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To:	Rare & Misc. Met. Div	Date	3-20-56
To:	Mr. Crawford.	Date	3-26-56
To:	Operating Com	Date	4-13-56
To:	J.E. Johnson	Date	4-16-56
To:	C.D.M.	Date	4-16-56
To:	Assoc. Solicitor	Date	4-17-56
To:	Oper. Com	Date	4-30-56
To:	Mr Mettendorf	Date	4-30-56
To:	Oper. Com.	Date	8-10-56
To:	J.E. Johnson	Date	8-13-56
To:		Date	
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700

Ching
Ellis
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Lamb
Selfridge
J. Johnson

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

AUG 13 1956

MINCON
P. O. Box 270
Grand Junction, Colorado

Re: Docket No. DMEA-4218 (Uranium)
Houston Pool No. 1
Mecca, Star, and Pine Groups
San Juan County, Utah

Gentlemen:

Your application for aid in an exploration project and other information available to us in Washington concerning your above-named property have 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, although noting some uranium mineralization on your property, indicates to us 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 Program and for bringing your property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

MChing/gla
8-10-56
cc to: Admr.'s Reading File
Operating Committee
Docket
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA
Code 700
Mr. Ching
DMEA Field Team, Region III (2)

R.C.S.

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

DOCKET COPY

Ching
Ellis

August 9, 1956

Summary of Proposed Project

Object: Denial of application for an exploration project.

Docket No.: DMEA-4218

Commodity: Uranium

Applicant: Houston Pool No. 1
c/o P. O. Box 270
Grand Junction, Colorado

Property: 57 full and fractional unpatented mining claims; Willy G Nos. 1-3, Pine Nos. 1-2 and 5-18, Mecca Nos. 3-8, Star Nos. 1-24, Pine 1A, Star Nos. 5A, 8A, 13A, 16A, 18A and 21A, and Star Fraction 1A, in secs. 26, 27 and 36, T. 35 S., R. 18 E., and secs. 2 and 11, T. 36 S., R. 18 E., S.L.M.& B., San Juan County, Utah. Applicant is the owner of a 3/4 interest in the property. William G. Dwyer and Mincon (an engineering firm) hold a 1/4 interest.

Date of application: March 9, 1956

Amount of application: $41,903.50

Work proposed: A core and non-core drilling program in two stages to penetrate the Shinarump conglomerate on the property. Stage I to consist of 32 wide-spaced holes requiring 6,395 feet of non-core drilling and 660 feet of core drilling. Stage II to consist of 23 holes, aggregating 5,060 feet, to further explore mineralization or favorable geologic conditions found in Stage I.

Estimated Costs:

10,995 ft. non-core drilling @ $2.00/ft.	$21,990.00
1,120 ft. core drilling @ $3.00/ft.	3,360.00
Labor, supervision, consultants	7,600.00
Equipment moving and rental	1,500.00
Materials and supplies	700.00
Miscellaneous	1,505.00
Contingencies	5,248.50
Total	$41,903.50
Government participation @ 75%	$31,427.62

Field Team
Report: July, 1956 - M. H. Salsbury, USBM
F. M. Byers, Jr., USGS

The property is located near the northern edge of a belt of Shinarump sedimentation some 2 or 3 miles north of the most favorable part of the belt where three mines with a production of several thousand tons of ore were found. There has been no production from the subject property and the only known deposit nearby is one mile to the east at the Waban mine. This mine has produced 176 tons of ore containing 0.32% U_3O_8 and has very limited reserves.

The Shinarump pinches out on the Star, Mecca and Willy G groups and is lacking on the Pine group of claims. It ranges from a few feet to 14 feet in thickness where present. No Shinarump channel scours into the underlying Moenkopi were observed. The Shinarump consists of medium to coarse, yellowish gray, silty sandstone with mudstone splits and is saturated with oil. It is only sparingly conglomeratic.

Only 3 out of 45 holes drilled on the property by the Applicant were found to be mineralized from an examination of the cores, and the mineralization was not of ore grade in any case. Only one slight anomaly could be detected in nearby 1,000 feet of rim exposure. The Applicant's attempt to strip the Shinarump outcrop resulted in exposure of the outcrop in four short sections. No channeling or mineralization was noted at these points.

The Applicant's proposed program was based on a concept of Shinarump channel trends which do not appear to be substantiated by the drilling and rim stripping already completed. The property lacks the favorable Shinarump conglomerate, well-developed channels, and good mineralized exposures which are characteristic of the producing areas to the south. It is concluded that further exploration on the property would find, at best, ore bodies similar to that at the Waban mine which is economic only because it is exposed on an outcrop and required little preparation for mining. It is recommended that the application be denied.

Commodity Group Comments:

U. S. Bureau of Mines - John E. Crawford, August 3, 1956.

Discussed the report of examination with the AEC representative. Concurs in the recommendation for denial.

U. S. Geological Survey - N. E. Nelson, August 8, 1956

Concurs in the Field Team's Recommendation that the application be denied.

Rare and Miscellaneous Metals Division - Michael Ching, August 9, 1956.

Rather extensive preliminary work by the Applicant indicates that Shinarump channels of a favorable conglomeratic nature and thickness are not present on the property, and very little mineralization of an encouraging nature was found. Since no definite targets are present, further work would be in the nature of prospecting and would not be justified.

Conclusionsand Recommendations:

Potential ore bodies on the subject property would be too small for economic mining. It is recommended that the application be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis

IN REPLY REFER TO:

8/10/56

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

RECEIVED
AUG 10 1956

August 8, 1956

Re: DMEA 4218
Houston Pool No. 1
Elk Ridge properties
San Juan Co., Utah
$41,903.50 - Uranium

Memorandum

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

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

Subject: Review of Field Team report.

The applicant requested assistance in exploring two separate groups of unpatented mining claims by drilling. The properties have been prospected by 45 widely spaced drill holes which, in the opinion of the applicant, delineated several channel scour trends in the Shinarump conglomerate. About a mile of rim also had been stripped by the applicant.

The examiners found that only 3 of the 45 drill cores are mineralized and only one weak anomaly was detected in 1000 feet of rim. Examination of the cores failed to confirm the interpretations of the applicant as to the presence of channels. In the opinion of the examiners the claims are outside the area considered favorable for uranium mineralization in the Shinarump and the scattered but extensive drilling and the rim stripping tend to confirm that conclusion.

Also, the presence of oil in the Shinarump is considered an unfavorable characteristic.

The examiners and the Field Team recommend denial of the application. I concur with that recommendation.

N. E. Nelson

N. E. Nelson

IN REPLY REFER TO:

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

August 8, 1956

Re: DMEA 4218
Houston Pool No. 1
Elk Ridge properties
San Juan Co., Utah
$41,903.50 - Uranium

Memorandum

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

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

Subject: Review of Field Team report.

The applicant requested assistance in exploring two separate groups of unpatented mining claims by drilling. The properties have been prospected by 45 widely spaced drill holes which, in the opinion of the applicant, delineated several channel scour trends in the Shinarump conglomerate. About a mile of rim also had been stripped by the applicant.

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Also, the presence of oil in the Shinarump is considered an unfavorable characteristic.

The examiners and the Field Team recommend denial of the application. I concur with that recommendation.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-8/8/56
cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641
J. O. Hosted, 3210

IN REPLY REFER TO:

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

August 8, 1956

Re: DMEA 4216
Houston Peel No. 1
Elk Ridge properties
San Juan Co., Utah
$41,903.50 - Uranium

Memorandum

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

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

Subject: Review of Field Team report.

The applicant requested assistance in exploring two separate groups of unpatented mining claims by drilling. The properties have been prospected by 45 widely spaced drill holes which, in the opinion of the applicant, delineated several channel scour trends in the Shinarump conglomerate. About a mile of rim also had been stripped by the applicant.

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Also, the presence of oil in the Shinarump is considered an unfavorable characteristic.

The examiners and the Field Team recommend denial of the application. I concur with that recommendation.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-8/8/56
cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641
J. O. Hosted, 3210

IN REPLY REFER TO:

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

August 8, 1956

Re: DMEA 4216
Houston Pool No. 1
Elk Ridge properties
San Juan Co., Utah
$41,903.50 - Uranium

Memorandum

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

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

Subject: Review of Field Team report.

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Also, the presence of oil in the Shinarump is considered an unfavorable characteristic.

The examiners and the Field Team recommend denial of the application. I concur with that recommendation.

N. E. Nelson

N. E. Nelson

NENelson:iml
0-8/8/56
cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641
J. O. Hosted, 3210

8/7/56

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

RECEIVED
AUG - 6 1956

August 3, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee

Subject: Report of Examination, DMEA Docket 4218 (Uranium)
Houston Pool No. 1 (Mecca, Star, and Pine groups)
San Juan County, Utah

I have reviewed the report of examination, DMEA Docket 4218, Houston Pool No. 1 (Mecca, Star, and Pine groups) San Juan County, Utah, dated July 1956 and received in this office July 30. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The field examiners recommend that the application be denied because further exploration of the subject claims is not expected to result in the discovery of a significant amount of uranium ore.

We concur in the denial.

The report is being forwarded to the Chief, Division of Minerals, in accordance with the routing slip attached thereto.

John E Crawford
John E. Crawford

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

RECEIVED
AUG - 6 1956

August 3, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee

Subject: Report of Examination, DMEA Docket 4218 (Uranium)
Houston Pool No. 1 (Mecca, Star, and Pine groups)
San Juan County, Utah

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The field examiners recommend that the application be denied because further exploration of the subject claims is not expected to result in the discovery of a significant amount of uranium ore.

We concur in the denial.

The report is being forwarded to the Chief, Division of Minerals, in accordance with the routing slip attached thereto.

John E. Crawford

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

FILE COPY
Surname:
Ching
Ching
Selfridge
Mitchenson

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

Re: Docket No. DMEA-4218 (Uranium)
Houston Pool No. 1
Mecca, Star, and Pine Groups
San Juan County, Utah

Dear Mr. Traver:

Further to our letter of April 16, 1956, regarding the subject application, we are enclosing two copies of a memorandum to the Administrator from the Associate Solicitor, Division of Mineral Resources, reviewing the various instruments related to the property rights and listing our present and prospective requirements in connection therewith.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Enclosures

MChing/izm 4-30-56
cc to: Docket
Code 700
Mr. Ching
Admr.'s Reading File
Operating Committee
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

APPROVED:

P. F. Yopes
Member, Bureau of Mines

N. E. Nelson
Member, Geological Survey

~~8/1/56~~
7/31/56

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

RECEIVED
JUL 27 1956

July 25, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA 4218 (Uranium) Houston Pool No. 1 (Mecca, Star, and Pine groups), San Juan County, Utah

Enclosed are the original and three copies of a joint engineering and geologic report on the subject property.

The field examiners found weak mineralization and lack of channel scours, and they conclude that further exploration on these claims would not result in the discovery of a significant amount of uranium ore. They recommend that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
7/30/56
(date)

IN REPLY REFER TO:

MINERAL DEPOSITS
DMEA
RECEIVED
JUL 20 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. Box 300
Grand Junction, Colorado

RECEIVED
JUL 27 1956

TRANSMITTED
JUL 25 1956

GEOLOGICAL SURVEY
DENVER, COLORADO

DMEA
Date Rec'd.
JUL 24 1956

BUREAU OF MINES
Denver, Colorado

July 16, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: E. H. Harshman
J. F. Shaw

From: J. William Hasler

Subject: Transmittal of joint engineering and geologic report of examination on the Houston Pool No. 1, DMEA docket 4218 (Uranium) Mecca, Star, Willy G. and Pine claims, San Juan County, Utah. By M. H. Salsbury and F. M. Byers, Jr.

The Houston Pool No. 1, a partnership of Grand Junction, Colorado, applied for assistance to explore the Mecca, Star, Willy G., and Pine claims in the Elk Ridge mining district, San Juan County, Utah.

The application was referred to the field and an examination was made June 7, 1956. The examining team was accompanied by D. James Mason, Jr., and Milton R. Scholl, Jr., geologists of "Mincon", a consulting firm representing the applicant.

The applicant proposed to explore the Shinarump member of the upper Triassic Chinle formation on the subject group of claims. These claims are located near the northern edge on a belt of continuous Shinarump outcrop and 2 to 3 miles north of the Shinarump belt where there has been considerable ore found and mined. There has been no production from the applicant's property and the only known producing mine lies a mile east of the property where a small ore body is being selectively mined. The applicant has proposed a drilling program based on a concept of Shinarump channel trends which, in the judgment of the examining team, is not substantiated by the results of a considerable amount of drilling and rim stripping already completed. The sedimentary features, weak mineralization, and lack of channel scours on the claims contrast with the favorable Shinarump conglomerate, the well-developed channels and good mineralized exposures, which were found in outcrops and drill holes farther south in the central portion of the Shinarump belt.

It is concluded that further exploration on the applicant's property probably would find ore bodies similar to the Waben mine, a mile east of the property, which has produced in the neighborhood of 180

Reviewed by
DMEA OPERATING COMMITTEE
7/30/56
(date)

tons of ore to date and appears to be essentially mined out at the present time. Because of these discouraging factors, it is proposed that the application for Government assistance be denied.

I concur with the conclusions and recommendations of the examining team.

The Atomic Energy Commission was consulted relative to the appraisal of the property and the personnel of the Geological Survey who have mapped the area were also consulted and made data available to the examining team.

Enclosed are 10 copies of the report, as well as 10 copies of figures 1 and 2.

J. William Hasler
J. William Hasler,
Geologist

JWH/mlr

Enclosures

UNITED STATES
DEPARTMENT OF INTERIOR
FRED A. SEATON, SECRETARY

RECEIVED
JUL 27 1956

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

TRANSMITTED
JUL 25 1956

DMEA 4218

HOUSTON POOL NO. 1
Mecca, Star, Willy G and Pine Claims
San Juan County, Utah

Uranium

Joint Engineering and Geologic Report

by

M. H. Salsbury
U. S. Bureau of Mines

F. M. Byers, Jr.
U. S. Geological Survey

July 1956

Reviewed by
DMEA OPERATING COMMITTEE
7/30/56
(date)

HOUSTON POOL NO. 1
Mecca, Star, Willy G and Pine Claims
San Juan County, Utah

RECEIVED
JUL 27 1956

CONTENTS

	Page
Introduction and Summary	2
Acknowledgements	5
Location, Topography, Climate, and Physical Features	5
History and Production	7
Property Ownership	8
Present Status	12
Geology	13
Ore Deposits and Reserves	15
Proposed Exploration	18
Conclusions and Recommendations	19

ILLUSTRATIONS

Fig. 1 Location Map, Mecca, Star, Willy G, and Pine claims, Houston Pool No. 1, San Juan Co., Utah

Fig. 2 Map of Southwestern Elk Ridge showing limits of continuous Shinarump Conglomerate, and Pine, Willie G, Mecca and Star Groups, Houston Pool No. 1, Elk Ridge Quadrangle

INTRODUCTION AND SUMMARY

On March 15, 1956, Houston Pool No. 1, a partnership, P. O. Box 270, Grand Junction, Colorado, applied to the Defense Minerals Exploration Administration for assistance in a drilling project to explore for uranium on the Mecca, Star, Willy G and Pine claims, near Twin Springs, Elk Ridge Mining District, San Juan County, Utah. A drilling program in two phases requiring a maximum of 10,995 feet of non-core drilling and 1,120 feet of core drilling in 55 holes at an estimated cost of $41,903.50 was presented. Government participation of 75 percent would be $31,427.63.

A field examination was made on June 7, 1956, by a DMEA team accompanied by D. James Edson, Jr., and Milton R. Scholl, Jr., geologists of "Mincon" a consulting firm with headquarters in Grand Junction, Colorado, representing the applicant.

The property is located near the northern edge of a belt of Shinarump sedimentation, 2 to 3 miles north of the central part of the belt, where three mines with a production record of several throusand tons of ore have been found. There has been no production from the applicant's property and the only known nearby deposit is one mile east at the Waban mine where a small ore body is being mined. To date this ore body has produced 176 tons of ore with an average content of 0.32 percent U_3O_8 which was mined in the summer and fall of 1955. It is probable that total production from this mine will also be small.

The Shinarump member of the Upper Triassic Chinle formation is lacking on the Pine group of claims, which are north of the Shinarump pinchout; on the Star, Mecca and Willie G group. The Shinarump ranges from a few feet to 14 feet in thickness. No Shinarump channel scours into the underlying Moenkopi were observed. The Shinarump consists of medium to coarse yellowish gray, silty sandstone with mudstone splits. As observed in most of 45 drill cores and in the face of the adit of the Waban mine, the Shinarump sandstone is saturated with oil. The combined thickness of the lower Chinle and Moss Back members above the Shinarump ranges from 225 to 255 feet.

Only three out of the 45 drill cores were found to be mineralized by the DMEA examining geologist, and only one weak anomaly was detected in 1,000 feet of stripped Shinarump rim. The uranium deposit at the Waban mine is about one foot thick and might have measured as much as 150 by 40 feet in plan prior to erosion. About 300 tons of indicated ore estimated to contain about 0.30 percent of U_3O_8 was present prior to the present mining operation. Oil is not in the Shinarump above the Waban ore deposit but occurs in the face of the adit just beyond the margin of the deposit. The hypothesis has been suggested by R. Q. Lewis that the widespread oil in the Shinarump may represent oil that migrated there prior to uranium mineralization. Therefore, it might be inferred that the presence of oil in the Shinarump along with other adverse criteria, should be regarded as unfavorable to the occurrence of significant uranium deposits.

The applicant's property rights appear to be satisfactory except for a small area in conflict with a prior claim group. Part of the claim area is in sections which are normally Utah School land. It has been established by inquiry at the Bureau of Land Management in Salt Lake City, Utah, that the Utah State Land Board had exchanged the sections for other land in the La Sal Mountains, and the Elk Ridge sections are therefore still part of the public domain.

The applicant has proposed a drilling program based on a concept of Shinarump channel trends which, in the judgment of the examining team, is not substantiated by the results of a considerable amount of drilling and rim stripping already completed. The sedimentary features, weak mineralization, and lack of channel scours on the claims contrast with the favorable Shinarump conglomerate, the well-developed channels, and good mineralized exposures, which were found in outcrops and drill holes further south in the central portion of the Shinarump belt. Therefore, the proposed phase I drilling is an extension of the previously completed prospecting, which has yielded negative results.

It is concluded that further exploration on the applicant's property would probably find at best ore bodies similar to the Waban deposit which is economic only because it is exposed in outcrop and needed only a minimum expenditure to put it into production.

Denial of the application for Government assistance under DMEA 4218 is recommended.

ACKNOWLEDGEMENTS

The applicant furnished an excellent report, including ownership data and detailed drill hole logs prepared by D. James Edson, Jr. and associated of "Mincon", a consulting engineering partnership with offices at 740 Main Street, Grand Junction, Colorado.

R. D. Lewis and W. B. Gazdik who have supervised Geological Survey drilling and mapping projects in the Elk Ridge area were consulted. The Atomic Energy Commission was consulted concerning production data of nearby mines. Project reports on the area were available.

Condensed cores from part of the applicant's drilling were stored in Grand Junction and were examined there.

R. J. Noonan of Radio Geophysical Company was contacted in Blanding, Utah but refused to give the DMEA examining team any information regarding drilling by the company. However, H. S. Johnson and R. D. Sample of the U. S. Geological Survey visited the Mad Group a few days after the DMEA team was in the area and provided information on these claims.

LOCATION, TOPOGRAPHY, CLIMATE AND PHYSICAL FEATURES

The property consists of 57 located claims in two groups overlooking Cherry Canyon, in the Western part of the Elk Ridge Mining District (fig. 1). The Pine group is in Sections 26 and 27, T. 35 S., R. 18 E., Salt Lake Meridian (fig. 2). The Mecca, Star, and Willy G claims are in Section 36, T. 35 S., R. 18 E., and Sections 2 and 11, T. 36 S., R. 18 E., Salt Lake Meridian. The claims are 23 miles north

of the Atomic Energy Commission camp at Natural Bridges, Utah and 35 miles west of Blanding, Utah. Access is over Utah Highway 95, a gravelled road, and 5 miles of fair to poor dirt road between the highway and the property. Blanding, Utah is 22 miles south of Monticello, Utah, the site of the nearest uranium buying station, and 190 miles from Grand Junction, Colorado, the nearest major source of supplies. Highways from Blanding to Monticello and Grand Junction are hard-surfaced.

The claims are located on the rolling surface of a Moss Back capped mesa, and the Chinle slopes are the northern and eastern flanks. Except for a moderate amount of bulldozing to cut roads in the Chinle formation, drill sites require little preparation. The terrain drops sharply to the floor of Cherry Canyon which is as much as 1500 feet lower.

The cool climatic conditions on Elk Ridge at an elevation of 800-8500 feet are ideal for surface operations at least 7 months of the year. In late winter and early spring of a normal year, heavy snowfall and spring thaws make surface operation inadvisable for a period of 3 to 5 months. With proper preparation underground operations can be carried on most of the year.

There are no unusual problems of accessibility, supply, labor, housing, power, or water to be met, provided that exploration is not attempted during the severe winter season. Drilling exploration would be contracted to independent contractors who would furnish necessary equipment, other facilities, and labor.

HISTORY AND PRODUCTION

Active exploration of the Elk Ridge was not undertaken until 1953, and there are very few producing mines to date. The nearest mining operation is at the Waban Mine one mile northeast of the Mecca claims. The Oakie mine is 2½ miles to the south and the Sandy mine is 2½ miles southwest. A moderate amount of exploration by rimstripping and drilling has been done in the immediate vicinity of the applicant's property with reported but unverified discovery of Shinarump channels. A drilling project of the Atomic Energy Commission 3 miles south, near the Oakie Mine, outlined a channel in thick Shinarump sediments but did not indicate extension of favorable ground toward the Pine, Star, and Mecca claims.

West of the area drilled by the Atomic Energy Commission and in the belt of Shinarump sedimentation where the Oakie and Sandy mines are located, a project under DMEA 4120, contract Idm E 924, has been approved. Work under the contract has never been started because the Ol Jato Uranium Corporation, which took over the contract from the original applicant, has been unable to furnish certain consents to lien.

The Mecca, Star, and Pine groups were located in September, 1954 by Dr. Mark B. Jenson of Helper, Utah and several associates. William B. Dwyer and Houston Pool No. 1 acquired the claims in March, 1955 and carried on an exploration program including cove drilling and rimstripping. The drilling did not reveal significant mineralization

although the applicant interpreted the data as indicatives of definite Shinarump channeling.

Rim stripping was done on the Shinarump outcrops with very poor results. Soil cover is very heavy on the northerly Chinle slopes and it was possible to expose Shinarump sediments at only a few points. No worthwhile evidence of mineralization or channeling was found in any exposure.

There has been no production from the applicant's property. Production to date from the nearby Waban Mine, where there is thin Shinarump sedimentation and little evidence of channeling, amounts to 176 tons of ore averaging 0.32 percent U_3O_8. The mine has recently been reopened by a lessee who has a one-man operation. There has been no reported production from the Mad claim group of Radio Geophysical Corporation. The Sandy, Sandy No. 3 and Oakie mines which are over 2 miles to the southwhere channeling in a substantial thickness of Shinarump sediments is well developed, have produced several thousand tons of ore containing from 0.11 to 0.20 percent U_3O_8.

PROPERTY OWNERSHIP

The property controlled by Houston Pool No. 1 consists of 42 claims held under a purchase agreement and 10 claims located later to cover unlocated Shinarump outcrops and other areas which were left open by the original locators. The original group was comprised of 47 claims located in the name of Dr. Mark B. Jensen for himself and five residents of Price, Utah. The claims are as follows:

CLAIM NAME	LOCATION DATE	RECORDING DATE	RECORDED IN SAN JUAN COUNTY RECORDS BOOK	PAGE
Mecca Nos. 1 thru 9	9/23/54	9/24/54	197	156-160
Star Nos. 1 thru 24	9/11/54	9/13/54	183	337-357
Pine Nos. 1 and 2	9/5/54	9/16/54	189	385-386
Pine Nos. 3 thru 14		12/17/54	259	454-465

The spelling of the locator's name on the location records is "Jensen", whereas the correct spelling used in the various property agreements is "Jenson".

These claims were acquired by William B. Dwyer of Grand Junction, Colorado on March 25, 1955 under a purchase agreement with Jenson et al providing for a 10 percent royalty on all ore shipments and certain other payments to the Jenson group. Dwyer was obligated to perform assessment work and other exploration consisting of drilling and/or rimstripping.

Dwyer transferred part of his interest to D. James Edson, Jr. and associates of Grand Junction, Colorado. A group of five Texas residents formed the partnership known as Houston Pool No. 1 and acquired a 3/4 interest in the property. Dwyer, Edson, and associates retained the other 1/4 interest.

The property has been re-surveyed twice and two sets of amended locations have been recorded to correct errors in prior filings. Five claims, Mecca Nos. 1, 2, and 9 and Pine Nos. 3 and 4 were found to be invalid because they were on land which had been withdrawn from entry or were in conflict with prior claims. These claims were deeded back to the original locators as provided in the purchase agreement.

During the course of the applicant's surveys it was found that certain sections of Shinarump outcrop had not been covered by the original locations, and there were other areas of open ground because of errors in laying out claims. Locations to correct these matters were made by Dwyer in the summer of 1955 as follows:

	BOOK	PAGE
Willy G Nos. 1, 2, and 3	317	360-361
Pine No. 1 A	40	21
Star No. 5 A	40	18
Star No. 8 A	40	18
Star No. 13 A	40	19
Star No. 16 A	40	19
Star No. 18 A	40	20
Star No. 21 A	40	20
Star Fraction No. 1 A	56	175

The foregoing ten claims were later amended after a second survey had been made.

As finally established by survey, the property is contiguous with portions of Sections 34 and 35, T. 35 S., R. 18 E., and Section 3, T. 36 S., R. 18 E. These sections are part of the area withdrawn from entry by the Atomic Energy Commission on July 10, 1953 under P. O. O. 983.

Sections 36 of T. 35 S., R. 18 E. and Section 2 of T. 36 S., R. 18 E. are normally Utah School Sections. This portion of Elk Ridge was surveyed some years ago and prospectors had not tried to locate claims on the supposed school sections prior to 1955. Jenson and associates discovered that the Utah Land Board had exchanged certain school land on Elk Ridge for other land in the La Sal Mountains. Sections 2 and 36 had reverted to the public domain, and were open to

entry. Inquiry at the Bureau of Land Management through the Salt Lake City, Utah DMEA office verifies the fact that the two sections are part of the public domain. The applicant's representative stated that the exchange of land by the Utah Land Board was accomplished some years ago. In view of the probable decision on the proposed project a further check was not made.

A conflicting discovery monument for the Mabey No. 7 claim was noted in the field on the Mecca No. 3 claim. According to San Juan County records, the Mabey (or Maybe) No. 7 claim is one of a group located by J. L. Nielson, J. Rex Nielson, and J. E. Nielson on August 20, 1954, and recorded on September 8, 1954. The claim is therefore prior to the applicant's Mecca claims. The applicant's representative, D. J. Edson, stated that the location notices on the Mabey claims had been predated and that he could prove by witnesses that claim posts and discovery monuments had not been in place on August 20, 1954. In his opinion the claims were not valid. This is a point that might have to be determined by court action. Edson also mentioned finding conflicting location notices dated 1955 on the south end of the Star claims. They could not be found during the field examination.

The applicant's property rights appear to be valid except for the conflict of the Mabey No. 7 claim with the Mecca No. 3 claim, assuming that the Star claims are prior to the reported conflicting locations. Because of the probable decision on the proposed project the question of conflicts was not investigated further, and the applicant was not requested to clarify them.

Proof of labor for assessment work on Mecca, Star, Pine and Willy G claims for the year ending June 30, 1956 and dated May 18, 1956 has been recorded.

PRESENT STATUS

The applicant has completed 8,259 feet of non-core drilling and 678 feet of core drilling in 45 holes on centers of 600 to 1500 feet. No more than 1 hole per claim was drilled because the holes were intended, in part, to serve as discoveries, a procedure now permitted in Utah.

Of the 45 holes, 2 are reported to have penetrated uranium mineralization of ore grade and 12 others, sub-ore grade. On the basis of thicknesses of Shinarump sediments encountered, as interpreted by the applicant's geologist, channel trends have been outlined. One hole, No. S. 171 on the Star No. 17 claim was classified as an ore hole on the basis of a thickness of 1.6 feet of conglomerage containing 0.17 percent eU_3O_8 as determined by probing. The other so-called ore hole, No. M-81, on the Mecca No. 8 claim, penetrated 0.2 feet of material containing 1.49 percent U_3O_8 by chemical analysis of the core. As the intervals above and below the section analyzed were below ore grade, this hole cannot be properly classified as ore. Examination of the core did not verify the amount of mineralization reported, nor did the thickness of Shinarump sedimentation appear to be as much as claimed in many cases. Consequently, channel trends outlined on the applicant's structure map are open to question so far as the presented evidence indicates.

An attempt has been made to strip the Shinarump outcrop along the north side of the Mecca-Willy G claims and the north and east sides of the Pine group. Soil cover was very deep and the Shinarump outcrop was exposed in only four places and for short distances. In none of these was evidence of channeling noted. At an outcrop exposure on the Mecca No. 3 claim count very slightly above background was found by geiger counter. Radiometric count at other points reported by the applicant as having been detected by scintillometer was not noted.

GEOLOGY

The Houston Pool No. 1 properties on southern Elk Ridge are just west of the axis of the Monument Upwarp of east central Utah (fig.2). The slight westerly dip is hardly perceptible on the Star, Willie G, and Mecca groups, but between the Mecca and Pine groups a slight monoclinal flexure has tilted the beds to as much as 10 degrees.

The stratigraphic sequence in the vicinity of the property includes the Permian Cutler formation, exposed in the bottom and lower slopes of Cherry and Wooden-Shoe Canyons (fig.2); the Lower Triassic Moenkopi formation, and the Upper Triassic Chinle formation.

The Cutler formation is considerably below bottoming depths of any holes that might be drilled for uranium in the area and hence is not described further. The Moenkopi formation is predominantly tan to brown micaceous siltstone and mudstone which provides a distinctive lithologic contrast to the unconformably overlying light gray, greenish gray and red of the Chinle formation. In a few places, however, the

upper few feet of the Moenkopi is altered to a mottled purple-white, so characteristic of the lower Chinle.

The following members of the Chinle formation are exposed on the property:

Chinle Formation

Member	Thickness (feet)	Character of rocks
Moss Back sandstone member	75	Massive light gray medium to coarse sandstone.
Lower Chinle member	150-180	Greenish-gray and red mudstone, locally contains purple-white mottled sandy mudstone and light gray sandstone lenses in lower part.
Shinarump member	0 -14	Yellowish to brownish-gray medium to coarse silty quartzose sandstone. Contains mudstone splits and in places is saturated with oil .

The Shinarump sandstone is only very sparingly conglomeratic and is saturated with oil in many places in the vicinity of the applicant's claims. Mudstone splits are common. In several rim exposures of Shinarump seen at the Waban mine and on the north end of the Mecca and Willie G. groups, no channel scours into the underlying Moenkopi were observed. The Shinarump sandstone contains considerable silt in places in addition to mudstone splits, and only one or two small quartzite pebbles were observed in all the exposures. It is concluded that in the vicinity of the applicant's claims, quieter currents prevailed than 1½ to 2½ miles southerly around the Blue Jay claims (DMEA 4120), the Oakie and the Sandy Mines (fig.2), where channel

scours filled with conglomeratic sandstones occur. In the depositional environment of quiet current, no channel scours formed and a finer-grained, less permeable facies of the Shinarump were deposited, which is apparently more unfavorable for the deposition of significant uranium ore bodies than the coarser facies.

The Shinarump sandstone in the cores of most of the 45 drill holes was examined and found to be similar to the Shinarump exposed in the rim except that many of the cores were completely saturated with oil. Possibly any oil originally present in the Shinarump sandstone rim outcrops may have been removed through weathering processes. Mr. D. James Edson, Jr., geologist, representing the applicant, claimed that one of the drill holes on the Pine group (fig. 2) penetrated 23 feet of Shinarump; however, examination of this core by the DMEA geologist indicates in his opinion that the 23-foot interval is the lower Chinle member with a few sandstone lenses.

ORE DEPOSITS AND RESERVES

Evidence of uranium mineralization in outcrop and in the drill cores is sparse. The applicant claimed that one drill hole penetrated ore; however, Mr. Edson, representing the applicant, admitted to the DMEA geologist that the ore-grade assay came from mineralized carbon within the supposed ore interval. Hence this assay is not representative of all the rock within the interval and this hole can at best only be regarded as being mineralized. Another hole might be regarded as an ore hole on the basis of radiometric assay, but the ore interval was not

in the Shinarump but 20 feet above the Shinarump in the Lower Chinle member. This radiometric assay was not detected by the DMEA geologist in the core. About 12 other holes are reported as mineralized. In nearly all these holes the reported radiometric anomaly is above the Shinarump sandstone; in only 2 of the 12 reported mineralized holes was the DMEA geologist able to detect an anomaly in the core within the Shinarump interval. No anomalies were found at stratigraphic positions in the Chinle above the Shinarump, but some of the non-Shinarump portion had been discarded in condensing the core. In short, only three holes out of 45 holes drilled to date on the Pine, Willie G, Mecca, and Star claim groups can be considered mineralized.

Only one slight anomaly could be detected in nearly 1,000 feet of rim exposures.

The ore body now being mined at the Waban Mine (fig. 2), one mile northeasterly from the Mecca group, is about one foot thick and is localized at the base of 6- to 7-foot section of Shinarump sandstone. No channel scour is evident. At 50 feet in (S. 35° W.) from the adit portal a crosscut driven 10 feet southeasterly has exposed only 6 inches of ore in the face. Ore has also been mined out of a small stope, about 25 feet in diameter, on the northwest side of the adit, but the grade drops off to the northwest. At 100 feet in from the adit portal, the grade of the ore in the lower one foot of the Shinarump decreases and oil becomes more abundant in the Shinarump toward the face 110 feet in from the portal. A few high-grade blebs of uraninite-

bearing asphaltite were noted about one foot below the top of the Shinarump sandstone, which in the face of the adit is about 5 feet thick.

Not more than 300 tons of uranium ore containing 0.30 percent U_3O_8 is indicated at the Waban mine and part of this body has already been mined. The size of the Waban ore body indicates that a target not more than 150 feet long, trending west and not more than about 40 feet wide might be expected under the properties controlled by the applicant. This ore target would probably not be of sufficient economic thickness to mine profitably more than a few feet from the rim.

According to Richard Q. Lewis (personal communication), part of the oil that remains within the Shinarump ore bodies has been converted to asphaltite. As a negative corollary, it seems reasonable to assume that widespread oil in the Shinarump must be regarded, along with other criteria, as unfavorable to ore deposits.

The Mad claim group (fig.2), controlled by the Radio Geophysical group was visited by R. D. Sample and H. S. Johnson of the U. S. Geological Survey on about June 12, 1956. The adit was driven on green lower Chinle mudstone toward a reported ore hole. No Shinarump was exposed at the adit portal or within the adit. However, elsewhere, on the Mad group the Shinarump exposed on the rim is a medium-grained sandstone up to 10 feet thick. No channel scours were observed by Sample and Johnson. According to Johnson this Shinarump sandstone appeared typical of the "cap rock" that normally occurs above the

typical conglomeratic Shinarump sandstone in mineralized channels, and therefore would not likely contain ore deposits.

Ore holes were reported by the applicant on the Mabey group (fig. 2) of Federal Uranium Corporation but with all the other negative geologic information around these claims, it is a reasonable certainty that the Shinarump sandstone would also be unfavorable on these claims. Therefore, no attempt was made to obtain drilling information on the Mabey claims from Federal Uranium.

PROPOSED EXPLORATION

The applicant has proposed a drilling program in two phases requiring a maximum of 12,115 feet of core and non-core drilling at an estimated cost of $41,903.50. Government participation at 75 percent would be $31,427.63. Phase I would consist of 32 holes requiring 6395 feet of non-core drilling and 660 feet of core drilling. The holes are at irregularly wide-spaced sites, most of them along the assumed center lines of supposed Shinarump channels. Phase 2 would consist of a maximum of 4600 feet of non-core and 460 feet of core drilling in 23 holes on a minimum of 50 foot centers to explore further any mineralization or favorable geologic conditions found in Phase I. Actually if proposed Phase I sites are considered without reference to the supposed channel trends, they conform to a wide-spaced drilling pattern blanketing the claims which has been partially completed by the applicant's previous drilling. The drilling as planned would also fulfill assessment work required for 1957 stipulated in the

purchase agreement. Inasmuch as the examining team does not find evidence to support the location of channel trends outlined by the applicant, the entire first phase is considered to be prospecting.

The applicant's estimate is based on a cost of $2.00 per foot for non-core drilling and $3.00 per foot for core drilling. The price for non-core drilling is high. High costs for supervision and technical assistance, and a generous allowance for contingencies bring the applicant's estimate to a unit overall cost of $3.45 per foot, which is out of line.

Bids from independent contractors supporting the cost figures were not submitted. Mr. Edson is planning to furnish them, however.

An alternate exploration program and a cost estimate for the same have not been prepared for this report.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded from the largely negative results of drilling and rim stripping accomplished to date that Shinarump sedimentation and mineralization are unfavorable for the occurrence of significant ore bodies. The applicant's representative, Mr. Edson, agrees with this, according to his statement to the examining team that if the proposed exploration did not develop more favorable evidence than has been found to date, further work would not be justified.

The conditions on the Mecca Star and Pine groups do not resemble those found further south in the vicinity of producing mines, where marked channeling has been noted and Shinarump outcrops exhibit

radiometric count many times background. Weak mineralization such as found on the applicant's property does not necessarily have much meaning. Similar radioactivity can be found in many beds of the Chinle formation and is not in itself significant.

The conditions on the Mecca Star and Pine claims appear to be similar to those at the nearby Waban mine. The type of ore body, likely, to be found would probably be similar to the Waban deposit which is mineable at a small profit only because it cropped out and there was no expense for drilling exploration or prior development. It would not be economically feasible to mine such an ore body under the conditions on the applicant's property where a considerable expenditure for exploration and development will be required.

Denial of the applicant for Government assistance in exploration under Docket DMEA 4218 is recommended.

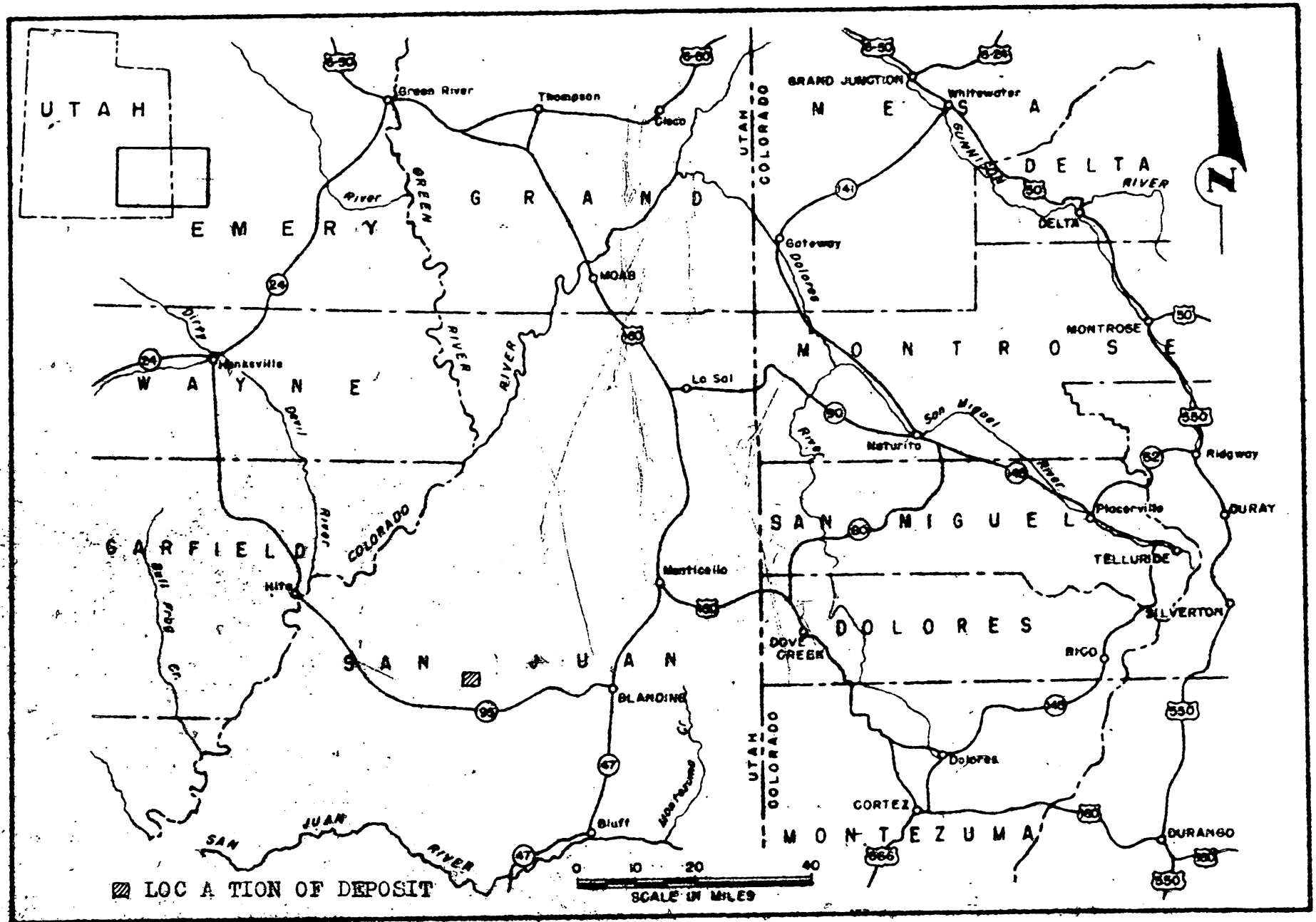

FIGURE 1- LOCATION MAP, MECCA, STAR, WILLY G. AND PINE CLAIMS, HOUSTON POOL NO. 1, SAN JUAN COUNTY, UTAH. D MEA 4218

7-27-56

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

July 25, 1956

224 New Customhouse
Denver 2, Colorado

RECEIVED
JUL 27 1956

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA 4218 (Uranium) Hunston Pool No. 1 (Moon, Star, and Pine groups), San Juan County, Utah

Enclosed are the original and three copies of a joint engineering and geologic report on the subject property.

The field examiners found weak mineralization and lack of channel scours, and they conclude that further exploration on these claims would not result in the discovery of a significant amount of uranium ore. They recommend that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

By W. M. Vaney
Executive Officer

Enclosures

DMEA OPERATING COMMITTEE
7/30/56
(date)

MINERAL DEPOSITS
IN REPLY REFER TO:
DMEA
RECEIVED
JUL 20 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO
DMEA
Date Rec'd.
JUL 24 1956
BUREAU OF MINES
Denver, Colorado

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

TRANSMITTED
JUL 25 1956

July 18, 1956

RECEIVED
JUL 27 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: E. N. Harshman
J. F. Shaw

From: J. William Hasler

Subject: Transmittal of joint engineering and geologic report of examination on the Houston Pool No. 1, DMEA docket 4218 (Uranium) Mecca, Star, Willy G. and Pine claims, San Juan County, Utah. By M. H. Salsbury and F. M. Byers, Jr.

The Houston Pool No. 1, a partnership of Grand Junction, Colorado, applied for assistance to explore the Mecca, Star, Willy G., and Pine claims in the Elk Ridge mining district, San Juan County, Utah.

The application was referred to the field and an examination was made June 7, 1956. The examining team was accompanied by D. James Edson, Jr., and Milton R. Scholl, Jr., geologists of "Mincon", a consulting firm representing the applicant.

The applicant proposed to explore the Shinarump member of the upper Triassic Chinle formation on the subject group of claims. These claims are located near the northern edge on a belt of continuous Shinarump outcrop and 2 to 3 miles north of the Shinarump belt where there has been considerable ore found and mined. There has been no production from the applicant's property and the only known producing mine lies a mile east of the property where a small ore body is being selectively mined. The applicant has proposed a drilling program based on a concept of Shinarump channel trends which, in the judgment of the examining team, is not substantiated by the results of a considerable amount of drilling and rim stripping already completed. The sedimentary features, weak mineralization, and lack of channel scours on the claims contrast with the favorable Shinarump conglomerate, the well-developed channels and good mineralized exposures, which were found in outcrops and drill holes farther south in the central portion of the Shinarump belt.

It is concluded that further exploration on the applicant's property probably would find ore bodies similar to the Waban mine, a mile east of the property, which has produced in the neighborhood of 180

DMEA OPERATING COMMITTEE
7/30/56
(date)

tons of ore to date and appears to be essentially mined out at the present time. Because of these discouraging factors, it is proposed that the application for Government assistance be denied.

I concur with the conclusions and recommendations of the examining team.

The Atomic Energy Commission was consulted relative to the appraisal of the property and the personnel of the Geological Survey who have mapped the area were also consulted and made data available to the examining team.

Enclosed are 10 copies of the report, as well as 10 copies of figures 1 and 2.

J. William Hasler
J. William Hasler,
Geologist

JWH/mlr

Enclosures

UNITED STATES
DEPARTMENT OF INTERIOR
FRED A. SEATON, SECRETARY

RECEIVED
JUL 27 1956
TRANSMITTED
JUL 25 1956

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

DMEA 4218

HOUSTON POOL NO. 1
Mecca, Star, Willy G and Pine Claims
San Juan County, Utah

Uranium

Joint Engineering and Geologic Report

by

M. H. Salsbury
U. S. Bureau of Mines

F. M. Byers, Jr.
U. S. Geological Survey

July 1956

Reviewed by
DMEA OPERATING COMMITTEE
7/30/56
(date)

RECEIVED
JUL 27 1956

HOUSTON POOL NO. 1
Mecca, Star, Willy G and Pine Claims
San Juan County, Utah

CONTENTS

	Page
Introduction and Summary	2
Acknowledgements	5
Location, Topography, Climate, and Physical Features	5
History and Production	7
Property Ownership	8
Present Status	12
Geology	13
Ore Deposits and Reserves	15
Proposed Exploration	18
Conclusions and Recommendations	19

ILLUSTRATIONS

Fig. 1 Location Map, Mecca, Star, Willy G, and Pine claims, Houston Pool No. 1, San Juan Co., Utah

Fig. 2 Map of Southwestern Elk Ridge showing limits of continuous Shinarump Conglomerate, and Pine, Willie G, Mecca and Star Groups, Houston Pool No. 1, Elk Ridge Quadrangle

INTRODUCTION AND SUMMARY

On March 15, 1956, Houston Pool No. 1, a partnership, P. O. Box 270, Grand Junction, Colorado, applied to the Defense Minerals Exploration Administration for assistance in a drilling project to explore for uranium on the Mecca, Star, Willy G and Pine claims, near Twin Springs, Elk Ridge Mining District, San Juan County, Utah. A drilling program in two phases requiring a maximum of 10,995 feet of non-core drilling and 1,120 feet of core drilling in 55 holes at an estimated cost of $41,903.50 was presented. Government participation of 75 percent would be $31,427.63.

A field examination was made on June 7, 1956, by a DMEA team accompanied by D. James Edson, Jr., and Milton R. Scholl, Jr., geologists of "Mincon" a consulting firm with headquarters in Grand Junction, Colorado, representing the applicant.

The property is located near the northern edge of a belt of Shinarump sedimentation, 2 to 3 miles north of the central part of the belt, where three mines with a production record of several throusand tons of ore have been found. There has been no production from the applicant's property and the only known nearby deposit is one mile east at the Waban mine where a small ore body is being mined. To date this ore body has produced 176 tons of ore with an average content of 0.32 percent U_3O_8 which was mined in the summer and fall of 1955. It is probable that total production from this mine will also be small.

The Shinarump member of the Upper Triassic Chinle formation is lacking on the Pine group of claims, which are north of the Shinarump pinchout; on the Star, Mecca and Willie G group. The Shinarump ranges from a few feet to 14 feet in thickness. No Shinarump channel scours into the underlying Moenkopi were observed. The Shinarump consists of medium to coarse yellowish gray, silty sandstone with mudstone splits. As observed in most of 45 drill cores and in the face of the adit of the Waban mine, the Shinarump sandstone is saturated with oil. The combined thickness of the lower Chinle and Moss Back members above the Shinarump ranges from 225 to 255 feet.

Only three out of the 45 drill cores were found to be mineralized by the DMEA examining geologist, and only one weak anomaly was detected in 1,000 feet of stripped Shinarump rim. The uranium deposit at the Waban mine is about one foot thick and might have measured as much as 150 by 40 feet in plan prior to erosion. About 300 tons of indicated ore estimated to contain about 0.30 percent of U_3O_8 was present prior to the present mining operation. Oil is not in the Shinarump above the Waban ore deposit but occurs in the face of the adit just beyond the margin of the deposit. The hypothesis has been suggested by R. Q. Lewis that the widespread oil in the Shinarump may represent oil that migrated there prior to uranium mineralization. Therefore, it might be inferred that the presence of oil in the Shinarump along with other adverse criteria, should be regarded as unfavorable to the occurrence of significant uranium deposits.

The applicant's property rights appear to be satisfactory except for a small area in conflict with a prior claim group. Part of the claim area is in sections which are normally Utah School land. It has been established by inquiry at the Bureau of Land Management in Salt Lake City, Utah, that the Utah State Land Board had exchanged the sections for other land in the La Sal Mountains, and the Elk Ridge sections are therefore still part of the public domain.

The applicant has proposed a drilling program based on a concept of Shinarump channel trends which, in the judgment of the examining team, is not substantiated by the results of a considerable amount of drilling and rim stripping already completed. The sedimentary features, weak mineralization, and lack of channel scours on the claims contrast with the favorable Shinarump conglomerate, the well-developed channels, and good mineralized exposures, which were found in outcrops and drill holes further south in the central portion of the Shinarump belt. Therefore, the proposed phase I drilling is an extension of the previously completed prospecting, which has yielded negative results.

It is concluded that further exploration on the applicant's property would probably find at best ore bodies similar to the Waban deposit which is economic only because it is exposed in outcrop and needed only a minimum expenditure to put it into production.

Denial of the application for Government assistance under DMEA 4218 is recommended.

ACKNOWLEDGEMENTS

The applicant furnished an excellent report, including ownership data and detailed drill hole logs prepared by D. James Edson, Jr. and associated of "Mincon", a consulting engineering partnership with offices at 740 Main Street, Grand Junction, Colorado.

R. D. Lewis and W. B. Gazdik who have supervised Geological Survey drilling and mapping projects in the Elk Ridge area were consulted. The Atomic Energy Commission was consulted concerning production data of nearby mines. Project reports on the area were available.

Condensed cores from part of the applicant's drilling were stored in Grand Junction and were examined there.

R. J. Noonan of Radio Geophysical Company was contacted in Blanding, Utah but refused to give the DMEA examining team any information regarding drilling by the company. However, H. S. Johnson and R. D. Sample of the U. S. Geological Survey visited the Mad Group a few days after the DMEA team was in the area and provided information on these claims.

LOCATION, TOPOGRAPHY, CLIMATE AND PHYSICAL FEATURES

The property consists of 57 located claims in two groups overlooking Cherry Canyon, in the Western part of the Elk Ridge Mining District (fig. 1). The Pine group is in Sections 26 and 27, T. 35 S., R. 18 E., Salt Lake Meridian (fig. 2). The Mecca, Star, and Willy G claims are in Section 36, T. 35 S., R. 18 E., and Sections 2 and 11, T. 36 S., R. 18 E., Salt Lake Meridian. The claims are 23 miles north

of the Atomic Energy Commission camp at Natural Bridges, Utah and 35 miles west of Blanding, Utah. Access is over Utah Highway 95, a gravelled road, and 5 miles of fair to poor dirt road between the highway and the property. Blanding, Utah is 22 miles south of Monticello, Utah, the site of the nearest uranium buying station, and 190 miles from Grand Junction, Colorado, the nearest major source of supplies. Highways from Blanding to Monticello and Grand Junction are hard-surfaced.

The claims are located on the rolling surface of a Moss Back capped mesa, and the Chinle slopes are the northern and eastern flanks. Except for a moderate amount of bulldozing to cut roads in the Chinle formation, drill sites require little preparation. The terrain drops sharply to the floor of Cherry Canyon which is as much as 1500 feet lower.

The cool climatic conditions on Elk Ridge at an elevation of 800-8500 feet are ideal for surface operations at least 7 months of the year. In late winter and early spring of a normal year, heavy snowfall and spring thaws make surface operation inadvisable for a period of 3 to 5 months. With proper preparation underground operations can be carried on most of the year.

There are no unusual problems of accessibility, supply, labor, housing, power, or water to be met, provided that exploration is not attempted during the severe winter season. Drilling exploration would be contracted to independent contractors who would furnish necessary equipment, other facilities, and labor.

HISTORY AND PRODUCTION

Active exploration of the Elk Ridge was not undertaken until 1953, and there are very few producing mines to date. The nearest mining operation is at the Waban Mine one mile northeast of the Mecca claims. The Oakie mine is 2½ miles to the south and the Sandy mine is 2½ miles southwest. A moderate amount of exploration by rimstripping and drilling has been done in the immediate vicinity of the applicant's property with reported but unverified discovery of Shinarump channels. A drilling project of the Atomic Energy Commission 3 miles south, near the Oakie Mine, outlined a channel in thick Shinarump sediments but did not indicate extension of favorable ground toward the Pine, Star, and Mecca claims.

West of the area drilled by the Atomic Energy Commission and in the belt of Shinarump sedimentation where the Oakie and Sandy mines are located, a project under DMEA 4120, contract Idm E 924, has been approved. Work under the contract has never been started because the Ol Jato Uranium Corporation, which took over the contract from the original applicant, has been unable to furnish certain consents to lien.

The Mecca, Star, and Pine groups were located in September, 1954 by Dr. Mark B. Jenson of Helper, Utah and several associates. William B. Dwyer and Houston Pool No. 1 acquired the claims in March, 1955 and carried on an exploration program including cove drilling and rimstripping. The drilling did not reveal significant mineralization

although the applicant interpreted the data as indicatives of definite Shinarump channeling.

Rim stripping was done on the Shinarump outcrops with very poor results. Soil cover is very heavy on the northerly Chinle slopes and it was possible to expose Shinarump sediments at only a few points. No worthwhile evidence of mineralization or channeling was found in any exposure.

There has been no production from the applicant's property. Production to date from the nearby Waban Mine, where there is thin Shinarump sedimentation and little evidence of channeling, amounts to 176 tons of ore averaging 0.32 percent U_3O_8. The mine has recently been reopened by a lessee who has a one-man operation. There has been no reported production from the Mad claim group of Radio Geophysical Corporation. The Sandy, Sandy No. 3 and Oakie mines which are over 2 miles to the southwhere channeling in a substantial thickness of Shinarump sediments is well developed, have produced several thousand tons of ore containing from 0.11 to 0.20 percent U_3O_8.

PROPERTY OWNERSHIP

The property controlled by Houston Pool No. 1 consists of 42 claims held under a purchase agreement and 10 claims located later to cover unlocated Shinarump outcrops and other areas which were left open by the original locators. The original group was comprised of 47 claims located in the name of Dr. Mark B. Jensen for himself and five residents of Price, Utah. The claims are as follows:

CLAIM NAME	LOCATION DATE	RECORDING DATE	RECORDED IN SAN JUAN COUNTY RECORDS BOOK	PAGE
Mecca Nos. 1 thru 9	9/23/54	9/24/54	197	156-160
Star Nos. 1 thru 24	9/11/54	9/13/54	183	337-357
Pine Nos. 1 and 2	9/5/54	9/16/54	189	385-386
Pine Nos. 3 thru 14		12/17/54	259	454-465

The spelling of the locator's name on the location records is "Jensen", whereas the correct spelling used in the various property agreements is "Jenson".

These claims were acquired by William B. Dwyer of Grand Junction, Colorado on March 25, 1955 under a purchase agreement with Jenson et al providing for a 10 percent royalty on all ore shipments and certain other payments to the Jenson group. Dwyer was obligated to perform assessment work and other exploration consisting of drilling and/or rimstripping.

Dwyer transferred part of his interest to D. James Edson, Jr. and associates of Grand Junction, Colorado. A group of five Texas residents formed the partnership known as Houston Pool No. 1 and acquired a 3/4 interest in the property. Dwyer, Edson, and associates retained the other 1/4 interest.

The property has been re-surveyed twice and two sets of amended locations have been recorded to correct errors in prior filings. Five claims, Mecca Nos. 1, 2, and 9 and Pine Nos. 3 and 4 were found to be invalid because they were on land which had been withdrawn from entry or were in conflict with prior claims. These claims were deeded back to the original locators as provided in the purchase agreement.

During the course of the applicant's surveys it was found that certain sections of Shinarump outcrop had not been covered by the original locations, and there were other areas of open ground because of errors in laying out claims. Locations to correct these matters were made by Dwyer in the summer of 1955 as follows:

	BOOK	PAGE
Willy G Nos. 1, 2, and 3	317	360-361
Pine No. 1 A	40	21
Star No. 5 A	40	18
Star No. 8 A	40	18
Star No. 13 A	40	19
Star No. 16 A	40	19
Star No. 18 A	40	20
Star No. 21 A	40	20
Star Fraction No. 1 A	56	175

The foregoing ten claims were later amended after a second survey had been made.

As finally established by survey, the property is contiguous with portions of Sections 34 and 35, T. 35 S., R. 18 E., and Section 3, T. 36 S., R. 18 E. These sections are part of the area withdrawn from entry by the Atomic Energy Commission on July 10, 1953 under P. O. O. 983.

Sections 36 of T. 35 S., R. 18 E. and Section 2 of T. 36 S., R. 18 E. are normally Utah School Sections. This portion of Elk Ridge was surveyed some years ago and prospectors had not tried to locate claims on the supposed school sections prior to 1955. Jenson and associates discovered that the Utah Land Board had exchanged certain school land on Elk Ridge for other land in the La Sal Mountains. Sections 2 and 36 had reverted to the public domain, and were open to

entry. Inquiry at the Bureau of Land Management through the Salt Lake City, Utah DMEA office verifies the fact that the two sections are part of the public domain. The applicant's representative stated that the exchange of land by the Utah Land Board was accomplished some years ago. In view of the probable decision on the proposed project a further check was not made.

A conflicting discovery monument for the Mabey No. 7 claim was noted in the field on the Mecca No. 3 claim. According to San Juan County records, the Mabey (or Maybe) No. 7 claim is one of a group located by J. L. Nielson, J. Rex Nielson, and J. E. Nielson on August 20, 1954, and recorded on September 8, 1954. The claim is therefore prior to the applicant's Mecca claims. The applicant's representative, D. J. Edson, stated that the location notices on the Mabey claims had been predated and that he could prove by witnesses that claim posts and discovery monuments had not been in place on August 20, 1954. In his opinion the claims were not valid. This is a point that might have to be determined by court action. Edson also mentioned finding conflicting location notices dated 1955 on the south end of the Star claims. They could not be found during the field examination.

The applicant's property rights appear to be valid except for the conflict of the Mabey No. 7 claim with the Mecca No. 3 claim, assuming that the Star claims are prior to the reported conflicting locations. Because of the probable decision on the proposed project the question of conflicts was not investigated further, and the applicant was not requested to clarify them.

Proof of labor for assessment work on Mecca, Star, Pine and Willy G claims for the year ending June 30, 1956 and dated May 18, 1956 has been recorded.

PRESENT STATUS

The applicant has completed 8,259 feet of non-core drilling and 678 feet of core drilling in 45 holes on centers of 600 to 1500 feet. No more than 1 hole per claim was drilled because the holes were intended, in part, to serve as discoveries, a procedure now permitted in Utah.

Of the 45 holes, 2 are reported to have penetrated uranium mineralization of ore grade and 12 others, sub-ore grade. On the basis of thicknesses of Shinarump sediments encountered, as interpreted by the applicant's geologist, channel trends have been outlined. One hole, No. S. 171 on the Star No. 17 claim was classified as an ore hole on the basis of a thickness of 1.6 feet of conglomerage containing 0.17 percent eU_3O_8 as determined by probing. The other so-called ore hole, No. M-81, on the Mecca No. 8 claim, penetrated 0.2 feet of material containing 1.49 percent U_3O_8 by chemical analysis of the core. As the intervals above and below the section analyzed were below ore grade, this hole cannot be properly classified as ore. Examination of the core did not verify the amount of mineralization reported, nor did the thickness of Shinarump sedimentation appear to be as much as claimed in many cases. Consequently, channel trends outlined on the applicant's structure map are open to question so far as the presented evidence indicates.

An attempt has been made to strip the Shinarump outcrop along the north side of the Mecca-Willy G claims and the north and east sides of the Pine group. Soil cover was very deep and the Shinarump outcrop was exposed in only four places and for short distances. In none of these was evidence of channeling noted. At an outcrop exposure on the Mecca No. 3 claim count very slightly above background was found by geiger counter. Radiometric count at other points reported by the applicant as having been detected by scintillometer was not noted.

GEOLOGY

The Houston Pool No. 1 properties on southern Elk Ridge are just west of the axis of the Monument Upwarp of east central Utah (fig.2). The slight westerly dip is hardly perceptible on the Star, Willie G, and Mecca groups, but between the Mecca and Pine groups a slight monoclinal flexure has tilted the beds to as much as 10 degrees.

The stratigraphic sequence in the vicinity of the property includes the Permian Cutler formation, exposed in the bottom and lower slopes of Cherry and Wooden-Shoe Canyons (fig.2); the Lower Triassic Moenkopi formation, and the Upper Triassic Chinle formation.

The Cutler formation is considerably below bottoming depths of any holes that might be drilled for uranium in the area and hence is not described further. The Moenkopi formation is predominantly tan to brown micaceous siltstone and mudstone which provides a distinctive lithologic contrast to the unconformably overlying light gray, greenish gray and red of the Chinle formation. In a few places, however, the

upper few feet of the Moenkopi is altered to a mottled purple-white, so characteristic of the lower Chinle.

The following members of the Chinle formation are exposed on the property:

Chinle Formation

Member	Thickness (feet)	Character of rocks
Moss Back sandstone member	75	Massive light gray medium to coarse sandstone.
Lower Chinle member	150-180	Greenish-gray and red mudstone, locally contains purple-white mottled sandy mudstone and light gray sandstone lenses in lower part.
Shinarump member	0 -14	Yellowish to brownish-gray medium to coarse silty quartzose sandstone. Contains mudstone splits and in places is saturated with oil .

The Shinarump sandstone is only very sparingly conglomeratic and is saturated with oil in many places in the vicinity of the applicant's claims. Mudstone splits are common. In several rim exposures of Shinarump seen at the Waban mine and on the north end of the Mecca and Willie G. groups, no channel scours into the underlying Moenkopi were observed. The Shinarump sandstone contains considerable silt in places in addition to mudstone splits, and only one or two small quartzite pebbles were observed in all the exposures. It is concluded that in the vicinity of the applicant's claims, quieter currents prevailed than 1½ to 2½ miles southerly around the Blue Jay claims (DMEA 4120), the Oakie and the Sandy Mines (fig.2), where channel

scours filled with conglomeratic sandstones occur. In the depositional environment of quiet current, no channel scours formed and a finer-grained, less permeable facies of the Shinarump were deposited, which is apparently more unfavorable for the deposition of significant uranium ore bodies than the coarser facies.

The Shinarump sandstone in the cores of most of the 45 drill holes was examined and found to be similar to the Shinarump exposed in the rim except that many of the cores were completely saturated with oil. Possibly any oil originally present in the Shinarump sandstone rim outcrops may have been removed through weathering processes. Mr. D. James Edson, Jr., geologist, representing the applicant, claimed that one of the drill holes on the Pine group (fig. 2) penetrated 23 feet of Shinarump; however, examination of this core by the DMEA geologist indicates in his opinion that the 23-foot interval is the lower Chinle member with a few sandstone lenses.

ORE DEPOSITS AND RESERVES

Evidence of uranium mineralization in outcrop and in the drill cores is sparse. The applicant claimed that one drill hole penetrated ore; however, Mr. Edson, representing the applicant, admitted to the DMEA geologist that the ore-grade assay came from mineralized carbon within the supposed ore interval. Hence this assay is not representative of all the rock within the interval and this hole can at best only be regarded as being mineralized. Another hole might be regarded as an ore hole on the basis of radiometric assay, but the ore interval was not

in the Shinarump but 20 feet above the Shinarump in the Lower Chinle member. This radiometric assay was not detected by the DMEA geologist in the core. About 12 other holes are reported as mineralized. In nearly all these holes the reported radiometric anomaly is above the Shinarump sandstone; in only 2 of the 12 reported mineralized holes was the DMEA geologist able to detect an anomaly in the core within the Shinarump interval. No anomalies were found at stratigraphic positions in the Chinle above the Shinarump, but some of the non-Shinarump portion had been discarded in condensing the core. In short, only three holes out of 45 holes drilled to date on the Pine, Willie G, Mecca, and Star claim groups can be considered mineralized.

Only one slight anomaly could be detected in nearly 1,000 feet of rim exposures.

The ore body now being mined at the Waban Mine (fig. 2), one mile northeasterly from the Mecca group, is about one foot thick and is localized at the base of 6- to 7-foot section of Shinarump sandstone. No channel scour is evident. At 50 feet in (S. 35° W.) from the adit portal a crosscut driven 10 feet southeasterly has exposed only 6 inches of ore in the face. Ore has also been mined out of a small stope, about 25 feet in diameter, on the northwest side of the adit, but the grade drops off to the northwest. At 100 feet in from the adit portal, the grade of the ore in the lower one foot of the Shinarump decreases and oil becomes more abundant in the Shinarump toward the face 110 feet in from the portal. A few high-grade blebs of uraninite-

bearing asphaltite were noted about one foot below the top of the Shinarump sandstone, which in the face of the adit is about 5 feet thick.

Not more than 300 tons of uranium ore containing 0.30 percent U_3O_8 is indicated at the Waban mine and part of this body has already been mined. The size of the Waban ore body indicates that a target not more than 150 feet long, trending west and not more than about 40 feet wide might be expected under the properties controlled by the applicant. This ore target would probably not be of sufficient economic thickness to mine profitably more than a few feet from the rim.

According to Richard Q. Lewis (personal communication), part of the oil that remains within the Shinarump ore bodies has been converted to asphaltite. As a negative corollary, it seems reasonable to assume that widespread oil in the Shinarump must be regarded, along with other criteria, as unfavorable to ore deposits.

The Mad claim group (fig.2), controlled by the Radio Geophysical group was visited by R. D. Sample and H. S. Johnson of the U. S. Geological Survey on about June 12, 1956. The adit was driven on green lower Chinle mudstone toward a reported ore hole. No Shinarump was exposed at the adit portal or within the adit. However, elsewhere, on the Mad group the Shinarump exposed on the rim is a medium-grained sandstone up to 10 feet thick. No channel scours were observed by Sample and Johnson. According to Johnson this Shinarump sandstone appeared typical of the "cap rock" that normally occurs above the

typical conglomeratic Shinarump sandstone in mineralized channels, and therefore would not likely contain ore deposits.

Ore holes were reported by the applicant on the Mabey group (fig. 2) of Federal Uranium Corporation but with all the other negative geologic information around these claims, it is a reasonable certainty that the Shinarump sandstone would also be unfavorable on these claims. Therefore, no attempt was made to obtain drilling information on the Mabey claims from Federal Uranium.

PROPOSED EXPLORATION

The applicant has proposed a drilling program in two phases requiring a maximum of 12,115 feet of core and non-core drilling at an estimated cost of $41,903.50. Government participation at 75 percent would be $31,427.63. Phase I would consist of 32 holes requiring 6395 feet of non-core drilling and 660 feet of core drilling. The holes are at irregularly wide-spaced sites, most of them along the assumed center lines of supposed Shinarump channels. Phase 2 would consist of a maximum of 4600 feet of non-core and 460 feet of core drilling in 23 holes on a minimum of 50 foot centers to explore further any mineralization or favorable geologic conditions found in Phase I. Actually if proposed Phase I sites are considered without reference to the supposed channel trends, they conform to a wide-spaced drilling pattern blanketing the claims which has been partially completed by the applicant's previous drilling. The drilling as planned would also fulfill assessment work required for 1957 stipulated in the

purchase agreement. Inasmuch as the examining team does not find evidence to support the location of channel trends outlined by the applicant, the entire first phase is considered to be prospecting.

The applicant's estimate is based on a cost of $2.00 per foot for non-core drilling and $3.00 per foot for core drilling. The price for non-core drilling is high. High costs for supervision and technical assistance, and a generous allowance for contingencies bring the applicant's estimate to a unit overall cost of $3.45 per foot, which is out of line.

Bids from independent contractors supporting the cost figures were not submitted. Mr. Edson is planning to furnish them, however.

An alternate exploration program and a cost estimate for the same have not been prepared for this report.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded from the largely negative results of drilling and rim stripping accomplished to date that Shinarump sedimentation and mineralization are unfavorable for the occurrence of significant ore bodies. The applicant's representative, Mr. Edson, agrees with this, according to his statement to the examining team that if the proposed exploration did not develop more favorable evidence than has been found to date, further work would not be justified.

The conditions on the Mecca Star and Pine groups do not resemble those found further south in the vicinity of producing mines, where marked channeling has been noted and Shinarump outcrops exhibit

radiometric count many times background. Weak mineralization such as found on the applicant's property does not necessarily have much meaning. Similar radioactivity can be found in many beds of the Chinle formation and is not in itself significant.

The conditions on the Mecca Star and Pine claims appear to be similar to those at the nearby Waban mine. The type of ore body, likely, to be found would probably be similar to the Waban deposit which is mineable at a small profit only because it cropped out and there was no expense for drilling exploration or prior development. It would not be economically feasible to mine such an ore body under the conditions on the applicant's property where a considerable expenditure for exploration and development will be required.

Denial of the applicant for Government assistance in exploration under Docket DMEA 4218 is recommended.

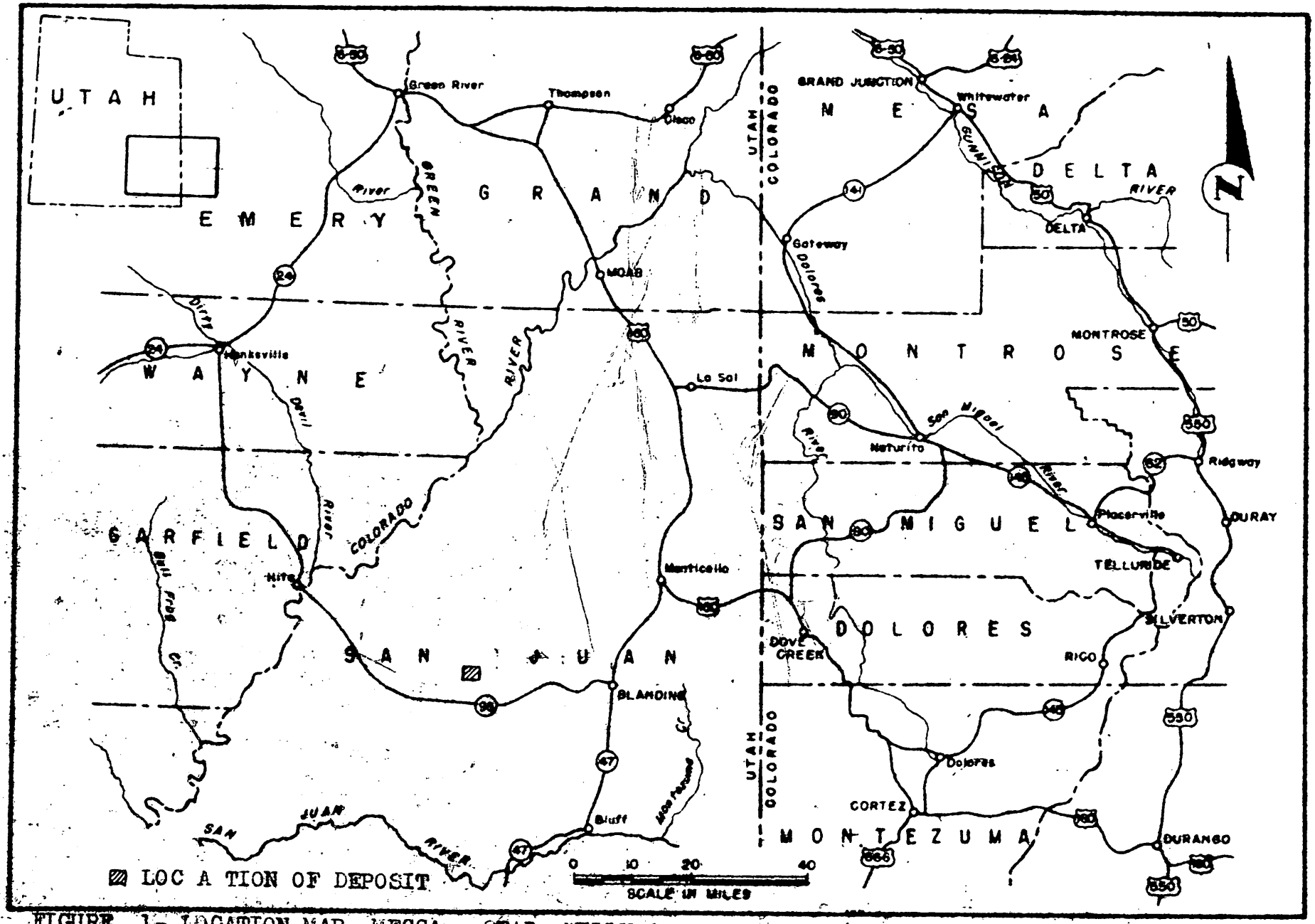

FIGURE 1- LOCATION MAP, MECCA , STAR, WILLY G. AND PINE CLAIMS, HOUSTON POOL NO. 1, SAN JUAN COUNTY, UTAH. D MEA 4218

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

APR 26 1956

Memorandum

To: The Administrator, DMEA
Attention: Chief, Rare and Miscellaneous Metals Division

From: Associate Solicitor, Division of Mineral Resources

Subject: Docket No. DMEA-4218 (Uranium), Houston Pool Mecca, Star, and Pine Groups, San Juan County, Utah

As requested in Mr. Ellis' memorandum dated April 16, 1956, we have reviewed the property rights of the applicant as disclosed by statements in the application and the instruments attached to it. The applicant (Houston Pool) is a joint venture comprised of Hubert Clift, E. M. Peeples, Jr., George Sawtelle, Dwight J. Edson, and W. C. Stroube.

The application states that the property consists of three groups of 57 full and fractional claims, the Mecca, Star, and Pine groups, and that the applicant's interest therein is as a "purchaser under contract." The application states further that interests in the claims are divided and held as stated in a letter of agreement dated December 1, 1954, between the applicant and William G. Dwyer, under which the joint venturers have an undivided three-quarter interest in the property, and Dwyer and Mincon (the latter an engineering firm employed to prepare the DMEA application and perform the exploration work) together hold an undivided one-quarter interest as they may divide it between them. The agreement also provided that legal title to all property is to be held in trust by Dwyer for the beneficial interest of all holders of equitable interests in the property. The applicant should furnish the Government with a copy of the letter agreement dated December 1, 1954.

The application also refers to "15 claims or fractional claims" owned by the applicant and Mincon, which "were staked during the initial survey." These claims are not readily identifiable, but presumably are the Willy G. Claims Nos. 1, 2, and 3, the Fractional "A" claims, and the Pine Nos. 15 through 18, all listed in a deed dated February 16, 1956, from Dwyer to Edson, Jr., discussed below, but not listed in the first assignment, discussed below, executed by Mark B. Jenson and wife.

The relevant instruments submitted with the application are as follows:

In an assignment dated March 24, 1955, Mark B. Jenson and wife, Margaret, transferred to Dwyer an interest in 47 claims listed in Exhibit "A" attached thereto, subject to reconveyance of any claim by election of the assignee or in the event of default by assignee of conditions of the assignment.

In a collateral agreement executed simultaneously with the assignment by Mark B. Jenson and wife, Margaret, James O. Stewart and wife, Maude, Spenst C. Chapman, George A. Allred and wife, Christine, Elmer R. Scovill and wife, Elva, and F. W. Keller and wife, Mabel, ratified and adopted the agreement executed between Jenson and wife and Dwyer. However, the nature of the interests held by the ratifiers in relation to the interest held by the Jensons in the 47 claims listed in the agreement of the Jensons and Dwyer is not disclosed or explained either in the instrument or in the application.

In a deed dated June 30, 1955, Dwyer reconveyed to Mark Jenson the Mecca claims Nos. 1, 2, and 9, and the Pine claims Nos. 3 and 4. If the application is approved, these claims should not be a part of the project.

In a deed executed February 6, 1956, Dwyer conveyed to D. James Edson, Jr., the 57 claims referred to in the application. Included among the claims are the claims Willie G. Nos. 1, 2, and 3, the fractional "A" claims, and the Pine claims Nos. 14 through 18; which were additional to the 47 claims (less the 5 claims reconveyed) listed in the first assignment from Jensons discussed above. It does not appear how Dwyer obtained title to these additional claims to convey them in said deed, and said information and supporting documents should be furnished.

In an instrument dated February 17, 1956, D. James Edson, Jr., acknowledged to the members of the joint venture that he was holding in trust for them a one-fifth interest each in a three-quarter interest in the claims deeded to him in the instrument dated February 6, 1956 (although the instrument is ambiguous as to whether he is holding one-fifth for each venturer in a three-quarter interest or a total of one-fifth for all venturers in a three-quarter interest).

The applicant should be required to give a further narrative explanation of the interests in land held by the parties, and to furnish copies of any additional documents pertinent to the property.

If a contract is approved and is signed by all joint venturers, no Consent to Lien will be required from any of them. However, the Consent to Lien of every other person mentioned in this memorandum will be required. Whether any other security would be required depends upon the additional information submitted.

Robert P. Dwyer

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

APR 26 1956

Memorandum

To: The Administrator, DMEA
Attention: Chief, Rare and Miscellaneous Metals Division

From: Associate Solicitor, Division of Mineral Resources

Subject: Docket No. DMEA-4218 (Uranium), Houston Fuel Mines, Star, and Pine Groups, San Juan County, Utah

As requested in Mr. Ellis' memorandum dated April 16, 1956, we have reviewed the property rights of the applicant as disclosed by statements in the application and the instruments attached to it. The applicant (Houston Fuel) is a joint venture comprised of Robert Clift, E. H. Peaplon, Jr., George Sartelle, Dwight J. Dixon, and W. C. Sorenbe.

The application states that the property consists of three groups of 57 full and fractional claims, the Mines, Star, and Pine groups, and that the applicant's interest therein is as a "purchaser under contract." The application states further that interests in the claims are divided and held as stated in a letter of agreement dated December 1, 1954, between the applicant and William C. Boyer, under which the joint venturers have an undivided three-quarter interest in the property, and Boyer and Mineco (the latter an engineering firm employed to prepare the DMEA application and perform the exploration work) together hold an undivided one-quarter interest as they may divide it between them. The agreement also provided that legal title to all property is to be held in trust by Boyer for the beneficial interest of all holders of equitable interests in the property. The applicant should furnish the Government with a copy of the letter agreement dated December 1, 1954.

The application also refers to "15 claims or fractional claims" owned by the applicant and Mineco, which "were staked during the initial survey." These claims are not readily identifiable, but presumably are the Billy C. Claims Nos. 1, 2, and 3, the Fractional "A" claims, and the Pine Nos. 15 through 18, all listed in a deed dated February 16, 1954, from Boyer to Dixon, Jr., discussed below, but not listed in the first assignment, discussed below, executed by Mark B. Jensen and wife.

DMEA Docket

The relevant instruments submitted with the application are follows:

In an assignment dated March 24, 1951, Mark B. Jensen and wife, Margaret, transferred to Boyer an interest in 47 claims listed in Exhibit "A" attached thereto, subject to reversvyance of any claim by election of the assignee or in the event of default by assignee of conditions of the assignment.

In a collateral agreement executed simultaneously with the assignment by Mark B. Jensen and wife, Margaret, James G. Stewart and wife, Hazel, Everett G. Chapman, George A. Elliot and wife, Christina, Elmer R. Scovill and wife, Alva, and F. W. Miller and wife, Mabel, ratified and adopted the agreement entered between Jensen and wife and Boyer. However, the nature of the interests held by the ratifiers in relation to the interest held by the Jensens in the 47 claims listed in the agreement of the Jensens and Boyer is not disclosed or explained either in the instrument or in the application.

In a deed dated June 28, 1955, Boyer reconveyed to Mark Jensen the Mesa claims Nos. 1, 2, and 4, and the Pine claims Nos. 3 and 4. If the application is approved, these claims should not be a part of the project.

In a deed executed February 6, 1956, Boyer conveyed to B. James Bloom, Jr., the 37 claims referred to in the application. Included among the claims are the claims Willis G. Nos. 1, 2, and 3, the fractional "A" claims, and the Pine claims Nos. 14 through 18, which were additional to the 47 claims (less the 5 claims reconveyed) listed in the first assignment from Jensens discussed above. It does not appear how Boyer obtained title to these additional claims to convey them in said deed, and said information and supporting documents should be furnished.

In an instrument dated February 17, 1956, B. James Bloom, Jr., acknowledged to the members of the joint venture that he was holding in trust for them a one-fifth interest each in a three-quarter interest in the claims deeded to him in the instrument dated February 6, 1956 (although the instrument is ambiguous as to whether he is holding one-fifth for each venturer in a three-quarter interest or a total of one-fifth for all venturers in a three-quarter interest).

The applicant should be required to give a further narrative explanation of the interests in land held by the parties, and to furnish copies of any additional documents pertinent to the property.

If a contract is approved and is signed by all joint venturers, no Consent to Lien will be required from any of them. However, the Consent to Lien of every other person mentioned in this memorandum will be required. Whether any other security would be required depends upon the additional information submitted.

Robert P. Dwyer

HGRubin/emd

Copy to: Solicitor's Docket (2)
BMEA Docket
E. W. Ellis
G. C. Selfridge
R. P. Dwyer
H. G. Rubin
chron.

700

Ching
Ellis

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

April 16, 1956

Memorandum

To: Associate Solicitor, Division of Mineral Resources

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

Subject: Docket No. DMEA-4218 (Uranium)
Houston Pool No. 1
Mecca, Star and Pine Groups
San Juan County, Utah

Will you kindly determine whether or not the subject applicant's property rights are adequate for the purposes of an exploration project. Also, please list the parties that should execute a Consent to Lien and/or a Subordination Agreement.

Ernest Wm. Ellis

Ernest Wm. Ellis

MChing/izm 4-16-56
cc to: Docket
Code 700
Mr. Ching
Admr.'s Reading File

700

FILE COPY
Surname:
Ching
Ebling
Selfridge
Jeffrey

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

APR 16 1956

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

Re: Docket No. DMEA-4218 (Uranium)
Houston Peel No. 1
Mecca, Star, and Pine Groups
San Juan County, Utah

Dear Mr. Traver:

The subject application is being referred to you for investigation, a field examination, and recommendations. Two copies of the application were retained by you for the use of the Field Team.

Copies of memorandums dated March 29 and April 11, 1956, by James Paone, USBM, and W. P. Williams, USGS, respectively, relating to the application, are enclosed.

We are submitting the question of the adequacy of the Applicant's property rights to our legal people, and shall advise you later of our requirements in the event a contract is recommended.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Enclosures

MChing/izm 4-13-56
cc to: Docket
Code 700
Mr. Ching
Admr.'s Reading File
Operating Committee
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

APPROVED:

/s/ Robert W. Geehan

Member, Bureau of Mines

Thor H. Kiilsgaard

Member, Geological Survey

RCh

700

FILE COPY

Surname:
Ching
Ilg
Luchen
~~Kilgannon~~
Selbridge
Johnson

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

APR 16 1956

Houston Pool No. 1
c/o Post Office Box 270
Grand Junction, Colorado

Re: Docket No. DMEA-4218 (Uranium)
Mecca, Star, and Pine Groups
San Juan County, Utah

Gentlemen:

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

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

The Regional Office will contact you at the earliest opportunity in regard to your project.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

MChing/izm 4-13-56
cc to: Docket
Code 700
Mr. Ching
Admr.'s Reading File
DMEA Field Team, Region III (2)

4-13-56

IN REPLY REFER TO:

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

RECEIVED
APR 13 1956

April 11, 1956

Memorandum

To: E. W. Ellis, Defense Mineral Explortation Administration

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

Subject: Review of application, DMEA 4218, Houston Pool No. 1, Mecca, Star, and Pine claim groups, Elk Ridge, San Jaun County, Utah.

In a well-prepared application the applicant proposed to explore for uranium ore on 57 mining claims by means of exploration drilling. The proposed project, in two stages, would consist of a total of 55 drill holes, with a total footage of 12,115 feet at a total estimated cost of $41,903.50.

A total of 45 core-drill holes, on 600 to 1,500 foot centers, have been drilled on the property. Of these holes only one, and possibly two, were ore-bearing. The applicant claims that the completed drilling has revealed the probable trends of several Shinarump channels. The purpose of the additional proposed work would be to further delineate the channel trends, and, in stage II, seek ore in the most favorable areas.

The applicant's proposals seem reasonable and feasible. An unfavorable feature is the fact that little production, if any, has come from the vicinity of the property. On the other hand the region has not been completely explored.

A field examination would seem to be desirable in this case as the applicant has stripped about a mile of the rim which would allow appraisal of the geologic favorability of the Shinarump member. Also, the validity of some of the channel trends shown on the applicant's map might be checked in the field.

I believe the application should be referred to the Field Team for a possible field examination and recommendations.

It would seem that the applicant's property in sections 2 and 36 might consist of Utah State School Lands from which, if true, no Owner's Consent to Lien could be obtained.

W. P. Williams

W. P. Williams

3/30/56

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

March 29, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4445

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

Subject: Application for assistance, DMEA Docket 4218, Houston Pool No. 1, Elk Ridge Properties, San Juan County, Utah

I have reviewed the attached application, Houston Pool No. 1, DMEA Docket 4218, dated March 9 and received in this office March 27. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The applicant has requested Federal participation in an exploration program for uranium on two separate groups of unpatented mining claims located in Secs. 26, 27, and 36, T. 35 S., R. 18 E., and a portion of Secs. 2 and 11, T. 36 S., R. 18 E., San Juan County, Utah. The proposed project is planned in two stages. Stage I would consist of 7,055 feet of drilling, estimated to cost $14,770, and Stage II would consist of 5,060 feet of drilling, estimated to cost $10,580. The estimated total cost of the project is $41,903.50.

A total of 45 core holes spaced 600 to 1,500 feet apart were drilled on the subject claims in 1955. One hole penetrated 0.2 feet of ore which assayed 1.49 percent U_3O_8. Some of the other holes encountered mineralization.

We recommend that the application be referred to the Field Team for possible examination and report.

James Paone
James Paone

RECEIVED
MAR 30 1956

Attachment

3/28/56

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

March 22, 1956

224 New Customhouse
Denver 2, Colorado

DMEA-4218

Memorandum

To: Chairman, Operating Committee, DMEA

From: Field Team, Region III

Subject: Application for DMEA Aid (Uranium), Houston Pool No. 1, Elk Ridge Properties, San Juan County, Utah

Enclosed are the original and three copies of a review of the subject application by J. William Hasler, USGS. He recommends that a field examination of the property would be advisable. We concur in this recommendation

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosures

DMEA
Date Rec'd.
MAR 22 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

BUREAU OF MINES
Denver, Colorado

P. O. Box 360
Grand Junction, Colorado

MINERALS REFER TO:
DMEA
RECEIVED
MAR 21 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

March 20, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: J. William Hasler
Through: E. N. Harshman EMH

Subject: Application for DMEA aid (Uranium), Houston Pool No. 1, Elk Ridge properties, San Juan County, Utah.

A cursory review of the application by W. B. Gazdik, who was geologist in charge of Survey drilling in the Deer Flat area, indicates that a field examination should be made.

The applicant has drilled 45 holes and stripped about one mile of rim. One of the holes was in ore and several were in mineralized ground. The holes were drilled on 600-1,500 foot-centers and, consequently, much interpolation was necessary. The property is in an area where the Shinarump may be absent under some of the claims; however, it is advisable to examine the property.

We will retain the application in this office until further notification.

J. William Hasler
J. William Hasler,
Geologist

JWH/mlr

Enclosure orig. w/7

March 20, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region 111

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region 111

DMEA
-4218 Houston Pool No. 1

Robert E. Adams
Chief, Operation's Control
and Statistics Division

Subject: DMEA-4218
Re: Mecca, Star and Pine Groups

Houston Pool No. 1
c/o P.O. Box 270
Grand Junction, Colorado

March 20, 1956

Gentlemen:

The receipt of your application dated March 3, 1956 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-4218 and referred to the Rare & Miscellaneous Metals Division.

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

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

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

RECEIVED
MAR 19 1956

March 15, 1956

224 New Customhouse
Denver 2, Colorado

4218

Memorandum

To: Chairman, Operating Committee, DMEA

From: Field Team, Region III

Subject: Application for DMEA Aid (Uranium), Houston Pool No. 1, Elk Ridge Properties, San Juan County, Utah

Enclosed are two copies of the subject application in the amount of $41,903.50. One copy of the application is being forwarded to the Grand Junction office for their review and one copy is being retained in our file.

DMEA Field Team, Region III

By W. M. Traver
Executive Officer

Enclosures

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

RECEIVED
MAR 19 1956

March 15, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: J. W. Hasler

From: Field Team, Region III

Subject: Application for DMEA Aid (Uranium), Houston Pool No. 1, Elk Ridge Properties, San Juan County, Utah

Enclosed is the subject application in the amount of $41,903.50. Will you please discuss this application with the representative of the Bureau of Mines and the Atomic Energy Commission and forward this office eight copies of a joint memorandum of your recommendations.

DMEA Field Team, Region III

W. M. TRAVER

By W. M. Traver
Executive Officer

Enclosures

HMC:ab

cc: Chair. Op. Comm. (2)
Harshman
Shaw (2)
Subject
Chron.

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

RECEIVED
MAR 19 1956

March 15, 1956

224 New Customhouse
Denver 2, Colorado

Mr. Milton R. Scholl, Jr.
Mincon
P. O. Box 270
Grand Junction, Colorado

Dear Mr. Scholl:

This will acknowledge receipt of your letter dated March 13, 1956 and the four copies of the application for Houston Pool No. 1. This application is being placed in line for further processing.

Very truly yours,

W. M. TRAVER

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

HMC:ab

cc: Chair. Op. Comm. (2)
Harshman
Subject
Chron.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

DMEA
Date Rec'd

RECEIVED
MAR 19 1956
MAR 15 1956
BUREAU OF MINES
Denver, Colorado

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

Not to be filled in by applicant

Docket No. 4218
Metal or Mineral Uranium
Date Received 3-19-56
Estimated Cost 41,903.50
Participation (Government %) 75

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: HOUSTON POOL NO. 1
c/o P. O. BOX 270
GRAND JUNCTION, COLORADO

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

5. *The exploration project.*—State the mineral or minerals for which you wish to explore URANIUM

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

(*c*) The work will start within 30 days and be completed within 4 months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated March 9, 1952

HOUSTON POOL
(Applicant)

By D. James Elson, Jr.
Dean E. [illegible]
Milton R. Sibell, Jr.

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

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

APPLICATION FOR DMEA PROJECT

ON THE

ELK RIDGE PROPERTIES

RECEIVED
MAR 19 1956

Prepared for

HOUSTON POOL

c/o P. O. BOX 270

GRAND JUNCTION, COLORADO

by
MINCON
P. O. Box 270
Grand Junction, Colorado

MINCON
P. O. Box 270
Grand Junction, Colorado

APPLICATION FOR DMEA PROJECT ON THE ELK RIDGE PROPERTIES
PREPARED FOR HOUSTON POOL, c/o BOX 270, GRAND JUNCTION, COLORADO

RECEIVED
MAR 19 1956

TABLE OF CONTENTS

Page No.

INTRODUCTION 1
NAME OF APPLICANT 1
GENERAL 2
APPLICANT'S PROPERTY RIGHTS 2
Legal Description of Property 2
Name of Property 3
Interest 3
Outstanding Liens 3
Record of Title 4
PHYSICAL DESCRIPTION 4
Previous Exploration 4
Results of Previous Drilling Program 4
Production and Ore Reserves 5
General Geologic Features 5
Accessibility of the Project 7
Manpower and Equipment 8
THE EXPLORATION PROJECT 8
Mineral 8
Proposed Work 8
Time of Exploration Project Contract 9
Ability of Applicant 9
ESTIMATE OF COSTS 10
Independent Contractors 10
Labor, Supervision, Consultants 11
Operating Materials and Supplies 11
Operating Equipment 11
Rehabilitation and Repairs 11
New Buildings, Improvements, Installations 11
Miscellaneous 11
Contingencies 11
Independent Contractors 12
Labor, Supervision, Consultants 12
Operating Materials and Supplies 12
New Buildings, Improvements, Installations 12
Miscellaneous 12
APPLICANT'S SHARE OF COST 12

MINCON
P. O. Box 270
Grand Junction, Colorado

APPLICATION FOR DMEA PROJECT ON THE ELK RIDGE PROPERTIES
PREPARED FOR HOUSTON POOL, c/o BOX 270, GRAND JUNCTION, COLORADO

LIST OF SCHEDULES

Title	Schedule No.
Summary of Phase I Drilling	1
Amounts to be Paid Independent Contractors	2
Labor, Supervision, Consultants	3
Operating Materials and Supplies	4
Miscellaneous	5
Recapitulation of Costs	6

LIST OF EXHIBITS

Title	Exhibit No.
Claim Map	A
Assignment	B
Amendment to Assignment	C
Collateral Agreement	D
Deed (Dwyer to Jenson)	E
Deed (Dwyer to Edson)	F
Letter Agreement	G
Core Descriptions	H
Geologic Map	I

MINCON
P. O. Box 270
Grand Junction, Colorado

APPLICATION FOR DMEA PROJECT ON THE ELK RIDGE PROPERTIES
Prepared for

HOUSTON POOL
c/o P. O. BOX 270
GRAND JUNCTION, COLORADO

INTRODUCTION

This report, written and prepared for HOUSTON POOL by Mincon, and the attached, completed Form MF-103 constitutes an application for a Defense Minerals Exploration Administration project contract of the unit-cost type. A $41,903.50 project is recommended for exploring 57 uranium claims by core drilling in the Elk Ridge area of San Juan County, Utah. The project proposes a two phase drilling program by independent contractors under the geologic and engineering supervision of Mincon.

1. NAME OF APPLICANT

(a) HOUSTON POOL, D. James Edson, Jr., Trustee
P. O. Box 270
Grand Junction, Colorado

(Note: Please address all correspondence in reference to this application to MINCON, P. O. BOX 270, GRAND JUNCTION, COLORADO. The firm's offices are at 740 Main Street, Grand Junction, Colorado.)

(b) Houston Pool is a joint venture whose members and addresses are:

(1) Mr. Hubert Clift
1049 San Jacinto Building
Houston 2, Texas

(2) Mr. E. M. Peeples, Jr.
1537 Esperson Building
Houston 2, Texas

(3) Mr. George Sawtelle
P. O. Box 1745
Houston 1, Texas

(4) Mr. Dwight J. Edson
1537 Esperson Building
Houston 2, Texas

(5) Mr. W. C. Stroube
P. O. Box 730
Corsicana, Texas

(c) Not applicable, since this group is not a corporation.

(d) Names and addresses of all members of the Pool are as listed above in 1-b.

2. GENERAL

This report including the attached, completed Form MF-103 is an application for a DMEA loan under a unit-cost form 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 IV, DMEA, New Customhouse Building, Denver 2, Colorado.

Since sufficient space is not available on the application Form MF-103, the necessary information is supplied in this report with a reference in each case by number and letter to the instruction to which the item refers on the form.

3. APPLICANT'S PROPERTY RIGHTS

(a) The property consists of 57 full and fractional mining claims in two separate groups located in portions of Sections 26, 27 and 36, Township 35 South, Range 18 East, and a portion of Sections 2 and 11, Township 36 South, Range 18 East, SLM&B, San Juan County, Utah. These are unpatented mining claims which have been surveyed under the supervision of a Utah Registered Land Surveyor.

MINCON
P. O. Box 270
Grand Junction, Colorado

APPLICATION FOR DMEA PROJECT ON THE ELK RIDGE PROPERTIES
PREPARED FOR HOUSTON POOL, c/o BOX 270, GRAND JUNCTION, COLORADO

The location notices, or amended notices, are posted and copies are recorded in the San Juan County Courthouse. The claim outlines with reference to the public land survey are as is shown on Exhibit A. The claims are located within the Manti-LaSal National Forest.

(b) The property is referred to as the Mecca, Star and Pine Groups.

(c) The applicant's interest is as a purchaser under contract. This interest will be divided as stated in a Letter Agreement dated December 1, 1954 from Houston Pool to Mr. William G. Dwyer. This Agreement states:

> "We shall own an undivided 3/4 interest in each property purchased for the Pool (in the proportions that our respective investments in the Pool bear to each other at the time of the purchase), and you and Mincon shall own an undivided 1/4 interest therein (in such proportions as you and Mincon mutually agree upon).
>
> While the beneficial title to each property will be owned as set out above, the legal title thereto will be taken in your name, and as soon as practical after the purchase of each property, you agree to execute and deliver to us an instrument evidencing the fact that you hold our beneficial title in trust, and to execute and deliver to Mincon a similar instrument, evidencing the fact that you hold in trust its beneficial title."

The Assignment of these claims from the original owners and the Collateral Agreement are submitted as Exhibits B and D. The Deed, dated February 6, 1956, Exhibit F, assigns these claims to D. James Edson, Jr. Exhibit G is a copy of the letter to members of the Houston Pool from D. James Edson, Jr., evidencing the fact that he holds the beneficial title in trust. Fifteen claims or fractional claims were staked during the initial survey and these are owned by the Houston Pool and Mincon.

(d) Substantiating agreements showing control of property by applicant is submitted as in Paragraph 3-c above.

(e) Liens and encumbrances are those enumerated in Exhibits B and D.

(f) The land consists of unpatented claims. The book and page numbers for each recorded location notice are a part of Exhibit F, Deed, dated February 6, 1956.

4. PHYSICAL DESCRIPTION

(a) Previous Exploration.

A total of 45 core holes spaced 600 to 1500 feet apart were drilled on these claims during 1955. Each hole penetrated the Shinarump "ore-bearing" interval and a sufficient depth to confirm a Moenkopi formation top. The drilling comprised 8,259 feet of plug (non-core) drilling and 678 feet of core drilling, making a total of 8,937 feet. The hole depths ranged from 28 to 285 feet and averaged 198 feet. All drill holes were radiometrically probed and results recorded for each one-tenth (0.1) foot when mineralized. The cores were described completely and sampled for chemical assay in those zones which showed radioactivity. The core descriptions are attached as Exhibit H. Exhibit I shows the drill hole locations, their elevations, access roads, formation outcrops as mapped in the field, and geologic structure on top of the Moenkopi. An elevation of 8400 feet was assumed for the quarter corner marker on the south line of Section 35, Township 35 South, Range 18 East, and all hole elevations are relative to this corner.

Results of Previous Drilling Program: Subsurface information obtained from the 45 core holes completed to date has outlined the trend of several channels or scours in the top of the Moenkopi formation. These channels are filled with Shinarump sandstones and conglomerates. A structure map has been prepared on the top of the Moenkopi and included as Exhibit I. Uranium mineralization was encountered in the following holes:

Claim	Hole	Depth	Thickness	$\%U_3O_8$*	eU_3O_8**
Mecca #8	M-81	244.1 - 245.2	1.1	0.02	
		245.2 - 245.4	0.2	1.49	
		245.4 - 246.1	0.7	0.07	
Mecca #8	M-83A	232.0 - 232.3	0.3		0.04
Pine #2	P-21	183.0			0.02
		110.0			0.02
Star #5	S-51	85.1 - 85.6	0.5		0.02
Star #6	S-61	239.8 - 240.5	0.7		0.03
Star #7	S-71	243.9 - 244.2	0.3		0.05

MINCON
P. O. Box 270
Grand Junction, Colorado

APPLICATION FOR DMEA PROJECT ON THE ELK RIDGE PROPERTIES
PREPARED FOR HOUSTON POOL, c/o BOX 270, GRAND JUNCTION, COLORADO

Claim	Hole	Depth	Thickness	$\%U_3O_8$*	eU_3O_8**
Star #10	S-101	234.1 - 234.8	0.7		0.03
Star #15	S-151	228.0			0.02
Star #16	S-161	236.5 - 236.9	0.4		0.04
Star #17	S-171	213.0 - 214.6	1.6		0.12
Star #18	S-181	147.2			0.03
Star #19	S-191	224.4 - 224.6	0.2		0.05
Star Fraction #1	SF1-1	204.0 - 208.0	4.0		0.09
Willie G #1	WG-11	57.9 - 58.5	0.6		0.07

*Chemical Assay
**Radiometric Assay

Approximately one mile of rim stripping of the Shinarump was accomplished on the north end of the Mecca claims. This exploration program was planned and supervised by the staff of Mincon.

(b) Production and Ore Reserves.

There has been no production and there are no known ore reserves.

(c) General Geologic Features.

The Mecca, Pine and Star claims are located in the Elk Ridge area of San Juan County, Utah, near the south flank of the Abajo Mountains within a belt of favorable Shinarump channel deposits. The surface elevations range from 8400 feet on the west side of the Mecca and Star claims to 8700 feet on the east side of these claims. The elevations on the Pine claims to the north are near 8150 feet. The surface is deeply dissected with a relief of 1000 to 1500 feet in the area bounding the Star, Mecca and Pine claims. Much of the general area has been withdrawn from prospecting by the Atomic Energy Commission. The United States Geological Survey has been engaged in an exploratory drilling program on these withdrawn lands for the Atomic Energy Commission.

The formations pertinent to this application are, in ascending order:

Triassic - Moenkopi Formation: The Moenkopi is composed of generally reddish brown siltstones, mudstones, and shales. The Moenkopi, as observed in the cores, is usually bleached to green or gray at the Shinarump-Moenkopi contact. The formation is about 200 feet thick, but normally only enough of the interval is penetrated to confirm a formation top in the drill holes.

MINCON
P. O. Box 270
Grand Junction, Colorado

APPLICATION FOR DMEA PROJECT ON THE ELK RIDGE PROPERTIES
PREPARED FOR HOUSTON POOL, c/o BOX 270, GRAND JUNCTION, COLORADO

Shinarump Conglomerate: The Shinarump lithology consists of gray, fine to coarse grained sandstone and conglomerate with much carbonaceous "trash" made up of various sized carbonized vegetal material. The Shinarump is the ore-bearing section and the uranium mineralization is of disseminated black, pitchblende(?). Pyrite and chalcopyrite have been observed in some of the cores. Some of the more porous and permeable Shinarump sandstones are saturated with petroleum. Drill hole information has shown that the Shinarump varies in thickness from 0 to 26 feet and attains the maximum thickness in probable channel trends or scours into the underlying Moenkopi. The Shinarump outcrop is mostly obscured by heavy soil and vegetation cover.

Lower Chinle: This unit consists of 180 feet of reddish brown interbedded shale and siltstone which form steep slopes below the more resistant caps of the ridges.

"Mossback Unit" of Chinle: The surface of the claims is covered by the "Mossback", a massive sandstone member of the lower Chinle. This unit forms a resistant cap on the ridges. A maximum of 85 feet of "Mossback" has been penetrated in the drill holes.

Considering maximum thicknesses of 85 feet for the "Mossback", 180 feet for the lower Chinle, and 26 feet for the Shinarump, the drill hole depths will average less than 291 feet. The average depth of previous drilling was 198 feet.

Structurally, the claims are situated on the southwest limb of the Elk Ridge Anticline, a subsidiary fold superimposed on the Monument Upwarp. The formations dip 3°S35°W. No faulting has been observed.

Reasons for Additional Exploration:

(1) In the Elk Ridge area, as in the nearby White Canyon District, uranium ores of better than average grade are being discovered in portions of Shinarump channels. Our drilling program completed in 1955 outlined several Shinarump channels underlying the claims. Additional drilling is required to delineate these channels more precisely and to outline the more favorable ground for uranium mineralization.

(2) Mineralization was found in both the cores, as summarized above, and in the outcrop on Mecca #3 and Willy G claims. Geobotanical anomalies were found by the United States Geological Survey on the Willy G No. 1 claim.

(3) Commercial mining operations have only recently been initiated, since this is a relatively new area to be exploited. Areas of production and active exploration are summarized as follows:

(a) The Woban Mine, located approximately 1 mile northeast of the Mecca claims, began production late in 1955.

(b) Elk Ridge Uranium Corporation, now merged with Federal Uranium Corporation, embarked on an active drilling program during 1955 on properties located between the Mecca claims and the Woban Mine. Radio Geophysical Company of Blanding, Utah, completed an exploratory drilling program on their Mad Group of claims in 1955. The Mad Group joins the Mecca claims on the east. The results of these two drilling operations are not presently available to Houston Pool.

(c) The Western Empire Uranium Corporation, in the section south of the Star claims, reports that mineralized Shinarump channels have been outlined.

(d) Federal Uranium Corporation is producing uranium ore at the Oakie Mine 2½ miles south of the Star claims.

(e) Shumway's Sandy Mine is located about 2½ miles southwest of the Star claims.

(f) Shumway Uranium Mining Company has reported indicated ore on the Woodenshoe claim about one mile northwest of the Bears Ears and about three miles south of Houston Pool properties.

(g) The Hideout Mine of White Canyon Mining Company is approximately 5 miles southwest of the Star claims. Through 1954 the Hideout Mine is reported to have produced $177,600 worth of uranium ore from a Shinarump channel deposit.

(d) Accessibility of the Project.

The properties are reached by driving west from Blanding, Utah, on old Utah State Highway 95 for approximately 30 miles and then north on the forest service access road toward Twin Springs and Dry Mesa. Houston Pool has constructed approximately 6 miles of access roads on the claims as shown on Exhibit I. The old state highway road is usually maintained by the county and the forest roads are maintained during the summer months by the U. S. Forest Service. The high elevations, 8500 to 9000 feet, and the resultant heavy snow cover make the area presently accessible only in the summer.

Ore could be shipped to the White Canyon buying station, a distance of approximately 33 miles, or to Monticello, Utah, to the mill operated for the Atomic Energy Commission, a distance of 47 miles.

Blanding, Utah, 35 miles distant, and Monticello, Utah, 47 miles distant, are supply and residence points. The closest railroad is the Denver & Rio Grande main line at Crescent Junction, Utah, 136 miles to the north. Navajo Airlines is presently serving Monticello.

(e) Manpower and Equipment.

Manpower and equipment will be furnished by independent contractors. Mincon, a professional geology and engineering firm, will furnish technical personnel, surveying equipment, and transportation for their employees. Houston Pool and Mincon will furnish probing and field gamma-ray detection equipment. Mincon will furnish a trailer house on the property for housing their personnel. Mincon has its principal offices at 740 Main Street, Grand Junction, Colorado.

Mining equipment and supplies are stocked at Blanding and Monticello, Utah.

Culinary water in ample quantity can be obtained from a spring approximately one-half mile from the southeast corner of the claims. Drilling water can be obtained from nearby artificial stock reservoirs early in the summer. Drilling water is also available from a large spring 2 miles south of the claims near the Oakie Mine.

5. THE EXPLORATION PROJECT

(a) The mineral for which the project will explore is uranium.

(b) The proposed work will consist of drilling a series of holes to a depth sufficient to fully penetrate the Shinarump conglomerate and to confirm the top of the Moenkopi formation. The drilling is planned in two stages to be completed by independent contractors and using at least two drill rigs. A total of 32 core holes is recommended in Phase I which may be considered as an extension of an approximate grid drilled in 1955. The proposed locations are shown on Exhibit I. This will comprise 7,055 feet of drilling, as summarized in Schedule 1 (Summary of Phase I Drilling). The locations of these drill holes will be to confirm channel lineations or extensions and to outline the more

favorable ground for uranium discovery by providing additional subsurface control. Houston Pool and Mincon request that if any of the proposed holes are found to be in an unfavorable area geologically, as determined from results of previous drilling, that this footage be saved and applied to more favorable locations as approved by a DMEA Field Team.

Phase II drilling will be around holes which contain mineralization, or which exhibit criteria usually used in the field to determine favorability for uranium mineralization, or in areas of favorable geology outlined in Phase I and 1955 drilling. A minimum hole spacing of 50 feet horizontally will be used. Obviously, at this time, a logical selection of locations for all of these Phase II holes cannot be made until the Phase I drilling is well-advanced. A total of 23 holes (5,060 feet) is recommended for this phase.

A geologic assistant will be employed to supervise logging and sampling at all times. Drilling contractors will be required to keep an accurate drill log. The core as pulled will be arranged in proper sequence in covered cardboard storage boxes. The geologist or assistant will examine and describe the core completely, keeping his descriptions in a bound field book, and will later transfer these data to forms provided. The core will be checked with a field gamma-ray detection device, and if mineralization is detected, the core will be sampled and samples sent to a commercial assayor for determination of percentage content of U_3O_8 and $CaCO_3$. All holes will be radiometrically probed as soon as is practicable after total depth is reached and contractor shall make every effort to keep the hole in condition to enable probing to total depth or, at least, through the Shinarump formation.

(c) The work can start within 30 days from the date of the exploration project contract and be completed within 4 months. However, it is requested that the commencement date be adjusted in accordance with accessibility of the area after heavy winter snows.

(d) Ability of Applicant.

Mincon, a professional geology and engineering firm of Grand Junction, Colorado, will act as geologic consultant for this project. The background of the staff of Mincon, organized in 1954, is as follows:

D. James Edson, Jr., geologist-partner, graduated with a B.A. from Dartmouth College and M.A. from the University of Texas. His early experience has been with various producing oil and gas companies. Since his association with Mincon, Mr. Edson has planned and supervised exploration drilling programs

for Gateway Uranium and Lisbon Uranium Corporations on Beaver Mesa, for Blue Skies Uranium Corporation on Tenderfoot Mesa, for Balboa Mining Corporation on their Muddy River property opposite the Hidden Splendor Mine, and the exploration program for Houston Pool on their Elk Ridge claims. He has critically examined many uranium properties on the Colorado Plateau and outside the Plateau for various interests.

Milton R. Scholl, Jr., geologist-partner, graduated with a B.S. and M.A. Degree from the University of Texas. Mr. Scholl has prepared evaluations on many properties within the Colorado Plateau region and in New Mexico and Utah outside the Plateau. His early experience has been as geologist with several operating oil and gas companies. Most of 1955 he was acting as consultant to the Oil and Gas Division, Reynolds Mining Corporation.

Leon E. Litz, civil engineer-partner, received his B.S. and M.S. Degrees from Utah State Agricultural College. Mr. Litz is a registered land surveyor in New Mexico, Utah, and Colorado with experience in the Bureau of Public Roads and as engineer with Three States Natural Gas Company prior to his association with Mincon. Mr. Litz has had considerable experience in mine surveying, location work, claim surveying and road building.

The applicant, Houston Pool, is composed of the following:

Mr. Hubert Clift, Independent Operator (oil and gas), Houston, Texas.
Mr. D. J. Edson, President, Edson Petroleum Company, Houston, Texas.
Mr. E. M. Peeples, Vice-President, Edson Petroleum Co., Houston, Texas.
Mr. George Sawtelle, President, Kirby Petroleum Co., Houston, Texas.
Mr. W. C. Stroube, Independent Operator (oil and gas), Corsicana, Texas.

6. ESTIMATE OF COSTS

(a) Independent Contractors.

All drilling and bulldozer work necessary in the preparation of drill sites, access roads, etc., will be performed by independent contractors. The costs used in Schedule 2 are those generally charged in the Elk Ridge area of Utah. Since specific Phase II location recommendations have not been made, an estimate of cost of drilling for this phase is made using an average depth of 220 feet for 23 holes. Phase I drilling is estimated at $14,770 and Phase II at $10,580. Schedule 1 is a summary of Phase I drilling.

It is expected that as many locations as possible and as much access road as may be necessary will be constructed each time the bulldozer, or similar equipment is used, but possible changes in location necessitated by results of drilling may make additional trips necessary. Bulldozing and related work is estimated to cost $1,500. No blasting is thought to be necessary. The amounts to be paid independent contractors are estimated in Schedule 2.

(b) Labor, Supervision, Consultants.

Mincon will supervise the entire program and furnish geological and engineering service for $1,000 per month and expenses. A geologic assistant will be hired at $400 per month. The estimated costs of a draftsman and typist to prepare the required reports to DMEA are in Schedule 3.

(c) Operating Materials and Supplies.

Schedule 4 enumerates the costs of office supplies, map and drill log reproduction, and field supplies.

(d) Operating Equipment.

All will be furnished by Mincon or independent contractors.

(e) Rehabilitation and Repairs.

Not applicable.

(f) New Buildings, Improvements, Installations.

A trailer house on the property will be provided for technical personnel. The rental is $50 per month.

(g) Miscellaneous.

Schedule 5 lists the estimates for costs of accounting, Workmen's Compensation and employers' liability insurance, payroll taxes, chemical assay work, and core storage.

(h) Contingencies

Independent Contractors: The charges for drilling and coring are variable with the depth of the hole, and if hole depths are greater than estimated in Phase II drilling, a contingency must be added. Also, additional

charges may be necessary for waiting or standby time for probing, or for use of water instead of air. Also, more bulldozing work may be necessary than estimated. An increase of 15% is added to allow for increases in charges of independent contractors.

Labor, Supervision, Consultants: Prolongation of the project will increase these charges since they are based on a time factor. Ten (10) percent is added to account for prolongation.

Operating Material and Supplies: Twenty (20) percent is added to cover additional materials and reproduction services which may be required.

New Buildings, Improvements, Installations: Thirty (30) percent is added for prolongation of contract to cover additional trailer rental.

Miscellaneous: To allow for unforeseen taxes, additional analytical work, additional liability costs, or extra help, 20% is added.

7. (a) and (b)

Houston Pool will complete this exploration project for uranium and make such payments as will be required by the independent contractors, and for the expenses of labor, materials and supplies. The total cost of this project is estimated at $41,903.50, as summarized in Schedule 5. Reimbursement by DMEA will be at the rate of 75% of the allowable costs as stated in DMEA Order No. 1, Amended; Houston Pool will assume $10,475.87, which is 25% of the cost of this project.

Respectfully submitted,

MINCON

By D. James Edson, Jr.
D. James Edson, Jr.

Milton R. Scholl, Jr.
Milton R. Scholl, Jr.

Leon E. Litz
Leon E. Litz

March 9, 1956

MINCON
P. O. Box 270
Grand Junction, Colorado

APPLICATION FOR DMEA PROJECT ON THE ELK RIDGE PROPERTIES
PREPARED FOR HOUSTON POOL, c/o BOX 270, GRAND JUNCTION, COLORADO

SCHEDULE 1

SUMMARY OF PHASE I DRILLING

Hole No.	Est Elevation	Est Top/TrM	Est Total Depth	Est Non-Core	Est Core
S1-3	8620	8360	260	240	20
S1-5	8610	8330	280	260	20
S2-2	8640	8380	260	240	20
S3-2	8640	8415	225	205	20
S4-2	8650	8430	220	200	20
S5-2	8625	8370	255	230	25
S6-2	8600	8325	275	250	25
S9-2	8540	8270	270	245	25
S10-2	8510	8235	275	250	25
S12-2	8420	8220	200	185	15
S13A-1	8425	8150	275	250	25
S14-2	8470	8200	270	245	25
S16-2	8500	8230	270	260	10
S16-3	8460	8290	170	145	25
S18-2	8545	8275	270	245	25
S23-2	8700	8490	210	190	20
S24-2	8700	8490	210	190	20
SF1A-2	8710	8520	190	170	20
M3-1	8575	8515	60	40	20
M3-2	8550	8520	30	10	20
M5-2	8580	8450	130	110	20
M6-2	8675	8430	245	225	20
M7-2	8660	8430	230	210	20
M8-2	8690	8430	260	240	20
P2-2	8370	8150	220	205	15
P2-3	8370	8160	210	200	10
P5-2	8340	8130	210	190	20
P7-2	8380	8110	270	250	20
P8-2	8380	8100	280	260	20
P9-2	8400	8165	235	215	20
P14-2	8400	8180	220	190	30
WG2-1	8520	8450	70	50	20
Totals 32 Holes			7,055 Ft.	6,395 Ft.	660 Ft.
Cost				$12,790.00	$1,980.00

Total Cost of Phase I Drilling - $14,770.00

MINCON
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Grand Junction, Colorado

APPLICATION FOR DMEA PROJECT ON THE ELK RIDGE PROPERTIES
PREPARED FOR HOUSTON PCOL, c/o BOX 270, GRAND JUNCTION, COLORADO

SCHEDULE 2

AMOUNTS TO BE PAID INDEPENDENT CONTRACTORS

Service	Unit	No. of Units	Cost/Unit	Cost/Project	Total Cost
Drilling Contractor					
Phase I					
Non-Core	Ft.	6,395	$ 2.00	$12,790.00	
Core	Ft.	660	3.00	1,980.00	
32 Holes		7,055		$14,770.00	$14,770.00
Phase II (Avg. 220 Ft.)					
Non-Core	Ft.	4,600	2.00	$ 9,200.00	
Core	Ft.	460	3.00	1,380.00	
23 Holes		5,060		$10,580.00	10,580.00
Totals	Ft.	12,115	$ 2.092		$25,350.00
Heavy Equipment Contr.					
Moving Time	Round Trip	3	$100.00	$ 300.00	
Equipment Rental	Day	12	100.00	1,200.00	
			0.124	$ 1,500.00	1,500.00
GRAND TOTAL			$ 2.206		$26,850.00

MINCON
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APPLICATION FOR DMEA PROJECT ON THE ELK RIDGE PROPERTIES
PREPARED FOR HOUSTON POOL, c/o BOX 270, GRAND JUNCTION, COLORADO

SCHEDULE 3

LABOR, SUPERVISION, CONSULTANTS

Service	Cost/Hr	Cost/Day	Cost/Mo	Cost/Project	Cost/Unit
Mincon Fees			$1,000.00	$4,000.00	$0.330
Mincon Expenses		$10.00	250.00	1,000.00	0.083
Drafting (20 Hours/Mo)	$3.00		60.00	240.00	0.020
Typist (40 Hours/Mo)	2.25		90.00	360.00	0.030
Geologist Assistant			400.00	1,600.00	0.132
Assistant's Expenses		4.00	100.00	400.00	0.033
Totals				$7,600.00	$0.628

SCHEDULE 4

OPERATING MATERIALS & SUPPLIES

	Cost/Mo	Cost/Project	Cost/Unit
Office Supplies, Map & Log Reproduction	$100.00	$400.00	$0.033
Field Supplies (stakes, core boxes, gamma-ray device batteries, flagging, etc.)		300.00	0.024
Totals		$700.00	$0.057

SCHEDULES 3 & 4

MINCON
P. O. Box 270
Grand Junction, Colorado

APPLICATION FOR DMEA PROJECT ON THE ELK RIDGE PROPERTIES
PREPARED FOR HOUSTON POOL, c/o BOX 270, GRAND JUNCTION, COLORADO

SCHEDULE 5

MISCELLANEOUS

	Cost/Mo	Cost/Project	Cost/Unit
Payroll Tax, Blue Cross	$ 57.00	$ 228.00	$0.020
Accounting & Office Costs	100.00	400.00	0.033
Analytical Work (U_3O_8, $CaCO_3$, Assays) 110 Assays @ $5.50		605.00	0.050
Storage of Cores (2 years)	3.00	72.00	0.006
Totals	$160.00	$1,305.00	$0.109

SCHEDULE 6

RECAPITULATION OF COSTS

MF-103 Headings	Cost/Project	Cost/Unit
6a Independent Contractors (Schedule 2)	$26,850.00	$2.206
6b Labor, Supervision, Consultants (Schedule 3)	7,600.00	0.628
6c Operating Materials & Supplies (Schedule 4)	700.00	0.057
6d Operating Equipment		
6e Rehabilitation, Repair		
6f New Buildings, Installations	200.00	0.016
6g Miscellaneous (Schedule 5)	1,305.00	0.019
6h Contingencies		
For (a) above - 15%	4,027.50	0.332
For (b) above - 10%	760.00	0.063
For (c) above - 20%	140.00	0.012
For (f) above - 30%	60.00	0.005
For (g) above - 20%	261.00	0.021
Total Cost of Project (12,115 feet)	$41,903.50	$3.45
DMEA Participation	$31,427.63	
Houston Pool Participation	$10,475.87	

SCHEDULES 5 & 6

ASSIGNMENT

STATE OF UTAH)
)
COUNTY OF SAN JUAN)

Mark B. Jenson and wife, Margaret Jenson, of Grand Junction, Colorado (herein called "Assignor"), in consideration of the covenants and provisions herein contained and the sum of $10.00 and other cash consideration paid to Assignors by the Assignee named below, the receipt and sufficiency of all of which is hereby acknowledged, has granted, bargained, sold and conveyed, and by these presents does grant, bargain, sell and convey unto William G. Dwyer of Grand Junction, Colorado (herein called "Assignee"), his heirs and assigns, all of those certain unpatented mining claims situated in San Juan County, Utah, more fully described in Exhibit A attached hereto and incorporated herein for all purposes, and the reversions remainders, rents, issues and profits thereof, and all of Assignors' rights, titles, interests and claims in and to the lands and premises covered or affected by said claims;

Together with all and singular the hereditaments and appurtenances thereunto belonging or in anywise appertaining;

To have and to hold the same unto Assignee, his heirs and assigns, forever, subject to the remaining terms and provisions of this Assignment, and Assignors hereby warrant and agree to defend the title to said mining claims against all claims and demands arising by, through or under Assignors, but no further.

1. Assignee agrees to commence a drilling program on said claims by June 1, 1955, and by January 1, 1956, to drill at least one hole per claim through the sandstone unit at the base of the Chinle formation (usually referred to as the Shinarump) or to a depth of 250 feet, whichever is the lesser, or to such greater depth as Assignee shall elect; provided, Assignee shall not be obligated to drill any claim or claims, as to which there is a substantial title defect, but if Assignee decides not to drill such claims, he must reassign them to Mark B. Jenson by special warranty deed prior to July 1, 1955. The reassignment shall relieve Assignee of any obligation to drill on the claim or claims so reassigned. Where it is possible to do so, Assignee may test said sandstone member by excavation from the surface or at the rim outcropping in lieu of drilling a hole.

2. Assignee agrees to complete at least 20,000 feet of drilling (including the drilling completed under the provisions of paragraph No. 1) on said claims by October 1, 1956, such drilling to be at locations of Assignee's choice; provided, should Assignee conclude prior to the

EXHIBIT B

completion of such drilling program that further drilling is not warranted under the circumstances then existing, Assignee may reassign to Mark B. Jensen all of the claims covered hereby, by special warranty deed, at any time prior to October 1, 1956, and be relieved thereby of any obligation to do any further drilling on said claims.

3. Prior to the first day of July of each year, Assignee agrees to perform $100.00 worth of labor or make $100.00 worth of improvements on each claim then held by him, and to file the necessary affidavit of such fact required by the statutes of Utah, within the time period therein prescribed.

4. On or before October 1, 1956, Assignee shall select those claims, if any, which he wishes to retain and shall reassign the remaining claims to Mark B. Jenson, by special warranty deed, and on or before said date Assignee shall pay Mark B. Jenson an advance royalty on the retained claims at the rate of $75.00 per full acre included within the outside boundaries of the areas covered by the claims so retained. Should Assignee elect to retain less than all of the claims covered hereby (unless the failure to select the remaining claims is based on a valid title defect), the advance royalty shall be computed at the rate of $150.00 per full acre included within the outside surface boundaries of the areas covered by the claims retained, and in all events Assignee must pay a minimum advance royalty of $30,000.00 if he elects to retain any of the claims, even if the retained claims cover less than 200 acres.

5. There is retained unto Mark B. Jenson, his heirs and assigns, a royalty of ten percent (10%) of the gross value of all ores, metals or minerals mined and sold from the mining claims retained by Assignee hereunder, and the same percentage of any production bonus paid Assignee, his heirs or assigns, on such ore by any govermental agency, but not including, however, any sums paid by any govermental agency as haulage or development allowance. The advance royalty mentioned in paragraph No. 4 shall apply against the royalty retained in this paragraph, and shall fully satisfy to the amount thereof the first royalty otherwise payable under the provisions of this paragraph, but Mark B. Jenson shall be entitled to retain such advance royalty even if production is never secured from said claims.

6. Assignee shall mail periodic reports addressed to Mark B. Jenson, % Judge F. W. Keller, Price, Utah, summarizing the drilling progress made on the claims during the period covered and the geologic data assembled therefrom. The reports shall be made monthly following each of the first three calendar months during which drilling operations are conducted and shall be made quarterly thereafter. No reports need be submitted, of course, for a period during which no drilling operations are conducted.

7. On or before October 1, 1956, Assignee must (a) commence operations for the mining of the claims retained by him, or (b) pay Mark B. Jenson $10,000.00 for the privilege of deferring the commencement of such operations until October 1, 1957. If Assignee defers the commencement of operations under the election granted him in the preceding sentence, then on or before October 1, 1957, Assignee must (a) commence operations for the mining of such claims, or (b) pay Mark B. Jenson $10,000.00 for the privilege of deferring the commencement of such operations until October 1, 1958. If Assignee defers the commencement of such operations until October 1, 1958, under the election granted him in the two preceding sentences, then he shall not be entitled to any further deferments and on or before October 1, 1958, shall commence operations for the mining of such claims or, upon written demand by Mark B. Jenson, he shall reassign such claims to Mark B. Jenson by special warranty deed. Once operations have commenced for the mining of such claims, Assignee shall mine the properties in a miner-like fashing and with reasonable diligence and continuity, except when the weather or other factors beyond Assignee's control prevent such operations, but Assignee may reassign any of the claims held by him to Mark B. Jenson at any time, by special warranty deed, and be relieved thereby of any and all obligations to further mine or develop the claims so reassigned.

8. Assignee agrees to promptly pay as the same become due: (a) all lawful taxes assessed against his interest in each claim covered hereby, (b) all lawful taxes assessed against his share of the mineral production from each such claim, and (c) all costs and expenses incurred by Assignee for labor and materials in exploring and developing such claims. Further, Assignee agrees to save Assignors harmless from any and all liability in connection with the matters mentioned in the preceding sentence, and agrees not to suffer or allow valid liens to be filed or remain on such claims therefor. Assignee agrees to carry such workmen's compensation insurance on his employees engaged in exploration and mining activities on these claims as is required by the statutes of Utah.

9. The rights of either party hereto may be assigned in whole or in part, and the provisions hereof shall extend to their heirs, successors and assigns, but no change or division in ownership of the claims or royalties, however accomplished, shall operate to enlarge the obligations or diminish the rights of Assignee, and no change or division in such ownership shall be binding on Assignee until 30 days after Assignee shall have been furnished by registered U. S. Mail at P. O. Box 270, Grand Junction, Colorado, with a certified copy of the instruments evidencing same. In the event any of the claims covered hereby are assigned in whole or in part, liability for the breach of any obligation hereunder shall rest exclusively upon the owner of the claims on or as to which a breach has been committed.

10. The provisions of this Assignment, and the provisions of the Collateral Agreement of even date between the parties hereto and others, to which this Assignment is here made expressly subject, shall be binding upon and inure to the use and benefit of the parties hereto, the parties to said Collateral Agreement, and the heirs and assigns of said parties.

Witness the execution hereof, in two counterparts, each of which shall be an original for all purposes, this the 24th day of March, 1955.

/s/ Mark B. Jenson
Mark B. Jenson

/s/ Margaret Jenson
Margaret Jenson

/s/ William G. Dwyer
William G. Dwyer

State of Colorado)
)
County of Mesa)

On the 25 day of March, 1955, personally appeared before me Mark B. Jenson, Margaret Jenson, and William G. Dwyer, the signers of the above instrument, who each duly acknowledged to me that he or she executed the same.

Witness my hand and official seal.

/s/ John Huck
, Notary Public

(SEAL)

My commission expires November 11, 1957, and my residence is at Grand Junction, Mesa County, Colorado.

$5.50 in Revenue Stamps attached and cancelled.

EXHIBIT A

(Attached to an Assignment from Mark B. Jenson and wife, Margaret Jenson, to William G. Dwyer, dated March 24, 1955.)

Those certain unpatented mining claims lying in Townships 35 and 36 South, Range 18 East, S.L.P.M., San Juan County, Utah, more fully described as follows:

Name of Claim	Date of Recording	Entry No.	Book	Page
Mecca #1	9/24/54	K3422	197	156
Mecca #2	"	K3423	"	156
Mecca #3	"	K3424	"	157
Mecca #4	"	K3425	"	157
Mecca #5	"	K3426	"	158
Mecca #6	"	K3427	"	158
Mecca #7	"	K3428	"	159
Mecca #8	"	K3429	"	159
Mecca #9	"	K3430	"	160
Star #1	9/13/54	J11538	183	337
Star #2	"	J11539	"	338
Star #3	"	J11540	"	339
Star #4	"	J11541	"	340
Star #5	"	J11542	"	341
Star #6	"	J11543	"	342
Star #7	"	J11544	"	343
Star #8	"	J11545	"	344
Star #9	"	J11546	"	345
Star #10	"	J11547	"	346
Star #11	"	J11548	"	347
Star #12	"	J11549	"	348
Star #13	"	J11550	"	349
Star #14	"	J11551	"	350
Star #15	"	J11552	"	351
Star #16	"	J11553	"	352
Star #17	"	J11554	"	353
Star #18	"	J11555	"	354
Star #19	"	J11556	"	355
Star #20	"	J11557	"	356
Star #21	"	J11561	"	360
Star #22	"	J11560	"	359
Star #23	"	J11559	"	358
Star #24	"	J11558	"	357

Name of Claim	Date of Recording	Entry No.	Book	Page
Pine #1	9/16/54	K546	189	385
Pine #2	"	K547	"	386
Pine #3	12/17/54	M2232	259	454
Pine #4	"	M2233	"	455
Pine #5	"	M2234	"	456
Pine #6	"	M2235	"	457
Pine #7	"	M2236	"	458
Pine #8	"	M2237	"	459
Pine #9	"	M2238	"	460
Pine #10	"	M2239	"	461
Pine #11	"	M2240	"	462
Pine #12	"	M2241	"	463
Pine #13	"	M2242	"	464
Pine #14	"	M2243	"	465

Entry No. N3741
Recorded 4-21-55 at 9:37 A.M.
Book 299 - Pages 258 - 263
San Juan County Recorder

AMENDMENT

For ten dollars ($10.00) to the undersigned in hand paid, and other good and valuable consideration, the receipt and sufficienty of which is hereby acknowledged, the undersigned agree that paragraph numbered 1 of the Assignment dated March 24, 1955, from Mark B. Jenson and wife, Margaret Jenson, to William G. Dwyer, recorded in Book 299, Page 263, in the office of the Recorder of San Juan County, Utah, is amended to read as follows:

> "1. Assignee agrees to commence an exploration program on said claims by June 15, 1955, and by January 1,1956, to test the sandstone unit at the base of the Chinle formation (usually referred to as the Shinarump) J.W.K. of each claim by excavation thereon from the surface or at the rim outcropping, or by drilling thereon a hole through said sandstone unit, or to a depth of 250 feet, whichever is the lesser, or to such greater depth as Assignee shall elect. Provided, Assignee shall not be obligated to drill or test by excavation any claim or claims as to which there is a substantial title defect, but if Assignee decides not to drill such claim or claims, he must reassign them to Mark B. Jenson by special warranty deed prior to July 1, 1955."

This Amendment may be executed in any number of counterparts, and each counterpart shall be binding on the parties executing same.

Executed this 23rd day of May, 1955.

/s/ Mark B. Jenson
Mark B. Jenson

/s/ Margaret Jenson
Margaret Jenson

/s/ James O. Stewart
James O. Stewart

/s/ Maude Stewart
Maude Stewart

/s/ Spenst C. Chapman
Spenst C. Chapman

/s/ George A. Allred
George A. Allred

/s/ Christine Allred
Christine Allred

/s/ Elmer R. Scovill
Elmer R. Scovill

/s/ Elva Scovill
Elva Scovill

/s/ F. W. Keller
F. W. Keller

/s/ Mabel D. Keller
Mabel D. Keller

/s/ William G. Dwyer
William G. Dwyer

COLLATERAL AGREEMENT

This Collateral Agreement is executed as a part of, and for the same considerations as, the Assignment of even date herewith from Mark B. Jenson (herein called "Jenson") and his wife, Margaret Jenson, of Grand Junction, Colorado, to William G. Dwyer, of Grand Junction, Colorado, (herein called "Dwyer"), covering certain unpatented mining claims in San Juan County, Utah, more fully described therein.

I

James O. Stewart and Maude Stewart, his wife, George A. Allred and Christine Allred, his wife, Elmer R. Scovill and Elva Scovill, his wife, F. W. Keller and Mabel D. Keller, his wife, and Spenst C. Chapman, an unmarried man, each and all residents of the State of Utah (herein collectively called "Ratifiers") have consented to, ratified and adopted, and do hereby consent to, ratify and adopt said Assignment, and each and every provision contained therein to the same extent and with the same effect as if Ratifiers, and each of them, had been named as Assignors along with Jenson and his wife in said Assignment and had executed and acknowledged said instrument as Assignors at the same time and with the same formalities as Jenson and his wife.

II

Ratifiers have granted, bargained, sold and conveyed, and by these presents do grant, bargain, sell and convey unto Dwyer, his heirs and assi_ns, forever, without covenants of warranty, all of the mining claims, interests, properties and estates described in said Assignment and in Exhibit A attached thereto, subject, nevertheless, to the terms and conditions as in said Assignment provided.

III

Ratifiers, joined by Jenson and his said wife Margatet Jenson, do hereby agree for themselves, their heirs and assigns as follows:

(a) That all reassignments allowed under the provisions of said Assignment shall be made to Jenson alone; it is understood and agreed, nevertheless, between said Jenson and the Ratifiers that in any of the claims reassigned said Jenson and the Ratifiers, George A. Allred, Elmer R. Scovill, F. W. Keller, James O. Stewart, and Spenst C. Chapman will own an undivided one-sixth interest;

(b) That all payments of royalty, including advance royalty, made under the provisions of said Assignment shall be paid to the Carbon Emery Bank at Price, Utah, or to any successor bank, for the use and benefit of Mark B. Jenson, James O. Stewart, Spenst C. Chapman, George A. Allred, Elmer R. Scovill and F. W. Keller, or their heirs or assigns of which Dwyer has been notified under the provisions of Paragraph No. 9 of said Assignment.

IV

It is contemplated that Dwyer may assign a portion of the title acquired by him under said Assignment to George Sawtelle, W. C. Strouble, Hubert E. Clift, E. M. Peeples, Jr., Dwight J. Edson, each and all residents of Texas, and/or his present business partners in Grand Junction, Colorado. Should Dwyer or any of the persons mentioned in the preceding sentence sell his or their interest in said claims or any part thereof and receive in payment or as a part thereof, stock warrants in a corporation, he or they must offer Jenson twenty percent of said warrants at a sum not to exceed twenty percent of the costs and expenses incurred by the sellers for said warrants, and Jenson shall have 15 days from the receipt of such offer within which to accept and pay for his share of said warrants. This provision shall apply only to stock warrants and not to stock or any other form of consideration received by the sellers and shall not be applicable, but shall be completely void once the title of each such person has passed from him to his heirs or assigns.

V

Said Jenson agrees with the ratifiers, James O. Stewart, Spenst C. Chapman, George A. Allred, Elmer R. Scovill and F. W. Keller that in the event he has an offer or offers as provided in the foregoing paragraph that within five days after receiving such offer or offers he will notify each of said Ratifiers that he has received the same and give to each of said Ratifiers an opportunity within the period in which such offer or offers must be accepted to purchase a one-sixth interest in such stock warrants upon the same terms and conditions as the same are offered to said Jenson.

Witness the execution hereof, in two counterparts, each of which shall be an original for all purposes, this the 24th day of March, 1955.

/s/ Mark B. Jenson
Mark B. Jenson

/s/
Margaret Jenson

/s/ James O. Stewart
James O. Stewart

/s/ Maude Stewart
Maude Stewart

/s/ William G. Dwyer
William G. Dwyer

/s/ Spenst C. Chapman
Spenst C. Chapman

/s/ George A. Allred
George A. Allred

/s/ Christine Allred
Christine Allred

/s/ Elmer R. Scovill
Elmer R. Scovill

/s/ Elva Scovill
Elva Scovill

/s/ F. W. Keller
F. W. Keller

/s/ Mabel D. Keller
Mabel D. Keller

State of Colorado)
: SS.
County of Mesa)

On the 25 day of March, 1955, personally appeared before me Mark B. Jenson, Margaret Jenson and William G. Dwyer, the signers of the above instrument, who each duly acknowledged to me that he or she executed the same.

Witness my hand and official seal.

/s/ John Huck
Notary Public

(SEAL)

My Commission expires: May 11, 1957
And my residence is at Grand Junction, in Mesa County, Colorado.

State of Utah)
: SS.
County of Carbon)

On the 24th day of March, 1955, personally appeared before me James O. Stewart and his wife, Maude Stewart, George A. Allred and his wife, Christine Allred, Elmer R. Scovill and his wife, Elva Scovill, F. W. Keller and his wife, Mabel D. Keller, and Spenst C. Chapman, the signers of the above instrument, who each duly acknowledged to me that he or she executed the same.

Witness my hand and official seal.

/s/ David W. Bartley
Notary Public

My commission expires:
May 22, 1955
And my residence is at Price, in Carbon County, Utah

(SEAL)

DEED

STATE OF COLORADO

COUNTY OF MESA

William G. Dwyer (herein called "Assignor"), for good and valuable consideration, has granted, bargained, sold, and conveyed, and by these presents does grant, bargain, sell and convey unto Mark B. Jenson (herein called "Assignee"), his heirs and assigns, those certain unpatented mining claims named below and situated in San Juan County, Utah, the Notices of Location for which are recorded as follows:

Name of Claim	San Juan County Recorder's Office	
	Book	Page
Mecca #1	197	156
Mecca #2	197	156
Mecca #9	197	160
Pine #3	259	454
Pine #4	259	455

and the reversions, remainders, rents, issues and profits thereof, and all of Assignor's rights, titles, interest and claims in and to said claims;

To have and to hold the same unto Assignee, his heirs and assigns, forever, and Assignor hereby warrants and agrees to defend the title to said mining claims against all claims and demands arising by, through or under Assignor, but no further.

Witness the execution hereof, in two counterparts, each of which shall be an original for all purposes, this the 30th day of June, 1955.

/s/ William G. Dwyer
William G. Dwyer

State of Colorado)
)
County of Mesa)

On the 30th day of June, 1955, personally appeared before me William G. Dwyer, the signer of the above instrument, who duly acknowledged to me that he executed the same.

Witness my hand and official seal.

(SEAL)

Notary Public
My commission expires:
And my residence is at Grand Junction, in Mesa County, Colorado

EXHIBIT E

154

DEED

THE STATE OF UTAH)
)
COUNTY OF SAN JUAN)

KNOW ALL MEN BY THESE PRESENTS, THAT:

WILLIAM G. DWYER of Houston, Texas, formerly of Grand Junction, Colorado (herein called "Assignor"), in consideration of Ten Dollars ($10.00) and other consideration paid to Assignor by the Assignee named below, the receipt and sufficiency of which is hereby acknowledged, has GRANTED, BARGAINED, SOLD and CONVEYED, and by these presents does GRANT, BARGAIN, SELL and CONVEY unto D. James Edson, Jr., of Grand Junction, Colorado (herein called "Assignee"), his heirs and assigns, the unpatented mining claims named below, situated in Sections 26, 27 and 36, Township 35 South, Range 18 East, and in Sections 2 and 11, Township 36 South, Range 18 East, SLM&B, San Juan County, Utah, the Location Notices and Amended Location Notices for which are recorded in the office of the Recorder of said County, as follows:

Name of Claim	San Juan County Recorder's Office Book	Page
Willy G #1	317	360
"	38	330
Willy G #2	317	360
"	38	330
Willy G #3	317	361
"	38	331
Pine #1	189	385
"	38	331
"	64	419
Pine #1A	40	21
"	64	419
Pine #2	189	386
"	38	332
"	64	420
Pine #5	259	456
"	50	281
"	64	420
Pine #6	259	457
"	50	281
"	64	421

Name of Claim	San Juan County Recorder's Office Book	Page
Pine #7	259	458
"	50	282
"	64	421
Pine #8	259	459
"	50	282
"	64	422
Pine #9	259	460
"	50	283
"	64	422
Pine #10	259	461
"	50	283
"	64	423
Pine #11	259	462
"	50	284
"	64	423
Pine #12	259	463
"	50	284
"	64	424
Pine #13	259	464
"	50	285
"	64	424
Pine #14	259	465
"	50	285
"	64	425
Pine #15	56	174
Pine #16	317	361
"	38	332
"	64	425
Pine #17	317	362
"	50	286
"	64	426
Pine #18	56	174
Mecca #3	197	157
"	38	345
"	64	416
Mecca #4	197	157
"	50	286
"	64	416
Mecca #5	197	158
"	38	345
"	64	417
Mecca #6	197	158
"	38	346
"	64	417

45 16

Name of Claim	San Juan County Recorder's Office Book	Page
Mecca #7	197	159
"	38	346
"	64	418
Mecca #8	197	159
"	38	347
"	64	418
Star #1	183	337
"	38	333
"	64	426
Star #2	183	338
"	38	333
"	64	427
Star #3	183	339
"	38	334
"	64	427
Star #4	183	340
"	38	334
"	64	428
Star #5	183	341
"	38	335
"	64	428
Star #5A	40	18
"	64	429
Star #6	183	342
"	38	335
"	64	429
Star #7	183	343
"	38	336
"	64	430
Star #8	183	344
"	38	336
"	64	430
Star #8A	40	18
"	64	431
Star #9	183	345
"	38	337
"	64	431
Star #10	183	346
"	38	337
"	64	432
Star #11	183	347
"	38	338
"	64	432

43

15

Name of Claim	San Juan County Recorder's Office Book	Page
Star #12	183	348
"	38	338
"	64	433
Star #13	183	349
"	38	339
"	64	433
Star #13A	40	19
"	64	434
Star #14	183	350
"	38	339
"	64	434
Star #15	183	351
"	38	340
"	64	435
Star #16	183	352
"	38	340
"	64	435
Star #16A	40	19
"	64	436
Star #17	183	353
"	38	341
"	64	436
Star #18	183	354
"	38	341
"	64	437
Star #18A	40	20
"	64	437
Star #19	183	355
"	38	342
"	64	438
Star #20	183	356
"	38	342
"	64	438
Star #21	183	360
"	38	343
Star #21A	40	20
"	64	439
Star #22	183	359
"	38	343
"	64	439
Star #23	183	358
"	38	344
"	64	440
Star #24	183	357
"	38	344
Star Fraction #1A	56	175

46

18

This conveyance is subject to the royalties, deferred payments, obligations, and all of the other terms and provisions contained and provided for in the Assignment from Mark B. Jenson et ux to Assignor dated March 24, 1955, recorded in Book 299 at Page 258 in the Office of the Recorder of San Juan County, Utah as amended by an instrument executed by Mark B. Jenson et ux et al under date of May 23, 1955, and is also subject to the terms and provisions of the Collateral Agreement referred to in said Assignment, being a Collateral Agreement dated March 24, 1955, between Assignor and Mark B. Jenson et ux et al.

This deed is executed without covenant or warranty of any kind, express or implied, except that neither Assignor nor his wife is or ever has been a resident of the State of Utah.

WITNESS THE EXECUTION HEREOF this the 6th day of February, 1956.

/s/ William G. Dwyer
William G. Dwyer

STATE OF TEXAS)
)
COUNTY OF HARRIS)

On the 6th day of February, 1956, personally appeared before me WILLIAM G. DWYER, the signer of the above instrument, who duly acknowledged to me that he executed the same.

WITNESS MY HAND AND OFFICIAL SEAL.

/s/ Lois Bates O'Brien
Notary Public in and for
Harris County, T e x a s.

My commission expires June 1st, 1957 and my residence is at Houston, Harris County, Texas.

Entry No. P-8395
Recorded 2-18-56 At 10:05 A.M.
Book 94, Pages 146 to 150
San Juan County Recorder

MINCON
MINERAL CONSULTANTS—GEOLOGICAL AND ENGINEERING
P. O. Box 270 Phone 3811
740 Main Street
GRAND JUNCTION, COLORADO

February 17, 1956

Houston Pool No. 1

Gentlemen:

This letter will evidence the fact that I am holding in trust for you the title to an undivided 1/5 of 3/4 interest in and to the unpatented mining claims named and described in the attached Deed from William G. Dwyer to me dated February 6, 1956, covering the Willy G, Pine, Mecca, Star and Star Fraction groups of claims situated in San Juan County, Utah, subject to the royalties, deferred payments, obligations and matters mentioned in this Deed.

Very truly yours,

/s/ D. James Edson, Jr.
D. James Edson, Jr.

DJE/ep

Attach:

cc: Mr. Hubert Clift
1049 San Jacinto Building
Houston 2, Texas

Mr. W. M. Peeples, Jr.
1537 Esperson Building
Houston 2, Texas

Mr. George Sawtelle
P. O. Box 1745
Houston 1, Texas

Mr. Dwight J. Edson
1537 Esperson Building
Houston 2, Texas

Mr. W. C. Stroube
Corsicana, Texas

EXHIBIT C

DRILL HOLE LOG

MINCON
Logged For P.O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill.....

Drill-hole No. M-41
Total depth 38
Collar elev. 8529.0 T..... P
Area Cherry Canon, Elk Ridge

COORDINATES
North..... East.....
Tie.....

Claim Mecca #4
Date started.....
Date completed 7/10/55
Logged by A. Mark, A. Eisenberg

Summary of log.....; OBSS.....; Thick.....; SS color.....; MS..... under OBSS; Cbn.....

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	37.0					Plug bit - overburden
37.0	37.6					Moenkopi cuttings - slump area.
						Couldn't find any thickness of sand. Hit TrS congl in cuttings several times, but no thickness decided not to core.
						TrM ∠ 8492.0 (?)

γ-Ray Log
0 — 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant

OBSS—ore bearing sandstone

EXHIBIT H

Hole No. M-41

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. M-51
Total depth 27.8
Collar elev. T 8494.9 P
Area Cherry Canon, Elk Ridge

COORDINATES
North East
Tie

Claim Mecca #5
Date started
Date completed 7/10/55
Logged by A. Mark, A. Eisenberg.

Summary of log : OBSS Thick. ; SS color ; MS. under OBSS : Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	DESCRIPTION REMARKS
0.0	20.0					Plug bit - overburden
20.0	20.3	Sh	D Gy/Bk		A	Fern & reed fossils
20.3	20.4	Congl	L Gy/Pp		N	Mottled TrM
20.4	27.8	St	D R		N	Mottled L Gy Sh. - Micaceous
						Plug 0 - 20.0
						Cored 20.0 - 27.8
						TrM ≠ 8474.5 (?)

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. M-51

DRILL HOLE LOG

MINCON
P. O. Box 270
GRAND JUNCTION, COLORADO

Logged For

Type of Drill

Drill-hole No. M-61
Total depth 230.0
Collar elev. 8655.8 T 8655.8 P
Area Cherry Canon, Elk Ridge

COORDINATES
North East
Tie

Claim Mecca #6
Date started
Date completed 7/11/55
Logged by A. Mark

Summary of log : OBSS Thick : SS color : MS under OBSS Con.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	4.0					Overburden - humus
4.0	48.0	SS	L Yw/LBr	MF	N	Lim stain inc. dwn'd.
48.0	51.0	SS	D Br	MF	N	Very wet.
51.0	53.0	Clay	D Yw		N	
53.0	145.0	Sh/St.	DBl Gy/ Gy		N	Shale, limey; thin beds hard SS or Ch. v. wet.
145.0	154.0	Ch	L Gy	F	N	Hard, micaceous
154.0	218.0	Sh/St.	L Gy/DR		S-A	Thin stringers LGy-BlGy clayey SS.
218.0	220.4	SS/CG	L Gy	C	A	Coring started 220'. Large Qtz P, heavy Cbn, oil shows.
220.4	220.5	St	L Gn		N	Micaceous TrM
220.5	230.0	St	D R		N	Micaceous, mot. Gy-Gn.

4.0 - 53.0 TrCS
53.0 -218.0 Tr C
218.0- 220.4 TrS (3.4')
220.4- 230.0 TrM (/8435.4)

Plug 0.0 - 218.0
Cored 218.0 - 230.0

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. M-61

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. M-71
Total depth 240.0
Collar elev. 8653.3 T 8653.7 P
Area Cherry Canon, Elk Ridge

COORDINATES
North East
Tie

Claim Mecca #7
Date started
Date completed 7/19/55
Logged by A. Mark

Summary of log ; OBSS. Thick. ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	3.0					Overburden
3.0	58.0	SS	L Yw/DYw	MF	N	Lim stain incr dwn'd.
58.0	61.0	Ch	L Gy	C	N	Hard, some Qtz. grains R & Bn
61.0	134.0	MS	Gy-GyGn		N	S D R mott.
134.0	159.0	SS	Yw	MF	N	Micaceous. S-A Gy MS in SS
159.0	160.0	SS	Yw	MF	C	S Cbn shows.
160.0	210.0	Sh//St.	Gy//Pp		N	D R mot in Gy sh.
210.0	228.0	St	D Gy/Pp		N	S-D-Yw clay mot. / D Pp mot. becoming micaceous dwn'd.
228.0	228.3	Sh St.	Gy		N	
228.3	236.3	Ss//Cgl	L Gy		S-A	Heavy Cbn-oil smell.
236.3	236.5	St	L Gn		N	Micaceous TrM altered zone
236.5	240.0	St	D Bn		N	Micaceous mot. L Gy-Gn.

Plug 0.0 - 210.0
Cored 210.0 - 240.0

3.0 - 55.0 Tr C S
55.0 -228.3 Tr C
228.3 -236.3 Tr S (8.0')
236.3 -240.0 TrM (/8417.4)

y-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant

OBSS—ore bearing sandstone

EXHIBIT H

Hole No. M-71

DRILL HOLE LOG

MINCON
Logged for P.O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. M-81
Total depth 250.0
Collar elev. 8651.2 T 8651.2 P
Area Cherry Canon, Elk Ridge

COORDINATES
North East
Tie

Claim Mecca #8
Date started
Date completed 7/27/55
Logged by A.Mark

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	5.0					Overburden
5.0	55.0	SS	LYw/Bn	MF	N	S-A Lim Stain
55.0	137.0	Sh	Gy		N	
137.0	138.0	MS	Gy		A	
138.0	141.0	MS	Gy		N	
141.0	145.0	Sh	DR		N	
145.0	153.0	MS	Gy		N	
153.0	185.0	SS				
185.0	220.0	Sh	DGy// DR		N	
220.0	240.0	St	DGy		S-A	A Cbn 223.3 - 230.4
240.0	241.7	St	DGy			S SS at 228.9-230.4. A Cbn 240-247
241.7	246.3	SS/CG	LGy		A	Qtz P thin stringer
						Pitchblende(?) 245.2-245.4
246.3	248.1	St	LGn		N	Micaceous
248.1	250.0	St	DBn		N	Mot LGn - Micaceous
						Plug 0.0 - 220.0
						Cored 220.0 - 250.0
						5.0 - 55.0 Tr C S
						55.0 - 241.7 Tr C
						241.7 - 246.3 Tr S (4.6')
						246.3 - 250.0 Tr M (#81:04.9)

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) eU_3O_8	FIELD EST. (%) V_2O_5
243.0					
243.4	0.4	0.00			
244.1					
245.2	1.1	0.02)	Av.	0.05	
245.4	0.2	1.49)	2.0	0.18	
246.1	0.7	0.07)			
245.4 (0.13% $CaCO_3$)					

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. M-81

DRILL HOLE LOG

MINCON
P. O. Box 270
GRAND JUNCTION, COLORADO

Logged For

Type of Drill

Drill-hole No. M-83A
Total depth 250.0
Collar elev. T 8652.2 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Mecca #8
Date started
Date completed 9/13/55
Logged by Agee

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	DESCRIPTION REMARKS
0.0	232.2	St-SS	Gy-R-Yw			(TrC / Tr Cm)
232.2	232.7	SS	Lt Gy	Med	A	V. silty
232.7	234.6	St	Dk Gy		A	Sdy. Tr. Pyr
234.6	238.7	SS	Lt Gy	Med.	A	V. silty. A. Pyr.
238.7	241.6	St	Lt Gy		S	Sl. Sdy.
241.6	242.0	St	R-Pp			Gy-Gn Mottling
242.0	242.5	St	R-Bn			Micaceous (Typ. TrM)
242.5	243.6	St	Pp		S	Sdy. A Gn MS in SS
243.6	244.0	SS	Lt Gy	Med		V. silty. mott. R-Bn w/TrM chips
244.0	245.8	St	Pp			Sdy., mottled Gy. bottom 3" are typ. Tr C. (R-Gn)
245.8	250.0	St	R-Bn			Mott. Gy-Gn stks. Micaceous

0.0 - 232.0 Tr CM / TrC
232.0 - 245.6 Tr S (13.6)
245.6 - 250.0 Tr M (/04.06.6)

Plug 0.0 - 232.2
Cored 232.2 - 250.0

Probed to 246.5'

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (U_3O_8)	LAB ASSAY (V_2O_5)	FIELD EST. (U_3O_8)	FIELD EST. (V_2O_5)
232.3	0.3			.04	

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. M-83A

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. P-11
Total depth 225.0
Collar elev. T 8411.2' P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Pine No. 1
Date started
Date completed 8/30/55
Logged by A. Mark - R. Agee

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	DESCRIPTION REMARKS
0.0	10.0					Overburden
10.0	35.0	SS	Yw			
35.0	50.0	St	D-R			
50.0	125.0	St	Gy			
125.0	140.0	St	Lt. Gy		Cbn	
140.0	220.0	St	D-R//Gy			
220.0	224.0	SS	Lt. Gy			224-225' = R. St
224.0	225.0	St	R-Bn			
						10.0 - 35.0 TrCM
						35.0 - 220.0 TrCl
						220.0 - 224.0 TrS (4.0')
						224.0 - 225.0 TrM (/8187.2)
						Plug 0.0 - 225.0
						Probed through D.P. to T.D. - No show.

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. P-11

DRILL HOLE LOG

MINCON
P. O. Box 270
GRAND JUNCTION, COLORADO

Logged For

Type of Drill

Drill-hole No. P-21
Total depth 190'
Collar elev. T. 8359.0 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Pine No. 2
Date started
Date completed 9/4/55
Logged by Agee

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	1.0					Overburden
1.0	10.0	SS	Yw			
10.0	80.0	St	Gy			
80.0	110.0	St-SS	Gy			
110.0	112.0	SS	Gy		S	
112.0	115.0	St-SS	Gy			
115.0	183.0	St-SS	Bn-Gy			
183.0	185.0	SS	Gy	M-Cse	S	
185.0	190.0	St	R			
						0.0 - 10.0 Tr CM
						10.0 - 183.0 Tr Cl
						183.0 - 185.0 Tr S (2.0)
						185.0 - 190.0 TrM (≠8174.0)
						Probed through D.P. to 184.9'
						Plug 0.0 - 190.0

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) eU_3O_8	FIELD EST. (%) V_2O_5
183.0	0.2'			.02	
110.0	0.2			.02	

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant

OBSS—ore bearing sandstone

EXHIBIT H

Hole No. P-21

DRILL HOLE LOG

MINCON
P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. P-51
Total depth 99.5
Collar elev. T 8246.2 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Pine #5
Date started
Date completed 7/15/55
Logged by A. Mark

Summary of log ; OBSS Thick ; SS color ; MS under OBSS Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	DESCRIPTION REMARKS
0.0	5.0					Overburden
5.0	9.0	SS	L-Yw/Br	MF	N	Lim stain
9.0	32.0	MS	D-R/Gy-Gn		N	
32.0	38.0	MS/Sh	Gn		N	
38.0	42.0	MS	Gn		N	Yw Bn P MS in SS
42.0	46.0	Ch	Gy/Yw R	C	S	Qtz P
46.0	93.0	Sh	LGy/D-R		N-S	Thin stringers of Gy-Gn Sh. S. Lim
93.0	95.0	SS/Cg	L Gy	C	N-S	Qtz P
95.0	99.5	St	L Gy/D-R		N	L Gy mottled

5.0 - 9.0 - TrC S
9.0 - 83.0 - TrC
93.0 - 95.0 - TrS (2.0')
95.0 - 99.5 - TrM (/8151.2)

Plug 0.0 - 46.0
Cored 46.0 - 99.5

y-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant

OBSS—ore bearing sandstone

EXHIBIT H

Hole No. P-51

DRILL HOLE LOG

MINCON
Logged For O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. P-61
Total depth 210.0
Collar elev. T 8341.3 P
Area Elk Ridge

COORDINATES
North
East
Tie

Claim Pine #6
Date started
Date completed 7/18/55
Logged by A. Mark

Summary of log : OBSS Thick : SS color : MS under OBSS : Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	56.0	SS	L-Yw/L-Br	MF	N	Lim stain, incr. dwn'd
56.0	57.3	SS	D-Gy/Bn	C	N	Qtz angular trags. V. hard
57.3	60.4	Ch	Gy/D-Gy		N	Very hard.
60.4	190.0	MS//Sh	Gy//D-Gy Pp//D-R		N	Some BlGn MS stringers
190.0	207.7	Sh	Gy		N	D-R mot.
207.7	210.0	Sh//St	Gy/Bn Gn		N	Transition zone Gn St. Mot. Bn micaceous.

0.0 - 207.7 TrC
207.7 - 210.0 TrC-TrM Transition Zone
TrM (8132.3)

Plug 0.0 - 190.0
Cored 190.0 - 210.0

γ-Ray Log
0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. P-61

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. P-71
Total depth 89.2
Collar elev. T 8239.7 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Pine No. 7
Date started
Date completed 7/15/55
Logged by A. Mark

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	DESCRIPTION REMARKS
0.0	10.0					Overburden
10.0	40.0	MS	Gy-Gn/D-R		N	S. Limonite
40.0	68.0	Sh	LGy-//D-R		N	Thin stringers of D-Gy MS. S.Lim
68.0	89.2	St	D-R/ LGy		N	Micaceous, mot. Gy-Gn.
						10.0 - 68.0 TrC
						68.0 - 89.2 TrM (#8171.7)
						Plug 0.0 - 68.0
						Cored 68.0 - 89.2

y-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. P-71

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. P-81
Total depth 80.0
Collar elev. T 8190.0 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Pine No. 8
Date started
Date completed 7/17/55
Logged by A. Mark

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	5.0					Overburden
5.0	14.0	MS	D-R		N	
14.0	46.0	MS	Gy-D-Gy// D-R		N	
46.0	70.0	Sh	D-Gy// D-R		N	
70.0	70.2	Sh	" "		N	
70.2	75.6	St	Gn		N	S Pp mot.
75.6	80.0	St	D-Bn		N	Gn and Pp mot.

5.0 - 70.2 TrC
70.2 - 80.0 TrM (/8119.8)

Transition to 75.7 (Reworked)

Plug 0.0 - 70.0
Cored 70.0 - 80.0

γ-Ray Log
0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. P-81

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. P-91
Total depth 69.4
Collar elev. T 8269.2 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Pine #9
Date started
Date completed 7/15/55
Logged by A. Mark

Summary of log : OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	DESCRIPTION REMARKS
0.0	5.0					Overburden
5.0	20.0	SS	L-Yw/Bn	MF	N	Lim stain inc. dwn'd.
20.0	30.0	MS	D-Gy// D-R		N	
30.0	48.0	MS	Yw-Gn// D-R		N	Thin stringers Yw SS.
48.0	60.0	Sh	LGy// D-R		N	
60.0	67.0	Sh	" "		N	Mot. D-Yw clay for 0.8 at base.
67.0	68.0	SS//Cg	L-Gy	C		Thin stringer. L-Yw clay at base.
68.0	69.4	MS	D-Bn			Mott L-Gy micaceous.
						5.0 - 20.0 Tr Cs
						20.0 - 67.0 Tr C
						67.0 - 68.0 Tr S (1.0')
						68.0 - 70.0 Tr M (/8201.2)
						Plug 0.0 - 60.0
						Cored 60.0 - 69.4

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant

OBSS—ore bearing sandstone

EXHIBIT H

Hole No. P-91

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. P-101
Total depth 70.0
Collar elev. T 8197.6 P
Area Pine Point, Elk Ridge

COORDINATES
North East
Tie

Claim Pine #10
Date started 7/17/55
Date completed 7/17/55
Logged by A. Mark

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	1.5					Overburden
1.5	10.7	SS	Yw		N	S-A Lim stain
10.7	13.2	MS-Sdy	LGy-Gn		N	S-A M F Sand
13.2	27.0	MS	D-Gy//Pp		N	D-R stringers MS.
27.0	36.0	Sh	Gy-Gn		N	Thin stringer SS at top Yw.
36.0	60.0	Sh	DR// DGy		N	Lim stain. Some MS in SS.
60.0	62.6	Sh	DR// DGy		N	Lim Stain. " " " ".
62.6	64.1	Sh// St	Gy-D-R// Bn-Gn		N	Transition zone micaceous Gn Bn St. // Gy-D-R Sh
64.1	70.0	St	Lt Gn		N	Micaceous mot. D-Bn altered zone.

1.5 - 62.6 TrC
62.6 - 64.1 TrS TrM Transition Zone
64.1 - 70.0 TrM (#8133.5)

Plug 0.0 - 60.0
Cored 60.0 - 70.0

γ-Ray Log
0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. P-101

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. P-111
Total depth 70.0
Collar elev. T 8274.0 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Pine #11
Date started
Date completed 7/16/55
Logged by A. Mark

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	DESCRIPTION REMARKS
0.0	12.0	SS	Yw/Bn	MF	N	Probably float. S-A Limonite.
12.0	26.0	MS	Gn		N	Mot Yw clay
26.0	38.0	Sh	Gy-Gn		N	S DR MS.
38.0	50.0	Sh	LGy// DR		N	
50.0	56.8	Sh	LGy// DR		N	DYw and Pp mot incr. dwn'd. S Lim
56.8	61.3	Sh	Gy		N	A DYw/LBn mot. S Lim
61.3	64.2	Sh	DPp// Gy		N	Some DYw mot.
64.2	70.0	St	D Bn		N	Micaceous L Gy mot.
						12.0 - 64.2 TrC
						64.2 - 70.0 TrM (/8209.8)
						Plug 0.0 - 50.0
						Cored 50.0 - 70.0

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant

OBSS—ore bearing sandstone

EXHIBIT H

Hole No. P-111

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. P-131
Total depth 59.8
Collar elev. T 8276.0 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Pine #13
Date started
Date completed 7/15/55
Logged by A. Mark

Summary of log ; OBSS. Thick ; SS color. ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	DESCRIPTION REMARKS
0.0	40.0	MS	Gy-Gn		N	
40.0	50.0	Sh	LGy// DR		N	S Pp mot.
50.0	55.1	Sh	LGy// DR		N	" " "
55.1	57.2	Sh/St	LGy// DR D-Bn		N	Transition zone - interfingering TrC and TrM. S. Mica.
57.2	59.8	St	DBn//LtGy		N	Micaceous L Gy Mot

0.0 - 55.1 TrC
55.1 - 57.2 TrC - TrM Transition
57.2 - 59.8 TrM (/8218.8)

Plug 0.0 - 50.0
Cored 50.0 - 59.8

γ-Ray Log
0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. P-131

DRILL HOLE LOG

MINCON
P. O. Box 270
GRAND JUNCTION, COLORADO

Logged For

Type of Drill

Drill-hole No. P-141
Total depth 89.7
Collar elev. T 8249.1 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Pine #14
Date started
Date completed 7/15/55
Logged by A. Mark

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	DESCRIPTION REMARKS
0.0	25.0	MS	DGy// DR		N	
25.0	28.0	SS	D Yw	MF	N	Probably Mossback float. A. Lim.
28.0	31.0	MS	DGy// DR		N	
31.0	40.0	Sh	Gy// DR		N	
40.0	55.8	Sh	Gy// DR		N	
55.8	56.1	S Sh	D-R		N	Sandy Sh mot. Lt. Gy.
56.1	64.1	SS	Bn	MF	S	Some R Qtz rounded grains. S R&Gy MS in SS.
64.1	66.2	SS	D Bn	MF	S	Sli oil show. No Qtz P.
66.2	68.1	Sh	Gy		S	Mot D Yw clay. Mot DR MS in SS
68.1	84.0	Sh	Gy-DGy		S-A	Cbn incr. dwn'd A at base fern fossils.
84.0	87.1	St	L Gn		N	Altered Gn Zone TrM. S Mic.
87.1	89.7	St	D Bn		N	Micaceous Mot. L Gn. S Mic.

0.0 - 56.1 TrC
56.1 - 84.0 TrS (?) (27.7')
84.0 - 89.7 TrM (≠8165.1)

Plug 0.0 - 40.0
Cored 40.0 - 89.7

γ-Ray Log
0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. P-141

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-1-2
Total depth 252.0
Collar elev. T 8639.7 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star #1
Date started
Date completed 8/13/55
Logged by A. Mark

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	20.0	SS	Yw	MF	N	
20.0	34.0	S Sh	D Yw	MF	N	Lim stain, wet.
34.0	46.0	Sh// S	Sh Gy-Bn	MF	N	
46.0	58.0	SS	D Yw	MF	N	Lim stain, wet.
58.0	62.0	Ch	Gy-R	MC	N	
62.0	135.0	St	Gy		N	S clay D Yw & Gy Bn.
135.0	137.0	SS	Gy	F	N	
137.0	175.0	St	Gy		N	S-SS stringers
175.0	212.0	St	D-R// Gy		N-S	wet S-clay stringers.
212.0	212.7	SS	LtGyGn		S	
212.7	222.0	St	Gy		S	Strippled D-R - D-Yw
222.0	225.4	St	Pp		N	Gy Mottled
225.4	232.0	St	Gy/ Pp		N-S	DkR mottled, sandy silt stringers 225.7 - 226.3 & 229.8-230.4 Qtz "G" in SS.
232.0	242.0	S St	Gy// Pp		S-N	Mottled Pp, DYw, Dk R some Qtz P
242.0	243.6	CG/SS	Gy		S-N	Mottled DkYw, Qtz P at top. Grading to Sdy St.
243.6	252.0	Sh	Bn		N	Some Gy-Gn mottling. Heavy mica 244.0 - 246.0.
						0.0 - 58.0 TrC S
						58.0 - 242.0 TrC
						242.0 - 243.6 TrS (1.6')
						243.6 - 252.0 TrM (#8396)
						Plug 0.0 - 212.0
						Cored 212.0 - 252.0

γ-Ray Log

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-1-2

DRILL HOLE LOG

MINCON
P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-1-4
Total depth 242.0
Collar elev. T 8642.6 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star #1
Date started
Date completed 8/15/55
Logged by A. Mark

Summary of log ; OBSS Thick. ; SS color ; MS under OBSS Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	1.0					Overburden
1.0	48.0	SS	Yw/Bn	MF	N	Lim stain incr dwn'd. Sh 44-48
48.0	70.0	SS// Sh	Bn	MF	N	
70.0	71.0	Ch	LtGy-LtR		N	
71.0	74.0	Clay	Bn-Gy		N	
74.0	80.0	St	Pp		N	
80.0	145.0	Sh// St	Gy-DGy		N	N-S Mica, clay, Bn Gy. N-S BnGy MS in SS.
145.0	182.0	SSt// St	Gy/Pp		N	S Mica, Bn Gy clay. BnGy MS in SS
182.0	183.0	Ch	Gy		N	
183.0	220.0	St	DkR// Gy		N-S	Clay stringer.
220.0	232.1	St	DGy		S-A	Fern leaves.
232.1	234.1	SS//CG	LGy	C	S	Qtz P.
234.1	240.8	St//CG//SS	DGy/PP/ LGy	C	S-M	Some Qtz P.
240.8	241.9	SS//CG	DR/LGy		S	Gn St near base. Qtz P. Bn MS in SS incr dwn'd
241.9	242.0	St	Gn/Bn		N	Micaceous (S Pyr & Chalcopyite (A @ base)

1.0 - 48.0 TrCs
48.0 - 232.1 Tr C
232.1 - 241.9 Tr S (9.8')
241.9 - 242.0 TrM (≠8400.7)

Plug 0.0 - 232.1
Cored 232.1 - 242.0

γ-Ray Log
0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-1-4

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-21
Total depth 250.0
Collar elev. T 8614.8 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star #2
Date started
Date completed 9/8/55
Logged by Agee

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	DESCRIPTION REMARKS
0.0	2.0					Overburden
2.0	42.0	SS	Yw			
42.0	46.0	St	Bn			
46.0	57.0	SS	Bn			
57.0	59.0	Chert				
59.0	60.0	St	Bn			
60.0	130.0	St	Gy			
130.0	190.0	St-SS	Gy			
190.0	200.0	St-SS	Bn			
200.0	240.0	St-SS	Gy-Bn			TrS bet. 235-244'
240.0?	243.0?	SS	Gy-Bn			Mottled Gn.
243.0?	250.0	St	R-Bn			
						Cse. Sd in cuttings @ 240. No core. No samples (V. wet hole) Poss. 2-3' of TrS SS bet 235' and 244.
						0.0 - 42.0 Tr CM
						42.0 - 240.0? Tr C
						240.0?- 243.0? Tr S (3.0') ?
						243.0?- 250.0 Tr M (/8371.8)?
						Probed to 243.8 thru D. P. No show.
						Plug 0.0 - 250.0

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-21

DRILL HOLE LOG

Logged For **MINCON**
P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-31
Total depth 225.0
Collar elev. T 8626.4 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star #3
Date started
Date completed 8/9/55
Logged by D. J. Edson

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	2.0					Overburden
2.0	40.0	SS	Yw	MF	N	
40.0	48.0	SS/St	Bn	F	N	Ch stringers 43.0 - 44.0.
48.0	76.0	SS/Sh	Bn	F	N	Ch stringers 52.0 - 65.0, 73.0
76.0	185.0	St	Gy		N	Clay, Ch stringers
185.0	220.0	St	DGy-Gy		S-N	SS stringers (Clay MS in SS)
			Pp			
220.0	221.0	SS	Bn	MF		Gy mottled - micaceous
221.0	225.0	St	Bn//Gy			
						2.0 - 48.0 Tr CM
						48.0 - 220.0 Tr C
						220.0 - 221.0 Tr S (1.0')
						221.0 - 225.0 Tr M (≠8405.4)
						Plug 0.0 - 225.0

DESCRIPTION

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-31

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-41
Total depth 224.5
Collar elev. T 8630.0 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star #4
Date started
Date completed 8/2/55
Logged by A. Mark

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	2.0					Overburden
2.0	26.0	SS	Yw	MF	N	Lim stain incr. dwn'd.
26.0	32.0	MS	Bn Gy		N	
32.0	33.0	Ch	D Gy	F	N	Qtz
33.0	45.0	SS	Yw	MF	N	
45.0	48.0	Ch	D Gy	F	S	Qtz
48.0	147.0	MS	Gy// LGy		N	Micaceous stringers.
147.0	172.0	MS	DGy		S	(Bn SS - MS in SS (F))
172.0	219.0	Sh St	DR// DGy		S	Wet. Cbn at base.
219.0	224.5	St	Bn		N	Gy mot., micaceous.
						2.0 - 48.0 Tr C M
						48.0 -219.0 Tr C
						219.0 -225.0 Tr M (#8411.0)
						Plug 0.0 - 224.5

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-41

DRILL HOLE LOG

Logged for **MINCON**
P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-51
Total depth 270.0
Collar elev. T 8623.2 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star #5
Date started
Date completed 9/12/55
Logged by Agee

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	70.0	SS	Yw			
70.0	240.0	St	Gy-R			
240.0	246.0	SS	Bn	Cse		
246.0	248.2	St	Pp-Gy			Gy St mottled Pp.
248.2	250.7	SS	Gy	FG		V. silty; w/Gy-Gn MS stks. SS is mott. Pp / has layers of Pp Sdy St.
250.7	252.9	St	Pp			Sdy w/thin, silty, Gy FG SS layers.
252.9	253.4	SS	V Lt Gy	Cse-Med		V. silty.
253.4	253.9	St	Pp			Sdy
253.9	254.7	SS	Gy	FG		SS has Red tinge / Gn MS stks. A Gn MS in SS
254.7	257.3	SS	Bn	Cse-Cgl.		Qtz pebbles ⅜" dia. Lt oil odor
(Field Est. 1.0% @ 256.6' for 0.2')				(S Gn MS inSS)		and stain. Min in Blk specks @256.6
257.3	258.6	St	Gn			
258.6	262.3	St	Pp			Stained Yw in cracks. 2" of GnMS @ 261.7.
262.3	263.7	Cgl	Lt Gy	(A.Gn MS in SS)		Cse SS in part V slty, sparse Pp mottling and sparse R St stks.
263.7	264.6	St	Pp			Sl Cglmeratic, w/Qtz & Cht pebbles and rewkd. TrM chips.
264.6	264.7	MS	Gn			
264.7	270.0	St	R			Gn mottling and stks.
						0.0 - 70.0 TrC M
						70.0 -254.6 TrC
						254.6-264.6 Tr S (10.0)
						264.6-270.0 Tr M (/8358.5)
						Probed to 263.5' No. Min. as shown in core @ 256.6'. Max. reading on probe of .02% @ 85.1 to 85.5
						Plug 0.0 - 246.0
						Cored 246.0 - 270.0

Gamma-Ray Log (0 – 1000)

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) @ U_3O_8	FIELD EST. (%) V_2O_5
85.6	0.5'			.02	

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-51

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-61
Total depth 258.0
Collar elev. T 8596.3 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star No. 6
Date started
Date completed 9/8/55
Logged by Agee

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	80.0	SS	Yw			
80.0	150.0	St	Gy			
150.0	165.0	SS	Wh			
165.0	222.0	St	R-Pn			
222.0	241.6	St	Pp-R-Gy			Mottled colors. Sdy in lower 1.5'.
241.6	243.8	SS	Gy	Cse to Cgl		Silty. Lt. oil odor & stain.
243.8	243.9	St	Gy			
243.9	244.9	St	Pp-R			
244.9	245.3	St	Gy-Gn			Sdy.
245.3	247.0	SS	Gy	Cse		Dk oil stain & odor. V poorly consol.
247.0	247.3	MS	Gy		S-A	V Sdy.
247.3	254.3	SS	Gy	Cse-Finely Cgl		Dk oil stain & odor.
254.3	254.6	MS	Gn			
254.6	258.0	St	R-Pp			Mott & stkd w/Gn.
						0.0 - 80.0 Tr C M
						80.0 - 241.5 Tr C
						241.5 - 254.5 Tr S (13.0)
						254.5 - 258.0 Tr M (7831.8)
						Probed to 255.0
						Plug 0.0 - 222.0
						Cored (water) 222.0 - 258.0

y-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) eq U_3O_8	FIELD EST. (%) V_2O_5
240.5	0.7			.03	

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-61

DRILL HOLE LOG

MINCON
Logged For P.O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-71
Total depth 260.0
Collar elev. T 8576.2 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star No. 7
Date started
Date completed 9/9/55
Logged by Agee

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	DESCRIPTION REMARKS
0.0	1.0					Overburden
1.0	76.0	SS	Yw			
76.0	184.0	St	Gy			
184.0	190.0	SS	Wh			
190.0	223.0	St	R-Bn-Pp			
223.0	245.4	St	Gy			Mott. R & Pp
245.4	246.2	St	Gy			Stained Bn & Yw in seams. (Tr Pyr)
246.2	246.3	St	Pp			
246.3	248.4	St	Dk Gy		S	V. Sdy in lower 1'. (Field est. 1.0% @248' for 0.1')
248.4	249.3	St	Lt Gy		S	V. Sdy.
249.3	249.9	St	Dk Gy		S	
249.9	250.2	SS	Lt Gy	Cse		Silty (A. Gn MS in SS)
250.2	252.7	Cgl	Gy			Sl. oil stain & odor. Contains cse SS layers 2" of Gy sdy MS @ 251.5 (A. Gy & Gn MS in SS)
252.7	253.1	St	Dk Gy			Sdy
253.1	253.3	SS	Gy	Cse		Dk oil stain & odor
253.3	254.4	St-MS	Lt Gy			V. sdy. exp. in lower 0.5'.
254.4	260.0	St	R-Pp-Bn			Sdy. Sl. mott. Gy-Gn.
						0.0 - 76.0 Tr Cm
						76.0 - 249.7 Tr C
						249.7 - 254.4 Tr S (4.7')
						254.4 - 260.0 Tr M (/8321.8')
						Probed to 254.7'
						Plug 0.0 - 223.0
						Cored 223.0 - 260.0

y-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) e U_3O_8	FIELD EST. (%) V_2O_5
244.2	0.3			.05	

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-71

DRILL HOLE LOG

MINCON
Logged For
P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-81
Total depth 255'
Collar elev. T 8547.6P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star No. 8
Date started
Date completed 8/30/55
Logged by A. Mark

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	2.0					Overburden
2.0	45.0	SS	Yw			
45.0	53.0	SS	Gy			
53.0	75.0	SS	Bn-D Yw			
75.0	80.0	Ch	D Gy Bn			
80.0	140.0	St	Gy			
140.0	160.0	St	Gy			Sdy
160.0	200.0	S St	DR// Gy			
200.0	245.0	S St	DR// Gy		S	Cbn @ 230 - 233'.
245.0	251.0	St	Gy// Pp			Mottled D Yw.
251.0	253.2	SS	Bn-Bk		A	Heavy oil stain & odor.
						Lt Gn MS @ 251.3 & 253'.
253.2	253.5	MS	Lt Gn			
253.5	255.0	St	Bn			Mottled w/Lt. Gn.
						0.0 - 45.0 TrCM
						45.0 - 251.0 TrCI
						251.0 - 253.2 TrS (2.2')
						253.2 - 255.0 TrM (≠8294.4)
						Probed to T. D. - No show.
						Plug 0.0 - 245.0
						Cored 245.0 - 255.0

y-Ray Log
0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-81

DRILL HOLE LOG

MINCON
Logged For
P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill.....

Drill-hole No. S-91
Total depth 265.0
Collar elev. T 8521.4 P
Area Elk Ridge

COORDINATES
North..... East.....
Tie.....

Claim Star No. 9
Date started.....
Date completed 8/28/55
Logged by A. Mark

Summary of log.....; OBSS.....; Thick.....; SS color.....; MS under OBSS.....; Cbn.....

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	2.0					Overburden
2.0	65.0	SS	Yw			
65.0	76.0	Sh-SS	Br-Gy			Chert from 74 - 76'.
76.0	180.0	St-MS	Br-Gy			
180.0	255.0	St	DR-Gy			
255.0	259.3	MS	DGy-DYw			
259.3	261.7	St	Gy-Gn		S	Sdy
261.7	262.0	MS	Lt Gn			
262.0	265.0	St	Br			
						2.0 - 65.0 TrCM
						65.0 - 259.3 TrCl
						259.3 - 261.7 Tr S(?) No sand
						261.7 - 265.0 TrM (#8259.7)
						Probed to T. D. No show.
						Plug 0.0 - 259.3
						Cored 259.3 - 265.0

γ-Ray Log
0 — 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant

OBSS—ore bearing sandstone

EXHIBIT H

Hole No. S-91

DRILL HOLE LOG

MINCON
Logged For
P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-101
Total depth 268.0
Collar elev. T 8493.3 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star No. 10
Date started
Date completed 9/8/55
Logged by Agee

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	1.0					Overburden
1.0	55.0	SS	Yw			
55.0	60.0	St	Bn			
60.0	173.0	St	Gy			
173.0	200.0	St	Gy-Bn			
200.0	245.0	St-SS	Gy-Bn			
245.0	265.0	SS	Dk Bn	V.C.	A	Non-Cgl. Fairly hvy oil stain & Odor throughout.(A.Gn MS in lower 15' SS)
265.0	265.3	MS	Gn			
265.3	268.0	St	R-Bn			Mottled Gn
						0.0 - 55.0 TrCM
						55.0 - 245.0 TrC
						245.0 - 265.0 Tr S (20.0)
						265.0 - 268.0 Tr M (/8228.3)
						Probed to 257.8'.
						Plug 0.0 - 245.0
						Cored 245.0 - 268.0

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) @ U_3O_8	FIELD EST. (%) V_2O_5
234.7	0.7			.03	

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-101

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-111
Total depth 245.0
Collar elev. T 8431.7 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star No. 11
Date started
Date completed 9/6/55
Logged by Agee

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	1.0					Overburden
1.0	45.0	SS	Yw			
45.0	52.0	SS	Bn			
52.0	54.0	St	Bn			
54.0	110.0	St	Gy			
110.0	165.0	St-SS	Gy			
165.0	172.0	St	Gy-Bn			
172.0	175.0	Chert				
175.0	180.0	St-SS	Gy			
180.0	237.0	St	Bn-Pp			
237.0	239.0	St	Gy		S	Finely Sdy.
239.0	245.0	St	R-Bn			Mottled Gn

0.0 - 45.0 TrCm
45.0 - 237.0 TrC
237.0 - 239.0 Tr S ? (No Sand)
239.0 - 245.0 Tr M (✓ 8192.7)

Probed to 238.2' thru D. F.
No show.

No core. Dust samples caught @ 5' intervals from 200 - 240'.

Plug (air) 0.0 - 245.0

y-Ray Log
0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant

OBSS—ore bearing sandstone

EXHIBIT H

Hole No. S-111

DRILL HOLE LOG

MINCON
Logged P.O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-121
Total depth 201'
Collar elev. T 8392.5 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star No. 12
Date started
Date completed 9/5/55
Logged by Agee

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	5.0					Overburden
5.0	12.0	SS	Yw			
12.0	83.0	St	Gy			
83.0	85.0	Chert				Qtz. pebbles & sand (?)
85.0	86.0	SS	Gy		S	
86.0	87.0	Chert				" " "
87.0	120.0	St	Gy-Pp			
120.0	121.0	Chert				" " "
121.0	185.0	St	Gy-Pp-Bn			Mottled w/Gn.
185.0	196.6	SS	Bn-Gy	V.C-Cgl		Tinged red in part. 1" Gn MS @ 190.7. Sparsely oglmeratic in lower 1'. (Sparse Gn MS in SS)
196.6	201.0	St	Bn			Mottled w/Gn.

0.0 - 12.0 TrCM
12.0 - 185.0 TrCl
185.0 - 196.6 TrS (11.4')
196.6 - 201.0 TrM (@196.0)

(Could not probe to T.D. Core showed no mineralization)

Core #1: 185.0-195.0 - Rec. 8.5'
Core #2: 195 - 201 - Rec. 6'

Plug (air) 0.0 - 185.0
Cored (air) 185.0 - 201.0

y-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-121

DRILL HOLE LOG

Logged For: MINCON
P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-131
Total depth 242.0
Collar elev. T 8417.6 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star No. 13
Date started
Date completed 8/23/55
Logged by A. Mark

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	1.0					Overburden
1.0	53.0	CS	Yw	MF	N	S Lim stain at base.
53.0	54.0	Ch	Gy-Bn		N	
54.0	168.0	St	Gy // DR		N	(Yw DYw clay stringers MS in SS)
168.0	235.0	St/SST	Gy-Bn-Pp	F	N-S	S-Cbn 200.0 - 205.0
235.0	238.5	SS	L Gy	C-M	N	
238.5	242.0	St	Bn		N	L Gy Mot. Micaceous

1.0 - 53.0 Tr CM
53.0 - 235.0 Tr CG
235.0 - 238.5 Tr S (3.5')
238.5 - 242.0 Tr M (#3178.1)

Plug 0.0 - 242.0

y-Ray Log

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-131

DRILL HOLE LOG

Logged For MINCON
P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill .....

Drill-hole No. S-141
Total depth 285.0
Collar elev. T 8462.0 P
Area Elk Ridge

COORDINATES
North ..... East .....
Tie .....

Claim Star No. 14
Date started .....
Date completed 8/27/55
Logged by A. Mark

Summary of log ..... ; OBSS ..... Thick ..... ; SS color ..... ; MS under OBSS ..... ; Cbn. .....

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	70.0	SS	Yw/Bn	MF	N	Lim stain incr. dwnd
70.0	72.0	Ch	Bn-Gy		N	
72.0	92.0	St	DR		N	
92.0	200.0	St// SSt	Gy//DGy Bn// DR	F	N-S	Ch stringers 160 - 172, 190-192. (DGy, Bn,DYw Clay MS in SS)
200.0	233.0	St// S MS	Gy/ DR	F	N-S	Cbn 210,215,218. (Yw MS clay in SS - 222-225)
233.0	234.6	St	Gy		N	Mot. DR & D Yw.
234.6	235.3	SSt	LGy/Pp	F	N	
235.3	252.6	St	Pp-Gy		N	Mot. DR & DYw.
252.6	278.8	SS	Gy-Bn-Bk	C	A	Heavy oil stain, strong gas smell
(LGn MS	272.8	50%LGnMS @ base		278.4-278.8)		Oil & Cbn incr. dwnd.
278.8	285.0	St	Pn		N	Mottled LGy & Gn at top Micaceous
						0.0 - 70.0 TrCM 70.0 - 252.6 TrCl 252.6 - 278.8 TrS (26.2) 278.8 - 285.0 TrM (~8183.2)
						Plug C.C - 233.0 Cored 233.0 - 285.0

y-Ray Log (0 – 1000)

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-141

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-151
Total depth 249'
Collar elev. T 8470.5' P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star No. 15
Date started
Date completed 9/2/55
Logged by Ageo

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	1.0					Overburden
1.0	79.0	SS	Yw			
79.0	173.0	MS	Gy			
173.0	176.0	SS&Ch	Wh			
176.0	210.0	St	Gy			
210.0	215.0	St	R-Gy			
215.0	222.4	St	Gy-Pp		S	
222.4	228.0	MS	Gy		S	Sdy.
228.0	228.9	SS	Dk(oil)	V.C.		
228.9	229.4	Ss-Clay	DkGn Clay			Chewed up core in MS stringer?
229.4	231.4	SS	Gy-Gn	Cse.		Mottled & streaked w/R-Pp.
231.4	232.0	St	Gy-Gn			Sdy-Cglmer; mottled R.
232.0	234.5	SS	Gy-Gn	V.C.		(Mottled w/MS)(DkR-LtGy MS in SS)
234.5	236.3	MS	Gy-Gn			Sdy specked w/R-Pp.
236.3	236.8	MS	Dk-Gy			
236.8	237.3	MS	Lt Yw-Bn			1" Gy MS at Base.
237.3	238.5	SS	Lt Bn	Cse		Sl Oil odor. (LtGy Stks MS in SS)
238.5	238.7	MS	Gy			Streaked w/Gn.
238.7	242.8	SS	Gy			Dk w/oil stain exep top 1' V.
						Cglmer bet 240.3-241.3(Sparse Gn MS in SS)
242.8	243.5	St	Gy-Gn			T/TrM
243.5	244.0	St	R-Gn Mott			
244.0	245.3	St	R			
245.3	245.8	SS	Gy	M-F		Silty; w/R stks.
245.8	248.3	ST	Pp-R			Finely Sdy in part.
248.3	249.0	SS	Gy	M-F		Silty. (R stks MS in SS)
						0.0 - 79.0 TrCM
						79.0 - 227.0? TrCl
						227.0 - 242.9 TrS (15.9')
						242.9 - 249.0 TrM (#8227.6)
		Plug 0.0 - 228.0				
		Cored 228.0 - 249.0				Probed to 247.7'

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) e U_3O_8	FIELD EST. (%) V_2O_5
228.0	0.4			.03	

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-151

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill. . . . . .

Drill-hole No. S-161
Total depth 258.5'
Collar elev. T 8493.0' P
Area Elk Ridge

COORDINATES
North . . . East . . . .
Tie . . . .

Claim Star No. 16
Date started . . . .
Date completed 9/1/55
Logged by Agee

Summary of log. . . . ; OBSS . . . Thick . . . ; SS color . . . ; MS . . . under OBSS ; Cbn. . . .

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	DESCRIPTION REMARKS
0.0	1.0					Overburden
1.0	55.0	SS	Yw			
55.0	62.0	SS-MS	Wh & Gy			
62.0	180.0	MS	Gy			
180.0	185.0	Ch				
185.0	232.0	MS	Gy-Pp			
232.0	232.9	SS	Lt Gy	FG		Silty
232.9	233.7	St	Lt Gy			
233.7	235.2	St	Lt Gy			Mottled w/Pp.
235.2	236.0	St	Pp to Blk.			
236.0	236.4	St	Lt Bn			W/R st. stks.
236.4	237.7	SS	Lt Gy	VC to Cgl		Strong oil stain & odor.
237.7	240.7	SS	Dk (oil)	Cse-VC		Strong oil stain & odor.
240.7	241.7	SS	Bn-Gy	V.C.		
241.7	242.4	SS	Dk (oil)	V.C.		Stg. oil odor & stain.
242.4	242.6	SS	Bn	V.C.		
242.6	243.0	St	Pp			
243.0	243.3	St	Gn			
243.3	244.7	SS	Dk(oil)			Stg. oil odor & stain
244.7	245.0	St	Gn			
245.0	257.6	St	R-w/Gn	Mottling		Probed to 257.0'.
						0.0 - 55.0 TrCM
						55.0 - 236.5 TrCl
						236.4 - 244.7 TrS (8.3')
						244.7 - 258.5 TrM (/8248.2)
						Plug 0.0 - 232.9
						Cored 232.9 - 257.6

γ-Ray Log 0 — 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) ⊖ U_3O_8	FIELD EST. (%) V_2O_5
236.7	0.4			.04	

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-161

DRILL HOLE LOG

MINCON
Logged For O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill.....

Drill-hole No. S-171
Total depth 260.0
Collar elev. ..... T 8530.4 P
Area Elk Ridge

COORDINATES
North..... East.....
Tie.....

Claim Star No. 17
Date started.....
Date completed 8/25/55
Logged by A. Mark

Summary of log.....; OBSS.....Thick.....; SS color.....; MS under OBSS.....; Cbn.....

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	1.0					Overburden
1.0	85.0	SS	Yw/Bn	MF	N	Lim stain incr. dwn'd.
85.0	90.0	Ch/SS	Gy/Bn		N	(MS in SS - clay at base)
90.0	165.0	St Sh	Gy DGy		N	
165.0	175.0	SS Sh/	Bn/Gy		N	Pebbles (Dgy clay MS in SS)
		Ch/St	DGy			(DBn clay MS in SS)
175.0	200.0	S St	Bn Gy		N-S	
200.0	204.0	SS//SSt	Bn Gy		A	Sli oil smell.
204.0	208.0	St	Gy		N-S	(DGy MS in SS)
208.0	219.0	SSt St	Gy DGy		A	
219.0	228.5	St	L Gy		S	
228.5	233.2	St	LGy Pp		N	Mot DR/Gy D Yw.
233.2	234.7	St/SS/St	Gy/Pp		S-N	
234.7	?	SS	Bn Gy		S	Some oil show.
?	253.5	SSt/SS	Bn Gy			
253.5	254.5	MS	LGn		N	Micaceous
254.5	250.0	St	Bn		N	Mot L Gy - Micaceous
						0.0 - 85.0 TrCM
						85.0 - 234.7 TrCl
						234.7 - 253.4 TrS (18.7)
						253.4 - 260.0 TrM (≠8276.9)
						Plug 0.0 - 228.5
						Cored 228.5 - 235.0
						Plug 235.0 - 260.0

γ-Ray Log
0 — 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5
214.5	1.0			.12 max. @ 214.0	

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-171

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill.....

Drill-hole No. S-181
Total depth 235.0
Collar elev. T 8522.8 P
Area Elk Ridge

COORDINATES
North..... East.....
Tie.....

Claim Star No. 18
Date started.....
Date completed 8/24/55
Logged by A. Mark

Summary of log..... ; OBSS..... Thick..... ; SS color..... ; MS under OBSS..... ; Cbn.....

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	3.0					Overburden
3.0	40.0	SS	Yw/Bn	MF	N	Lim stain incr dwn'd.
40.0	53.0	Clay/SS	Bn	MF	N	
53.0	57.0	Ch/clay/ Ch	Gy/Bn/ Gy Bn			
57.0	70.0	Clay	Gy Bn			
70.0	148.0	Sh/SSh	Gy	MF	N	
148.0	151.0	Ch	Bn Gy		N	
151.0	178.0	ST/SST	Gy Bn		N	
178.0	180.0	Ch	Gy Bn		N	
180.0	200.0	SST// ST	Bn	F	N	
200.0	230.0	ST	DR// Gy		S-N	(Sdy w/clay MS in SS).S DYw mot.
230.0	235.0	ST	Bn		N	Gy mot. Micaceous
						3.0 - 40.0 Tr CM
						40.0 - 230.0 Tr Cl
						230.0 - 235.0 Tr M (/8292.8)
						Plug 0.0 - 235.0

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5
190.1	1.0			.03	
145.0	1.0			.04	

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-181

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-191
Total depth 254'
Collar elev. T 8579.2
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star No. 19
Date started
Date completed 9/6/55
Logged by Agee

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	DESCRIPTION REMARKS
0.0	70.0	SS	YW			
70.0	242.0	St	Gy-R-Bn			
242.0	251.6	SS	Lt. Gy	M		Finely Cgl. in lower 2'. Hvy oil stain & odor, exp in upper 2'.
(S Gn MS in SS in lower 2')						
251.6	251.8	MS	Gn			
251.8	254.2	St	R-Bn			
						0.0 - 70.0 Tr CM
						70.0 - 242.0 Tr C
						242.0 - 251.5 Tr S (9.5')
						251.5 - 254.1 Tr M (#8327.6)
						Plug 0.0 - 242.0
						Cored 242.0 - 254.2
						Probed to 247.2'.

γ-Ray Log
0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) e U_3O_8	FIELD EST. (%) V_2O_5
224.5	0.2'			.05	

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-191

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-201
Total depth 260.0
Collar elev. T 8593.5' P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star No. 20
Date started
Date completed 8/22/55
Logged by A. Mark

Summary of log; OBSS Thick; SS color; MS under OBSS; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	2.0					Overburden 40.2-42.0
2.0	50.0	SS	Yw/Bn	MF	N	(Bn clay MS in SS) Lim stain incr dwn'd.
50.0	75.0	SS//Sh	Bn	MF	N	(1st 100 feet drilled with air)
75.0	78.0	Ch	Gy Bn		N	
80.0	100.0	St// Clay	Gy		N	
100.0	135.0	" "	"			
135.0	137.0	Ch	Gy Bn		N	
137.0	195.0	S St//	St Gy/Gy Bn	MF	N	(Gy clay MS in SS 163.0-165.0) Ch stringer 162.0-163.0
195.0	220.0	St	Gy		N	Mot DR, Pp, DYw
220.0	231.3	St	Pp// Gy		N-S	Some DYw clay.
231.3	233.5	SS// CG	LGy//Br. // LR	C	S	(LGy MS in SS) Qtz. P.
233.5	238.2	St	Gy Pp/Pp		S	(100 to 220 drilled with water)
238.2	240.8	S St	Gy Bn /Pp R		S	
240.8	244.3	St/SSt/ SS	Gy Bn	F-MC	S	(Core drilled with air)
244.3	247.8	St	LGy/Gy		S	
247.8	255.6	SS/CG	BnGy		S/A	(Gy St 249.0) Qtz P Bn/Bk. Cbn-oil stain, heavy strong smell incr. dwn'd.
255.6	256.4	St	LGn		N	Micaceous
256.4	260.0	St	Bn		N	Micaceous Mot LGy.

0.0 - 50.0 Tr CM
50.0 - 247.0 Tr Cl
247.0 - 255.6 Tr S (7.8')
255.6 - 260.0 Tr M (#8337.9)

Plug - 0.0 - 220.0
Cored 220.0 - 260.0

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-201

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-211
Total depth 230.0
Collar elev. T 8682.5 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star #21
Date started
Date completed 8/1/55
Logged by A. Mark

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	2.0					Overburden
2.0	45.0	SS	Yw	MF	N	Lim stain incr. dwnd. Wet Bn MS at base.
45.0	50.0	S MS	Bn	MF	N	
50.0	108.0	MS	Bn/Bl Gy		N	(Thin FM MS in SS) DYw clay
108.0	153.0	Sh St	L Gy			
153.0	225.5	Sh St	DR/Gy		S	Pp St at base - Pp mot throughout.
225.5	226.0	SS/Cg	LGy	C	S	(A LGn St MS in SS) Micaceous
226.0	230.0	St	Bn			Micaceous
						2.0 - 45.0 Tr CM
						45.0 -225.5 Tr C
						225.5 -226.0 Tr S (0.5')
						226.0 -230.0 Tr M (#8456.5)
						Plug 0.0 - 225.5
						Core 225.5 - 230.0

y-Ray Log
0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-211

DRILL HOLE LOG

MINCON
Logged For
P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. S-221
Total depth 230.0
Collar elev. T 8696.6P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star #22
Date started
Date completed 7/31/55
Logged by A. Mark

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	2.0					Overburden
2.0	24.0	SS	Yw	MF	N	S Lim stain, dry
24.0	28.0	MS	D Bn		N	Gy Mottling
28.0	38.0	SS	Yw	MF	N	S-lim stain - dry.
38.0	42.0	S St	Bn	F	N	
42.0	118.0	Sh St	D Gy		S	
118.0	124.0	Ch	Bn Gy	C	N	Qtz granules.
124.0	155.0	Sh	LGy/DGy		S	(S DBn MS in SS(F)
155.0	225.0	St	DR/Gy		S	D Yw mot - Pp mot near base.
225.0	226.0	SSt-SS	DR-Pp		N	N Qtz? - could be Tr S
226.0	228.0	St	L Gn		N	Mot. Bn - micaceous
228.0	230.0	St	Bn		N	Mot Gn-Gy - Micaceous
						2.0 - 42.0 - Tr CM
						42.0 - 225.0 - Tr C
						225.0 - 226.0 - Tr S(?) (1.0')
						226.0 - 230.0 - Tr M (8470.6)
						Plug 0.0 - 230.0

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-221

DRILL HOLE LOG

Logged For MINCON
P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill.....

Drill-hole No. S-231
Total depth 245.0
Collar elev. T 8690.9 P
Area Elk Ridge

COORDINATES
North..... East.....
Tie.....

Claim Star No. 23
Date started.....
Date completed 7/30/55
Logged by A. Mark

Summary of log..... ; OBSS..... Thick..... ; SS color..... ; MS under OBSS..... ; Cbn.....

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	2.0					Overburden (LGn MS in SS 67.0-69.0)
2.0	69.0	SS	Yw/LBn	MF	N	Lim stain, wet incr. dwn'd.
69.0	74.0	Ch	Bn Gy	C	S	Qtz P.
74.0	78.0	Clay	Bn/Gy			
78.0	176.0	MS/St	Gy/DGy		S	
176.0	224.0	St	DR/DGy		S	Pp mot. 190.0 - 205.0.
224.0	225.2	SS	Gy Bn	C	N	(S DR,DYw MS in SS)
225.2	227.0	St/S St	Gy		N	Mot Pp.
227.0	240.0	S St	Gy/Pp		N	Mot Pp, D Gy, D Yw, LGy St stringers at base.
240.0	244.3	Cg/SS SSt/St	Bn Gy/ DR		N	Qtz P, S-garnet? (M-A Pyrite S Chalcopyrite)(S Pp,DYw (P)MS inSS)
244.3	245.0	St	LGy			Micaceous, mot D Yw.(En(P)MS in SS) Transition zone. Sh pebble cong w/R SS.

2.0 - 69.0 Tr CM
69.0 - 240.0 Tr C
240.0 - 245.0 Tr S (5.0/)

Plug 0.0 - 224.0
Core 224.0 - 245.0

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-231

DRILL HOLE LOG

MINCON
Logged For
P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill.....

Drill-hole No. S-241
Total depth 240.0
Collar elev. T 8699.1 P
Area Elk Ridge

COORDINATES
North..... East.....
Tie.....

Claim Star #24
Date started.....
Date completed 7/29/55
Logged by A. Mark

Summary of log.....; OBSS.....Thick.....; SS color.....; MS under OBSS.....; Cbn.....

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	3.0					Overburden
3.0	65.0	SS	LYw/Bn	MF	N	Lim stain incr. dwnd
65.0	68.0	Ch	LGy	C		Wet
68.0	72.0	Sh	Gy			Very wet.
72.0	186.0	MS	Gy			Wet
186.0	210.0	Sh	DR// DGy			Slightly micaceous.
210.0	216.8	St	Gy/DR			Mot D Yw at base.
216.8	221.5	St	LGy			Micaceous
221.5	236.2	CG/SS	LGy/DR	C		Qtz P Gy mot Pp (ST 228.8-232.4)
			D Yw	Oil Line V.		Fr. Oil Odor 235.0-236.0
236.2	240.0	St	Gy		N	Mot Pp Bn - Micaceous
						3.0 - 65.0 Tr CM
						65.0 - 221.5 Tr C
						221.5 - 236.2 Tr S (14.7)
						236.2 - 240.0 Tr M (/8462.9)
						Plug 0.0 - 210.0
						Core 210.0 - 240.0

γ-Ray Log
0 — 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. S-241

DRILL HOLE LOG

Logged For MINCON
P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill

Drill-hole No. SF1-1
Total depth 220.0
Collar elev. T 8688.2 P
Area Elk Ridge

COORDINATES
North East
Tie

Claim Star Fraction #1
Date started
Date completed 7/28/55
Logged by A. Mark

Summary of log ; OBSS Thick ; SS color ; MS under OBSS ; Cbn.

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	3.0					Overburden
3.0	38.0	SS	LYw/Bn	MF	N	Lim stain incr. dwnd.
38.0	45.0	Sh	Bn/D R		N	
45.0	117.0	MS	LGy//DGy		S	
117.0	127.0	Sh	Gy		S	Micaceous
127.0	130.5	Ch	LGy		N	Micaceous
130.5	165.0	St//Sh	Gy//DGy		S	Stringers of Gy clay
165.0	207.0	Sh/St	DR//Gy		S	Thin stringer Ch - stringers Bk Sh 188.0 - 207.0 Cbn.
207.0	209.0	Sh	Bk		S-A	SS lenses small - Bn
209.0	215.0	SS//Cg	LGy	C	S-A	Qtz P stringer Gy. St micaceous 213.1 - 213.5 (S-A Pyrite & Chalcc.)
215.0	220.0	St	Bn		N	Mot L Gy, micaceous

3.0 - 38.0 Tr CM
38.0 - 209.0 Tr C
209.0 - 215.0 Tr S (6.0')
215.0 - 220.0 Tr M (/8473.2)

Plug 0.0 - 209.0
Core 209.0 - 220.0

γ-Ray Log 0 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) e U_3O_8	FIELD EST. (%) V_2O_5
207.8	0.8'			.08 max.	

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. SF1-1

DRILL HOLE LOG

MINCON
Logged For P. O. Box 270
GRAND JUNCTION, COLORADO

Type of Drill .....

Drill-hole No. WG-11
Total depth 120.0
Collar elev. T 8562.0 P
Area Elk Ridge

COORDINATES
North ..... East .....
Tie .....

Claim Willy G No. 1
Date started .....
Date completed 9/9/55
Logged by Agee

Summary of log ..... ; OBSS ..... Thick ..... ; SS color ..... ; MS under OBSS ..... ; Cbn .....

DEPTH From	DEPTH To	Rock	Color	Grain	Carbon	REMARKS
0.0	30.0	SS	Yw			
30.0	35.0	St-SS	Bn			
35.0	52.0	St	Gy			
52.0	100.0	St	Gy-Bn			
100.0	117.0	SS	Gy-Bn	Cse		Oil odor & stain bet. 112 - 117.
117.0	117.5	St-MS	Gn			
117.5	120.0	St	R-Bn			
						0.0 - 35.0 Tr CM
						35.0 - 100.0 Tr C
						100.0 - 117.0 Tr S (17.0)
						117.0 - 120.0 Tr M (~~8~~45.0)
						Probed thru D. P. to 116.2'.
						Plug 0.0 - 120.0 - (Air)

DESCRIPTION

γ-Ray Log 0 — 1000

SAMPLE BASE	SAMPLE THICK	LAB ASSAY (%) U_3O_8	LAB ASSAY (%) V_2O_5	FIELD EST. (%) U_3O_8	FIELD EST. (%) V_2O_5
58.5	0.6			.07	

Abbreviations

Wh—white	CG—conglomerate
Br—brown	SS—sandstone
R—red	MS—mudstone
Gy—gray	ST—siltstone
Bl—blue	F—fine
Gn—green	M—medium
Yw—yellow	C—coarse
Bk—black	N—none
Pp—purple	S—sparse
Cbn—carbon	A—abundant
OBSS—ore bearing sandstone	

EXHIBIT H

Hole No. WG-11

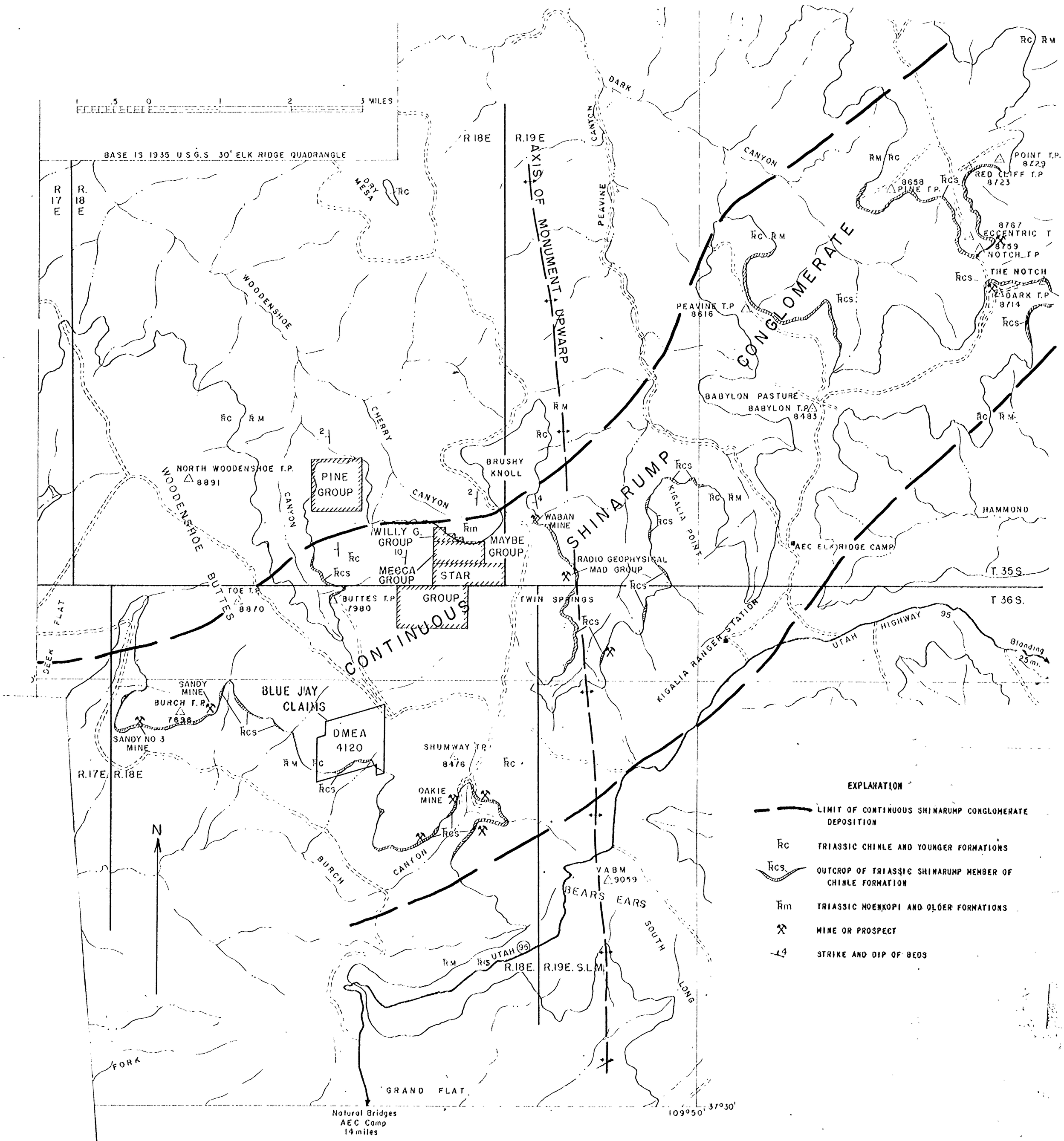
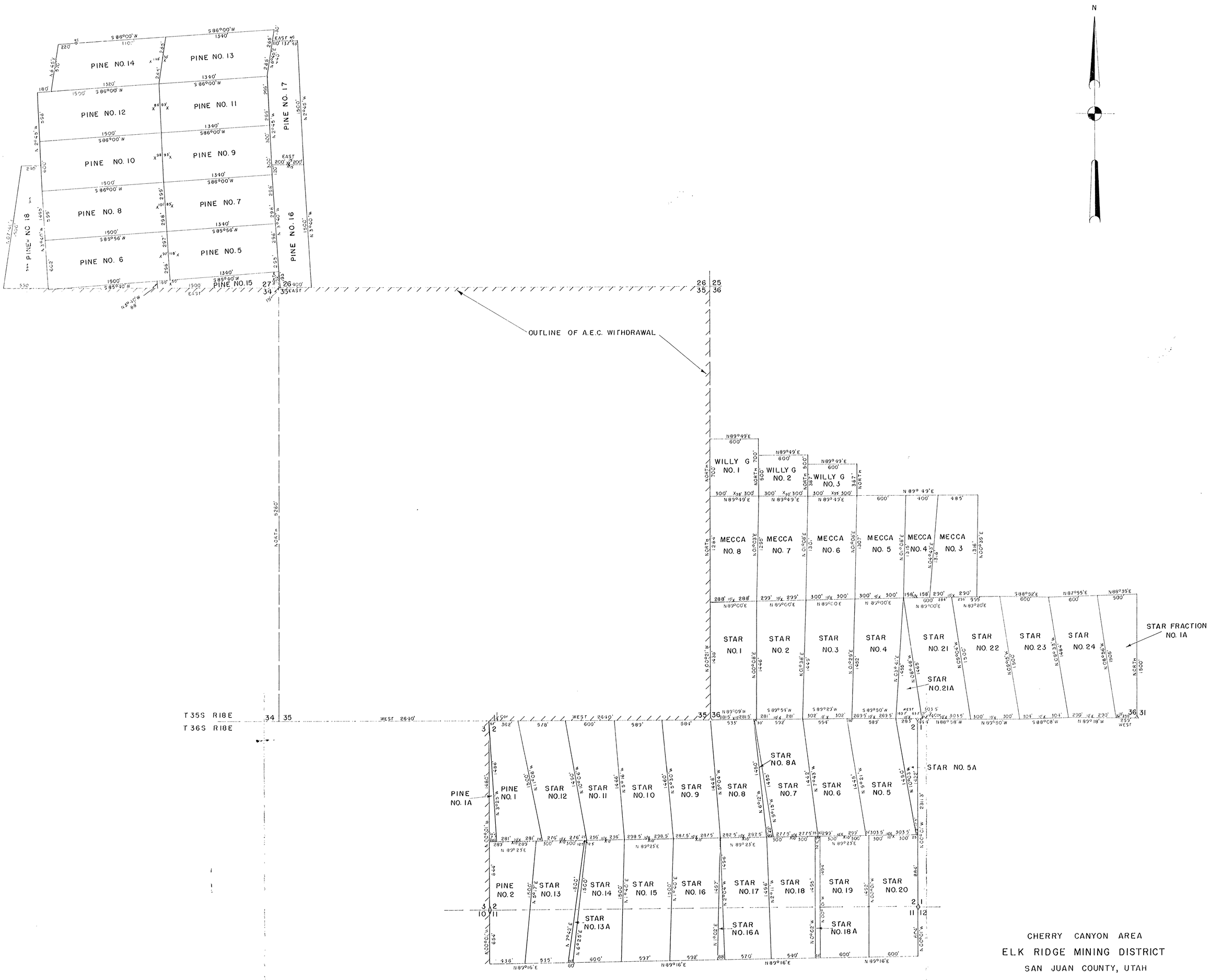


Figure 2. MAP OF SOUTHWESTERN ELK RIDGE SHOWING LIMITS OF CONTINUOUS SHINARUMP CONGLOMERATE, AND PINE, WILLIE G, MECCA AND STAR GROUPS, HOUSTON POOL NO. 1, ELK RIDGE QUADRANGLE, SAN JUAN COUNTY, UTAH.



I, LEON E. LITZ, CERTIFY THAT THE ABOVE SURVEY WAS MADE UNDER MY SUPERVISION BETWEEN JUNE AND AUGUST, 1955

UTAH REGISTERED LAND SURVEYOR 1179

CHERRY CANYON AREA

ELK RIDGE MINING DISTRICT

SAN JUAN COUNTY, UTAH

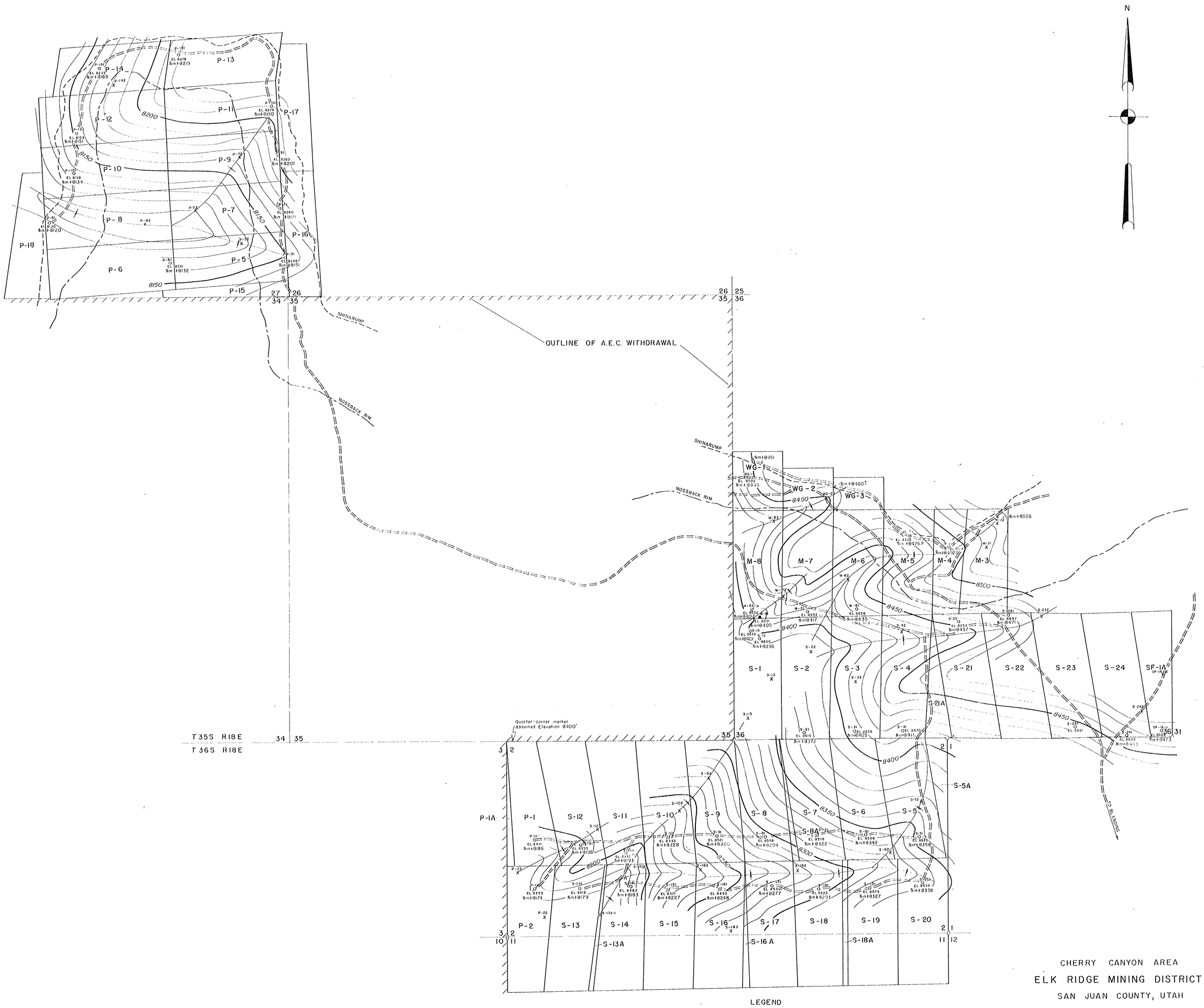
CLAIM SURVEY MAP

SCALE 1" = 500'

MINCON

August, 1955

EXHIBIT A



LEGEND

- Probable Shinarump Channel
- o Barren Hole
- o Mineralized Hole
- • Ore Hole
- x Proposed Drill Site

CHERRY CANYON AREA

ELK RIDGE MINING DISTRICT

SAN JUAN COUNTY, UTAH

GEOLOGIC STRUCTURE MAP

DATUM: TOP OF MOENKOPI (BASE OF SHINARUMP Ss)

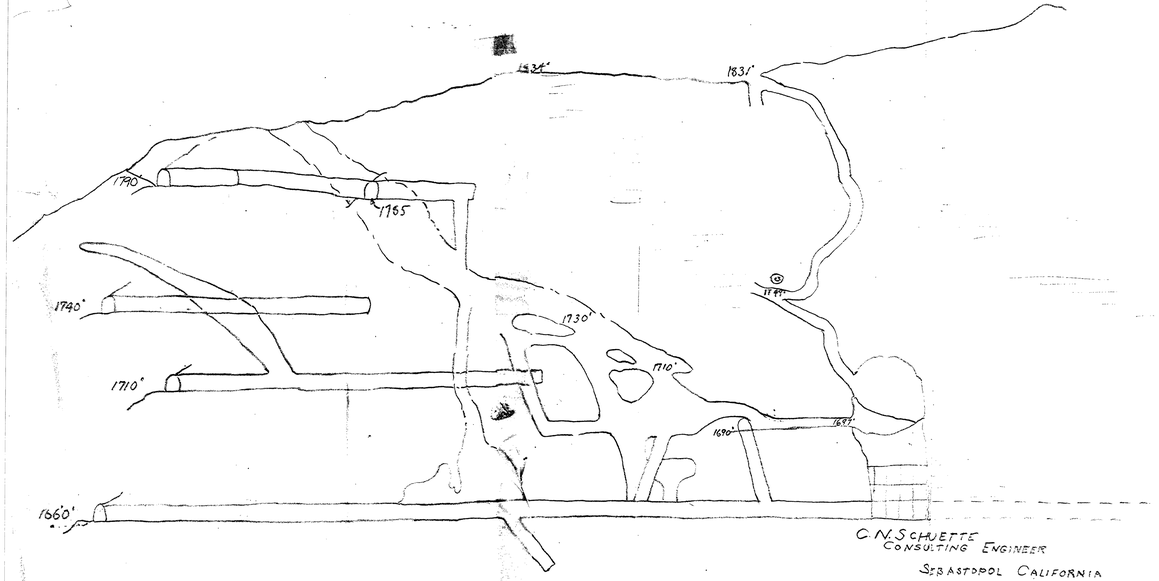
CONTOUR INTERVAL 10'

SCALE 1" = 500'

MINCON

February, 1956

EXHIBIT I



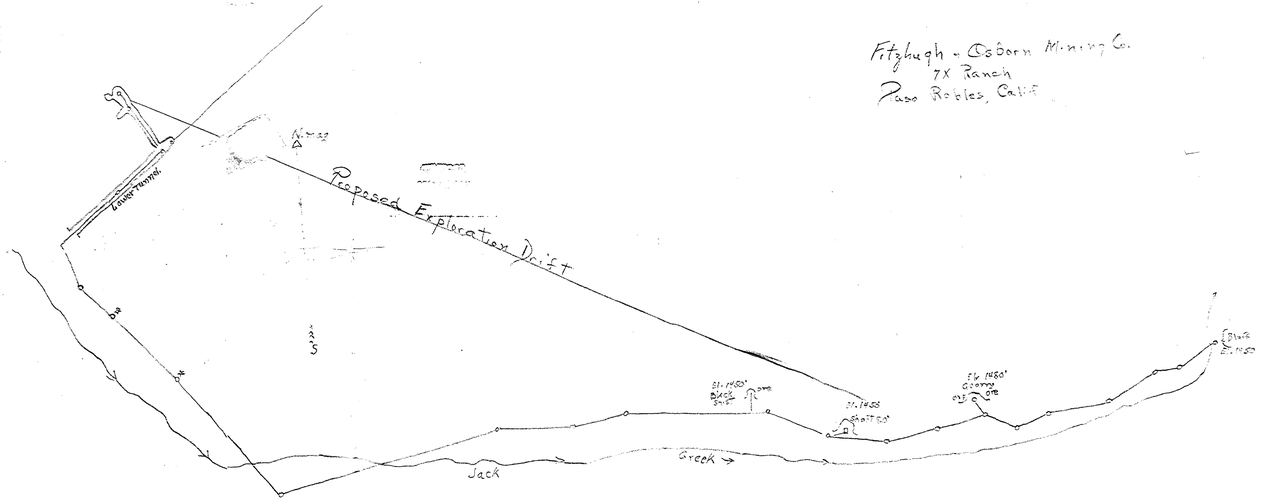
C. N. SCHUETTE
CONSULTING ENGINEER
SEBASTOPOL CALIFORNIA

La Liberdad Quicksilver Mine
San Luis Obispo Co, California

Scale 1 Inch = 20 Feet
Date Dec 24 1954
No 1.

Traced by Edna Osborn
1/10/56

Fitzhugh - Osborn Mining Co.
7X Ranch
Paso Robles, Calif



Plan of outs: see workings of the
La Liberdad Mine
after Stadia-Compass Survey by
James W. Neill EM.
Oct 12-14th 1936

Scale 1in = 100ft

Traced by Edna Osborn 1/10/56