DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

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DMA Docket No. 3673

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This document has been recorded as

Exploration

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

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Surname 700

F. L. Knouse
Ellis
Hedges
Newcomb
Selfridge
Johnson

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

MAR 3 - 1955

Mr. Bert C. Austin, President
Idaho-Maryland Mines Corporation
Grass Valley, California

Re: Docket No. DMEA-3673 (Uranium)
Utah State School Lease No. 5950
NW¼ and SE¼ Sec. 16, T-29-S, R-23E.,
S. L. B. & M.
San Juan County, Utah

Dear Mr. Austin:

Your application for aid in an exploration project and other information available to us in Washington relating to the above-named property have been reviewed.

Projects approved by this Agency must, in its judgment, show definite promise of yielding materials of acceptable grade in quantities that will significantly improve the mineral supply position for the National Defense Program.

Careful study of all our information on your property, indicates to us that the probability of disclosing minable ore reserves by your proposed program is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied without prejudice to the property. If future work at your property reveals evidence which could materially alter this opinion, be assured we will be pleased to consider a new application. Information necessary to determine the merits of the proposed project could be obtained by your Company drilling two or more holes through the Moenkopi horizon and furnishing complete geological logs of the holes.

We wish to thank you for your interest in the Defense Minerals program and for bringing your property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

FLKnouse/FEJohnson/am
(2-28-55)
3-2-55

cc to: Admr. Reading File
Operating Committee
Docket
Messrs. J. E. Crawford, Rm. 3641
T. H. Killsgaard, Rm. 5224
J. O. Hosted, Rm. 3210, GSA
Code 700
Mr. Knouse
DMEA Field Team, Region III(2)

R.C.

Surname 700

F L Knouse

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

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FLKnouse
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cc to: Admr. Reading File
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Docket
Messrs. J. L. Crawford, Rm. 8641
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J. O. Hosted, Rm. 3210, GSA
Code 700
Mr. Knouse

DMEA Field Team, Region III(2)

Ellis

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

February 28, 1955

Summary of Proposed Project

Object: Denial of application for an exploration project

Docket No. DMEA-3673

Commodity: Uranium

Applicant: Idaho-Maryland Mines Corporation
Grass Valley, California

Property: NW¼ and SE¼ Sec. 16, T. 29S., R. 23 E., S.L.B. & M.
Utah State School Lease No. 5950

Date of application: January 16, 1955

Amount of application: $36,625.00

Work proposed:

*10,500 feet of drill hole @ $3.25/ft.	$34,125.00
Drill sites and road construction	1,000.00
Geology and engineering	1,500.00
Total estimated cost	$36,625.00

*A total of eight holes were to be drilled to an approximate depth of 1,500 feet on 900 foot centers from the southeast corner of the SE¼ to the northwest corner of the NE¼ Sec. 16. If mineralization or favorable lithology was encountered, additional drilling would be undertaken by the Operator.

Field Team Report: The application was not referred to the Field Team because of the obvious lack of merit in the proposal. When the application was transmitted to the Washington Office, the Executive Officer, DMEA Field Team, Region III, wrote on February 4 as follows:

> "We recommend that this application not be given a docket number but be returned to the Applicant as his proposed work is purely "Wildcat" in nature and consists of drilling eight holes, a total of 10,500 feet of drilling, an average depth per hole of 1,312 feet."

Uranium Commodity Committee comments:

Geological Survey, R. D. Trace, February 15, 1953:

"I concur with Mr. Traver's letter of February 4, and recommend that the application be denied. This project is a complete wildcat."

Bureau of Mines, John E. Crawford, February 16, 1955:

"I have reviewed the attached application . . ., and have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

"We suggest that the application be denied as it represents a prospecting venture. No evidence of uranium mineralization on the property has been mentioned in the report accompanying the application, which is based solely on the geologic favorability of the Western Lisbon Valley area, San Juan County, Utah."

Rare and Miscellaneous Metals Division, F. L. Knouse

This project is designed to explore the ore-bearing horizon in this area (Mossback member of the Chinle formation, underlying the property concerned) by means of drilling eight holes from the surface through this horizon. It is estimated these holes will average about 1,500 deep. Ore bodies in the Big Indian area are large, the Operator's geologist reports. He furthermore states that some are around 200,000 tons and may average 6 feet thick, 500-1500 feet long and 500-1000 feet wide. Applicant's geologist estimates that an ore body in the subject area, to be of economic value, would have to contain 200,000 tons and average 0.35% U_3O_8. There is little evidence which would lend encouragement to expect such a discovery.

The Operator also reports:

"The air-line distance to nearby large operating mines are as follows:

"Six miles northwest of Homestake.

"Seven miles northwest of Cal Uranium

"Nine miles northwest of Utex. (C. Steen)"

There are no reported occurrences of uranium mineralization on the property; neither are there any known nearby occurrences striking towards this property that would justify the proposed program or a modification thereof. A denial letter was written to Operator advising should future work reveals evidence which could materially alter this opinion, we would be pleased to consider a new application.

F. L. Knouse

F. L. Knouse

2/17/55 gla

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 17 1955

February 16, 1955

Memorandum

To: Ernest W. Ellis, DMEA Member
Uranium Commodity Committee

From: Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Docket 3673, Idaho-Maryland Mines Corp., Grass Valley, California

I have reviewed the attached application submitted by the Idaho-Maryland Mines Corporation, DMEA Docket 3673, and have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

We suggest that the application be denied as it represents a prospecting venture. No evidence of uranium mineralization on the property has been mentioned in the report accompanying the application, which is based solely on the geologic favorability of the western Lisbon Valley area, San Juan County, Utah.

John E. Crawford
John E. Crawford

Attachment

Copy to: Branch of Rare and Precious Metals
Division of Minerals
J. O. Hosted (2)
J. E. Crawford

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

February 16, 1955

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Division of Minerals
J. C. Hosted (2)
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UNITED STATES
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BUREAU OF MINES
WASHINGTON 25, D. C.

February 16, 1955

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John E. Crawford

Attachment

Copy to: Branch of Rare and Precious Metals
Division of Minerals
J. O. Hosted (2)
J. E. Crawford

2/16/55 gh

IN REPLY REFER TO:

Defense Minerals Administration
RECEIVED
FEB 15 1955

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

February 15, 1955

Re: DMEA-3673
Idaho - Maryland
Mines Corp.
Near La Sal Junction
San Juan Co., Utah
$36,625 - Uranium

Memorandum

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

From: R. D. Trace, U. S. Geological Survey

Subject: Review of application

I concur with Mr. Traver's letter of February 4, and recommend that the application be denied. This project is a complete wildcat.

Incidentally the State lease and the lease obtained by Idaho Maryland do not seem to be concerned with the same quarter sections.

Bob Trace
R. D. Trace

IN REPLY REFER TO:

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

February 15, 1955

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R. D. Trace

RDTrace:hlm
G-2/15/55

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

IN REPLY REFER TO:

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

February 15, 1955

Re: DMEA-3673
Idaho - Maryland
Mines Corp.
Near La Sal Junction
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G-2/15/55

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

IN REPLY REFER TO:

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

Division of Lands
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FEB 1 5 1955

February 15, 1955

Re: DMEA-3673
Idaho - Maryland
Mines Corp.
Near La Sal Junction
San Juan Co., Utah
$36,625 - Uranium

Memorandum

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R. D. Trace

RDTrace:hlm
G-2/15/55

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

February 9, 1955
Subject: DMEA 3673
Re: Exploration Assistance

Idaho-Maryland Mines Corporation
Grass Valley, California

Gentlemen:

The receipt of your application dated January 16, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA 3673 and referred to the Rare and Miscellaneous Metals Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

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

FEB 7 1955

224 New Customhouse
Denver 2, Colorado

February 4, 1955

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Application of Idaho-Maryland Mines Corp., NW$\frac{1}{4}$ and SE$\frac{1}{4}$ Sec. 16, T-29-S, R-23-E, San Juan County, Utah, (Uranium)

Enclosed are four copies of the subject application in the amount of $36,625.00.

We recommend that this application not be given a docket number but be returned to the applicant as his proposed work is purely "Wildcat" in nature and consists of drilling eight holes, a total of 10,500 feet of drilling, an average depth per hole of 1,312 feet.

W. M. Traver

Enclosures

HMC:pw

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

Defense Minerals Administration
RECEIVED
FEB - 7 1955

Date Rec'd, JAN 28 1955
BUREAU OF MINES
Denver, Colorado

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

Not to be filled in by applicant

Docket No. 3673
Metal or Mineral Uranium
Date Received 2-7-55
Estimated Cost $36,625
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: Idaho-Maryland Mines Corporation
Grass Valley, California.

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

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

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

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

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

See attached

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

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

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

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

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

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

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

See attached

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

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

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

16—66551-1

See attached

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

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

(*c*) The work will start within 60 days and be completed within 6 months from the date of an exploration project contract.

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

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

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

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

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

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

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

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

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

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

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated January 16, 1955., 195__

IDAHO-MARYLAND MINES CORPORATION
(Applicant)

By [signature]
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

GEOLOGIC REPORT ON THE STATE LEASES
HELD BY IDAHO-MARYLAND MINES CORPORATION

T. 29 S., R. 26 E., the NW ¼ and the SE ¼ of section 16
S.L.B. & M.

By

RICHARD A. TEICHMAN JR.
CONSULTING GEOLOGIST
Moab, Utah

January, 1955

IDAHO-MARYLAND MINES CORPORATION
Grass Valley, California

Form
MF-103

UNITED STATES DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

1. NAME OF APPLICANT

(a.) Idaho-Maryland Mines Corporation

Grass Valley, California

(b.) A Corporation; incorporated in the State of Nevada.

(c.) Mr. Bert C. Austin, President

983 Mills Bldg.,

San Francisco, California.

—

Mr. Grandville Borden

Standard Oil Bldg.,

San Francisco, California.

—

Mr. Charles Allen

Idaho-Maryland Mine

Grass Valley, California.

—

(d.) Not applicable

3. APPLICANTS PROPERTY RIGHTS

(a.) The land for which the exploration project is proposed was obtained under contract from S.G. Sargis and J. K. Hayes of Salt Lake City, Utah. The property

is a Utah State School Lease and is held by a Mr. Sargis and a Mr. Hayes under mineral Lease No. 5950, which is dated 5 February 1954. A copy of the contract is attached to this application.

(b.) None

(c.) Lessee under contract; see attached documents.

(d.) See attached documents

(e.) The properties under consideration are Utah State School Leases and as such are subject to a 12½ % royalty in addition to being subject to the terms of the attached contract.

(f.) Not applicable

4. PHYSICAL DESCRIPTION

(a.) Not applicable except for geologic study

(b.) None

(c.) See attached geologic report

(d.) See attachedggeologic report

(e.) All supplies and equipment are available from either Moab or Monticello, Utah.

5. THE EXPLORATION PROJECT

(a.) Uranium

(b.) The proposed program will be an exploratory drilling program on the properties previously described. Reference to the enclosed drill hole map will show the relationship of the proposed drill holes to the property boundary lines.

Idaho-Maryland Mines Corporation
Grass Valley, California.

Form
MF-103

Land Office of the Interior
Bureau of Land Management
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FEB 7 1955

(c.) The drilling program will commence as soon as approval is received, and will be completed within 5 months.

(d.) Experienced uranium geologists will be employed to direct the drilling program.

6. ESTIMATE OF COSTS

(a.) Total estimated project footage is 10,500 feet, for which an overall bid of $ 3.25 per foot has been received.

Total drilling cost	$ 34,125.00
Drill site and road construction	$ 1,000.00
Geology and Engineering	$ 1,500.00
TOTAL PROJECT COST	$ 36,625.00

(b-h) See above

7. (a.) Yes

(b.) Money

CERTIFICATION

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

Dated.....

By_____
Title_____

RICHARD A. TEICHMAN
Consulting Geologist
520 Hall Ave.
Grand Junction, Colorado

RECEIVED
FEB 7 1955

(Mine Examination

Property Evaluation

January, 1955

Idaho-Maryland Mines Corporation
983 Mills Building,
San Francisco, California

Gentlemen:

I have prepared and submit herewith the geologic report which you requested covering your state lease, Township 29 south, Range 2~~6~~3 east, the northwest ¼ and the southeast ¼ of section 16, in the western Lisbon Valley area.

Pursuant to your instructions, I have included recommendations for further development.

Sincerely,

RICHARD A. TEICHMAN JR.
Geologist

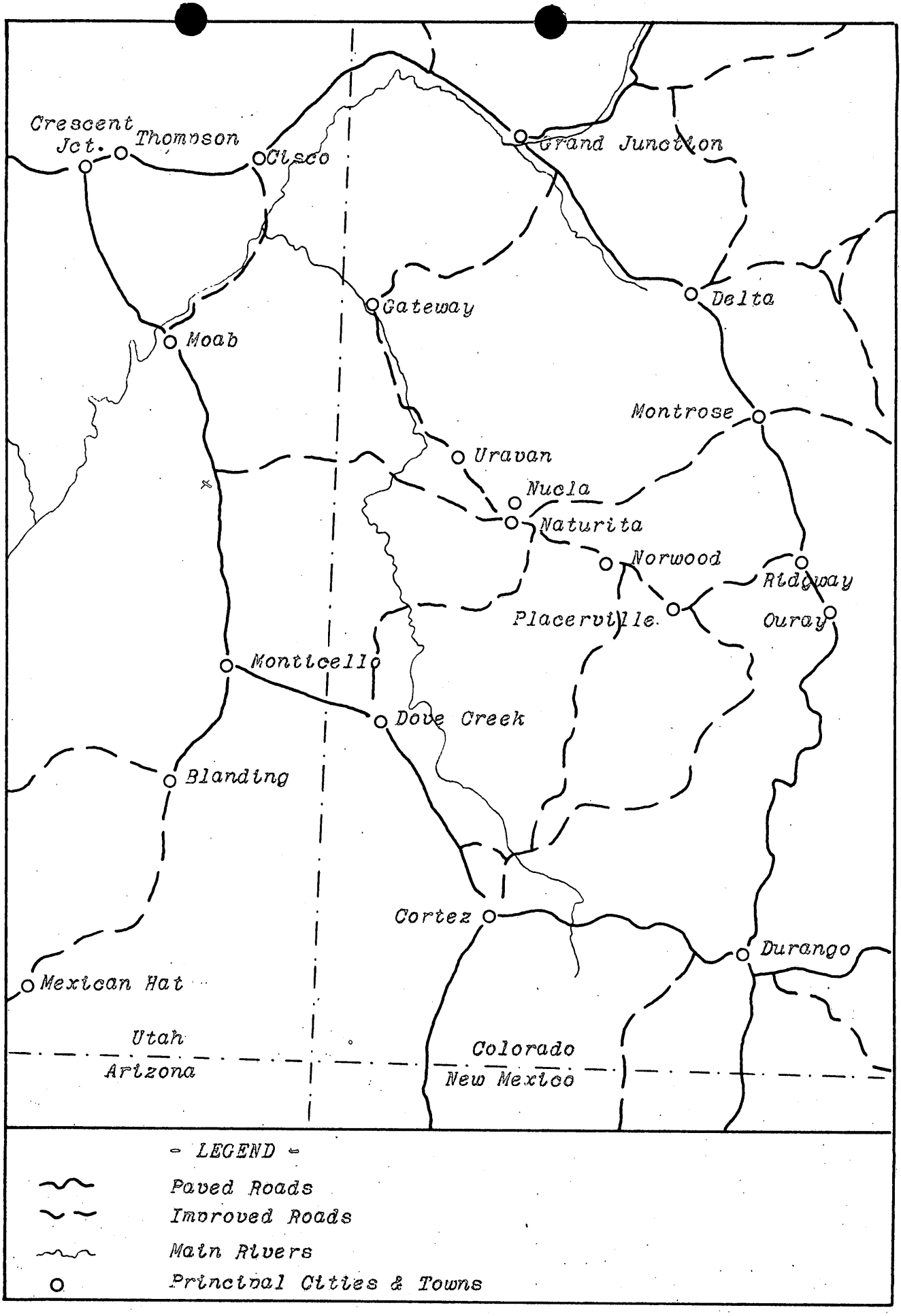

FIGURE - - INDEX MAP, COLORADO PLATEAU AREA

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General Geography	1
Lithology and Stratigraphy	4
Tectonic Structures	6
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Economic Geology	7
Observations	8
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Minerals Administration
RECEIVED
FEB 27 1955

INTRODUCTION

During the month of December, 1954 a geologic reconnaissance of the northwest ¼ and the southeast ¼ of section 16, Township 29 south, Range 23 east, was undertaken tomdetermine the uranium and vanadium possibilities of this section.

The author determined that although the drilling depths would be great the section was favorably located both geologically and geographically, and although the risk is high, the chances of return are comensurate with the risk.

In the following report the geology of section 16, and the surrounding areas are described, and the opinions of the author conclude the report - based on the known facts and the inferences of the various geologists who have worked, and are working, in the area.

GENERAL GEOGRAPHY

Township 29 south, Range 2~~6~~3 east, the northwest ¼ and the southeast ¼ of section 16, is located in San Juan County, State of Utah. The area is easily reached by automobile by traveling to La Sal Junction on U.S. Highway 160, 24 miles south of Moab, Utah; thence

continuing south on Highway 160 for approximately two miles where a large mesa is viewed to the southwest of the highway. This mesa occupies most of the eastern half of section 16. The northwest corner of section 16 may bereached by turning southwest off the highway on a dirt road, which is opposite the southernmost turn-off to La Sal. (The La Sal Junction turn-off is Utah State Highway 46.) The airline distance from La Sal Junction to the northeast corner of section 16 is approximately 3 miles south 30° west.

The airline distances to nearby large operating mines are as follows:

Six miles northwest of Homestake.

Seven miles northwest of Cal Uranium.

Nine miles northwest of Utex. (C. Steen)

Section 16 is in the west Big Indian Mining District. The elevation of the area to the east is from 6,400 to 7,100 feet above sea level. This area contains the Lisbon Valley anticline and it's accompanying cuestas are the dominant topographic features. The anticline begins a few miles southwest of the town of La Sal, San Juan County, Utah; and extends to the southeast for about 15 miles.

The major land forms are two east facing cuestas. The cuestas were formed due to faulting of the anticline. The western most cuesta is capped by Wingate beds, and

erosion is mostly along the dip slope. The second cuesta is about one mile to the northeast across a subsequent valley which is filled by alluvium. This cuesta is capped with Hermosa beds.

The Lisbon Valley proper is formed by the Lisbon Valley Fault. The greatest displacement along the fault is manifested by the Dakota sandstone of Cretaceous age and the Hermosa limestone of Pennsylvanian age being at the same stratigraphic level.

The average elevation of the section herein discussed is about 6,000 feet above sea level. The eastern half of the section is almost entirely covered by a large mesa made up of the Entrada and Summerville formations with a negligible thickness of lower Morrison on top.

A dendritic pattern of intermittent streams radiates from this mesa. The stream pattern eventually gives rise to moderate size canyons outside of the section. The canyons are floored by Navajo sandstone for the most part.

The area around the mesa, and throughout the section, has a thin covering alluvium.

The climate throughout the area is semi-arid to arid in nature. The rainfall probably averages about ten inches annually. The rainfall is typical of arid areas and usually comes as cloudbursts in the late summer and early fall. These seasonal rains occasionally make the roads impassable, but working conditions are usually excellent throughout the year.

The vegetation consist of juniper, sage, and cactus.

LITHOLOGY AND STRATIGRAPHY

The rocks exposed in the northwest ¼ and the south east ¼ of section 16, Township 29 south, Range 23 east are; the Entrada formation, the Summerville formation, and the lower few feet of the Morrison formation.

The target formation is the Mossback sandstone member of the Chinle formation of Triassic age. The following is a typical stratigraphic column, with lithologic descriptions, of what would be expected in a drill hole on the property.

In the Lisbon Valley area the Cutler formation of Permian age underlies theChinle formation. It is made up of purple to red arkosic sand, silt, and mudstones. It is approximately 900 feet in thickness.

The Moenkopi formation probably underlies the Mossback member of the Chinle formation in this area.

It does not in the Big Indian Wash area. The Moenkopi formation consists mainly of reddish-brown silt and mudstones. Ripple marks are quite common in the formation. The thickness of the Moenkopi is unknown to the author, but it is probably quite thin since it is nonexsistent to the east.

The ore bearing horizon in the area is the Mossback member of the Chinle formation. This member ranges up to 150 feet in thickness. It is a gray to gray-green sandstone, with arkosic lenses, and lenses of limestone pebble conglomerate. The average grain size of the sand is fine to medium. The sand contains much pyrite, carbon, and feldspar.

The Chinle formation is approximately 350 feet thick and consists of interbedded red and green shales, small sandstone beds which are gray-green in color, and conglomeratic beds at the base.

The Wingate sandstone is approximately 350 feet thick. It is a gray to buff, massive sand, medium grained and chiefly eolian in origin. The Wingate is nowmconsidered upper Triassic in age.

The Kayenta sandstone is early Jurassic in age. It is a fluvial deposit displaying a light purple to light red color, medium grained. The fluvial sands are interbedded with red mudstones. The unit is about 250 thick.

The Navajo sandstone of early Jurassic age is approximately 180 feet thick in this area. It is a windblown sandstone, medium grained, light gray to white in color, with spectacular cross bedding.

The Carmel formation is upper Jurassic in age and is approximately sixty feet thick. It consists of red, sandstones, siltstones, and mudstones. The bedding is usually contorted and gives a "blocky" appearance.

The Entrada sandstone, and possibly the Moab sandstone member of the Entrada formation, is approximately 325 feet thick. The sand is light gray to white, massive, and medium grained.

The Summerville formation of upper Jurassic age is approximately 75 feet thick. It is composed of alternating red siltstones, mudstones, and sandstones. It is a continental type deposit.

TECTONIC STRUCTURES

Section 16 lies on the western flanks of the Lisvon Valley anticline. The dip flattens here to about $1\frac{1}{2}^{\circ}$ to the southwest. About two miles to the southwest there is a structual depression with two prominent lows to the southeast and southwest. About 16 miles west-southwest lies the Gibson dome. About 15 miles west-northwest lies the Lockhart syncline.

There are no prominent faults in the area. The Lisbon valley fault, to the east, is the largest major fault in the vicinity.

A study of aerial photographs of the section was undertaken. No prominent fracturing was observed from the photos, but the geometrical configuration of the mesa suggest fracture control. More than likely a fracture system exsists at depth in the less competent beds; this owuld be a transverse system due to the uplift and stresses of the Lisbon Valley anticline. A conjugate system could be possible by stresses transmitted from the nearby structual depression, synclines, and anticlines.

SEDIMENTARY STRUCTURES

In Lisbon Valley, the Chinle formation lies unconformably on the Cutler formation. The average dip of the Cutler beds being 10-16°. The Chinle dips appproximately 8° to the west, and shows thickening over the crest of the anticline, and thinning of the beds on the flanks; whereas the Cutler formation is arched more steeply than the Chinle formation.

ECONOMIC GEOLOGY

The orebodies in the Mossback member of the Chinle formation occur within a few feet of, or on the contact between the Permian Cutler formation and the Mossback. There is a noticeable thickening of the Mossback sandstone in the ore areas, and the beds have a noticeably short lateral dimension in conjunction with the vertical thickening. This suggests deposition controlled by paleo-

stream channels of the Shinarump conglomerate type. Primary structures include ripple marks, current lineation, and intraformational unconformities. These sedimentary structures suggest a deposition from the southeast, and there is a definite northwest-southeast alignment of orebodies in the area.

The orebodies seem to cluster over arkosic lenses in the Cutler formation, and occassionaly the mineralization extends from the Mossback sandstone into the arkosic lenses of the underlying Cutler formation.

The ore in the Big Indian wash area is principally disseminated uraninite confined to closely spaced horizons within the base of the Mossback. The ore averages six feet in thickness but locally it reaches thirty feet in thickness. The host rock consists of a gray to gray-green poorly cemented sandstone. The grain size is fine to medium. The ore horizons are usually seperated by one or two feet of barren mud and siltstone. The sandstone containspyrite, marcasite, muscovite, and carbon, along with the quartz and feldspar. The common cementing material is calcite, at times the lime content runs as high as 12%.

OBSERVATIONS

The ore occurences in the area are considered by some to be syngenetic, others consider them epigenetic. Whatevere the type of deposition, favorable criteria is easily recognizable in drill cores.

The orebodies in the Big Indian area are large, around 200,000 tons. The average dimensions are; six feet in thickness, 500-1,500 feet long, and 500 - 1,000 feet wide. The orientation of the bodies is to the northwest. The average grade of the orebodies is 0.35% U_3O_8, in the northern area there is no vanadium, in the southern (Steen, Continental, etc.) the orebodies average from 1-1½% V_2O_5. The CA CO_3 in the ores is rather high, around 10%.

An orebody in the area of section sixteen, to be economic, would have to be ofthe average 200,000 ton variety, with the grade around 0.35% U_3O_8. No vanadium is anticipated.

The Mossback member of the Chinle formation undoubtedly occurs beneath the suraface in section sixteen, at a depth of approximately 1,500 feet. It is, of course, next to impossible to ascertain the odds of finding an orebody beneath such a thick cover by surface observations. If annorebody is found in the Mossback in this section it would more than likely be economic and it would prove or disprove the potentialities of the entire area. Structually and geographically section 16 is well located. There is no reason to believe that there is no ore beneath the section, for, as everyone realizes ore is not restricted to shallow cover. The capital risk is high, the odds are fair, and the return isbgreat.

RECOMMENDATIONS

In undertaking a drilling program in NW¼ and SE¼ of Section 16, T. 29 S., R. 23 E., SLPM., the following drilling plan is proposed:

1. Drilling should be undertaken on 1,900 foot centers in each of the above listed quarter sections. A total of 4 holes would be drilled in each quarter . If mineralization of favorable lithology is encountered further drilling will be undertaken by the Idaho-Maryland Mines Corporation .

2. If mineralization is encountered additional drilling will be undertaken on a geometric grid to further develop favorable ground.

3. Average depth of hole will be 1,500 feet.

Proof Read

LET

MINERAL LEASE NO. 5950

UTAH STATE LEASE

FOR

APPLICATION NO. 4162

GRANT: School

URANIUM AND VANADIUM

THIS INDENTURE OF LEASE AND AGREEMENT entered into in duplicate this 5th day of February 1954, by and between the State Land Board, acting in behalf of the State of Utah, hereinafter called the Lessor, and

S. G. Sargis and John K. Hayes

party of the second part, hereinafter called the Lessee, under and pursuant to Title 65, Utah Code Annotated, 1953.

WITNESSETH: That the Lessor, in consideration of the rents and royalties to be paid and the covenants to be observed by the Lessee, as hereinafter set forth, does hereby grant and lease to the Lessee the exclusive right and privilege to mine, remove, and dispose of all of the said minerals in, upon, or under the following described tract of land situated in San Juan county, State of Utah, to-wit:

Southwest Quarter (SW¼) & the Northeast Quarter (NE¼)

All of Section Sixteen (16), Township Twenty-Nine (29) South, Range Twenty-Three (23) East, Salt Lake Meridian,

containing a total of 320.00 acres, more or less, together with the right to use and occupy so much of the surface of said land as may be required for all purposes reasonably incident to the mining, removal, and disposal of said minerals, according to the provisions of this lease, for a period of ten years, beginning January 2nd, first succeeding the date of issuance hereof, and as long thereafter as said minerals may be produced in commercial quantities from said lands, upon condition that at the end of each twenty (20) year period succeeding the first day of the year in which this lease is issued, such re-adjustment of terms and conditions may be made as the Lessor may determine to be necessary in the interest of the State.

ARTICLE I

It is expressly understood and agreed that this lease is granted subject in all respects to and under the conditions of the laws of the State of Utah and existing Rules and Regulations or Rules and Regulations as may be hereafter approved and adopted by the State Land Board.

ARTICLE II

It is further expressly understood and agreed that this lease covers only the mining, removal, and disposal of the minerals specified in this lease, but the Lessee shall promptly notify the Lessor of the discovery of any minerals excepting those enumerated herein.

ARTICLE III

The Lessee in consideration of the granting of the rights and privileges aforesaid, hereby covenants and agrees as follows:

FIRST: To pay to the Lessor as rental for the land covered by this lease the sum of Fifty (50) Cents per acre per annum. All such annual payments of rental to be made in advance on the 2nd day of January of each year, except the rental for the year in which this lease is issued, which is payable on the execution of this lease, such rental to be credited against the royalties as they accrue for the year.

SECOND: To pay a royalty of 12½% of the gross amount received for or the gross value of the leased substances, including the State's royalty share of any bonus received by the Lessee from the sale of the leased substances. The basis for computing the amount due to the Lessor shall be as follows:

(a) If the leased substance extracted are sold under a bonafide contract of sale the amount of money or its equivalent actually received by the owner, Lessee, or other person operating the leased premises from the sale of the leased substances less a reasonable cost, if any, of transporting the leased substances from the place where extracted to the place where under the contract of sale, the leased substances are to be delivered.

(b) If the leased substances extracted are treated at a mill, smelter, processing plant, or reduction works which receives the leased substances from independent sources and which is owned or controlled by the same interests owning or controlling the mine, such disposal shall be treated as a sale within the meaning of this section for the purpose of determining gross proceeds or otherwise, and in such determination a rate or charge for sampling, assaying, milling, smelting, or refining the leased substances therefrom shall be deducted which shall not exceed an amount to be determined by applying the same rates as are applied by such mill, smelter, or reduction works or competing works, and ores of substantially like character and in like quantities received from independent sources. In the event of controversy the Lessor shall have the power to determine such rates and charges. Transportation charges may also be deducted as provided in sub-division (a) hereof.

(c) If a mill or other reduction works is operated exclusively in connection with a mine such mill or reduction works shall be treated as a part of the mine and the cost of operating such mill or reduction works shall, for the purpose of fixing the royalty imposed by this lease, be regarded as part of the cost of mining, and the cost of assaying, sampling, smelting, refining, and transportation only shall be deducted as herein provided.

7/2/54: Bd. appd. assignment of the NW¼ and SE¼ of Sec. 16, T. 29S., R. 23E, 320 acres to Idaho Maryland Mines Corp. by Sorensen, Green, Lentz, McKinney, Sargis, Hayes

THIRD: Said royalties to be paid quarterly on or before the 15th day of the month next succeeding the quarter in which the material is produced.

FOURTH: To prepare and forward to the State Land Office, on or before the 15th day of the month next succeeding the quarter in which the material is produced, a certified statement as to the production, market, and price received on all of the leased substances disposed of from said lands, and such other additional information as the State Land Board may from time to time require.

FIFTH: That at the option of the Lessor it may require the payment of royalties in kind, F.O.B., at the lease-site; the amount being 12½% of the leased substances extracted.

SIXTH: To commence actual operations upon the land included herein on or before and there after to diligently operate the property in accordance with the provisions contained in this lease. Failure to so continue the operation of the land included herein for a period of more than six (6) months without prior written approval of the State Land Board shall be cause for forfeiture, and that upon the violation of this provision or any of the other terms of this lease the Lessor may at its option after thirty (30) days notice by registered mail cancel this lease. After the expiration of the said thirty (30) days and the cancellation of the lease no notice of such cancellation need be given the Lessee.

SEVENTH: To keep at the mine office clear, accurate and detailed maps on tracing cloth, on a scale not more than 50 feet to the inch, of the workings in each section of the leased lands and on the lands adjacent, and to be so arranged with reference to a public land corner that the maps can be readily and correctly superimposed, and to furnish to the Lessor annually, or upon demand, certified copies of such maps and such written statements of operations as may be called for. All surveys shall be made by a licensed engineer and all maps certified to by him.

EIGHTH: To not at any time fence any watering place upon the lands leased where the same is the only accessible and feasible source of water incident to the lands leased. Nor shall the Lessee or assigns at any time permit or contribute to the pollution of any surface or subsurface water available, naturally or otherwise, for domestic or irrigation use.

NINTH: To not sell, assign, mortgage, pledge, hypothicate, or otherwise transfer or incumber this lease or any intetrest therein, nor sublet any portion of the leased premises, or any of the rights and privileges herein granted, without the writtten consent of the Lessor being first had and obtained.

ARTICLE IV

The Lessor hereby excepts and reserves from the operation of this lease:

FIRST: The right to permit for joint or several use such easements or rights-of-way upon, through, or in the land hereby leased as may be necessary or appropriate to the working of these or other lands belonging to or administrated by the Lessor containing mineral deposits or for other use.

SECOND: The right to use, lease, sell, or otherwise dispose of the surface of said lands or any part thereof, under existing State Laws or Laws hereafter enacted, insofar as said surface is not necessary for the use of the Lessee in the mining, removal, or disposal of the leased substances therein, and to lease other mineral deposits, excepting those enumerated herein which may be contained in said lands.

ARTICLE V

Upon cancellation of this lease for any cause herein the Lessee shall be entitled to remove from the lease holdings only personal property prior to complete fulfillment of the provisions of this lease, and that improvements attached to the land such as buildings, timbering, or other construction or construction material in place, shall remain undisturbed upon the ground and the property surrendered in good usable condition.

ARTICLE VI

It is mutually understood and agreed that it shall be the responsibility of the Lessee to slope the sides of all operations of a surface nature to an angle of not less than 45° or to erect a barrier around such operation as the State Land Board may require. Such sloping or fencing shall become a normal part of the operation of the lease so as to keep pace with such operation to the extent that such operation shall not constitute a hazard.

ARTICLE VII

It is mutually understood and agreed by the parties hereto that all of the terms, covenants, conditions, and obligations in this lease contained, shall be binding upon the heirs, executors, administrators, and assigns of the Lessee.

ARTICLE VIII

It is mutually understood and agreed that the Lessee may terminate this lease at any time upon giving three (3) months notice in writing to the Lessor and upon payment of all rents and royalties and other sums due and payable to the Lessor, and upon complying with the terms of this lease with respect to the preservation of the workings in such order and condition as to permit of the continued operation of the leased premises.

ARTICLE IX

It is mutually understood and agreed by and between the parties hereto that the Lessor, its officers and agents, shall have the right at all times to go in and upon the leased lands and premises, during the term of said lease to inspect the work done and the progress thereof on said lands and the products obtained therefrom, and to post any notices on the said lands that it may deem fit and proper; and also shall permit any authorized representatives of the Lessor to examine all books and records pertaining to operations under this lease, and to make copies of and extracts from the same, if desired.

ARTICLE X

It is mutually understood and agreed that this lease is issued only under such title as the State of Utah may now hold, the Lessor shall not be liable for any damages sustained by the Lessee, nor shall the Lessee be entitled to or claim any refund of rentals or royalties or other monies theretofore paid to the Lessor.

ARTICLE XI

LESSEE agrees to observe faithfully the provisions of Title 65, Chapter 1, Section 18, Utah Code Annotated 1953.

IN WITNESS WHEREOF, the parties have hereunto subscribed their names the day and year first above written.

APPROVED AS TO FORM:
E. R. CALLISTER
Attorney General
By: /s/ Robert H. Ruggeri

STATE OF UTAH, STATE LAND BOARD

By /s/ A. N. Smith
EXECUTIVE SECRETARY LESSOR

/s/ John K. Hayes

/s/ S. G. Sargis

LESSEE

STATE OF UTAH
COUNTY OF SALT LAKE } ss.

On the 13 day of April 1954, personally appeared before me A. N. Smith who being by me duly sworn did say that he is the Executive Secretary of the State Land Board of the State of Utah and that said instrument was signed in behalf of said Board by resolution of the Board, and said A. N. Smith acknowledged to me that said Board executed the same in behalf of the State of Utah.

Given under my hand and seal this 13 day of April 1954

My commission Expires: October 13, 1956

/s/ Ruth Sperry
Notary Public, residing at: Salt Lake City, Utah

(SEAL)

STATE OF UTAH
COUNTY OF Utah } ss.

On the 6th day of April 1954, personally appeared before me John K. Hayes and S. G. Sargis the signer of the above instrument, who duly acknowledged to me that they executed the same.

Given under my hand and seal this 6th day of April 1954

My commission Expires: Aug. 16, 1956

/s/ Allen B. Sorensen
Notary Public, residing at: Provo, Utah

(SEAL)

STATE OF UTAH
COUNTY OF } ss.

On the day of 19 , personally appeared before me

who being by me duly sworn did say that he is an officer of and that said instrument was signed in behalf of said corporation by resolution of its Board of Directors, and said acknowledged to me that said corporation executed the same.

Given under my hand and seal this day of 19

My commission Expires:

Notary Public, residing at:

STATE OF UTAH)
: ss.
County of Utah)

I, Dallas H. Young, Notary Public in and for the State of Utah, certify over my official seal that I have examined the foregoing instrument and the original executed copy thereof, and that the foregoing is an exact copy in all respects of the original executed copy.

Dallas H. Young
Notary Public
Residing at: Provo, Utah

My Commission Expires:
February 16, 1958

A G R E E M E N T

THIS AGREEMENT, made and entered into as of June 22, 1954, by andbetween ALLEN B. SORENSEN, SHERWOOD GREEN, LYON McKINNEY, A. E. LENTZ, SAMSON G. SARGIS, JOHN KEITH HAYES (a copartnership), hereinafter called "Lessors", and IDAHO MARYLAND MINES CORPORATION, a corporation organized and existing under the laws of the State of Nevada and hereinafter called "Idaho Maryland",

W I T N E S S E T H:

In consideration of the sum of One Dollar ($1.00) in hand paid by Idaho Maryland to Lessors, the receipt of which is hereby acknowledged, and in consideration of the agreements of Idaho Maryland herein contained, Lessors hereby assign, transfer and convey to Idaho Maryland all of their right, title and interest in the lease from the State of Utah numbered 5952 (a copy of which is attached hereto and marked Exhibit "A"), all of their right, title and interest in these portions of the leases from the State of Utah numbered 5950 and 5953 (copies of which are attached hereto and marked Exhibits "B" and "C", respectively), covering the lands described as Parcel 1 and Parcel 3 herein, and all of their right, title and interest in and to the following described lands in San Juan County, State of Utah, to wit:

Parcel 1

NW 1/4 and SE 1/4 of Sec. 16, T 29 S R 23 E, S. L. B. & M. containing 320 acres, more or less, and being a portion of the land let to Lessors by the State of Utah under the lease numbered 5950 (Exhibit "B" hereto).

Parcel 2

Sec. 16, T 32S R 26 E, S. L. B. & M., containing 640 acres, more or less, and being all of the land let to Lessors by the State of Utah under the lease numbered 5952 (Exhibit "A" hereto).

Parcel 3

N 1/2 of S 1/2 and SW 1/4 of NW 1/4 of Sec. 2, T 23 S R 22 E, S. L. B. & M., containing 205 acres, more or less, and being a portion of the land let to Lessors by the State of Utah under the lease numbered 5953 (Exhibit "C" hereto).

Lessors and Idaho Maryland mutually agree as follows:

1. Lessors agree to apply to the State of Utah for the consent of the State of Utah to the assignments of said leases (and the interests therein assigned as herein provided) to Idaho Maryland, and such consent shall be a condition precedent to any liability of Idaho Maryland hereunder.

2. Idaho Maryland will pay all rentals and royalties accruing to the State of Utah for the use of said lands described in Parcels 1, 2 and 3 from the effective date of this agreement, except rentals for the year 1954 already paid the State of Utah. Any reduction hereafter made in the rents and royalties now provided in said existing leases numbered 5950, 5952 and 5953 to be paid to the State of Utah shall be credited equally to the parties hereto. Idaho Maryland shall pay the Lessors one-half (1/2) of the amount of such reduction at the same times, on the same terms, and in the same manner as rents and royalties are paid hereunder to the Lessors.

3. Idaho Maryland will pay to Lessors seven and one-half per cent (7-1/2%) of the proceeds of mineral production from said lands with respect to all ore delivered from said lands which is sold by Idaho Maryland at a price of not to exceed Fifty Dollars ($50.00) per short ton (of 2,000 pounds) and ten per cent (10%) of such proceeds with respect to all ore delivered from said lands which is sold by Idaho Maryland at a price exceeding Fifty Dollars ($50.00) per short ton. All ore shall be delivered as mined without

dilution as to grade. The term "proceeds" as used in this paragraph 3 shall mean gross proceeds and shall include all bonus payments, premiums and allowances of every nature, except that it shall not include any haulage allowance paid by the United States Atomic Energy Commission or any similar payment for transporting ore from said lands to a purchase depot. No ores or minerals (other than samples for assaying or inspection) shall be delivered from the properties except for sale or processing for ultimate sale. Notwithstanding anything contained in this agreement, if during any calendar month during the first six (6) months after the date when actual underground development has reached an ore deposit from which ore can be extracted fifty per cent (50%) of the net income derived by Idaho Maryland from the ore sold during such month is less than the royalty prescribed in this paragraph 3 (based on seven and one-half per cent (7-1/2%) or ten per cent (10%) of the proceeds) then the royalty payable to Lessors on the ore sold during that month shall be fifty per cent (50%) of the net income from said properties for that month. "Net income" as used herein is defined to be the proceeds from the sale of ore extracted from such properties during such month less the ordinary and necessary expenses of mining the ores sold during the month (excluding depreciation, overhead, drilling expenditures, taxes payable by Idaho Maryland and royalties payable to the State of Utah).

4. Idaho Maryland will perform all of the obligations created by said leases from the State of Utah with respect to said lands described in Parcels 1, 2 and 3 thereof.

5. Idaho Maryland will hold Lessors harmless from any liability resulting from Idaho Maryland's operation of said lands, except liability for all taxes, including income taxes, upon the proceeds received by Lessors hereunder; provided, however, that any severance taxes now or hereafter imposed by the State of Utah, or any county or political subdivision thereof, shall be borne equally by the respective parties hereto.

6. Lessors agree, at their expense, to obtain permission from any holders of surface rights on said Parcels 1, 2 and 3 for entry by Idaho Maryland upon said parcels to perform their obligations under this agreement.

7. Idaho Maryland will drill, in the aggregate, not less than 1,500 feet per month on each of the three parcels described above (a total of 4,500 feet per month), and will carry such drilling to the depth of the normally productive horizons. Idaho Maryland will begin such drilling within sixty (60) days after the effective date of a registration statement, with respect to the sale or offering of approximately 250,000 shares of common stock of Idaho Maryland (or such number as may be determined by Idaho Maryland) to be filed with the Securities and Exchange Commission by Idaho Maryland, and Idaho Maryland will file such registration statement and endeavor to have it made effective as

soon as reasonably practicable. Idaho Maryland will complete such drilling of all of said lands, at a minimum spacing of 500 feet, within two (2) years from commencement thereof. Idaho Maryland will perform such drilling on a reasonably continuous basis except when such performance is delayed or interrupted because of strikes, acts of God, inclement weather or other causes beyond the control of Idaho Maryland, provided that if Idaho Maryland in its drilling operations on any parcel encounters ore in commercial quantities and is actively engaged in the developing and mining of the same that it may suspend its drilling requirements on the remainder of that parcel with the exception of such requirements as will satisfy the Utah Land Board.

If minerals (other than those referred to in said leases from the State of Utah covering the properties described as Parcels 1, 2 and 3 hereof) are discovered in commercial quantities in the prospecting of any of said properties by Idaho Maryland, the Lessors agree to apply to the State of Utah for a lease or leases covering such minerals and if such lease or leases is or are granted to the Lessors by the State of Utah, such lease or leases shall be assigned to Idaho Maryland with the provision for the payment of a royalty to be arrived at by agreement or by arbitration if the parties cannot agree.

8. Lessors may enter on the property at all times for the purpose of inspecting the operations conducted thereon by Idaho Maryland and shall be permitted to sample and to do any surveying that they desire to do on said property at Lessors' expense. Idaho Maryland will make available to Lessors for inspection or copying all maps, engineers reports, core loggings and assays including assays of cores and core sludge. Idaho Maryland shall furnish Lessors a duplicate of all settlement sheets for ore sold.

9. Idaho Maryland shall make any payment required under paragraph 3 herein within ten (10) days after receipt by Idaho Maryland of proceeds with respect to which such payments are required. Any such payment may be made to any Bank in Utah selected by the parties who will receive such payment on behalf of Lessors and all their partners or their successors in interest, and Idaho Maryland shall not be responsible for the disposition or distribution of any such payment made to said Bank, but shall be deemed to have fully satisfied paragraph 3 herein and this paragraph 9 upon such payment to said Bank.

10. Lessors represent that the lands described herein as Parcels 1, 2 and 3 are actually leased by the State of Utah to Lessors (or in the names of certain thereof) and that said leases are duly executed by the parties and that Lessors have performed all of the things to be done under the terms of said leases up to the time of the execution of this agreement and that said leases are not in default.

In the event that the State of Utah does not have paramount title to the property described as Parcels 1, 2 and 3 hereof or in the event the United States Government or the State of Utah exercises any rights in such a way that the parties hereto are prevented from mining upon or operating said properties or any thereof, as herein provided, then as to such property or properties Idaho Maryland or Lessors at their option may terminate this agreement. In such event, neither party shall have any liability one to the other for anticipated profits or for expenditures made on said lands.

11. Lessors agree that if, after examination of any of the parcels referred to herein as Parcels 1, 2 and 3, by the

engineers or geologists of Idaho Maryland, it is not desirable, in Idaho Maryland's judgment, to drill such parcel, then the lease covering such parcel shall terminate and Idaho Maryland shall re-assign the same to Lessors. In such event Lessors will assign to Idaho Maryland a lease on an equivalent acreage to be selected by Idaho Maryland out of any of the property of the Lessors covered by State lease of the State of Utah, on the same terms and conditions as herein set forth, provided that said acreage must be selected from lands held under lease by Lessors and upon which no prior commitment has been made by Lessors.

12. Idaho Maryland agrees that it will comply with all laws, rules and regulations of the United States and the State of Utah in the mining and operation of said premises described as Parcels 1, 2 and 3 hereof and in the performance of the terms of this agreement.

13. Upon the termination of this agreement for any cause, Idaho Maryland shall have the right to remove any and all buildings, machinery, equipment or other things of value brought upon said lands described as Parcels 1, 2 and 3 hereof by Idaho Maryland.

14. This agreement shall extend to, and be binding upon, all successors of Idaho Maryland, and of Lessors (and of the individual partners of Lessors), their heirs, executors, personal representatives and assigns, provided that Idaho Maryland shall not assign its rights hereunder without the prior consent of the Lessors, evidenced by the signature of any one of the partners of the copartnership.

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

Lyon McKinney

Sherwood Green

Allen B. Foreman

[illegible]

Anson P. Hayes

John Keith Hayes

Individually and as copartners

Lessors

IDAHO MARYLAND MINES CORPORATION

By C. B. Rush
President.

By C. L. Allen
Secretary

DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

SAN FRANCISCO, CAL.

OFFICIAL BUSINESS

~~1012 Flood Building~~
~~870 Market Street~~
~~San Francisco 2, Calif.~~

~~420 CUSTOM HOUSE~~
~~555 BATTERY STREET~~
~~SAN FRANCISCO 11, CALIF.~~

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, $300.

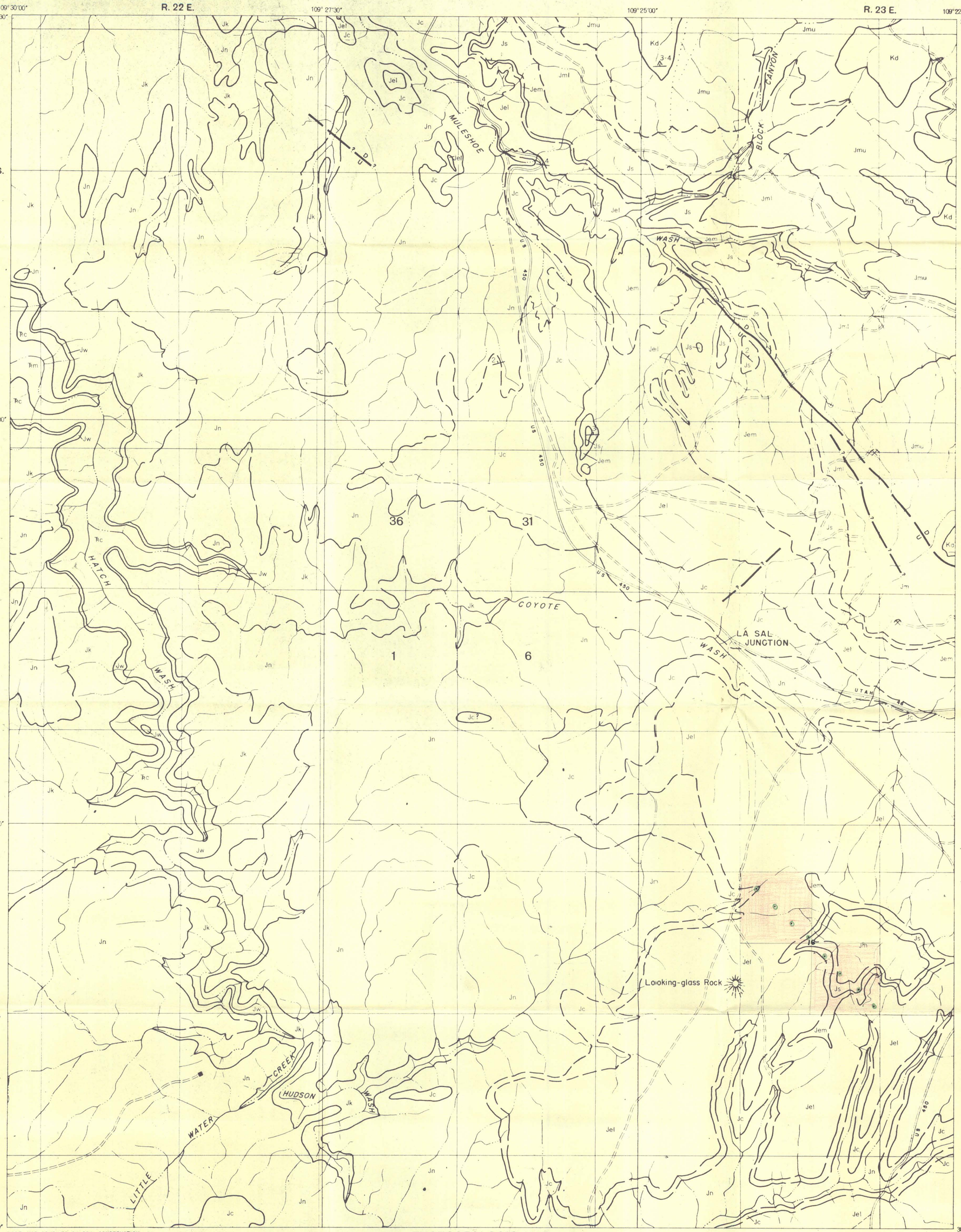
Map

~~Defense Minerals Exploration Administration~~
~~Interior Building~~
~~Washington 25, D. C.~~

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE
ATOMIC ENERGY COMMISSION

COMPILATION OF PHOTOGEOLOGY AND SURFACE GEOLOGY
COLORADO PLATEAU AREA, UNITED STATES



EXPLANATION

Kd	Dakota sandstone including Lower Cretaceous Burro Canyon formation (Burro Canyon formation cannot be differentiated on aerial photography)	CRETACEOUS (Lower & Upper)
Jmu, Jm, Jml	Morrison formation Upper unit Jmu; Lower unit Jml; including Salt Wash sandstone member	JURASSIC (Upper)
Js	Summerville formation	JURASSIC
Jem, Jel	Entrada formation Moab sandstone member, Jem; lower member Jel	JURASSIC
Jc	Carmel formation	JURASSIC (Middle & Upper)
Jn	Navajo sandstone	JURASSIC (?)
Jk	Kayenta formation	JURASSIC (?)
Jw	Wingate sandstone	JURASSIC (?)
Ꞧc	Chinle formation	TRIASSIC (Upper)
Ꞧm	Moenkopi formation	TRIASSIC (Lower)

BASE MAP COMPILED BY SOIL CONSERVATION SERVICE, U.S. DEPT. OF AGRICULTURE

MARCH 1952

4	3	2	1
5	6	7	8
12	11	10	9
13	14	15	16

MT. PEALE QUADRANGLE

TRUE NORTH

PHOTOGEOLOGIC MAP
MT. PEALE - 5
SAN JUAN COUNTY, UTAH

PHOTOGEOLOGY BY G.E. TOLBERT

SCALE 1:24,000

0 — 1 MILE

Stratigraphic column for this area modified from U. S. Geol. Survey Bull. 841.

M8-3.5-1