DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE | Idm-E NO.____ | DMEA NO. 5036

Application
- [ ] Denied
- [x] Withdrawn

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

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

Folder No. 1:

Left Side

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

Right Side

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

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

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

Additional Folders:

Left Side

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

Right Side

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

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

Folders No._____: Settlement Sheets

Folders No._____: Drill Logs

Folders No._____: Royalty material

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 29 1958

DATE	INITIAL	CODE

224 New Customhouse
Denver 2, Colorado
May 27, 1958

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Application for DMEA Aid, (Uranium) Hidden Splendor Mining Company (Redd Lease) San Juan County, Utah

Enclosed are the original and two copies of the subject application. One copy of the application is being retained in our file.

The Applicant proposes to explore a purported geologically favorable target area by 10,200 feet of non-core drilling and 200 feet of core drilling at a total estimated project cost of $37,475.00. The drill holes are expected to average 2,600 feet in depth.

A part of the land proposed for subordination by the Applicant was included in DMEA Contract Idm-E760. However, the Government retains no claim or lien against the property or production subsequent to November 16, 1956.

J. W. Townsend
Alternate Acting
Executive Officer

DMEA
APPLICATION FOR AID IN A
URANIUM EXPLORATION PROJECT
On certain lands in Secs. 7, 8, and
18, T.29 S., R.24 E., and Secs.12
and 13, T.29 S., R.23 E.

REDD LEASE GROUP
San Juan County, Utah

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 29 1958

DATE	INITIAL	CODE

E. J. LONGYEAR COMPANY
May, 1958

Longyear

E. J. LONGYEAR COMPANY
General Offices, Foshay Tower
Minneapolis 2, Minnesota, U. S. A.
TELEPHONE: FEDERAL 2-2447 • CABLE LONGCO

ADDRESS REPLY TO
416 COLORADO BUILDING
DENVER 2, COLORADO
AMHERST 6-1941
CABLE ADDRESS
"LONGCODENVER"

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 29 1958
DATE INITIAL

DMEA
DEPARTMENT OF THE INTERIOR
MAY 26 1958
REGION III
DENVER, COLORADO

May 23, 1958

United States Dept. of the Interior
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

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

DMEA
APPLICATION FOR AID IN A
URANIUM EXPLORATION PROJECT
REDD LEASE GROUP
In Secs. 7, 8, and 18, T.29 S., R.24 E.,
and Secs. 12 and 13, T.29 S., R.23 E.
San Juan County, Utah

Gentlemen:

We are pleased to submit herewith the subject application in four copies with all substantiating data believed pertinent thereto.

In submitting this application, we are acting solely as consultants to the applicant, The Hidden Splendor Mining Company. All future correspondence concerning this application should be addressed to the applicant or its authorized agents.

Faithfully yours,

E. J. LONGYEAR COMPANY

Louis C. Rove, Jr.

LCR:ems

FORM 602 5M 10-56

E. J. LONGYEAR
COMPANY

DMEA
APPLICATION FOR AID IN A
URANIUM EXPLORATION PROJECT

On certain lands in Secs. 7, 8, and 18, T.29 S., R.24 E., and Secs. 12 and 13, T.29 S., R.23 E.

REDD LEASE GROUP

San Juan County, Utah

Prepared for

THE HIDDEN SPLENDOR MINING COMPANY

By

E. J. Longyear Company
416 Colorado Building
Denver 2, Colorado

Form MF–103
Revised Oct. 195

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

APPLICATION FOR AID IN AN EXPLORATION PROJECT

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

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

THE HIDDEN SPLENDOR MINING COMPANY
P.O. BOX 2306
SALT LAKE CITY
UTAH

DMEA
DEPARTMENT OF THE INTERIOR
MAY 26 1958
REGION III
DENVER, COLORADO

APPLICANT NOT TO USE THIS BLOCK

Docket Number: DMEA-5036
Date Received: 5-29-58
Government Participation %:
Region: III
Division Code: 700

BUSINESS ORGANIZATION (Check one)

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

State in which firm is organized: DELAWARE

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

Name	Address	Title
A. Payne Kibbe	As shown above	President
D. I. Hayes	" " "	Vice-President & General Manager

Mineral(s) for which you wish to explore: URANIUM

Estimated Cost of Project: $ 37,465.00

LOCATION OF PROPERTY

Name	County	State
Redd Lease Group	San Juan	Utah

GENERAL INSTRUCTIONS

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

CERTIFICATION

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

May 22, 1958
Dated

BY *(Signature)*

President
Title

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

INFORMATION REQUIRED WITH THIS APPLICATION

1. *Applicant's Property Rights:*

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

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

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

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

2. *Physical Description:*

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

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

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

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

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

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

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

3. *Accessibility of Project:*

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

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

4. *The Exploration Project:*

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

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

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

5. *Experience:*

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

6. *Estimate of Costs:*

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

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

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

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

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

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

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

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

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

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

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

* * * * *

INT.-DUP. SEC., WASH., D.C. 25960

FORM 602 5M 10-56

E. J. LONGYEAR COMPANY

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III. Lease Agreement between Joseph F. Redd and Mabel H. Redd and James S. Dodge; and the Amendment and Supplement to the Lease.....

IV. Agreement and Assignment by and between James S. Dodge, his wife, and The Hidden Splendor Mining Company.....

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A.	Location map showing Redd Lease Group and Big Indian Mining District.....	3A
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E. J. LONGYEAR COMPANY

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FORM 602 5M 10-56

E. J. LONGYEAR COMPANY

INTRODUCTION

This report, together with Application Form MF-103, revised February, 1957, is an application for a Defense Minerals Exploration Administration Project contract of the unit cost type. A $37,465.00 exploration program is recommended for drilling in an area comprised of about 885 acres of fee land and some 40 contiguous unpatented lode mining claims. The area is situated north of the Big Indian Mining District in San Juan County, Utah. A one-stage drilling program, to be completed by independent contractors, is recommended.

NAME OF APPLICANT

The name of the applicant is THE HIDDEN SPLENDOR MINING COMPANY, a corporation organized and existing under the laws of the State of Delaware, and duly licensed and qualified to do business as a foreign corporation in the State of Utah, with principal offices in Salt Lake City, Utah.

GENERAL

This report, together with the attached completed Form MF-103, is an application for a DMEA loan under a unit form cost contract and has been prepared

in accordance with DMEA Order No. 1, Amended. It is to be submitted in quadruplicate to the Executive Officer, Region III, DMEA, 224 New Customhouse Building, Denver 2, Colorado.

Sufficient space is not available on Application Form MF-103. Therefore, the necessary information is supplied in this report with reference in each case to the number and letter of the item of required information as given in Form MF-103.

(1) APPLICANT'S PROPERTY RIGHTS

(a) Legal Description of Property

The area consists of both fee lands and unpatented lode mining claims, all contiguous, lying in Sections 7, 8, and 18, T.29 S., R.24 E., and Sections 12 and 13, T.29 S., R.23 E., Salt Lake Principal Meridian, San Juan County, Utah. (See Exhibit A.) This area is immediately north of the Big Indian Mining District.

The location notices for all mining claims are posted and copies recorded in the San Juan County Courthouse, Monticello, Utah. Book and page numbers of the recordings are tabulated and attached hereto under Appendix I. The claim outlines and the leased fee lands are shown on Exhibit B, Location Map (in Pocket).

The fee lands which are a part of this application comprise the following:

(a) All of Section 8, T.29 S., R.24 E., SLBM

(b) Lots 1 and 4, Section 7, T.29 S., R.24 E., SLBM

(c) NW 1/4 Section 18, T.29 S., R.24 E., SLBM

(d) E 1/2 of SE 1/4, Section 12, T.29 S., R.23 E., SLBM

(e) E 1/2 of NE 1/4, Section 13, T.29 S., R.23 E., SLBM

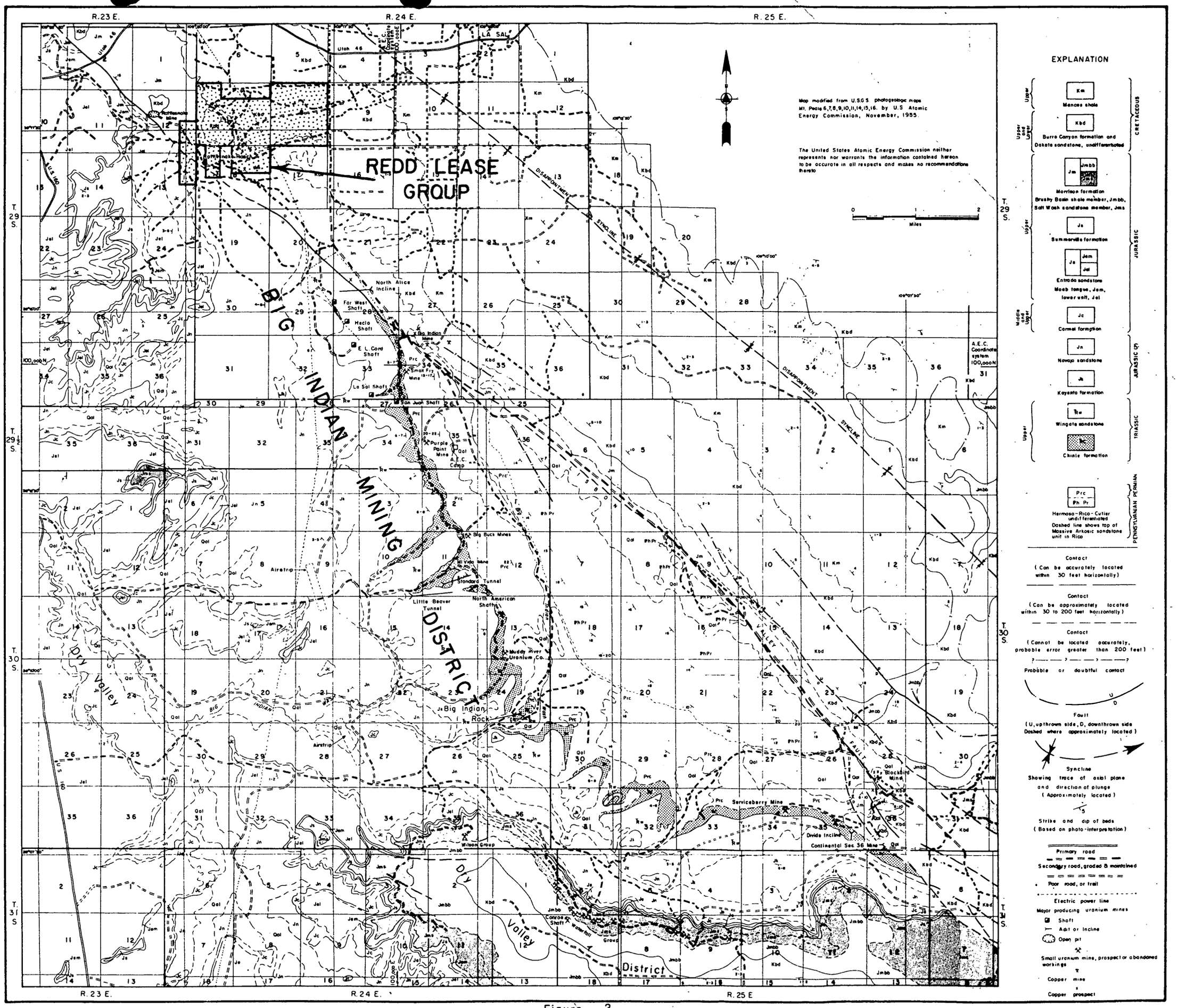

Figure 2.

Photogeologic map of the Lisbon Valley Anticline and surrounding area, San Juan County, Utah

Exhibit A

RECEIVED
MA 29
D.M.E.A.

It is specifically understood that the lands which are to be security for this loan and subject to the government's lien for royalty payments are only those lands described and designated above, in Exhibits A and B, and Appendix I. The Hidden Splendor Mining Company holds no other lands contiguous to this block.

All other properties of The Hidden Splendor Mining Company are specifically excluded from any liens arising from loans obtained through this application.

(b) Name of Property

The area is known as the Redd Lease Group. The claims and fee lands comprising this group are listed above and in Appendix I.

(c) Interest

The applicant's interest in this group is as lessee by right of assignment from James S. Dodge to The Hidden Splendor Mining Company of a lease from Joseph F. Redd and Mabel H. Redd, owners of the fee land and mining claims.

These properties were subject to a prior lease from Joseph F. Redd to the Amuranium Corporation, a Delaware corporation. Said lease was forfeited by default and title to the properties was quieted by a quiet title action in the District Court, San Juan

FORM 602 5M 10-56

E. J. LONGYEAR COMPANY

County, Utah. A quit claim deed to Joseph F. Redd was prepared and is attached in Appendix 2.

A copy of the original lease from Joseph F. Redd and Mabel H. Redd to James S. Dodge and the Amendment and Supplement to the Lease Agreement are attached in Appendix 3.

A copy of the Agreement and Assignment between James S. Dodge, his wife, and the Hidden Splendor Mining Company is attached in Appendix 4.

Because of misunderstandings between Joseph F. Redd and Amuranium Corporation, whether or not assessment work was completed during the period of the lease to Amuranium Corporation, new locations were made July 1, 1957 covering the same ground as the JFR claims. The new claim group is known as the Bilko group. In order to insure against any contingency and for the protection of all parties, both claim groups are listed in the Amendment and Supplement to the lease document.

where located ?

(d) Liens, Mortgages, or other encumbrances on the property

Under the terms of the lease agreements, there exists a royalty due Joseph F. Redd and Mabel H. Redd, his wife, of 8% of the gross ore sales F. O. B. mine.

FORM 602 5M 10-56

E. J. LONGYEAR COMPANY

There is further a reservation to James S. Dodge of a 10% interest in any net profits that might result from sale of uranium ores mined from the property. This net interest may be subsequently increased to 15% when The Hidden Splendor Mining Company have recovered 200% of their pre-production expenses. Details are set forth in the Assignment, Appendix 4.

There may possibly exist a government lien on the property because of a previous DMEA loan to Amuranium Corporation. Applicants have no knowledge concerning this.

The original lease agreement from Joseph F. Redd and Mabel H. Redd and the subsequent amendment thereto provides for a drilling commitment of 2000 feet in each 6-month period until March, 1960. The first 6-month period terminates August 10, 1958. Following March 1960, the drilling commitment is increased. See Appendix 3.

(2) PHYSICAL DESCRIPTION

(a) Previous Exploration

It is believed that this property was the subject of a previous DMEA exploration program designed to test for uranium mineralization in the Salt Wash member of the Jurassic Morrison formation. This project is believed to have been carried out by Amuranium Corporation. The results are unknown to the present applicants.

Because the Salt Wash member of the Morrison formation lies above the Chinle and Cutler formations, this previous exploration cannot indicate the presence or absence of ore or favorable structural conditions in the Chinle and Cutler formations which are the targets for the drilling proposed in this application.

(b) Interest in Previous Operations

None of the previous exploration on the property was done by the applicant.

(c) Production

There has been no production from the property.

(d) Ore Reserves

There are no known ore reserves on the property.

(e) and (f) General Geologic Features & Favorability

The knowledge gained regarding the Big Indian

uranium deposits during the past several years of operation is basic to an understanding of the geology underlying the subject properties of this application. Detailed geologic mapping has brought out important factors which have controlled ore deposition. These critical factors can be utilized in exploration for similar deposits on the Redd Lease Group east of the Lisbon Valley fault. For this reason, the geology of the Big Indian ore deposits is reviewed below.

Ore bodies of the Big Indian District are contained in the basal part of the Triassic Chinle formation and immediately overlie the Cutler formation of Permian age. Known ore reserves of and past production from deposits in the north end of the Big Indian District are expected to exceed 3,000,000 tons of ore at an average grade of 0.40 - 0.45% U_3O_8.

The Cutler consists of a series of red siltstones interbedded with broad sandstone lenses at several stratigraphic horizons. It has been found in the Big Indian District that immediately underlying the ore-bearing portions of the Chinle is an arkosic sandstone of the Cutler. Adjacent to ore-bearing areas, the Cutler sandstone is bleached to a buff, friable sandstone, distinguished by its biotite content. Outside ore-bearing areas this sandstone is red in color and tightly cemented with calcite. Cross-bedding indicates

a source to the east and a westerly direction of deposition.

The Chinle formation, which overlies the Cutler, with a slight angular unconformity, is 400 feet thick, the upper half red and the lower, green. It consists mainly of siltstones, massive and bentonitic near the base. In the lower part are thin beds of fine mud pellet-limestone pebble conglomerate and some sandstone beds. In west-trending braided scours cut into the Cutler surface, the basal Chinle consists of a coarse, buff-colored, slightly arkosic sand with pebbles of smoky quartz. Immediately overlying the scour deposits, or separated by an inch of siltstone, is a finer sand bed which extends sheet-like across several scours. This bed, where well cemented by pink calcite, forms a major ore horizon. Up dip this horizon may become tightly cemented by fine-grained gray limey cement and be barren. In such an area, the underlying scour sands form the ore horizon. Both scour and sheet sands diminish in grain size westerly, grading into siltstone.

The uranium deposits of the Big Indian District lie on the west flank of the Lisbon Valley anticline. The Triassic rocks dip westerly at about 10°, the Cutler beds approximately 3° steeper. The anticline, an elongate dome trending northwest, is cut by the Lisbon Valley fault. The fault dips northeast at 50° to 60° and the

hanging wall has dropped about 2000 feet, bringing Cretaceous Dakota sandstone east of the fault into contact with the Triassic Chinle formation, west of the fault.

Several small faults branch from the main Lisbon Valley fault, and have been found in the mine workings in the Big Indian Mining District.

The angular unconformity between the Chinle and Cutler formations indicates that, prior to the time of erosion and deposition of the overlying Chinle, the Cutler formation was warped upward by the beginnings of the Lisbon Valley anticline. This bulging and subsequent truncation by erosion caused the Cutler sandstone units to outcrop as broad parallel bands.

Geologic mapping in the mines of the Big Indian District has demonstrated a remarkable correlation of the ore bodies with the pre-Chinle outcrop pattern of the Cutler sandstone. (See Exhibit C)

The continuous belt of ore from the Cord mine northward to the North Alice mine immediately overlies one of these paleo-outcrops of Cutler sandstone. Similarly, ore bodies south of the area in which the Cutler sandstones are shown in detail (LaSal, Columbia, Ike, Mi Vida and Standard mines) are known to overlie similar Cutler sandstones.

The relationship of Chinle ore bodies to these Cutler sandstones is made even more strikingly apparent

by the easternmost ore body at the Far West and North Alice mines. This easterly ore body overlies a parallel Cutler sandstone lower in the stratigraphic sequence which abuts the Chinle farther up dip. In the area between the main ore occurrence and the easterly ore body, the Cutler underlying the Chinle is siltstone, and, though favorable Chinle sands are present at the contact, this intervening area is barren. Exhibit D, a cross section, illustrates these relationships.

Basal Chinle sands either of the scour or sheet type provide a second major control for ore deposition. The better grade and thicker ores occur in these sands. However, ore does occur in Chinle siltstones immediately overlying Cutler sandstone in areas adjacent to basal Chinle sands but where such sands are locally missing. This enlarges the drilling target.

Doming of the Cutler formation and subsequent pre-Chinle erosion was responsible for the pattern of repeated broad bands of Cutler sandstone which have been a major factor in the localization of ore bodies in the Big Indian District. A similar pattern of buried Cutler sandstone outcrops should exist on the nose of the Cutler age structure, and thus be present on the east side of the Lisbon Valley fault, in the area of the Redd Lease group.

If the rising anticline in Cutler time plunged

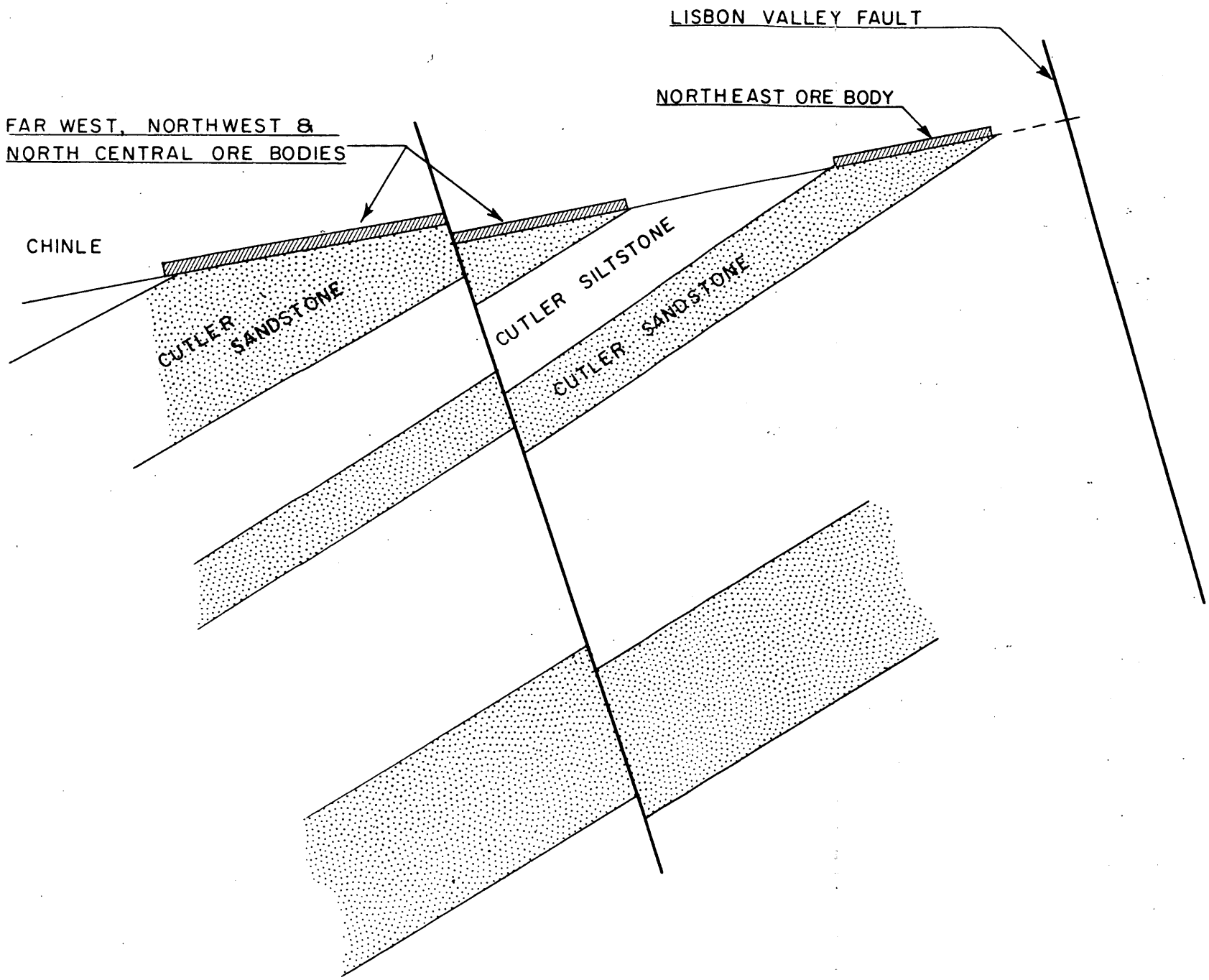

EXHIBIT D

CROSS SECTION OF FAR WEST MINE

SHOWING RELATIONSHIP OF

OREBODIES

TO

CUTLER SANDSTONE

NOT TO SCALE

TO ACCOMPANY THE HIDDEN SPLENDOR MINING COMPANY
APPLICATION TO DMEA, MAY, 1958

E. T. WOOD

OFFICIAL FILE COPY
D M E A
RECEIVED MAY 23 1958

DATE	INITIAL	SUBJ.

northward similar to the present Lisbon Valley anticline, the paleo-outcrop pattern (after erosion) would show the various sandstone beds as a series of nested horseshoes opening southward. (See Exhibit E.) On the nose of the structure the width of buried Cutler sandstone outcrops would be wider than on the flanks and thus present a broad target.

Limited knowledge of the depositional, structural, and erosional history in Cutler times prior to Chinle deposition makes an accurate projection of the probable position of the Cutler sandstone units east of the Lisbon Valley fault difficult. The projection is further complicated by the fault itself, the plunge of the Cutler-age anticline, continuity of the Cutler sandstones, and their distribution in the stratigraphic sequence.

Structure contour data relative to the Cutler surface is given by Messrs. M. A. Lekas and H. M. Dahl of the Atomic Energy Commission,[1] and has been used in part in projecting the possible trends east of the Lisbon Valley fault.

(1) The Geology and Uranium Deposits of the Lisbon Valley Anticline, San Juan County, Utah; in Geology and Economic Deposits of East Central Utah, I. A. P. G., Field Conference, 1956.

From drilling, mine development, and a deep drilling test of the Cutler, there are known at least five thick sandstone sections in the Cutler. Two of these are associated with the ore deposits of the north end of the Big Indian District. As erosion did not cut deep enough to expose the deepest known sandstone lens in pre-Chinle time, it does not abut the Chinle west of the Lisbon Valley fault.

Two stratigraphically higher Cutler sandstone horizons are known to occur down dip from the Big Indian uranium deposits. Their limits have not been fully determined. Only slight mineralization has been found above these sandstones. Ore deposits were missing probably because of the lack of favorable basal Chinle sands.

The Cutler sandstone lenses have dimensions strike-wise of at least two miles judging from the known sand belt underlying the north end of the Big Indian district. Their extension can logically be presumed.

The existence of favorable basal Chinle sands east of the Lisbon Valley fault appears likely. The source for such sands certainly lies east of the present Big Indian ore bodies as these sands grade into siltstone west of present ore deposits.

No evidence is available to ascertain the amount of horizontal displacement along the Lisbon Valley fault. The probable origin of the fault as the result of salt intrusion suggests such horizontal movement would be minor. Certainly it would be considerably less than the width of the Cutler sandstone lenses, and thus not seriously interfere with postulated projections.

The projected Cutler sandstone bands and overlying Chinle sands present a broad target for exploration and are the target for the drilling proposed in this application. By determining the stratigraphic relations of the Cutler sandstones to the base of the Chinle, evidence will be available to predict the area in which such sandstones abut the Chinle. Exploration along the zones of abutment may be rewarded by the location of large high-grade uranium ore reserves.

(g) Supplemental Data

All available data and supporting illustrations are referred to above in sections (2)(e) and (2)(f) and need not be returned.

(3) ACCESSIBILITY OF PROJECT

(a) Location and Accessibility

The Redd Lease Group lies in T.29S., R.23E. and R.24E., San Juan County, Utah. The center of the Group area lies about 3 miles north of the north end of the main Big Indian District ore Zone. This is approximately 40 road miles southeast of Moab, Utah. The area can be reached by following U. S. Highway 160 south from Moab to the junction with Utah State Highway 46; east on Highway 46 to the paved road leading south to the Big Indian Mining District; and then by a secondary road westerly through the center of the property.

A member of the staff of Hidden Splendor Mining Company will meet the DMEA representative. This staff representative is located at the Far West Shaft of the Hidden Splendor Mining Company in the Big Indian Mining District.

(b) Operating Headquarters

Manpower, materials, and equipment are available in Moab, Utah, 40 miles distant. Office facilities are maintained at the Far West Shaft in the Big Indian Mining District. All operating personnel reside in Moab.

(4) THE EXPLORATION PROJECT

(a) Proposed Work

It is the purpose of the proposed exploration program to locate paleo-outcrops of Cutler sandstone lenses under the Redd Lease Group. By determining the stratigraphic relationships of such sandstones to the base of the Chinle, it will be possible to orient further drilling along the favorable zone of abutment. In the proposed exploration program, drill holes will be of sufficient depth to penetrate 150 feet into the Cutler formation. The holes will be plug-drilled except for a 50-foot section (including the lower 30 feet of the Chinle formation) which will be cored. All drill holes will be tied into the public land survey, including elevations.

It is recommended that 4 holes be drilled, averaging 2600 feet deep, for a total of 10,400 feet. Of this total, 10,200 feet will be plug-drilled and 200 feet cored.

It is proposed that the locations given for holes 1 and 2 be considered firm and that subsequent drill sites be chosen by The Hidden Splendor Mining Company geologist in cooperation and with the consent of the DMEA field team in order to take advantage of the information secured in holes 1 and 2.

All holes will be collared in the Dakota and Burro Canyon formations (undifferentiated) and will penetrate in succession the Morrison, Summerville, Entrada, Carmel, Navajo, Kayenta, Wingate, and Chinle formations and continue 150 feet into the underlying Cutler formation.

It is understood that no holes will be drilled which would be construed as "blocking out" ore, and a hole spacing of greater than 200 feet will be used in off-setting ore or mineralized holes.

It is expected that one Joy 225 truck-mounted drill rig will be used for the job. Sludge samples will be collected for every 10-foot interval and logged by the geologist. Samples collected through the Salt Wash Member of the Morrison formation and in the uncored portion of the lower Chinle formation will be bagged and saved for further study. All core recovered will be studied, logged, boxed, and saved. Drilling operations will be closely supervised by geologists on the staff of Hidden Splendor Mining Company.

All holes will be probed, and geophysical strip logs will be provided with gamma ray, resistivity, and self-potential readings recorded. In addition, a continuous drift survey will be made of all holes.

(b) Access Roads and Drill Site Preparation

Access roads now exist on the Redd Lease Group and only minor maintenance will be necessary. The area is relatively flat and open so no major road work will be required.

Each drill hole location will require bulldozer work to prepare slush pits and to level off an area for the drill rig.

D-7 (or equivalent) bulldozers are available for rent for these uses locally.

(c) Time Required for Project

The work can be started within 30 days and be completed about two months from the date of an exploration project contract. This estimate is based on a 1-rig, 2-shift operation. Advance per day is estimated at 250 feet for plug-drilling and 30 feet for core-drilling.

(5) EXPERIENCE

The Hidden Splendor Mining Company was organized in 1954. The Company has been engaged in acquisition, exploration, development and mining of uranium properties since that time. They have conducted exploration, development and mining of properties in the North end of the Big Indian Mining District since December, 1955. The Company maintains a complete staff with wide experience in exploration, evaluation, development and operation of mining properties.

The E. J. Longyear Company has no interests in the property for which this loan application is made, and, in preparing this report, has acted solely as consultants to The Hidden Splendor Mining Company.

(6) ESTIMATE OF COSTS

(a) Independent Contracts

All drilling, bulldozer work necessary in preparation of drill sites, road maintenance, etc., and probing, will be performed by independent contractors.

Schedule 1 shows proposed drill hole locations.

Cost estimates for drilling, bulldozer work, and probing are summarized in Schedule 2.

Contractor's bids for this work are submitted in Exhibit F.

(b) Personal Services

The Hidden Splendor Mining Company will supervise this program and furnish geological and engineering services. An estimate of costs is included in Schedule 3.

(c) Operating Materials and Supplies

Estimated costs of office supplies incidental to this project; map and drill log reproductions; and field supplies such as flagging, location stakes, core boxes, etc., are listed on Schedule 4.

(d) Operating Equipment

To be furnished by independent contractors.

(e) Initial Rehabilitation and Repairs

Not applicable.

(f) New Buildings, Fixtures, Installations

Not applicable.

(g) Miscellaneous

Payroll charges, accounting costs, and assay costs are estimated in Schedule 5.

Total estimated project costs are given in Schedule 6.

(7) APPLICANT'S SHARE OF COSTS

(a) and (b) Meeting the Costs

The Hidden Splendor Mining Company will complete this exploration project for uranium and make such payments as will be required to allow completion and will be reimbursed by DMEA. Total cost of this project is estimated at $37,465.00, as summarized in Schedule 6, Summary of Costs. Reimbursement by DMEA will be at the rate of 50% of the allowable costs as stated in DMEA Order No. 1, Amended. The Hidden Splendor Mining Company will contribute $18,732.50 which is 50% of the estimated cost of the project.

Respectfully submitted,

Edwin T. Wood

Edwin T. Wood
Chief Geological Engineer
The Hidden Splendor Mining Company

Louis C. Rove

Louis C. Rove, Jr., Geologist
E. J. Longyear Company

Distribution:	Copies
DMEA-Denver	4
DMEA-Grand Junction	1
Hidden Splendor	4
Longyear-Minneapolis	1
Longyear-New York	1
Longyear-Denver	1

E. J. LONGYEAR
COMPANY

SCHEDULE 1

Drill Hole Locations

Hole No.	Location[1]
1	2600' N 52°W from SW corner of Sec. 8
2	1400' N 11°E from SW corner of Sec. 8
3	2200' N 76°E from SW corner of Sec. 8[2]
4	2900' N 69°W from SW corner of Sec. 8[2]

(1) All locations in T.29 S., R.24 E., San Juan County, Utah.

(2) Tentative locations. Final locations to be determined by Hidden Splendor geologist in cooperation and with the consent of DMEA field team. See text, 4(a).

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DMEA
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DATE

SCHEDULE 2

Cost Estimates - Independent Contractors

10,200 feet non-core drilling, 0-2600 feet depths @ $2.85/ft	$29,070.00
200 feet core drilling @ $20.00/ hr., estimated rate 1.25 ft/hr., total 160 hrs	3,200.00
8 hours drill crew standby or washout time @ $12.50/hr	100.00
10,400 feet probing and logging @ $0.115/ft	1,196.00
10,400 feet continuous drift survey @ $0.075/ft plus $25.00/set up (4)	880.00
32 hours logging crew driving time @ $10.00/hr	320.00
8 hours logging crew standby time @ $10.00/hr	80.00
32 hours bulldozing (D7 or equivalent) time @ $14.00/hr	448.00
4 holes @ $50.00/hole for cost of lost circulation materials in excess of $200.00	200.00
4 holes @ $100.00/hole for cost of diamond core heads	400.00
Independent Contractors Total Cost . . .	$ 35,894.00

SCHEDULE 3

Cost Estimates - Personal Services

Service	
Geologist - $750/month, ½ time	$750.00
Surveyor - $650/month, 2 days/month	120.00
Transportation (operating costs for 1 unit)	360.00
Drafting - 8 hrs/month @ $3.00	48.00
Personal Services Total Cost	$1,278.00

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E. J. LONGYEAR
COMPANY

SCHEDULE 4

Cost Estimates - Operating Materials & Supplies

Office supplies, map and log reproduction	$66.00
Field supplies (core boxes, stakes, flagging, sample sacks, etc)	40.00
Operating Supplies Total Cost	$106.00

SCHEDULE 5

Cost Estimates - Miscellaneous Expenses

Payroll charges and accounting costs (estimated at 10% of wages)	$ 87.00
Assays (chemical), 30 assays at $5.00 each	100.00
Miscellaneous Expenses Total Cost	$187.00

SCHEDULE 6

SUMMARY OF COSTS

(a)	Independent Contractors	$ 35,894.00
(b)	Personal Services	1,278.00
(c)	Operating Materials & Supplies . . .	106.00
(d), (e), (f)	. . . . .	---
(g)	Miscellaneous Expenses	187.00
Total Project Cost	. . . . .	$ 37,465.00

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E. J. LONGYEAR
COMPANY

APPENDIX I

TABULATION SHOWING CLAIM NAMES

AND

RECORDED BOOK AND PAGE NUMBERS

FORM 602 5M 10-56

E. J. LONGYEAR COMPANY

APPENDIX I

TABULATION SHOWING CLAIM NAMES AND RECORDED BOOK AND PAGE NUMBERS *

Name		Posting Date	Entry No.	Recording Date	Book	Page
JFR	1	12-30-53		1-2-54	45	413
	2	"		"	"	414
	3	"		"	"	414
	4	"		"	"	415
	5	"		"	"	416
	6	"		"	"	416
	7	"		"	"	417
	8	"		"	"	417
	9	"		"	"	418
	10	"		"	"	419
	11	12-31-53		"	"	419
	12	"		"	"	420
	13	"		"	"	420
	14	"		"	"	421
	15	"		"	"	421
	16	"		"	"	422
	17	"		"	"	422
	18	"		"	"	423
	19	1-1-54		1-1-54	"	423
	20	"		"	"	424
	21	"		1-2-54	"	424
	22	"		"	"	425
	30	12-31-53		"	"	425
	31	"		"	"	426
	32	"		"	"	426
	33	"		"	"	427
	34	1-1-54		"	"	427
	35	"		"	"	428
	36	"		"	"	428
	37	"		"	"	429
	38	"		"	"	429
	39	"		"	"	430
	130	12-31-53		"	"	433
	131	"		"	"	434
	132	"		"	"	434
	133	"		"	"	435

* As recorded in the office of the Recorder of San Juan County, Monticello, Utah.

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E. J. LONGYEAR COMPANY

Name		Posting Date	Entry No.	Recording Date	Book	Page
JFR	134	12-31-53		1-2-54	45	435
	135	1-1-54		"	"	436
	136	"		"	"	436
	137	1-2-54		"	"	437
	138	1-1-54		"	"	437
	139	"		"	"	438
	60	12-31-53		"	"	430 **
	61	"		"	"	431 **
	62	"		"	"	431 **
	63	"		"	"	432 **
	64	"		"	"	432 **
	65	"		"	"	433 **

AMENDED NOTICES

JFR 1 - 8 Not Amended

9	8-10-54	J9085	8-15-54	149	99
10	"	J9086	"	"	100
11	"	J9087	"	"	101
12	"	J9088	"	"	102
13	"	J9089	"	"	103
14	"	J9090	"	"	104
15	"	J9091	"	"	105
16	"	J9092	"	"	106
17	"	J9093	"	"	107
18	"	J9094	"	"	108
19	"	J9095	"	"	109
20	"	J9096	"	"	110
21	"	J9097	"	"	111
22	"	J9098	"	"	112
30	"	J9099	"	"	113
31	"	J9100	"	"	114
32	"	J9101	"	"	115
33	"	J9102	"	"	116
34	"	J9103	"	"	117
35	"	J9104	"	"	118
36	"	J9105	"	"	119
37	"	J9106	"	"	120
38	"	J9107	"	"	121
39	"	J9108	"	"	122

** **Note:** Claims not appearing on map were invalid because located on Fee lands.

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E. J. LONGYEAR COMPANY

Name		Posting Date	Entry No.	Recording Date	Book	Page
JFR	130	8-10-54	J9109	8-15-54	149	123
	131	"	J9110	"	"	124
	132	"	J9111	"	"	125
	133	"	J9112	"	"	126
	134	"	J9113	"	"	127
	135	"	J9114	"	"	128
	136	"	J9115	"	"	129
	137	"	J9116	"	"	130
	138	"	J9117	"	"	131
	139	"	J9118	"	"	132
Bilko	9	7-1-57	R7724	7-30-57	188	41
	11	"	R7725	"	"	42
	12	"	R7727	"	"	43
	13	"	R7726	"	"	42
	14	"	R7728	"	"	43
	15	"	R6164	7-8-57	182	352
	16	"	R6165	"	"	352
	17	"	R6166	"	"	353
	18	"	R6167	"	"	353
	19	"	R6168	"	"	354
	20	"	R6169	"	"	354
	21	"	R7729	7-30-57	188	44
	22	"	R6170	7-8-57	182	355
	23	"	R7730	7-30-57	188	44
	24	"	R7731	"	"	45
	25	"	R6171	7-8-57	182	355
	26	"	R6172	"	"	356
	27	"	R6173	"	"	356
	28	"	R6174	"	"	357
	29	"	R6175	"	"	357
	30	"	R6176	"	"	358
	31	"	R6177	"	"	358
	32	"	R6178	"	"	359
	35	"	R6179	"	"	359
	36	"	R6180	"	"	360
	37	"	R6181	"	"	360
	38	"	R6182	"	"	361
	39	"	R6183	"	"	361
	40	"	R6184	"	"	362
	41	"	R7732	7-30-57	188	45
	42	"	R7733	"	"	46

/31

FORM 602 5M 10-56

E. J. LONGYEAR
COMPANY

APPENDIX II

QUIT CLAIM DEED FROM AMURANIUM CORPORATION TO JOSEPH F. REDD

FORM 602 5M 10-56

E. J. LONGYEAR COMPANY

COPY

QUIT CLAIM DEED

AMURANIUM CORPORATION, A Delaware Corporation, Grantor, of Washington, D. C., hereby QUIT CLAIM to Joseph F. Redd, a.k.a. Joe Redd, Grantee of Orem, Utah, for the sum of One Dollar and Other Valuable Consideration, the following described tract of land in San Juan County, State of Utah, to-wit:

The East 1/2 of Southeast 1/4 Section 12, Township 29 South, Range 23 East and the East 1/2 of the Northeast 1/4 Section 13, Township 29 South, Range 23 East and Lot #1 and 4 and the Southeast 1/4 of Northwest 1/4 of Section 7, Township 29 South, Range 24 East and Lots #1, 2, and 3 and 4 and East 1/2 of Northwest 1/4 and Northeast 1/4 of Section 18, Township 29 South, Range 24 East and the Southwest 1/4 of Southwest 1/4 of Section 6, Township 29 South, Range 24 East, Salt Lake Base and Meridian:

Also all of Section 8, Township 29 South, Range 24 East, Salt Lake Base and Meridian;

Also the following unpatented mining claims situate in San Juan County, Utah; the names of said claims and the book and page in which the notices of location of said claims are recorded in the office of the Recorder of San Juan County being as follows:

FORM 602 5M 10-56

E. J. LONGYEAR COMPANY

COPY

Name of Claim	Located	Recorded	Book	Page
J F R # 1	12-30-53	1-2-54	45	413
J F R # 2	12-30-53	1-2-54	45	414
J F R # 3	12-30-53	1-2-54	45	414
J F R # 4	12-30-53	1-2-54	45	415
J F R # 4A	12-30-53	1-2-54	45	413
J F R # 5	12-30-53	1-2-54	45	416
J F R # 6	12-30-53	1-2-54	45	416
J F R # 7	12-30-53	1-2-54	45	417
J F R # 8	12-30-53	1-2-54	45	417
J F R # 8A	12-30-53	1-2-54	45	418
J F R # 9	12-30-53	1-2-54	45	418
J F R # 10	12-30-53	1-2-54	45	419
J F R # 11	12-31-53	1-2-54	45	419
J F R # 12	12-31-53	1-2-54	45	420
J F R # 13	12-31-53	1-2-54	45	420
J F R # 14	12-31-53	1-2-54	45	421
J F R # 15	12-31-53	1-2-54	45	421
J F R # 16	12-31-53	1-2-54	45	422
J F R # 17	12-31-53	1-2-54	45	422
J F R # 18	12-31-53	2-3-54	45	423
J F R # 19	1-1-54	1-1-54	45	423
J F R # 20	1-1-54	1-1-54	45	424
J F R # 21	1-1-54	1-2-54	45	424
J F R # 22	1-1-54	1-2-54	45	425
J F R # 30	12-31-53	1-2-54	45	425
J F R # 31	12-31-53	1-2-54	45	426
J F R # 32	12-31-53	1-2-54	45	426
J F R # 33	12-31-53	1-2-54	45	427
J F R # 34	1-2-54	1-2-54	45	427
J F R # 35	1-1-54	1-2-54	45	428
J F R # 36	1-1-54	1-2-54	45	428
J F R # 37	1-1-54	1-2-54	45	429
J F R # 38	1-1-54	1-2-54	45	429
J F R # 39	1-1-54	1-2-54	45	430
J F R # 60	12-31-53	1-2-54	45	430
J F R # 61	12-31-53	1-2-54	45	431
J F R # 62	12-31-53	1-2-54	45	431
J F R # 63	12-31-53	1-2-54	45	432
J F R # 64	12-31-53	1-2-54	45	432
J F R # 65	12-31-53	1-2-54	45	433
J F R # 130	12-31-53	1-21-54	45	433
J F R # 131	12-31-53	1-2-54	45	434
J F R # 132	12-31-53	1-2-54	45	434

FORM 602 5M 10-56

E. J. LONGYEAR COMPANY

COPY

J F R # 133	12-31-53	1-2-54	45	435
J F R # 134	12-31-53	1-21-54	45	435
J F R # 135	1-1-54	1-21-54	45	436
J F R # 136	1-1-54	1-2-54	45	436
J F R # 137	1-2-54	1-21-54	45	437
J F R # 138	1-1-54	1-21-54	45	437
J F R # 139	1-1-54	1-2-54	45	438

WITNESS THE HAND of said Grantor this _____ day of _____, A. D. 1957.

AMURANIUM CORPORATION

By_____
President

State of _____)
) ss.
County of _____)

On this _____ day of _____, 1957, before me the undersigned, a Notary Public in and for _____ County, State of _____, personally appeared _____, who, being sworn by me on oath, did say that he is the President of Amuranium Corporation, the corporation whose name is subscribed to the foregoing instrument; that said instrument was signed in behalf of said corporation by authority of a resolution of its Board of Directors, and the said _____ acknowledged to me that said corporation executed the same.

My Comm. Expires: _____

_____
Notary Public
Residing at: _____

FORM 602 5M 10-56

E. J. LONGYEAR
COMPANY

APPENDIX III

LEASE AGREEMENT BETWEEN JOSEPH F. REDD AND MABEL H. REDD AND JAMES S. DODGE; AND THE AMENDMENT AND SUPPLEMENT TO THE LEASE

LEASE AGREEMENT

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DMEA
RECEIVED
DATE MAR 29 1956

FOR AND IN CONSIDERATION of the mutual promises herein contained, it is agreed by and between JOSEPH F. REDD and ISABEL H. REDD, his wife, hereinafter called the LESSORS, and JAMES S. DODGE, hereinafter called the LESSEE, as follows:

ARTICLE I

EXPLORATION LEASE

1. The lessors hereby lease to the lessee, for a term of eight (8) months from January 1, 1958, for the purpose of exploring for uranium, vanadium, and fissionable source materials generally, the following described real property situate in San Juan County, Utah, known as the Rattlesnake Ranch:

All of Section 8, Township 29 South, Range 24 East, SLBM.

Lots 1 and 4, Section 7, Township 29 South, Range 24 East, SLBM.

NW 1/4 Section 18, Township 29 South, Range 24 East, SLBM.

E 1/2 SE 1/4 Section 12, Township 29 South, Range 23 East, SLBM.

E 1/2 NE 1/4 Section 13, Township 29 South, Range 23 East, SLBM.

Together with the unpatented, unsurveyed mining claims situate in San Juan County, State of Utah, the notices of location of which are recorded in Book 45, Office of the San Juan County Recorder; The claims are described as follows:

JFR No.'s 1 through 22, both numbers inclusive.
JFR No.'s 30 through 39, both numbers inclusive.
JFR No's 60 through 65, both numbers inclusive.
JFR No.'s 130 through 139, both numbers inclusive.

2. The lessee covenants that, during the term of said exploration lease, he will enter, or cause his agents to enter, upon such premises and

proceed to explore for uranium, vanadium, and fissionable source materials, that he will proceed with such exploration with reasonable diligence, and that he will, during the term of this exploration lease, drill, or cause to be drilled, a minimum of two thousand (2,000) linear feet of drill holes, at such places and to such depths as the lessee shall determine.

3. The lessee is further hereby granted an option, upon giving notice as hereinafter provided ten days before the expiration of the term of this lease and before the expiration of any extension thereof, to extend this exploration lease for three (3) successive terms of six consecutive months each, provided, however, that during each such extension of this exploration lease, the lessee shall drill or cause to be drilled the minimum number of feet of drill holes as provided in paragraph 2 above.

4. The lessee is hereby further granted, during the term of this exploration lease and any extension thereof, an option to enter into a mining lease with the lessors, on the terms contained in Article II of this lease agreement, upon giving written notice of exercise of the option hereby granted at least ten days prior to the expiration of this exploration lease or any extension thereof, as provided hereafter. The giving of such notice shall automatically make the provisions of Article II of this lease agreement effective. No ores or minerals shall be removed or sold from the premises hereby leased until after the option granted by this paragraph shall have been exercised.

5. The provisions of Article III, so far as they are applicable, shall be considered a part of this exploration lease.

ARTICLE II

MINING [illegible]

[illegible] the lessee exercise [illegible] granted [illegible] paragraph 4 thereof, [illegible] any terms and conditions.

[illegible] The mining lease shall extend for a term of five (5) [illegible] its effective date, and as long thereafter as mining operations are conducted thereon with a minimum of sixty (60) man-shifts or work performed per calendar quarter, provided such work is not prevented by acts of [illegible] war, or strikes.

[illegible] The lessee shall pay to the lessors as rent and royalty eight percent (8%) of the gross mine value per dry ton of all ores and minerals removed from the premises. No payments from the United States of America for transportation of ores or for development allowances shall be included in royalty payments made pursuant to this paragraph. In the event Circular 5, U. S. Atomic Energy Commission, is cancelled or expires, transportation costs of ores, for the purpose of royalty payments under this paragraph, shall be treated as though Circular [illegible] were still effective in so far as transportation costs are concerned.

3. Rent and Royalty from production shall be paid to the lessors within thirty (30) days after receipt of payment by the lessee, or should the ores and minerals be disposed of other than for cash payment, within thirty (30) days after the end of the calendar month within which such minerals and ores are thus disposed of. Payment shall be made to the lessors at a place designated by them from time to time in writing. Payments shall be accompanied by copies of all assay reports and settlement sheets.

6. The provisions of Articles [illegible] as they are applicable, shall be considered a part of this mining lease.

ARTICLE [illegible]

GENERAL PROVISIONS

1. The lessors believe they have good title under the mining laws of the United States and the State of Utah in and to the mining claims named herein, and represent that there are no outstanding liens or interests in said properties which have been created by them. However, there are no warranties either express or implied as to the quantity or quality of title to such mining claims, nor are there any warranties as to mineral deposits, potential reserves, or any other matter whatsoever, on or in any of the land hereby leased. The lessors may, but they are under no obligation so to do, take such action as they deem proper to perfect their title to such mining claims, including proceeding to patent, and the lessee may, but is without obligation so to do, take such action as it deems proper to protect the leasehold title of the lessee. It is understood that each party to this agreement shall have complete cooperation of the other party in all matters affecting title.

In this connection, it is understood between the parties that the lessors have heretofore entered into a mining lease with Amuranium Corporation, a Delaware Corporation, to the properties herein described, but the lessors believe in good faith that such lease is forfeited, and the lessors hereby promise to bring, within a reasonable time, an action to quiet title against said lease. Lessors do not promise or warrant that they will be successful in such quiet title action.

2. The lessee covenants that he will, as regards the unpatented mining claims named herein, perform the annual labor and do all other things required by the laws of the United States and of the State of Utah in order to retain title to the said mining claims, including the filing with the Office of the San Juan County Recorder a good and sufficient affidavit as required by the laws of the State of Utah to the effect that such work has been done, that he will do such prior to May 30 of each calendar year, and that on or before May 30 of each year he will furnish proof to the lessors that he has complied with the provisions of this paragraph. Although the lessors, by this lease, undertake to lease to the lessee forty-nine (49) unpatented, unsurveyed mining claims, it is understood that some of these mining claims may not actually be situated on the public domain and if any such mining claim or claims is determined in fact not to be so situated, then the provisions of this paragraph shall not apply to such mining claim or mining claims. Should the lessee fail to comply with the provisions of this paragraph, this lease shall terminate.

3. The lessee covenants that he will save the lessors harmless from any and all liability for unemployment compensation, workmen's compensation, and all other taxes or fees of any nature arising by virtue of the operations of said business of the lessee upon said land (but not including taxes payable by the lessors by virtue of their receipt of royalties, and not including ad valorem taxes payable to San Juan County arising because of ownership and operation of the Rattlesnake Ranch), and that the lessee will pay all such assessments, taxes, and fees promptly as the same become due and payable. The lessee further covenants that he will not allow mechanics' or materialmen's liens or any other encumbrance or lien of any nature to

attach to the land leased hereby by reason of activities conducted by him thereon, and he further covenants that he will save the lessors harmless [illegible] reason of [illegible] activities.

4. Immediately upon execution [illegible] the lessee [illegible] possession of the premises [illegible] and fissionable [illegible] deems necessary in his judgment to engage in [illegible] upon exercise of the option granted [illegible] of this agreement the lessee may enter into possession for the purpose of conducting mining operations on the land hereby leased. However, the lessee covenants to conduct such activities in a manner that will create the least possible interference with ranching operations as the same are conducted upon the premises. The lessee further covenants that he will in no way interfere with the water and the flow thereof in what is commonly called Rattlesnake Wash and the Rattlesnake Springs, and the lessee further recognizes that he acquires by this agreement no interest whatsoever in said water or the lessors' water rights thereon.

5. All work performed by the lessee within or on the premises shall be done in accordance with good mining practices so as to take out the greatest amount of ore possible with due regard for the development and preservation of the premises as a workable mining property and the lessee is obligated to install and maintain all workings in a safe condition and keep all openings of standard size and to thoroughly drain the same and keep clear of rocks, rubbish and obstruction. The lessors or their agents may at any reasonable time enter upon the premises and workings therein for the

purpose of [illegible] same, but they shall be at their own risk.

[illegible] The lessee shall, prom[illegible] such information [illegible]

[illegible]

[illegible] purpose of surveying and [illegible] All information obtained [illegible]

[illegible] The lessee shall [illegible]

[illegible]

[illegible] have given [illegible]

8. It is expressly understood [illegible] this agreement, grant no rights whatsoever to the lessee in and to oil,

[illegible] right to royalty for such minerals.

9. Notice under the terms of this agreement shall be deemed given when deposited in the United States Mail, postage prepaid, addressed to the following:

If to lessors: Joseph F. Reed
c/o Mabel R. [illegible]
227 North University Avenue
Provo, Utah

If to lessee: James S. Dodge
4440 North 20th Street
Phoenix, Arizona

10. This agreement shall be binding upon the heirs, personal representatives, assigns and successors in interest of the parties hereto.

EXECUTED January [illegible]

JOSEPH F. REED

By [illegible]
His Attorney-in-fact

MABEL R. REED

By [illegible]
Her Attorney-in-fact

LESSORS

James S. Dodge

JAMES S. DODGE

LESSEE

STATE OF UTAH)
) ss
COUNTY OF UTAH)

On the 10th day of January [illegible] appeared before me Allen B. Sorensen, who being duly sworn, did say that he is the Attorney-in-fact of [illegible] and that the within instrument was signed in behalf of said Grantors by authority and said Allen B. Sorensen acknowledged to me that, as said Attorney-in-fact, executed the same.

Notary Public
Provo, Utah

My Comm. Expires
[illegible]

STATE OF UTAH)
COUNTY OF UTAH) ss

On the 10th day of January 1958, personally appeared before me James S. Dodge the signer of the within instrument, who duly acknowledged to me that he executed the same.

Notary Public
Residing at [illegible]

My Comm. Expires
[illegible] 1960

AMENDMENT AND SUPPLEMENT

TO

LEASE AGREEMENT

THIS AMENDMENT AND SUPPLEMENT [illegible] made and entered into this _____ day of [illegible], by and between [illegible] and [illegible], residents of Utah, hereinafter collectively designated [illegible], and [illegible], a resident of [illegible], hereinafter designated [illegible]

WITNESSETH:

WHEREAS, the parties hereto entered into a certain [illegible] dated January 18, 1958, a copy of which said agreement is attached hereto as exhibit "A" and by this reference made a part hereof and which said Lease Agreement will hereinafter be designated the "[illegible]" and

WHEREAS, it is the desire of the parties hereto to amend and supplement certain provisions of the above-described [illegible]

NOW, THEREFORE, in consideration of the premises, [illegible], covenants and conditions herein contained and other good and valuable consideration, receipt and sufficiency whereof is hereby acknowledged, it is mutually agreed by and between the parties as follows:

1. The parties hereby acknowledge that the following is a complete listing of the names and recording data of the [illegible] or location of the unpatented lode mining claims referred to in paragraph 1 of ARTICLE I of

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said Lease Agreement and which are a portion of the premises subject to said Lease Agreement:

[illegible]	[illegible]	[illegible]	[illegible]

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SALT LAKE CITY, UTAH

NOTICE OF LOCATION AND AMENDED
NOTICE OF LOCATION RECORDED IN
THE OFFICE OF THE COUNTY
RECORDER OF SAN JUAN COUNTY,
STATE OF UTAH, AS

NAME OF LEASE
(CONTINUED)

DATE	BOOK	PAGE

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NOTICE OF LOCATION AND AMENDED NOTICE OF LOCATION RECORDED IN THE OFFICE OF THE COUNTY RECORDER OF SAN JUAN COUNTY, STATE OF UTAH, AT

NAME OF CLAIM
(continued)

DATE	BOOK	PAGE

2. That Paragraph 2 of ARTICLE I of the Lease Agreement be and the same is hereby amended so as to delete said paragraph as it presently appears and to substitute therefor the following:

> The lessee covenants that during the term of this exploration lease he will enter or cause his agents to enter upon the leased premises and proceed to explore for uranium, vanadium and fissionable source materials. Lessee further covenants that he will, during the term of this exploration lease, drill or cause to be drilled upon the leased premises, at such places and to such depths as the lessee shall determine, a minimum of 2,000 linear feet of drill holes. Any drilling so performed by the lessee and any amounts expended by the lessee for such drilling may, if applicable, be credited by lessee as assessment work required to be performed by lessee pursuant to Paragraph 2 of ARTICLE III hereof.

3. That Paragraph 3 of ARTICLE I of the Lease Agreement be and the same is hereby amended so as to delete said paragraph as it presently appears and to substitute therefor the following:

> 3. The lessee is hereby granted the right to extend the term of this exploration lease for additional periods as follows:

a. Lessee shall be entitled to extend the term of the exploration lease for three successive terms of six (6) months each, the first such extension to commence August 10, 1958, such extensions shall be effected by lessee giving written notice to lessors of his election to so extend the term of this exploration lease, which notice shall be given not less than ten (10) days prior to the expiration of the initial term hereof or prior to the expiration of any extension hereof. In the event that lessee elects to so extend the term of this exploration lease, lessee shall during each such six (6) months extension drill or cause to be drilled upon the leased premises, at such places and at such depths as the lessee shall determine, a minimum of 2,000 linear feet of drill holes, with the understanding, however, that any drilling so performed by lessee shall be cumulative so that if during the initial term of this exploration lease or during any of said three extensions of six (6) months, lessee drills in excess of 2,000 linear feet of drill holes on said leased premises, any amount of drilling performed by lessee in excess of the required 2,000 linear feet may be credited to future drilling to be required of lessee by reason of any extension hereof. In other words, it is the intention of the parties that the lessee must, at the conclusion of the initial term hereof plus one six months extension as hereinabove provided, if lessee shall have elected to obtain such an extension, i.e., March 10, 1959, have drilled a total of 4,000 feet of drill holes upon the leased premises and that at the conclusion of the third six months extension, if lessee shall have elected to obtain such extension, i.e., March 10, 1960, lessee shall have drilled not less than 6,000 linear feet of drill holes upon the leased premises.

b. Should lessee elect to extend the term of this exploration lease beyond March 10, 1960, lessee shall be entitled to thereafter extend the term of this exploration lease for four (4) additional consecutive six months terms. Such extensions shall be effected by lessee giving written notice to lessors of his election to so extend, which notice shall be given not less than ten (10) days prior to the expiration of the

period of each such extension. Should lessee so elect to extend the term hereof he shall, during each such six months extension, drill or cause to be drilled upon the leased premises, a [illegible] [illegible] and to be [illegible] provided that any drilling performed by lessee during any [illegible] period to exceed [illegible] to be performed during such extension shall be credited forward, [illegible] by lessee during the [illegible] following the [illegible] drilling was performed.

[illegible] lessee [illegible] the term of this exploration lease [illegible] lease shall be also of [illegible] so long as lessee shall [illegible] monthly, upon payment to lessors of a monthly rental of [illegible] payment to be made before the tenth day of each month [illegible] to extend the term of this lease [illegible] monthly rental shall be [illegible] extension hereof and lessee shall [illegible] from to give notice of his [illegible] Any monthly rental so paid by [illegible] deemed an advance royalty payment and lessee shall be entitled to use such rentals as a credit against subsequent actual royalty payments which may thereafter become due to lessors pursuant to Paragraph 7 of ARTICLE II hereof the amount of all payments made by him pursuant to this monthly rental provision and lessee shall be entitled to offset all amounts paid by him pursuant to this monthly rental provision against said actual eight per cent (8%) royalty. In other words, it is intended that the monthly rental payments, if any, to be made by lessee to lessors under this provision will merely be advances against said reserved actual eight per cent (8%) royalty.

d. It is further understood and agreed that any drilling performed by lessee pursuant to this Paragraph 3 and any amounts expended by lessee for such drilling may, if applicable, be credited

by lessee as assessment work required to be performed by lessee pursuant to Paragraph 2 of ARTICLE III hereof."

4. That Paragraph 4 of ARTICLE I of the Lease Agreement be and the same is hereby supplemented so as to add thereto the following:

"In the event that lessee shall elect to enter into a mining lease as hereinabove provided and shall give notice of such election to lessors, the option of lessee to acquire a mining lease shall be deemed to have been exercised and the provisions of ARTICLES II and III hereof shall be deemed to be a binding mining lease between lessors and lessee and the provisions of this ARTICLE I shall immediately become inoperative and lessee shall thereafter have no obligations under the provisions of this ARTICLE I."

5. That Paragraph 1 of ARTICLE II of the Lease Agreement be and the same is hereby amended so as to delete said paragraph as it presently appears and to substitute therefor the following:

"The Mining Lease shall cover all of the real property described in Paragraph 1 of ARTICLE I hereof and the term of the Mining Lease shall be for a period of five (5) years from the date upon which lessee gives notice of his election to acquire a mining lease, and as long thereafter as lessee conducts a minimum of 60 man shifts of work per calendar quarter upon the leased premises."

6. That Paragraph 2 of ARTICLE II of the Lease Agreement be and the same is hereby amended so as to delete said paragraph as it presently appears and to substitute therefor the following:

"Lessee agrees to pay to lessors a gross royalty of eight per cent (8%) of the gross mine value per dry ton of all ores and minerals removed from the leased premises. The term "gross royalty of eight per cent" when used herein, shall have the following meaning: That the

holder or owner of such royalty shall be entitled to his stated percentage of the gross returns from the sale of all minerals or ores extracted and sold from the leased premises and all rights to which they pertain. Any premium or bonus payments paid to the operator in connection with the production and sale of minerals or ores produced from the properties embraced by the royalty and based upon quality or quantity of ores so produced shall be deemed part of the gross purchase price and shall be included in the gross purchase price in the computation of royalty to the extent that payment of royalties on such bonus or premium payments is not contrary to law or government regulations, but no royalty, compensation or bounty allowance paid to the operator by any governmental agency as to the property covered by said royalty shall be deemed to constitute a portion of the gross purchase price for the purposes of determining the amount of royalty hereunder. Nothing herein or in any other instrument in connection with the rights of the royalty owner or any person shall be construed to deliver ores or minerals extracted from properties subject to said royalty, owned or controlled by mill or refinery owned by the owners of the rights of the lessor in said royalty properties subject to said royalty or by others, free and clear of or including any prior or other charges thereon, or should the owner of the rights of lessor in and to said properties elect to refine the ores and minerals produced from the properties subject to said royalty or have the same refined prior to the sale thereof, the gross purchase price upon which the royalty hereunder shall be based shall be the price at which the ores or minerals would be purchased by the mill or refinery, exclusive of any charges or allowances by the provisions of Income Tax Regulations (Internal Revenue Code, C.B. [illegible] 6) or any amendment or supplement thereto which is then in effect shall be deducted and collect, or if no such [illegible] shall be deducted and collected, or if no such [illegible] shall be established by the owner of the royalty and the gross purchase price upon which the royalty is to be computed shall be the established market price in the area for such ores of similar quality, and said royalty shall not be based upon the purchase price for

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concen[illegible]tes refined from ores or minerals mined, extracted or removed from the properties subject to said royalty. In the event that lessee sells such ores or minerals under circumstances where the lessee does not [illegible] [illegible]

In the [illegible] [illegible] gross royalty [illegible] royalty payment [illegible] for the [illegible] royalty [illegible] words, it is intended that [illegible] royalty [illegible]

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minimum monthly royalty shall be applicable only in the event that lessee shall have elected to extend the term of this Mining Lease beyond March 10, 19[illegible], and that said minimum monthly royalty shall [illegible] only in the event that lessee shall have elected [illegible] a Mining Lease pursuant to [illegible] Article I hereof, and that [illegible] shall a minimum [illegible] payment be due during any [illegible] the time lessee has elected to extend [illegible] Lease pursuant to said [illegible] Article I hereof."

7. That Paragraph 3 of Article II of the lease [illegible] and the same is hereby amended so as to delete said paragraph as it presently appears and to substitute therefor the following:

"All royalty payments due hereunder shall be paid to the lessors within thirty (30) days after receipt of payment by lessee for ores in which said royalty payments are applicable. Should lessee at any time, for reasons of his own, elect not to make sale of ores or the raw product of ores from the leased premises [illegible] ready and suitable market for such ores and minerals to [illegible] lessee shall pay the royalty [illegible] applicable to such ores and minerals to lessors within sixty (60) months of the date [illegible] ores and minerals are [illegible]. All royalty payments shall be made to lessors at their [illegible] as may be designated by lessors in writing. Payments shall be made [illegible] of applicable county [illegible]."

8. That Paragraph [illegible] of Article II of the lease [illegible] be and the same is hereby amended so as to delete said paragraph as it presently appears and to substitute therefor the following:

"Lessee agrees that [illegible] hereof and at all times during the term hereof, lessee will during each [illegible] year [illegible] upon or for the benefit of each of the [illegible]

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lode mining claims which are subject to this
lease agreement, [illegible] of a
[illegible] to

lessee shall have no obligation to perform assessment work upon or for the benefit of said mining claim or mining claims. It is further understood and agreed that lessee shall be allowed to credit any drilling performed by him upon the leased premises pursuant to Paragraphs 2 or 3 of ARTICLE I hereof and any amounts expended for such drilling as assessment work upon said mining claims."

9. That Paragraph 4 of ARTICLE III of the Lease Agreement be and the same is hereby amended so as to delete said paragraph as it presently appears and to substitute therefor the following:

> Immediately upon execution of this Lease Agreement, the lessee may enter into possession of the leased premises for the purpose of exploring for uranium, vanadium and fissionable source materials, and may take all steps necessary in his judgment to engage in such exploration. Immediately upon exercise of the option to acquire a Mining Lease, as provided by Paragraph 4 of ARTICLE I hereof, the lessee may enter into possession for the purpose of conducting mining operations on the land hereby leased. However, the lessee covenants to conduct such activities in a manner that will create the least possible interference with ranching operations as the same are conducted upon the premises. The lessee further covenants that he will in no event interfere with the water and the flow thereof in what is commonly called West Coyote Wash and the Rattlesnake Spring, and the lessee further recognizes that he acquires by this agreement no interest whatsoever to such water and the lessors' water rights therein."

10. That Paragraph 6 of ARTICLE III of the Lease Agreement be and the same is hereby amended so as to delete said paragraph as it presently appears and to substitute therefor the following:

> "Lessee hereby agrees that at all times during the term of this Lease Agreement lessee will

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allow lessors the right to examine all of lessee's books and records relating to the leased premises and that lessee will furnish to lessors copies of all drilling, geological and assay reports relating to the operations, drilling and exploration of the leased premises, with the exception that lessee shall have no obligation to allow lessors access to any such information, nor shall lessee have any obligation to furnish to lessors copies of any drilling, geological or assay reports when, in the opinion of lessee, or his assigns, the release of such information would be detrimental to the interest of lessee or his assigns; provided, however, that lessee, or his assigns, shall have no right to withhold such information from lessors for more than sixty (60) days after the date upon which such information is received by lessee, or his assigns. In the event that lessee elects to cancel and terminate this Lease Agreement, lessee agrees to deliver to lessors copies of all drill logs and drilling, geological and assay reports relating to the leased premises which are then in his possession.

II. That ARTICLE III of the Lease Agreement be and the same is hereby supplemented by the addition thereto of the following paragraphs:

A. Lessee shall not be liable to lessors in damages for any damage or injury caused to the surface of the leased premises by reason of the operations or activities of lessee hereunder and lessors hereby specifically waive any right to damages for injury or damage to the leased premises by reason of such operations or activities of lessee.

B. Lessee may at any time terminate this Lease Agreement and his rights hereunder, upon written notice to lessors and upon delivery of such notice to lessors and payment to lessors of all amounts due hereunder to the date of such notice of termination, this Lease Agreement shall be deemed cancelled and terminated and lessee shall have no further obligation hereunder. This

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Lease Agreement and all of the terms, conditions, and covenants hereof shall be binding upon and insure to the benefit of the heirs, executors, administrators, personal representatives, successors and assigns of the parties hereto and shall be assignable in whole or in part by lessee.

13. Lessee may at any time terminate this Lease Agreement as to any part or all of the leased premises by furnishing a written release to lessors provided that lessee shall have complied with all requirements with respect to the portion of the leased premises so surrendered to the date of surrender. Such release shall be mailed to lessors by certified mail. Upon delivery of such release, lessee shall be relieved of any future obligations with regard to the portion of the leased premises to which the release is applicable, except such obligations as lessee might have to account for any payments accrued as royalty for ores theretofore extracted from the released portion of the leased premises.

14. All tools, equipment, plant, pipelines, apparatus, buildings, structures and property of every nature and description, whether or not affixed to the soil, placed on the leased premises by lessee shall be deemed to be and shall remain the personal property of lessee and title thereto shall at all times remain and be in lessee. Lessee shall have the right at all times during the term of this Lease Agreement and for a period of six months after the termination of this Lease Agreement to remove such property from the leased premises.

15. Should any default in any of the terms hereof occur, lessors shall give notice to lessee in writing, as hereinafter provided, designating such asserted default. Lessee shall thereafter have a period of sixty (60) days from the date of actual receipt by lessee of such notice in which to correct the defaults of which he has received notice. Should lessee fail to correct such defaults within said sixty (60) day period, lessors may at their election cancel and terminate this Lease Agreement. The foregoing clause shall not be interpreted to relieve lessee of any obligation which he might have for timely performance of

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assessment work pursuant to Paragraph 2 of ARTICLE III hereof, and failure of Lessee to perform such assessment work within the time provided shall automatically be deemed a default by Lessee and lessee shall not be entitled to notice or a sixty-day period within which to correct said default.

It is specifically understood and agreed that the sole liability of lessee for any default under the terms of this Lease Agreement shall be the loss of his rights in and to the real property, mining claim, or mining claims on which the default occurred and lessee shall under no circumstances have any liability to lessors by way of damages for any default hereunder.

16. All obligations of lessee under this lease agreement shall be suspended while, but only so long as, and to the extent that lessee is prevented from complying with such obligations, in whole or in part, by strikes, lockouts, Acts of God, unavoidable accidents, uncontrollable delays by transportation, or inability to obtain necessary materials in open market, inadequate facilities for transportation of materials or for disposition of products, and any State or Federal laws, regulations or orders, or other matters beyond the reasonable control of lessee, whether similar to the matters herein specifically enumerated, or otherwise; further, lessee shall not be required against his will to adjust any labor dispute or to question the validity of or to refrain from judicially testing any Federal or State law, order, regulation or rule.

17. In the event that this Lease Agreement shall be terminated for any reason, lessee shall, at the time he vacates the leased premises, securely cover all pits, shafts or other large openings made by lessee upon the leased premises so as to prevent injury to third persons or property.

18. Lessors acknowledge and confirm to lessee that the eight per cent (8%) royalty interest herein reserved to the lessors is the only

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royalty or payment obligation outstanding against the leased premises or any of them. Lessors agree that should it be determined that the leased premises, or any of them, or any portion thereof is encumbered or subject to any outstanding royalties or obligations to make payment of any type other than the eight per cent (8%) royalty interest herein reserved to the lessors, any such outstanding royalties or obligations for payment in excess thereof shall be paid by the lessors."

DATED this day and year first above written.

LESSORS:

Joseph F. Redd

Mabel H. Redd

LESSEE:

James S. Dodge

MAX R. LEWIS

STATE OF UTAH)
) ss.
COUNTY OF)

On this _____ day of May, 1958, personally appeared before me JOSEPH F. REDD and MABEL H. REDD, his wife, who acknowledged to me that they executed the above and foregoing Amendment and Supplement to Lease Agreement.

_____
NOTARY PUBLIC
Residing at:

My commission expires:

_____

STATE OF ARIZONA)
) ss.
COUNTY OF)

On this _____ day of May, 1958, personally appeared before me JAMES S. DODGE, who acknowledged to me that he executed the above and foregoing Amendment and Supplement to Lease Agreement.

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E. J. LONGYEAR COMPANY

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APPENDIX IV

AGREEMENT AND ASSIGNMENT BY AND

BETWEEN JAMES S. DODGE, HIS WIFE,

AND THE HIDDEN SPLENDOR MINING COMPANY.

AGREEMENT AND ASSIGNMENT

THIS AGREEMENT AND ASSIGNMENT, made and entered into this _____ day of May, 1968, by and between JAMES S. DODGE, and _____ DODGE, his wife, residents of Phoenix, Arizona, hereinafter designated "first parties", and THE HIDDEN SPLENDOR MINING COMPANY, a corporation organized and existing under the laws of the State of Delaware and duly licensed and qualified to do business as a foreign corporation in the State of Utah, hereinafter sometimes designated "Hidden Splendor";

WITNESSETH:

WHEREAS, James S. Dodge is the lessee under and the owner of the rights of the lessee under the terms of a certain Lease Agreement, dated January 10, 1958, by and between Joseph F. Redd and Mabel H. Redd, his wife, as lessors, and James S. Dodge, as lessee, a copy of which Lease Agreement is attached hereto as Exhibit "A" and by this reference made a part hereof; and

WHEREAS, the above-described Lease Agreement was amended and supplemented by the terms of a certain Amendment and Supplement to Lease Agreement, dated May _____, 1968, by and between Joseph F. Redd and Mabel H. Redd, his wife, as "lessors", and James S. Dodge, as "lessee", a copy of which Amendment and Supplement to Lease Agreement is attached hereto as Exhibit "B" and by this reference made a part hereof. For purposes of convenience, the Lease Agreement dated January 10, 1958,

a copy of which is attached hereto as Exhibit "A", as amended and supplemented by the Amendment and Supplement to Lease Agreement, dated May _____, 1958, a copy of which is attached hereto as Exhibit "B", will hereinafter be designated the "Lease Agreement"; and

WHEREAS, it is the desire of First Parties to assign and convey unto Hidden Splendor all of the right, title and interest of First Parties in, to and arising under the Lease Agreement and the leasehold estate created thereby, upon the terms and conditions herein contained, and it is the desire of Hidden Splendor to receive the same.

NOW, THEREFORE, in consideration of the mutual promises, covenants and conditions herein contained and other good and valuable consideration, receipt and sufficiency whereof is hereby acknowledged, IT IS MUTUALLY AGREED BY AND BETWEEN THE PARTIES HERETO, as follows:

I.

Definitions

A. The term "Mining Properties" when used herein shall mean and refer to all of the mining claims, rights in real property and real property interests described in and which are the subject of the above-described Lease Agreement and the leasehold estate created thereby.

B. The terms "exploration" or "exploration operations", when used herein shall mean and refer to all work of prospecting for and searching for ores and/or minerals upon or within said Mining Properties, including but not restricted to geological and geophysical studies, drilling operations, various types of earth moving activities, e.g., rimstripping and bulldozing, and all other activities of an exploratory nature conducted

by Hidden Splendor.

C. The terms "development" or "development operations", when used herein shall mean and refer to the accomplishment of [illegible] operations and the work of driving or excavating openings [illegible] deposit of ore or minerals located within or upon said [illegible] so as to gain access thereto for the purpose of [illegible] the same and such other action as Hidden Splendor shall deem advisable in order to develop a mineral deposit or ore body when located and to gain knowledge of the size, shape, position, characteristics and value of such deposit.

D. The terms "mining or mining operations" [illegible] herein shall mean and refer to the work of mining, extracting, transporting, handling, processing and selling ores and minerals discovered upon or within said Mining Properties and all other work incident thereto and as may be reasonably required in connection therewith.

E. The term "marketing operations" shall [illegible] to the processes of selling for a price [illegible] the ores and/or minerals resulting from exploration, development, mining operations on the Mining Properties, as above defined.

F. The [illegible] shall be [illegible] to all sums, including all governmental taxes, production taxes or royalties, development allowances, and amounts [illegible] for transportation [illegible] payment for the sale of ores, minerals or concentrates [illegible] as the case may be, mined, shipped and sold from the Mining Properties, or any of them,

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after deducting therefrom all royalties, production payments, ore payments and payments of any other type or description payable to any person or corporation entitled to receive any part or portion of the proceeds resulting from the sale of ores or minerals or concentrates therefrom, mined and sold from any of the Mining Properties.

G. The term "expenses" shall mean and refer to the sum total of all expenditures, direct and indirect, incurred by Hidden Splendor in connection with exploration, development, mining and marketing operations upon or in connection with the Mining Properties, calculated on a quarterly basis, in accordance with generally accepted accounting principles consistently applied. Expenses shall include but not be restricted to: costs of labor and personnel whether direct or indirect; costs of all materials, supplies, tools, machinery and equipment purchased and rental charges for machinery and equipment leased or rented; costs of maintenance and repair of all buildings, fixtures, improvements, installations (surface and subsurface) machinery and equipment; costs of utilities, water, fuel, power, electricity, and all other utilities; costs of sampling, assaying, core drilling, testing, service charges in connection with the foregoing, engineering services, mapping, drafting and similar services, costs of all annual assessment work, surveying, patent application costs, completion of patent work, legal and accounting fees and all technical fees required to protect or defend title to the Mining Properties, or any of them; premiums paid on any insurance required to be carried pursuant hereto; interest charges, general and special tax assessments, taxes of every kind and nature (except corporate franchise taxes) now or hereafter

provided by law, including but not restricted to mine occupation taxes, and any and all severance taxes, [illegible] property taxes, personal property taxes, [illegible] levied upon [illegible] taxes [illegible] [illegible] Lessee, [illegible] or interest, [illegible] or any operations hereunder.

[illegible] the sum total of all expenses, direct or indirect, [illegible] in connection with [illegible] or in connection with the [illegible] from [illegible] upon the [illegible] properties.

[illegible] or ac- [illegible] having [illegible] as appl- [illegible]

[illegible] as hereinafter defined, less expenses as herein defined, calculated on a quarterly basis in accordance with generally accepted accounting principles.

consistently applied.

II.

Assignment

First Parties hereby sell, assign, transfer, convey, set over and deliver unto Hidden Splendor all of First Parties' right, title and interest of every type and description in, to and under the above-described mining agreement and the leasehold estate created thereby, reserving, however, to First Parties a carried working interest of 10% of the net profits derived from the operation of the mining properties by Hidden Splendor, until such time as Hidden Splendor has recovered from Hidden Splendor's share of net profits from operation of the mining properties a sum equal to 100% of the pre-production expense and all capital expenditures incurred by Hidden Splendor in connection with the mining properties, and reserving to First Parties a carried working interest of 10% of the net profits derived from the operation of the mining properties by Hidden Splendor after such time as Hidden Splendor has recovered from Hidden Splendor's share of net profits from operation of the mining properties a sum equal to 100% of the pre-production expense and all capital expenditures incurred by Hidden Splendor in connection with the mining properties.

It is specifically understood and agreed that the carried working interests herein reserved to First Parties shall be mutually exclusive so that at such time as First Parties may become entitled to receive a carried working interest of 10% of net profits, they shall cease to be entitled to receive the carried working interest of 10% of net profits. In other words, it is intended that until such time as Hidden Splendor has

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recovered from Hidden Splendor's share of net profits from [illegible]

[illegible] mining properties [illegible]

[illegible] the capital expenditures [illegible]

[illegible] the mining properties [illegible]

[illegible] on the ground [illegible]

[illegible]

[illegible] simultaneously [illegible]

[illegible] assignment, [illegible] rights [illegible]

[illegible] short form assignment of [illegible] rights. [illegible]

[illegible] the Lease Agreement [illegible] in accordance with this ARTICLE II [illegible], revision shall [illegible] and, [illegible], in affecting the rights of Hidden Splendor to [illegible] Agreement and Assignment if it sees fit to do so.

III.

Rights and Privileges of Hidden Splendor

Subject to the other provisions of this Agreement and Assignment, Hidden Splendor shall have the right, duty and responsibility to conduct or cause to be conducted the exploration, development, producing, marketing, mining and all other operations on said Mining Properties and the extraction and sale of ores and minerals therefrom, together with the right to conduct such geological investigations, exploration, development and mining operations, and other work as Hidden Splendor shall, in its sole discretion, elect, all of which shall be performed so as to mine and market the maximum amount of minerals and ores from said Mining

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Properties with least possible expenses and so as to realize maximum profits for the parties hereto. Hidden Splendor covenants and agrees to conduct its operations hereunder and its duties described throughout this Agreement and Assignment in a good and minerlike manner with due regard to preservation of the Mining Properties as workable mining properties.

IV.

Distribution of Gross Proceeds and Apportionment of Costs and Expenses

Except as herein otherwise specifically provided, the gross proceeds from the production, sale or marketing of ores and/or minerals of any and all types produced from the Mining Properties after deduction therefrom of all outstanding royalties and rentals, and all expenses incurred in connection therewith, shall be owned by the parties hereto in the following proportions:

(a) Until such time as Hidden Splendor has recovered from its share of net profits a sum equal to 200% of the pre-production expense and capital expenditures expended by Hidden Splendor in connection with the Mining Properties, said gross proceeds shall be owned by the parties hereto in the following proportions:

Hidden Splendor ----------90%

First Parties ---------- 10%

(b) After such time as Hidden Splendor shall have recovered from its share of net proceeds a sum equal to 200% of the pre-production expense and capital expenditures expended by Hidden

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Splendor [illegible] connection with the Mining [illegible]erties, the gross pro[illegible]

ceeds shall be owned by the parties in the following proportions:

[illegible]ndor Splendor [illegible]

[illegible] [illegible]

[illegible] [illegible]

and liabilities accruing or [illegible]

[illegible] and [illegible]

[illegible]

[illegible] of

the part's share in gross [illegible]

[illegible] gross [illegible] shall [illegible]

and discharge [illegible] of the [illegible] costs and liabilities [illegible] large-

[illegible] share of the gross proceeds [illegible] of said

[illegible], costs and liabilities [illegible] with

and [illegible] the remainder of [illegible]

[illegible] the [illegible] day of the month following the [illegible] quarter,

[illegible] shall furnish to [illegible] statements of

[illegible], costs and liabilities [illegible] (including [illegible] of

all [illegible] or [illegible] relating to all operations on the

Mining [illegible] for the [illegible] quarter [illegible]. Con-

currently with the submission of [illegible] report, [illegible] Splendor

[illegible] actually re-

ceived by [illegible] Splendor [illegible] first

partial share of the [illegible] above described.

If, during any calendar quarter, the expenses shall exceed the gross

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proceeds, the excess of the expenses over the gross proceeds shall be carried forward and charged against the gross proceeds of any subsequent calendar quarter or calendar quarters until the full amount of said expenses have been offset. Hidden Splendor covenants that it will at all times keep the Mining Properties and the capital investments acquired in connection therewith, free and clear of all laborers, mechanics, and other liens, and encumbrances, other than liens which may be incurred in connection with acquisition of equipment or other capital investments. Hidden Splendor agrees to keep accurate and complete accounting records concerning all operations hereunder and First Parties shall at all times have the privilege of inspecting and copying such accounting records, reports or books covering the operations conducted hereunder. Such inspection shall be conducted at reasonable hours by First Parties and their authorized representatives.

V.

Marketing Operations

Hidden Splendor shall have the right to sell all ores, minerals and/or concentrates therefrom, mined and removed from the Mining Properties, either in the name of Hidden Splendor or its nominee. Further, notwithstanding anything in this Agreement and Assignment to the contrary, it is understood and agreed that at all times throughout the term of this Agreement and Assignment, First Parties and Hidden Splendor shall each have the right upon payment of its share of outstanding royalties and the expenses applicable thereto to take its share of gross production of minerals or ores from the said Mining Properties, in kind, and the further right, after taking the same in kind, to market such share for its own account.

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VI.

Taxes

Hidden Splendor shall pay as the same become due and payable all taxes levied or assessed against the Mining Properties and the production therefrom and against all personal properties acquired in the operations hereunder, including but not limited to ad valorem, occupation, production, severance, sales and use taxes, excepting those taxes which are paid or payable by the purchaser of production from said Mining Properties and, except such taxes as are to be paid by the lessors under the terms of the above-described Lease Agreement. All taxes so paid shall be deemed to be expenses for the purposes of determination of net profits hereunder. Each party hereto shall be deemed to have paid its proportionate part of the total taxes so paid and each party reserves the right to protest any tax payment which it feels is unlawful and to seek redress therefrom according to law.

VII.

Insurance

Hidden Splendor shall at all times while conducting operations hereunder, purchase and maintain in effect liability insurance covering its operations hereunder, showing the limit of insurer's liability to be not less than as follows:

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BODILY INJURY:

(1) Each Person $100,000.00
(2) Each Accident [illegible]

PROPERTY DAMAGE:

(1) Each Accident [illegible]
(2) Aggregate Liability [illegible]

Hidden Splendor shall not be required to [illegible] coverage or other physical damage insurance, [illegible] parties hereto shall be self-insurers, [illegible] Hidden Splendor shall [illegible] liability insurance [illegible] specifically provided. Hidden Splendor shall charge as [illegible] under [illegible] equal to the [illegible] applicable to all insurance protection purchased by it.

VIII.

[illegible]

In the conduct of its operations hereunder, Hidden Splendor is to be [illegible] to be paid them, and shall have the [illegible] authority and discretion to hire and fire all such persons.

Rights and Privileges of First Parties

First Parties shall have the following specific rights and privileges:

A. Access at their own risk to the said properties, and at any reasonable time to inspect work of exploration, development, mining and all other operations thereon.

B. The right to inspect geological and assay data prepared or caused to be prepared by Hidden Splendor as to said mining properties and to inspect samples of mineralization, drill cores and cuttings resulting from drilling and mining operations on said properties.

C. The right at all reasonable times to inspect, copy and audit the books, records and invoices pertaining to any matter of accounting arising hereunder.

It is specifically understood and agreed that Hidden Splendor shall have no obligation to grant to First Parties the right of access to the Mining Properties, or the right to inspect drilling, geological or assay data, or books, records or invoices of Hidden Splendor, when in the opinion of Hidden Splendor, such action would be detrimental to the interests of Hidden Splendor; provided, however, that if Hidden Splendor should elect to terminate this Agreement and Assignment and reassign the Lease Agreement to First Parties, Hidden Splendor shall, upon the request of First Parties, deliver to First Parties copies of all drill logs, geological and assay data prepared or caused to be prepared by it with relation to the mining properties, which is then in the possession of Hidden Splendor.

and, provided, further, that Hidden Splendor shall have no right to withhold such information from First Parties for more than sixty (60) days after the date upon which such information is [illegible] to Hidden Splendor.

[illegible]

First Parties hereby [illegible] knowledge, information and belief [illegible] good and marketable title [illegible] on the [illegible] thereunder, free and clear of all liens, encumbrances and [illegible] that First Parties have [illegible] across, over and upon said [illegible] and effect and [illegible] to said [illegible] First Parties further covenant and [illegible] that to the best of their knowledge, information and belief [illegible] Lease Agreement are the [illegible] of [illegible] to the real property, the [illegible] in said property and [illegible] which comprise the Mining Properties and which are subject to said Lease Agreement, free and clear of all liens, [illegible] Hidden Splendor shall have [illegible] of execution of this Agreement [illegible] and examinations [illegible] in and to said Lease Agreement [illegible] said Lease Agreement [illegible] days of the date of this Agreement and Assignment. Hidden Splendor shall designate to First Parties, in writing, whether or not the title of

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First Parties in and to the Lease Agreement and the title of the lessors under said Lease Agreement in and to the Mining Properties is acceptable to Hidden Splendor. If Hidden Splendor shall designate either of said titles as not acceptable to it, it shall concurrently with such designation, deliver to First Parties a release and reassignment of all of the rights of Hidden Splendor under and by the terms of this Agreement and Assignment and upon delivery of said release and reassignment, Hidden Splendor shall have no further obligations hereunder and this Agreement and Assignment shall be deemed terminated.

Notwithstanding any provision herein to the contrary, Hidden Splendor shall have the sole determination as to the acceptability of title to the Mining Properties and shall have the right at any time to waive any defects in said titles or any portion thereof and designate title to the Mining Properties or portions thereof as acceptable to Hidden Splendor.

First Parties acknowledge and confirm to Hidden Splendor that the 5% royalty interest reserved to the lessors under the Lease Agreement is the only royalty or payment obligation outstanding against the Mining Properties, or any of them. First Parties agree that should it be determined that the Mining Properties, or any of them, or any portion thereof, is encumbered or subject to any outstanding royalties or obligations to make payment of any type, other than the 5% royalty interest reserved to the lessors under the Lease Agreement and the carried working interest herein reserved to First Parties, any such outstanding royalties or obligations for payment in excess thereof shall be paid by First Parties.

XI.

Payment of Royalties

First Parties agree that Hidden Splendor is hereby granted all rights and privileges of First Parties arising under the terms of the Lease Agreement and First Parties direct that all royalty payments due the lessors under the terms of said Lease Agreement be paid by Hidden Splendor to the original lessors under the terms of said Lease Agreement. First Parties further direct that all notices provided in said Lease Agreement to be given to lessee thereunder shall hereinafter be given to Hidden Splendor; provided, however, that a copy of said notices shall be forwarded to First Parties by said lessors at the time any such notices are given. Hidden Splendor hereby agrees that at all times during which the rights of Hidden Splendor under this Agreement and Assignment are in full force and effect it will faithfully perform, discharge and fulfill all of the obligations, engagements and undertakings of the lessee under the terms of said Lease Agreement and will pay to the lessors thereunder, or to their respective heirs, executors, administrators, legal representatives or assigns, as said royalties may become due and payable, in the same manner as lessee thereunder is obligated so to do.

XII.

Default.

Should any default in the terms hereof occur, First Parties shall give notice in writing by certified mail to Hidden Splendor designating such asserted defaults. Hidden Splendor shall thereafter have a period of sixty (60) days from the date of receipt of such notice within which to

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correct the defaults of which it has received notice. Should Hidden Splendor fail to correct said defaults within said sixty-day period, Hidden Splendor agrees to reassign to First Parties all rights granted to Hidden Splendor hereunder.

XIII.

Notices

Except where specifically provided to the contrary herein, any notices herein contemplated to be given to First Parties shall be sufficient if given in writing by certified mail, or if given by telegraph, and in either case, addressed to:

JAMES S. DODGE
4446 North 28th Street
Phoenix, Arizona,

or to such other address as First Parties may from time to time designate to Hidden Splendor in writing and if to Hidden Splendor shall be sufficient if given in writing by certified mail, or if given by telegraph, and in either case, addressed to:

THE HIDDEN SPLENDOR MINING COMPANY
312 First Security Building
Salt Lake City, Utah,

or to such other address as Hidden Splendor may from time to time designate to First Parties in writing. Service of notice shall be deemed effective and complete on the date of delivery thereof to the address indicated above.

XIV.

Ownership of Personal Property

All tools, equipment, pipe, pipelines, apparatus, buildings,

structures and property of every nature or description whether or not affixed to the soil and whether or not placed on the Mining Properties by Hidden Splendor, shall be deemed to be and shall remain the personal property of Hidden Splendor and title thereto shall at all times remain and be in Hidden Splendor. Hidden Splendor shall have the right at all times to remove such property from the leasehold premises during the term of this Agreement and Assignment and at any time within six months after the expiration or termination of this Agreement and Assignment.

XV.

Force Majeure

All obligations of Hidden Splendor under and pursuant to this Agreement and Assignment shall be suspended while, but only so long as Hidden Splendor is prevented from complying with such obligations in whole or in part by strikes, lockouts, Acts of God, unavoidable accidents, uncontrollable delays by transportation, inability to obtain necessary materials in open market, inadequate facilities for transportation of materials or disposition of production, lack of ready market for ores produced, any state or federal law, regulations or orders, or other matters beyond the reasonable control of Hidden Splendor, whether similar to the matters herein specifically enumerated, or not; provided, however, that Hidden Splendor shall resume performance within a reasonable time after such cause shall have been removed; and, provided, further, that Hidden Splendor shall not be required against its will to adjust any labor dispute or to question the validity of or to refrain from

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judicially testing the validity of any state or federal order, regulation or law.

XVI.

Right to Reassign

Hidden Splendor shall have the right at any time to terminate this Agreement and Assignment and its rights hereunder, upon written notice to First Parties and upon delivery of such notice to First Parties and performance of all obligations of Hidden Splendor due hereunder to the date of such notice and delivery to First Parties of a recordable instrument releasing all rights of Hidden Splendor hereunder and re-assigning to First Parties all of the right, title and interest of Hidden Splendor in and to the Lease Agreement and the leasehold estate created thereby, this Agreement and Assignment shall be deemed cancelled and terminated and Hidden Splendor shall have no further obligation hereunder.

XVII.

Right of Hidden Splendor to Assign its Rights Hereunder

This Agreement and Assignment and all of the terms, conditions and covenants herein shall be binding upon and inure to the benefit of the heirs, executors, administrators, personal representatives, successors and assigns of the parties hereto and shall be assignable in whole or in part by Hidden Splendor.

XVIII.

Advance Payments

In the event that Hidden Splendor should elect to extend the term

of the Exploration Lease granted by the Lease Agreement beyond March 16, 196[illegible], pursuant to Paragraph 3 (c) of ARTICLE I of the Lease Agreement, or in the event that Hidden Splendor shall have exercised the option to obtain a Mining Lease pursuant to paragraph 4 of ARTICLE I of the Lease Agreement, and shall elect to maintain and extend said Mining Lease in force and effect beyond March 16, [illegible], Hidden Splendor agrees that it will pay to First Parties as an advance against accounts to which First Parties would be entitled under the carried working interest reserved to First Parties, a sum equivalent to $7,[illegible] per year for each year of such extension to and including [illegible] year such [illegible] shall elect to obtain such extension beyond [illegible] Hidden Splendor shall pay to First Parties as an advance against accounts to which First Parties would be entitled under the carried working interest herein reserved to First Parties an sum of $[illegible] per year for each year of such extension beyond March [illegible]. Such advance payments shall be due and payable on the [illegible] day of the year to which such payment is applicable. For the purposes of this provision, a year shall be deemed to be the period between March [illegible] of one year and March [illegible] of the following year. Any sums paid by Hidden Splendor to First Parties as advances pursuant to this ARTICLE [illegible] will such be deemed to be advances against the carried working interest [illegible], and First Parties and Hidden Splendor shall receive as a credit against the actual payments to become due to First Parties pursuant to said carried working interest and Hidden Splendor shall be entitled to offset all amounts paid by it pursuant to this ARTICLE [illegible] against said carried working interest.

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XIV.

First Right of Hidden Splendor to Purchase Interest of First Parties

In the event that First Parties should elect to sell or assign their rights under or under [illegible] of the parties hereto, Hidden Splendor shall have the first right to purchase the right of First Parties upon the same terms and conditions as are contained in the bona fide offer which has been received by First Parties. In the event that First Parties should elect to sell or assign their rights [illegible] Hidden Splendor, such notice shall [illegible] the terms and conditions contained in the bona fide offer which has been received by First Parties for purchase of said rights. Hidden Splendor shall be allowed in any case within 30 days following [illegible] receipt of such notice to purchase the rights of First Parties arising under this Agreement and Assignment, or the [illegible] specified, with a notice to First Parties of the election to so purchase and payment to First Parties of a sum equal to the bona fide offer which has been received by First Parties as set forth in the notice from First Parties to Hidden Splendor.

XV.

Legal Status of Parties

It is understood and agreed that this Agreement and Assignment shall not create the relationship of a partnership or joint venture between the parties hereto, and that no action taken by any party pursuant to the provisions hereof shall operate to create such relationship, nor shall the provisions of this Agreement and Assignment be construed as creating

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such relationship. The liability of the parties hereto shall be several and not joint or collective and each party shall be responsible only for its obligations as herein set forth and shall be liable only for its proportionate share of the costs, expenses and liabilities incurred hereunder. Each of the parties hereto further agrees that this Agreement and Assignment shall not constitute a partnership as defined in the Internal Revenue Code of 1954 and specifically elects to be excluded from the application of all of Subchapter K of Chapter 1 of Subtitle A of such Code pursuant to Section 761 thereof. The parties hereto hereby authorize Hidden Splendor to execute and file with the proper administrative office or agency the documents required to effectuate this election in accordance with such regulations.

FIRST PARTIES:

_____
[illegible]

_____
[illegible]

HIDDEN SPLENDOR: THE HIDDEN SPLENDOR MINING COMPANY

By _____
President

ATTEST:

_____
Secretary

STATE OF)
) ss.
COUNTY OF)

On this _____ day of May, 1958, personally appeared before me JAMES S. DODGE and _____ DODGE, his wife, who acknowledged to me that they executed the above and foregoing Agreement and Assignment.

_____
NOTARY PUBLIC
Residing at:

My commission expires:

_____

STATE OF)
) ss.
COUNTY OF)

On this _____ day of May, 1958, personally appeared before me A. P. [illegible] and EDWARD R. PARLEY, JR., who, being by me duly sworn, did say, that they are the President and Secretary, respectively, of [illegible] SPONGE MINING COMPANY, a Delaware corporation, and that the within and foregoing Agreement and Assignment was signed on behalf of said corporation by authority of a resolution of its Board of Directors and said A. P. [illegible] and Edward R. Parley, Jr. duly acknowledged to me that said corporation executed the same and that the seal affixed is the seal of said corporation.

_____
NOTARY PUBLIC
Residing at:

My commission expires:

_____

CONSENT

The undersigned, WALLACE H. GARDNER, and _____ GARDNER, his wife, BERT D. ISAAC and _____ ISAAC, his wife, and ARNOLD A. BARNEY and _____ BARNEY, his wife, hereby consent to the execution of the foregoing Agreement and Assignment by the First Parties therein and agree that any interest they or any of them may claim in and to the Lease Agreement

described in said Agreement and Assignment and the leasehold estate created thereby shall be bound by all of the terms, conditions and provisions of the foregoing Agreement and Assignment the same as if the undersigned were parties to said Agreement and Assignment.

DATED this _____ day of May, 1958.

Wallace H. Gardner

Gardner

Bert D. Isaac

Isaac

Arnold A. Barney

Barney

FORM 602 5M 10-56

E. J. LONGYEAR
COMPANY

EXHIBIT F

CONTRACTOR BIDS

SCOTT BROS.
drilling company
"Exploration Drilling Services"

FIELD OFFICE
E. 66 AVE. · PHONE LN 3-5202
GALLUP, NEW MEXICO

FIELD OFFICE
[illegible]
GRANDE, NEW MEXICO

309 KORBER BLDG. · PHONE CHAPEL 2-3569
ALBUQUERQUE, NEW MEXICO

OFFICIAL FILE COPY
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RECEIVE
29

[illegible]

Mr. [illegible] Splendor Mining Co.
[illegible] Longyear Co.
[illegible] Boulevard
[illegible], Colorado

[illegible]

Gentlemen:

[illegible] permit to set forth [illegible]
[illegible] of approximately [illegible]
near [illegible], Idaho.

Non-core drilling [illegible]
- plus the [illegible]
in excess of [illegible]

Core drilling [illegible]
- plus the [illegible]
in excess of [illegible]
- plus the [illegible]

Rig time for [illegible]

Except as noted above we [illegible] provide all operating equipment, personnel, operating expenses [illegible] water and administrative [illegible]

If we can supplement the above with any additional [illegible] information we shall be glad to [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

We quote the following [illegible] drilling [illegible] property:

[illegible]

[illegible] Exploration [illegible]

[illegible] Hidden Spender Mining Co.
Box [illegible],
Salt Lake City, Utah.

Vivian Drilling Co.

ROCK BIT & DIAMOND CORE DRILLING CONTRACTORS

P. O. BOX 1025
MOAB, UTAH

PHONE: ALPINE 3-4366

May 2, 1958

Mr. Ned Woods
Hidden Splendor Mining Co.
La Sal, Utah

Dear Sir:

The following are the prices, as per your request, for drilling three holes in the Indian District near La Sal, Utah.

0 to 2500' Plug bit	$5.75 per ft.
Coring	$22.50 per hr.

Contractor will furnish the first 300 sacks of drilling mud per hole and the first 100 bags of sealer per hole.

Reaming	$2.75 per ft.
Casing at cost plus freight Handling casing	$17.50 per hr.

Yours truly,

VIVIAN DRILLING CO.

C. E. Vivian

Century Geophysical Corporation

LOGGING & URANIUM DIVISION
ROOM 212 • URANIUM CENTER BUILDING
GRAND JUNCTION, COLORADO

COPY

May 16, 1958

Mr. Ned Wood
Eldon Sylander Mining
Moab, Utah

Re: Redd Lease Claims, Lisbon Valley, Utah.

Dear Mr. Wood:

The prices quoted below are applicable to the above named project only (i.e., four to six holes approximately 2,500 feet deep) and may do not constitute a continuous service schedule for this area.

1. Gamma Ray & Neutron survey - .10¢ per foot
2. Self Potential survey - .015¢ per foot
3. Continuous drift survey - .075¢ per foot plus $25.00 service (setup) charge.
4. Drive time to and from project - $10.00 per hour
5. Standby time at project - $10.00 per hour

A continuous drift test is considered more adequate for each foot of hole.

A crew is available from Grand Junction within [illegible] days.

A 24 hour notice of operation prior to bottoming of hole.

The general terms and conditions of contract are outlined in Items on III of the attached Service Order.

Respectfully Submitted,

CENTURY GEOPHYSICAL CORPORATION

J. E. Roberts, Supervisor
Logging and Uranium Division

cc: Mr. Ned Wood, Salt Lake City
[illegible] Wood
[illegible] Company, Co. Springs
[illegible] Commercial

Farmington, New Mexico
Box 758
Twater 7-4779

Century
GEOPHYSICAL CORPORATION
Logging and Uranium Division
311 Uranium Center Grand Junction, Colo.
Ph. CHapel 3-1183

Riverton, Wyoming
Box [illegible]
Ph. ULster [illegible]

SERVICE ORDER

CLIENT: Hidden Splender Mining Company Date: May 16, 1958

ADDRESS: Moab, Utah

PROJECT LOCATION: Red Lease Claims, Lisbon Valley, County, Utah State

Section _____, Township _____, Range _____

SERVICES TO BE PERFORMED: As listed in the attached proposal.

The following is a list of the prices and terms which will apply to the Gamma Ray Resistance logging to be performed by Century Geophysical Corporation for the CLIENT and in the location mentioned above.

I. **Basic Logging Services:** Charges for basic logging services shall be at the footage prices listed in the attached ~~schedule~~ proposal.

II. **Additional logging, Allied Services and Equipment:** Charges for any additional logging serivces shall be at the prices listed in the attached Schedule II.

III. **General Terms and Conditions:**

A. Billings to be made at 15th of each month/or at completion of work. Payments due within 10 days thereafter

B. Footage charges to be determined by including the following measurements: (1) from the surface to the deepest depth readings; (2) any reruns through mineral and/or ore sections; and (3) any additional reruns requested by CLIENT.

C. Century will make a reasonable attempt to reach and return from the logging location under the power of its own four-wheel drive equipment; but if a caterpillar or other towing equipment is required, same shall be provided by Client at its expense. If such towing equipment is not provided by Client, Century will hire towing equipment and bill Client for the actual costs.

D. Century to carry adequate Workman's Compensation and/or Employer's Liability, Automobile Public Liability Insurance.

E. Century, its agents and employees shall zealously guard all information and data acquired in its logging for Client, in order to prevent anyone other than Client or its authorized agents from obtaining or acquiring same.

F. Century not to be liable for extra drilling costs resulting from:
(a) The caving in or collapse of any exploration hole;
(b) The losing of a probe in a hole, prior to, or during the logging of that hole;
(c) Any cause which results from Century's operations hereunder, but is beyond the control of Century.

G. Client shall make a reasonable effort, 10 hours of drilling equipment in an attempt to recover any probe lost in a bore hole.

H. Client to furnish all licenses and permits and to hold Century harmless from invasion of or trespass or damage to surface, subsurface, water or mineral rights or interests.

I. Century not to be obligated to perform logging services for Client when prevented by any cause beyond its control, including force majeure.

J. No charge will be made for lost time due to Century equipment failure.

K. Estimated duration, _____ (day/s, week/s month/s).

L. Century agrees to perform all logging requested by Client pursuant to the terms and conditions herein. The Client shall have the right to terminate this contract on five (5) days advance written notice.

CENTURY GEOPHYSICAL CORPORATION

By J. E. Roberts

Title J. E. Roberts, Supervisor

Client Hidden Splender Mining Company

By _____

Title _____

ORE ____ ✓ FAV.
MIN. ✓ ____ UNFAV.
BARREN ____

U.S.A.E.C.

HOLE NO. #1

PROJECT Redd Lease - Hidden Splendor Mining Co.

LOCALITY Big Indian CLAIM ____

COLLAR ELEV. ____ DEPTH ____

COORDINATES ____

DATE COMPLETED Approx. 8-15-58

LOGGED BY N.E. Salo DATE 9-8-58

RECOVERY ____ %

Location: Sec 8, T 29S, R 24E, SLM

GEOLOGIC COLUMN	COLOR	BEDDING	TEXTURE	CEMENT	SORTING	ORE MINERALS	MISCELLANEOUS	DEPTH
							NX core Plug bit to 2570'	2570
	M-gy	mass	f ss w/ gls	$CaCO_3$ well	poor	none	sts, ms, ls pbls s cbn flks	
	gy-gn mott w/r	mass	ms	fair		none	sp cbn	
					poor		m-c ss w/ ms-ls gls Rc	2580
	DK R-bn w/ gn mott	Mass	sts to vf ss to m ss	fair	fair		Pc Contains Abundant seams & flakes of micaceous mudstone Bleached gn at Top 2 inches	2590
	DK-R bn w/ s gn mott	cren	sts w/ m ss	$CaCO_3$ vein lets	fair		seams of lime-stone ← limestone w/ slylotite	
	DK R	mass	vf-f ss	$CaCO_3$	good			2600
	DK R Bn w/ gn spots	cren	sts w/ m-c ark beds	$CaCO_3$	fair			2610 2620
	DK R w/ gn spots	mass to thin	vf ss to f ss	poor	good		Note: lost 50% of core from 2610'-2629' ← zone of ms flakes Abundant mus-covite & biotite on bedding	2630 2640
	DK R-pp	mass	m-c ark grade into ms	Poor	fair		occ ms gls Abundant near base A biotite	2650 2660
	DK R-pp w/ bn ms	mass	m-c ark	poor $CaCO_3$	fair		A biotite sp gn mottling $CaCO_3$ veinlets occ ms pbls	2670
							Bottom @ 2670' Note: Gamma-ray log shows mineralized zone approx one foot above top of this core.	

Js / JE — 905

JE / JC — ?

JC / JN — ?

JN / JK — 1650 ?

JK / TRW — 1795 ±

TRW / TRC — 2177 ±

NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM		NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM	
	RUN / STOP		RUN / STOP
Miss Riley B B [illegible]	RUN / STOP		RUN / STOP
~~Mr. R. A. Bailey~~ ~~G 218~~	RUN / STOP		RUN / STOP
[illegible] Kaya Naval Gun Factory	RUN / STOP		RUN / STOP
[illegible]m J. Johnston [illegible]n. 4215 G.S.A Bldg	RUN / STOP		RUN / STOP
~~Mr. Thayer, Min. Deputy~~ ~~[illegible] 5227, Interior Bldg~~	RUN / STOP		RUN / STOP
~~N. S. White~~ ~~4212 GSA.~~	RUN / STOP		RUN / STOP
~~[illegible] Lerabee~~ ~~218 Int Bldg.~~	RUN / STOP		RUN / STOP
[illegible]r. Echo Room 4443, Interior	RUN / STOP		RUN / STOP
	RUN / STOP		RUN / STOP

Use other side first

U. S. GOVERNMENT PRINTING OFFICE : 1951 16—38949a-2

OFFICIAL FILE COPY

Date	Surname	Code
3/4/59	Knouse	700
		~~700~~
3/5	Selfridge	120
		~~110~~
		~~100~~
3/6	C	220
		700

MAR 5 1959

Mr. A. Payne Kibbe, President
The Midden Splendor Mining Company
P. O. Box 2306
Salt Lake City, Utah

Re: Docket No. DMEA-5036 (Uranium)
JFR Claims, et al.
San Juan County, Utah

Dear Mr. Kibbe:

Reference is made to our letter of February 4, 1959, regarding action required to make your DMEA application eligible for consideration under the OME regulations.

We wish to cooperate with you in allowing ample time to complete such action, but, if we do not hear from you within 30 days from the date of this letter, we will assume that you are no longer interested in proceeding with your application, and we will consider it as having been withdrawn.

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Director

FLKnouse/gla
3-4-59
cc to: Director's Reading File
THKiilsgaard, 5224
FLKnouse
OME Field Team, Region III (2)

4/6/59 No reply received

43683

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
2/3/59	Murphy	700
		700
2/4	Selfridge	120
		~~110~~
		~~100~~
2/4	C	220
		700

FEB 4 1959

Mr. A. Payne Kibbe, President
The Hidden Splendor Mining Company
Salt Lake City, Utah

Re: Docket No. DMEA-5036 (Uranium)
JFR Claims, et al.
San Juan County, Utah

Dear Mr. Kibbe:

In accordance with our letter of September 19, 1958, enclosed is a copy of the regulations for obtaining Federal assistance in financing mineral exploration under which the new Office of Minerals Exploration will operate. There is also enclosed a set of application blanks (MME Form 40) in case you wish to apply under the OME regulations.

There are substantial differences between the OME and DMEA programs; therefore, your attention is called particularly to the criteria in the OME regulations used in passing upon applications and to the certification on the OME application form, which when signed declares that you would not ordinarily undertake the proposed exploration under current conditions and circumstances at your sole expense, and to Item 1(a) - and 1(c) if applicable - which relates to information used to determine your financial eligibility under the new exploration program. In this respect you should furnish your latest detailed balance sheet and profit and loss statement. If other parties or organizations have a substantial interest in your company, similar financial data should be supplied for them. Pertinent information that is included in your DMEA application need not be repeated in the OME application, but you should furnish any new information required to support your OME application.

The referenced mining claims are in the general area of the property listed under your application, Docket No. DMEA-5035. In the event that you can qualify for Federal financial assistance on both properties, we would be inclined to make the performance under one contract be subject to the result of the work on the other, and hence be performed consecutively, rather than concurrently.

43683

If you do not wish to participate in the OME program, we shall appreciate being so informed.

Sincerely yours,

Frank E. Johnson

Acting Director

Enclosures

FLKnouse/FEJohnson/gla
2-3-59
cc to: Director's Reading File
THKiilsgaard, 5224
FLKnouse
FMMurphy
OME Field Team, Region III (2)

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
1/22/59	[illegible]	700
		120
		110
		100
		220
		700

Mr. A. Payne Kibbe, President
The Hidden Splendor Mining Company
P. O. Box 2306
Salt Lake City, Utah

Re: Docket No. DMEA-5036 (Uranium)
JFR Claims, et al.
San Juan County, Utah

Dear Mr. Kibbe:

In accordance with our letter of September 19, 1958, enclosed is a copy of the regulations for obtaining Federal assistance in financing mineral exploration under which the new Office of Minerals Exploration will operate. Then we also enclose a set of application blanks (MME Form 40) in case you wish to apply under the OME regulations.

~~After careful study of all our information concerning the property listed in the subject application, as well as the property listed in the application Docket No. DMEA-5035, we would be inclined to favor the latter application. However, if Federal assistance can be approved for the latter property, we would defer a decision on the subject application until a part or all of the results of the exploration work is available.~~

~~Under these conditions, if you wish that your partly-processed DMEA application be considered under the OME regulations, please complete and return four of the copies of the attached application, MME Form 40.~~

Insert A

~~Your attention is called especially to the certification~~, which when signed declares that you would not ordinarily undertake the proposed exploration under current conditions and circumstances at your sole expense, and to Item 1(a) - and 1(c) if applicable - which relates to information used to determine your financial eligibility under the new exploration program. Insert B

Partial information that is included in your DMEA application need not be repeated in the OME application, but you ~~can add~~ should furnish any new information ~~if you so desire~~.

Insert C — signed by applicant / your OME application

If you do not wish to participate in the OME program, we shall appreciate being so informed.

FLKnouse/FEJohnson/gla
1-22-59

Sincerely yours,

cc to: Director's Reading File
THKiilsgaard, 5224
Mr. Knouse
OME Field Team, Region III(2)

Acting Director

Enclosures

43683

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
Washington 25, D. C.

January 31, 1959

Memorandum for Docket

Subject: Withdrawal of Pending DMEA Application

Effective this date, this pending DMEA application is considered withdrawn for statistical purposes.

If, at a later date, the applicant requests reconsideration under the OME program, all pertinent material in the DMEA file should be transferred to the new OME docket.

Frank E. Johnson
Frank E. Johnson
Acting Director

IN REPLY REFER TO:

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

OFFICIAL FILE COPY
O. M. E.
RECEIVED JAN 9 1959

DATE	INITIALS	CODE
1-9	C	220
1-12	Knouse	700

January 8, 1959
Re: OME 5036
Hidden Splendor Mining Co.
Redd Lease Group
San Juan County, Utah
Appl. Est. $37,465.00
Rec'd Est. 35,386.00
Uranium

Memorandum

To: F. L. Knouse, Office of Minerals Exploration

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

Subject: Review of Field Team Report

The applicant requested assistance in prospecting, by deep hole drilling, two groups of claims, the Coyote Wash (5035) and the Redd Lease Group (5036).

In general the geologic conditions and drilling programs are similar; therefore, referral is made to the review of the 5035 Field Team Report.

In both cases it is recommended that the application be denied without prejudice, but it is requested that any available information concerning recent drilling that may have been done by the applicant or other parties be sent to us.

N. E. Nelson

N. E. Nelson

EXTRA COPY
O. M. E.
RECEIVED JAN 9 1959

DATE	INITIALS	CODE

File
5036

January 7, 1959
Re: ~~[illegible]~~
Silver Splendor Mining Company
Coyote Wash Area
San Juan County, Utah
Appl. No. [illegible]
Rel'd No. [illegible] - Grandon

Memorandum:

To: F. L. Kunzel, Office of Minerals Exploration

From: H. E. Malmgren, U. S. Geological Survey

Subject: Review of Field Team Report

The applicant requested assistance in prospecting, by deep hole drilling, the group of claims on the northwest or downthrow side of the northeasterly striking Lisbon Valley Fault. The fault is a major structural feature of large displacement. On the foot wall and upthrow side of the fault in basal members Chinle conditions, layers are at least two northerly striking beds containing good grade uranium ore.

The ore bodies, as indicated by a long line of outcropping mining operations, are related to probably combined bed areas in the low dipping Chinle conditions which usually the prominent crests and shoulders edges of larger conditions both in the more steeply dipping Entrada formation. As discriminatively depicted, generally the ore does not come in the Entrada conditions which dip westerly at about 15°, whereas the Chinle beds dip westerly at about 30°. As a result of the post-Chinle erosion, the outcrop-exposures of the dipping Entrada beds stand on benches. In the Chinle conditions overlying the crests and upwarped edges of two of the Entrada conditions beds are found the rich ore bodies of the Fern, Eaton, North Alice and Fox Hunt mines, the mined concept the ores in which the N.10°W trending beds are taken to rank and are cut off by the N.55°W striking Lisbon Valley Fault.

From the maps of local ore opening off the North Alice Incline is in ore to within 35-40 feet of the fault to which the opening was driven. Otherwise, Weiner labor work has provided further information, no ore bodies have actually been cut off by what is assumed to be a post ore fault. Whether or not the fault, as exposed in the openings

which cross it, gives evidence of the direction of movement on it is not stated. As it appears to have caused a vertical displacement of perhaps 4,000 feet, a slight deviation from a dominantly movement would tend to make difficult the locating of faulted structures on the downthrown side of the fault.

The applicant has drilled a 2,666-foot hole into the Chinle formation in the Redd Lease Group about 3 miles northwest of the Coyote Wash Group. As stated by Mr. Edwin T. Wood, two very significant facts were learned from this drilling, namely:

(a) That the formation immediately underlying the Chinle on the east side of the Lisbon Valley fault is the Entrada. This in itself is an encouraging factor for exploration.

(b) Second, and most important, uranium mineralization is present in basal Chinle sands on the east side of the fault. Although the estimated 1.0' of 0.04%/ton encountered at the strongest anomaly in this hole is not commercial ore; it is a significant anomaly from the standpoint of further prospecting.

The first fact was a safe assumption unless a very great lateral displacement on the fault was a distinct possibility. The second fact, encountered as it is with a point 2570 feet below the surface in a region replete with lateral sections of 0.04% U_3O_8 material near the base of the Chinle formation, is not too exciting.

With qualifications, the examiners recommend work on both the Coyote Wash and Redd Lease Groups. The Field Team without qualification recommends denial without prejudice of application 3036 (Redd Lease) and with qualifications recommends approval of the Coyote Wash application, 3033. In the opinions of the examiners and the Field Team, the proposed work is prospecting.

I concur with the opinions and recommend that both applications be denied without prejudice. If further drilling has been done by the applicant or other parties, available information should be sent to us.

H. E. Nelson

E. E. Nelson

cc: GRE (3)
Director's reading
Branch reading
G.Y. Gardner
James Fahnn
Chron. file
Docket file

EENelson/mm
4-RD-1-7-59

OFFICIAL FILE COPY O. M. E. RECEIVED NOV 20 1958		
DATE	INITIALS	CODE
11/20	C	220
"	Kanne	700

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

Date November 19, 1958
DMEA Docket No. 5036
DMEA Contract No.
Commodity Uranium
Name of Applicant Hidden Splendor Mining Co.
Location of property San Juan County, Utah
Estimated cost of project $35,386.00

Memorandum

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

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

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

1. Date of subject document: 10/31/58 2. Date received by reviewer: 11/18/58

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

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

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

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

7. Explain items marked 'yes' above:

8. Factors meeting special consideration:

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

9. Action advised:

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

10. Remarks: (Use back of page if necessary). Denial without prejudice recommended. In view of proposed exploration on Coyote Wash Claim group, it would probably be in the Government's best interest to reserve judgement on this application until results of DMEA 5035 are known.

FOR UNITED STATES GOVERNMENT USE

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

TRANSMITTED

NOV 6 1958

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O. M. E.
RECEIVED NOV 10 1958

DATE	INITIALS	
11-10	C	220
	[illegible]	130
11	[illegible]	110
	[illegible]	130
11/18	[illegible]	220
	[illegible]	700
	[illegible]	2255

October 31, 1958

Memorandum

To: Secretary to the Operating Committee, OME

From: OME Field Team, Region III

Subject: Docket No. DMEA 5036 (Uranium), Hidden Splendor Mining Company (Redd Lease group of claims) San Juan County, Utah
Joint Report of Examination

Enclosed are the original and two copies of a joint report of examination by J. W. Hasler, U. S. Geological Survey, and H. F. Robertson, U. S. Bureau of Mines, in which approval of a 4 hole program of exploration on the subject property is recommended.

This request for exploration on the Redd Lease group of claims, (DMEA-5036) is based on the identical assumptions used in the request for exploration on the Coyote Wash claim group (DMEA 5035). Both exploration programs are recommended for approval by our Grand Junction staff.

In our transmittal letter for Docket No. DMEA-5035, the Coyote Wash claim group, we pointed out the hypothetical nature of the evidence of the presence of significant ore deposits on the property, the difficulty of locating the target areas, and the large rewards of a successful exploration program. We concluded that the proposed program (6 holes) was much too limited to accomplish the objectives. With tongue in cheek we recommended an expanded program of exploration, at the same time admitting that a denial of that request without prejudice would be appropriate.

Our comments on the technical aspects of this program are identical to those made for DMEA Docket 5035. However, in this case we do not hesitate to recommend denial without prejudice, for in our opinion concurrent exploration of the two properties cannot be justified. Discussions with members of the Geological Survey familiar with the area, and with our Grand Junction staff suggest that exploration of the Coyote Wash claim group is slightly preferable to exploration of the Redd Lease.

Reviewed by
OME OPERATING COMMITTEE
11/18/58
(date)

ON-SITE EXAM. REPORT

If you approve exploration on the Coyote Wash claim group (DMEA-5035) and if that exploration proves the favorability of the Cutler-Chinle ore horizon north of the Lisbon Valley fault, reconsideration of a request for exploration on the Redd Lease claim group (DMEA-5036) would be appropriate.

Also enclosed are nine extra copies of Figure 4 for possible use by your office.

J. W. Townsend

E. N. Harshman

Encls.

TRANSMITTED NOV 6 1958

MINERALS IN REPLY REFER TO:
OME
RECEIVED
OCT 27 1958
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

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

OME
DEPARTMENT OF THE INTERIOR
OCT 28 1958
REGION III
DENVER, COLORADO

October 23, 1958

Memorandum

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

Through: E. N. Harshman

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

Subject: Transmittal of a joint report of examination on DMEA Docket 5036, Hidden Splendor Mining Company (Uranium), Redd Lease group of claims, San Juan County, Utah

Enclosed are 11 copies of a report of examination on the Redd Lease group of claims, Big Indian Mining district, San Juan County, Utah, by J. W. Hasler, U. S. Geological Survey and H. F. Robertson, U. S. Bureau of Mines. The figures to accompany the report are being sent under separate cover, some of which must be duplicated in Denver due to the present lack of facilities in Grand Junction, Colorado. The application was received in Grand Junction too late to be completely processed before June 30, 1958 (the expiration of the DMEA program). A field examination was made by J. W. Hasler and H. F. Robertson on May 28, 1958, but the report has been held up pending completion of other DMEA work having a higher priority.

The Hidden Splendor Mining Company proposes to explore the deeply buried basal Chinle formation of Triassic age immediately overlying the Cutler formation of Permian age on the northeast side of the Lisbon Valley fault. The purpose of the proposed exploration work is to locate paleo-outcrops of Cutler sandstone lenses under the Redd Lease group of claims and thereby find possible ore bodies that may lie associated with them; as is the case of the ore bodies that were discovered on the hangingwall side of the Lisbon Valley fault.

A thorough study of the proposal has been made by the examining team. Much knowledge has been gained regarding the Big Indian Wash uranium deposits during the past several years of active mining operations. Detailed mapping and exploratory work by the Government and private interests has determined several important factors which have controlled ore deposition. Many different theories have been propounded regarding the possible occurrence of ore bodies of similar magnitude on the northeast or downthrown side of the Lisbon Valley fault. Information from recent drilling the the immediate area indicate the presence of deeply buried basal Chinle sandstone as well as some mineralized material.

Reviewed by
OME OPERATIONS COMMITTEE
11/18/58
(Date)

It is the opinion of the examining team that the proposed program has merit and even though the program itself, or rather the target, is one of a wildcat nature, there is still a probability of discovering ore bodies of significant size and grade on the northeast side of the Lisbon Valley fault. It is, therefore, recommended that the proposed exploration program outlined in this report of examination be approved and that the Office of Minerals Exploration enter into a contract with the applicant to complete the work herein suggested.

J. William Hasler

J. William Hasler
Geologist

H. F. Robertson by JWH

H. F. Robertson
Mining Engineer

FOR UNITED STATES GOVERNMENT USE ONLY
TRANSMITTED NOV 6 1958

MINERAL DEPOSITS
O M E
RECEIVED
OCT 27 1958
U. S. GEOLOGICAL SURVEY
DENVER, COLORADO

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

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

DMEA 5036

HIDDEN SPLENDOR MINING COMPANY

REDD LEASE GROUP

SAN JUAN COUNTY, UTAH

Uranium

Joint Engineering and Geologic Report

by

J. William Hasler
U. S. Geological Survey

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

October 1958

Reviewed by
ONE OTHER COMMITTEE
11/18/58
(date)

DMEA 5036
HIDDEN SPLENDOR MINING COMPANY
REDD LEASE GROUP
SAN JUAN COUNTY, UTAH

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Geology. 10
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  Estimated cost of the proposed project 15
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ILLUSTRATIONS

Figure — Follows page

1. Index map of Utah showing the location of the Redd Lease group of claims, Hidden Splendor Mining Company, San Juan County, Utah 23

2. Preliminary geologic map with Cutler paleooutcrops of the Cutler sandstone beds projected on it to show applicant's proposed drilling. 23

3. Ore deposits in the north end of the Big Indian Mining district, San Juan County, Utah, showing their relationship to Cutler and Chinle sandstones. . . . 23

4. Claim map of the Redd Lease group of claims, San Juan County, Utah, showing proposed exploration drilling. (This figure to be used in contract only.) . . 23

DMEA 5036
HIDDEN SPLENDOR MINING COMPANY
REDD LEASE GROUP
SAN JUAN COUNTY, UTAH

INTRODUCTION AND SUMMARY

The Hidden Splendor Mining Company, P. O. Box 2306, Salt Lake City, Utah, submitted an application for Government assistance on May 22, 1958, to explore for uranium ore on their property known as the Redd Lease group of claims in T. 29 S., R. 24 E., and T. 29 S., R. 23 E., Big Indian Wash district, San Juan County, Utah. The proposed project would consist of noncore and core drilling to explore for uranium deposits in the basal Chinle formation of Triassic age. The estimated total cost of the exploration program proposed by the applicant is $37,465.00 with DMEA participation at 50 percent of the total or $18,732.50.

The application was received too late to be completely processed before June 30, 1958 (the expiration date of the DMEA program), but a field examination was scheduled for May 28, 1958. The examining team consisted of H. F. Robertson, U. S. Bureau of Mines and J. W. Hasler, U. S. Geological Survey and was accompanied by Edwin T. Wood, William B. Loring, and Ed. Dwyer, representing the Hidden Splendor Mining Company.

The applicant proposes to explore the deeply buried basal Chinle formation of Triassic age immediately overlying the Cutler formation of Permian age on the northeast side of the Lisbon Valley fault. The purpose of the exploration is to locate paleooutcrops of Cutler sandstone lenses under the Redd Lease group of claims. By determining the stratigraphic relationships of such sandstones to the base of the Chinle, further drilling would be oriented along the favorable zone of abutment.

The applicant's proposed one-stage exploration program consists of four holes averaging 2,600 feet deep, for a total of 10,400 feet. The average drill holes would be noncore drilled for 2,420 feet, then core drilled for 50 feet (includes the lower 30 feet of the Chinle formation and the upper 20 feet of the Cutler formation), then noncore drilled for the remaining 130 feet. The locations of the first 2 holes would be fixed and subsequent drill sites for the remaining 2 holes would be determined by the applicant subject to the approval of the Government.

Much knowledge has been gained regarding the Big Indian Wash uranium deposits during the past several years of active mining operations and attendant exploration. Detailed geologic mapping by both Government and private interests has determined several important factors which have controlled ore deposition. With regard to the subject proposed project, these factors can be utilized in exploration for uranium deposits at depth on the northeast side of the Lisbon Valley fault.

Accordingly, the examining team recommends that the Government participate in a program designed to explore for uranium in the Chinle-Cutler contact zone at depths averaging 2,600 feet. The recommended program would cost an estimated $35,386.00, with Government participation at 50 percent of the total or $17,693.00.

ACKNOWLEDGMENTS

The applicant's consultant, the E. J. Longyear Company, submitted a very well prepared brochure concerning the proposed exploration project.

Pertinent information regarding the Big Indian Wash area was obtained from work done by both the U. S. Atomic Energy Commission and U. S. Geological Survey personnel. All private companies in the general area were very willing to cooperate with Government personnel by allowing access to any data which might be used in evaluating the proposed exploration program.

Memoranda of review by James Paone, U. S. Bureau of Mines and W. P. Williams, U. S. Geological Survey were noted and their comments considered by the examining team.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Redd Lease group of claims is located in secs. 7, 8, and 18, T. 29 S., R. 24 E., and secs. 12 and 13, T. 29 S., R. 23 E., Salt Lake Meridian, San Juan County, Utah (fig. 1). This area is about 2 miles northwest of the applicant's Coyote Wash group (DMEA 5035) and about 3 miles north of the north end of main Big Indian Wash district. This is about 40 road miles southeast of Moab, Utah. The area can be reached by following U. S. Highway 160 south from Moab to the junction with Utah State Highway 46; east on Highway 46 to the paved road leading south to the Big Indian Wash area; and then by a secondary road (Rattlesnake Ranch and Rattlesnake mine access road) westerly through the center of the property. The Hidden Splendor Mining Company staff is headquartered at the Far West shaft, one of the mines operated by the applicant.

The Redd Lease group lies in a broad northwesterly trending valley at an average altitude of about 6,600 feet. The vegetation is mostly desert grasses and sagebrush with the higher areas sparsely covered with pinyon pines and cedars. The southern part of the group is under cultivation, mainly for pasture use. Drill-site preparation would be no problem since several access roads crossing the area were previously constructed for other purposes.

The climate of the subject area is semiarid, however, due to its proximity to the La Sal Mountains, it is subject to occasional rain and snowstorms. Mining operations, though, are carried on year-round.

Ore produced from the area is almost entirely shipped to the uranium processing plant at Moab, Utah. There are no unusual problems of supply, labor, power, or marketing. Water is available from nearby streams and springs.

The proposed drilling would be done by an independent contractor who would furnish equipment, housing, and most supplies for his own personnel. The applicant would furnish technical and supervisory personnel for the proposed work.

HISTORY AND PRODUCTION

Vanadium and some high-grade uranium were produced from Morrison formation deposits near Lisbon Valley during both World Wars. The earliest uranium production from the Chinle formation was in 1917, from the Serviceberry and Divide mines. No important uranium discoveries, other than in the Salt Wash member of the Morrison formation, was made until 1952 when a deposit in the base of the Chinle formation was found in Big Indian Wash (Mi Vida and Standard mines). Since 1952, other discoveries along Big Indian Wash have resulted in the development of the largest uranium reserves and current production in Utah.

The Redd Lease group, comprising the proposed project area, consists of plots leased from the State of Utah and unpatented mining claims. The JFR claims were located during December 1953 and January 1954. There has been no uranium production from any of the property included in the proposed project.

OWNERSHIP

The property included in the subject application consists of 38 full and fractional mining claims and certain fee lands located in secs. 7, 8, and 18, T. 29 S., R. 24 E., and secs. 12 and 13, T. 29 S., R. 23 E., Salt Lake Meridian, San Juan County, Utah (fig. 1). The fee lands which are included for subordination are as follows:

(a) All of sec. 8, T. 29 S., R. 24 E., SLM.

(b) Lots 1 and 4, sec. 7, T. 29 S., R. 24 E., SLM.

(c) Lots 1 and 4, sec. 18, T. 29 S., R. 24 E., SLM.

(d) E-1/2 of SE-1/4, sec. 12, T. 29 S., R. 23 E.,SLM.

(e) E-1/2 of NE-1/4, sec. 13, T. 29 S., R. 23 E., SLM.

The unpatented mining claim locations are recorded at the San Juan County Courthouse, Monticello, Utah, as follows. The 38 claims are taken from the claim map (Exhibit B) included with the application and cover the ground within the boundaries shown thereon.

	Original Location			Amended Location		
Claim Name	Date	Book	Page	Date	Book	Page
JFR 1- 8 incl.	1-2-54	45	413-417 incl.	Not amended		
JFR 9-18 incl.	1-2-54	45	418-423 incl.	8-15-54	149	99-108 incl.
JFR 19-20	1-1-54	45	423-424	8-15-54	149	109-110
JFR 21-22	1-2-54	45	424-425	8-15-54	149	111-112
JFR 30-38 incl.	1-2-54	45	425-429 incl.	8-15-54	149	113-121 incl.
JFR 130-136 incl.	1-2-54	45	433-436 incl.	8-15-54	149	123-129 incl.

The area covered by the above claims was restaked as the "Bilko" group of claims by the applicant as a protective measure since there was some question as to whether or not the assessment work for the period ending July 1, 1957, had been done. The examining engineer was unable to find any pertinent information in the San Juan County records to resolve the question. Since the applicant was having abstracts prepared about June-July 1958, the situation, with respect to the validity of the JFR and the Bilko claim groups may now have changed. In any event, both claim groups are shown on figure 4 and the recording data for the Bilko claims (somewhat deficient) is shown below.

Claim Name	Recording Data		
	Date	Book	Page
Bilko 1- 8 incl.	Apparently not recorded		
Bilko 9	7-30-57	188	41
Bilko 10	Apparently not recorded		
Bilko 11-14 incl.	7-30-57	188	42- 43 incl.
Bilko 15-20 incl.	7- 8-57	182	352-354 incl.
Bilko 21	7-30-57	188	44
Bilko 22	7- 8-57	182	355
Bilko 23-24	7-30-57	188	44- 45
Bilko 25-32 incl.	7- 8-57	182	355-359 incl.
Bilko 33-34	Apparently not recorded		
Bilko 35-40 incl.	7- 8-57	182	359-362 incl.
Bilko 41-42	7-30-57	188	45- 46

As with the JFR claims, the Bilko claims are taken from the map submitted by the applicant on June 20, 1958, in answer to a request from the Washington office, DMEA.

The property concerned by the subject application is owned by Joseph F. Redd and Mabel H. Redd (address: c/o Allen B. Sorenson, 227 North University Avenue, Provo, Utah) and was part of a tract of land leased to the Amuranium Corporation (DMEA 3475) during the period from 1954 to 1957. Amuranium Corporation, in 1957, quit claimed the property to Joseph H. Redd. On January 10, 1958, Redd and his wife leased the property concerned by the subject application to James S. Dodge (address: 4446 N. 28th Street, Phoenix, Ariz.) who, in May 1958, assigned the lease to the Hidden Splendor Mining Company, the subject applicant.

If acceptable proof of the validity of the unpatented mining claims can be furnished by the applicant, it appears that its interest in the property is satisfactory.

PRESENT STATUS

Exploration and Development

The Amuranium Corporation (DMEA 3475, Contract Idm-E 760) drilled 16 holes in the vicinity of the Redd Lease group during 1955. At least 4 of the holes drilled under the above contract were located within the boundaries of the applicant's property. These holes were, however, testing for uranium mineralization in the Salt Wash member of the Jurassic-Morrison formation and all proved to be barren. The applicant has recently completed a hole on the Redd Lease group (to fulfill lease requirements) which penetrated favorable basal Chinle sandstone showing some indications of uranium mineralization in the ore horizon. Other private interests were drilling in the general vicinity of the property during June and July 1958 with encouraging results.

Mining Equipment and Other Facilities

There is no mining or exploration equipment on the property at the present time. The applicant, however, operates other active properties nearby which are fully equipped with all the necessary mining machinery and accessories. The proposed exploration work would be done by independent contractors furnishing their own equipment and operating personnel. The applicant would provide personnel for the technical direction, evaluation, and supervision of the project work.

The applicant's present facilities at the operating mines would serve as an engineering office and living quarters for company personnel.

GEOLOGY

The property concerned in the application, from the Hidden Splendor Mining Company, known as the Redd Lease group, lies on the northeast flank of the Lisbon Valley anticline in secs. 7, 8, and 18, T. 29 S., R. 24 E., and secs. 12 and 13, T. 29 S., R. 23 E., San Juan County, Utah (fig. 2).

The claims included in this application were a part of the same group of claims that were included in DMEA Docket 3475, Amuranium Corporation, Contract Idm-E 760, designed to explore for uranium in the Chinle formation on the southwest side of the Lisbon Valley fault as well as to explore for uranium in the Morrison formation on the northwest side of the fault.

Lisbon Valley is a northwest-trending collapsed salt anticline that has been transected longitudinally by a normal fault known locally as the Lisbon Valley fault. The fault which strikes N. 65° W. and dips about 55° northeast brings the Hermosa formation of Pennsylvanian age in contact with the Morrison formation of Jurassic age. Maximum displacement on the fault is about 4,500 feet in the southern end of Lisbon Valley, but on and near the Redd Lease group the throw ranges from about 1,500 feet to less than 250 feet.

Rocks exposed on the Redd Lease group range in age from the Wingate formation of upper Triassic age to the Burro Canyon formation of lower Cretaceous age. The Moss Back member of the Chinle formation of upper Triassic age is the main ore-bearing formation in the Big Indian Wash area, however, it is not exposed in the property. The Chinle formation is about 400 feet thick and rests unconformably on the Cutler formation of Permian age. The Moss Back member of the Chinle formation ranges from 25 to 60 feet in thickness and has an average thickness of about 50 feet. Uranium deposits are found in the lowermost 20 to 30 feet of the Moss Back member, and occur in a thickened portion of the Moss Back indicating a channeling of the sediments.

ORE DEPOSITS

Major uranium deposits in the Lisbon Valley area occur at the base of the Chinle formation. Locally, the deposits extend for a short distance across the unconformity at the base of the Chinle formation and into the Cutler formation. The deposits form a northerly trending belt along the southwest flank of the Lisbon Valley anticline. This belt coincides closely with the area where the "sugar sand" of the Cutler formation is in contact with the overlying Chinle. Deposits within this belt may contain up to several hundred thousand tons of ore with an average grade ranging from 0.50 to 0.60 percent U_3O_8 as it is mined, lower grade deposits occur off to the sides of the main belt and these deposits contain up to 200,000 tons of ore with an average grade ranging from 0.15 to 0.20 percent U_3O_8 (fig. 3).

Uranium deposits in the base of the Chinle formation in the Lisbon Valley area occur as flat-lying irregularly shaped bodies up to 1,000 feet across and 15 feet thick with poorly defined edges. The deposits are commonly associated with basal arkosic sandstone lenses and with bleaching in the underlying Cutler formation.

Although there are no deposits in the Morrison formation of Jurassic age known on the property, that formation contains significant deposits in the Rattlesnake area to the northwest. The Rattlesnake ore is in a highly faulted and fractured zone adjacent to the Lisbon Valley fault, and some 80,600 tons of ore has been produced from an open-pit operation as well as an incline. The ore averaged about 0.26 percent U_3O_8. Recent company figures quote the value of ore as being worth $23.25 per ton or a grade of ore equalling 0.275 percent U_3O_8.

Production from mines in the Chinle formation throughout the district, on the upthrown side or southwest side of the Lisbon Valley fault, total 1,665,640 tons of ore averaging 0.38 percent U_3O_8 as of January 1, 1958. The ore worth $33.10 per ton will gross some $55,132,585.00, and it is for such deposits that the applicant plans to explore at depth.

These are considered as favorable criteria for the occurrence of uranium ore. It has not been shown to date that deposits in the Lisbon Valley area are localized in paleostream channels. On the contrary, the main belt of deposits appear to trend normal to the direction of known sedimentary trends.

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

PROPOSED EXPLORATION

The applicant proposed a single stage drilling program designed to locate paleooutcrops of Cutler sandstone lenses under the Redd Lease group. By determining the stratigraphic relationships of such sandstones to the base of the Chinle, further drilling will then be located along the favorable zone of abutment.

The proposed exploration program would consist of four drill holes averaging 2,600 feet per hole. The average hole would be noncore drilled for 2,420 feet, then core drilled for 50 feet (includes the lower 30 feet of the Chinle formation and the upper 20 feet of the Cutler formation), then noncore drilled for the remaining 130 feet. The four holes would require an estimated total of 10,200 feet of noncore drilling and 200 feet of core drilling.

The locations of the four holes are shown on figure 4. The applicant proposed that the locations given for holes 1 and 2 be considered firm and that subsequent drill sites be chosen by the Company geologist, subject to the approval of the DMEA, basing the locations on the information obtained by holes 1 and 2.

All holes would be collared in Dakota and Burro Canyon formations (undifferentiated) and will penetrate in succession the Morrison, Summerville, Entrada, Carmel, Navajo, Kayenta, Wingate, and Chinle formations and continue 150 feet into the underlying Cutler formation. Sludge samples would be collected for every 10-foot interval and logged. Those through the Salt Wash member and the uncored portion of the lower Chinle would be logged and saved for further study. All core recovered would be logged, boxed, and stored. Drilling operations would be closely supervised by geologists on the staff of the Hidden Splendor Mining Company.

All project drill holes would be probed and geophysical strip logs would be provided with gamma-ray, resistivity, and self-potential readings recorded. In addition a continuous drift survey would be made to determine the actual locations of the lower parts of the holes.

The total cost of the applicant's proposed project is estimated to be $37,465.00 with the Government participation at 50 percent or a maximum of $18,732.50.

The DMEA examining team considers the applicant's proposed project feasible and recommend approval of the request for Government assistance. The recommended program is essentially the same as that proposed by the applicant.

Estimated Cost of the Proposed Project

The applicant submitted three bids from independent contractors as a basis for the estimated cost of the proposed drilling. The low bid appears to be that of Scott Brothers Drilling Company and is outlined below.

Noncore drilling	$ 2.85 per foot
-plus the cost of lost circulation materials in excess of $200.00 per hole	
Core drilling	$20.00 per hour
-plus the cost of lost circulation materials in excess of $200.00 per hole -plus the cost of diamond core heads	
Standby time	$12.50 per hour

It is noted that coring bid is at an hourly rate per foot instead of "price per foot." However, when a realistic estimate of the probable coring rate per hour is used, this method of charging becomes as acceptable as the

other. The applicant's estimated rate of 1-1/4 feet per hour is considered too low by the examining team and is doubled to an estimated rate of 2-1/2 per hour.

The in-hole probing and surveying prices quoted by Century Geophysical Corporation are considered acceptable and are equivalent or lower than the usual prices paid for such services in the Big Indian Wash area. The prices quoted for the logging services are as follows:

1.	Gamma-ray and resistance curves	$ 0.10/ft.
2.	Self-potential curve	0.015/ft.
3.	Continuous drift survey (plus $25.00 setup charge per hole)	0.075/ft.
4.	Driving time to and from project	10.00/hr.
5.	Standby time at project	10.00/hr.

The unit prices for drilling and related services outlined above are used by the examiners as the basis for computation of the estimated cost of the proposed project. This estimate is based on a 1-rig, 2-shift operation. Advance per day is estimated at 250 feet for noncore drilling and 40 feet for core drilling. At this rate, each hole will require about 8 days for completion but, to allow for evaluation and unexpected difficulties, an estimate of 10 days per hole is considered more realistic. Thus, the project should be completed in a maximum of 2 months.

The estimated cost of the recommended project is shown below. Some revisions have been made where the applicant's estimate was considered excessive.

(1) Independent Contracts

Drilling, noncore 10,200 feet at $2.85/ft.	$ 29,070.00	
Drilling, core 200 feet at $20.00/hr.; estimated rate $2\frac{1}{2}$ ft./hr.; total 80 hours	1,600.00	
Standby time (drill crew) 8 hours at $12.50/hr.	100.00	
Radiometric probing and logging 10,400 feet at $0.115/ft.	1,196.00	
Continuous drift survey 10,400 feet at $0.075/ft. plus $25.00/setup (4)	880.00	
Driving time (logging crew - 320 miles/trip) 32 hours at $10.00/hr. (4 trips)	320.00	
Standby time (logging crew - 2 hours/hole) 8 hours at $10.00/hr. (4 holes)	80.00	
Bulldozing 12 hours at $14.00/hr.	168.00	
Total independent contracts		$ 33,414.00

(2) Supervision and Technical Services

1 geologist, 1/2 time		
1 month at $750/mo.	$ 750.00	
1 surveyor, 2 days/mo. 4 days at $30.00/day	120.00	
1 draftsman, 8 hours/month 16 hours at $3.00/hr.	48.00	
Total supervision and technical service		$ 918.00

(3) Operating Materials and Supplies

Office supplies, map and log reproduction 2 months at $30.00/mo.	$ 60.00	
Field supplies (surveying and sampling) 2 months at $20.00/mo.	40.00	
Fuel and repairs on field vehicle 2 months at $50.00/mo.	100.00	
Lost circulation materials in excess of $200.00/hole 4 holes at $50.00/hole	200.00	
Diamond core heads 4 holes at $100.00/hole	400.00	
Total operating materials and supplies		$ 800.00

(4) Operating Equipment

1 Jeep or pickup valued at $1,800 and depreciated at $30.00/mo. 2 months at $30.00/mo.	$ 60.00	
Total operating equipment		$ 60.00

(5) and (6) Rehabilitation, Repairs, New Construction, etc.

None

(7) Miscellaneous

Payroll charges and accounting costs 10 percent of $918.00	$ 91.80	
Sampling and analysis, maximum of 20 samples assayed chemically for U_3O_8 and V_2O_5 at $5.00/sample	100.00	
Total miscellaneous		$ 191.80
Total estimated cost of project		$ 35,383.80

Overall cost per foot of drilling	$ 35,383.80 / 10,400 ft.	=	$ 3.40
Incidental allowance per foot (Total cost less independent contracts and chemical analyses)	$ 1,869.80 / 10,400 ft.	=	$ 0.18

Summary of Costs Suggested for Contract Use

Project - 4 holes - Estimated time for completion - 2 months

Actual Cost Items

Independent Contracts

Noncore drilling 10,200 feet at $2.85/ft.	$ 29,070.00	
Core drilling (200 feet) 80 hours at $20.00/hr.	1,600.00	
Standby time (drill crew) 8 hours at $12.50/hr.	100.00	
Radiometric probing and logging 10,400 feet at $0.115/ft.	1,196.00	
Continuous drift survey 10,400 feet at $0.075/ft. plus $25.00/setup (4)	880.00	
Driving time (logging crew) 32 hours at $10.00/hr.	320.00	
Standby time (logging crew) 8 hours at $10.00/hr.	80.00	
Bulldozing (D-7 Cat or equiv.) 12 hours at $14.00/hr.	168.00	
Total actual cost items		$ 33,414.00

Fixed Unit Cost Items

Chemical analyses for U_3O_8 and V_2O_5 20 samples at $5.00/sample	$ 100.00	
Incidental allowance 10,400 feet at $0.18/ft.	1,872.00	
Total fixed unit cost items		$ 1,972.00
Total for Project		$ 35,386.00
Government participation at 50 percent		$ 17,693.00

CONCLUSIONS AND RECOMMENDATIONS

Numerous geologists in Government service as well as company and consulting geologists have entertained the idea of drilling for uranium ore bodies on the downthrown side of the Lisbon Valley fault with the hope of discovering ore bodies of comparable size to those found on the southwest, or upthrown side of the fault.

Obviously, such exploration is extremely long shot and even possibly sheer wildcat drilling, however, several companies have recently attempted to drill at these depths (1,500 - 3,000 feet) to explore the ground most likely to contain a possible continuation of the Lisbon Valley ore bodies.

The Amuranium Corporation (DMEA Docket 3475) completed drilling 16 holes in both the hangingwall and footwall sides of the fault near the Redd Lease group (about 2 miles northwest of the Coyote Wash group) under Contract Idm-E 760 for a total of 10,572 feet of core and noncore drilling costing $28,227.24 of which the Government paid 75 percent or $21,170.43. Results of this contract were essentially negative and no further work was recommended at that time. However, the Amuranium Corporation was principally a stock promoting company and the project was very poorly managed. Throughout the course of the contract many difficulties were encountered because of inexperienced drillers and inefficient operators. These factors led to the poor results obtained under the contract.

Only a limited amount of geology was known about the immediate area at the time of the field examination and the U. S. Geological Survey geologists working in the area felt that even then a long shot exploration project was worth the expenditures required to possibly discover added uranium reserves. Since that time much more drilling has been done and various geological studies throughout the district have been made upon which to base additional work.

The Hecla Mining Company is currently drilling on the downthrown side of the Lisbon Valley fault as is the Hidden Splendor Mining Company, and P. G. Mersfelder. The Superior Oil Company also are either drilling or intend to drill out an area on the downthrown side of the Lisbon Valley fault.

The Hidden Splendor Mining Company has recently completed a hole on the Redd Lease group for the purpose of fulfilling their lease agreement. The hole was drilled to a depth of 2,700 feet of which the lower 80 feet was in the Cutler formation. M. A. Lekas and N. E. Salo (verbal communications), U. S. Atomic Energy Commission geologists, reported that there was from 4 to 5 feet of basal Chinle sandstone that appeared favorable for the deposition of ore minerals. A hole drilled by P. G. Persfelder also attained a depth of 2,700 feet and penetrated the Cutler formation of Permian age. The basal Chinle sandstone (the ore-bearing sandstone) also appeared favorable. The two holes were completed since the date of the field examination.

Numerous theories prevail relative to the justification of the presence of ore on the downthrown side of the Lisbon Valley fault. Some propose a continued paleochannel, such as the channel containing the present major ore bodies that are now being mined on the upthrown side of the Lisbon Valley fault in the Cord, Hecla, Far West, North Alice mines. Others propose the theory of continuing Cutler sandstone beds around the nose of the uplifted anticlinal structure, as is proposed in the subject application. There is both support and nonsupport attendant to every geological theory and the ultimate judgment, at least in this case, lies in the fact that regardless of the many theories proposed, one is about as geologically sound as another. The possibilities of find an extension of ore bodies at depth, on the downthrown side of the Lisbon Valley fault are in the realm of a very long range bet, but it is a geological possibility. The problem is more than one of merely prospecting because of the vast amount of data now known and used in proposing such a program as is included in the present application.

It is recommended, therefore, that the program as outlined in the present application be completed essentially as proposed on the applicant's Redd Lease group. The program, as recommended by the examiners, would cost an estimated $35,386.00 with Government participation at 50 percent of the total or $17,693.00.

The usual provisions governing operations, including a minimum size of BX for coring, should be incorporated in the contract. Prior written Government approval of locations for holes 3 and 4 should probably be required.

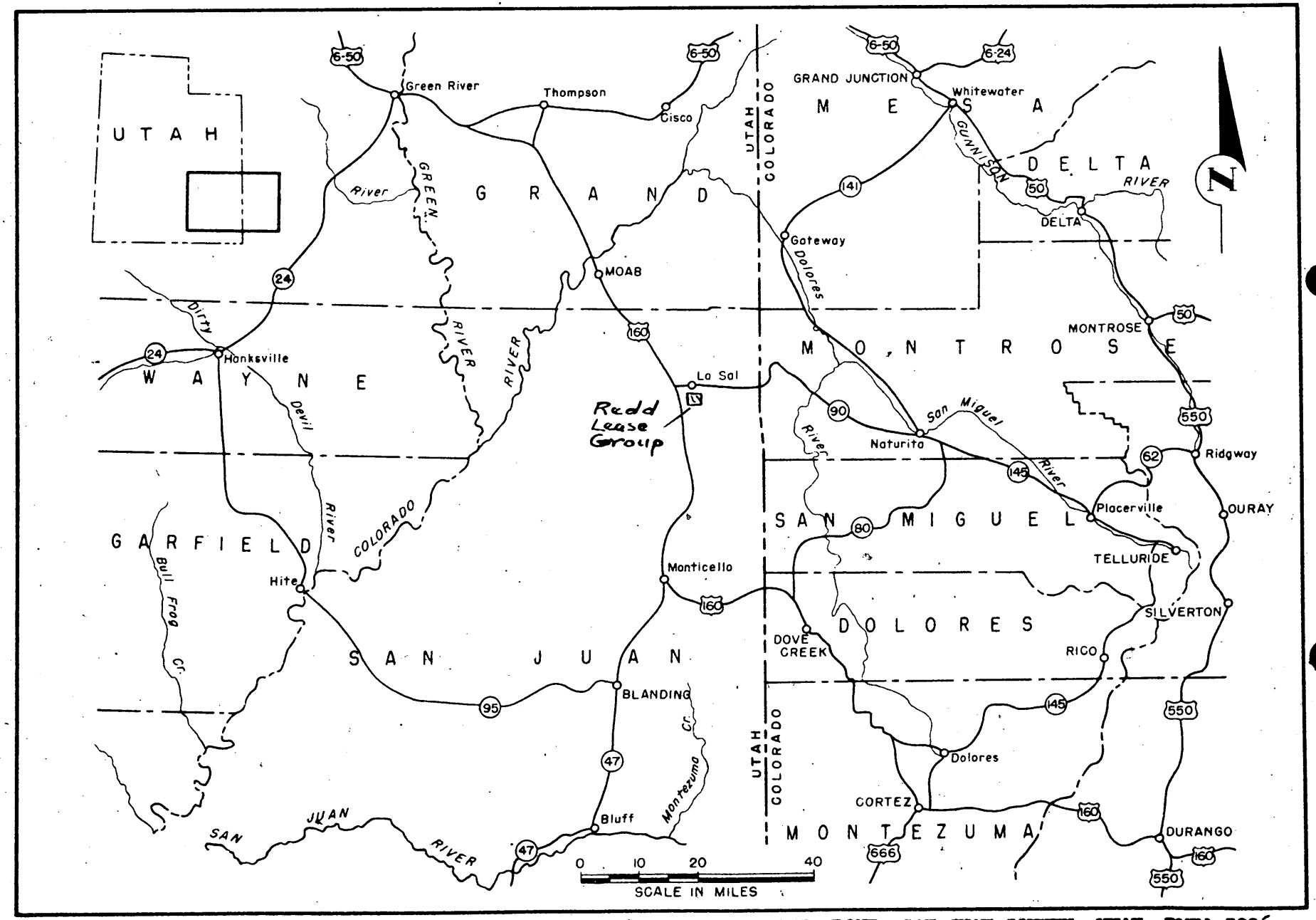

FIGURE 1 - LOCATION MAP, HIDDEN SPLENDOR MINING COMPANY, REDD LEASE GROUP, SAN JUAN COUNTY, UTAH, DMEA 5036

COPY

OFFICIAL FILE COPY
O. M. E.
RECEIVED NOV 3 1958

DATE	INITIALS	CODE
11/4	C	220
11/4	Finance	700
	Pending	225

THE HIDDEN SPLENDOR MINING COMPANY
A SUBSIDIARY OF ATLAS CORPORATION
P. O. Box 2306
SALT LAKE CITY 10, UTAH

October 27, 1958

OME
DEPARTMENT OF THE INTERIOR
OCT 29 1958
REGION III
DENVER, COLORADO

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

Re: Docket No-DMEA-3036 (uranium)
JFR Claims, et al
San Juan County, Utah

Dear Sir:

I realize that DMEA has gone out of existence and has been reorganized as the office of Minerals Exploration. I further understand you will contact us in the near future to determine whether or not we wish to resubmit our loan application as above docketed which was pending before DMEA at the time that program expired.

We felt you would be interested in the data from one deep hole which we drilled on this property since the time of our application.

The gamma ray log and lithologic log at the hole drilled at the site proposed as drill hold location #2 in prior application are enclosed.

Two very significant facts were learned from this drilling:

(a) That the formation immediately underlying the Chinle on the east side of the Lisbon Valley fault is the Cutler. This in itself is an encouraging factor for exploration.

(b) Second, and most important, uranium mineralization is present in basal Chinle sands on the east side of the fault. Although the estimated 1.8' of 0.04%/eU_3O_8 encountered as the strongest anomaly in this hole is not commercial ore; it is a significant anomaly from the standpoint of further prospecting.

These results are also applicable to our other loan application in the District Docket No. 3035 (uranium) Bostridge et al claims.

Copies To
Harshman
Chairman Operating Committee
Robertson
Exec Off

Very truly yours,

Edwin T. Wood

Edwin T. Wood

cc: Townsend
William Nasler
Nate Sale

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9/19	Krause	700
"	[illegible]	100

Mr. A. Payne Kibbe, President
The Hidden Splendor Mining Co.
P. O. Box 2306
Salt Lake City, Utah

Re: Docket No. DMEA-5036 (Uranium)
San Juan County, Utah

Dear Mr. Kibbe:

As you have an application for exploration aid pending in our office, perhaps you may wish to study the proposed OME regulations and comment on them before October 17 as provided in the first paragraph of the enclosed notice reprinted from the Federal Register of September 17.

Some time after October 17 when the final regulations become effective, we will send you the new application form so you may furnish any additional information necessary to process your application for aid under the new program.

Sincerely yours,

C. D. Whitehurst

ACTING Director

Enclosure

ama
9/19/58

cc to: Director's Reading File
Field Team, Region III (2)

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
8/19	Knouse	700
8/19	Jeffrey	130
"	Johnson	110
"	Mittendorf	100
		220
		205

AUG 20 1958

Mr. A. Payne Kibbe, President
The Hidden Splendor Mining Company
P. O. Box 2306
Salt Lake City, Utah

8/19 Yopes 130
8/19 Nelson 130

Re: Docket No. DMEA-5036 (Uranium)
JFR Claims, et al.
San Juan County, Utah

Dear Mr. Kibbe:

Early in June we sent you the Department of the Interior Information Service Release dated June 6 which announced that no new Defense Minerals Exploration Administration contracts could be executed after June 30 because of the ending of the program for exploration assistance.

We regret to inform you that your application, identified above, could not be completely processed before June 30. However, we will be glad to hold your application pending enactment of legislation to continue exploration aid. If the aid is continued, we will then ask you to state whether you wish us to consider your application under regulations established for the new program.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

FLKnouse/izm (8-18-58) 8-19-58
cc: Mr. Knouse
Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224
DMEA FT Reg. 3 (2)

8623

T E L E T Y P E

Recd. Interior 8-18-58

8-15-58

CHAIRMAN OPERATING COMM. DMEA

REURTT AUGUST 15 REGARDING EXAMINATION REPORTS.

DMEA 5033, 5038, and 5039 will recommend denial.

DMEA 5035, 5036 and 5037 WILL RECOMMEND APPROVAL.

J. W. TOWNSEND

Copy for DMEA 5038
5039
5035
5036
5037

C O P Y

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
8/15/58	Knouse (Tom)	700
		700
8/15	GCS	130
8/15		130
	Yogyes	
		110
	Cam	100
8/18	Sig.	220
		700

AUG 15 1958

DEPT. OF THE INTERIOR

DMEA

14X4401(01) Revolving Fund, Defense Production Act, Interior (Transfer to Office of Secretary)

TELETYPE

J. W. TOWNSEND
ALTERNATE ACTING EXECUTIVE OFFICER
DMEA FIELD TEAM, REGION 3
524 NEW CUSTOMHOUSE BUILDING
DENVER, COLORADO

YOUR JULY MONTHLY REPORT INDICATES YOU ARE PREPARING EXAMINATION REPORTS ON DMEA-5033, 5035, 5036, 5037, 5038, AND 5039. PLEASE TELETYPE WHETHER A CLEARCUT DENIAL, APPROVAL, OR BORDERLINE WILL BE RECOMMENDED FOR EACH APPLICATION.

George C. Selfridge

CHAIRMAN, OPERATING COMMITTEE

FLK/izm 8-15-58
cc: Mr. Knouse
Admr.'s Reading File
Operating Committee
TNKiilsgaard, 5224
Dockets DMEA-5033
-5035
-5036
-5037
-5038
-5039

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado
June 23, 1958

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 26 1958

DATE	INITIALS	CODE
6-26	N.G.	225
6/27	~~TLK~~	700

Memorandum

To: Secretary to the Operating Committee

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

Subject: Docket No. DMEA 5036 (Uranium) The Hidden Splendor Mining Company (JFR claims et al., Redd Lease Group) San Juan County, Utah

Enclosed are two copies of an undated letter from the subject Applicant regarding the location of the 31 JFR Claims requested in Mr. Mittendorf's letter to the Applicant dated June 9, 1958. Also enclosed is one copy of a map submitted by the Applicant.

J. W. Townsend

DMEA
DEPARTMENT OF THE INTERIOR
JUN 20 1958
REGION III
DENVER, COLORADO

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

Re: Docket No. DMEA 5056(Uranium)
JFR Claims, et al
San Juan County, Utah

Dear Mr. Townsend:

This is to answer your questions regarding the Bilko claims listed in the application for assistance in exploration under the above captioned docket number.

At the time the application was filed the distribution of the Bilko claims was unknown. It has now been determined.

As explained in the application the Bilko claims were staked as a protective measure because Mr. Redd was unable to obtain from Amuranium Corporation information whether or not assessment work for the assessment period ending July 1,1957 had been completed.

Sufficient Bilko claims were apparently not recorded to fully cover the JFR claim group. In addition location notices for Bilko 33 and 34 which exist in the field do not appear to have been recorded. Nor do location notices appear to have been recorded for Bilko nos. 1-8, and 10. Wether or not these last named claims were posted in field cannot be determined because the fields have been plowed and the monuments and papers destroyed.

It is our understanding that affidavits of work were in fact filed for the JFR claim group for the assessment year ending July 1,1957. However we will not be able to verify this until abstracts, which are now being prepared, have been completed.

If examination of the abstract indicates that it will be necessary to rely on the Bilko locations, the necessary ammended notices and new locations will be filed. There do not appear to be any intervening rights.

The enclosed map shows the known distribution of the Bilko claims. Those marked with an asterisk will have to be relocated, because it appears that these were never recorded or the papers were lost when the monuments were destroyed at the time the fields were plowed.

Again I might say, that based on our present understanding the JFR group will have precedence.

Very truly yours,

Edwin T. Wood

Edwin T. Wood
Chief Geological Engineer

ORIGINAL FILE COPY
DMEA
RECEIVED 1958
CODE
6/16 C 220
700

224 New Customhouse
Denver 2, Colorado
June 12, 1958

Memorandum

To: J. W. Kesler w/enclosures 1-5 below
DMEA/G. Jot. Robertson w/enclosures 1-5 below

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

Subject: Docket No. DMEA 3036 (Uranium) The Hidden Splendor Mining Company (JWR claims, et. al., Redd Lease group) San Juan County, Utah

Enclosed is the following material relating to the subject docket:

1. Copy of the application for Government assistance for exploration work under the DMEA program.

2. Memorandum of Review by W. P. Williams, USGS.

3. Memorandum of Review by James Pecoe, USBM.

4. Letter of transmittal of the foregoing to this office dated June 9, 1958, from the Chairman, Operating Committee, DMEA.

5. Routing Control sheet.

A field examination of the property and a joint report of findings and recommendations pertaining to the Applicant's work proposal are requested.

Original signed by
J. W. TOWNSEND

J. W. Townsend

DMEA:dp
cc: Gov. Op. Comm. 2
DMEA/DFC
Harshman
Docket
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
6/9/58	Knouse	700
"	[illegible]	700
6/9	Schulze	130
"	Johnson	110
"	Mittendorf	100
6/10	H. J.	220
		700
6/9	Lamb	130
6/9	Gilsgaard	130

JUN 9 1958

Mr. A. Payne Kibbe, President
The Hidden Splendor Mining Company
P. O. Box 2306
Salt Lake City, Utah

Re: Docket No. DMEA-5036 (Uranium)
JFR Claims, et al.
San Juan County, Utah

Dear Mr. Kibbe:

The application for assistance in exploring your property, under the captioned docket number, has been reviewed by the Division of Rare and Miscellaneous Metals of the Defense Minerals Exploration Administration. It has been referred to:

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

In Appendix I to your application you list 31 Bilko claims. We note in the application that these claims are new locations covering the same ground as the JFR claims. Since there are more than 31 JFR claims, you should furnish information that describes or shows the location of these claims.

Three copies of your reply should be forwarded to Mr. Townsend at the above address and one copy sent to this office.

The Regional Office will contact you in regard to your project if additional information is required.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

FLKnouse/gla
6-9-58
cc to: Admr.'s Reading File
Mr. Knouse
DMEA Field Team, Region III (2)

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
6/9/58	Knouse	700
"	Ellis	700
6/9	GCS	130
"	Johnson	110
"	Hutchinson	100
6/10	H.G.	220
		700

JUN 9 1958

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

Re: Docket No. DMEA-5036 (Uranium)
The Hidden Splendor Mining Company
JFR Claims, et al.
San Juan County, Utah

Dear Mr. Townsend:

The subject application is referred to Region III Field Team for investigation, a field examination if considered necessary, and recommendations. You will note in our letter of even date to the Applicant that we requested information regarding the location of the Bilko claims.

Enclosed are memoranda, dated June 3 and 6, 1958, from W. P. Williams, USGS, and James Faone, USBM, respectively, relating to the subject project. Also enclosed, for the use of the Field Team, are two extra copies of the application.

If a contract is approved, we will require the usual number of Consent to Lien and Subordination Agreement forms signed by Joseph F. Redd and wife, Mabel H. Redd, and James S. Dodge and wife. Therefore, if the Field Team recommends a project, it should inform the Applicant that early submission of these forms would expedite the processing of the application, but their presentation does not imply that a contract will be granted.

FLKnouse/gla 6-9-58
cc to: Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224
Enclosures Mr. Knouse

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (JHB)

APPROVED:

Frank B. Lamb (JHB)
Member, Bureau of Mines

Thor H. Kiilsgaard (JHB)
Member, Geological Survey

8623

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DMEA
RECEIVED JUN 6 1958

DATE	INITIALS	CODE
6/6	C	220
		700

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

Date June 6, 1958

DMEA Docket No. 5036
DMEA Contract No.
Commodity Uranium
Name of Applicant Hidden Splendor Mining Co.
Name of Property Redd Lease
Location of property San Juan County, Utah
Estimated cost of project $37,475.

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

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

1. Date of subject document: 5/27/58 2. Date received by reviewer: 5/28/58

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

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

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

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

7. Explain items marked 'yes' above:

8. Factors meeting special consideration:

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

9. Action advised:

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

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

IN REPLY REFER TO:

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

June 3, 1958

Memorandum

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

From: W. P. Williams, U. S. Geological Survey

Subject: Review of application, DMEA 5036 (Uranium) Hidden Splendor Mining Company, Redd Lease, San Juan County, Utah

The applicant proposes to explore for uranium ore deposits on leased lands located in the north part of the productive Big Indian district of Utah. The proposed project would consist of 10,400 feet of drilling at a total estimated cost of $37,475.

The western part of the property described in the application was partly explored by drilling under the terms of DMEA 3475, Amuranium Corporation; DMEA 3475 was unsuccessful.

The proposed project appears to have many aspects of a 'long-shot' proposition. The locations of only four proposed holes is based on a geological hypothesis; and the primary target would be geological formations that may be folded into the nose of an anticline. The drill holes would be very deep--averaging 2,600 feet deep. The Cutler formation has not been a consistent and large ore producer in the past. I wonder about the advisability of drilling holes through the Cutler.

All in all, the proposed project does not appear suitable for DMEA participation. The principal reason being that the four proposed deep holes would not be likely to result in a significant discovery. I recommend, nevertheless, that the Field Team be asked for further comment on the application. Information about the property is already in Government files through Geological Survey mapping in the area and the previous, adjacent DMEA 3475.

W. P. Williams

W. P. Williams

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 5 1958

DATE	INITIALS	CODE
6/5	C	220
"	Ellis	700
6/5	Krause	700

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

May 29, 1958

The Hidden Splendor Mining Co.
P. O. Box 2306
Salt Lake City, Utah

Subject: DMEA-5036

Gentlemen:

Your application for exploration assistance, dated May 22, 1958 submitted to our office at Denver, Colorado has been assigned Docket Number DMEA-5036 and referred to the Rare and Miscellaneous Metals Division in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

Sincerely yours,

Allen S. Dakan, Director
Operations Control and
Statistics Division

Copy to: Region III.

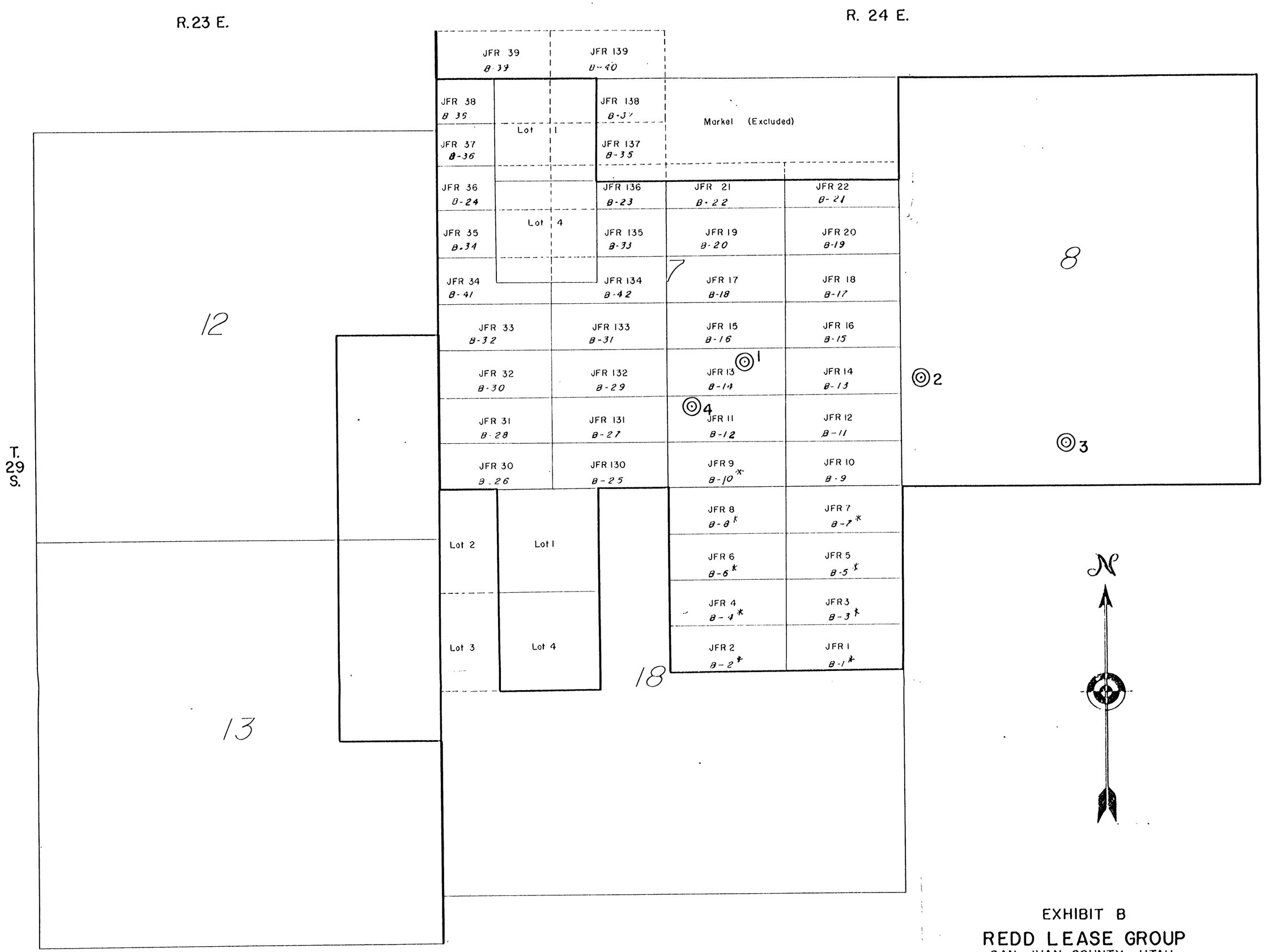


EXHIBIT B

REDD LEASE GROUP

SAN JUAN COUNTY, UTAH

SHOWING

PROPOSED DRILL HOLE LOCATIONS

SCALE: 1" = 1000'

1000 500 0 1000 2000

FEET

TO ACCOMPANY THE HIDDEN SPLENDOR MINING COMPANY APPLICATION TO DMEA, MAY, 1958

MAP PREPARED BY E. T. WOOD

EXPLANATION

◎ Proposed drill hole location

Group boundary

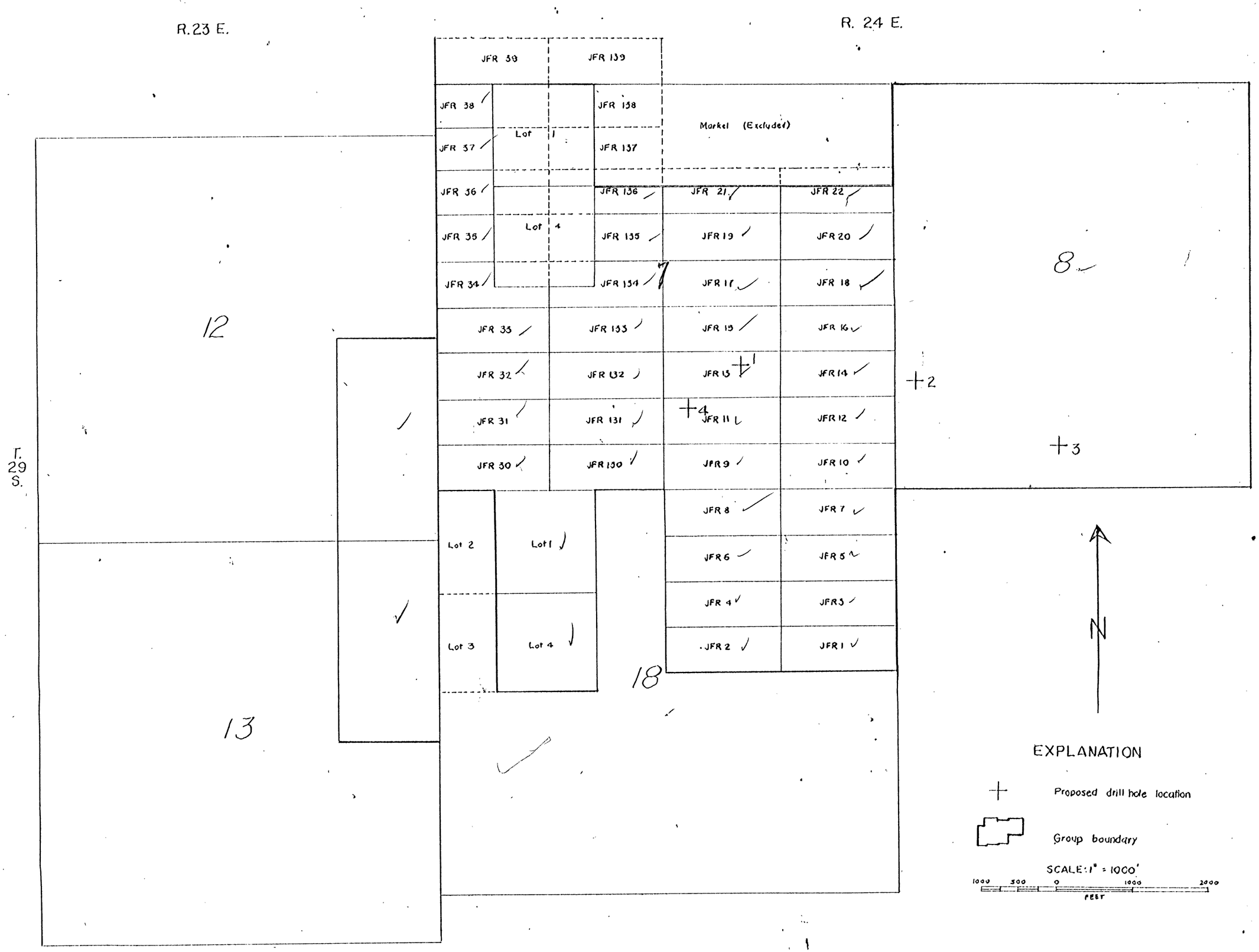


Figure 4. CLAIM MAP OF REDD LEASE GROUP SHOWING LOCATION OF PROPOSED DRILL HOLES HIDDEN SPLENDOR MINING COMPANY SECTIONS 7, 8, AND 18, T. 29 S., R. 24 E., AND SECTIONS 12 AND 13, T. 29 S., R 23 E., SAN JUAN COUNTY, UTAH

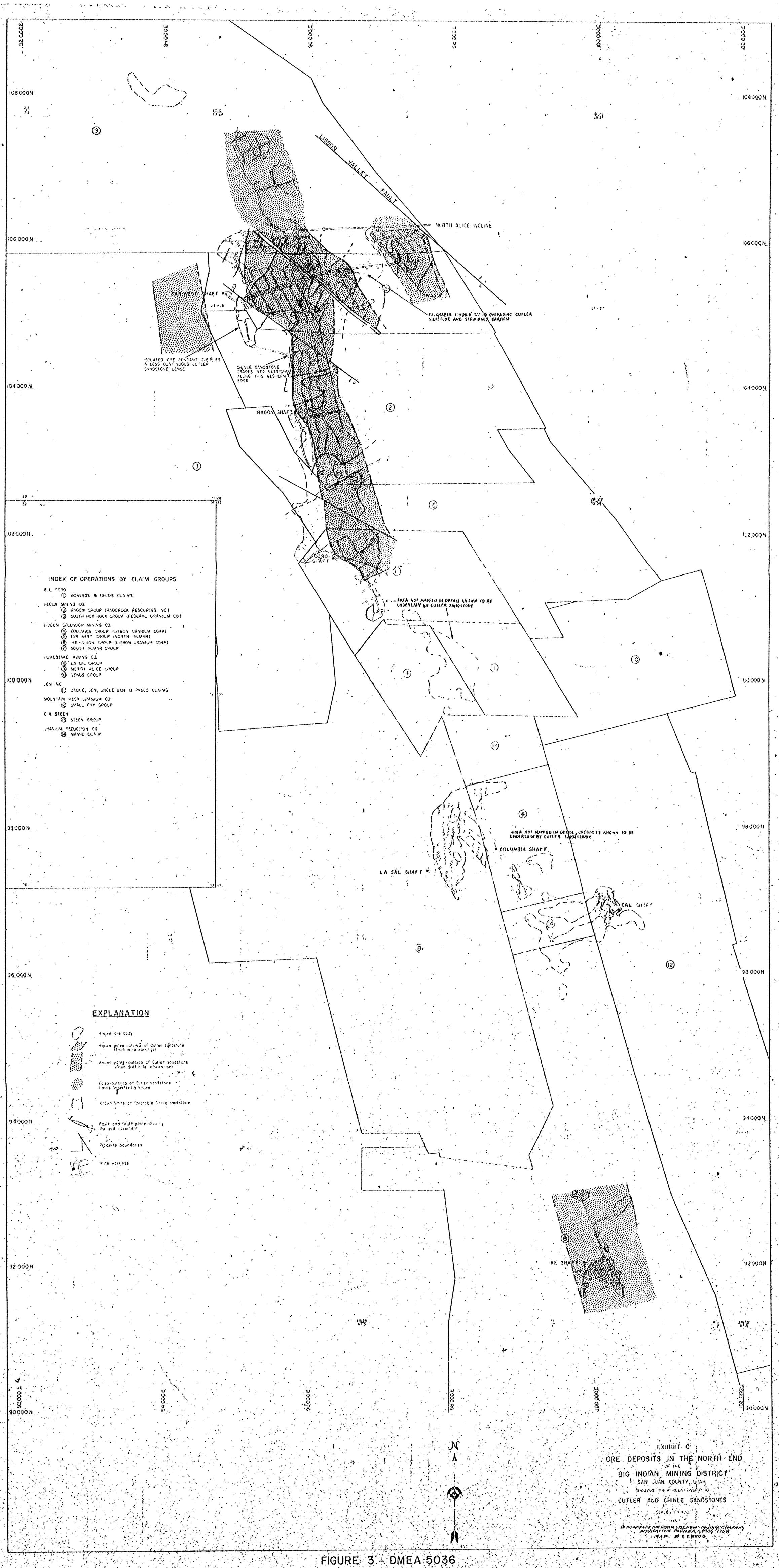
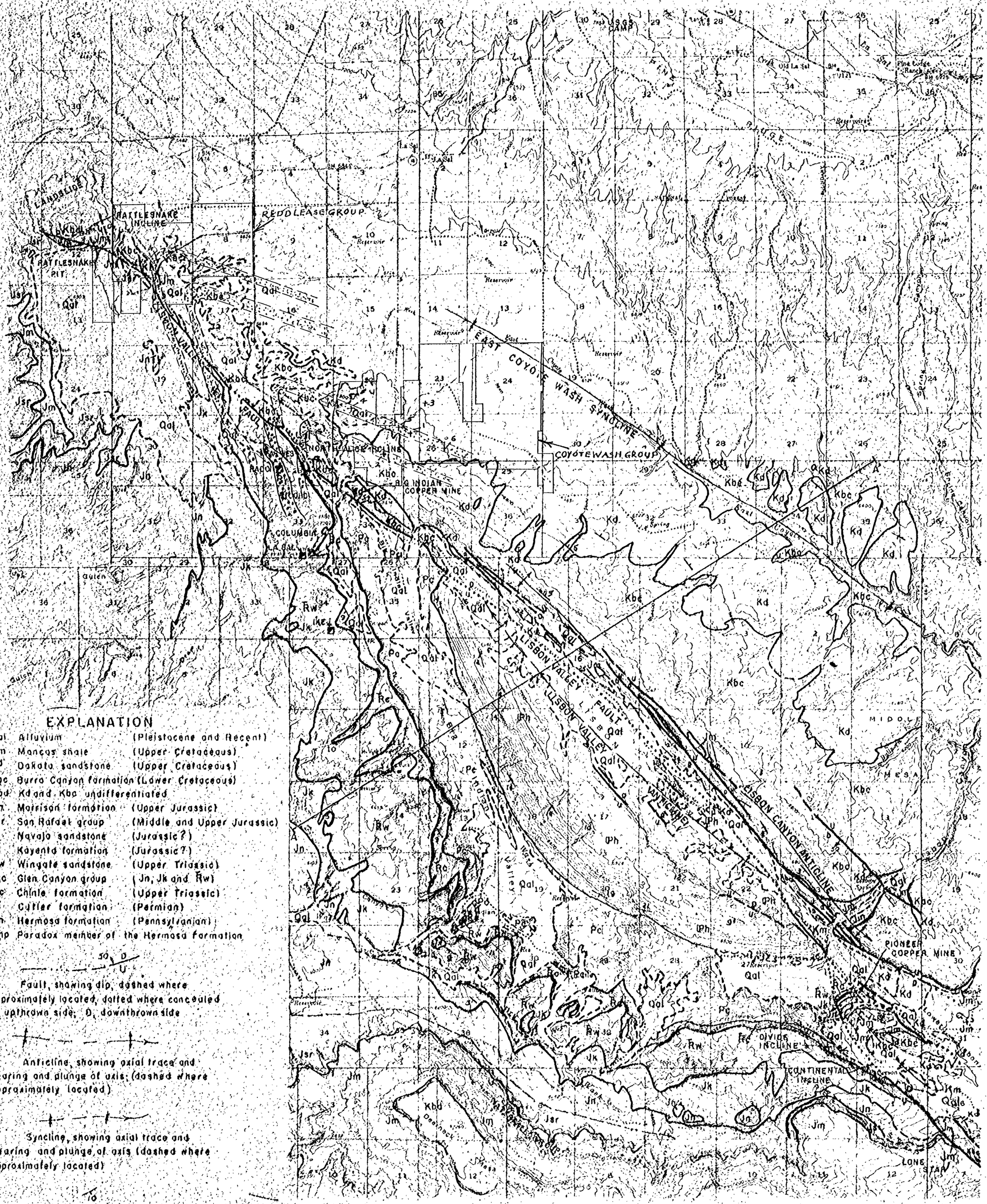


FIGURE 3 - DMEA 5036

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

OFFICE OF MINERALS EXPLORATION
OCTOBER 1958 DOCKET 5036



EXPLANATION

Qal	Alluvium	(Pleistocene and Recent)
Km	Mancos shale	(Upper Cretaceous)
Kd	Dakota sandstone	(Upper Cretaceous)
Kbc	Burro Canyon formation	(Lower Cretaceous)
Kbd	Kd and Kbc undifferentiated	
Jm	Morrison formation	(Upper Jurassic)
Jsr	San Rafael group	(Middle and Upper Jurassic)
Jn	Navajo sandstone	(Jurassic?)
Jk	Kayenta formation	(Jurassic?)
Rw	Wingate sandstone	(Upper Triassic)
Jgc	Glen Canyon group	(Jn, Jk and Rw)
Rc	Chinle formation	(Upper Triassic)
Pc	Cutler formation	(Permian)
Ph	Hermosa formation	(Pennsylvanian)
Php	Paradox member of the Hermosa formation	

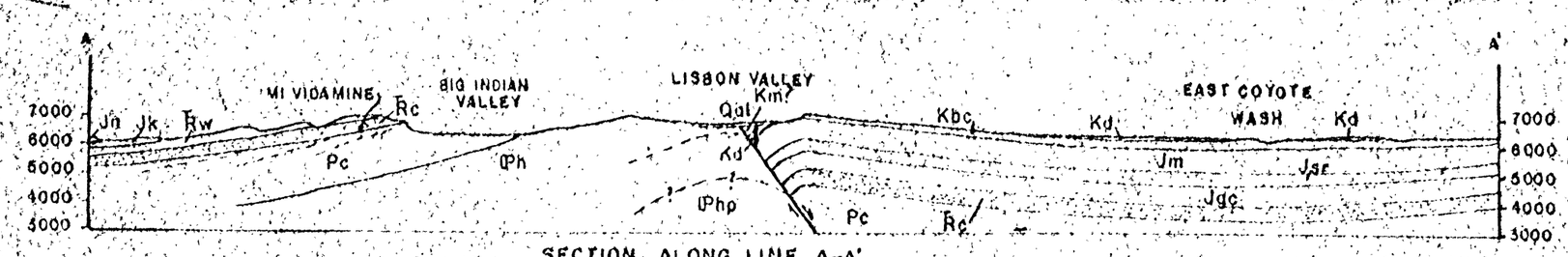
Fault, showing dip, dashed where approximately located, dotted where concealed U, upthrown side; D, downthrown side

Anticline, showing axial trace and bearing and plunge of axis; (dashed where approximately located)

Syncline, showing axial trace and bearing and plunge of axis (dashed where approximately located)

Strike and dip of beds

Shaft or surface



SECTION ALONG LINE A-A'

PRELIMINARY GEOLOGIC MAP OF THE BIG INDIAN MINING DISTRICT SAN JUAN COUNTY, UTAH

FIGURE 2

Scale 1:62,500

SCALE 3000 0 3000 6000 9000 12000 15000 18000 FEET

CONTOUR INTERVAL 40 FEET AND 80 FEET
DATUM IS MEAN SEA LEVEL

GEOLOGY BY G.W. WEIR, C.L. GODSON, W.P. PUFFETT
1955-56-57
COMPILED BY W.P. PUFFETT, 1958
ADAPTED FOR DME BY J.W. HASLEE 1958

UNI STATES DEPARTMENT OF THE INTE R
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
SEPTEMBER 1958. DOCKET 5036

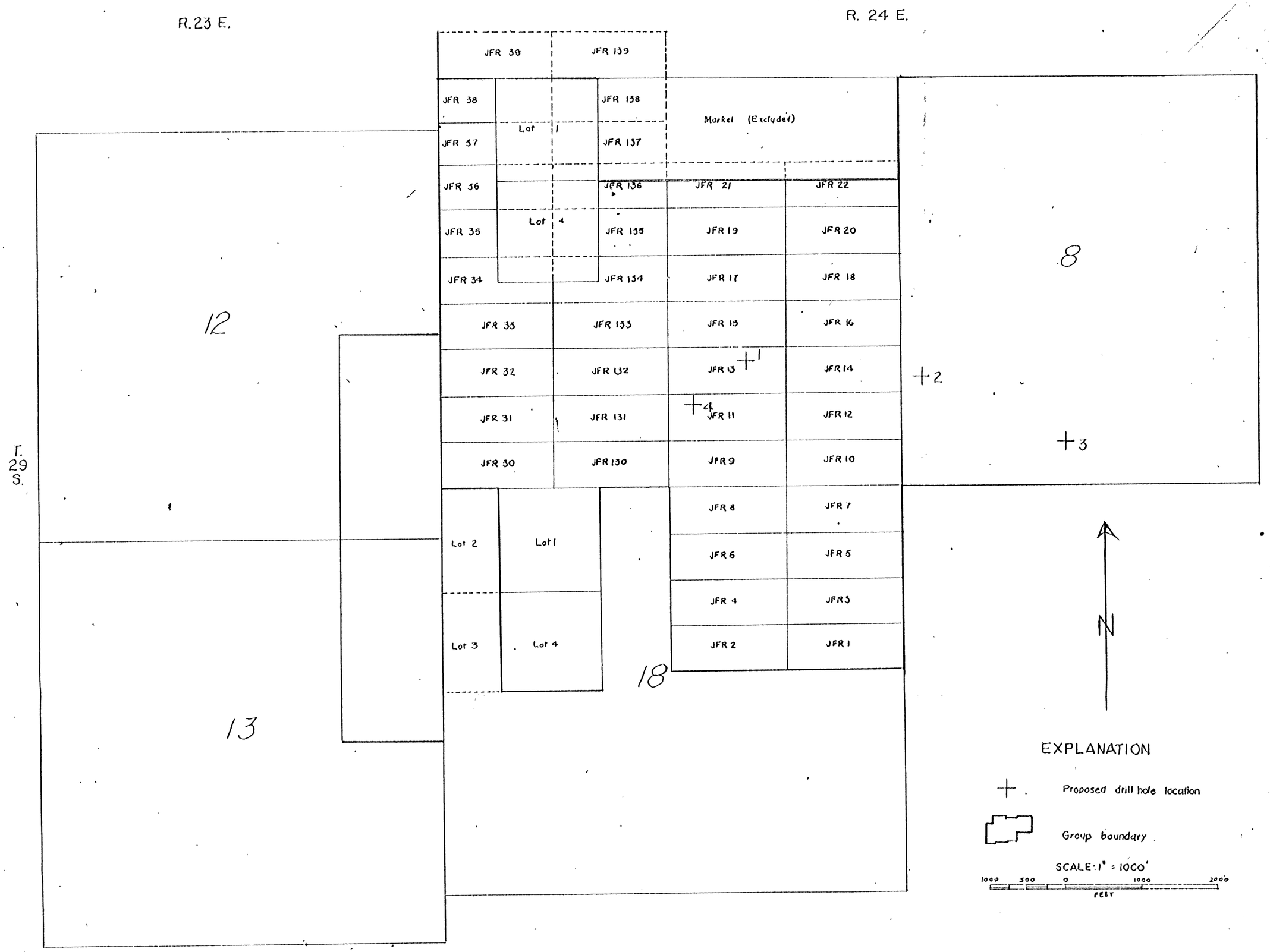
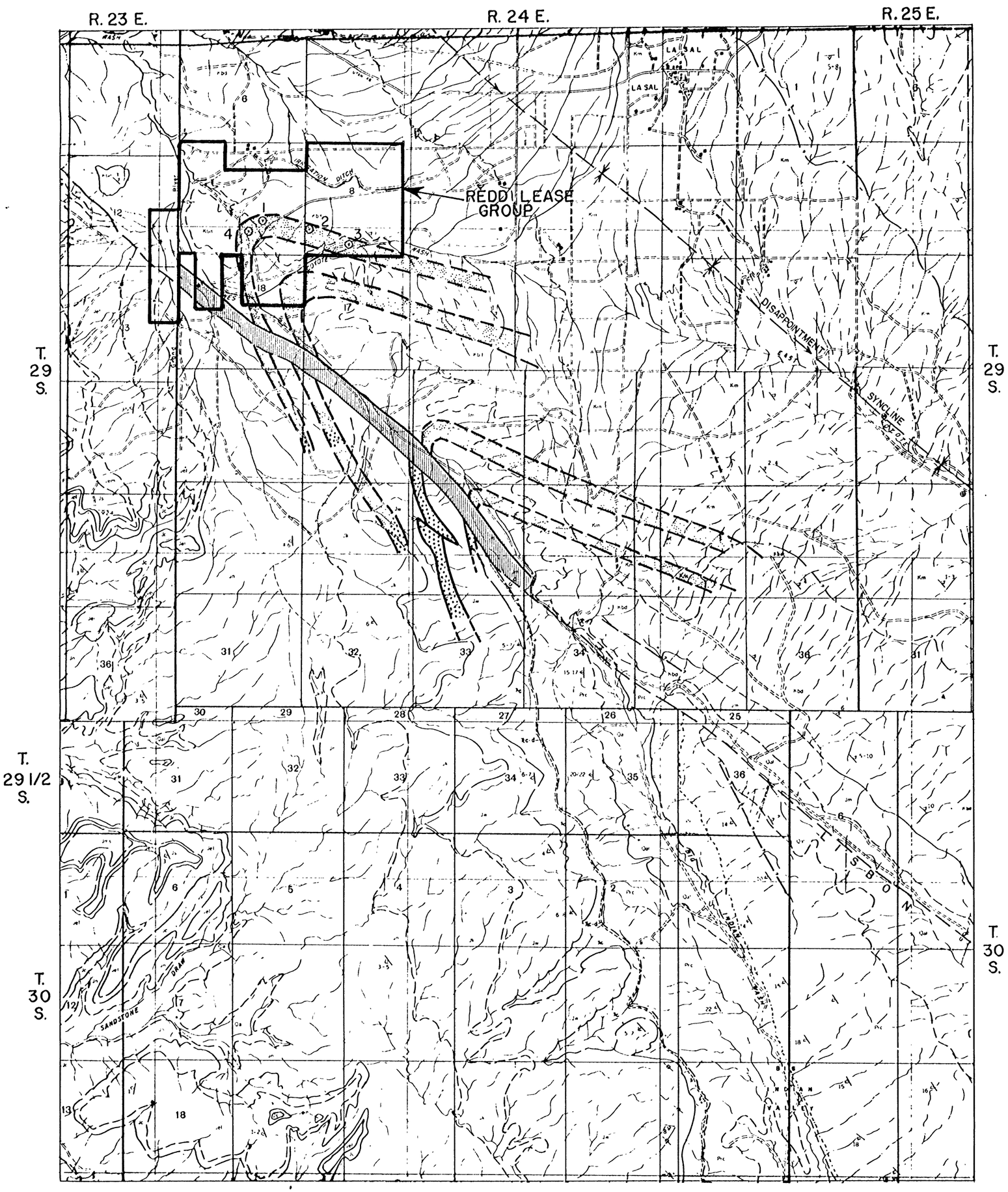


Figure 4. CLAIM MAP OF REDD LEASE GROUP SHOWING LOCATION OF PROPOSED DRILL HOLES HIDDEN SPLENDOR MINING COMPANY
SECTIONS 7, 8, AND 18, T. 29 S., R. 24 E., AND SECTIONS 12 AND 13, T. 29 S., R 23 E.,
SAN JUAN COUNTY, UTAH



N

EXPLANATION

Plane of Lisbon Valley Fault

Known paleo-outcrops of Cutler sandstone

Projected paleo-outcrops of Cutler sandstone

Group boundary

2 Proposed drill hole location

EXHIBIT E

SHOWING

PROJECTED PALEO-OUTCROPS OF CUTLER SANDSTONE BEDS

IN RELATION TO

REDD LEASE GROUP

AND

PROPOSED DRILL HOLES

SCALE: 1" = 4000'

4000 2000 0 4000 8000

FEET

TO ACCOMPANY THE HIDDEN SPLENDOR MINING COMPANY APPLICATION TO DMEA, MAY, 1958.

E. T. WOOD

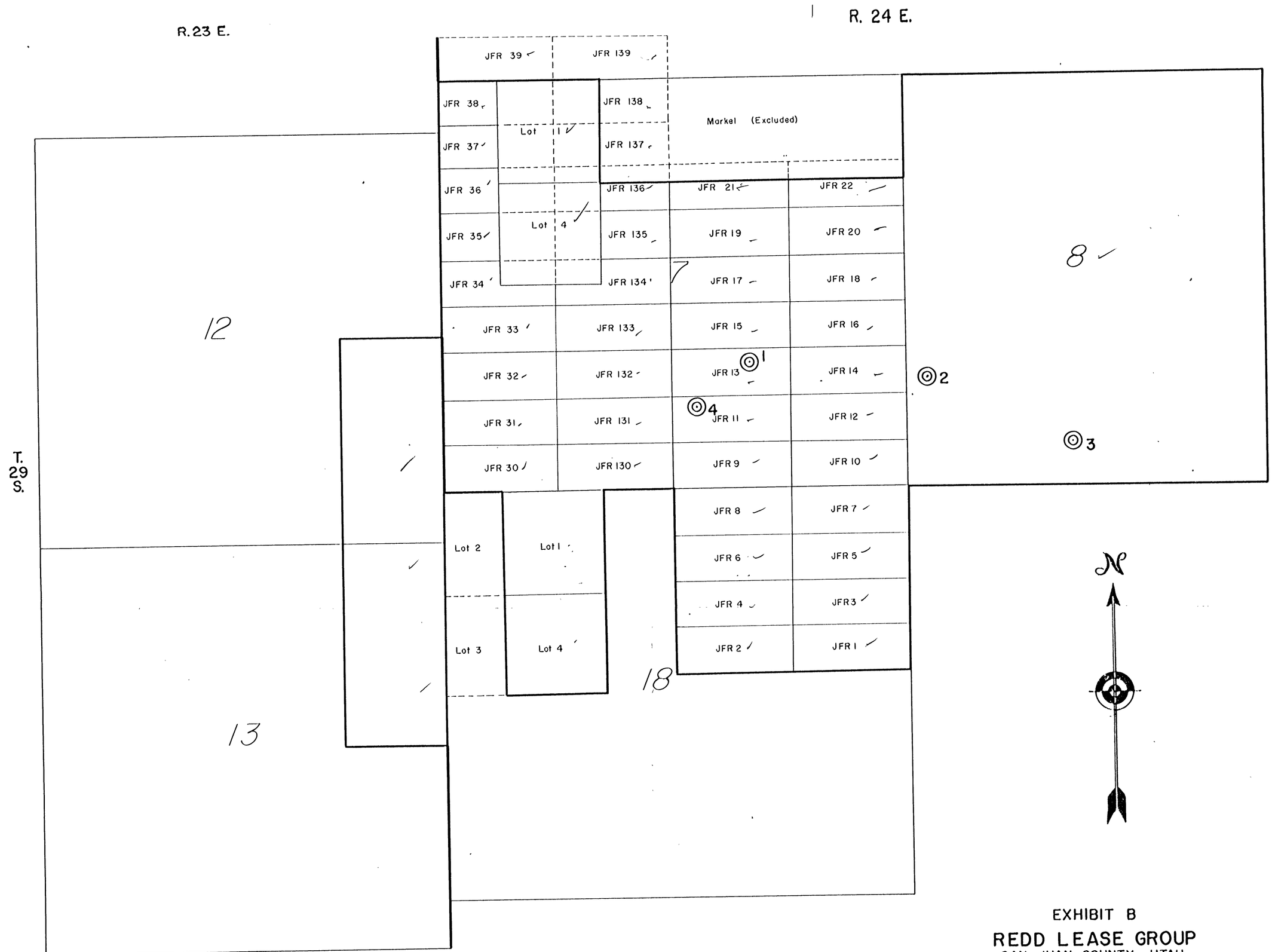


EXHIBIT B

REDD LEASE GROUP

SAN JUAN COUNTY, UTAH

SHOWING

PROPOSED DRILL HOLE LOCATIONS

SCALE: 1" = 1000'

1000 500 0 1000 2000

FEET

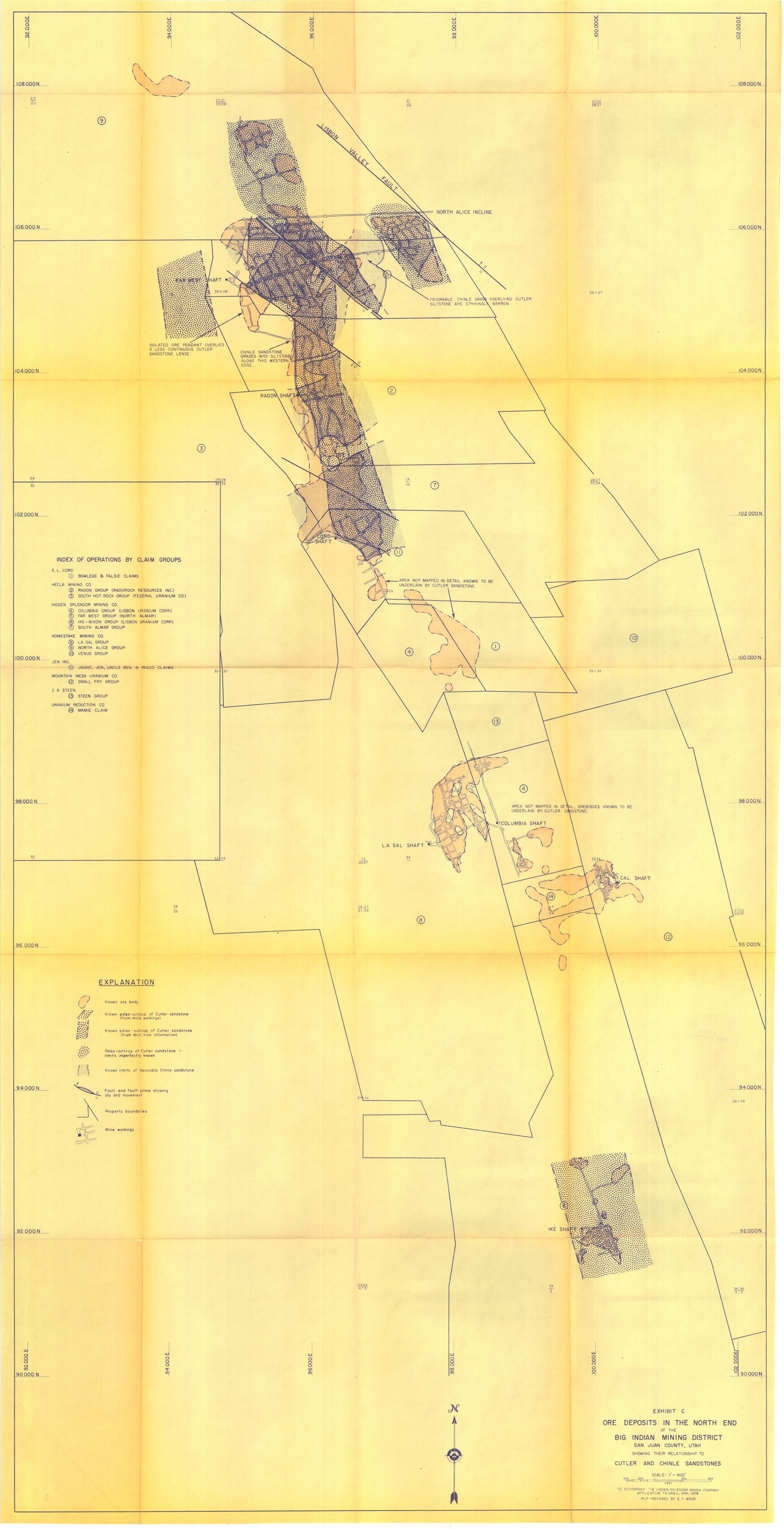
TO ACCOMPANY THE HIDDEN SPLENDOR MINING COMPANY APPLICATION TO DMEA, MAY, 1958.

MAP PREPARED BY E. T. WOOD

EXPLANATION

◎ Proposed drill hole location

Group boundary


LISBON VALLEY FAULT
NORTH ALICE INCLINE
FAR WEST SHAFT
FAVORABLE CHINLE SAND OVERLYING CUTLER SILTSTONE ARE STRIKINGLY BARREN.
ISOLATED ORE PENDANT OVERLIES A LESS CONTINUOUS CUTLER SANDSTONE LENSE.
CHINLE SANDSTONE GRADES INTO SILTSTONE ALONG THIS WESTERN EDGE.
RADON SHAFT
CORD SHAFT
AREA NOT MAPPED IN DETAIL KNOWN TO BE UNDERLAIN BY CUTLER SANDSTONE.
AREA NOT MAPPED IN DETAIL, OREBODIES KNOWN TO BE UNDERLAIN BY CUTLER SANDSTONE.
COLUMBIA SHAFT
LA SAL SHAFT
CAL SHAFT
IKE SHAFT
INDEX OF OPERATIONS BY CLAIM GROUPS
E. L. CORD
(1) BOWLEGS & FALSIE CLAIMS
HECLA MINING CO.
(2) RADON GROUP (RADOROCK RESOURCES INC.)
(3) SOUTH HOT ROCK GROUP (FEDERAL URANIUM CO.)
HIDDEN SPLENDOR MINING CO.
(4) COLUMBIA GROUP (LISBON URANIUM CORP.)
(5) FAR WEST GROUP (NORTH ALMAR)
(6) IKE-NIXON GROUP (LISBON URANIUM CORP.)
(7) SOUTH ALMAR GROUP
HOMESTAKE MINING CO.
(8) LA SAL GROUP
(9) NORTH ALICE GROUP
(10) VENUS GROUP
JEN INC.
(11) JACKIE, JEN, UNCLE BEN & PASCO CLAIMS
MOUNTAIN MESA URANIUM CO.
(12) SMALL FRY GROUP
C. A. STEEN
(13) STEEN GROUP
URANIUM REDUCTION CO.
(14) MAMIE CLAIM
EXPLANATION
Known ore body
Known paleo-outcrop of Cutler sandstone (from mine workings)
Known paleo-outcrop of Cutler sandstone (from drill hole information)
Paleo-outcrop of Cutler sandstone — limits imperfectly known
Known limits of favorable Chinle sandstone
Fault and fault plane showing dip and movement
Property boundaries
Mine workings
N
EXHIBIT C
ORE DEPOSITS IN THE NORTH END
OF THE
BIG INDIAN MINING DISTRICT
SAN JUAN COUNTY, UTAH
SHOWING THEIR RELATIONSHIP TO
CUTLER AND CHINLE SANDSTONES
SCALE: 1" = 400'
400 800 0 400 800
FEET
TO ACCOMPANY "THE HIDDEN SPLENDOR MINING COMPANY APPLICATION TO DMEA, MAY, 1958"
MAP PREPARED BY E. T. WOOD