7/21/55 gh

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

224 New Customhouse
Denver 2, Colorado

July 18, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Report of Examination, DMEA Docket 3704 (Uranium and Rare Earths), Woodrow V. Mousley and Chris Peterson, partnership, Eagle Rock claims, Juab County, Utah

Enclosed are the original and three copies of the report pertaining to the above application.

The probability of discovering a significant deposit of uranium ore is remote. We concur in the recommendation of the field examiners that the application be denied.

DMEA Field Team, Region III

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
1600 EAST FIRST SOUTH STREET
SALT LAKE CITY 1, UTAH

TRANSMITTED JUL 18 1955

July 12, 1955

DMEA Dut. Rec'd. JUL 14 1955 BUREAU OF MINES Denver, Colorado

Memorandum

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

From: Stephen R. Wilson

Subject: Docket No. DMEA-3704 (Uranium and Rare Earths), Woodrow V. Mousley and Chris Petersen Partnership, Eagle Rock claims, Juab County, Utah

Enclosed are original and 10 copies of an engineering report pertaining to examination of the subject property for DMEA loan assistance. Also included are the required copies of a separate section, Summary, Conclusions and Recommendations, and a copy of the brochure. The engineering report was prepared by M. H. Howes as a result of an examination made April 5, 1955.

Mineralization on the Eagle Rock claims occurs in dolomite associated with considerable chert. Uranium appears as a powdery coating on dark-purple fluorite. Rare earth elements are present in negligible amounts. The principal structure is a vertical-dipping vein exposed by bulldozer stripping for approximately 150 feet along the strike. Mineralization appears to be in some manner associated with slump areas in the dolomite. The slump areas suggest that rhyolite porphyry may have intruded the sediments, as in other areas of the Topaz Mountains.

The examining engineer concludes that the possibility of encountering significant ore bodies of uranium and rare earths on the Eagle Rock property is not encouraging. Mineralization is extremely irregular in occurrence and the structural control is not well defined. All fluorite exposed on the property contains a high percentage of silica which is undesirable. There is no evidence to indicate that rare earth elements will be found in significant amounts.

The Atomic Energy Commission is, at present, refusing purchase of the fluorite-type uranium ores because they are not amenable to present treatment processes.

The examining engineer recommends that the application for DMEA assistance on the Eagle Rock property be denied. I concur in this recommendation.

Members of the Atomic Energy Commission were consulted relative to information concerning the exploratory proposals on the Eagle Rock property.

Stephen R. Wilson

Stephen R. Wilson

Enclosures

cc: J. Bruce Clemmer

TRANSMITTED
JUL 18 1955

RECEIVED
JUL 21 1955

DMEA
Date Rec'd
JUL 14 1955
BUREAU OF MINES
Denver, Colorado

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

An application, dated December 10, 1954, for Government aid, under docket No. DMEA-3704, to conduct an exploratory project has been submitted by the partnership of Woodrow V. Mousley and Chris Petersen. The proposed project, estimated to cost $14,350, consists of drilling eight 200-foot diamond drill holes, to explore for uranium and rare earths on the Eagle Rock claims, Juab County, Utah. The property was examined April 5, 1955 by M. H. Howes, Bureau of Mines, and April 12, 1955 by R. W. Osterstock, Geological Survey.

The applicant is purchasing the property, which consists of 3 lode mining claims, from Earl and Al Willden, Delta, Utah. The claims are located in the Topaz Mountain area of the Thomas Range, Juab County, Utah.

Country rock on the property is predominantly dolomite, which contains abundant black, tan and white chert in a boxlike structure. Rhyolite porphyry is exposed about one-fourth of a mile east of the claims. Topographic depressions or slumped areas suggest the possible existence of rhyolite porphyry plugs intrusive into the sediments.

Uranium-bearing fluorite occurs in a vertical, northeasterly striking vein zone, on the southeast side of the largest depression on the Eagle Rock claims, and is exposed for a distance of about 100 feet by open cuts and shafts. The ore pods are irregular and

lenticular. Uranium appears as a canary-yellow, powdery coating in sporadic dissemination on the fluorite, which occurs as a dark-purple mineral in a fine boxwork structure formed by silica.

A shipment of 7.565 tons of uranium-bearing fluorite was made from the claims to the Atomic Energy Commission depot at Marysvale, Utah. A settlement sheet covering sale of the ore shows an assay value of 0.17 percent U_3O_8 and 0.04 percent V_2O_5. A stockpile of 5 tons of similar-grade ore remains on the claims. It is estimated that the property contains about 15 tons of ore in sight and approximately 200 tons of inferred reserves, which will assay from 0.10 to 0.20 percent U_3O_8 and up to 40 percent CaF_2, with negligible amounts of rare earths.

It is concluded that evidence indicating commercial ore deposits of uranium and rare earths is not strong enough to justify Government aid in an exploratory project on the Eagle Rock property.

The Atomic Energy Commission has stated that no more fluorite-type uranium ores will be purchased by the Marysvale purchasing depot, because these ores are not amenable to present treatment processes.

Recommendation is made that the Mousley and Petersen application for exploratory aid be denied.

MOSELEY AND PETERSON
EAGLE ROCK CLAIMS
JUAB COUNTY, UTAH
DMA-3704
Uranium and Rare Earths

Engineering Report

By M. H. Howes
Mining Engineer
Bureau of Mines

MOUSLEY AND PETERSON
EAGLE ROCK CLAIMS
JUAB COUNTY, UTAH

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ILLUSTRATIONS

Fig. 1 Location map, Mousley and Peterson, Eagle Rock claims, Juab County, Utah
Fig. 2 Thomas Range fluorite district, Juab County, Utah
Fig. 3 Claim map, showing proposed drill holes

INTRODUCTION

Woodrow V. Moseley and Chris Petersen, a partnership, applied December 10, 1954, for Government aid in an exploratory project on the Eagle Rock claims, Juab County, Utah, under docket No. [illegible]-3704. The applicant proposes to drill 6 diamond drill holes, each 200 feet deep, at locations shown on figure 3, in search of uranium and rare earth ores. The program is estimated to cost $14,390 for 1,600 feet of drill hole at $6.97 per foot, and is to be completed in 3 months. The property consists of 3 full-sized lode mining claims upon which the applicant has an option and purchase agreement.

The proposed project area was examined by M. H. Bowen, Bureau of Mines, April 5, 1955, and by R. W. Ostertuck, Geological Survey, April 12, 1955, to determine the feasibility of the proposed exploratory work and to appraise the estimated costs and the engineering aspects of the job.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The property is located in the Topaz Mountain area on the east slope of a low ridge called Middle Mountain, situated in the valley separating the western and eastern parts of the Thomas Range. The proposed project area lies in the vicinity of unsurveyed Sec. 35, T. 12 S., R. 12 W., S.L.B. and M., in Juab County, Utah, about 51 miles northwesterly from Delta, Utah (Fig. 1).

The climate is semi-arid. Summers are hot and dry and winters are cold with moderate snowfall. Vegetation is scarce and consists principally of pinion pines, cedar trees and desert plants.

HISTORY AND PRODUCTION

The claims were located in 1948. A uranium-bearing fluorite vein was exposed by early trenching on the property. This vein was opened by 2 shallow shafts from which a shipment of 7.565 tons of ore assaying 0.17 percent U_3O_8 and 0.04 percent V_2O_5 was made to the Atomic Energy Commission depot at Maryvale, Utah on July 30, 1954. Approximately 5 tons of similar ore is stockpiled at the shafts. No additional ore has been produced from the Eagle Rock claims.

OWNERSHIP AND EXTENT

The Eagle Rock property consists of 3 unpatented lode mining claims, the Eagle Rock, Eagle Rock No. 1 and Eagle Rock No. 2, all of which are recorded in Book 137, Page 534, in the Juab County Court House, Nephi, Utah (fig. 3). The property is being purchased by the partnership of Woodrow V. Housley, 12412 Fort Road, Los Angeles 66, Calif., and Chris Petersen, 7723 S. Harvard Blvd., Los Angeles 44, Calif., from Earl and Al Willden, Delta, Utah.

DESCRIPTION OF THE DEPOSITS

Rocks exposed in the vicinity of the Eagle Rock claims consist mainly of fine-grained, dense, gray dolomite, which contains a fine network of chert. The dolomite strikes northeasterly and dips about

30° to the northwest. In the central portion of the property is a large and somewhat-circular-shaped depression or slumped area which is covered by light-colored, leached and altered material. Smaller slumped areas of the same appearance occur on other parts of the claims. The dolomite surrounding the slumped areas is brecciated and contains as much as 60 percent chert, characterized by a banding structure. These leached, circular, slumped areas suggest that rhyolite porphyry plugs may have intruded the sediments, as in other areas of the Topaz Mountains.

Uranium-bearing fluorite occurs in a vertically dipping vein along the northwest edge of the large, slumped area. A trench, 2 shafts, and bulldozer stripping have exposed the vein for approximately 150 feet. A scintillation counter shows radioactivity for a distance of about 100 feet along the vein. Mineralization exposed in the vein is irregular and lenticular. Uranium appears as a canary-yellow, powdery coating on the fluorite, which occurs as a dark-purple mineral in a fine honeycomb structure formed by silica. Because of a high percentage of silica, the ore is hard and resistant.

A grab sample of the 5-ton stockpile at the shafts assayed as follows: 0.173 percent U_3O_8, 0.02 percent V_2O_5, 50 percent CaF_2, and less than 0.1 percent rare earth oxides.

MINABLE ORE RESERVES

It is estimated that 200 tons of ore containing 0.17 percent U_3O_8 and 30 to 40 percent CaF_2, with considerable silica, constitutes the inferred ore reserve on the Eagle Rock property. The above tonnage figure was estimated by assuming the ore body to be 100 feet long, the average width to be 1 foot, and the average depth to be 25 feet, and that 12.5 cubic feet of ore in place will weigh 1 ton.

PRESENT STATUS

An access road was been constructed up the steep side of the mountain to the Eagle Rock workings. Two shallow shafts, a trench about 50 feet long, several shallow pits, more than 12,500 square feet of bulldozer stripping, and 5 drill holes, ranging from 17 to 50 feet in depth, constitute the exploratory work completed to date.

Mine labor, materials, supplies and equipment may be obtained at Delta, Utah.

Water can be transported from Topaz well, which is about 4½ miles from the property.

The only source of power is gasoline or Diesel-driven equipment.

PROJECT PROPOSALS WITH COSTS

The applicant proposes to explore the downward extension of the vein and rock under the slumped areas for uranium and rare earth ores by drilling eight 200-foot core drilled holes (fig. 3) for a total of 1,600 feet.

The project is estimated to cost as follows:

1,600 feet of core drilling at $8.50 per foot (includes drilling, drill site preparation, water haulage, core boxes, etc.)	$13,600.00
Technical services, 3 months at $250 per month	750.00
Total estimated cost of project	$14,350.00
Government participation at 75 percent	$10,762.50

PROPOSED FINANCING

The applicant reports he is prepared to invest $3,587.50 in the proposed exploratory project, which is 25 percent of the estimated cost of $14,350, in accordance with the regulations on Government participation, as stated in Section 7, DMEA Order No. 1 Amended.

CONCLUSIONS AND RECOMMENDATIONS

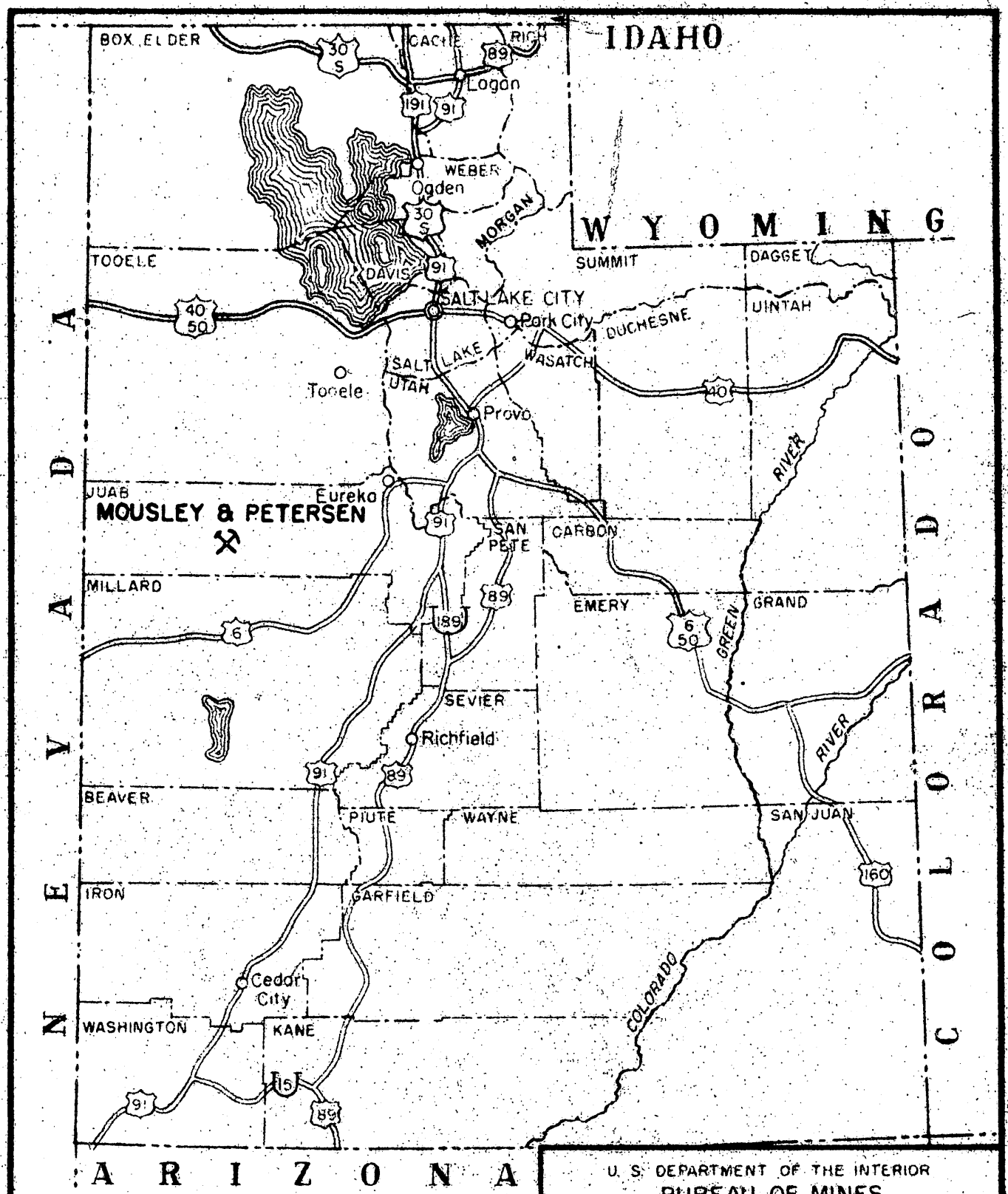
The possibility of encountering commercial ore bodies of uranium and rare earths on the Eagle Rock claims is not encouraging, because of the irregular occurrence of the exposed ore deposition and because of the remote possibilities of the apparent structural controls. All fluorite so far disclosed on the property contains a high percentage of silica, which is not desirable. There is no indication that rare earths will be found in greater amounts than minus 0.1 percent.

A communication, dated April 20, 1955, from Ernest E. Thurlow, Chief, Salt Lake Exploration Branch, Division of Raw Materials, Atomic Energy Commission, states that the Marysvale purchasing depot has been

instructed to refuse fluorite-type uranium ores because they are not amenable to present treatment processes. Therefore, even if uraniferous fluorite ores are discovered in commercial quantities there is no market for them at the present time.

Through 1953 the Topaz Mountain fluorspar area has produced more than 80,000 tons of metallurgical-grade fluorspar ores.

It is recommended that the application for Government aid to explore for uranium and rare earths on the Eagle Rock property be denied.



U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Fig. 1 DMEA Docket No. 3704
Location Map

MOUSLEY & PETERSEN
(EAGLE ROCK CLAIMS)
JUAB COUNTY, UTAH

ENGINEER M. H. HOWES	DATE JUNE 24, 1955
TRACED JUNE, 1955; A.P.T.S.	1900-338-E
CHECKED	

IN REPLY REFER TO:

DMEA
Date Rec'd
JUN 27 1955
BUREAU OF MINES
Denver, Colorado

UNITED STATES

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

June 24, 1955

TRANSMITTED
JUL 18 1955

Memorandum

To: Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 5704 (Uranium), Woodrow B. Mousley and Chris Peterson, partnership, Eagle Rock claims, Juab County, Utah

Enclosed are the original and nine copies of a geologic report by R. W. Osterstock, U. S. Geological Survey, covering his examination of the subject property.

Osterstock concludes that the probability of discovering significant deposits of uranium ore are remote, and he recommends denial of the request for Government aid in exploration of the claims.

I concur with this recommendation, particularly in view of the mineral composition of the vein material exposed in the open cuts and shafts.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (10)

ENHarshman:arh

MINERAL DEPOSITS
DMEA
RECEIVED
JUN 28 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

Room 208, 228 So. West Temple
Salt Lake City 1, Utah
June 21, 1955

TRANSMITTED
JUL 18 1955

Memorandum

To: E. N. Harshman, DMEA Field Team, Region III

From: R. W. Osterstock

Subject: DMEA Docket 3704 (Uranium), Woodrow M. Moseley and Chris Peterson, partnership, Eagle Rock Claims, Juab County, Utah.

Enclosed are eleven copies of a geologic report on the subject property by R. W. Osterstock, U. S. Geological Survey.

The applicants have proposed an exploration program costing $14,350 which consists of 8 drill holes, each drilled to a depth of 200 feet.

The uranium mineralization on the Eagle Rock claims is intimately associated with fluorite boxwork occurring in a band about 1 foot wide on the south wall of the northeast trending vein. The country rock is northeast striking, northwest dipping, dolomitized Middle Paleozoic limestone. Abundant syngenetic chert is noted in the stratigraphic section. Rhyolite porphyry outcrops in a low range of hills about 1/4 mile east of the claim area and one small area of rhyolite float is noted on the Eagle Rock claim. It is suggested that a circular topographic depression just north of the vein zone may represent the weathered down top of a rhyolite plug. There is no convincing evidence of the existence of such a plug nor is there any radiometric evidence of uranium mineralization beneath the alluvium covered depression.

The vein zone itself does not exhibit sufficiently encouraging evidence to justify any great degree of either lateral or vertical persistence. It is concluded that the Eagle Rock claim area does not contain a sufficient quantity of uranium ores to materially add to the national reserve picture and therefore the project as proposed is not worthy of DMEA participation.

It is recommended that the applicant's request for DMEA assistance be denied.

cc: S. R. Wilson

Enclosures (3)
1. Report (original and 10 copies)
2. Illustrations
3. Brochure from Wash.

R. W. Osterstock

EAGLE ROCK CLAIMS
Juab County, Utah

DMEA Docket 3704
(Uranium)

Initial Geologic Report

By

R. W. Outerstock
U. S. Geological Survey

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ILLUSTRATIONS

1. Fig. 1 - Index Map of Western Utah.
2. " 2 - Claim map of Eagle Rock property, Juab County, Utah.
3. " 3 - Geologic map and section of the Eagle Rock property, Juab County, Utah.

REFERENCES

Stoats, M. H., et. al: Radioactive Fluorite in the Thomas Range, Juab County, Utah. Trace Elements Investigation Report 136, January, 1951.

Thurston, W. R., Stoats, M. H., Cox, D. C., and others: Fluorspar Deposits of Utah. U. S. Geological Survey Bull. 1005, 1954.

SUMMARY

Mousley and Peterson, a partnership, with lease and option agreements on the Eagle Rock Claims in Juab County, Utah, have applied for DMEA assistance for exploration for uraniferous ores. The Eagle Rock property lies in the central part of the Thomas Range on a low range of hills made up of Middle Paleozoic dolomitized limestone. The country rock, now predominantly dolomite, contains abundant black, tan and white chert. The regional strike of the beds is northeast with moderate northwesterly dips. Rhyolite porphyry is exposed in a low range of hills above the valley floor about a quarter of a mile east of the Eagle Rock claims. A small patch of rhyolite porphyry float was noted about 50 feet west of the discovery monument on the Eagle Rock claim. Topographic depressions in the claim area may indicate the existence of concealed, slopewash covered, rhyolite porphyry plugs.

Uraniferous mineralization on the Eagle Rock claims appears to be confined to a northeast trending vertical vein zone which has been exposed by open cuts and shafts over a strike distance of about 100 feet. The mineralized portion of the vein zone is generally less than one foot wide and is composed of black to purple banwork fluorite which contains sporadic disseminations of carnotite as encrustations on the walls of some of the banwork. The upward vertical extent of the vein structure appears to be cut off in the southwest face of the open cut by unbroken dolomite beds. There is no evidence to indicate that this vein structure is strong enough to have any great degree of either vertical or lateral persistence.

The property is reported to have produced seven tons of uraniferous fluorite which was shipped to Marysvale, Utah, AEC buying depot, although settlement sheets are not available, it is reported that this shipment assayed 0.17 percent U_3O_8. It is estimated that the property contains about 15 tons of fluorite ore

in sight on the south wall of the vein zone. No other reserve data can be computed. The ore in sight may contain up to 30 percent CaF_2 and from 0.10 to 0.20 U_3O_8. Major production from the Thomas Range fluorite district has come from both the irregular and circular pipe-like bodies in the rhyolite porphyry plugs. All of the mineralization noted on the Eagle Rock Claims is confined to the northeast trending vein structure. The evidence for the existence of a rhyolite porphyry plug beneath the slopewash covered depression just north of the vein zone is not sufficiently convincing to justify exploration at depth in this area. A scintillator traverse across the depression revealed no abnormal radiometric highs.

It is recommended that the applicants request for government assistance be denied.

INTRODUCTION

Woodrow Mounley and Chris Petersen, a partnership, applied, under DMEA Docket 3704, for government assistance for uranium exploration on the Eagle Rock Claims, Juab County, Utah. The application is dated December 10, 1954. The property was examined on April 12, 1955 by R. W. Outerstock, USGS. The examining geologist was accompanied in the field by Messrs. Al and Earl Willden of Delta, Utah, these gentlemen, as original owners of the claims, acted as representatives of the applicants.

The applicants propose to explore for uranium on their Eagle Rock claims by a diamond drilling program consisting of eight holes, each drilled to a depth of 200 feet.

The total cost of the exploration program as proposed by the applicants is $14,350.

Location and accessibility

The Eagle Rock Claims lie within the central portion of the Thomas Range in Juab County, Utah. The property is on the east side of a low range of hills about 300 feet high which are in the valley separating the western and eastern parts of the Thomas Range in the southeast part of T. 12 S., R. 12 W., SLB&M (unsurveyed). The property would lie within sec. 35 if the township and range were subdivided.

The Eagle Rock Claims may be reached by travelling west on paved U. S. 6 from the center of Delta, Utah .5 miles, thence take right fork on paved Utah 99 for 3.7 miles, from this crossroad go straight ahead (west) 4.0 miles, thence turn right (north) 1.5 miles, thence turn left (west) .6 of a mile to the end of the blacktopped portion of the road. Continue west on road 1.4 miles to crossroad, thence turn left 3.4

miles where road bears right (north). Continue for 14.1 miles and take right fork of road. Continue straight through crossroad 3.4 miles from righthand fork. Continue 4.2 miles, take left fork (at this point there is a roadsign pointing to Gallao, Utah), from road fork continue 6.4 miles, thence take right fork for 6.7 miles, thence turn right leaving improved dirt road for access road for 1.0 miles to the eastern edge of the Eagle Rock Claim area.

In general the road leading to the claim area is well cared for, however, the last mile after leaving the graded dirt road is subject to washouts during heavy rains.

History and production

The Eagle Rock Claims were originally staked by T. A. Claridge, Rex Claridge, Albert Willden, and Earl Willden, all of Delta, Utah. The Eagle Rock and Eagle No. 1 claims were staked on August 15, 1948, since that date the Eagle Rock No. 2 claim has been located by the same gentlemen. The Willden brothers bought out the other two partners and thus became sole owners of the property. Mousley and Petersen, the present loan applicants, have a lease and option agreement for the Eagle Rock properties which is now in effect. Mousley and Petersen informed the Willdens that approximately $9,000 had been spent on work at the property prior to the date of the present DMEA loan application. This work consisted of a road bull-dozed in from the Topaz-Fluorspar road up to the outcropping, the removal of 3,000 cubic yards of cover by bulldozing on the Eagle Rock No. 1 claim and 20,000 cubic yards of overburden removed from the Eagle Rock No. 2 claim. Some percussion drilling is also reported on the claims,

however, this phase was not deemed satisfactory as the swelling ground closed the holes almost immediately. To date the property has shipped seven tons of ore to the AEC buying station in Maryvale, Utah. The ore is reported to have assayed 0.17 percent U_3O_8. The figure corresponds with a channel sample cut by M. M. Stents which also assayed 0.17 percent U_3O_8. The applicants report the property to have five tons of ore reserves, apparently of similar grade to the ore shipped to Maryvale.

The Thomas Range area has been of principle interest for its fluorite production which began in May 1943. By September 1950 more than 35,000 tons had been produced from the district. Several of the mines of the district are still in operation, however, recent production data are not readily available.

GEOLOGY

The Eagle Rock Claims lie in an area of undifferentiated Middle Paleozoic limestones and dolomites. Most of the dolomite is the result of secondary dolomitization rather than being a primary sedimentary feature. The dolomite near the southern end of the property is massive to heavy bedded, dark grey and coarsely crystalline. Higher in the section to the north the beds become thinner, being about 4 to 6 inches thick near the workings. As the beds thin, white, grey and black chert nodules begin to appear. These are apparently syngenetic as silicified fossils are occasionally found in the chert near the top of the section. Near the northern end of the claims chert comprises approximately 50 percent of the section. There is also considerable introduced silica in thin stringers and networks which are of diverse orientation. An appreciable increase of silicification is noted as the vein zone is approached until at the vein there is only extremely altered dolomite rock with abundant silica and some CaF_2.

The regional attitude of the dolomite beds is northeast-striking and moderate northwest dipping (see fig. 3).

On the valley floor about one quarter mile to the east of the Eagle Rock Claim, there is a low range of rhyolite porphyry hills. A small area of rhyolite porphyry float was noted about 50 feet southwest of the discovery monument on the Eagle Rock Claims. Staats has indicated that these rhyolites are of Tertiary age.

The central part of the project area shows a circular depression, now partially stripped, (fig. 3) and similar smaller depressions are found elsewhere on the property. These depressions may have formed above ore-bearing rhyolite plugs and are characterized by (1) the absence of outcrops (2) brecciated dolomite in the outcrops adjacent to the depressions (3) networks of chert, as much as 60 percent in the dolomite adjacent to the depressions (4) the presence of pale leached chert float characterized by a honeycomb structure and (5) the presence of calcite rich cream to reddish clay like material in the few small pits that prospect these areas. M. H. Staats suggests that the general circular shape of these depressions rather than elongate shape suggests that they may be formed above intrusive plugs probably also of rhyolite porphyry.

ORE DEPOSITS

The ore deposits of the Thomas Range Mining District are probably epithermal fluorspar deposits. They are generally pipe-like bodies or veins that occur in dolomite or in rhyolite porphyry, generally the deposits are vertical or steeply dipping.

On the Eagle Rock property a fluorite bearing vein is exposed in open cuts and two shafts, the ore bearing portion of the vein averages 1 foot wide though in places it pinches down to about 6 inches. The vein

zone proper is highly brecciated and locally attains a width of about 5 feet. The vein may be traced on strike length over a distance of about 100 feet in bull-dozer cuts, shafts and open cuts. On the south wall of the vein zone a fairly persistent zone of purple to black fluorite banwork appears to represent the highest grade section of the mineralized area. The north wall of the vein zone is reddish highly altered dolomite with some fluorite and some very fine sandy material. At the face at the southwest end of the open cut, beyond the westernmost of the two shafts, there is a stratified graded clay and sand-sized zone of material which contains sporadic 6 inch to 1 foot globs of fluorite ore. It seems likely that these CaF_2 blocks in the clay zone may indicate post-ore movement. Fluorite appears to remain as banwork along with much silica. The original composition of the rock prior to the development of the banwork structures origin remains unknown. Staats has pointed out that the ore is unusually rich in silica and as a result it is hard and resistant in contrast to the more normal pulverulent ore of the district. The high silica content prevents this deposit from being worked only for its fluorite content. The purple to black fluorite on the south wall of the vein zone contains visible though extremely small yellow globular carnotite coatings. The uranium minerals do not appear to be continuous or uniformly distributed but instead occur as sporadic disseminations associated with the banwork fluorite. It is noted that at the face of the open cut relatively fresh dolomite beds cross over the top of the vein zone. There is no indication of vertical persistence of the vein zone above the level of the open cut. The most noteworthy features of the property are the extreme alteration of the dolomites adjacent to the vein zone, the attendant clay-like white to tan pulverulent material,

intense silicification at the ore zone and the great degree of brecciation which increases as the ore zone is approached.

Although the structural geology is incompletely known there is a suggestion of a northwest trending and plunging anticlinal structure with the Eagle Rock claims approximately on the axis.

ORE RESERVES

The applicant has estimated that the property contains five tons of ore reserves and although no statement is made to that effect it is presumed that the applicant infers a grade of 0.17 percent U_3O_8 for these reserves. The examining geologist does not find it feasible to estimate ore reserves on any part of the Eagle Rock claim area, however, there remains in sight, particularly on the south wall of the open cut above the two shaft stations, 10 to 15 tons of black fluorite hanwork ore which would probably assay less than 30 percent CaF_2 and .10 to .20 percent U_3O_8.

PROPOSED EXPLORATION

The applicants have proposed an exploration program consisting of eight drill holes of 200 feet each. These holes are spotted on the map accompanying the application provided by the applicants (see fig. 2). Holes No. 1, 2 and 3 as proposed by the applicants are apparently designed to explore the known vein zone at depth. Holes 4, 5 and 6 if inclined will explore the known vein zone at depth and will also explore the possibilities of mineralization beneath the depression. It is suggested that this depression may have resulted from the weathering down of intrusive rhyolite plug. Holes 7 and 8, well to the north of the known vein zone, are apparently designed to explore for other parallel vein zones, or other intrusive rhyolite plugs, which may be mineralized. The applicants

have estimated that the total cost of the drilling project will be $13,600. An additional cost of $750 is to be used for obtaining consulting assistance. The total overall cost of the project is estimated to be $14,350.

The vertical or lateral persistence of the fluorite zone is at present unknown. There does not appear to be vertical persistence above the level of the open pit, and its persistence with depth must, therefore, remain in doubt. There does not appear to be sufficient vertical persistence of the known ore zone to warrant exploration at depth by diamond drilling. Staats has suggested that since most of the fluorspar production from the Thomas Range area has come from the circular or pipe-like bodies in the intrusive breccias, this type body is therefore the most favorable for prospecting. Diamond drilling of the area beneath the depression north of the vein zone, which may represent the weathering down of an intrusive rhyolite plug, may only be classified as prospecting. There is no convincing evidence pointing out the existence of such a plug nor is there any evidence to indicate that the plug may be mineralized. A scintillator traverse made across the depression did not reveal any abnormally high radiometric anomalies which would suggest the existence of the uraniferous zone beneath the slope wash.

CONCLUSIONS AND RECOMMENDATIONS

The uraniferous fluorite deposits in the Eagle Rock Chain area appear to be confined to the single vein zone exposed in the open pit and the two shallow shafts. The vein appears to have formed along a nearly vertical fault trending northeast-southwest. Most of the fluorite mineralization is confined to the south wall of the structure and is generally less than one foot thick. The dark purple fluorite is in a honeycomb structure throughout which

there are sporadic fine disseminations of carnotite encrustations on some of the walls of the honeycomb fluorite. The country rock in the Eagle Rock claim area is dolomitized Middle Paleozoic limestone. The beds strike northeast, dip moderately to the northwest, and contain abundant syngenetic chert. Considerable silicification is noted as the vein zone is approached. Alteration and brecciation of the dolomite also increase as the vein zone is approached. At the south end of the open pit all of the vein zone appears to stop abruptly as dolomite beds go across the top without interruption. The vein zone is now exposed over a strike distance of about 100 feet. M. H. Staats has suggested that a topographic depression just north of the vein zone may represent the weathered, concealed top of an intrusive rhyolite plug.

It is concluded that the fracture type vein deposit as is presently exposed on the Eagle Rock property probably will not have great lateral persistence. The degree of vertical persistence appears to be somewhat limited at least at the top of the vein zone as indicated in the face of the southwest crosscut where the vein zone is stopped by overlying unbroken dolomite beds. There is, therefore, no well defined target for diamond drill exploration along the vein zone. Diamond drilling into the area of the postulated intrusive rhyolite plugs would come under the heading of prospecting and is not therefore subject to DMEA assistance.

The ore reserve potential of this deposit does not appear to be sufficient in either tonnage or grade to substantially add to the national reserve picture. It is recommended that the applicants' request for a DMEA loan be denied.

This docket and the proposed exploration program on the Eagle Rock Claims have been discussed with members of the Atomic Energy Commission, Salt Lake Exploration Branch. As a result of these discussions, Mr. E. Thurlow, Chief, Salt Lake Exploration Branch of AEC, has in a letter to M. M. Knowe (USBM) dated April 20, 1955 stated that Maryvale purchasing depot of AEC has been instructed to refuse ores of the uraniferous fluorite type as they are not amenable to present treatment processes. Mr. E. A. Youngberg, Director of the Mining Division, has suggested that DMEA discourage exploration for uranium ores of the fluorite type. It was, however, noted that if a district appeared to have sufficient potential that it might eventually support a fluorite treatment plant with uranium as a by-product. An exploration venture might be justified as a joint uranium-fluorite project on such a property.

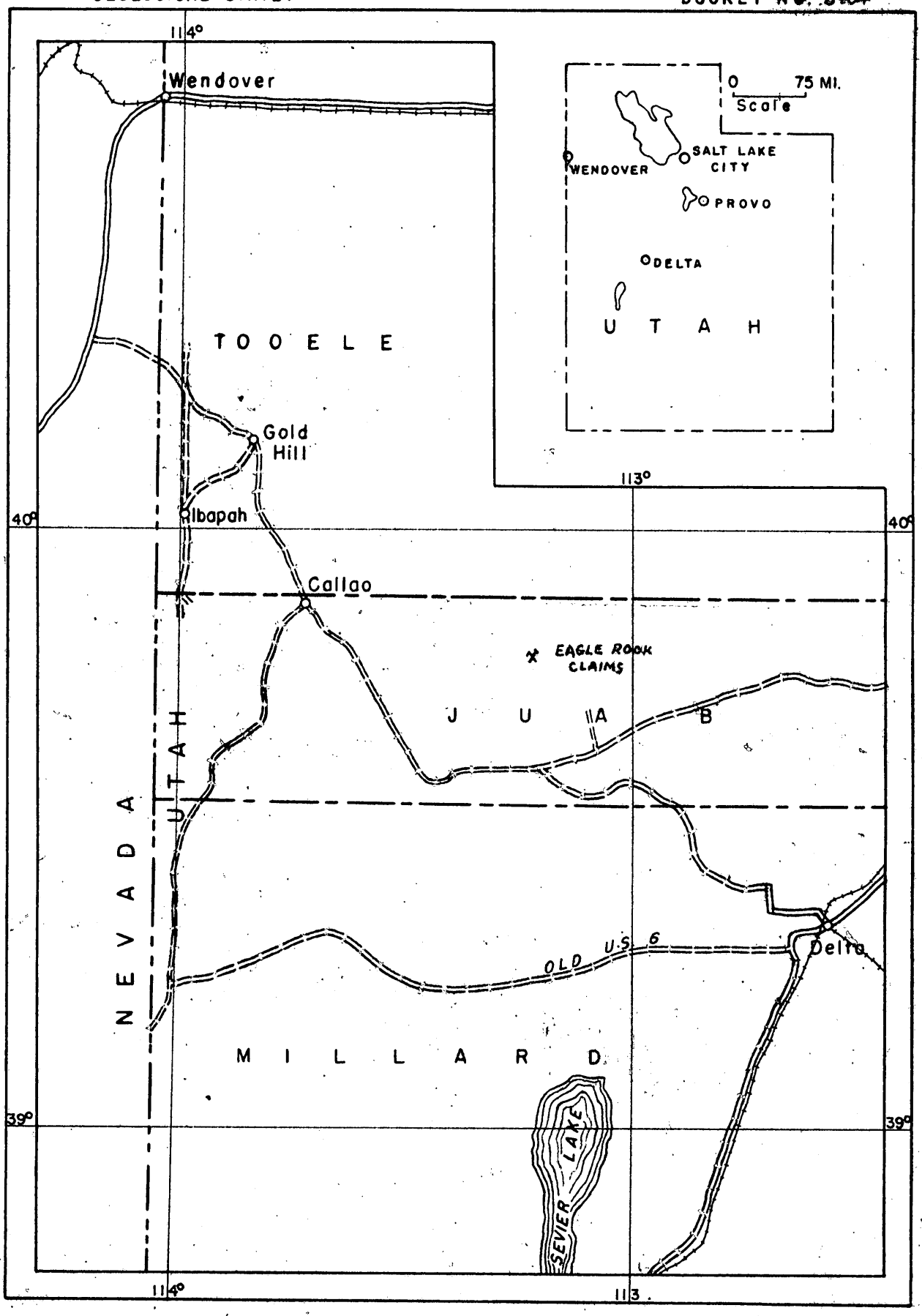
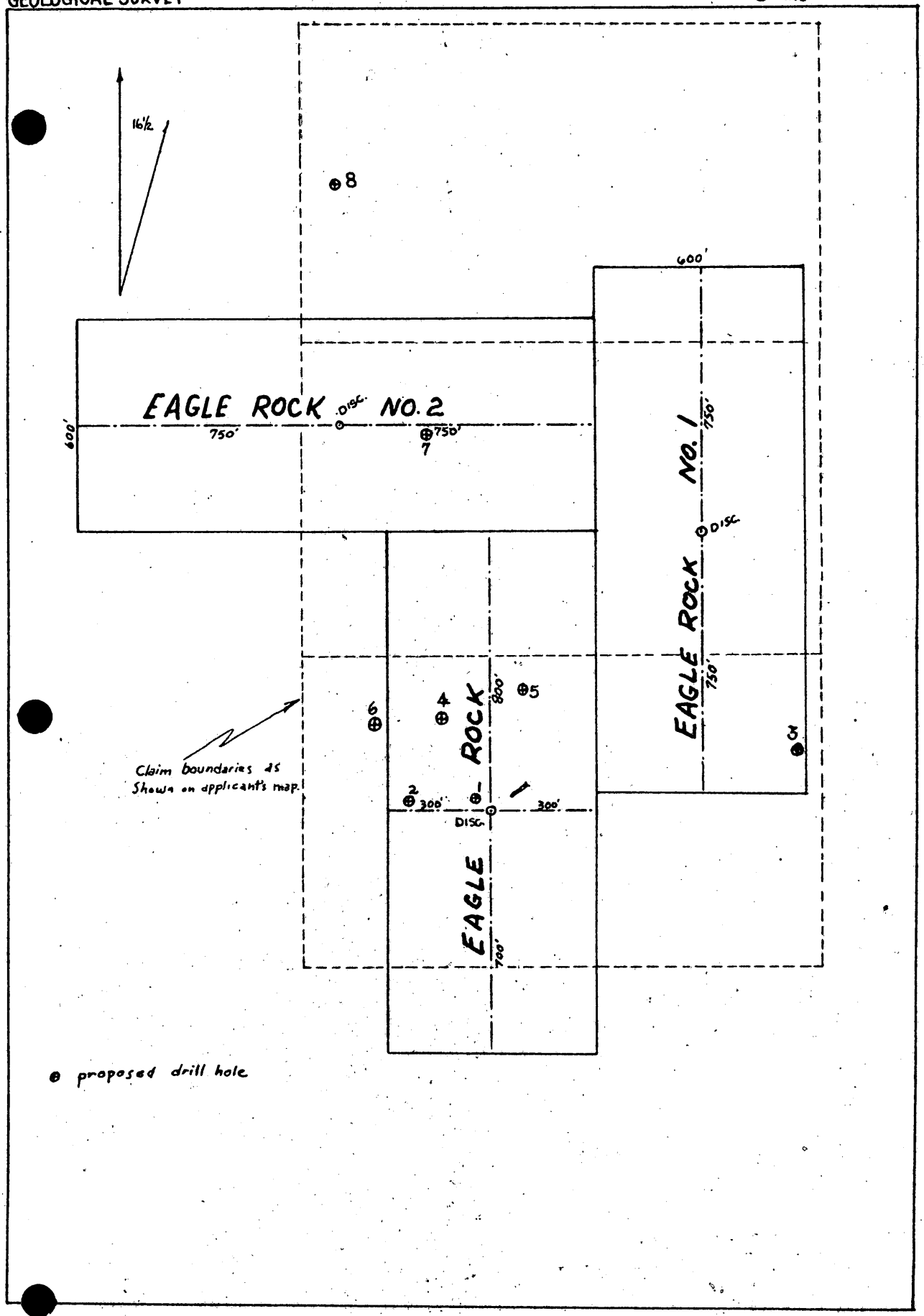


FIG. I INDEX MAP OF WESTERN UTAH

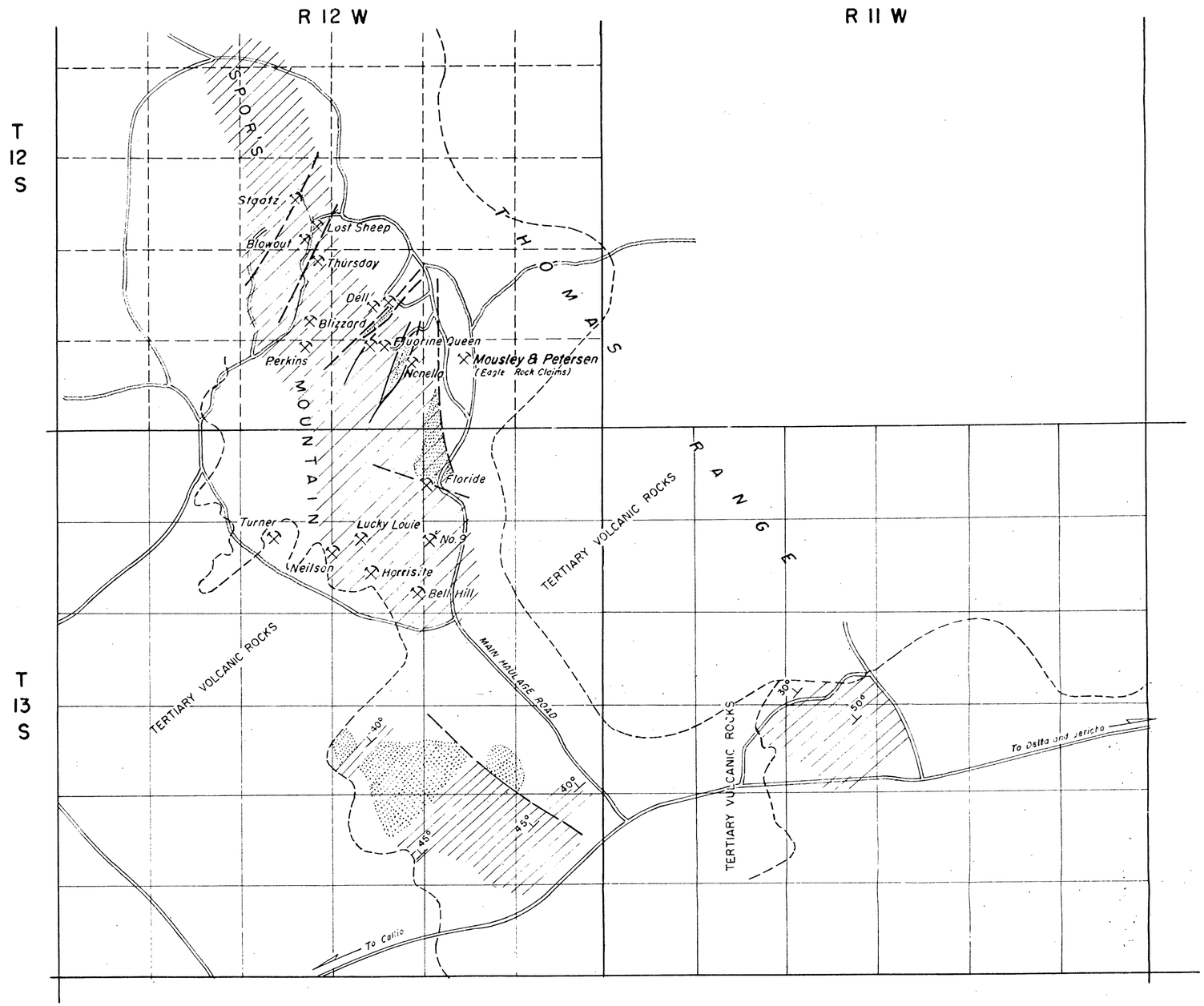
0 5 10 15 20 MILES
Scale



CLAIM MAP OF EAGLE ROCK PROPERTY, JUAB COUNTY, UTAH

FIG. 2

0 100 200 400 800 1200 ft.



Plan Map

0 5,000 10,000 15,000

SCALE OF FEET

LEGEND

- DOLOMITE
- QUARTZITE
- FORMATION BOUNDARY
- APPROX. LIMIT OF TERTIARY VOLCANIC ROCKS, WHERE KNOWN
- FAULT
- 45° STRIKE AND DIP OF BEDS
- BLOWOUT, MINE, OR PROSPECT

NOTE

DATA TAKEN FROM J. QUIGLEY MAP.

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Fig. 2 DMEA Docket No. 3704

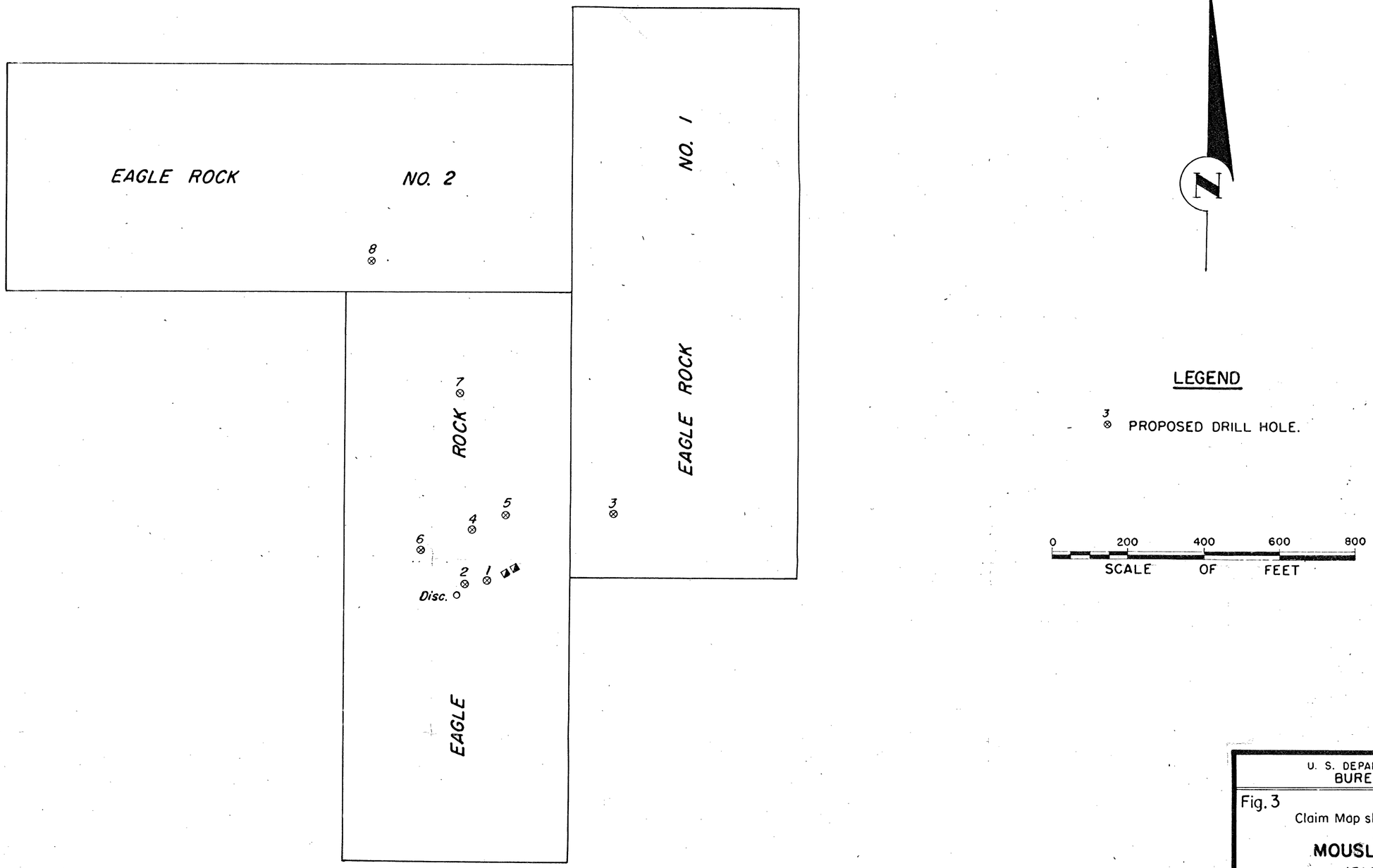
Plan Map

THOMAS RANGE FLUORITE DISTRICT

MOUSLEY & PETERSEN (EAGLE ROCK CLAIM)

JUAB COUNTY, UTAH

ENGINEER: *M. H. Howes*	DATE: JUNE 29, 1955
TRACED: JUNE, 1955; BY: A.P.T.S.	1900 - 340 - D
CHECKED:	



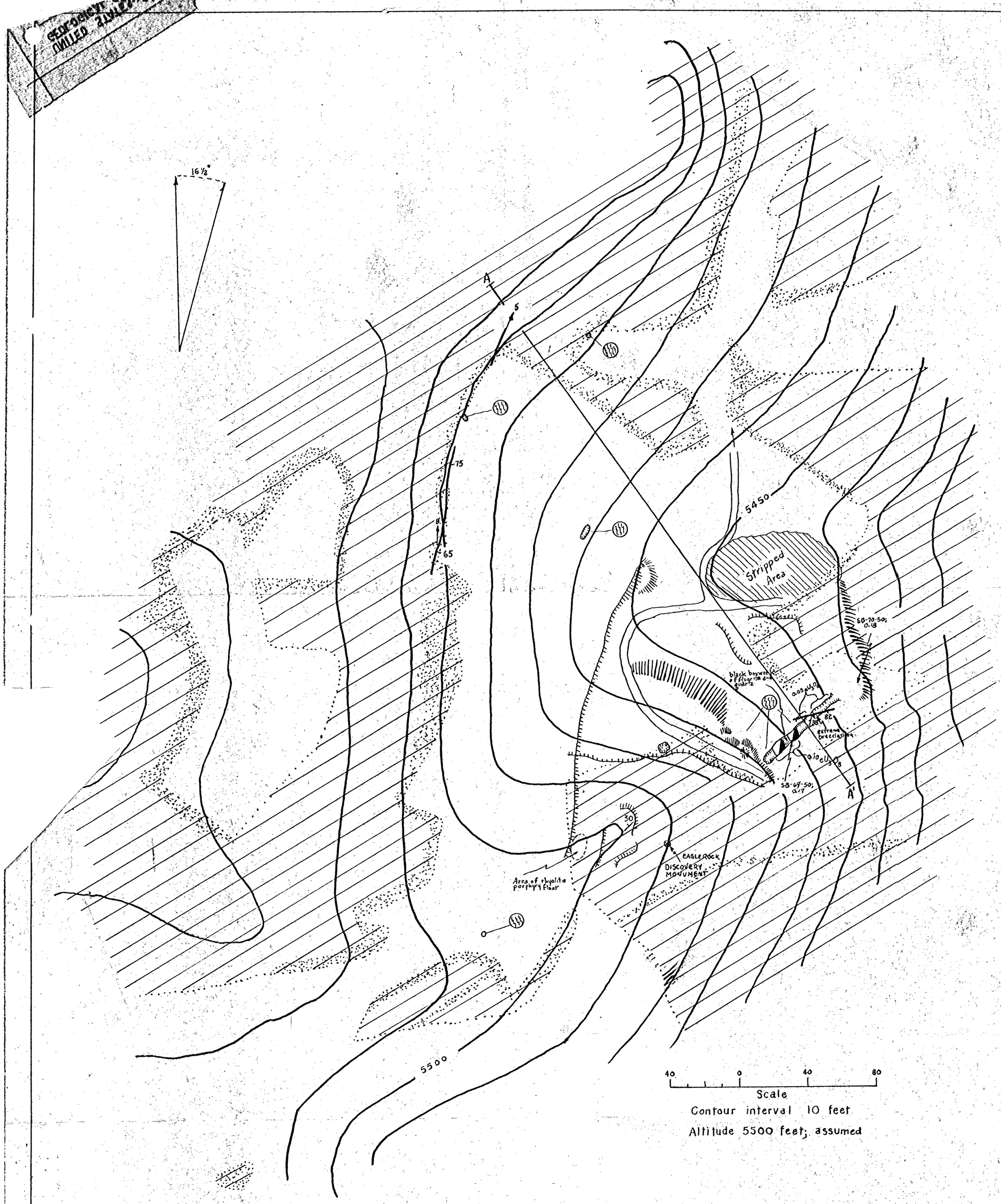
U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Fig. 3 DMEA Docket No. 3704

Claim Map showing Proposed Drill Holes
of
MOUSLEY & PETERSEN
(EAGLE ROCK CLAIMS)

JUAB COUNTY, UTAH

ENGINEER: *M. H. Howes*	DATE: JUNE 27, 1955
TRACED: JUNE, 1955; BY: A.P.T.S.	1900 - 339 - D
CHECKED:	



EXPLANATION

Alluvium

Dolomite

Silicified dolomite

Strongly altered dolomite

Ore body

Approximate contact

Limit of outcrop

30 Strike and dip of beds

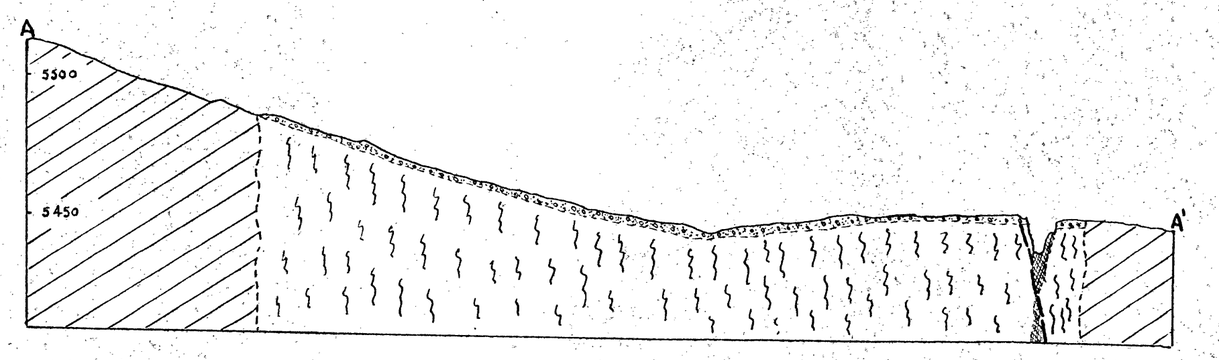
8 / 65 Fault, showing dip, bearing and plunge of slickensides

Open cut

Vertical shaft

Dump

SB-70-50; 0.18 Sample number; percent uranium



Adapted from Staatz and Bauer, TEIR 136. RW Osterstock 6-55

FIG. 3 GEOLOGIC MAP AND SECTION OF THE EAGLE ROCK PROPERTY, JUAB COUNTY, UTAH