DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO._____ DMEA NO. 4899

Application
- [x] Denied
- [ ] Withdrawn

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

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

Folder No. 1:

Left Side

- [ ] Royalty Audits
- [ ] 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
- [x] On-site Exam Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

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

Right Side

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

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

Folders No._____: Settlement Sheets

Folders No._____: Drill Logs

Folders No._____: Royalty material

17963

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

OFFICIAL FILE COPY
DMEA
RECEIVED DEC 16 1957

DATE	INITIALS	CODE

December 10, 1957

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-4754 (Uranium)
E-dah-how Uranium, Inc.
Mother Lode, Dona Lou group, Ruth 1-11,
and Lemhi No. 3
Lemhi County, Idaho

Dear Mr. Selfridge:

Enclosed are three copies of a letter dated November 19, 1957 received from Mr. Weston W. Lowe, president of E-dah-how Uranium, Inc. This letter was received November 21, 1957 but the geologic report mentioned therein was not received until today. This constitutes a request for the reactivation of Docket DMEA-4754.

We were aware that the Operator intended requesting reconsideration of his previous application, which was denied October 16, 1957, and made the examination while our men were in the area. A report will be prepared in the very near future.

Sincerely yours,

A. E. Weissenborn

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I

DMEA- 4899

Enclosures

cc: USBM (2)
Alvord

WESTON W. LOWE, PRES.

ED SARGENT, SECY.-TREAS.

E-dah-how Uranium, Inc.

SALMON CITY, IDAHO

Nov. 19, 1957

DMEA- 4899

Defense Minerals Exploration Administration
157 South Howard Street
Spokane, Washington

DMEA (3)

Gentlemen:

This letter constitutes reapplication for Government aid in uranium exploration under the D.M.E.A. designation 4754, was rejected.

Reapplication is based on two new developments: (1) exposure, through excavation, of a noteworthy volume of commercial grade uranium ore, (2) geologic study, which reveals a promising target for further exploration (see accompanying report).

An exploratory diamond-drilling program is proposed to search for possible concentration of supergene uranium minerals in depth. Sixteen drill sites have been selected on the basis of victorial movement of vadose water down dip and down slope. Completion of this exploration project will require approximately 3200 feet of core-drilling.

Estimated costs are itemized on the following page.

Sincerely,

Weston W. Lowe

Weston W. Lowe, Pres.
Box 646,
Salmon, Idaho

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DMEA
RECEIVED DEC 16 1957

DATE	INITIALS	CODE

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NOV 21 1957
U. S. G. S.
SPOKANE, WASH

WESTON W. LOWE, PRES. ED SARGENT, SECY.-TREAS.

E-dah-how Uranium, Inc.

SALMON CITY, IDAHO

Estimated Costs

1. Core-drilling	3200 feet at $9.00 ft.	$ 28,800.00
2. Core-boxes	110 at 2.00	220.00
3. Bulldozing access road and drill sites	No. 8 Dozer 125 hours at $15.00 hr.	1,875.00
4. Compressor with drill operator	50 hours at $11.00 hr.	550.00
5. Dynamite	20 cases at $14.75 case	295.00
6. H ighway clearing, (tractor and operator) i.e., removal of debris dumped on highway by bulldozer	125 hours at $5.00 hr	625.00
7. Two flagmen on highway during dulldozing	125 hours each at $1.75 hr	437.50
8. Non-technical supervision	full-time at $600.00 month	3600.00
9. Technical supervision-geological	nearly full time at 600 month	3600.00
10. Social security: technical and un-technical supervisors	at 2.25 % for 6 months	162.00
11. Social security: flagman	at 2.25% for 125 hours	9.84
12. Unemployment compensation: technical and non technical supervisor	at 2.7% for 6 months	194.40
13. Unemployment compensation: flagman	at 2.7% for 125 hours	11.81
14. Assaying	100 samples at 3.50 /sample	350.00
15 Transportation-Jeep	3750 miles at $.10 mile	375.00
	Total	$41,105.55

RECEIVED
NOV 21 1957
U. S. G. S.
SPOKANE, WASH.

URANIUM DEPOSITS OF THE DONNA LOU GROUP AND ADJOINING CLAIMS, LEMHI COUNTY, IDAHO

RECEIVED
DATE

By

Philip N. Shockey, Ph. D.

and

Wallace R. Oref

RECEIVED
DEC 9 1957
U. S. G. S.
SPOKANE, WASH.

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SUMMARY

This study was made for E-dah-how Uranium, Inc., Salmon, Idaho. Previously, lack of geologic data had made it impossible to evaluate E-dah-how's uranium holdings.

Probable reserves of secondary uranium minerals on E-dah-how's property are approximately 400,000 tons, maximum average tenor probably less than 0.10% U_3O_8. A drilling program is recommended to search for possible ore of richer tenor and greater volume concentrated at depth through supergene enrichment. If this drilling program does not disclose ore, it is recommended that E-dah-how further explore the Big and Little Cuts by drilling to determine reserves of commercial grade. Unfavorable results here would justify abandonment of the property.

PRELIMINARY REPORT ON THE DONNA LOU GROUP OF CLAIMS, LEMHI COUNTY, IDAHO

LOCATION AND SIZE OF AREA

The Donna Lou group and adjoining lode claims are in sections 6, 7, 8, 17, 18, 19, and 20, Range 22 East, Township 20 North, Boise meridian; about seven miles south of Salmon, Lemhi County, Idaho. The Donna Lou group consists of 22 claims and there are 17 adjoining claims (Fig. 1). E-dah-how Uranium, Inc. has leased Nos. 12 through 21 inclusive of the Donna Lou group and, in addition, Lemhi, Mother Lode, and Ruth 11 claims. E-dah-how's holdings (Defense Minerals Exploration Administration designation - 4754) are of special interest, because that corporation is endeavoring to exploit uranium deposits on this property.

PREVIOUS GEOLOGIC WORK

Umpleby (1913) made a geologic examination of Lemhi County in 1910. Anderson (1956) mapped the Salmon quadrangle, which includes the area of present interest, in 1954. Because both of these were reconnaissance studies completed before discovery of uranium deposits, they are largely of historic interest.

Since discovery of uranium mineralization in 1955, several government and state geologists have examined the uranium deposits. Because none of these later visits were longer than several hours, geology of the deposits has not previously been well understood.

FIELD WORK AND ACKNOWLEDGMENTS

Field work for the present study was conducted over a one week period in September 1957. Data were gathered by Brunton and pace or estimate survey and are plotted on an enlarged portion of the U. S. Geological Survey 15 minute Salmon quadrangle.

Mr. Weston Lowe, President, E-dah-how Uranium, Inc., provided information concerning the uranium deposits and properties.

GENERAL GEOLOGY

Stratigraphy

Challis Volcanics

A volcanic sequence (Ocv, Fig. 1) is the basal unit in the area of study. It is several thousand feet thick in

the region and unconformably overlies Precambrian and Ordovician metasedimentaries and Cretaceous quartz monzonite. Ross (1934) designated these the Challis volcanics and assigned them probable Oligocene age.

The basal unit is composed of felsitic flows, which are up to 200 feet thick. Successive flows are separated by unconformities, and the volcanic strata diverge to the south.

Carmen Lake Beds

The Challis volcanics are unconformably overlain by varicolored fresh-water lake sediments, whose total thickness was not determined. The lake beds range in composition and texture from bentonitic mudstones to heterogenous boulder conglomerates. The most persistent conglomerate (Mcc, Fig. 1) unconformably separates the lake bed section. Apparently, lake beds below this conglomerate contain no fossil plants; although above the conglomerate fossil plant material is abundant, and some lignitic strata are present. On the basis of fossil plants, Brown (Ross, 1937) assigned Miocene age to these lake beds. Anderson (1956) designated them the Carmen formation.

Glacial Deposits

Pleistocene glacial deposits blanket much of the area. These deposits consist of till and glacio-fluvial gravels. Only the most conspicuous till (Pg, Fig. 1) has been mapped. Whether this drift represents more than one glacial advance was not determined. Because of its topographic position, the drift is probably of pre-Wisconsin age.

STRUCTURE

Introductory Note

Only structure of the Challis volcanics and Carmen lake beds is pertinent to a discussion of the uranium deposits. Although several unconformities are present, they are not sharply angular, and there is broad conformity of all stratification.

Folds

The major structure is a syncline plunging gently to the north. Because of plunge, the Challis volcanics and the Carmen lake beds wrap around in the area of study. Dips on the western flank of the syncline range from 5 to 45 degrees and increase in magnitude from north to south. The eastern flank was examined in much less detail and is not included in the

geologic map. Minor flexures are superimposed on the major syncline.

Faults

A normal fault with dip slip displacement of about 100 feet cuts both the Challis volcanics and Carmen lake beds near the mouth of Sevenmile Creek (Fig. 1). This fault dips southwesterly and was traced northwesterly to Salmon River; its southeasterly terminus is not known. A portion of the hanging wall of this fault has slumped, so that near the mouth of Sevenmile Creek some lake bed strata are repeated three times. Several less prominent faults have also been mapped. Other faults may be present.

ECONOMIC GEOLOGY

Introductory Note

Secondary uranium minerals were discovered with the aid of radiometric instruments at three points in the area of study. These deposits are designated Drift, Little Cut, and Big Cut from north to south in Figure 1. Eleven tons of uranium ore were shipped from the Drift in 1956. Several tons of ore are ready for shipment from the Little Cut. All of this ore averages less than 0.25% U_3O_8; although small pockets of very rich ore have been encountered.

Description of the Uranium Deposits

All the uranium deposits lie within a single rhyolite formation (Ocvr, Fig. 1). Autunite and uranophane crystals occur along vuggy fracture networks in the rhyolite; no primary ore has been found. Associated minerals in order of relative abundance are limonite, jasper, chalcedony, marcasite (?), drusy quartz, and possibly pyrolusite.

Genesis of the Uranium Deposits

Origin of the uranium deposits seems clear. Because all of the ore appears to be associated with one rhyolite flow, this flow is considered to have carried intrinsic disseminated primary uranium minerals. Support is given this concept by the fact that a traverse across outcrops of this particular flow showed radiation consistantly higher than background count. Recent findings at Marysvale, Utah (Kerr et al., 1957) can also be considered corroborative of the general concept.

All of the minerals identified in these deposits and their mode of occurence indicate formation in a near-surface environment. These minerals may be wholly of secondary origin and may have formed above ground water in Quaternary time. Absence of wall rock alteration is a supporting evidence.

Minable concentrations of uranium minerals have only been found just above the ground water table (Figs. 1 and 2). This suggests supergene enrichment.

Reserves

If these deposits owe their origin to secondary enrichment, probable reserves at the Big and Little Cuts are approximately 400,000 tons, maximum average tenor probably less than 0.10 percent U_3O_8. Reserves at the Drift have not been estimated.

It is possible that several million tons of richer ore are buried beneath volcanics younger than the ore-bearing rhyolite. Supergene enrichment may have concentrated such ore along the zone of intersection of the water table and this rhyolite formation. Accordingly, primary uranium minerals might be expected beneath the water table in the rhyolite, but they probably would not occur in commercial concentrations.

RECOMMENDATIONS

A series of 16 core-drill holes totalling about 3200 feet should be sunk across the surface trace of the intersection at depth of the water table and the ore-bearing rhyolite formation. Locations of the proposed holes are shown in Figures 1 and 2. If these holes encounter ore, drilling should continue to the north and south. If no ore is found at depth, the Big and Little Cuts should be further explored by drilling to determine reserves of commercial grade. Unfavorable results here would justify abandonment of the property.

REFERENCES CITED

Anderson, Alfred L. (1956) Geology and mineral resources of the Salmon quadrangle, Lemhi County, Idaho: Idaho Bur. Mines and Geol., Pamph. 106.

Kerr, Paul F. et al. (1957) Marysvale, Utah, Uranium Area: Geol. Soc. Am., Special Paper 64.

Ross, Clyde P. (1937) Geology and ore deposits of the Bayhorse Region, Custer County, Idaho: U. S. Geol. Survey, Bull. 877.

Umpleby, J. B. (1913) Geology and ore deposits of Lemhi County, Idaho: U. S. Geol. Survey, Bull. 528.

SUPPLEMENT

This supplement is appended to the original report upon request of the Defense Minerals Exploration Administration, Spokane, Washington. Supplemental data are of three categories: (1) Stratigraphy of the Challis volcanics, (2) Radiometric profiles across these volcanics, (3) Assay data. Each category is discussed under separate heading below.

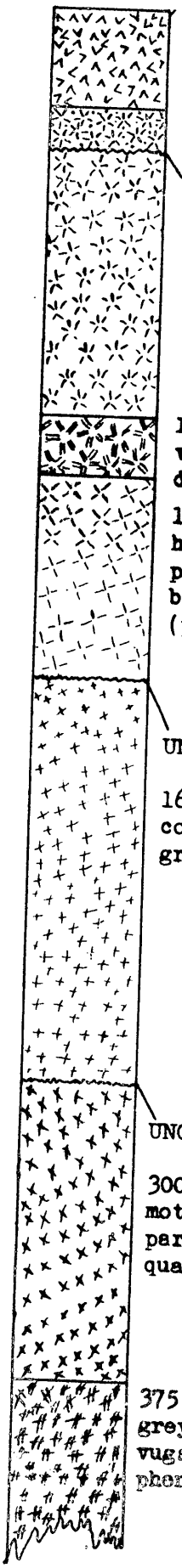
Stratigraphy of the Challis Volcanics

Position and extent of the ore-bearing rhyolite were determined by: (1) alignment of reasonably close-spaced outcrops with positive topographic expression (2) stratigraphic methods, (3) high radiometric anomaly along the outcrop of this rhyolite.

A composite stratigraphic column (Table 1) of reconnaissance quality has been prepared for the upper part of the Challis volcanic sequence at the Donna Lou and adjoining claims. This column should be adequate for identification of the ore-bearing rhyolite in drill-core sections.

TABLE

COMPOSITE STRATIGRAPHIC COLUMN OF CHALICE
VOLCANIC SEQUENCE AT DONNA LOT AND
ADJOINING CLAIMS



0'-25' FELSITE - Grey-white; flow banding barely visible; spherulitic-spherulites radiating with glassy core; vuggy; fractured, dark opal or chalcedony lines vugs and fills fractures; porphyritic, phenocrysts up to 0.18 inch.

25'-35' FELSITE - similar to next above but slightly darker color; better developed flow banding; no spherulites; more filled fractures.

UNCONFORMITY

35'-100' FELSITE - Not distinguishable from second above except by position and thickness.

100'-115' FELSITE - Streaked light and dark reddish-brown; flow banding very well developed; elongate vesicules up to several feet in maximum dimension; glassy.

115'-165' VITROPHYRE - Very distinct; intermittenly traceable for hundreds of feet; black and red-brown obsidian with mica and other phenocrysts in distinct stringers up to several inches thick inter-bedded with rock similar to next above; locally flow bands are contorted (primary contortion)

UNCONFORMITY

165'-300' FELSITE - Greenish; massive; bottom portion shows primary contortion and autobrecciation; clay-like fracture; porphyritic, ground mass extremely fine-grained.

UNCONFORMITY

300'-375' ORE BEARING RHYOLITE - Described from diamond drill core; mottled light shades of tan; suggestion of flow banding; vuggy; partly autobrecciated; porphyritic, phenocrysts mostly dark, some quartz, euhedral up to 0.12 inches.

375'-?' FELSITE - Described from diamond drill core; mottled light grey-blue; well-developed flow banding; autobrecciation; vuggy; most vugs lined with amorphous; greenish substance; porphyritic, most phenocrysts dark colored.

CENTRAL FILE COPY

Radiometric Profiles

As is stated on page 6 of this report:

> ....Because all of the (uranium) ore appears to be associated with one rhyolite flow, this flow is considered to have carried intrinsic disseminated primary uranium minerals. Support is given this concept by the fact that a traverse across outcrops of this particular flow showed radiation consistantly higher than background count.....

Graphic proof of these statements is presented in Figure 3, which shows radiation in MR/HR plotted against distance along three traverses across the Challis volcanics including the ore-bearing rhyolite. Locations of these traverses are shown in Figure 1. In each of the three profiles radiation from the ore-bearing rhyolite is stronger than radiation from other volcanic strata above and below. Profile 3, Figure 3, is the most significant, because of the high positive radiometric anomaly over the ore-bearing rhyolite at a locality where vadose water (See page 7) and/or topography can not have caused increased radiation. Additional unrecorded radiometric traverses gave similar results.

This radiometric survey was made with a carefully calibrated Model 111B "Scintillator". Background count over the flat alluvial plain north and west of the uranium deposits averages .025 MR/HR, over the Carmen lake beds it ranges from .005 to .038 MR/HR, and background averages about .036 MR/HR over the Challis volcanics. Readings as high as 1.0 MR/HR can be obtained at the Big and Little Cuts in the ore-bearing rhyolite where vadose water has caused supergene uranium enrichment.

Assay Data

Certified assay data follow this page. Analyses of eight specimens were made by three different laboratories: Brown, Smith's, and Deason & Nichols. Uranium content of these samples ranged from .214 to 2.25 percent. Samples #2, #5, #6 and 5-24-57 are from the Big Cut; #1', #1 and #4 are from the Little Cut. Sample #3 was made up of tailings from both the Big and Little Cuts. Although these samples were taken with some care, they indicate that a noteworthy volume of commercial grade uranium ore is exposed on the Donna Lou and adjoining claims.

16

Smith's Laboratory

CHEMIST AND ASSAYER

MOAB, UTAH

E-dah-How Uranium, Inc.
Salmon
Idaho

May 28, 1957

Sample Description	% U_3O_8	% V_2O_5	%	%	%	%
#1	0.214					

State of Idaho
County of Bingham

I, Frank H. Fowler, do hereby certify this to be a true copy of the original.

Frank H. Fowler

Subscribed and sworn to before me this 10th day of June, 1957.

Notary Public
Blackfoot, Idaho
My commission expires 3/25/61

TOTAL CHARGES $3.00

J. Earl Smith
CHEMIST

17

THE BROWN LABORATORY

2263 Broadway

GRAND JUNCTION, COLORADO

ANALYTICAL DEPARTMENT

CHapel 2-4589

CERTIFICATE OF ANALYSIS

TO

E-DAH-HOW Uranium, Inc.
P.O. Box 1081
Salmon, Idaho

Date 5-29-57

Order No. 9103-S

Material: Ore Sample
Received: 5-29-57
For: Analysis

Lab. No.	Your No.	Description	Radiometric %eU_3O_8	Chemical %U_3O_8	%V_2O_5	%$CaCO_3$
9103-1	5-24-57			2.25		

Analyst

18

THE BROWN LABORATORY

2263 Broadway

GRAND JUNCTION, COLORADO

ANALYTICAL DEPARTMENT

CHapel 2-4589

CERTIFICATE OF ANALYSIS

TO

W.W. Lowe
E-dah-how Uranium, Inc.
P.O. Box 1081
Salmon City, Idaho

Date 11-8-57

Order No. 10100-S

Material: Ore Sample
Received: 11-7-57
For: Analysis

Lab. No.	Your No.	Description	Radiometric %eU_3O_8	Chemical %U_3O_8	%V_2O_5	%$CaCO_3$
10100-1	# 1			0.27		

Analyst.

Smith's Laboratory

CHEMIST AND ASSAYER

MOAB, UTAH

E-Lah-Low Uranium, Inc.
Salmon City
Idaho

Nov. 8, 1957

Sample Description	% UO_3	% V_2O_5	% $CaCO_3$	%	%	%			
Sample # 2	1.081								
# 4	0.248								
					Certified Correct on Inquire Standards				

TOTAL CHARGES $ 6.00

J. Earl Smith
CHEMIST

20

C IVAN NICHOLS

WM DEASON

DEASON & NICHOLS

ASSAYERS AND CHEMISTS

PHONE ELgin 9-9962

160 SOUTH WEST TEMPLE STREET

SALT LAKE CITY 1, UTAH

MARKED E-Dah-Hoe CLASS W. W. Lowe

LOT #3 SAMPLED BY

ASSAY PER TON 2000 POUNDS

OZS. GOLD	OZS. SILVER	LEAD % WET	% COPPER	% ZINC	% SILICA-INSOL.
% IRON	% SULPHUR	% LIME	% MANGANESE	Uranium	as U_3O_8
				0.27	

November 6, 1957

CHARGES $ 5.00

BY C. Ivan Nichols

THE BROWN LABORATORY

2263 Broadway
GRAND JUNCTION, COLORADO

ANALYTICAL DEPARTMENT

CHapel 2-4589

CERTIFICATE OF ANALYSIS

TO

W.W. Lowe
E-dah-how Uranium, Inc.
P.O. Box 1081
Salmon, Idaho

Date 10-9-57
Order No. 10106-S

Material: Ore Sample
Received: 11-8-57
For: Analysis

Lab. No.	Your No.	Description	Radiometric %eU_3O_8	Chemical %U_3O_8	%V_2O_5	%$CaCO_3$
10106-1	Brown # 5			0.30		

Analyst.

C. IVAN NICHOLS

DEASON & NICHOLS

ASSAYERS AND CHEMISTS

PHONE ELGIN 9-9962

WM. J. DEASON

160 SOUTH WEST TEMPLE STREET

SALT LAKE CITY 1, UTAH

MARKED E-Dah-how CLASS W. W. Lowe

LOT #6 #6 SAMPLED BY

ASSAY PER TON 2000 POUNDS

OZS. GOLD	OZS. SILVER	LEAD % WET	% COPPER	% ZINC	% SILICA-INSOL.

% IRON	% SULPHUR	% LIME	% MANGANESE	% Uranium as U_3O_8	
				0.30	

November 6, 1957

CHARGES $ 5.00

BY C. Ivan Nichols

U. S. Government Messenger Envelope

Standard Form No. 65 (Rev. 1/46)

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2. Void previous block.
3. Write clearly.

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	RUN / STOP		RUN / STOP
	RUN / STOP		RUN / STOP
Capt. Guy McCallum Pen. 586 Carbon.	RUN / STOP		RUN / STOP
Mailroom 6423	RUN / STOP		RUN / STOP
Mr. John W. Aley Room 265 Interior	RUN / STOP 43		RUN / STOP
Defense Minerals Mr Adams	RUN / STOP		RUN / STOP
	RUN / STOP		RUN / STOP
	RUN / STOP		RUN / STOP
	RUN / STOP		RUN / STOP

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So. 157 Howard Street
Spokane 4, Washington

May 15, 1958

DMEA
RECEIVED 19 58
5/19 C 220 225

Mr. W. W. Lowe, President
E-dah-how Uranium, Inc.
Salmon City, Idaho

Re: Docket No. DMEA-4899 (Uranium)
Mother Lode, et al. Claims
Lemhi County, Idaho

Dear Mr. Lowe:

As requested in your letter of May 2, 1958, we are returning herewith your claim map on the Donna Lou claims.

We are also returning to you for your files two extra copies of the report by Philip N. Shockey and Wallace Oref "Uranium Deposits of the Donna Lou Group and Adjoining Claims, Lemhi County, Idaho" which was submitted by you December 13, 1957, as part of your application.

Sincerely yours,

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I

Enclosures

cc: DMEA (2)
USBM

WESTON W. LOWE, PRES.

ED SARGENT, SECY.-TREAS.

E-dah-how Uranium, Inc.

SALMON CITY, IDAHO

May 2, 1958

DMEA
157 South Howard Street
Spokane 4, Washington

Gentlemen:

Early this year you asked me to submit a claim map in support of a uranium loan application: Docket No. DMEA-4899. This blue-printed map shows the Donna Lou claims in white outline. Because it is the only copy available to me, I would appreciate its return.

Sincerely yours,

W.W. Lowe
President

WWL: ps

RECEIVED
MAY 7 1958
U. S. G. S.
SPOKANE WASH.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
3/7/58	Ching	700
3/10	[illegible]	700
3/10	Selbridge	130
"	Johnson	110
"	Hillesday	100
		220
		700
3/10	Lamb	130
3/10	Kilsgaard	(130)

MAR 10 1958

Mr. Weston W. Lowe, President
E-dah-how Uranium, Inc.
Salmon City, Idaho

Re: Docket No. DMEA-4899 (Uranium)
Mother Lode, et al., Claims
Lemhi County, Idaho

Dear Mr. Lowe:

Your latest application for aid in an exploration project on the subject property has been reviewed.

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

Careful study of all our information, including the new material submitted with this application, indicates that the probability of disclosing significant ore reserves is not sufficiently promising to justify Government participation. We regret to advise you that, under these circumstances, your application for exploration assistance is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Program and for bringing the new information on your property to our attention.

Sincerely yours,

(Sgd)

Administrator

MChing/gla
3-7-58
cc to: Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224
Mr. Ching
DMEA Field Team, Region I[redacted] (2)

Ching & Dolan discussed at time of application and was concerned as gave this number

8623

Ching

DOCKET COPY

Summary of Proposed Project
(Also see Summary, dated
October 14, 1957, in Docket DMEA-4754)

Object: Denial of application for an exploration project.

Docket No.: DMEA-4899

Commodity: Uranium

Applicant: E-dah-how Uranium, Inc.
Salmon City, Idaho

Property: 22 unpatented lode mining claims and portions of 2 others; Donna Lou Nos. 12-21 and portions of Nos. 3 and 12, Ruth Nos. 1-11, Lemhi No. 3 and Mother Lode, situated in secs. 7, 17, and 18, T. 20 N., R. 22 E., B.M. & B., Lemhi County, Idaho. Applicant is the Lessee.

Date of application: November 19, 1957

Amount of application: $41,105.55

Referral to Region I: Not required since field examination was made by examiners in the vicinity a few days before the date of the formal application.

Field Examination made: November 16, 1957

Field Team Report recd.: February 27, 1958

Work Proposed: 16 core drill holes aggregating approximately 3,200 feet of drilling, to test the Challis volcanics of Oligocene age, at water table depth.

Estimated Costs:

3,200 feet core drilling @ $9.00/ft.	$28,800.00
125 hrs. bulldozing @ $15.00/hr.	1,875.00
Drilling, blasting, general labor	1,907.50
Supervision(6 mos.)	7,200.00
100 chemical analyses @ $3.50 each	350.00
Miscellaneous	973.00
Total	$41,105.55
Government participation @ 50%	$20,552.77

Field Team Report: Dated February 17, 1958
By D. C. Alword, USGS, and E. W. Parsons, USBM

This application covers the same property included in an application under Docket DMEA-4754 which was denied on October 16, 1957. The new application was based on newly developed exposures of commercial grade uranium ore and a new geologic study which reveals a promising target.

The Applicant was requested to point out the new exposures of ore made since the last visit of the examiners on August 8, 1957, but he failed to do so. Except for a little pick and shovel work above the Donna Lou cut, the examiners saw no evidence of new work and nothing worth sampling was noted. In short, the examiners could find no basis for the new application as far as new exposures are concerned.

A review of the results of a previous examination of this property reveals the following:

(1) Dozer trenching and a short adit has exposed three occurrences of low-grade ore on the property.

(2) The short adit yielded eleven tons of hand-sorted material which proved below ore grade and was rejected at the buying station.

(3) The trenching showed that the deposits locally contain specimen amounts of ore-grade material, but generally are well below ore grade, can be followed only a few feet in any one direction, and offer no promise of continuity. Six channel samples in the most promising areas ranged from 0.03 % to 0.14% and averaged 0.08% U_3O_8.

(4) No controlling structural element or distribution trend that could feasibly be tested by an exploration program was apparent.

The new geologic study, referred to as a basis for the new application, was made by the Applicant's geologists Shockey and Oref. Their hypothesis is that a favorable volcanic unit

(ore-bearing rhyolite) contained primary uranium minerals which were subsequently localized into deposits near water tables by migrating waters in the vadose zone. They supported this hypothesis by preparing radiometric profiles across outcrops of the favorable unit. However, apparently very little attention was paid to the individual occurrences of uranium minerals.

The examiners conclude that a target based upon such a hypothesis would be a rather broad one, and the proposed work would constitute wildcat drilling of ground that offers little promise of yielding uranium ore in economic quantity. They recommend that the application be denied.

Commodity Group Comments:

U. S. Bureau of Mines - James Paone, March 3, 1958

Agrees with the Field Team and advises denial of the application.

U.S. Geological Survey - T. H. Kiilsgaard, March 5, 1958

Concurs with the examiners' recommendations. The Applicant's property does not present a target worthy of DMEA participation. The postulation that the secondary uranium minerals originated in the Challis volcanics is probably correct. The suggestion, however, that ores derived in this manner would be trapped and concentrated in commercial amounts at the water table is open to question. Experience in other deposits of this type has shown that some secondary minerals may tend to concentrate along fractures, joints, etc., at the water table, but that no minable deposits develop unless there are other controlling features also present to concentrate the mineralizing solutions. In the present instance there is no evidence of a channel or of any of the other features associated with secondary deposits such as bleached wall rock, carbonaceous material, or more porous channels. It seems probable that further work would find only small enriched fillings or amounts too low in grade to warrant mining.

Division of Rare and Miscellaneous Metals -
Michael Ching, March 7, 1958

This is a new application on a property which had formerly been denied an exploration project. No new evidence is presented to show that an exploration program would have a good chance for success. The proposed exploration is based upon an assumption that worthwhile secondary enrichment is likely to have taken place near the water table. However, no evidence is furnished to show that deposits within the target area would be any richer or more extensive than those found to date.

Conclusions and Recommendations:

Information included with this second application on a known property has not enlarged its potential. It is recommended that the application be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis

IN REPLY REFER TO:

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

March 5, 1958

Memorandum

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

From: T. H. Kiilsgaard, U. S. Geological Survey

Subject: Review of Field Team report, Docket 4899, E-dah-how Uranium, Inc., Lemhi County, Idaho

In May 1957, in a poorly prepared application, the applicant requested DMEA assistance to explore his Mother Lode, et al., claims in Lemhi County, Idaho. He was asked by DMEA for more information, which was received on June 24, 1957. The property was examined by field team representatives on August 8, 1957. The examiners recommended denial of the application on the grounds that chances of making a significant discovery on the property were poor. The application was denied by letter from the Administrator on October 16, 1957.

On November 19, 1958, the applicant resubmitted an application to explore the same property, but by a different method and at a slightly lesser cost. This second application was supported by a geologic report from two consulting geologists. The consultants' report postulated a large reserve of low-grade ore, as well as the origin and control of the deposit, and recommended further exploration.

Knowing the applicant planned to resubmit an application, field examiners re-examined the applicant's property on November ~~21~~, 16 and have now submitted a second report in which they refute the applicant's consultants and again recommend denial.

I concur with the examiners' recommendations. The applicant's property does not present a target worthy of DMEA participation. The applicant's postulation that the secondary uranium minerals originated in the Challis volcanics is probably correct. The suggestion, however, that ores derived in this manner would be trapped and concentrated in commercial amounts at the water table is open to question. Experience in other deposits of this type has shown that some secondary minerals may tend to concentrate along fractures, joints, etc., at the water table, but that no mineable deposits develop unless there are other controlling features also present to concentrate the mineralizing solutions.

In the present instance there is no evidence of a channel, in which the water may have been concentrated, or of any of the other features associated with secondary deposits such as bleached wall rock, carbonaceous material, or more porous channels. It seems probable that further work would find only more small enriched fillings or else amounts too low in grade to warrant mining.

I recommend denial of the application.

T. H. Kiilsgaard

T. H. Kiilsgaard

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

Date March 3, 1958

DMEA Docket No. ~~4754~~ 4899
DMEA Contract No.
Commodity Uranium
Name of applicant E-dah-how Uranium, Inc.
Name of property Mother Lode, et al. claims
Location of property Lemhi County, Idaho
Estimated cost of project $41,105.55

Memorandum

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

1. Date of subject document: 2/20/58. 2. Date received by reviewer: 2/27/58.

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

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

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

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February 20, 1958

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA ~~4754~~ 4899 (Uranium)
E-dah-how Uranium, Inc.
Mother Lode, et al. claims
Lemhi County, Idaho

ON-SITE EXAM

Dear Mr. Selfridge:

Enclosed are three copies of a memorandum from D. C. Alvord, Geologist, U. S. Geological Survey, and E. W. Parsons, Mining Engineer, U. S. Bureau of Mines, on a second field examination of the E-dah-how Uranium, Inc.'s Mother Lode claims in Lemhi County, Idaho. We consider this a very thorough report which covers the situation very well.

The examiners have checked the applicant's claim that uranium is found in more than normal amounts in a rhyolitic flow or sill. Nowhere within this flow, however, have the examiners found that uranium has been concentrated sufficiently to be minable. They contend that the chances of finding uranium in the flow in minable amounts by the drilling suggested by the applicant is very remote.

It is obvious from the evidence presented that the rhyolite is more radioactive than the enclosing rock, but the Field Team agrees with the examiners that there is little evidence that there are minable concentrations of uranium in the rhyolite. This does not necessarily mean that there is no chance of finding minable concentrations of uranium somewhere within the Challis volcanics. It appears to the Field Team, however, that deposits formed from uranium leached from the rhyolite would more likely be deposited in lower beds than in the rhyolite itself. This would require structural and stratigraphic conditions which do not appear to be present on the E-dah-how property and the search for this type of deposit is not the objective of the applicant's proposal.

Reviewed by
DMEA OPERATING COMMITTEE
3-3-58
(date)

We therefore concur in the recommendation that the application be denied.

By Field Team, Region I

A. E. Weissenborn by [illegible]

A. E. Weissenborn, Exec. Officer
U. S. Geological Survey

Wing G. Agnew

Wing G. Agnew, Member
U. S. Bureau of Mines

Enclosure (in trip.)

cc: AEC, Salt Lake
USBM (2)
USGS (SRO)
Alvord

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DATE	INITIALS	CODE
3/3	JB	130
		220

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
So. 157 Howard Street
Spokane 4, Washington

February 17, 1958

MEMORANDUM

To: DMEA Field Team, Region I

From: D. C. Alvord, Geologist, U. S. Geological Survey and
E. W. Parsons, Mining Engineer, U. S. Bureau of Mines

Subject: Second Field Examination Report, Docket No. DMEA ~~475~~ 4899
(Uranium), E-dah-how Uranium, Inc., Mother Lode et al.
claims, Lemhi County, Idaho

INTRODUCTION

A request for reactivation of the subject docket was received at the Region I Field Team office on November 21, 1957. The original application was denied on October 16, 1957. In the request, Weston W. Lowe, President, E-dah-how Uranium, Inc., stated that the reapplication was based on newly developed exposures of commercial-grade uranium ore and a geologic study which reveals a promising target. A cost analysis of the proposed work--3,200 feet of core drilling at an estimated cost of $41,105.55--was attached to the request. On December 10, 1957, the Region I office received six copies of an undated report on the geologic study referred to in Mr. Lowe's request. The report, entitled "Uranium deposits of the Donna Lou group and adjoining claims, Lemhi County, Idaho" is by P. N. Shockey and W. R. Oref, consulting geologists of Salmon, Idaho. Shockey recently received a doctorate in geology from Cornell University. Oref has a recent master of science degree from the University of Virginia.

Region I, aware that the operator intended requesting reconsideration of his application, had the property re-examined on November 16, 1957, while the Field Team representatives were in that locality and before winter weather prohibited a field investigation. Mr. Weston W. Lowe, and Messrs. Philip N. Shockey and Wallace R. Oref, consulting geologists of Salmon, Idaho, were present during the examination. The examination included a reconnaissance of the general area of the E-dah-how property in

Reviewed by
DMEA OPERATING COMMITTEE
3-3-58
(date)

order to check the geology presented in Shockey and Oref's report. Particular attention was given to figure 1 (Shockey and Oref) and a radiometric traverse was made with a scintillator instrument to check one of their radiometric profiles. Mr. Lowe was requested to show us any new exposures of ore made since our last visit to the property on August 8, 1957, but he failed to do so. Except for what appeared to be a little pick and shovel work above the Donna Lou cut, the examiners saw no evidence of new work and nothing worth sampling was noted. We are at a loss to explain the reference to "newly developed exposures of commercial grade uranium ore" in Mr. Lowe's letter.

SUMMARY AND CONCLUSIONS

The property is underlain by gently to moderately dipping strata of the Challis volcanics of Oligocene age and of the Carmen formation of Miocene age. Deposits of secondary uranium minerals were first discovered in the general area in the spring of 1955. Prospecting subsequent to the initial discovery, while not intense, has resulted in the discovery and partial exposure of at least three distinct uranium deposits all occurring in a single flow of the Challis volcanics. Although specimen-sized samples of high-grade ore can be obtained, six channel samples taken from two of the deposits at their better exposures ranged from 0.031 percent U_3O_8 to 0.14 percent U_3O_8 and average only 0.08 percent U_3O_8. All three deposits are extremely small and lack indication of continuity. Geologic consultants to the applicant suggest that the deposits are the result of secondary enrichment by vadose waters within a single unit of flow rock and propose exploring at depth the zone of intersection of the water table with the ore-bearing unit of flow rock. It is concluded that the program suggested by the applicant would test too broad a target and would amount to little more than wildcat drilling in ground that offers only an extremely remote chance of yielding commercial ore.

RECOMMENDATION

It is recommended that the application be denied.

GEOLOGY

Publications concerning the regional geology in which the Mother Lode et al. claims are located are as follows:

Umpleby, J. B., 1913, Geology and ore deposits of Lemhi County, Idaho: U. S. Geol. Survey Bull. 528, 182 p.

Anderson, A. L., 1956, Geology and mineral resources of the Salmon quadrangle, Lemhi County, Idaho: Idaho Bureau of Mines and Geology Pamphlet 106, 102 p., 6 pt., 3 fig.

Umpleby's mapping at 1:375,000 is far too broad to be of any use other than to deduce that the claims are underlain by flow rocks and lake beds. Anderson's report and map at 1:62,500 are sufficiently detailed to show that the claims are underlain by acidic flows and welded tuffs of the Challis volcanics of Oligocene age and lake-bed sediments of the Carmen formation of Miocene age. In addition, the general attitude of the flows and lake beds are shown in sufficient detail to allow one to infer the synclinal axis shown on Shockey and Oref's map (1:15,840). Mr. Anderson's mapping was done during the summer of 1954. Up to the time the map was completed no discoveries of radioactive deposits had been made. In connection with the search for radioactive deposits it is interesting to note that Anderson (p. 95) suggests that it would be well to ignore the lake-bed areas and perhaps the Challis volcanics, and instead concentrate on the areas of Precambrian rocks. He concludes that uranium minerals would be most likely to occur in the Precambrian rocks but fails to discuss his reasons for considering the Tertiary rocks to be unfavorable for uranium deposition.

E. F. Cook, in Pamphlet No. 102 of the Idaho Bureau of Mines and Geology entitled "Prospecting for uranium, thorium and tungsten in Idaho," dated May 1955, describes a discovery of uranophane in a rhyolite flow or consolidated pyroclastic rock of the Challis volcanics in a road cut about 6 miles south of Salmon. He states that "in April of 1955 this deposit yielded the first commercial uranium ore produced in Idaho." Presumably this shipment is the 11-ton shipment from the Doma Lou adit mentioned later in this memorandum on page 4. On page 34, Mr. Cook states: "Volcanic rocks in many areas appear to have released uranium to circulating groundwater from which it was concentrated in carbonaceous material" and concludes that both the acid volcanic rocks and the associated carbonaceous sediments should be investigated for uranium.

The following file reports pertain partly or wholly to the ground controlled by E-dah-how and contain details on location, development, descriptions of some of the occurrences, earlier evaluations, etc.:

Jarrard, L. D., 1955, U. S. Atomic Energy Commission, Preliminary Reconnaissance Report No. B-B-189.

Parsons, E. W., Hubbard, C. R., and Nickelson, H. B., 1957, Field Examination Report, Docket No. DMEA-4308 (Uranium).

Alvord, D. C., and Waddell, G. C., 1957, Examination Report, Docket No. DMEA-4754 (Uranium).

These reports are based on examinations of a few hours duration at the most, and emphasize individual occurrences. Mr. Jarrard, who apparently saw the area at a time when little or no artificial exposure of any of the deposits had been made, tentatively concluded that they warranted further attention and that the possibilities for limited production were good. By the summer of 1957, when the DMEA field team representatives examined the area, dozer trails and roads had been built into several localities, some of the deposits had been exposed in varying degree by dozer trenching, two or three short diamond drill holes had been poked down, and one very short adit had been driven. Some of the diamond drill holes reportedly penetrated anomalous radioactivity and in one hole, on the Donna Lou group, ore-grade material was reported. None of the core was saved, however, and none of the examining teams were able to confirm the results. In 1955 a short adit, also on the Donna Lou group, yielded about 11 tons of hand-sorted uranium-bearing rock which, by the applicant's own word, proved below ore grade and was rejected at the buying station. The dozer trenching showed that although locally the deposits contain specimen amounts of ore-grade material (0.20 percent U_3O_8 or more) they are generally well below ore grade, can be followed only a few feet in any one direction, and apparently offer little or no promise of continuity. Six channel samples of such exposures, taken by the field examining teams, range from 0.031 percent to 0.14 percent U_3O_8 and average about 0.08 percent U_3O_8. No controlling structural element or distribution trend that could feasibly be tested by an exploration program was apparent to the examining teams. Following both examinations it was concluded that none of the deposits or general areas offered sufficient promise to warrant exploration. More prospecting appeared in line.

As E-dah-how's request for reactivation is based primarily on Shockey and Oref's report on the Mother Lode et al. claims, the remainder of this memorandum is devoted to a discussion of the application in the light of Shockey and Oref's study. During September 1957, Shockey and Oref spent a week studying the general area of the Mother Lode et al. claims. In this time they mapped about 3 square miles at 1:15,840 (Shockey and Oref, fig. 1) and made several radiometric traverses. Apparently very little time was spent studying the individual occurrences of uranium minerals.

Shockey and Oref (figs. 1 and 2) show the Challis volcanics unconformably overlain by the Carmen formation. Several lithologic units are differentiated within the Carmen; these are shown to thin towards the south, the entire sequence stratigraphically pinching out and/or being truncated by erosion at the southern portion of the mapped area. At this locality the southern boundary of the Carmen formation is apparently very close to the southern

extremities of the Carmen pondic sedimentation, whereas the western boundary is primarily determined by erosional truncation. Presumably, about the only bearing these circumstances have on the occurrence of uranium deposits in rocks of the Challis is that where the lake beds pinch out or are removed, the underlying Challis volcanics are exposed to the action of weather, groundwater, and prospectors. Of more direct economic interest, however, is a bed or flow of acidic material differentiated within the Challis volcanics by Shockey and Oref as the "ore-bearing rhyolite" indicated by 'Ocur' on their figures 1 and 2. This bed has been traced by Shockey and Oref from the southern edge of the mapped area northward over a distance of about 2 miles to where it is covered by river alluvium, about half a mile north of the short adit. This unit ranges in thickness from about 100 to 375 feet. Characteristically it forms steep soil- and talus-covered slopes broken locally by nearly vertical-faced bluffs of strongly jointed bed rock. The overlying and underlying volcanic units are fairly easily distinguished from the "ore-bearing rhyolite" on a basis of color, texture, structure, and locally by structural features indicative of unconformity. Broadly speaking, the overlying unit is a fairly dense fine-grained light-grayish-green rock, having the general appearance of an intermediate to acidic flow rock, whereas the "ore-bearing rhyolite" is a fairly light, porous, medium- to coarse-grained pale-gray to pinkish-gray and buff-colored rock, having the general appearance of an acidic welded tuff flow (ignimbrite). The underlying unit is apparently also a welded tuff flow or flow-breccia, but is easily distinguished from the "ore-bearing rhyolite" by a greenish-gray to gray-blue cast, a generally finer grained groundmass and the presence of irregularly shaped vugs filled or lined with a green "clay-like" material.

Although Shockey and Oref mapped unit and formational contacts in fair detail, they determined the attitude of the beds only in the broadest sense, and, in fact, added little or nothing in this respect to what had already been done by Anderson (1956). This is probably unfortunate for, as Shockey and Oref state on page 5, "minor flexures are superimposed on the major" and it is with the disclosure of these minor flexures, probably, that clues to the localization of the uranium minerals will eventually be determined. A little concentrated attention to joint pattern, as well as local minor flexures within the "ore-bearing rhyolite", might have been quite revealing.

A generally north-trending normal fault cuts both the Challis and Carmen beds in the vicinity of the short adit. Transverse failure in the lake beds on the hanging-wall side of this fault and subsequent dip slip along the fault has formed several slump or toreva-blocks. The short adit was driven in the "ore-bearing rhyolite" at the north end of one of these toreva-blocks, apparently on a fault subsidiary to the main normal fault.

Early in their mapping, Shockey and Oref observed that the only known deposits of secondary uranium minerals in the area of study, designated the Drift, Little Cut, and Big Cut on figure 1, all occurred in the particular volcanic unit subsequently named by them the "ore-bearing rhyolite" (oral communication). They also concluded that all three deposits occur in the vadose zone just above the present water table. In the occurrences at the short adit and at the Big Cut (Mother Lode), where water seepage can be seen within a few feet of uranium-bearing rock, this relationship seems to hold. The occurrence at the Little Cut (Donna Lou), however, is located on a ridge or nose, probably several dozens of feet above the present average water table. This deposit is, however, near the top of the "ore-bearing rhyolite" and it is possible that some sort of intermittent water table at or near the contact has a bearing on the occurrence.

To Shockey and Oref(p.6) the origin of the deposits of secondary uranium minerals seems clear. Because all of the deposits are in one volcanic unit, this unit is presumed to have contained primary uranium minerals subsequently localized into deposits near water tables by migrating waters in the vadose zone. They support their hypothesis by citing radiometric profiles across outcrops of the suspect unit and surrounding units which show a definite positive radioactivity contrast over the "ore-bearing rhyolite." Plate 1 accompanying this report shows Shockey and Oref's radiometric profile No. 3 plotted with a radiometric profile made by the examiners over about the same traverse. They also cite one recent geologic publication on the Marysvale, Utah uranium area as corroborative to the general concept. Actually, the literature of the past 10 years is jammed with papers that could be cited as corroborative to this hypothesis.

The details of Shockey and Oref's hypothesis could be picked at for hours on end as, for instance, the reference to "primary" uranium minerals. Uranium almost certainly does not occur in acid volcanic rocks as primary uranium minerals, but rather almost completely as isomorphous cationic substitutions in accessory minerals such as zircon, apatite, sphene, etc. Nevertheless, the concept advanced by Shockey and Oref is an integrated theory of origin, supported by some facts, that suggests a target, though a rather broad one, for exploration.

At the top of page 7 Shockey and Oref state: "Minable concentrations of uranium minerals have only been found just above the ground water table * * *." They do not, however, define "minable concentrations." As discussed earlier in this report, no material approaching 0.2 percent U_3O_8 in minable quantities has been seen by any of the examining teams. Also, on page 7, Shockey

and Oref give an estimate of reserves at the Big and Little Cuts of approximately 400,000 tons maximum average grade of less than 0.10 percent U_3O_8. The only clue given as to the assumptions made in obtaining the reserve estimate is the assumption that the deposits owe their origin to secondary enrichment. No statement is included as to what assumed probable uranium content of the "ore-bearing rhyolite" was used, which portion of this material was acid soluble, what degree of uranium liberation by devitrification was assumed, if any, or what concentration factor was used. Due to the above omissions, it is impracticable to attempt to discuss, evaluate, or interpret their reserve estimate.

APPLICANT'S PROPOSAL

The following is quoted from Shockey and Oref (p. 7):

"A series of 16 core-drill holes totaling about 3,200 feet should be sunk across the surface trace of the intersection at depth of the water table and the ore-bearing rhyolite formation. Locations of the proposed holes are shown in Figures 1 and 2. If these holes encounter ore, drilling should continue to the north and south. If no ore is found at depth, the Big and Little Cuts should be further explored by drilling to determine reserves of commercial grade. Unfavorable results here would justify abandonment of the property."

ESTIMATED COSTS
(Applicant's estimate)

1.	Core drilling	3200'	@ $9.00 ft.	$28,800.00
2.	Core boxes	110 ea.	@ 2.00	220.00
3.	Bulldozing access road & drill sites, No. 8 dozer	125 hrs.	@ 15.00 hr.	1,875.00
4.	Compressor with drill operator	50 hrs.	@ 11.00 hr.	550.00
5.	Dynamite	20 cases	@ 14.75 case	295.00
6.	Highway clearing (tractor and operator) i.e. removal of debris dumped on highway by bulldozer	125 hrs.	@ 5.00 hr.	625.00
7.	Two flagmen on highway during bulldozing	125 hrs.	@ 1.75 hr.	437.50
8.	Non-technical supervision, fulltime		@ 600.00 mo.	3,600.00
9.	Technical supervision-geological nearly full time		@ 600.00 mo.	3,600.00
10.	Social Security: technical & non-technical supervisor at 2.25% for 6 months.			162.00
11.	Social Security: flagman @ 2.25% for 125 hrs.			9.84
12.	Unempl. comp.: technical & non-tech. super. @ 2.7% for 6 mos.			194.40
13.	Unempl. comp.: flagman @ 2.7% for 125 hrs.			11.81
14.	Assaying, 100 samples		@ 3.50 sample	350.00
15.	Transportation-Jeep, 3,750 mi.		@ .10 mi.	375.00
			Total	$41,105.55

DISCUSSION OF APPLICANT'S PROPOSAL

The applicant's proposal to test the zone of intersection at depth of the water table and the "ore-bearing rhyolite" by diamond drilling would be a basically sound technique if the target was sufficiently promising to warrant exploration and if sufficient additional knowledge concerning the ore controls was available to further delimit the targets. When asked the reasons for the location of the proposed drill holes, Shockey merely stated that the holes were located with respect to the "inferred vector component of ground water movement" within the favorable flow. As it stands, the proposed work would constitute wildcat drilling of ground that offers little promise of yielding uranium ore in economic quantity.

Attachment 1

Distribution:
DMEA (3)
USBM (5)
USGS(SRO)
AEC, Salt Lake
Docket
Alvord

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

DMEA
RECEIVED FEB 12 1958

DATE	INITIALS	COPY
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February 10, 1958

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-4899 (Uranium)
E-dah-how Uranium, Inc.
Mother Lode, et al. claims
Lemhi County, Idaho

Dear Mr. Selfridge:

In reply to your letter of February 3, 1958, regarding the examination report on the referenced application, our report should be in the mail early next week.

Our delay has been due in part to our wish to give most careful consideration to this property in view of the report submitted by the applicant's geologist, and in part to the unavoidable absence of the examining geologist for three weeks due to illness in his family.

Sincerely yours,

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I

cc: USBM (2)
Alvord

DMEA Form 7
(12-56)

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Date	Surname	Code
2-3	Ching	700
2-3	Kuonde	700
2/3	GCS	138
"	Johnson	110
"	Brattkendorf	100
2/4	C	220
		700

FEB 3 1958

Mr. A. E. Weissenborn
Executive Officer
DMEA Field Team, Region I
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA-4899 (Uranium)
E-dah-how Uranium, Inc.
Mother Lode, et al., Claims
Lemhi County, Idaho

Dear Mr. Weissenborn:

We have been holding this application in abeyance pending receipt of the report mentioned in your letter of December 10, 1957. Please advise us when we may expect to receive this report.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

APPROVED:

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

Thor H. Kiilsgaard (THK)
Member, Geological Survey

MChing/izm 2-3-58
cc: Mr. Ching
Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224

8623

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

December 16, 1957

E-dah-how Uranium, Incorporated
Salmon City, Idaho

Gentlemen:

Subject: DMEA-4899

Your application for exploration assistance, dated November 19, 1957 submitted to our office at Spokane, Washington has been assigned Docket Number DMEA-4899 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.

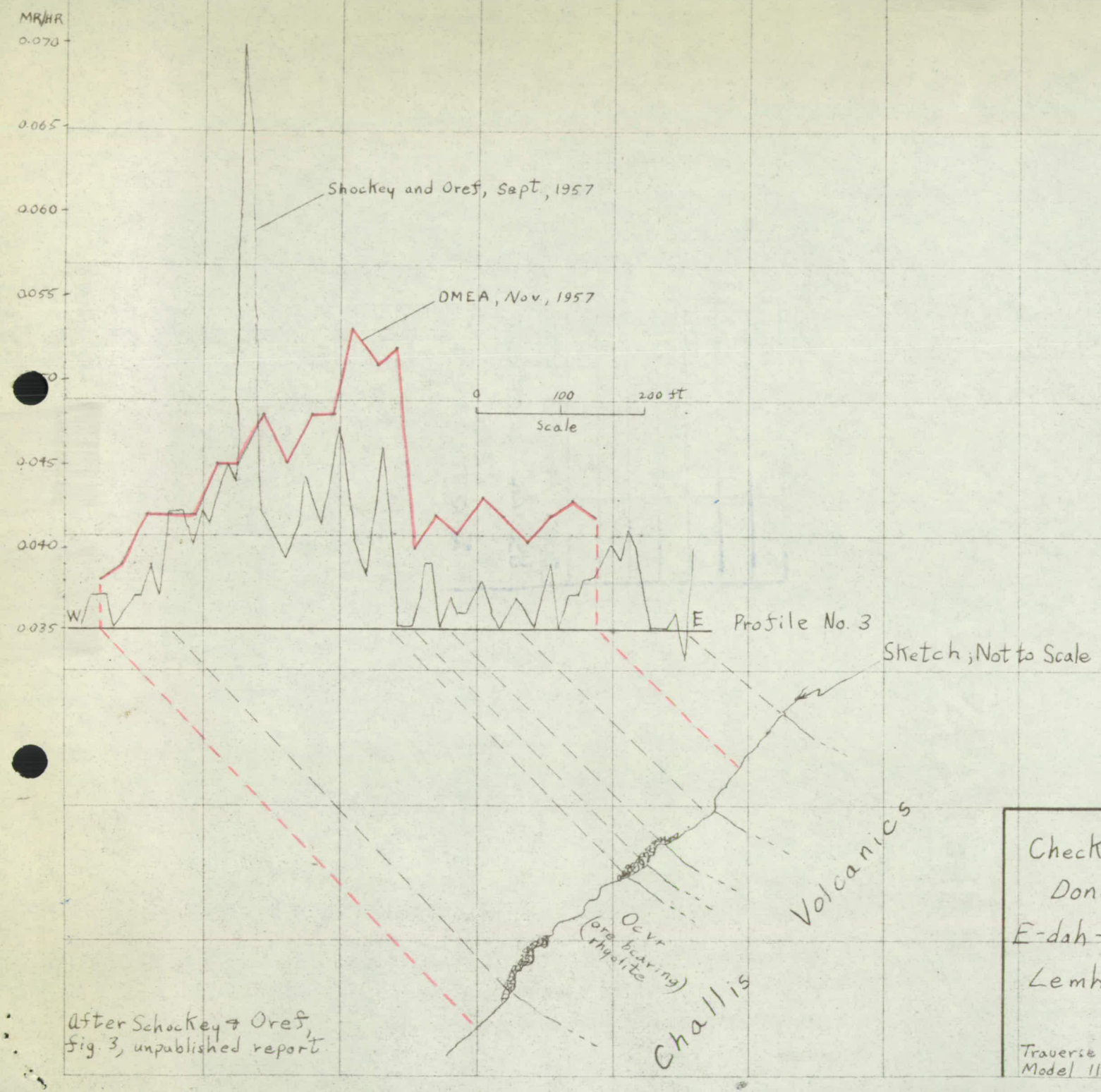
Sincerely yours,

Allen S. Dakan, Director
Operations Control and
Statistics Division

Copy to:

Region I

Docket No DMEA - ~~4754~~ 4899



Check Radiometric Profile
Dona Lou Claims
E-dah-how Uranium, Inc.
Lemhi County, Idaho

Traverse by D.C.A., E.W.P., and P.N.S., 1957.
Model 111B "Scintillator"

Plate 1

"ALBANENE" NO. 1888M K&E CO., N.Y. REG. U.S. PAT. OFF.
J. A. Gendron Co., Spokane

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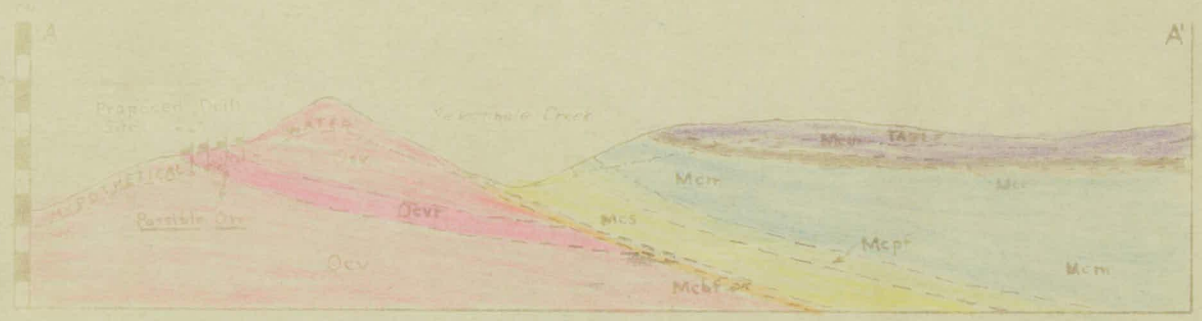
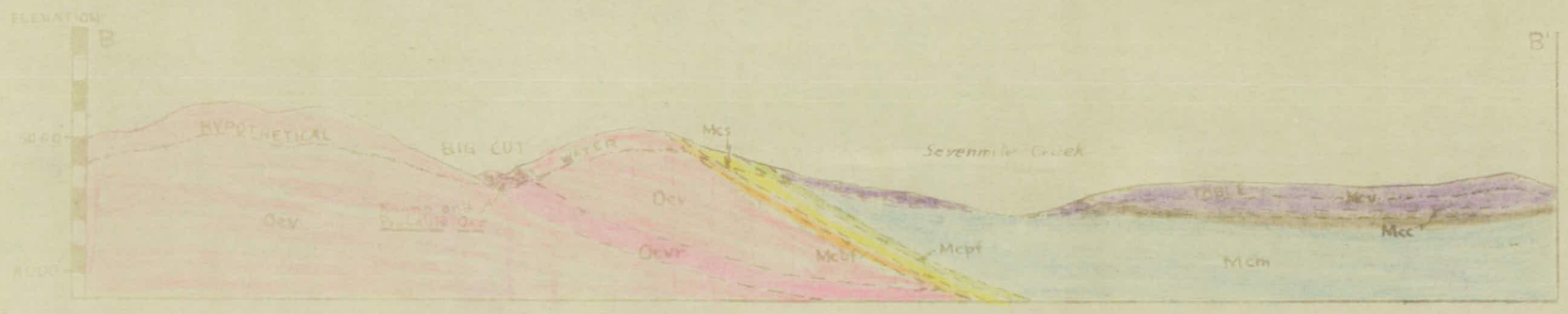
DMEA
RECEIVED FEB 27 1958

DATE	INITIALS	CODE

FIGURE 2- GENERALIZED STRUCTURE SECTIONS





Horizontal and Vertical Scales 1:15,840

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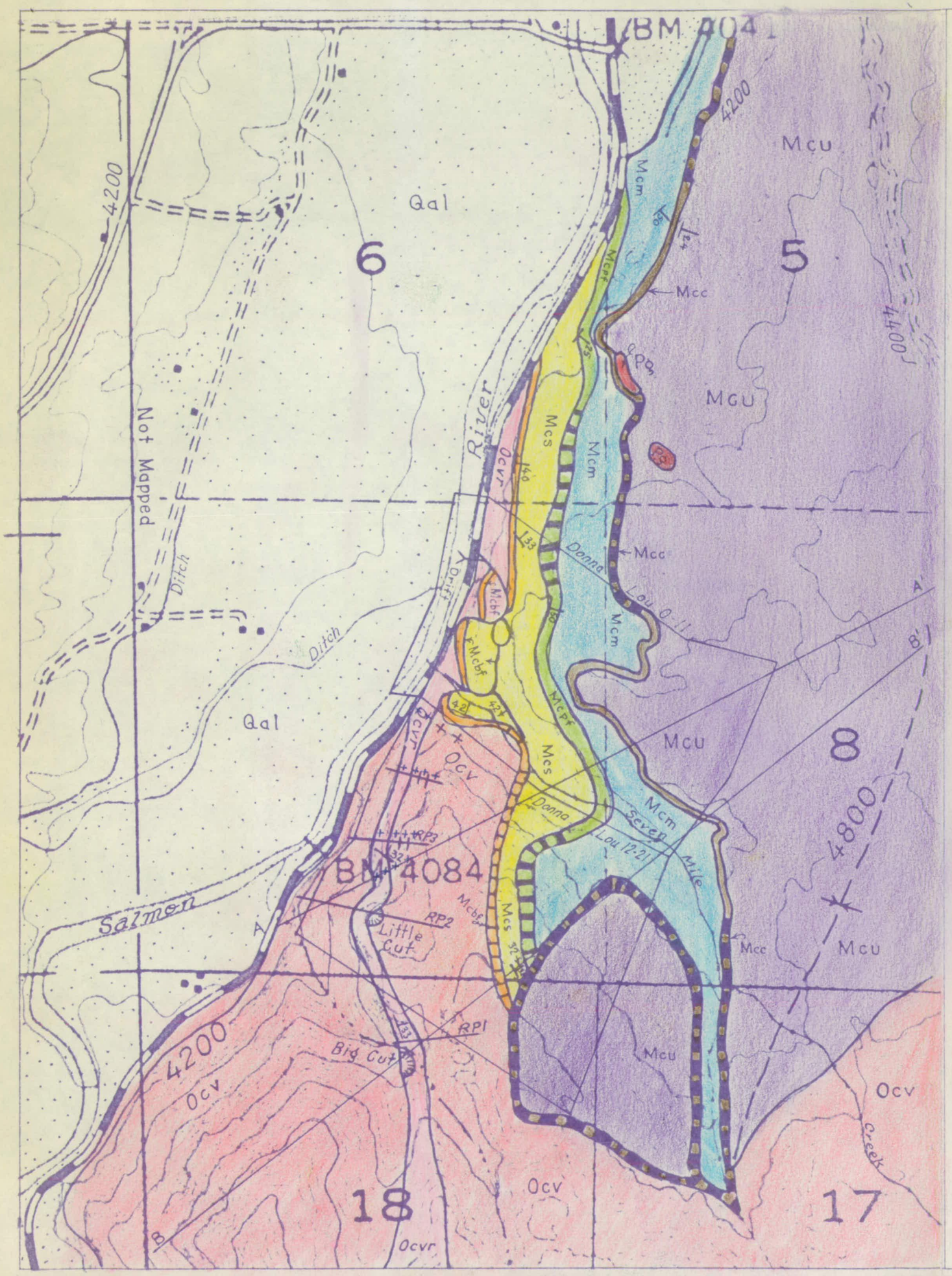

EXPLANATION

QUATERNARY

Recent

- **Qal** — Alluvium

Pleistocene

- **Pg** — Till

TERTIARY

Miocene

- **Mcu** — Upper Carmen Lake Beds
- **Mcc** — Carmen Conglomerate
- **Mcm** — Middle Carmen Lake Beds
- **Mcpf** — Pink Carmen Flags
- **Mcs** — Carmen Sandstone
- **Mcbf** — Basal Carmen flags

Oligocene

- **Ocv / Ocvr** — Challis Volcanics with ore bearing rhyolite

Strike and dip of Beds

Strike and dip of faults

Inferred fault

Known Contact

Inferred Contact

Synclinal Axis

Cut

Portal

Proposed drill Site

1320 660 0 1320 2640 3960 Feet

Contour Interval - 40 Feet

19½°
True North
Magnetic North
Approximate Mean Declination 1950

Base Map - U.S.G.S., Salmon Quadrangle, Idaho T.20N. R.21 & 22 E.

Geology by: P. Shockey & W. Oref

Drafted by: P. Wise & B. Simpson

DEC 3 1957

Fig. I - Geologic Map of the Donna Lou & adjoining Claims - Lemhi County, Idaho

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