field Team's and examiners' recommendations for approval of the application.

W. P. Williams

W. P. Williams

8/20/56

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

RECEIVED
AUG 15 1956

August 13, 1956

224 New Customhouse
Denver 2, Colorado

RECEIVED
AUG 15 1956

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA 4294 (Uranium) LaSal Mining and Development Company, (LaSal Project), San Juan County, Utah

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

The field examiners recommend a two-stage exploration project at a total estimated cost of $87,157.96, Government participation $65,368.47. We concur in this recommendation.

The comments of the examiners on pages 2 and 9 of the Report of Examination regarding Owner's Consent to Lien or third party guarantee appear to be in error. Reference is made to Exhibit B of the application, an Agreement between LaSal Mining and Development Company and Frank Richardson, wherein Richardson conveyed all of his right, title, and interest in the subject claims. If all the provisions of this Agreement have been met, LaSal Mining and Development Company is the owner.

ON-SITE EXAM.

Enclosed for possible use in the contract are nine extra copies each of Figures 2 and 3.

attached to contract

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
8-17-56
(date)

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

MINERAL REPORTS REFER TO:
DMEA
RECEIVED
AUG 1 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

TRANSMITTED
AUG 13 1956

July 30, 1956

RECEIVED
AUG 15 1956

DMEA
Date Rec'd.
AUG 9 1956
BUREAU OF MINES
Denver, Colorado

Memorandum

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

Through: E. H. Harshman
John F. Shaw

From: J. William Hasler

Subject: Transmittal of a joint geologic and engineering report of examination on DMEA docket 4294, La Sal Mining and Development Co., claims in the Big Indian Wash area, San Juan County, Utah

Enclosed is a joint report of examination on the Alice, Billie Mike, Dana, Jimmie, Susie, Thirty-three, Thirty-four, Thirty-five, and non conflicting portions of the Chris, Hudson, John David, Richard and Robin Ray claims in the Big Indian area of the Lisbon Valley district, San Juan County, Utah.

La Sal Mining and Development Company applied to the Defense Minerals Exploration for assistance to explore for uranium on the subject group of claims. The application was referred to the field and an examination was made on June 20, 1956, by M. H. Salsbury, U. S. Bureau of Mines, and J. W. Hasler, U. S. Geological Survey.

The applicant proposed to explore for probable extension of the Richardson ore body presently being mined by him as well as to find other ore bodies similar in size to the Ike and Nixon ore bodies further south of the subject claims. Although diamond drilling to date has not proved too encouraging it was deemed advisable to do a more limited program than that proposed by the applicant. A revised program was suggested to the applicant and they agreed to the program.

The chances of finding ore bodies ranging in size from 16,000 to 105,000 tons that may average as much as 1.00 percent uranium are fair and it is recommended that the program herein outlined be approved.

I concur with the conclusions and recommendations of the examining team that the application be approved.

Reviewed by
DMEA OPERATING COMMITTEE
8-17-56
(date)

DMEA 4294 7/30/56

Enclosed are the required numbers of figures 2 and 3 for inclusion in a report as well as in the contract. The applicant's brochure is also enclosed.

J. William Hasler

J. William Hasler,
Geologist

JWH/mlr

Enclosures

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

RECEIVED
AUG 15 1956

DEFENSE MINERALS EXPLORATION ADMINISTRATION

JOINT REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

CONFIDENTIAL
not for public quotation
or inspection

TRANSMITTED
AUG 13 1956

DMEA 4294

LA SAL PROJECT

La Sal Mining and Development Company

San Juan County, Utah

Uranium

Joint Engineering and Geologic Report

By

J. W. Hasler, Geologist
Geological Survey

M. H. Salsbury, Mining Engineer
Bureau of Mines

August 8, 1956

Reviewed by
DMEA OPERATING COMMITTEE
8-17-56
(date)

CONFIDENTIAL
not for
or inspection

DMEA 4294

LA SAL MINING AND DEVELOPMENT COMPANY
LA SAL PROJECT
SAN JUAN COUNTY, UTAH

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DMEA 4294

LA SAL MINING AND DEVELOPMENT COMPANY
LA SAL PROJECT
SAN JUAN COUNTY, UTAH

RECEIVED
AUG 15 1956

SUMMARY AND INTRODUCTION

On May 11, 1956, the La Sal Mining and Development Company, Box 563, Moab, Utah applied for Government assistance to explore for uranium on 13 located mining claims in the Big Indian Mining District, San Juan County, Utah. The Homestake Mining Company of Lead, South Dakota, has a controlling interest in the applicant company.

A three phase drilling program requiring a maximum of 40,650 feet of non-core and 2,900 feet of core drilling in 58 holes was proposed at an estimated cost of $117,044.50. Government participation at 75 percent would be $87,783.38. Holes from 700 to 800 feet in depth are necessary.

A field examination was made on June 20, 1956 by a DMEA examining team accompanied by Donald T. Delicate, superintendent of mines for the applicant.

The proposed DMEA project, called the "La Sal project" by the applicant, is located west or downdip from the large Richardson ore body in the Moss Bock member of the Chinle formation which currently is being mined by the applicant through the nearby La Sal shaft. The La Sal project adjoins on the west the main northeast ore trend where the major ore bodies along Big Indian Wash have been found, and occupies the same relative position in relation to the Richardson

ore body as the applicant's Little Beaver ore body does to the Standard Uranium Corporation Mt. Vida deposit which is some three miles further south. There appears to be an excellent possibility on the La Sal project of finding ore bodies in the 200,000 ton class containing 0.24 to 0.40 percent U_3O_8 or smaller, but higher-grade ore bodies such as the Ike or Nixon which are located a few thousand feet south of the La Sal project and are in the 10,000-100,000 ton class containing 0.76 to 1.84 percent U_3O_8.

The property rights of the La Sal Mining and Development Company appear to be satisfactory. Several conflicts with overlapping adjoining claim groups have not been resolved, but the La Sal project claims are definitely the prior locations. Drilling is proposed in areas which are not in conflict except for a row of holes along the north boundary of the La Sal project which is in conflict with the junior Soelburg locations. Because of a claim asserted against the La Sal Mining and Development Company by one of the original locators of the La Sal project claims which may lead to litigation, it is suggested that a third party guarantee by the Homestake Mining Company might be acceptable to the Government in lieu of owners consents to lien.

A revised drilling plan to give better exploration coverage was considered in a field conference and agreed upon by the DMEA examiners and the applicant's representative. A two-phase program consisting of 41,849 feet of plug- and 3,050 feet of core-drilling

in 61 holes at a cost of $87,157.96 is recommended. Government participation at 75 percent would be $65,368.34

ACKNOWLEDGEMENTS

The applicant submitted a brochure with data on claim ownership, previous exploration and geologic features. A drilling proposal with cost estimate was included.

Personnel of the Atomic Energy Commission including M. A. Lekas, project chief in Lisbon Valley, were consulted. A commission report on the area was available. Ore reserve figures were furnished by the applicant and verified by Commission records. Results of private drilling in the area compiled by the Commission were available to the examining team.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The La Sal project consists of 13 located claims in secs. 32 and 33, T. 29 S., R. 24 E., and secs. 27, 28, 33, and 34, T. 29 1/2 S., R. 24 E., Salt Lake meridian, Big Indian Wash, San Juan County, Utah. The property is adjacent to the La Sal shaft operation of the applicant and is 39 miles southeast of Moab, Utah by road, 25 miles of the road is hard surfaced and the balance graveled. The property is 168 miles from Grand Junction, Colorado, the nearest major source of supplies. All but 14 miles is hard surfaced highway. Buying stations for uranium ore are located at Moab and Monticello, Utah. A treatment plant for uranium ore is in operation at Monticello, 46 miles south of the property and another in Moab is scheduled for early completion. (fig. 1)

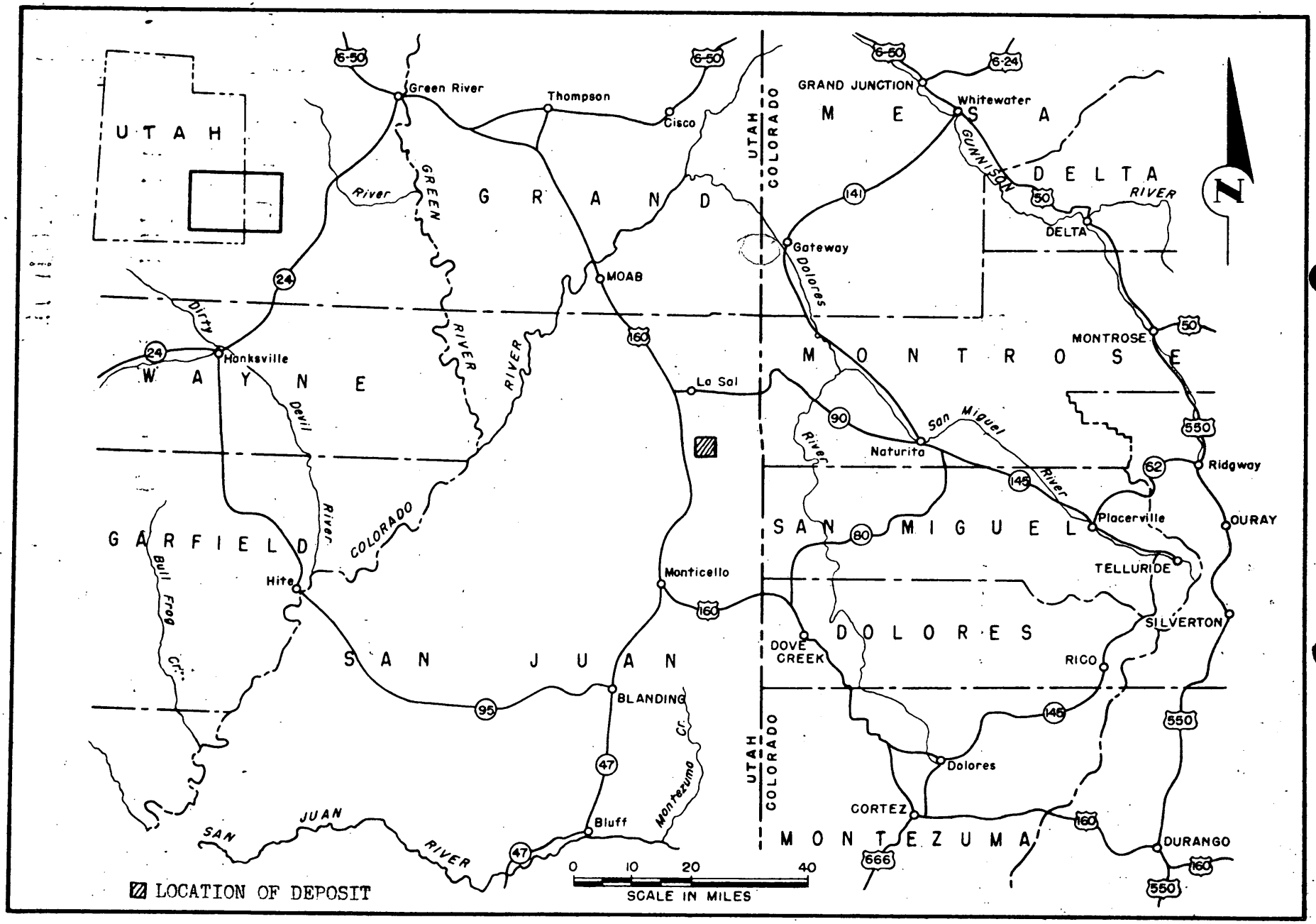


FIGURE 1 - LOCATION MAP, LA SAL PROJECT, LA SAL MINING AND DEVELOPMENT COMPANY, SAN JUAN COUNTY, UTAH, DMEA 4294

The claims are at an altitude of about 7,000 feet and are on the southwest dipping back slope of the Chinle-Wingate escarpment forming the southwest wall of Big Indian Wash. There are no prominent rims in the claim area although the surface is moderately rough and there is very little soil cover. Preparation of access roads and drill sites may require blasting at a few places.

The climate of the region is moderate with warm summers and mild to cold winters. Year around surface operations are feasible except for periods following infrequent winter storms.

There are no unusual problems of access, supply, power, or labor. The proposed drilling would be contracted to an independent company who would furnish equipment, labor, and housing for his personnel. Domestic and drilling water is obtainable from wells east of Big Indian Wash. Electric power for mining operations is available from the lines of the Utah Power and Light Company.

HISTORY AND PRODUCTION

Vanadium was produced from Morrison formation deposits in both World Wars. Mining for uranium in small occurrences in the Cutler formation dates from 1948. The first important discovery of uranium in the area was made in 1952 at the Mi Vida mine. Since 1953, Big Indian Wash has furnished a substantial portion of uranium production in Utah. The applicant's La Sal mine, north and east of the La Sal project, has produced through April 1, 1956, 20,100 tons of

ore with an average content of 0.62 percent U_3O_8, 0.04 percent V_2O_5, and 16.0 percent Ca O from the Richardson ore body. Current production is 300 tons per day. Other mines in the immediate area are starting to produce. The applicant furnished reserve estimates for several properties which lie east and southeast of the applicant's property. Table 1 is a list of reserves as reported and can be compared to the reserve estimates of the Atomic Energy Commission.

TABLE 1

Ore Reserve Estimates

Claim	Owner	Applicant's Reserves		Atomic Energy Commission Reserves	
		Tons	Content Percent U_3O_8	Tons	Content Percent U_3O_8
Richardson	La Sal Mining & Development Co.	210,000	0.41	200,000	0.38
Judy Lee No 1	Lisbon Uranium Corp.	26,000	0.38	41,400	0.30
Judy Lee	" " "	27,000	0.24	139,600	0.16
Patti Ann	" " "	36,000	0.19	72,000	0.23
Nixon No. 2	" " "	13,000	2.52	19,300	1.84
Ike	" " "	16,000	1.08	8,130	0.76
Nixon	" " "	105,000	1.03	111,400	0.83
Mamie	Standard Uranium Corp	117,000	0.24	203,400	0.20

In general, the Atomic Energy Commission estimates probably include reserves of lower grade ore not included by the companies.

OWNERSHIP AND EXTENT

The 13 claims listed by the applicant for inclusion in the proposed La Sal project are part of a larger group of claims purchased by the La Sal Mining and Development Company from the original locaters, T. C. Hudson, Frank Richardson, H. H. Mundy, and W. V.

Baker. The consideration was $1.00 and stock in the puchasing corporation. In a separate agreement Frank Richardson assigned an individed three tenths interest in 19 of the claims to the same purchaser for a further consideration in stock and cash.

The claims included in the proposed DMEA project, and shown on figure 2 are as follows:

Claim	Original Location Date	Original Recording Date	San Juan County Record Original Location Book	Page	Last Amended Location Book	Page
Alice	March 6, 1953	March 7, 1953	21	138	25	24
Billie Mike	March 9, 1953	March 10, 1953	21	154	25	22
Dana	March 9, 1953	March 10, 1953	21	155	25	24
Jimmie	March 6, 1953	March 7, 1953	21	136	25	23
Susie	March 6, 1953	March 7, 1953	21	137	25	23
Thirty-three	March 27, 1953	April 14, 1953	23	200	43	244
Thirty-four	March 27, 1953	April 14, 1953	23	201	43	244
Thirty-five	March 27, 1953	April 14, 1953	25	161	43	245
Chris	March 6, 1953	March 7, 1953	21	136	25	20
Hudson	March 9, 1953	March 10, 1953	21	153	25	20
John David	March 9, 1953	March 10, 1953	21	153	25	25
Richard	March 9, 1953	March 10, 1953	21	154	25	25
Robin Roy	March 6, 1953	March 7, 1953	21	137	25	19

The foregoing claims were deeded to La Sal Mining and Development Company on September 11, 1953 and recorded in San Juan County in Book 35 pages 424 and 425.

Specifically excluded from the recommended projects work are portions of the 8 claims in conflict with the Ouray Nos. 1 to 5 and Ouray No. 8 claim (fig. 2).

There are three groups of claims in conflict with parts of claims in the La Sal project as follows:

(1) The claims listed below and shown on figure 2 are part of a larger group located by Dr. John A. Soelberg of Grand Junction, Colorado and associates, and sold to the Silver Buckle Mining Company, P. O. Box 1088, Wallace, Idaho:

Claim	Date of Location	San Juan County Records Date of Recording	Book	Page
Deep Snow	December 24, 1953	January 23, 1954	49	439-446
Door Knob	December 24, 1953	January 23, 1954	49	439-446
Broken Chain	December 24, 1953	January 23, 1954	49	439-446
Store Pipe	December 24, 1953	January 23, 1954	49	439-446
Mountain Lion No.18	December 20, 1953	January 18, 1954	49	55
Mountain Lion No.19	December 20, 1953	January 18, 1954	49	56

The foregoing are clearly junior to the La Sal project claims. Their positions as shown on figure 2 are in approximate agreement with those shown in a map filed with the Atomic Energy Commission in connection with lease applications under Circular 7. However, the map filed with the AEC shows the Mountain Lion claims as being standard size instead of the odd shape in figure 2. Dr. Soelberg, in an oral communication to J. W. Hasler, stated that his claims were located to cover any fractions of unlocated ground which might have been left open between earlier claims, and he did not claim any area in conflict with the La Sal project claims. However, he later stated to M. H. Salsbury that the conflicts had not been resolved and he was not prepared to admit that La Sal project claims had prior rights on all of the ground in conflict. He referred particularly to his Back Ache claim which is 1500 feet north of the Broken Chain and Stove Pipe claims, but not shown on figure 2. It does not affect

the La Sal project. Title to the areas in conflict between the Soelberg claims and the La Sal project claims appears to rest in the applicant so far as the evidence shows.

(2) The Ouray claims were located by Frank Richardson, one of the original locaters of the La Sal project claims, and Russell Dunn of Ouray, Colorado. The location date, June 15, 1953, is subsequent to the location dates on La Sal project claims and title to the ground in conflict would appear to rest with the applicant. However, the ground has been excluded from the proposed work.

(3) The Dynaflo and Wig claims are two of three claims which conflict in part with easternmost tier of the applicant's claims. The third claim, Dissipation, is not involved in the La Sal project. Their location date, March 3, 1953, is prior by a few days to that on Opal, Robin Roy and Chris claims, March 7, 1953. The La Sal Mining and Development Company has the right to mine on these claims by agreement with Lisbon Uranium Corporation, the owner.

The property of the La Sal Mining and Development Company, including the claims in the proposed DMEA project, has been certified by the Atomic Energy Company for bonus payment under D.V.P. c6-C-745. The conflict with the Ouray claims is shown in AEC records, and the applicant's rights are recognized as prior. The Soelberg claims are not mentioned in the certification. The Dynaflo, Wig and Dissipation claims are recognized as prior claims and are shown as controlled by the applicant. The fact that the claims have been certified tends to

confirm the ownership rights as these matters are exhaustively investigated by the Atomic Energy Commission.

A pending claim by Frank Richardson against the La Sal Mining and Development Company would not appear to be valid in the face of agreements signed by him. However, litigation may result.

The Homestake Mining Company has a controlling interest in the La Sal Mining and Development Corporation. Any profit from operations is divided between Homestake and the other stock holders. Royalties on production go to the original locators who sold the claims to La Sal Mining and Development Company. In the case of the Dynaflo and Wig claims belonging to Lisbon Uranium Corporation, all parties in La Sal Mining and Development Company have agreed to assign part of their royalty accruing on ore from these claims to Lisbon Uranium Corporation. The only supporting documents furnished with the DMEA application were copies of agreements between the La Sal Mining and Development Company and the original locators as a group, and Frank Richardson as an individual. The applicant's representative, Mr. Delicate, stated that all legal documents pertaining to the proposed project are on file in the office of R. E. Driscoll, of Kellar, Kellar, and Driscoll, Lead, South Dakota, attorneys for the Homestake Mining Company. Further inquiry should be directed to them.

Evidence of conflicts, other than those described by the applicants, were not found during the field inspection. Many location notices had all been removed or destroyed. Two notices were still in place at a discovery monument for the Chris claim. Mr.

Delicate stated that difficulty has been experienced in this respect. Notices of completion of assessment work for the year ending June 30, 1955, dated June 15, 1955, and for the year ending June 30, 1956, dated June 11, 1956 were posted on discovery monuments visited. The claims in the La Sal project were listed therein.

The applicant's title to claims in the proposed La Sal project is valid in the opinion of the examining team. The usual consents to lien from the original owners and the Lisbon Uranium Corporation would normally be required in the event a DMEA contract is offered. A guarantee by the Homestake Mining Company in lieu of subordination agreements might be acceptable to the Government, particularly in view of the possibility of litigation with Frank Richardson, who might refuse to consent to lien.

PRESENT STATUS

Exploration and Development

In 1954, the applicant drilled one hole on each of the 13 claims in the La Sal project for assessment work and in 1955 drilled an additional hole on the thirty-five claim. Hole locations and data are shown on figure 2. No mineralization of ore grade was penetrated. Four holes were strongly mineralized (0.03 to 0.08 percent U_3O_8), one hole contained 0.01 percent U_3O_8, eight holes contained trace amounts, and one was barren.

Mining Equipment and Other Facilities

The applicant does not have drilling equipment but intends to let all work to an independent contractor. At the La Sal shaft,

there is a well-equipped mine plant and office. A trailer camp has been established nearby.

GEOLOGY

The claims under consideration in this report are located in the Big Indian Wash district on the western flank of the northwest-trending Lisbon Valley Anticline in San Juan County, Utah.

The Lisbon Valley anticline is undoubtedly a salt anticline as was suggested by Baker (1933 p. 75), Dane (1935, p. 138) and Stokes (1948, p. 24). A Major fault longitudinally transects the Lisbon Valley Anticline and brings the Pennsylvanian Hermosa formation in contact with the Jurassic Morrison formation. The Lisbon Valley fault is a normal fault that dips steeply (50°) to the northeast and has a maximum displacement of approximately 4500 feet in the southern end of Lisbon Valley. The throw diminishes to a few hundred feet beyond the northern end of Lisbon Valley and dies out near the Browns Hole area still farther northwestward.

The rocks underlying the subject claims are largely those of the Triassic Wingate formation, the Chinle formation and the Moss Back member of the Chinle formation, and the underlying Cutler-Rico formation of Permian age. The rocks strike northwest and dip gently (8°) to the southwest. The Navajo formation of Jurassic age and the upper portion of the Triassic Wingate sandstone have been eroded in the claim area. The Triassic Wingate sandstone in the Big Indian Wash area is as much as 350 feet thick, and is a massive

cross-stratified red to brown fine-grained sandstone. It is the prominent cliff-former in the Big Indian Wash area. The Chinle formation is as much as 480 feet thick. It consists largely of purple, maroon, red, brown and green mottled sandy shale and reddish-brown, or grayish green, fine-grained, calcareous, arkosic sandstone. The basal member of the Chinle formation is the Moss Back.

The Moss Back member of the Chinle formation is the main ore-bearing unit in the Big Indian Wash area and consists largely of irregularly bedded gray sandstone, red arkose, gray siltstone, and green mudstone. The Moss Back varies somewhat in thickness in the area ranging from 25 to 60 feet, due principally to buried stream channels, the thickening usually occurring at the bottom of the unit. The average thickness is 50 feet.

The Moss Back member unconformably overlies the Permian Cutler formation, which attains a thickness of 1,500 feet in the district and is predominantly a buff, red and purple, fine-grained micaceous, arkosic and calcareous sandstone and red and gray-green mudstone.

ORE DEPOSITS

The Major uranium deposits of the Big Indian district are found in the lower 20 to 30 feet of the Moss Back member of the Chinle formation and they lie on or within a few feet of the erosion surface truncating the underlying Cutler formation, and some ore occurs in the Cutler immediately beneath the Moss Back deposits.

According to Lakas and Dahl (1956), "The deposits occur on the southwest side of the Lisbon Valley anticline in a rather discontinuous

mineralized belt parallel to the strike of the enclosing beds and of the major joint system. The mineralized belt terminates at the Lisbon Valley fault near the northwest and southeast ends of the anticline, and appears to be confined to a narrow strip between the 6,200 and 6,700 feet contours drawn on top of the Cutler formation, although not occupying the full width of this strip. Within this strip the ore belt rises up the dip to the southeast. The lower Moss Back has been removed by erosion for about one-third of this strip, but the mineralized belt is present throughout about 60 percent of the length in which the Moss Back is preserved."

Scattered drilling down-dip from the mineralized belt has not disclosed any significant uranium deposits. Some Moss Back ore bodies are in broad, shallow topographic lows which may have been drainage channels in the top of the Cutler.

The Vanadium-uranium ratio varies from one mine to another and apparently has no regular relation to the spatial distribution of the ore bodies. In the Mi Vida mine the average ratio of vanadium to uranium is about 2 to 1.

Lithology of Host Rock

The Moss Back is predominantly a fluviatile sandstone with interbedded lenses of mudstone, siltstone, limestone pebble conglomerate and mudstone pebble conglomerate. It has a characteristic gray-green color, in contrast to the reds of the overlying part of the Chinle and the underlying Cutler. Scour and fill, rapid change of facies, carbon, mudstone pebbles, and mudstone and siltstone lenses are more

abundant in the ore horizon near the base of the Moss Back than in the more massive and well-sorted sandstone of the upper Moss Back.

In the mine workings the host rock is essentially a fine- to a coarse-grained calcareous sandstone with some fine conglomerate and a few mudstone-siltstone lenses. In one of the mines, the host rock is a calcareous and argellaceous siltstone. Mudstone and carbonaceous seams are common, the mudstone being in small flakes and in pebbles less than one inch in size. These appear to bear direct relationship to grade of ore, which is better in lenses having more mudstone pebbles and carbon.

Mineralogy

The principal ore minerals in the Big Indian district are urananite (UO_2UO_3) and montroseite VO (OH). They occur most abundantly as replacement of calcite and clay cement and filling interstices, but most of the highest grade uraninite occurs as replacement of carbonaceous plant material. Other ore minerals are a newly discovered hydrated vanadium oxide (Weeks and Thompson, 1954, p. 54) which occurs in high grade vanadium zones, and the uranium silicate coffinite (Stieff and Stern, 1953) which locally replaces carbonaceous material.

Several sulfides are associated with the uranium-vanadium ore, especially in the replacement of wood. Pyrite is the most abundant; galena and greenockite (CdS) are relatively rare. Chalcopyrite was associated with pyrite and uraninite in one polished section. Native copper is found in the Big Buck workings of the Standard Uranium Corporation.

Some joint surfaces and porous zones exhibit oxidized uranium and vanadium minerals. The most common are metatyuyaminite ($Ca(UO_2)$ 2 (VO_4) 2-5-7 H_2O), corvusite ($V_2O_5 6V_2O_5 \cdot n\ H_2O$), and pascoite ($Ca2V_6O_{17} \cdot 11H_2O$).

Cutler Ore Deposits

Cutler uranium occurrences are low grade and spotty. Uranium-vanadium minerals occur in arkosic channel fills in the upper 100 feet of the Cutler formation on the west cliff of Big Indian Wash, beneath the northern part of the belt of Moss Back deposits. These channel fills range in outcrop length from 300 to 600 feet, and in maximum thickness from 10 to 28 feet. The channels appear to trend southwest, and are enclosed in beds which dip about 13° SW. At the Big Buck mine most of the uranium is in carnotite and becquerelite ($7UO_3 \cdot 11\ H_2O$) disseminated in sandstone. Locally concretions one-half to four inches in diameter, rich in uranium vanadium and lime with some copper minerals, are an important ore constituent, the ore deposits to the north and east of the applicant's claims have been found to be among the largest on the Colorado Plateau, i. e. the Mi Vida (Steen); Little Beaver, Bob Cat Claim of Homestake and the Big Buck ore body owned by Standard Uranium as well as the Richardson ore body, E. L. Cord, Hecla, and Hidden Splendor or bodies to the northwest. Production to January 1, 1956 from these properties has been 438,894 tons averaging 0.35 percent U_3O_8 and 0.50 percent V_2O_5. The reserves carried by the Atomic Energy Commission for these properties as of April 1, 1956 are 1,108,000 tons averaging 0.28 percent U_3O_8.

Results of a field examination indicate that the main southeast trending ore zone may extend at least in part into the applicant's ground, and that ore bodies similar in size and grade to the Ike and Nixon may be discovered. The Ike and Nixon ore bodies range in size from about 16,000 tons to as much as 105,000 tons, and the grade is somewhat higher than the ore found in the main ore bodies in that it is usually in excess of 1.0 percent uranium oxide, and are about 200 by 300 by 6 feet in overall dimension.

ORE RESERVES

There has been no production from the subject group of claims nor can there be any reserves calculated from the information presently available. Rerserves on neighboring properties are given under History and Production.

PROPOSED EXPLORATION

Applicant's Proposed Exploration Program

The applicant proposed a non-core and core drilling program in three phases requiring a maximum of 40,650 feet of non-core and 2,900 feet of core drilling in 58 holes at an estimated cost of $117,044,50. Government participation at 75 percent would be $87,783.38. The proposed program was to explore for the possible extension of ore, and new ore bodies on a group of claims that lie south of their Richardson ore body.

The program as outlined in the application entailed a series of fences or rows of diamond drill holes in an east-west direction, and was designed to interesect any south to southwesterly trending ore bodies. The plan was to ultimately drill on centers 250 feet in an east-west direction and 400 feet in a north-south direction. Phase 1 drilling consists of four fences of holes 1200 feet apart with holes 400 feet apart along the fences. Phase 2 drilling consisted of six holes for each favorable hole found during phase 1 drilling, thus compelling a grid of holes on a 250 foot by 400 foot.

Previous holes drilled on the claim were not considered as an integral part of the plan and it was suggested during the field examination that they would be considered as a portion of phase drilling, since some of the holes showed mineralization. The northern most row of holes was laid out too close to the property boundary. It is the opinion of the examining team that six offset holes for each favorable hole are too many for the purposes of delineating or outlining the trend of any ore bodies that might be discovered. As a result of the field examination it was deemed advisable for the applicant to alter his program and this was discussed with them and an alternate exploratory program has been suggested.

Recommended Program

The 1200 foot spacing between fences proposed by the applicant could easily miss ore bodies of the Ike or Nixon class (fig. 3). A revised program calls for a first phase of 34 holes in 5 east and

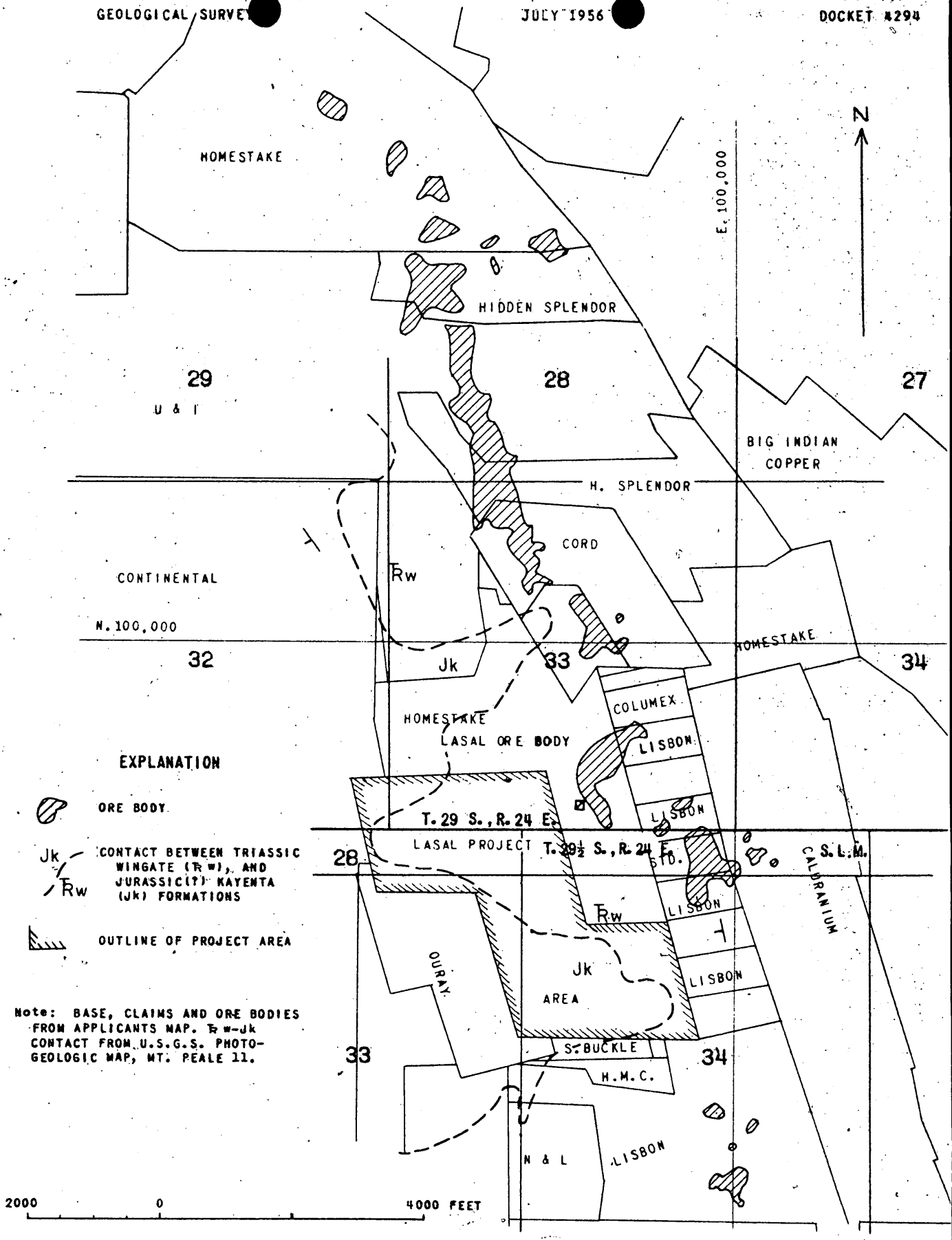


FIGURE 3. GENERALIZED MAP SHOWING PROJECT AREA OF LA SAL MINING AND DEVELOPMENT COMPANY, SAN JUAN COUNTY, UTAH.

west fences 900 feet apart with the hole spacing in fences remaining the same or 250 feet (fig. 2). While the 900 foot spacing between fences does not give complete coverage for the smaller ore bodies, a closer drilling pattern in holes 700 to 800 feet deep is hardly advisable in phase 1.

Phase 2 would consist of offset holes north or south from substantially mineralized holes drilled in phase 1. Holes would be located in a diagonal pattern 300 feet northeast, northwest, southeast, and southwest from the designated phase 1 holes. It is estimated that not over 25 percent of phase 1 holes would justify offsetting. Phase 2 holes, around mineralized holes in the extreme north and south fences, would require only two holes each so that the estimated maximum number of holes in phase 2 is calculated as follows:

25 percent of 15 phase 1 holes in extreme north and south fences = 3.75 holes - Two offset holes for each mineralized hole rounded to 8 holes.

25 percent of 19 other phase 1 holes = 4.75 holes -nFour offset holes for each mineralized hole - 19 holes
Maximum number of holes estimated in phase 2 - 27 holes

Completion of both phases would insure testing for mineralized areas with a minimum dimension north and south of 900 feet and east and west of 250 feet and , within any mineralized areas, for ore bodies with a minimum dimension of 300 feet north and south and 250 feet east and west while possible ore bodies of smaller size might remain undiscovered in using this drilling pattern, it is not

considered economically feasible to drill on closer center to a depth of over 700 feet.

The applicant submitted three bids from independent drilling contractors, but based a cost estimate on the one made by the Pioneer Drilling Company, which was not the low bid. Even though the low bid was not used, the applicant's overall estimate of $2.69 per foot of drilling compares favorably with the $2.98 per foot allowed under contract Idm-E796, $2.94 per foot under contract Idm-E910, and $2.68 per foot under contract Idm-E760, all of which were carried on under comparable drilling conditions.

Use of one drill operating two shifts or two drills operating one shift, 25 days per month is proposed. The rate of drilling, estimated by the applicant, at 200 feet per drill shift is rather high. On this basis, drilling would be accomplished at the rate of 10,000 feet per month. However, the applicant estimates that, in addition to actual drilling time, 1.5 months would be required for evaluation of drilling results and for delays in connection with work authorizations and reports, making a total of 6 months. The examining team believes the overall drilling rate is likely to be about 8,000 feet per month, but the allowance for hole evaluation and delays is rather high. Consequently the applicant's estimate of 6 months is probably reasonable.

Summary of Drilling Footage

Phase 1

Holes	No. Holes	Average depth per hole in feet	Total Non-core footage Range in feet 0-400	400-600	600-800	Total core footage Range in feet 600-800	Total footage
1 through 8	8	740	3,200	1,600	720	400	5,920
9 through 17	9	700	3,600	1,800	450	450	6,300
18,19, and 20	3	750	1,200	600	300	150	2,250
21 through 27	7	750	2,800	1,400	700	350	5,250
28 through 34	3	800	1,200	600	450	150	2,400
	2	750	800	400	200	100	1,500
	2	700	800	400	100	100	1,400
Total Phase 1	34	736	13,600	6,800	2,920	1,700	25,020

Phase 2

Total Phase 2	27	736	10,800	5,400	2,329	1,350	19,879
Total for project	61		24,400	12,200	5,249	3,050	44,899

Phase 1 - Estimated time for completion of drilling at 8,000 feet per month	3.1 months
Estimated time for evaluation of drilling and consideration of phase 2	0.4 months
Total Phase 1	3.5 months
Phase 2 - Estimated time for completion of drilling at 8,000 feet per month	2.5 months
Total for project	6.0 months

SUMMARY OF DRILLING BIDS

Minerals Engineering Co. Range in feet	Price per foot non-core	Price per foot core	Pioneer Drilling Company Range in feet	Price per foot non-core	Price per foot core	G. W. Swank Range in feet	Price per foot non-core	Price per foot core
0-200	$1.25	$3.25				any depth	$2.40	
200-400	1.25	3.75	0-500	$1.90	$3.60	up to fifty feet any depth		$2.40
400-600	1.50	4.75	500-750	2.60	3.60	over fifty feet any depth		$3.50
600-800	1.95	6.00	750-1000	2.85	3.85			

Calculated cost of drilling on Minerals Engineering Company Bid

Non-core drilling	24,400 feet in 0-400 foot range at $1.25	$30,500.00
	12,200 feet in 400-600 foot range at $1.50	18,300.00
	5,249 feet in 600-800 foot range at $1.95	10,235.55
Core drilling -	3,050 feet in 600-800 foot range at $6.00	18,300.00
	Total of Bid	$77,335.55

Calculated cost of drilling on Pioneer Drilling Company Bid

Non-core drilling	30,500 feet in 0-500 foot range at $1.90	$57,950.00
	11,349 feet in 500-750 foot range at $2.60	29,507.40
Core drilling -	3,000 feet in 500-750 foot range at $3.60	10,800.00
	50 feet in 750-1000 foot range at $3.85	192.50
	Total of Bid	$98,449.90

Calculated cost of drilling on G. W. Swank Bid

Non-core drilling	41,849 feet at $2.40	$100,437.60
Core drilling	3,050 feet at $2.40	7,320.00
	Total of Bid	$107,757.60

The following cost estimate is based on the bid by the Minerals Engineering Company. Other costs are based in part on detailed estimates used by the applicant in arriving at the sum of $130.00 per hole for other costs. No additional allowance for hole probing is included other than for depreciation of equipment. The applicant did not make an allowance for geologic consultation. Presumably the geologic staff already employed will participate without extra charge.

COST ESTIMATE

Phase 1

Estimated time for completion - 3.5 months

Estimated number of drills - 1-2 shifts or 2-1 shift

Estimated footage non-core - 23,320 feet

Estimated footage core - 1,700 feet

(1) Independent Contracts

Bulldozing for roads and drill sites 100 hours at $12.00 per hour	$1,200.00
Total bulldozing	$1,200.00
Drilling, non-core 0-400 feet range, 13,600 ft. at $1.25	$17,000.00
Drilling, non-core 400-600 range, 6,800 feet at $1.50	10,200.00
Drilling, non-core 600-800 range, 2,920 feet at $1.95	5,694.00
Total non-core drilling, 23,320 feet	$32,894.00
Drilling, core 600-800 range, 1700 feet at $6.00	$10,200.00
Total drilling, 25,020 feet	$43,094.00
Air compressor, rock drill, labor and supplies for rock work in connection with access roads and drill sites 34 hours at $11.00 per hour	$374.00
Total Independent Contracts	$44,668.00

(2) Labor, Supervision and Technical Services

1 supervisor-engineer, 3.5 months at $600/M.	$2,100.00
1 technical assistant for surveying and drafting 1/3 time or 1.167 months at $450.00 per month	525.15
Total labor, supervision and technical services	$2,625.15

(3) Operating Materials and Supplies

170 core boxes for 1700 ft. of core at $1.00 each	$170.00
Gasoline, oil and repairs for 1 vehicle for field use 3.5 months at $50.00 per month	175.00
Surveying, drafting, and office supplies for 3.5 months at $25.00 per month	87.50
Total Operating Materials and Supplies	$432.50

(4) Operating Equipment

Depreciation on 1 jeep or pickup - value	$1,800.00
Depreciation on 1 Babbal counter and probe - value	800.00
Depreciation on 1 transit - value	500.00
Total Depreciation Value	$3,100.00
Depreciated on 60 month basis $\frac{\$3,100.00}{60}$ or $51.67 per month, depreciation for 3.5 months	$180.85
Total operating equipment	$180.85

(7) Miscellaneous

Accounting 3.5 months at $25.00 per month	$87.50
Sampling and analyses, maximum of 125 samples analyzed for U_3O_8, V_2O_5, at $4.00 each	500.00
Compensation insurance, payroll taxes, etc., on salaries of supervisor and assistant at 6 percent of $2,625.15	157.51
Total Miscellaneous	$745.01
Total Phase 1	$48,651.51

Phase 2

Estimated time for completion - 2.5 months

Estimated number of drills, 1-2 shifts or 2-1 shift

Estimated footage non-core - 18,529 feet

Estimated footage core - 1,350 feet

(1) Independent Contracts

Bulldozing for roads and drill sites 80 hours at $12.00 per hour	$960.00
Total bulldozing	$960.00
Drilling, non-core 0-400 foot range, 10,800 feet at $1.25	$13,500.00
Drilling, non-core 400-600 foot range, 5,400 feet at $1.50	8,100.00
Drilling, non-core 600-800 foot range, 2,329 feet at $1.95	4,541.55
Total non-core drilling, 18,529 feet	$26,141.55
Drilling, core 600-800 foot range, 1,350 feet at $6.00	$8,100.00
Total drilling, 19,879 feet	$34,241.55
Air compressor, rock drill, labor and supplies for rock work in connection with access roads and drill sites 25 hours at $11.00 per hour	$275.00
Total Independent Contracts	$35,476.55

(2) Labor, Supervision and Technical Services

1 supervisor-engineer 2.5 months at $600/M.	$1,500.00
1 technical assistant for surveying and drafting 1/3 time or .833 months at $450.00 per month	374.85
Total labor, supervision and technical services	$1,874.85

(3) Operating Materials and Supplies

135 core boxes for 1,350 feet of core at $1.00 each	$135.00
Gasoline, oil, and repairs for 1 vehicle for field use 2.5 months at $50.00 per month	125.00
Surveying, drafting, and office supplies for 2.5 months at $25.00 per month	62.50
Total operating materials and supplies	$322.50

(4) Operating Equipment

Depreciation - same as in phase 1 or $51.67 per month for 2.5 months	$129.18
Total operating equipment	$129.18

(7) Miscellaneous

Accounting 2.5 months at $25.00 per month	$62.50
Sampling and analyses, maximum of 100 samples analysed for U_3O_8, V_2O_5, at $4.00 each	400.00
Compensation insurance, payroll taxes, etc., on salaries of supervisor and assistant at 6 percent of $1,874.85	112.49
Total miscellaneous	$574.99

Total phase 2	$38,378.07
Total for project	$87,029.58

BREAKDOWN OF COSTS

Distributed as to type of drilling

Item	Units	Subtotal	Total	Non-core 80 percent	Core 20 percent
Independent contract					
Bulldozing	180 hrs.		$2160.00	$1728.00	$432.00
Rock work	59 hrs.		649.00	519.20	129.80
Non-core drilling	41849 ft.		59035.55	59035.55	
Core drilling	3050 ft.		18300.00		18300.00
Labor, Supervision & Technical Services	6 mos.	$4500.00	4500.00	3600.00	900.00
Materials and Supplies					
Core Boxes		[illegible]	305.00		305.00
Other		450.00	450.00	360.00	90.00
Operating Equipment		310.03	310.03	248.02	62.01
Miscellaneous					
Chemical analyses			900.00		900.00
Other		420.00	420.00	336.00	84.00
Total for project			$87,029.58	65,826.77	21,202.81

Total, less independent contracts, core boxes and chemical analyses $5,680.03

Calculated overall cost non-core drilling $\frac{65,826.77}{41,849}$ or $1.57 per foot

Calculated overall cost core drilling $\frac{21,202.81}{3,050}$ or $6.95 per foot

Calculated cost of all drilling $\frac{87,029.58}{44,899}$ or $1.94 per foot

Calculated cost of items (2), (3), (4), and (7), less chemical analyses and core boxes, which go to make up "incidental allowance" $\frac{\$5,680.03}{44,899}$ or $0.13 per foot.

SUMMARY OF COSTS SUGGESTED FOR CONTRACT USE

Item	Unit	Unit Price (Maximum)	Phase 1 Units	Phase 1 Cost	Phase 2 Units	Phase 2 Cost	Total Units	Total Cost
Actual Costs								
Bulldozing *	hour	$12.00	100	$1,200.00	80	$960.00	180	$2,160.00
Rock work	hour	11.00	34	374.00	25	275.00	59	649.00
Non-core Drilling	foot	1.41	23,320	32,881.20	18,529	26,125.89	41,849	59,007.09
Core drilling	foot	6.00	1,700	10,200.00	1,350	8,100.00	3,050	18,300.00
Fixed Costs								
Coreboxes	each	1.00	170	170.00	135	135.00	305	305.00
Chemical analyses ** for U_3O_8 and V_2O_5	each	4.00	125	500.00	100	400.00	225	900.00
Incidental Allowance	foot	0.13	25,020	3,252.60	19,879	2,584.27	44,899	5,836.87
Totals Phase 1				$48,577.80				
Totals Phase 2						$38,580.16		
Total for Project								$87,157.96
Government participation at 75 percent								$65,368.47

* Interchange of allowances for bulldozing and rock work should be permitted within the maximum allowable cost for these items. The proportion of drilling and blasting to bulldozing in preparing access roads and drill sites may vary appreciably from the estimates.

**Schedule of prices for a chemical analyses at Smith Laboratory, Moab, Utah.

Several factors contribute to the low overall cost of drilling arrived at in the foregoing estimate. The chief factor is the low bid for non-core drilling submitted by Minerals Engineering Company. Another is the fact that the applicant has not included a charge for services of a geologist. If the flat charge of $130.00 per hole for all charges other than direct drilling costs used in the applicant's estimate were used in conjunction with the Minerals Engineering Company bid, the overall cost per foot of drilling would be still lower.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded that there is a good possibility of finding significant ore bodies at a depth of 700 to 800 feet. While the ore bodies are not likely to be as large as the Richardson ore body, they could easily be as large as the Ike or Nixon ore bodies just south of the La Sal project (fig. 3), or the applicant's Little Beaver ore body, several miles south of the La Sal project. These are in the 10,000 to 100,000 ton class. The exploration target is therefore worthwhile. The La Sal project is west of and down-dip from the main ore trend in which the Richardson ore body is located, and where the frequency of ore occurrence is highest. While the frequency of occurrence west of the main ore trend has been less in Big Indian Wash, enough ore bodies have been found to justify exploration.

The applicant has a well staffed organization which is considered to be fully competent to supervise the proposed project.

It is recommended that a two phase project requiring a maximum of 44,899 feet of non-core and core drilling in 61 holes be approved at an estimated cost of $87,157.96. Government participation at 75 percent would be $65,368.24. Phase 1 would consist of a maximum of 25,020 feet of drilling, of which 1,700 feet is estimated to be core drilling, in a maximum of 34 holes, at locations shown in figure 2. Phase 2 would require a maximum of 19,879 feet of drilling, of which 1,350 feet is estimated to be core drilling, in a miximum of 27 holes. Phase 2 holes would be offset holes on 300 foot centers northeast, northwest, southeast and southwest of phase 1 holes which penetrate significant mineralization except where such locations would be within 100 feet of the La Sal project boundary or an area in conflict which has been excluded by the applicant.

Interchange within a phase of allowance for bulldozing and rock-work within the maximum allowances is recommended. Holes should be cored below a point about 30 feet above the Cutler-Chinle contact and bottomed in the Cutler formation at a point not more than 20 feet below the Cutler-Chinle contact. A maximum amount of coring for each phase is recommended, but no maximum for individual holes is set, so as to permit some flexibility. It is not always possible to determine accurately the point at which to start coring, particularily in the initial hole in a particular area, nor is the Cutler-Chinle contact always well-defined.

References

Baker, A. A.; Geology and oil possibilities of the Moab district, Grand and San Juan counties, Utah: U. S. Geological Survey, Bulletin 841, 1933.

Dane, C. H.; Geology of the Salt Valley Anticline and adjacent areas, Grand County, Utah: U. S. Geological Survey, Bulletin 863, 1935.

Lekos, M. A., and Dahl, H. M.; The geology and uranium deposits of the Lisbon Valley Anticline, San Juan County, Utah; Intermountain Association of Petroleum Geologists, Guidebook, Seventh Annual Field Conference Guidebook, 1956.

Stakes, William Lee; Geology of the Utah-Colorado salt dome region with emphasis on Gypsum Valley, Colorado: Utah Geological Society Guidebook, No. 3, 1948.

Stieff, L. R., and Stern, T. W.; Preliminary description of coffinite--a new uranium mineral: U. S. Geological Survey, TEM-647, 1953

Weeks, A. D. and Thompson, M. E.; Identification and occurrence of uranium and vanadium minerals from the Colorado Plateau: U. S. Geological Survey, Bulletin 1009-B, 1954.

7/2/56

RECEIVED
JUL 2 - 1956

June 26, 1956

Memorandum

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

From: Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA 4294 (Uranium), La Sal Mining and Development Company (La Sal Project), San Juan County, Utah

The application for La Sal Mining and Development Company Docket DMEA 4294, in the amount of $117,044.50 was received in this office on June 26.

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

JOHN F. SHAW

John F. Shaw

cc: W. M. Traver (2)
E. N. Harshman
J. W. Hasler
M. H. Salsbury
J. F. Shaw
Sec. Op. Com (2)

6/28/56

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

June 25, 1956

[illegible] New Customhouse
Denver 2, Colorado

Memorandum

To: J. F. Shaw (2) (With brochure)
J. W. Mauler

From: Field Team, Region III

Subject: Docket DMEA [illegible] (Uranium) La Sal Mining and Development Company (La Sal Project) San Juan County, Utah

Enclosed is the subject application in the amount of $117,044.50. A field examination and suitable report are requested.

The certain additional information, mentioned in the first paragraph of the letter from the Chairman, Operating Committee, copy of which is attached, consists of lithologic logs which were submitted by the Applicant at the request of the Washington Office, DMEA. A copy of these lithologic logs is attached to the engineer's copy of the brochure.

Also enclosed for your information are copies of memoranda of review by N. E. Balcom and John E. Crawford relating to the subject project.

Will you please return the brochure with the Report of Examination.

DMEA Field Team, Region III

W. M. TRAVER,

Enclosures

By W. M. Traver
Executive Officer

DMC:ab

cc: Chair. Op. Comm. (2)
Docket [illegible]
Engelman
Chron.

Surname copy

FLKnouse
Ellis
Martin
FLJohnson
Mittendorf

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

JUN 20 1956

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

Re: Docket No. DMEA-429h (Uranium)
La Sal Mining and Development Company
La Sal Project
San Juan County, Utah

Dear Mr. Traver:

The captioned application is referred to your office for a field examination and report on the proposed project. In this connection, you will note that on May 25, 1956, this office wrote the Applicant and requested certain additional information. Therefore, you may prefer to await the Applicant's reply before scheduling the field examination. A copy of the application was retained by your office.

Enclosed are copies of memoranda dated May 31 and June 13, 1956, from Mr. John E. Crawford, USGM, and Mr. F. F. Melron, USGS, respectively, relating to the subject project.

If the Field Team recommends an exploration program, we will require, in addition to the usual information, the following:

1. Five copies of a map showing the location of the drill holes (shown on the Applicant's map) and recommended work, all in relation to the boundaries of the claim; and

2. Bids from the three drilling contractors referred to in the application that have submitted bids to do the drilling.

Sincerely yours,

W. S. Martin

ACTING Chairman, Operating Committee (FLK)

Enclosures

FLKnouse/ai
6/18/56

APPROVED:

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

Thor H. Kiilsgaard (FLK)
Geological Survey

cc to: Admr.'s Reading File
Docket
Operating Comm.
Messrs. THKiilsgaard, Rm 5224
JeCrawford, Rm. 3641
JOHosted, Rm. 3210, GSA
Code 700
Mr. Knouse

Surname copy
F. L. Knouse
Ellis
Gage
Kielgaard
Martin
F. L. Johnson

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

JUN 20 1956

Mr. Donald H. McLaughlin, President
LaSal Mining and Development Company
Box 563
Moab, Utah

Re: Docket No. DMEA-429h (Uranium)
LaSal Project
San Juan County, Utah

Dear Mr. McLaughlin:

The application for assistance in exploring your property, under the captioned docket number, has been reviewed by the Rare and Miscellaneous Metals Division of the Defense Minerals Exploration Administration. It has been referred for a field examination to:

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

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

Sincerely yours,

G. O. Mittendorf

Administrator

FLKnouse;ai
6/18/56
cc to: Admr.'s Reading File
Docket
Code 700
Mr. Knouse
DMEA Field Team, Region III (2)

R.G.S.

IN REPLY REFER TO:

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

RECEIVED
JUN 1 5 1956

June 13, 1956

Re: DMEA 4294
La Sal Mining and
Development Company
La Sal Project
San Juan Co., Utah
$117,044.50 - Uranium

Memorandum

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

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

Subject: Review of application

The Field Office at Grand Junction has reviewed the application and in a memorandum dated May 17, 1956, recommends that a field examination be made of the referenced property.

The applicant, a subsidiary of the Homestake Mining Co., requests assistance in exploring by drilling a 13-claim group of claims west of the property of the Homestake Co. on which is located the large Elohim-Richardson-Judy Lee #1 ore body and cornering a group of properties containing the Standard and Lisbon ore bodies.

Each claim in the Project group has had at least one hole drilled within it. No significant intersection was obtained but in all holes but one traces to 0.08% U_3O_8 material was recorded. Presumedly the radioactive material is found in the lowermost members of the Chinle formation and the drilling tends to indicate that the project group is underlain by the so-called favorable beds.

Of the 23 or 24 holes drilled in the Project and adjoining claims to the north and southeast, 2 holes (Victory and Opal) found ore grade material. That such results indicate the ground is not in a favorable trend, such as seems to exist to the east, is suggested but not proven. Justification of the proposed work would seem to rest in a wise appraisal of that possibility.

Referral of the application to the Field Team for such action as it sees fit is recommended.

N. E. Nelson

N. E. Nelson

6/1/56

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

May 31, 1956

RECEIVED
MAY 31 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Application for Assistance, DMEA Docket 4294, La Sal Mining & Development Company (La Sal Project) Lisbon Valley area, San Juan County, Utah

I have reviewed the attached application for assistance, DMEA Docket 4294, La Sal Mining & Development Company (La Sal Project), Lisbon Valley area, San Juan County, Utah, dated May 10, and received in this office May 28, 1956. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The applicant has conducted some preliminary exploration work, the results of which were felt to be encouraging enough to request DMEA assistance in order that the subject claims could be explored for uranium more thoroughly.

The properties are located in the Lisbon Valley area which is a rich uranium producing area and the claims possibly may be overlying the southwesterly extension of the La Sal ore bodies presently being mined on adjoining claims.

Field referral of the application appears to be justified but the applicant should be requested to supply a detailed lithologic log as well as any additional data that have been obtained from previous exploration before an examination is actually made.

John E. Crawford

Attachment

Same copy 700

F L Knouse
Mathendorp

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

MAY 25 1956

Mr. Donald H. McLaughlin, President
LaSal Mining and Development Company
Box 563
Moab, Utah

Re: Docket No. DMEA-429½ (Uranium)
LaSal Project
San Juan County, Utah

Dear Mr. McLaughlin:

This is with reference to your application for Government aid to explore the subject property.

We note in your application that certain discovery holes were drilled on each of the claims you propose to explore. In the event that detailed lithologic logs as well as any additional chemical or gamma-ray assays were obtained from these drill holes, they would be helpful in evaluating your proposed program, and such information should be submitted.

Four copies of this information should be furnished in order to process your application with a minimum of delay. One copy should be sent to Mr. W. M. Traver, Executive Officer, DMEA Field Team, Region III, 224 New Customhouse Building, Denver 2, Colorado, and the remaining three copies to this office.

Sincerely yours,

SIGNED
F. L. Knouse
Acting Chief
Rare and Miscellaneous
Metals Division

FLKnouse/gla
5-25-56
cc to: Admr.'s Reading File
Docket
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA
Code 700, Mr. Knouse
DMEA Field Team, Region III (2)

5/24/56

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

RECEIVED
MAY 24 1956

May 22, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Chairman, Operating Committee, DMEA

From: Field Team, Region III

Subject: DMEA Docket 4294 (Uranium) LaSal Mining and Development Company (LaSal Project), San Juan County, Utah

Enclosed are the original and three copies of a review of the subject application by members of the Grand Junction office, DMEA. They recommend that a field examination be made but suggest that you request the Applicant to supply a detailed lithologic log as well as any additional chemical or gamma-ray assays that have been obtained from previous exploration work on this group of claims. We concur in their recommendation.

DMEA Field Team, Region III

By J. W. Townsend
Acting Executive Officer

A 4

IN REPLY REFER TO:
MINERAL DEPOSITS
DMEA
RECEIVED
MAY 21 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED MAY 24 1956

P. O. Box 360
Grand Junction, Colorado

U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO
DMEA
Date Rec'd.

May 17, 1956

Memorandum

MAY 21 1956

To: Executive Officer, DMEA Field Team, Region III

BUREAU OF MINES
Denver, Colorado

Through: E. N. Harshman

From: J. William Hasler
M. H. Salsbury

Subject: Advisability of necessity for a field examination on the La Sal Mining & Development Company (La Sal Project) Lisbon Valley area, San Juan County, Utah

The La Sal Mining and Development Company, a wholly owned subsidiary of the Homestake Mining Company, has applied to the Defense Minerals Exploration Administration for aid in exploring for uranium on the Alice, Billie, Mike, Dana, Jimmie, Susie, Thirty-three, Thirty-four, and Thirty-five, as well as the Chris, Hudson, John David, Richard, and Robin Roy groups of claims.

The applicant proposes a diamond-drilling program to test a possible southwesterly extension of the La Sal ore bodies presently being mined on the Elohim and Richardson claims. The drilling will also test for new ore bodies down-dip from the presently known ore body at depths that will average 750 feet. The ore deposits in the area are found in the lower 40 feet of the Chinle formation of Triassic age and the upper 10 or 15 feet of the underlying Permian Cutler formation. The Richardson ore body has produced 20,100 tons of ore that will average 0.62 percent U_3O_8 and has an average thickness from 6 to 7 feet. The ore body lies between 450 - 500 feet in depth.

The applicant reports reserves from their own Richardson ore bodies as well as those from neighboring ore bodies such as the Lisbon Valley Uranium and Standard Uranium ore bodies, amounting to 586,000 tons of ore that will average 0.50 percent U_3O_8. The ore bodies range in size from 13,000 tons to as much as 250,000 tons. The smaller ore bodies that may be found in the area proposed for exploration will be about 200 feet by 300 feet in size and will average 6 feet in thickness, although the zones of mineralization may extend considerably farther. These ore bodies may average around 25,000 tons and gross approximately a million dollars, without considering the initial production bonus. Because of these favorable circumstances, it is proposed that a field examination be made on the subject property. It is, however, requested that the applicant be asked

to supply a detailed lithologic log as well as any additional chemical or gamma-ray assays that have been obtained from previous exploration work on the group of claims under consideration. Their report is fairly well documented; however, we feel that they could have supplied more detailed information that may be used during the appraisal of the property.

We will retain the application pending advice from Washington.

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

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

JWH/mlr

May 17, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region III.

DMEA
- 4294 LaSal Mining & Development Co.

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

May 17, 1956

LaSal Mining & Development Co.
Box 563
Moab, Utah

Subject: DMEA - 4294
Re: Exploration Assistance
LaSal Project

Gentlemen

The receipt of your application dated May 10, 1956 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

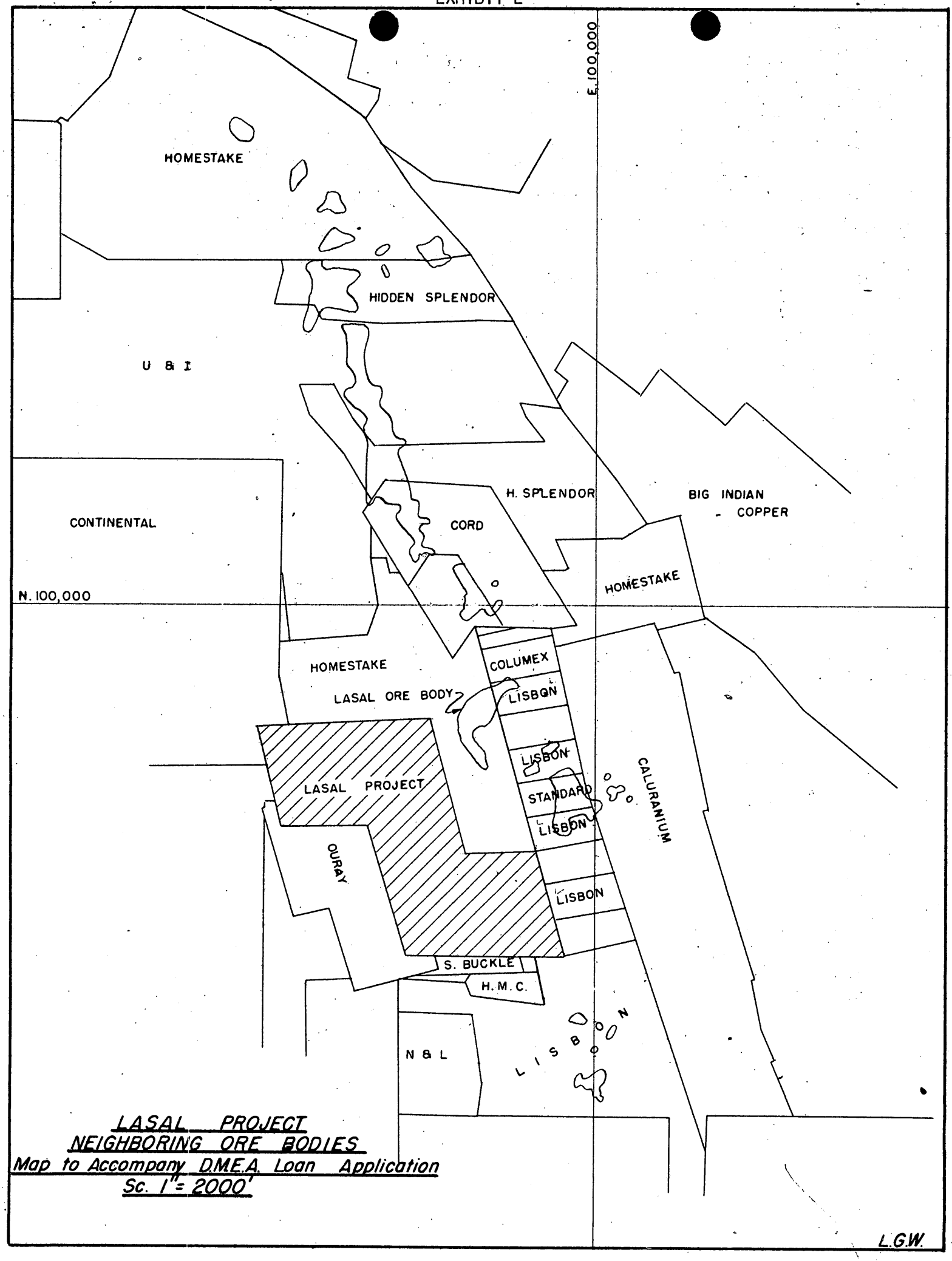
Your application has been assigned Docket Number 4294 and referred to the Rare & Misc. Metals Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

EXHIBIT E

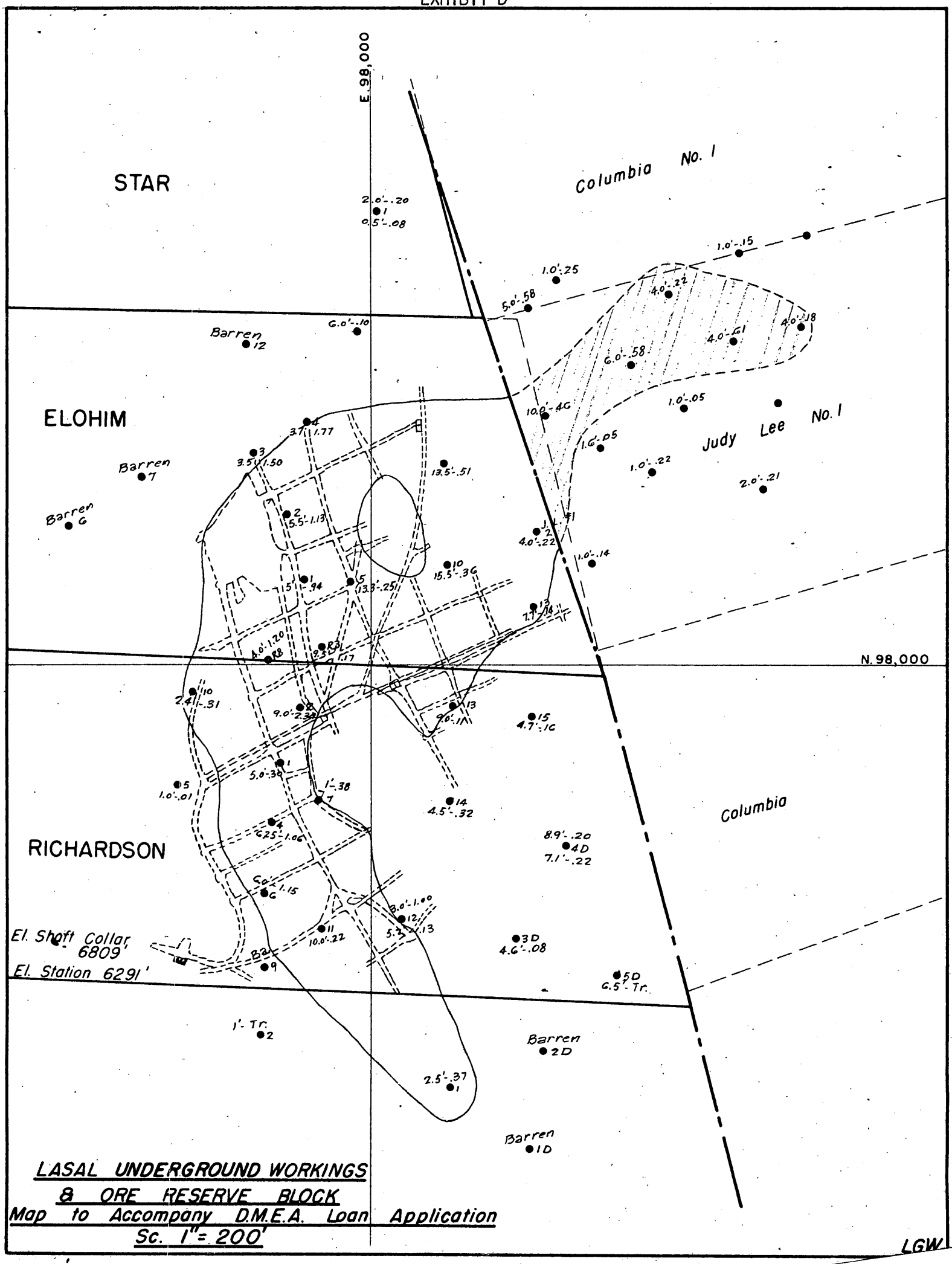


LASAL PROJECT
NEIGHBORING ORE BODIES
Map to Accompany D.M.E.A. Loan Application
Sc. 1" = 2000'

APR 1956
PRINTED
Newmont Mining Co.
0091-123456789101112131415

RECEIVED
MAY 17 1956

EXHIBIT D


E. 98,000
N. 98,000
STAR
Columbia No. 1
ELOHIM
Judy Lee No. 1
RICHARDSON
Columbia
Barren
El. Shaft Collar 6809'
El. Station 6291'
LASAL UNDERGROUND WORKINGS
& ORE RESERVE BLOCK
Map to Accompany D.M.E.A. Loan Application
Sc. 1" = 200'
LGW

RECEIVED
MAY 17 1956

DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
ELECTROTECHNICAL LABORATORY
NORRIS, TENNESSEE

OFFICIAL BUSINESS

KNOXVILLE TENN 2
APR 1 8 PM
1955

Mr. Jo. Mathews
Alpine Alpine Mine Co.
Alpine Road
Lakewood, Colo.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET 4294

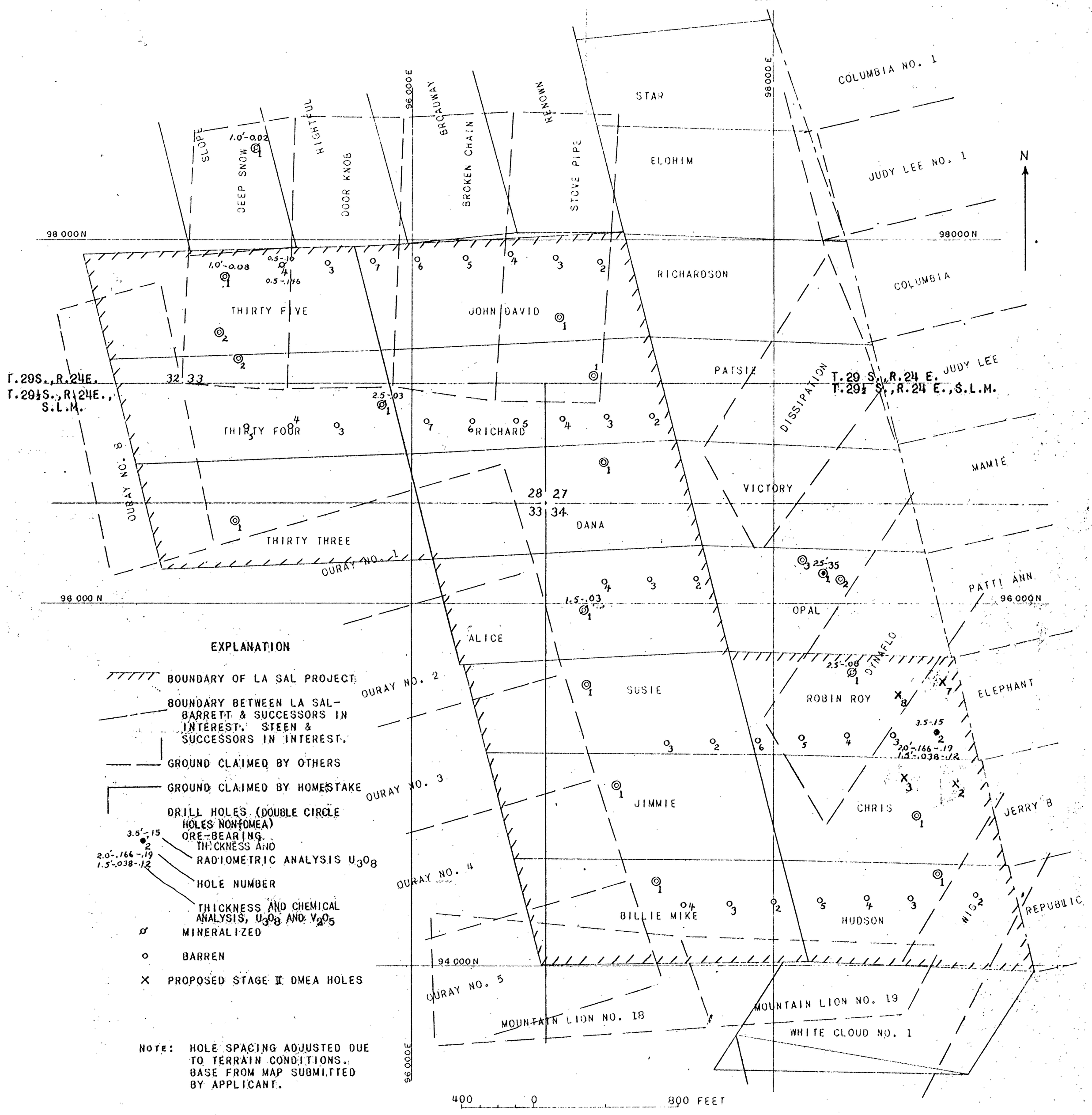


Figure 1.--CLAIM MAP OF LA SAL MINING AND DEVELOPMENT COMPANY DMEA PROJECT 4294 SHOWING PROPOSED STAGE I DRILLING, SAN JUAN COUNTY, UTAH.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
JULY 1957 CONTRACT Idm-E1010 DOCKET 4294

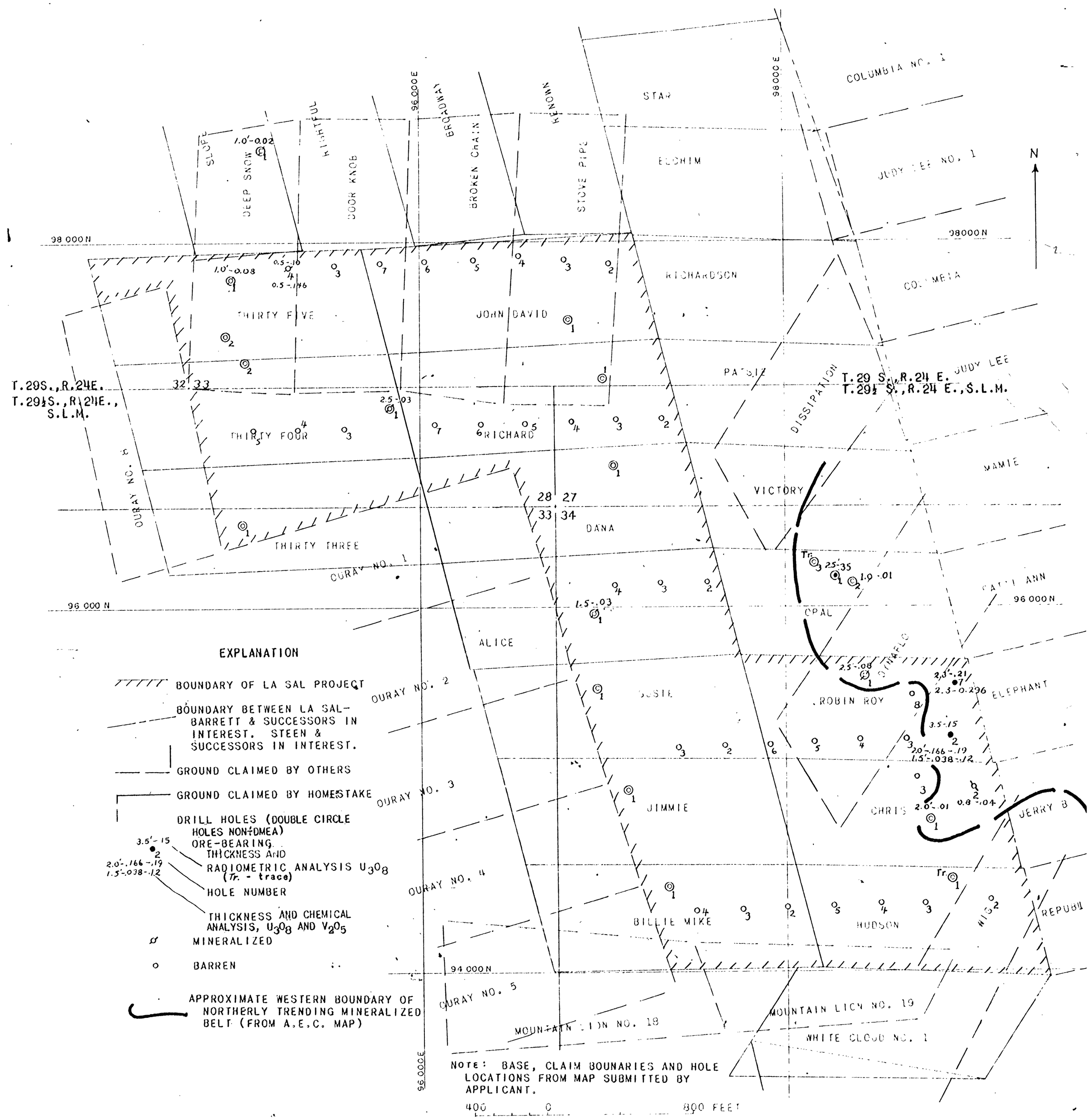


Figure 3.--CLAIM MAP AND DRILL HOLE LOCATIONS AND CLASSIFICATION, LA SAL MINING AND DEVELOPMENT COMPANY, LA SAL PROJECT, SAN JUAN COUNTY, UTAH.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
JULY 1956 DOCKET 4294

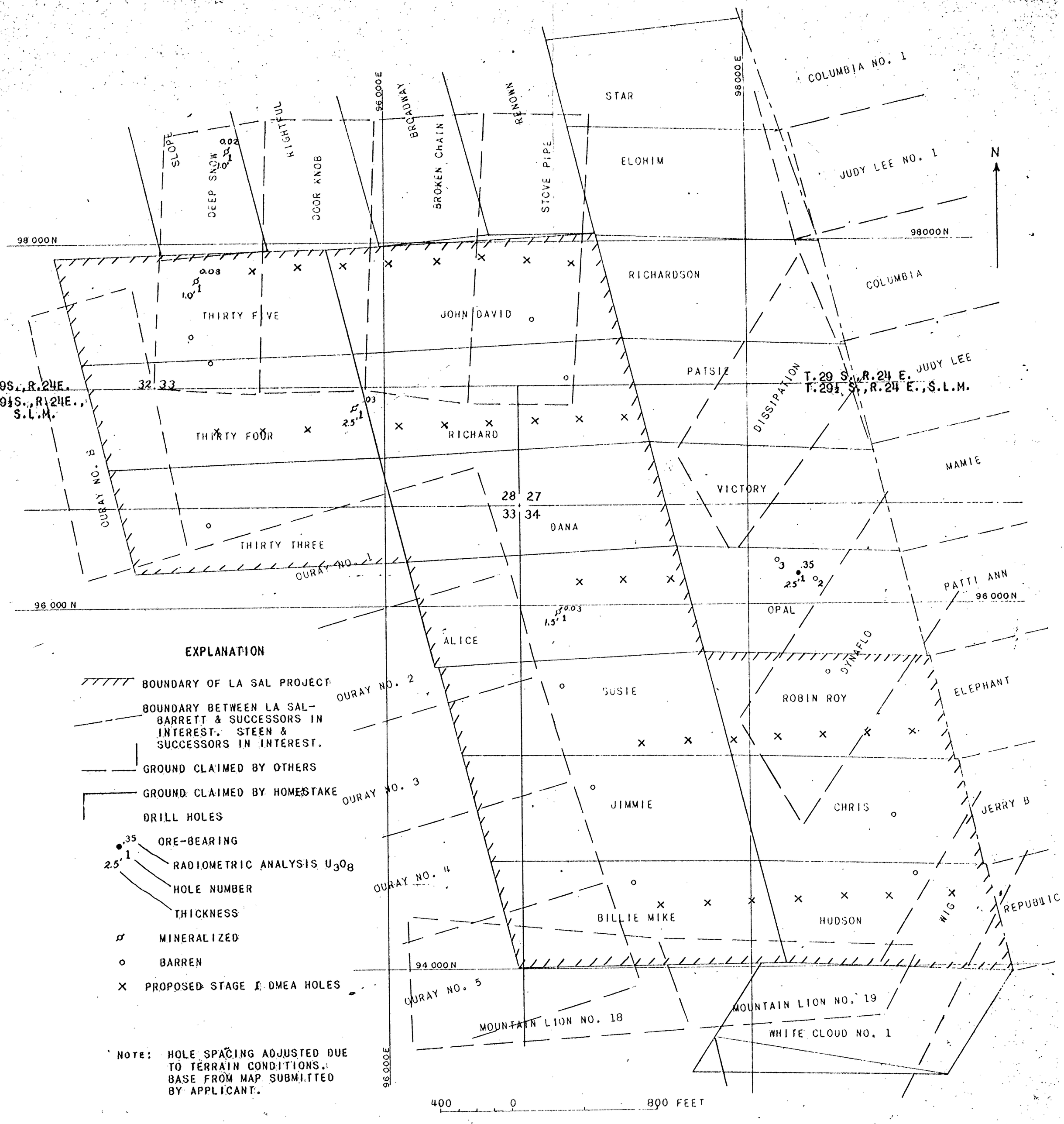
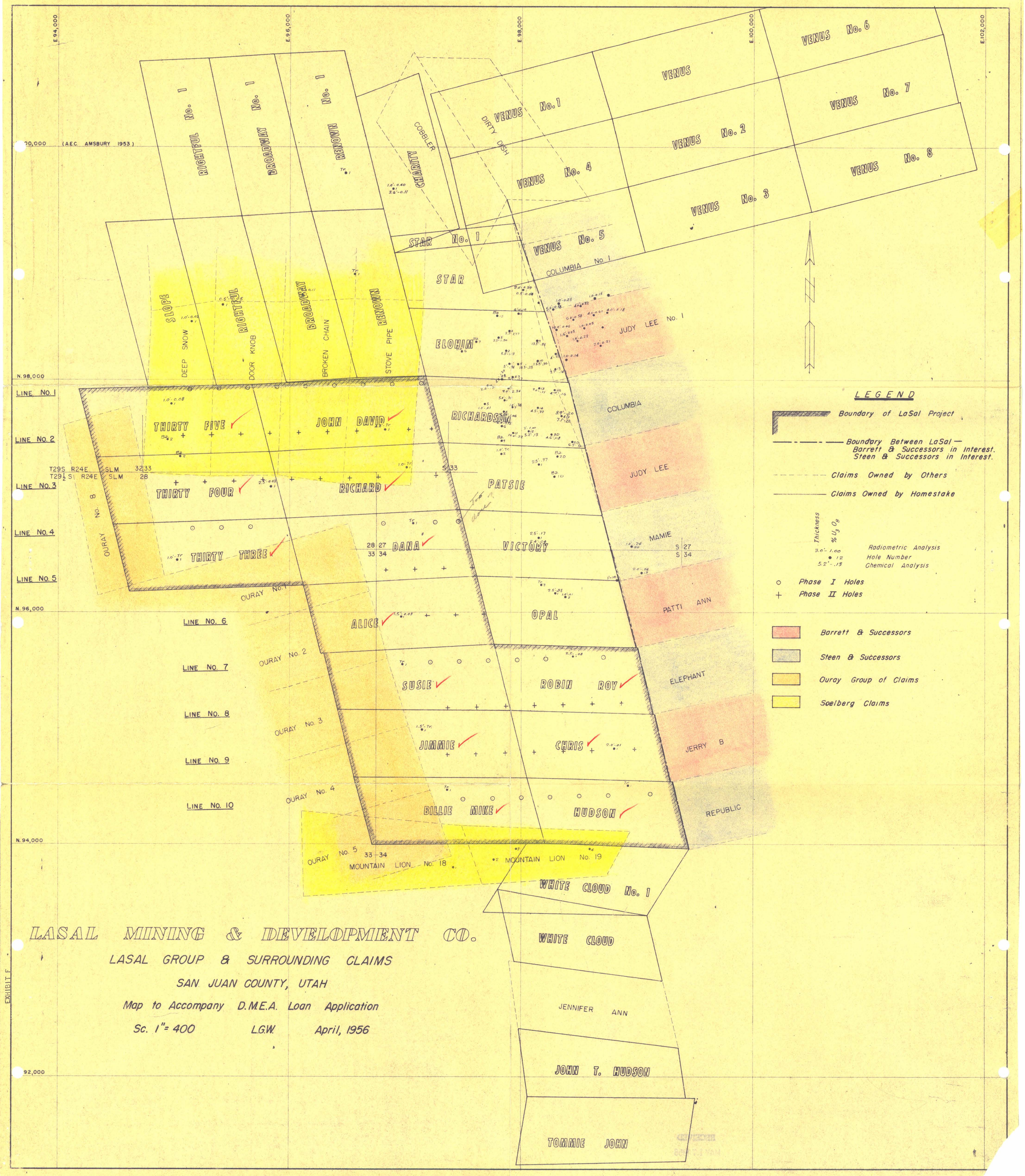


Figure 2.--CLAIM MAP OF LA SAL MINING AND DEVELOPMENT COMPANY DMEA PROJECT 4294 SHOWING PROPOSED STAGE I DRILLING, SAN JUAN COUNTY, UTAH.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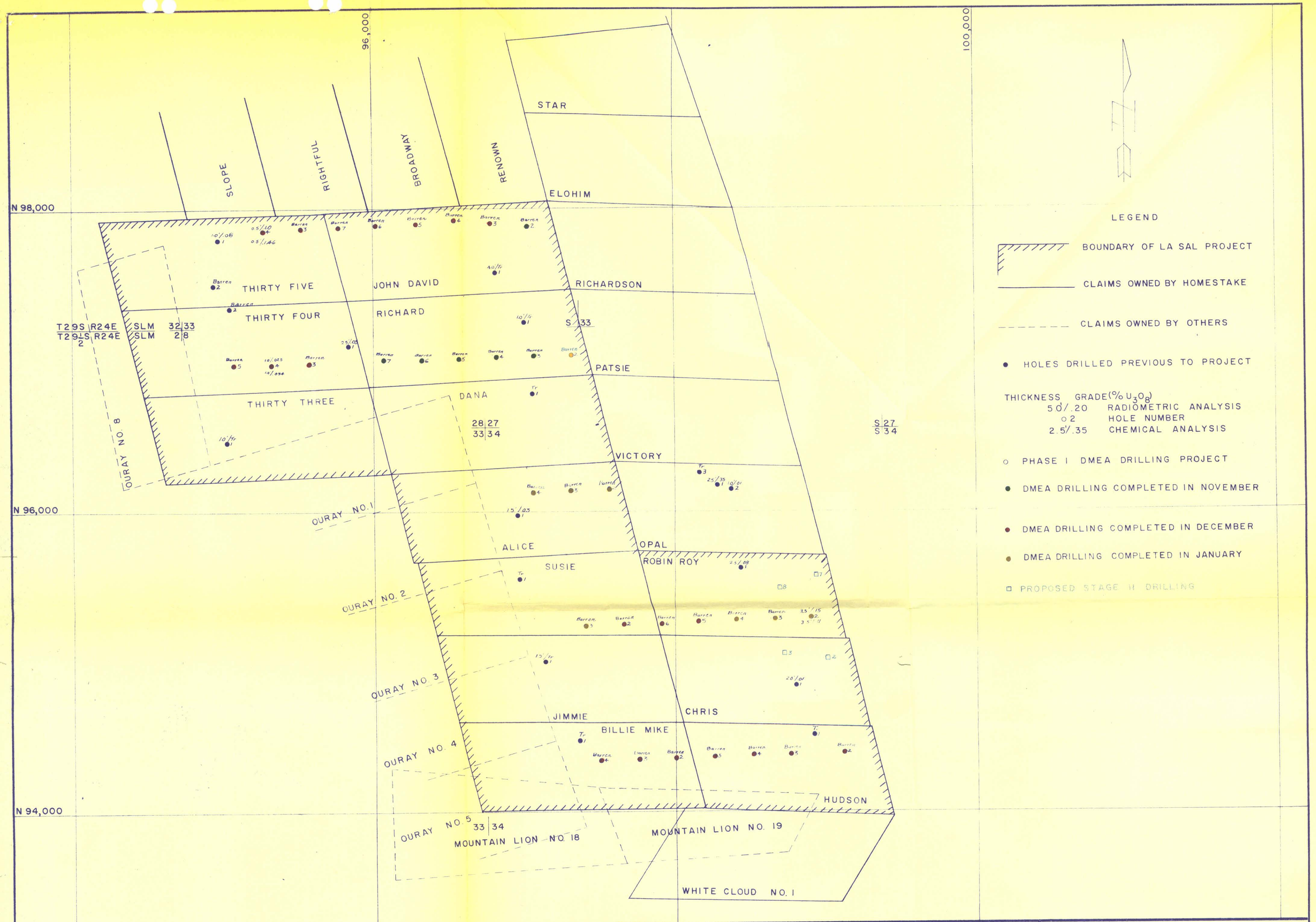
(AEC AMSBURY 1953)
RIGHTFUL No. 1
BROADWAY No. 1
RENOWN No. 1
COBBLER
CHARITY
DIRTY DISH
VENUS No. 1
VENUS No. 2
VENUS No. 3
VENUS No. 4
VENUS No. 5
VENUS No. 6
VENUS No. 7
VENUS No. 8
STAR No. 1
STAR
COLUMBIA No. 1
SLOPE
DEEP SNOW
RIGHTFUL
DOOR KNOB
BROADWAY
BROKEN CHAIN
RENOWN
STOVE PIPE
ELOHIM
JUDY LEE No. 1
COLUMBIA
JUDY LEE
MAMIE
PATTI ANN
ELEPHANT
JERRY B
REPUBLIC
LINE No. 1
LINE No. 2
LINE No. 3
LINE No. 4
LINE No. 5
LINE No. 6
LINE No. 7
LINE No. 8
LINE No. 9
LINE No. 10
T29S R24E SLM 32 33
T29½S R24E SLM 28
THIRTY FIVE
JOHN DAVID
RICHARDSON
THIRTY FOUR
RICHARD
PATSIE
OURAY No. 8
THIRTY THREE
28 27 DANA
33 34
VICTORY
S 27
S 34
OURAY No. 1
ALICE
OPAL
OURAY No. 2
SUSIE
ROBIN ROY
OURAY No. 3
JIMMIE
CHRIS
OURAY No. 4
BILLIE MIKE
HUDSON
OURAY No. 5
33 34
MOUNTAIN LION No. 18
MOUNTAIN LION No. 19
WHITE CLOUD No. 1
WHITE CLOUD
JENNIFER ANN
JOHN T. HUDSON
TOMMIE JOHN
LEGEND
Boundary of LaSal Project
Boundary Between LaSal — Barrett & Successors in Interest. Steen & Successors in Interest.
Claims Owned by Others
Claims Owned by Homestake
Thickness
% U3 O8
3.0'- 1.00 Radiometric Analysis
12 Hole Number
5.2'- .13 Chemical Analysis
Phase I Holes
Phase II Holes
Barrett & Successors
Steen & Successors
Ouray Group of Claims
Soelberg Claims
LASAL MINING & DEVELOPMENT CO.
LASAL GROUP & SURROUNDING CLAIMS
SAN JUAN COUNTY, UTAH
Map to Accompany D.M.E.A. Loan Application
Sc. 1" = 400
L.G.W.
April, 1956
EXHIBIT F



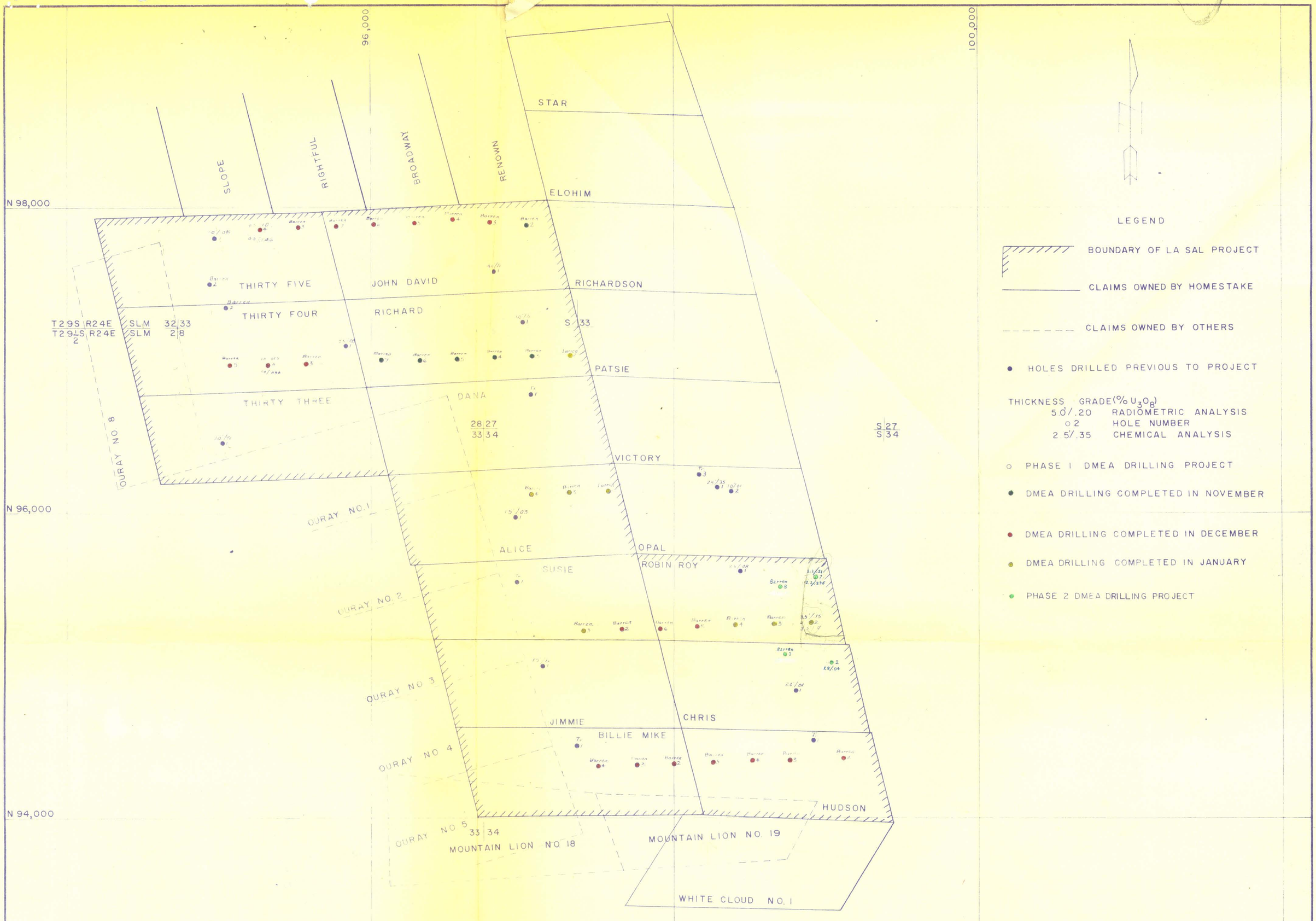
DATE	BY	REVISIONS

[redacted]
[redacted] DEPARTMEMT

DRAWN BY HLS APPROVED
TRACED SCALE 1" = 400'
CHECKED DATE 11-26-56

LA SAL MINING & DEVELOPMENT CO.
DMEA DRILL HOLE LOCATIONS
SAN JUAN COUNTY, UTAH
DWG. NO.

K+E ALBANENE 195L TRACING PAPER



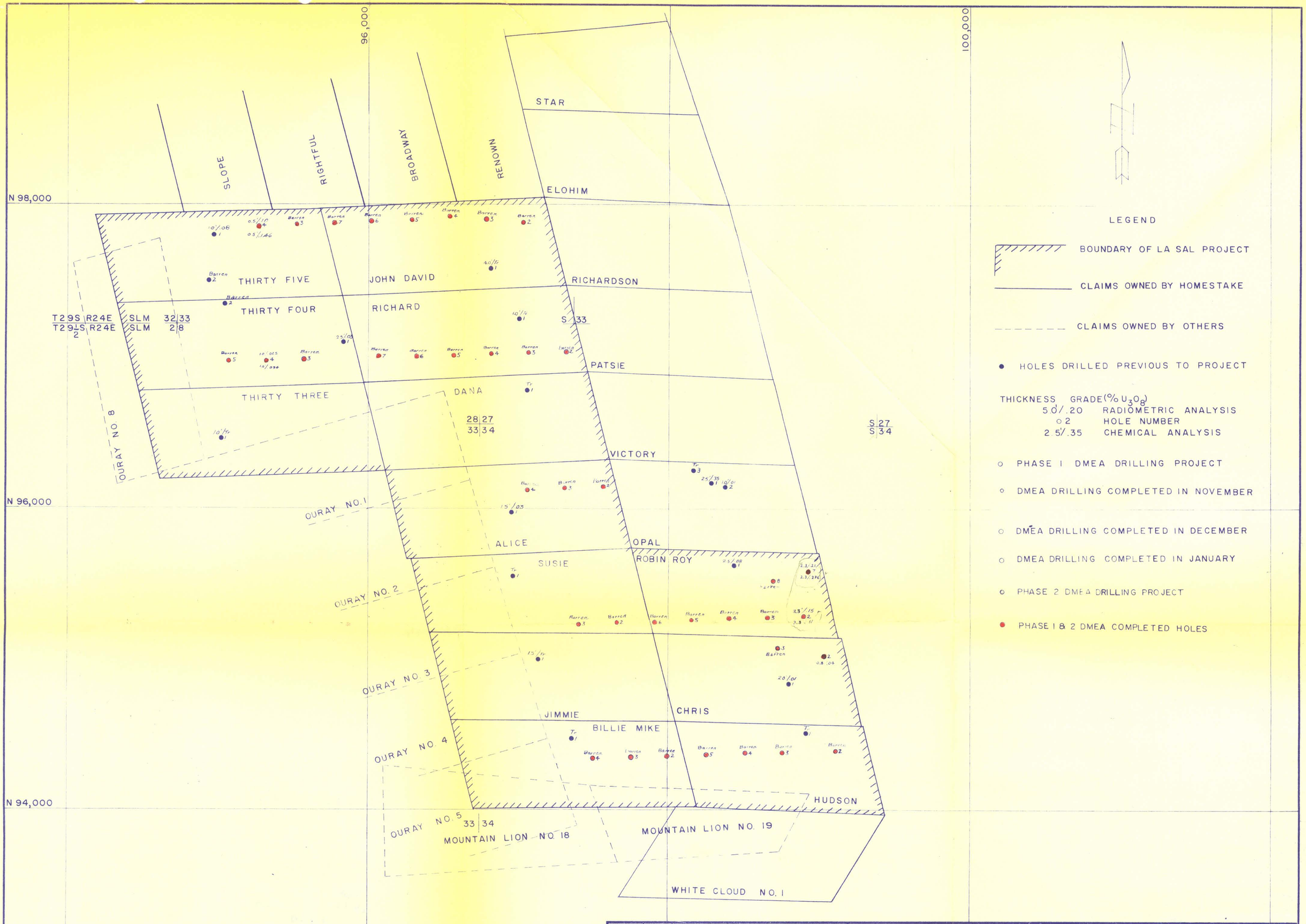
DATE	BY	REVISIONS

[redacted]
DEPARTMEMT

DRAWN BY HLS APPROVED
TRACED SCALE 1" = 400'
CHECKED DATE 11-26-56

LA SAL MINING & DEVELOPMENT CO.
DMEA DRILL HOLE LOCATIONS
SAN JUAN COUNTY, UTAH
DWG. NO.

K+E ALBANENE 196L TRACING PAPER



DATE	BY	REVISIONS

[redacted]
DEPARTMEMT

DRAWN BY HLS APPROVED
TRACED SCALE 1" = 400'
CHECKED DATE 11-26-56

LA SAL MINING & DEVELOPMENT CO.
DMEA DRILL HOLE LOCATIONS
SAN JUAN COUNTY, UTAH

DWG. NO.

K+E ALBANENE 196L TRACING PAPER