[x] Audited

[ ] Certified

[illegible]RK ANALYSIS SHEET - DMEA PROJE[illegible]

Analysis as of 12/27/54
Incl. Voucher for Nov. 1954

[ ] Actual Cost

[x] Agreed Unit Costs

Name Intermountain Mining, Inc.

Docket No. 3281

State Utah

Commodity Uranium

Idm-E No. 710

OPERATION	AUTHORIZED Units	AUTHORIZED Cost	COMPLETED Units	COMPLETED Cost	NET COST
Drifting & Crosscutting					
Raising					
Shafts					
Winzes					
Drilling Diamond core (Specify)	2000	9100.00	1661	7557.55	
Surface Excavation					
Underground Excavation					
Roads and Trails					
Operating Equipment Purchased					
Surface Rehabilitation & Repairs					
Underground Rehabilitation					
New Building, Improvements, etc.					
Other (Specify) Analyses		175.00		20.00	
Totals		$9,275.00		$7,577.00	

Prepared by/s/ F. M. Mury

Project Summary Report

By: Ernest Wm. Ellis August 12, 1955

1. Docket No. DMEA-3281 (Uranium)
Contract No. Ide-2710

Operator - Intermountain Mining, Inc.
J. A. Chrysler, Jr., President,
L. G. Chrysler, Vice President,
P. O. Box 635
Chino, California

Property - Last Chance and Ring Cone unpatented lode mining claims, in secs. 28 and 33, T. 24 S., R. 20 E., S.L.B.& M., Grand County, Utah.

Operator's Property Rights - Leases

Claims located by Pearl Knight and J. B. Knight, recorded in Grand County, Book K., pages 363 and 364, amended location Book 15, pages 47 and 48 on December 7, 1953. Leased to J. A. Chrysler, recorded November 9, 1953. J. A. Chrysler assigned the lease, with the consent of the property owners, to Intermountain Mining, Inc. (recorded Book 19, pages 435-436, November 14, 1953). After lease was issued, J. B. and Pearl Knight sold the claims to the Thornburg Mining Co. The lease, however, is still valid, as was acknowledged in a letter seen by DMEA examining engineer.

Owner's Consent to Lien forms signed by Vanes Thornburg, d/b/a Thornburg Mining Co., attached to the contract.

2. Contract - dated September 20, 1954.

Executed by Region IV (now Region III) Executive Officer, W. H. King, under delegated authority.

Amount of contract	$9,275
Government participation at 75%	6,956

Work proposed -

7 diamond drill holes, aggregating 2,000 feet @ $4.55/ft. - $9,100.00, and chemical analyses.

Amendments -

No. 1, dated December 6, 1954, qualifies cost and number of chemical analyses.

Work completed -

360 feet plug-drilling
1301 feet core-drilling

Total - 1661 feet at $4.55/ft.	$7,557.55
4 chemical analyses @ $5/each	20.00
Total accepted cost	$7,577.55

3. Audit Report of Review, dated January 24, 1955

Total cost as billed by Contractor	$7,577.55
No exceptions	-
Total Accepted Cost	$7,577.55
Government participation at 75%	$5,683.16

4. Certification - none

5. Comments -

The following is an excerpt from the final engineering report of W. D. McMillan, Mining Engineer, dated March 14, 1955:

"Difficulty was experienced by both drilling contractors in the landslide debris and broken formations at the surface. No core was recovered in the upper section of any hole but corresponding sludge samples were saved.

"The first drilling contractor, E. E. Hubbard, had difficulty because of inexperienced personnel.

"Supervision at this project was less than satisfactory, especially in that the operator's representative, J. A. Chrysler did not provide core boxes during the first part of the drilling. The fact that the results had any value can be attributed partly to chance and partly to the experience of the second drilling contractor's personnel.

"Core recovery on the first 3 holes is estimated at 75 percent and on the last 3 holes at 95 percent or better. All except one hole was bottomed in the Moenkopi formation."

The Final Geological Report, dated June 20, 1955, by H. S. Johnson, USGS, states:

"Two 6-inch to 1-foot thick zones of weak uranium mineralization were found in the holes numbered E. H. Nos. 2 and 3. This uranium is associated with carbonaceous material and can not be considered evidence of a significant deposit. The 20-foot thickness of the 'purple-white' unit present beneath the Chinle formation in both these holes is near the maximum thickness for this unit and indicates that no channel is present. The lower 20 to 30 feet of the Chinle formation in the drilled area is a potential host rock for uranium but is not in a channel scour and can, therefore, be rated no higher than semifavorable. No uranium ore can be inferred on these claims as a result of this work."

The examining team stated that additional exploration, either with Government assistance or financed privately, was not recommended; also that since no discovery was made as the result of Government-assisted exploration, a certificate of discovery or development is not warranted or recommended. The field Team concurred in these conclusions.

Ernest Wm. Ellis

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

EWEllis/gla
cc to: Admr.'s Reading File
F. E. Johnson
Docket (original)
Code 700
Mr. Murphy

8/9/55 gk

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

COPY

224 New Customhouse
Denver, Colorado

July 28, 1955

Memorandum

To: Secretary, Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket DMEA 3281 (Uranium), Contract Idm-E710, Intermountain Mining, Inc. (Last Chance and Ring Cone Claims), Grand County, Utah

Enclosed are the following final reports pertaining to completed project work:

1. Two copies of the Operator's final report.

2. Original and three copies of the final geologic report by the Geological Survey.

3. Original and three copies of the final engineering report by the Bureau of Mines.

Final payment to the operator was processed by this office January 28, 1955 in conformance with the final Report of Review, dated January 24, 1955 by the Contract Administration and Audit Division.

The exploration work consisted of 1,661 feet of diamond drilling completed in six holes at a total accepted cost of $7,577.55. Government participation amounted to 75 per cent, or $5,683.16. The project did not result in a discovery or uranium ore and therefore certification of the project as a discovery or development is not recommended.

/s/ W. M. Traver

/s/ E. N. Harshman

DMEA Field Team

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
8-8-55
(date)

Final Field Team
report recd. 8/9/55

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

DMEA
Date Rec'd.
MAR 24 1955

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
March 23, 1955

RECEIVED
MAR - 4 1955

Memorandum

Executive Officer, DMEA Field Team, Region III

John F. Shaw, Project Supervisor

Subject: Final Engineering Report, Docket No. DMEA 3281, Contract Idm-E710, Last Chance and Ring Cone Claims, Intermountain Mining, Inc., (Uranium) Grand County, Utah.

Enclosed are the original and 11 copies of a final engineering report by W. D. McMillan covering contract No. Idm-E710.

The Intermountain Mining, Inc. applied for exploration assistance in the amount of $4,715.60. The proposed work consisted of seven wagon-drill holes having a total footage of 1,050 feet. The examining team recommended the construction of access roads, preparation of drill sites, and seven diamond core drill holes totalling a maximum of 2,000 feet at an estimated cost of $9,275.00. The contract was executed on this basis. The preparatory work was started the first part of October, and actual drilling commenced on October 6, 1954. The work was completed late in November.

No significant mineralization was encountered as a result of the exploration work, and additional work on these claims is not warranted. A Certification of Discovery or Development is not recommended.

John F. Shaw

John F. Shaw

JFS/mh
Enclosures

cc: 11 w/orig
Idm-E710
General

Reviewed by
DMEA OPERATING COMMITTEE
8-8-55
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM

REGION III

FINAL ENGINEERING REPORT

DMEA 3081, Exploration Project Contract Idm-E710

Last Chance and Ring Gene Claims

Intermountain Mining, Inc.

Grand County, Utah

Uranium

W. D. McMillan, Mining Engineer

March 14, 1955

Movie [illegible] by
DMEA OPERATING COMMITTEE
8-8-55
(date)

DMMA 3281
Contract Idm-E710

LAST CHANCE AND RING CONE CLAIMS
INTERMOUNTAIN MINING, INC.
GRAND COUNTY, UTAH

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DMEA 3081
Contract I4m-N710

LAST CHANCE AND RING CONE CLAIMS
INTERMOUNTAIN MINING, INC.
GRAND COUNTY, UTAH

FINAL ENGINEERING REPORT

By

W. D. McMillan

SUMMARY AND INTRODUCTION

In March, 1954, Intermountain Mining, Inc., a Nevada corporation, applied for Defense Minerals Exploration Administration assistance in the amount of $4,715.60 for exploration of uranium by 7 wagon drill holes with a total footage of 1,050 feet.

An examination of the property was made by a D.M.E.A. field team in August, 1954, during which they concluded that the exploration was warranted, but that the applicant's amount of work and cost estimates were too low.

The field team recommended access roads, preparation of drill sites, and 7 surface diamond core drills with a maximum of 2,000 feet at an estimated total cost of $9,275.00.

A contract on this basis was executed on September 20, 1954. Approximately on October 6, 1954, work was started on the preparatory work, and drilling commenced on October 26, 1954. Late in November, 1954, the project was completed without discovery of any ore.

A Certification of Discovery or Development is not warranted or recommended.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The Last Chance and King Cone claims are located in secs. 28 and 33, T. 24 S., R. 20 W., Salt Lake principal meridian, Seven Mile area, Grand County, Utah. They are near the Shinarump Group, presently being operated by the Thorburg Mining Company under a D.M.E.A. contract, 13.5 miles north of Moab, Utah, and one half mile west of Utah Highway 160, an oil surfaced highway. A rough access road extends within 500 feet of the proposed drill sites.

The property, at an elevation of about 5,000 feet, is in a deep box canyon (Corral Canyon) which extends west from the north-south valley at the highway. The canyon floor is about 300 feet above the floor of the valley. High cliffs of the Wingate Formation top the canyon walls, with Chinle beds forming steep slopes at the base. The floor of the canyon is obstructed by debris consisting largely of massive sandstone blocks.

The normally arid climate is favorable for surface operations throughout the year. There are extremes of heat and cold in summer and winter, and occasional heavy precipitation. Vegetation is sparse.

Mining supplies can be purchased in Moab, Utah, or in Grand Junction, Colo., the nearest major supply center, which can be reached by scheduled motor freight and bus service. Mining timber can be obtained from lumbering operations near Moab. Water for mining purposes can be hauled from the Colorado River at Moab. No electric power is available.

The nearest purchasing depot for uranium ores is at Monticello, 70 miles from the property.

The nearest living facilities are at Moab where housing is critical at present.

HISTORY, PRODUCTION AND OWNERSHIP

Uranium deposits in the Seven Mile area were discovered on the Shinarump Claims in 1949. Exploratory drilling has been done by the Atomic Energy Commission, and an indicated ore body is currently being investigated by a Government assisted underground exploration program.

Previous to this program, mining operations produced 1,600 tons of ore with an average content of 0.40 percent U_3O_8, and a total production to August, 1954, of about 2,000 tons of ore. There has been no production from the Intermountain Last Chance and Ring Cone claims.

The Last Chance and Ring Cone claims were located by Pearl Knight and N. S. Knight, respectively, on September 12, 1951, and recorded in the Grand County courthouse, entry numbers 208693 and 208694, respectively, Book 5K, pages 363 and 364, on September 17 and 16, 1951. An amended location was recorded in Book 15, pages 47 and 48 on December 7, 1953.

J. A. Chrysler obtained a lease on the two claims from J. B. and Pearl Knight for 10 years from October 23, 1953, with royalty payments of 15 percent of the mill returns and any bonus payments. Chrysler assigned the lease, with the consent of the property owners, to Intermountain Mining, Inc., a Nevada corporation, on November 14, 1953.

DESCRIPTION OF THE DEPOSITS

The ore deposits of the region, so far as known to date, occur in the basal 30 feet of the Chinle formation, which outcrops on a steep slope on the nearby Shinarump overlooking the main north and south valley. Stratigraphically, the beds correspond to the Shinarump formation but lack the characteristic coarse sandstone and quartz pebble conglomerate of the true Shinarump, and contain more limestone. Taking into account the 8° westerly dip of the Chinle beds and the westward rise of the

floor of Corral Canyon, the base of the Chinle is an estimated 250 feet below surface at the proposed drill sites. It has been determined at the nearby Shinarump Mine that the ore is found at two different stratigraphic horizons, one at the base of the Chinle, and one about 20 feet above the base. The proposed drilling was, therefore, planned to cut both horizons. Known ore deposits in the area range from 1 to 3 feet in thickness. The uranium occurs both as disseminated grains and small masses of uraninite, replacing carbonaceous material. Unless the uraninite is in masses large enough to be seen, the ore cannot be differentiated visually from barren rock. The deposits in the south workings of the Shinarump are comparatively uniform in grade. In the north workings, the deposit 20 feet above the base of the Chinle is erratic in grade and occurrence. The known ore does not occur in channels, but there are indications of ore trends.

WORK COMPLETED UNDER CONTRACT

Contract Idm-E710, which provided for access road, preparation of drill sites, and contract diamond core drilling of seven holes, not to exceed 2,000 feet at an estimated total cost of $9,275.00, with Government participation of 75 percent or $6,956.25 was executed on September 20, 1954.

On approximately October 6, 1954, work was started on 2,000 feet of access road to the Last Chance and Ring Cone claims, and shortly thereafter on 700 feet of road for the preparation of drill sites. This preparatory work was completed on October 23, 1954.

On October 26, 1954, diamond core drilling was started by Hubbard Drilling on Hole No. 1. This hole was drilled to a depth of 205 feet, at which depth a tool was broken in the hole, necessitating abandonment. Hole No. 1a was subsequently drilled at a location 3 feet from Hole No. 1, and cored from 120 to 140 feet where core had been lost in Hole No. 1 and from 205 feet to 240 feet, bottoming in the Moenkopi.

Hubbard Drilling Company drilled Holes Nos. 2 and 3 with respective depths to the Moenkopi formation of 203 and 260 feet.

The next three holes: Nos. EH 1, 2 and 3, with respective depths of 340, 303 and 255 feet, were drilled to the Moenkopi formation by Minerals Engineering Co.

SUMMARY OF DRILLING

Hole No.	Plug Drilling feet	Core Drilling feet	Total Depth feet	Drilled by
1 and 1A	40	200	240	E.E. Hubbard
2	80	183	263	E.E. Hubbard
3	80	180	260	E.E. Hubbard
EH-1	70	270	340	Minerals Engineering Co.
EH-2	50	253	303	Minerals Engineering Co.
EH-3	40	215	255	Minerals Engineering Co.
	360	1301		
	Total Drilling		1,661	

EXPENDITURES

The expenditures submitted by the applicant in Form 104A was for $7,757.55 as follows:

1,661 ft. of Drilling at $4.55 per foot	$7,557.55
4 Chemical analyses at $5.00	20.00
Total	$7,577.55
Government Participation, 75 percent	$5,683.16

Payment of the Government's participation is considered valid and proper.

EFFICIENCY OF OPERATIONS

Difficulty was experienced by both drilling contractors in the landslide debris and broken formations at the surface. No core was recovered in the upper section of any hole but corresponding sludge samples were saved.

The first drilling contractor, H. E. Hubbard, had difficulty because of inexperienced personnel.

Supervision at this project was less than satisfactory, especially in that the operator's representative, J. A. Chrysler, did not provide core boxes during the first part of the drilling. The fact that the results had any value can be attributed partly to chance and partly to the experience of the second drilling contractor's personnel.

Core recovery on the first 3 holes is estimated at 75 percent and on the last 3 holes at 95 percent or better. All except one hole was bottomed in the Moenkopi formation.

CONCLUSIONS

No worthwhile mineralization was encountered on the Last Chance and Ring Gone Claims. Slightly mineralized sandstone with a very small carbonaceous content was noted in logging the holes and 4 samples were analyzed as follows:

Hole No.	Depth of Sample From Collar-Feet	Width of Core Sample-Feet	Analyses Percent U_3O_8	$CaCO_3$	Cu.
RH-2	269.0	0.5	0.037	56.90	0.02
RH-2	269.7	?	0.086	24.65	0.03
RH-2	270.5	?	0.035	59.10	0.01
RH-3	219.0 to 219.50	?	0.042	34.20	0.01

RECOMMENDATIONS

Additional exploration, either with Government assistance or financed privately, is not recommended.

No discovery was made as the result of Government assisted exploration, and a Certificate of Discovery or Development is not warranted or recommended.

/mh

Date Rec'd.
JUL 19 1955
BUREAU OF MINES
Denver, Colorado

Defense Minerals Exploration Administration

July 14, 1955

Memorandum

To: DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3281 (Uranium), contract Idm-E 710, Intermountain Mining, Inc., Last Chance and Ring Come claims, Grand County, Utah

Enclosed are 10 copies of a final geologic report by H. S. Johnson, U. S. Geological Survey, describing work completed under the subject contract.

Geologic data from the six holes drilled on the claims indicate that the Chinle sediments are only semi-favorable for the occurrence of uranium ore deposits.

Only trace amounts of uranium were found in two of the six holes and it is recommended that a certificate of discovery not be issued. No additional work, with Government assistance, appears justified on the subject claims.

E. N. Harshman

E. N. Harshman
Member, Field Team

EHHarshman:dr

Enclosures (10)

Reviewed by
DMEA OPERATING COMMITTEE
8-8-55
(date)

DMEA
Date Rec'd.

JUL 15 1955

BUREAU OF MINES
Denver, Colorado

July 11, 1955

Memorandum

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

From: J. William Hasler

Subject: DMEA 3281, contract Idm-E 710, Intermountain Mining, Inc., Last Chance and Ring Cone claims, Grand County, Utah

Enclosed are 12 copies of a final geologic report, including the required number of maps, on the subject docket by M. S. Johnson, USGS.

The Intermountain Mining, Inc., of Chico, California and Moab, Utah, applied for DMEA loan in 1954. A field examination on the subject docket resulted in the execution of a contract to drill seven holes on the Last Chance and Ring Cone claims, Grand County, Utah, to test the possibility of uranium deposits in the Corral Canyon area.

Six holes were drilled and the contract was completed in December 1954 under contract Idm-E 710. There was not sufficient footage to complete the seventh hole; consequently, the applicant completed only six holes in testing the lower Chinle sediments. There were only trace amounts of uranium discovered in two of the holes and there was no material of ore grade found in any of the holes drilled.

The exploration suggests that the Chinle formation on these claims is only semi-favorable for the occurrence of uranium deposits. It is concluded that the chances of finding ore on the Last Chance and Ring Cone claims are not good, and that additional exploration is not warranted on these claims at this time. I concur with the conclusions made by Mr. Johnson, and, therefore, recommend that no further work be done by Defense Minerals Exploration Administration.

J. William Hasler
J. William Hasler,
Geologist

JWH/mlr

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
8-8-55
(date)

UNITED STATES DEPARTMENT OF THE INTERIOR

DOUGLAS McKAY, SECRETARY

RECEIVED

DEFENSE MINERALS EXPLORATION ADMINISTRATION
REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3281, contract Idm-E 710, Intermountain Mining, Inc.,
Last Chance and Ring Cone claims, Grand County, Utah

Uranium

Final Geologic Report

by

H. S. Johnson
U. S. Geological Survey

June 20, 1955

Reviewed by
DMEA OPERATING COMMITTEE
8-8-55
(date)

INTRODUCTION AND SUMMARY

Intermountain Mining, Inc., of Chico, California and Moab, Utah, applied early in 1954 for DMEA assistance in exploring for uranium on the Last Chance and Ring Cone claims at the head of Corral Canyon in secs. 28 and 33, T. 24 S., R. 20 E., Grand County, Utah (fig. 1). DMEA representatives made a field examination of the property on April 9, 1954, and recommended approval of a small drilling project to explore the uranium potentialities of the Chinle formation on the subject claims.

Six holes were drilled during October, November, and December 1954 on the Last Chance and Ring Cone claims under contract Idm-E 710. Traces of uranium were discovered in two holes, but no ore-grade rock was found.

Results of the exploration suggest the Chinle formation under the Last Chance and Ring Cone claims is semi-favorable for uranium deposits. No ore-grade rock was found, and no further exploration is warranted on these claims at the present time. It is recommended that no certificate of discovery be issued.

GEOLOGIC SETTING

The rocks exposed in the vicinity of the Last Chance and Ring Cone claims in the Corral-Seven Mile Canyon area total over 1,000 feet of Permian and Triassic shales, siltstones, sandstones, and grits of continental origin (fig. 2). These beds are on the west flank of the Moab anticline and strike N. 15° E., and dip 8° W. They outcrop in a steep scarp roughly paralleling the axis of the Moab anticline and the Moab fault, a normal fault of about 1,500 to 1,800 feet displacement.

The Cutler formation of Permian age is exposed at the base of the scarp near the mouth of Corral Canyon. Only the top 50 feet or so of the formation can be seen, and this is composed of reddish-brown to orange colored arkosic grit, coarse grained sandstone, shaly sandstone, and shale. No uranium mineralization is known in the Cutler formation in this area.

The Moenkopi formation (Triassic) is less than 25 feet thick where it is exposed near the mouth of Corral Canyon. It appears to be thinning against the crest of the Moab anticline, and a few miles to the south and west is several hundred feet thick. It is largely made up of thin-bedded shale and fine-grained shaly sandstone with a distinctive chocolate brown color. Flakes of detrital mica and abundant ripple marks characterize this formation.

Overlying the Moenkopi is a thin unit, discontinuous in places, that is thought to be the possible equivalent of the Shinarump conglomerate of Triassic age. There appears to be slight angularity between the Shinarump(?) equivalent and the underlying Moenkopi formation. The Moenkopi was probably slightly uplifted over the Moab anticline and then beveled by erosion before deposition of the overlying unit. The Shinarump (?) equivalent is up to 20 feet thick in the Corral Canyon area and is predominantly a poorly sorted sandstone or siltstone with medium to coarse subangular to subrounded quartz grains in a fine grained sand, silt, or clay matrix. The color of this unit ranges from a bleached white to intense shades of red and purple. The

coloring does not follow stratification and in gross aspect presents a unique mottled appearance. Because of the mottled coloring this unit is locally referred to as the "purple-white".

Unconformably overlying the "purple-white" unit (Shinarump (?)) is the 300-foot thick Chinle formation of Triassic age. In the Seven Mile-Corral Canyon area the Chinle can be divided into an upper unit that is predominantly reddish-brown shale and fine grained sandstone and a lower unit that is composed predominantly of thin, lenticular beds of green to pale red, ripple-laminated, siltstone, shale, and lime-pebble conglomerate. The basal Chinle units scour into the underlying "purple-white" bed, and relief on this contact may be up to 20-30 feet in a horizontal distance of 100 feet. The Chinle sediments filling these scours or "channels" are thought to be the most favorable host rocks for uranium ores in the Seven Mile-Corral Canyon area.

Overlying the Chinle formation conformably is the 250-300 foot thick Wingate sandstone of Triassic age. This is composed of massive well-sorted, yellowish gray to pale orange, fine-grained sandstone that weathers to a dark brown color and forms a sheer cliff about the steep Chinle slopes.

The 200-foot thick Kayenta formation of Jurassic (?) age overlies the Wingate sandstone and is composed of reddish to orange colored fine grained sandstones and sandy shales. The Kayenta is more resistant than the poorly cemented Wingate and forms a high mesa surface in this area.

ORE DEPOSITS

In the Seven Mile-Corral Canyon area, uranium deposits occur mainly in the lower 30 feet of the Chinle formation. No uranium is known in the Cutler formation or in the Moenkopi, Wingate, or Kayenta formations in this area. Sparse amounts of yellow, green, and blue secondary uranium and copper minerals occasionally coat sand grains in the "purple-white" unit (Shinarump (?) equivalent) but these are thought to result from downward leaching of uranium from the overlying Chinle formation and do not represent significant deposits. A detailed account of the deposits in the Chinle formation on the Shinarump claims near the mouth of Corral Canyon has been given by W. I. Finch[1].

---

[1] Finch, W. I., 1953, Geology of the Shinarump No. 1 mine, Seven Mile Canyon area, Grand County, Utah: U. S. Geol. Survey Circ. 336.

Uranium occurs principally in three zones near the bottom of the Chinle formation in the Corral Canyon area. The lower ore zone is about 5 to 10 feet thick and is at the base of the formation. This zone is composed of siltstone interbedded with mudstone, sandstone, and lime pebble conglomerate. Where mineralized the beds are gray to green in color. Where barren they are likely to be red or brown. The middle ore zone is about 10 feet above the base of the formation and is in a 1-foot thick lime pebble conglomerate bed. The upper zone is about 23 feet above the base of the formation and is in greenish-gray siltstone and lime pebble conglomerate. Pitchblende is the principal uranium mineral and occurs associated with chalcocite and other sulfides replacing

carbonaceous material and disseminated in limy siltstone. Production from the Shinarump claims at the mount of Corral Canyon was about 2,400 tons of ore averaging 0.35 percent U_3O_8 through September 1954. The deposit on the Shinarump claims is probably from 5000 to 50,000 tons in size and is the largest deposit found to date in the Seven Mile-Corral Canyon area.

Uranium deposits in the Chinle formation in the Seven Mile-Corral canyon area are largely controlled by primary sedimentary and lithologic features and occur as lenses oriented roughly parallel to the sedimentary trends in the host rock. The most favorable host rocks appear to be the sediments filling scours or "channels" cut into the underlying "purple-white" unit and sometimes through that into the Moenkopi or Cutler whichever may be the next underlying bed. Some of these "channels" are not obvious, and their presence may sometimes best be recognized by a thinning of the "purple-white" unit due to its being scoured out by the Chinle above. It is thought by the writer that this principal can be used to determine whether or not drill cores are cutting channel sediments and, therefore, favorable ground.

Preliminary mapping by the writer in the Shinarump Nos. 1 and 3 mines at the head of Corral Canyon suggests that sedimentary features in the ore-bearing unit trend from S. 45° W. to N. 45° W. If the Shinarump Nos. 1 and 3 mines are in a shallow, westerly trending channel as is postulated, this channel could conceivably pass under or near the Last Chance and Ring Cone claims 2,500 feet to the west.

EXPLORATION

After the field examination of the Last Chance and Ring Cone claims made by DMEA representatives on April 9, 1954, it was recommended that seven core holes be drilled to test for a possible westerly extension of the channel or favorable ground present at the Shinarump Nos. 1 and 3 mines 2,500 feet to the east. Because of the limited accessible area on the subject claims at the head of Corral Canyon, the holes could be spaced only 100 feet apart. It would have been better to space the holes 200 to 500 feet apart, but the presence of sheer Wingate sandstone cliffs at the head of the canyon prevented this.

During October, November, and December 1954, six core holes were drilled to the base of the Chinle formation on the Last Chance and Ring Cone claims. Hole depths ranged from 240 to 340 feet and totaled 1,718 feet. The seventh hole was not drilled because the remaining 282 feet of the 2,000 allowed in the contract was not sufficient to reach the base of the Chinle formation, estimated to be 330 to 340 feet deep at the proposed site of the seventh hole.

The holes were cored from about the 50 foot depth to the bottom. Core was boxed and preserved at Intermountain Mining Company offices in Moab, Utah, until it could be logged by DMEA representatives. Sludge samples were collected in paper bags during the drilling, but no use has been made of these samples. Hole No. 1 was stopped short of the base of the Chinle and was later re-drilled to the top of the Moenkopi formation. Hole No. 3 was stopped in the first foot of the "purple-white" bed (Shinarump (?)) but is believed by the writer to have passed through the potential ore-bearing unit and should be considered a completed hole.

All core was logged by the writer and the logs are attached hereto and made a part of this report. Two 6-inch to 1-foot thick zones of weak uranium mineralization were found in the holes numbered E. H. Nos. 2 and 3. This uranium is associated with carbonaceous material and can not be considered evidence of a significant deposit. The 20-foot thickness of the "purple-white" unit present beneath the Chinle formation in both these holes is near the maximum thickness for this unit and indicates that no channel is present. The lower 20 to 30 feet of the Chinle formation in the drilled area is a potential host rock for uranium but is not in a channel scour and can, therefore, be rated no higher than semifavorable. No uranium ore can be inferred on these claims as a result of this work.

Date: 12/2/54
Logged by: H. S. Johnson

Subject: Log of diamond drill hole No. 1 (J. A. Chrysler), Last Chance and Ring Cone claims, Corral Canyon, Grand County, Utah

Footage	Description of core (1-13/16" diameter)	Radiometric data 1/
0-50' (plug bit)	No core. All in upper part of Chinle fm.	
50-197' (90% rec.)	Interbedded gn. and red VF st. and silty sh. with occasional thin beds of mud pebble c.g in VF st. matrix; predominantly red from 90-197' (Core was poorly labeled and sequence hard to follow).	0.01 m/hr.
197-205' (95% rec.)	White to gnish-white F. SS. and limy mud and st. pebble cg. in matrix of F. conglomeratic SS. (Limy); conglomeratic SS. matrix has S. clear rounded to semi-angular qtz. pebbles becoming increasingly more A. towards bottom of this unit; qtz. pebbles are up to 1/8" in diam.; mud and st. pebbles are up to 1" in diam. This is the potential OB unit; no dbn. noted; No Umin. noted; rating = semi-fav.	"
205-225' (95% rec.)	Mottled purple and white mud pebble cg. in matrix of VF SS and st., matrix is itself conglomeratic in that it contains S-A clear, rounded to semi-angular qtz. pebbles up to 1/8" in diam.; these qtz. grains and pebbles become increasingly more A. downward. This is the "purple-white" unit.	"
225-240'	Moenkopi; red-brn. sh. and SS. with biotite or chlorite flakes in it.	

Bottom at 240'; Summary = Semi-fav.

1/ Obtained by scanning core with Precision Model III "Scintillator". Background = .01 mr/hr.

Date: 12/2/54
Logged by: H. S. Johnson

Subject: Log of diamond drill hole No. 2 (J. A. Chrysler), Last Chance and Ring Cone claims, Corral Canyon, Grand County, Utah

Footage	Description of core (1-13/16" diam.)	Radiometric data 1/
0-80' Plug bit	No core. All in talus debris or upper 150' of Chinle fm.	
80-261' (80% rec.)	Interbedded red-brn. and gnish-white VF st., silty sh., and a little VF ss.; predominantly gn. from 80-160'; predominantly red from 160-180'; predominantly gn. from 180-216'; predominantly red from 216-226'; predominantly gn. from 226-261'; ripple X-laminated in part.	0.01 mr/hr
261-275' (60% rec.)	Gnish-white to white F SS., St., and mud pebble cg. in a matrix of conglomeratic VF ss.; limy to very limy. This is the potential OB unit. It contains practically no cbn. but otherwise looke fairly favorable. No U min. noted.	"
275-290' (90% rec.)	Mottled purple and white color; conglomeratic VF-F ss. and limy st. and mud pebble cg. in matrix of conglomeratic VF ss.; matrix here contains S-A clear, rounded to semi-angular qtz. pebbles up to 1/8" in diam. In detail this unit has lithology very similar to unit 261-275' above. In gross aspect this unit can be separated on basis of the purple-white mottling. I think this is the "purple-white" bed.	"
290-320' (90% rec.)	Moenkopi and/or Cutler fm.; pale red to red-brn. sh. and arkosic ss. with biotite or chlorite flakes in it.	"

Bottom at 320' ; Summary = Semi-fav.

1 Obtained by scanning core with Precision Model III "Scintillator"
Background = 0.01 mr/hr

Date: 12/2/54
Logged by: H. S. Johnson

Subject: Log of diamond drill hole No. 3 (J. A. Chrysler), Last Chance and Ring Cone claims, Corral Canyon, Grand County, Utah

Footage	Description of core (1-13/16" in diam.)	Radiometric data 1/
0-80' (plug bit)	No core. All in upper 150' of Chinle fm.	
80-145' (50% rec.)	Interbedded red-brn. and green VF st. and silty sh. and VF ss.; Ripple X-laminated in part; predominantly red in color. No core from 110-130' (this probably same as rest of this section of the hole).	0.01 mr/hr
145-245' (70% rec.)	Gn. VF st. and silty sh. with a little mud pebble cg. in VF ss. matrix; a little interbedded red VF st. but predominantly gn. in color; ripple X-laminated in part; 1' thick mud pebble cg. bed at 155' (mud pebbles up to 1/4" in diam.)	"
245-259' (90% rec)	White to gnish-white VF ss. and st. in upper 3'; goes to mud pebble cg. (pebble up to 1" diam.) in VF ss. to F ss. matrix below 258'. This ss. matrix is conglomeratic itself in that it contains S amts. of clear, rounded qtz. grains and pebbles up to 1/8" in diam. This is the potential OB unit but it contains no U min. and no cbn. Rating = semi-fav.	"
259-260' (99% rec.)	Mottled purple andwhite conglomeratic st.; contains S clear, rounded qtz. grains and pebbles up to 1/8" in diam.; I think this is the top of the "purple-white" unit. The top of the Moenkopi should be at approx. 279'	"

Bottom at 260'; Summary = Semi-fav.

1/ Obtained by scanning core with Precision Model III "Scintillator". Background = 0.01

Date: 12/1/54
Logged by: H.S. Johnson

Subject: Log of diamond drill hole E. H. No. 1, Last Chance and Ring Cone claims, Corral Canyon, Grand County, Utah.

Footage	Description of core (1 3/8" in diam.)	Radiometric data 1/
0-70' (plug bit)	No core. All in talus debris or upper part of Chinle fm.	-
70-95' (98% rec.)	Pale red-brn. VF st. and silty sh.; ripple X-laminated	0.015 mr/hr
95-132' (98% rec.)	Gn. to gnish-white VF ss. st., and silty sh.; ripple X-laminated; mostly VF ss. from 103-127'; mud pebble cg. from 127-132'.	"
132-142' (98% rec.)	Red to pink st. and sandy sh.; ripple X-laminated.	"
142-196' (98% rec.)	Interlayered red and gn. VF st. and sandy sh.; ripple X-laminated; color changes every few inches; mostly gn. from 165-184'; 1' thick limy mud pebble cg. bed at 183'; mostly red from 184-196'.	"
196-220' (98% rec.)	Gn. to gnish-white VF st., sandy sh., and mud pebble cg.; ripple X-laminated, contorted bedding in part; S. cbn. films. and frags. of cbnized wood at 200'; fossil shells (Unios") at 203' .	"
220-225' (98% rec.)	Red-brn. VF st. and sandy sh.	"
225-253' (98% rec.)	Gn. to gnish-white VF st. and sandy sh.; ripple X-laminated.	"
253-276' (98% rec.)	Red-brn. st.; ripple X-laminated; gn. st. from 263-266'	"
276-288' (98% rec.)	Gn. to gnish-white VF st, silty sh., and a little mud pebble cg.; 6" of mud pebble cg. at 284'	"

1/ Obtained by scanning core with Precision Model III "Scintillator". Background = 0.015 mr/hr.

288-300' (98% rec.)	L gnish-white VF ss. and mud pebble cg. with sandy matrix; mud pebbles up to 1/4" in diam.; predominantly white colored; about 2' of mud pebble cg. with much intermixed red ms at 290'; mostly F ss. from 290-295'; gnish-white and red mud pebble cg. from 295-300'. This is potential OB unit.	0.015 mr/hr
300-317' (98% rec.)	Mostly L gnish-white with some purplish red mixed in; mud pebble cg. in matrix of F. conglomeratic ss.; clear, rounded to semi-angular qtz. grains and pebbles become increasingly more common below 300'. I think this is the "purple-white" unit.	"
317-340' (98% rec.)	Moenkopi; red-brn. shaly st. with A. mica flakes on bedding planes; several feet of F. poorly sorted ss. at 325'. The bottom of the "purple-white" unit shows a 6" zone of re-worked Moenkopi with clear, rounded qtz. grains and pebble in it.	"

Bottom at 340'; Summary = Semi-fav.

Date: 12-1-54
Logged by: H.S. Johnson

Subject: Log of diamond drill hole E.H. No. 2, Last Chance and Ring Cone claims, Corral Canyon, Grand County, Utah.

Footage	Description of core (1 3/8" in diam.)	Radiometric data 1/
0-50' (plug bit)	No core. All in talus debris or upper 50-100' of Chinle fm.	-
50-64' (98% rec.)	Red-brn. VF st., VF ss., ms, and sh.; S amts of white mica; thin ripple laminae; very S splotches of gn. in the red sh.; slightly limy	0.015 mr/hr
64-96' (98% rec. except for 70% loss in 85-92" section)	Gnish-white with slight purplish tinge; VF-F ss., shaley ss.;and st.; qtz. grains poorly sorted and semi-angular; frags. of gn. ms. between qtz. grains, slightly limy; gn. ms. from 85-92	"
96-108' (80% rec.)	Mottled red and gn.; predominantly red; claystone and VF st. to VF ss.; slightly limy ; last 5' is all red-brn.; thin ripple X-laminae and slightly contorted bedding.	"
108-119' (98% rec.)	Gn. claystone and ms; very thin ripple X-laminae; slightly limy; 6" of red ms at 118'	"
119-184' (98% rec.)	Mottled gn. & red; predominantly gn.; VF st., sh., and st. pebble cg.; 2' st. pebble cg. bed at 120'; 1' st. pebble cg. bed at 128'; strong ripple X-laminae from 122-127; S cbn. films in gn. sh. from 133-140';strong ripple X-laminae from 143-145' and from 160-173'; color is gnish-white; mostly VF st. and claystone; 1' thick ls. and st. pebble cg. bed at 174' and 178'; shell fossils ("unios"(?)) at 180'; all gn. st. and ls. & st. pebble cg. in this section of the core is very limy; predominant color is gnish-white; strong ripple X-laminae.	"

1/ Obtained by scanning core with Precision Model III "Scintillator". Background = 0.015 mr/hr.

E. H. No. 2 --- continued

184-195' (98% rec.)	Mottled red and gn. sh. and VF st.; predominantly red; 6" ls. pebble cg. bed at 190'; strong ripple X-laminae in the sh. and st.; S cbn films along bedding in st.	0.015 mr/hr
195-220' (99% rec.)	Very light gn. to gnish-white st., shaley st.; 1' of ls pebble cg. at 197' and 207'; st. has ripple X-laminae; pebble cg. is very limy and all other rock is partly limy.	"
220-233' (99% rec.)	Red-brn. VF st. and silty sh.; ripple X-laminated	"
233-240' (99% rec.)	Gnish-white VF st. and silty sh.; ripple X-laminated	"
240-252' (99% rec.)	Pale reddish-brn. st. and silty sh.; ripple X-laminated	"
252-269' (99% rec)	Gn. to gnish-white st. and silty sh.; ripple X-laminated	"
269-270' (95% rec.)	Gn. to gnish-white clay pebble shaley cg.; S cbn. films and wood frags. along bedding planes; wood is cbnized; weakly mineralized; S pyrite and possibly chalcopyrite; U is assoc. with cbnized wood; est. grade over 1'= 0.02-.05 percent U_3O_8.	.05 mr/hr
270-271.6' (99% rec.)	Gn. to gnish-white shaley clay pebble cg.; S. pyrite; S. cbn films; trace of U min.	.03 mr/hr
271.6-275' (99% rec.)	White to gnish-white VF-F ss. with st. and limy st. pebbles in it; pebbles are up to 1/8" in diameter; qtz. grains become coarser in lower part.	.015 mr/hr
275-293' (98% rec.)	Mottled gnish-white and purplish-red ms. and st. pebble cg., F-M ss., and shaley Ms pebble cg. with occasional qtz. pebble up to 1/8" in diam.; gtz. pebbles are clear and well rounded; in bottom 10' qtz. pebbles become A. and are sub-angular. I think this is the "purple-white" unit.	"

E. H. No. 2 --- continued

293-300' (95%)	Red-brn. sh. and VF. st.; Moenkopi fm.	.015 mr/hr
300-303' (98% rec.)	Purplish-red M. ss.; arkosic; has biotite or chlorite flakes in it; Cutler (?) fm.	"

Bottom at 303'; Summary = Weakly mineralized

Date: 12-2-54
Logged by: H. S. Johnson

Subject: Log of diamond drill hole E. H. No. 3, Last Chance and Ring Cone claims, Corral Canyon, Grand County, Utah

Footage		Radiometric data 1/
0-40' (plug bit)	No core. All in talus debris or Chinle fm. st. and sh.	-
40-115' (98% rec.)	Predominantly light pink to reddish-brn. with a little inter-bedded gn.; VF st., sandy sh., and ms.; ripple X-laminated in part	0.015 mr/hr
115-179' (98% rec.)	Predominantly gn.; VF st., silty sh., andmud pebble cg.; 1' thick fossil shell (Unios (?)) bed at 145'; mud pebble cg. beds are up to 1' thick and pebbles are up to 1" in diam.; S. cbn. films and frags. of cbnized wood occur in the mud pebble cg. zones; some replacement of cbn. by marcasite (?); no U min. with the cbn.	"
179-204' (98% rec.)	Predominantly red-brn. VF st. and silty sh.; strong ripple X-laminations.	"
204-219' (98% rec.)	Predominantly gn. to gnish-white; VF st. and silty sh. with a little mud pebble cg.; ripple X-laminated in part.	"
219-220' (98% rec.)	Gn. st. and mud pebble cg.; 6" of mud pebble cg. at 219' is very weakly mineralized; mud pebbles up to 1" in diam.; est. grade is 0.02-.05 percent U_3O_8 over 6" thickness.	.05 mr/hr
220-230' (99% rec.)	White to gnish-white F. ss., st. and mud pebble cg. in F. ss. matrix; mud pebbles up to 1" in diam.	.015 mr/hr
230-252' (99% rec.)	Mottled gnish-white and purplish-red F. ss., st. and mud pebble cg. in F. conglomeratic ss. matrix; clear, rounded to semi-angular qtz. pebbles up to 1/8" in diam.become increasingly more A. below 230'. This is the "purple-white" unit.	"
252-255' (99% rec.)	Moenkopi; red-brn. sh.; thin, paper-like bedding.	.015 mr/hr.

Bottom at 255'; Summary = Weakly mineralized

1/ Obtained by scanning core with Precision M del III "Scintillator". Background = 0.016 mr/hr

CONCLUSIONS AND RECOMMENDATIONS

DMEA exploration on the Last Chance and Ring Cone claims, Corral Canyon, Grand County, Utah, in October-December 1954 found traces of uranium-bearing rock, but no significant deposit. The lower 20 feet of the Chinle formation under the subject claims is considered semi-favorable to favorable for economic uranium deposits but no reserves of ore-grade rock can be inferred.

Further exploration by the Government on the subject claims is not warranted at the present time. Work on the Shinarump claims and other claims in the Seven Mile-Corral Canyon area should be carefully followed in the hope that more information on ore trends in this area can be obtained. Any future exploration on the subject claims should be guided by results on the Shinarump and adjacent claims.

No minable uranium deposit is known on the Last Chance and Ring Cone claims, and no reserves of ore-grade rock can be inferred as a result of DMEA exploration. Accordingly, it is recommended that no certificate of discovery be issued.

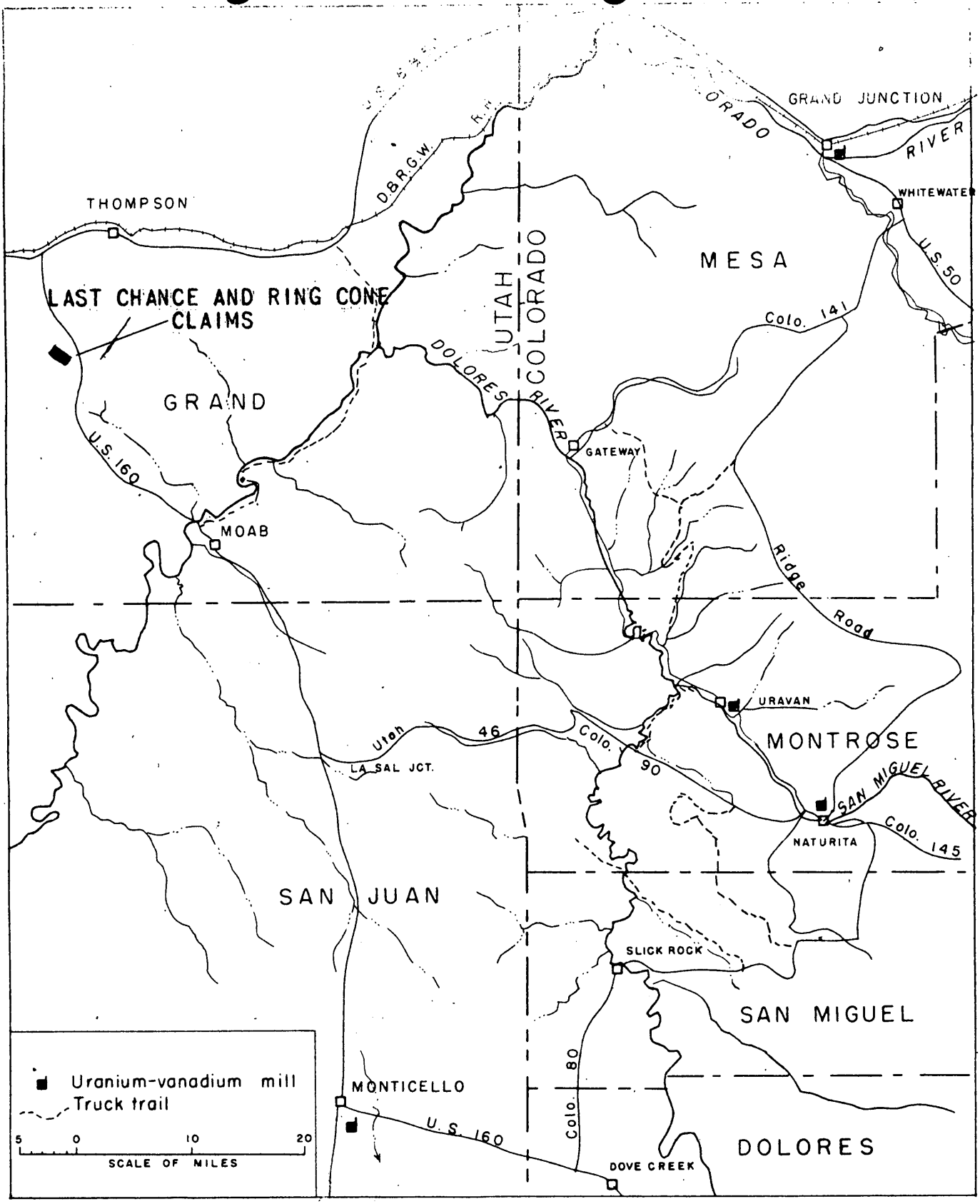
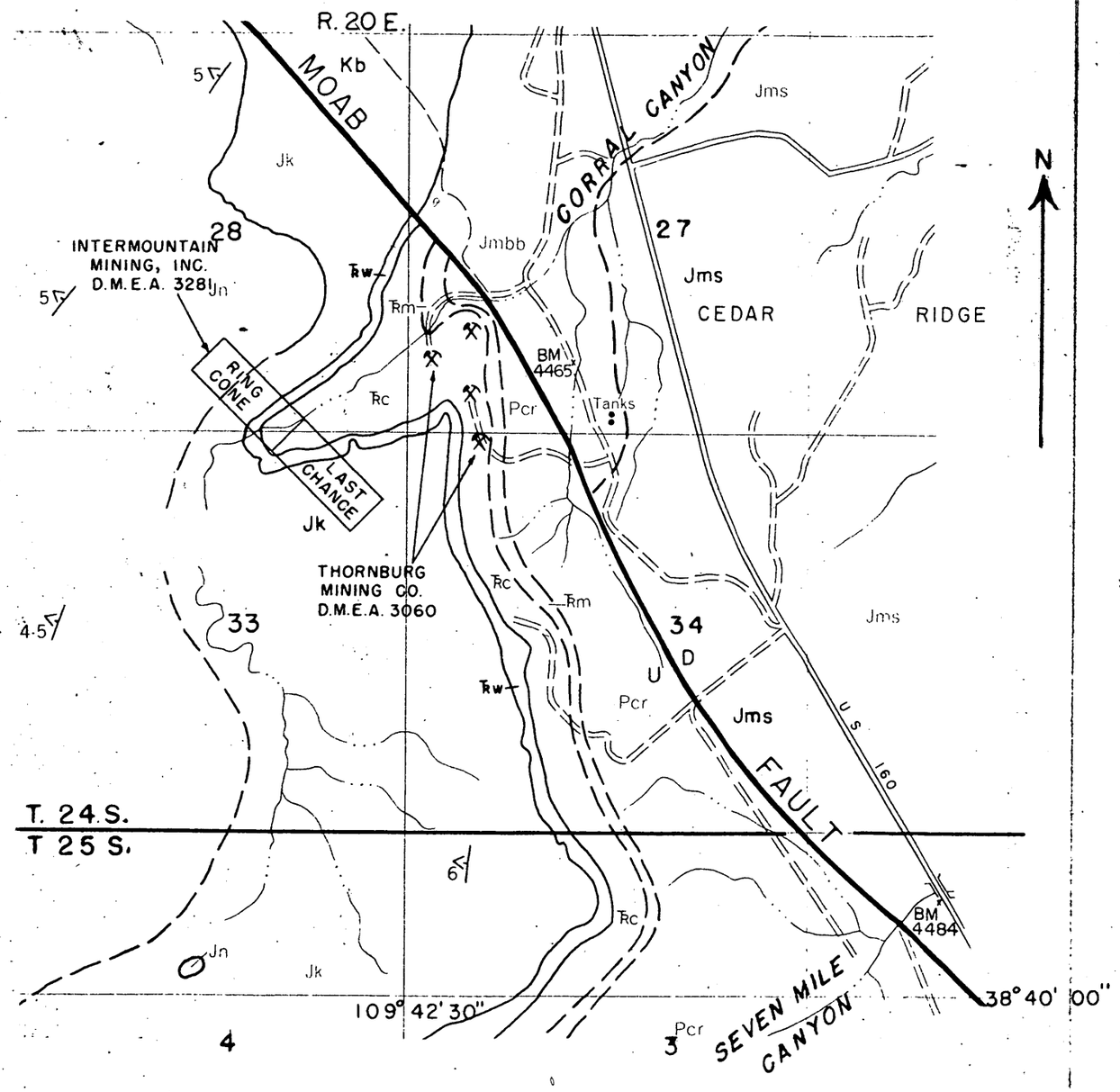


Figure 1. INDEX MAP OF PART OF COLORADO PLATEAU SHOWING LOCATION OF LAST CHANCE AND RING CONE CLAIMS, INTERMOUNTAIN MINING INC., GRAND COUNTY, UTAH

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SUEVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET NO. 3281



EXPLANATION

Jmbb	JURASSIC BRUSHY BASIN MEMBER OF MORRISON FORMATION
Jms	JURASSIC SALT WASH MEMBER OF MORRISON FORMATION
Jn	JURASSIC (?) NAVAJO SANDSTONE
Jk	JURASSIC (?) KAYENTA FORMATION
Ꞧw	TRIASSIC WINGATE SANDSTONE
Ꞧc	TRIASSIC CHINLE FORMATION
Ꞧm	TRIASSIC MOENKOPI FORMATION
Pcr	PERMIAN CUTLER AND RICO FORMATIONS UNDIFFERENTIATED

FORMATION CONTACT, DASHED WHERE LOCATED APPROXIMATELY

U D — FAULT, SHOWING RELATIVE MOVEMENT

STRIKE AND DIP OF BEDS

MINE OR PROSPECT

Note: BASE MODIFIED FROM U.S. GEOLOGICAL SURVEY PHOTOGEOLOGIC QUADRANGLE MAP, MOAB 10

CLAIM BOUNDARIES FROM APPLICANTS MAP

0 — 1 MILE

Figure 2. GEOLOGIC MAP SHOWING LOCATION OF RING CONE AND LAST CHANCE CLAIMS, INTERMOUNTAIN MINING INC., GRAND COUNTY, UTAH

RECEIVED
AUG - 4 1955

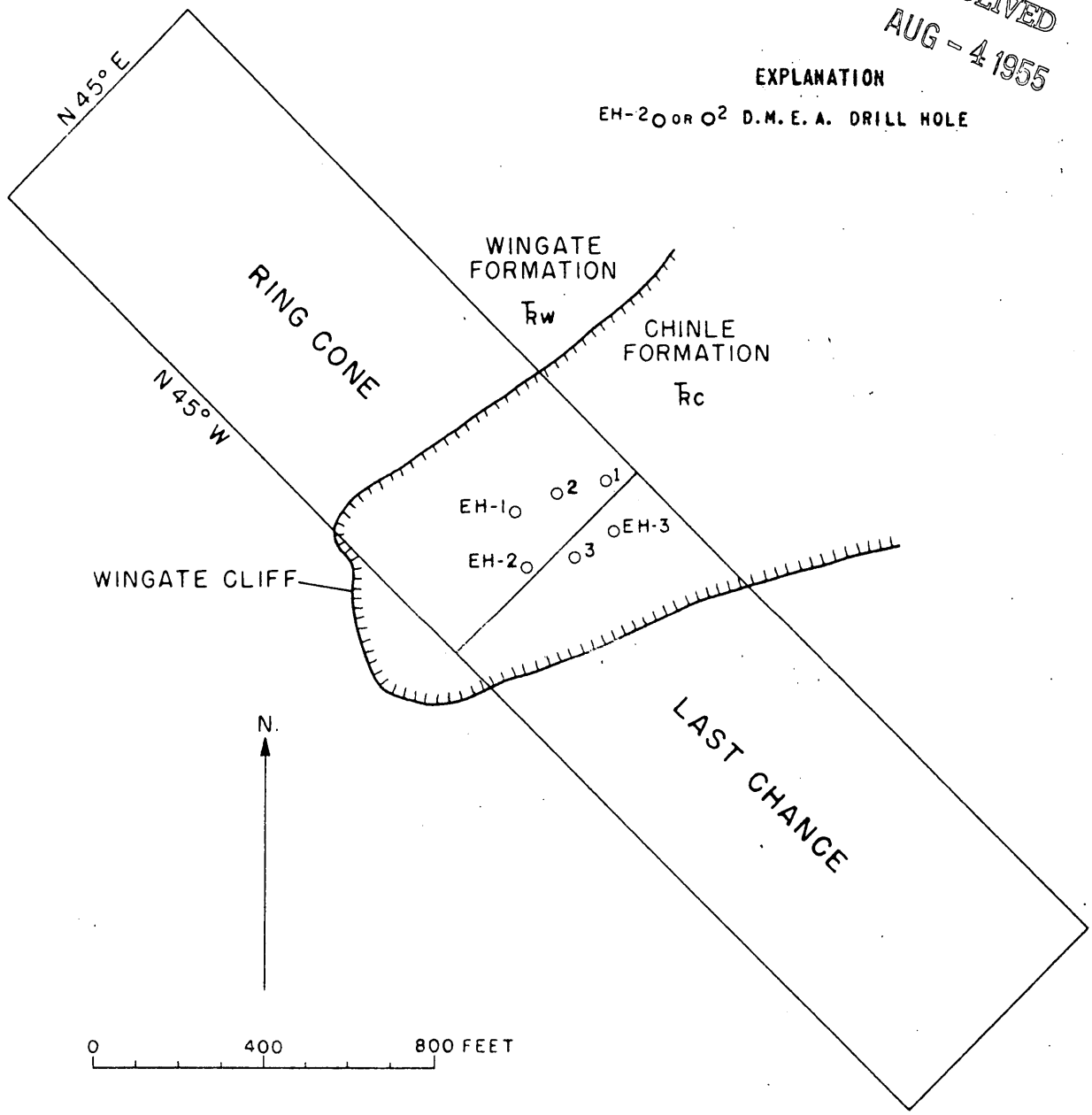


Figure 3. SKETCH MAP OF LAST CHANCE AND RING CONE CLAIMS SHOWING LOCATION OF D.M.E.A. DRILL HOLES, INTERMOUNTAIN MINING COMPANY, GRAND COUNTY, UTAH

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

RECEIVED
AUG - 4 1955

224 New Customhouse
Denver, Colorado

July 28, 1955

Memorandum

To: Secretary, Operating Committee, DMEA

From: DMEA FieldTeam, Region III

Subject: Docket DMEA 3281 (Uranium), Contract Idm-E710, Intermountain Mining, Inc. (Last Chance and Ring Cone Claims), Grand County, Utah

Enclosed are the following final reports pertaining to completed project work:

1. Two copies of the Operator's final report.

2. Original and three copies of the final geologic report by the Geological Survey. ?

3. Original and three copies of the final engineering report by the Bureau of Mines. ?

Final payment to the operator was processed by this office January 28, 1955 in conformance with the final Report of Review, dated January 24, 1955 by the Contract Administration and Audit Division.

The exploration work consisted of 1,661 feet of diamond drilling completed in six holes at a total accepted cost of $7,577.55. Government participation amounted to 75 per cent, or $5,683.16. The project did not result in a discovery of uranium ore and therefore certification of the project as a discovery or development is not recommended.

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

DMEA Field Team

Enclosures

Operator's final
report recd. 8/4/55

P. O. BOX 685
CHICO, CALIF.

13 N VIRGINIA ST
SUITE 1
RENO, NEVADA

INTERMOUNTAIN MINING, INC.

P O BOX 482 MOAB, UTAH

December [illegible], [illegible]4

Mr. W. [illegible] Traver, Jr.
U. S Bureau of Mines,
Room 1[illegible], Bldg. 20,
Denver Federal Center,
Denver 14, Colorado.

Re, [illegible] (Uranium)
Contract [illegible]-710

Narrative and Final Re[illegible]

Dear Sir:

[illegible] re-fered t[illegible] 20 Se[illegible] [illegible] [illegible] work to carry out the terms [illegible] [illegible] [illegible] both [illegible] work was started on 2000 ft. [illegible] on [illegible] 700 [illegible] Chance clai[illegible] and shortly [illegible] for the preparation of [illegible] This wor[illegible] 23rd of October 19[illegible].

On the 2[illegible]th [illegible] core dr[illegible] the Hubbard Drilling [illegible] designated [illegible] as #1. This hole was drill[illegible] [illegible]pth of 2[illegible] ft. at wh[illegible] a [illegible] was broken in the hole. [illegible] time 2[illegible] [illegible] lost [illegible] twee[illegible] the depths of 12[illegible] [illegible] drill [illegible] moved [illegible] location a[illegible] a hole was core[illegible] depth of [illegible] a[illegible] [illegible] Moenkopi formation. Hole #2 [illegible] to [illegible] 2[illegible]0' and [illegible] in th[illegible] [illegible]tion. [illegible] Hubbard [illegible] moved back [illegible] a point approximately 3 ft. [illegible] #1 and [illegible] hole [illegible] with the [illegible] of th[illegible] 120' and [illegible] was cored and from [illegible] to [illegible] was [illegible] and bottom of the hole [illegible] hole.

The [illegible] three holes [illegible] drilled by [illegible] and were drilled in the fol[illegible] [illegible]r. Hole #EH-1 cored to a [illegible] 340' and bott[illegible] in the [illegible] Hole #EH-2 cored to a dep[illegible] and bott[illegible] in the [illegible] #EH3 cored to a [illegible] 2[illegible] bottomed [illegible] [illegible].

[illegible] were probed with a [illegible] and a 500' probe unit for [illegible] satisfaction and only hole [illegible] show-ed slight radiometric co[illegible] from 2[illegible] to 272'

All cores were [illegible] in their respective order until [illegible] Grand Junction office [illegible] Mr. S[illegible] [illegible] of cor[illegible] [illegible] Chemist's Lab[illegible] in Moab, [illegible] [illegible] report [illegible] analy[illegible]

to the [illegible] auth[illegible] tion. [illegible] with [illegible] [illegible] was lo[illegible]. to Ura[illegible]

Respectfully,
[illegible]

[illegible] [illegible]gler, [illegible]

DEFENSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION
REPORT OF REVIEW

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 27 1955

I have reviewed the Monthly Reports of:

Intermountain Mining, Inc.
P. O. Box 635
Chico, California

pertaining to Exploration Project Contract No. I4m-4710, Docket No. DMEA 3281, including Amendment No. 1, for the month of November, 1954, covering a project for the exploration of uranium on property, known as Last Chance and Ring Cove claims, located in Grand County, Utah.

My review included an examination of the Monthly Reports (Form MF-104), and supporting documents attached thereto, comparison of the costs claimed with the contract and pertinent schedules, consultation with the Executive Officer, DMEA Field Team, and a determination of the reasonableness and propriety of the costs.

This review was made in lieu of a final audit of the Operator's accounts and records for the following reasons:

All of the costs incurred were under a contract provision for payment by the Government on the basis of agreed estimated costs of units of work actually performed.

The review disclosed the following facts in regard to the amount paid or to be paid the contractor:

Total cost as billed by Contractor:	$7,577.55
Exceptions	0
Total Accepted Cost:	$7,577.55

The contract calls for a 75 percent participation of exploration expenses by the United States Government. Therefore, payment to the contractor by the Government in the amount of Five Thousand Six-Hundred-Eighty-Three and 16/100ths Dollars

-$5,683.16-

is considered valid and proper, provided that the Regional Executive Officer, the Administrator, or other competent official has accepted or will accept the project as having otherwise met the terms of the contract.

T. H. Brading
Auditor

Dated: January 24, 1955

THB:pw

Audit Report of Review recd. 1/31/55

December 9, 1954

Memorandum

To: Hazel Berry, Operating Committee

From: Grace L. Ault, Rare and Misc. Metals Division

Subject: Amendment to contract

Mr. Ellis has reviewed and approved Amendment No. 1, dated December 6, 1954, to Contract Idm-E710, Docket DMEA-3281 (Uranium) Intermountain Mining, Inc.

/s/ Grace L. Ault

Grace L. Ault

Date December 9, 1954

To: Mr. Ellis
(Region IV delegated contract, unassigned to an engineer)
Docket No. DMEA-3281 (Uranium) Intermountain Mining, Inc.
Contract No. Idm-E710

Attached is Amendment No. 1, dated Dec. 6, 1954

to be reviewed.

Approved _____

Other action _____

Please return this slip to me for my records.

Mrs. Ault

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

224 New Customhouse
Denver 2, Colorado

December 6, 1954

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3281 (Uranium), Contract Idm-E710, Intermountain Mining, Inc., Grand County, Utah

Enclosed are the original and two copies of Amendment No. 1 to Contract Idm-E710 which we have prepared and which has been executed to establish a unit cost for assaying in order to effect consistency between the recitation in EXHIBIT "A" and the provisions of Article 4 of the contract which stipulates that all work will be performed at an agreed unit cost.

Copies of the amendment have been given to the operator, the Finance Office, Region IV, and a copy has been retained for our files.

W. H. King

Enclosures

AMENDMENT OF CONTRACT: No. Idm-E710

Contract Docket No. DMEA 3281, dated September 20, 1954, between the United States of America and Intermountain Mining, Inc. is hereby amended as follows, effective as of the date of the contract:

> Referring to EXHIBIT "A" attached to Exploration Project Contract form MF-200(A) (February 1952), caption "Agreed Unit Costs", delete the following: "chemical analyses of samples for U_3O_8, V_2O_5 and lime to a maximum of $175.00 2/ and in lieu thereof substitute the following: "chemical analyses of samples for U_3O_8 and V_2O_5 as necessary, but not to exceed a maximum of 35 samples at $5.00 each. Delete footnote 2/ in its entirety. Delete item (b)" in its entirety and in lieu thereof substitute the following: "(b) claim for reimbursement for analyses charges must be supported with a copy of the assay return, or returns, showing results

This amendment shall not be construed to increase the estimated total cost of the project, the amount of the Government's contribution, or any item of allowable cost which is expressly designated allowable maximum.

Dated: DEC 6 1954

INTERMOUNTAIN MINING, INC.

By J. A. Chrysler
J. A. Chrysler, President

UNITED STATES OF AMERICA

By W.H. King
W.H. King, Executive Officer
DMEA Field Team, Region IV

September 28, 1954

Memorandum

To: Hazel Berry, Operating Committee

From: Grace L. Ault, Rare & Miscellaneous Metals Division

Subject: Contract finalized by Region IV
Docket No. DMEA-3281 (Uranium)
Intermountain Mining, Inc.,
Grand County, Utah

Mr. Ellis has reviewed and approved Contract No. Idm-E710, dated September 20, 1954, in the above-entitled docket.

/s/ Grace L. Ault

Grace L. Ault

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 27 1954

224 New Customhouse
Denver 2, Colorado

September 21, 1954

REGISTERED

Memorandum

To: Administrator, DMEA, Attention Code 200

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3281 (Uranium), Contract Idm-E710, Intermountain Mining, Inc., Grand County, Utah

Enclosed are the original and two copies of Contract Idm-E710. Copies of the contract have been given to the operator, the Finance Office, Region IV, and a copy has been retained for our files.

W H King
W. H King

Enclosures

MF-200 (A)
(February 1952)

DOCKET NO. DMEA 3281

COMMODITY Uranium

Idm-E710

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

EXPLORATION PROJECT CONTRACT[1]
(Short Form)

IT IS AGREED this 20th day of September, 1954, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] Intermountain Mining, Inc. (a Nevada corporation)
P.O. Box 635
Chico, California

hereinafter called the "Operator," as follows: and as set forth in Annex I attached hereto and made a part hereof.

ARTICLE 1. *Authority for contract.*—This agreement is entered into under the authority of the Defense Production Act of 1950, as amended, pursuant to DMEA Order 1 entitled "Government Aid in Defense Exploration Projects."

ARTICLE 2. *Operator's property rights.*—With respect to that certain land situated in the State of Utah, County of Grand, described as follows:[3]

Last Chance claim	Entry 208693	Pg. 9K303	Grand County, Utah
Ring Cone claim	Entry 208694	Pg. 9K304	Grand County, Utah

Claims are located in Sections 28 and 33, T. 24 S., R. 20 E., SLBM, Seven Mile Area, as recorded in Grand County Recorder's Office, Grand County, Utah.

the Operator represents and undertakes:[4]

~~(a) That the Operator is the owner, in possession and entitled to possession, and that the property is subject only to the encumbrances, if any, of which the Owner's Consent to Lien is attached.~~

(*b*) That the Operator is a lessee, in possession and entitled to possession, and the Owner's Consent to Lien is attached.

The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof.

ARTICLE 3. *Exploration project.*—The Operator, within thirty (30) days from the date of this contract shall commence work on a project of exploration for[5] Uranium

in or upon the described land; and shall bring the project to completion within a period of four (4) from the date of this contract. The work to be performed is more fully described in Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, are made a part of this contract. The Government will contribute to the cost of this work as hereafter provided. The work shall be performed by the Operator or by independent contractor or contractors efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmen's compensation and employers' liability insurance, with suitable and adequate equipment, materials, and labor, to bring the project to completion within the time fixed. The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

ARTICLE 4. *Costs of the project.*—The agreed, estimated costs of performing the work, expressed in terms of units of work to be performed (per foot of drifting, per foot of drilling, per cubic yard of material to be moved, etc.) are set forth in Exhibit "A," attached hereto. The Government will pay seventy-five (75) percent of these agreed, estimated costs, as they accrue, for units of work actually performed that conform with the description or specifications for the work set forth in this contract, in an aggregate total amount not in excess of $6,956.25, which is 75 percent of $9,275.00, the agreed, estimated total cost of the project in which the Government will participate: *Provided,* That until the Operator's final report and final accounting have been rendered to the Government and any final check or auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten (10) percent of the maximum total which the Government might have been called upon to pay under the terms of the contract. The Government may, as it sees fit, make payments direct to the Operator's independent contractors, if any, for the account of the Operator, rather than to the Operator.

ARTICLE 5. *Reports, accounts, audits.*—(*a*) *Progress reports.* The Operator shall provide the Government with monthly reports of units of work performed under the contract, in quintuplicate (five copies), upon forms provided by the Government. These progress reports shall be certified by the Operator, and shall constitute both the Operator's invoice of units of work performed on the project during the period covered by the report and his voucher for repayment by the Government, unless the Government requires the use of a standard voucher form with invoice attached. Progress reports shall include surface and/or underground engineering-geological maps or sketches showing the progress of the exploration, with assay-reports on samples taken concurrently with the advance in mineralized ground.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] State name, address, and nature of organization if any.
[3] Give legal description or enough to identify the property, particularly excluding any land or interest therein to which the Government's lien is not to attach or the production from which is not to be subject to the Government's percentage royalty.
[4] Strike out the provision not applicable.
[5] Name of mineral or minerals.

(*b*) *Final report.*—Upon completion of the exploration work or termination of the contract the Operator shall provide the Government with an adequate geological and engineering report, in quintuplicate (five copies), including an estimate of ore reserves resulting from the exploration work.

(*c*) *Compliance with requirements.*—If, in the opinion of the Government, any of the Operator's reports are insufficient or incomplete, the Government may procure the making or completion of such reports and attachments as an expense of the exploration work; and the Government may withhold approval and payment of any vouchers depending upon insufficient or incomplete reports.

(*d*) *Accounts and audits.*—The Operator shall keep suitable records and accounts of the units of work performed, which the Government may inspect and audit at any time. The Government may at any time require a check of the work performed and an audit of the Operator's records and accounts, by a certified public accountant or otherwise, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract. Upon the completion of the project or termination of the contract the Operator shall render a final account and statement of work performed to accompany his final report.

~~ARTICLE 6. *Repayment by Operator.* (*a*) If, at any time, the Government considers that a discovery or a development from~~ which production may be made has resulted from the exploration work, the Government, at any time not later than 6 months after the Operator has rendered the required final report and final account, may so certify in writing to the Operator. The certification shall describe broadly or indicate the nature of the discovery or development. In the event of such certification, any minerals mined or produced from the land described in Article 2 within 10 years from the date of this contract, including any mined or produced before the certification, shall be subject to a percentage royalty which the Operator or his successor in interest shall pay to the Government, upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, until the total amount contributed by the Government, without interest, is fully repaid, or said 10 years have elapsed, whichever occurs first, as follows:

(1) One and one-half (1½) percent of any such net amounts not in excess of eight dollars ($8.00) per ton.

(2) One and one-half (1½) percent of any such net amounts, plus one-half (½) percent of such net amounts for each additional full fifty cents ($0.50) by which such net amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such net amounts.

(For instance: The percentage royalty on a net amount of five dollars ($5.00) per ton, would be one and one-half (1½) percent; on a net amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(*b*) As here used, "net smelter returns," "net concentrator returns," and "other net amounts realized from the sale or other disposition," mean gross revenue from sales, or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be the gross income from mining operations for percentage depletion purposes in income-tax determination.

(*c*) To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

~~(*d*) This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest~~ to engage in any mining or production operations. **See Annex I substituted for this article.**

ARTICLE 7. *Assignment, transfer, or loss of Operator's interest.*—Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder. The Operator shall not make any voluntary nor permit any involuntary transfer or conveyance of the Operator's rights in the land described in Article 2, without making suitable provision for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof; *Provided,* that mere failure by the Operator to maintain the Operator's rights in the land, without any consideration running to the Operator other than relief from the cost of maintaining such rights (as by surrender of a leasehold, failure to perform assessment work, or failure to exercise an option), coupled with complete abandonment by the Operator of all interest in or operations on the land for a period of 10 years from the date of this contract, shall not constitute such a transfer or conveyance. Should the Operator make or permit any transfer or conveyance in violation of this provision, the Operator shall be and remain liable for payment to the Government of the same amounts, at the same times, as would have been paid under the terms of the percentage royalty on production. If for any reason the net smelter returns, net concentrator returns, or other net amounts realized from the sale or other disposition of such production are not available as a means of measuring the amount of the Operator's liability, the amount thereof shall be estimated as well as may be, and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or by his successor shall be final and binding upon the Operator.

ARTICLE 8. *Termination and completion.*—The Government may, at any time, by written notice to the Operator, terminate this contract: (*a*) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (*b*) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (*c*) if, in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worth while discovery and in the opinion of the Government further operations are not justified.

ARTICLE 9. *Changes and added provisions* **That part of the second sentence of Article 7, beginning with the word "Provided" is deleted.**

Executed in sextuplicate the day and year first above written.

Intermountain Mining, Inc.
(Operator)

By J. A. Chrysler, Pres.

THE UNITED STATES OF AMERICA

By W H King
Executive Officer, DMEA
Field Team, Region IV

I, P. M. BARCELOUX, certify that I am the secretary of the corporation named as Operator herein; that J. A. CHRYSLER, the president, who signed this contract on behalf of the Operator, was then of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

P M Barceloux [CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—66329-1

MF-203
(Revised July 1, 1954)

OWNER'S CONSENT TO LIEN

WHEREAS, the undersigned, as owner, co-owner, lessor, or seller has an interest in certain property in the State of Utah, County of Grand, described as follows:1/

[illegible]	[illegible]	[illegible]	Grand County, Utah
[illegible]	[illegible]	[illegible]	Grand County, Utah

which is the subject of a proposed exploration project contract, hereinafter called the "contract", between the United States of America, hereinafter called the "Government", and

2/ [illegible] (a [illegible] Corporation)
P. O. Box [illegible]
[illegible], California

hereinafter called the "Operator"; and

WHEREAS, under the provisions of said contract the Government is entitled to a percentage royalty on production and to other rights and equities which do or may conflict with or be adverse to the rights of the undersigned:

NOW THEREFORE, the undersigned, in consideration of said contract and as an inducement to the Government to enter into same, undertakes and agrees as follows:

1. The Government's equity in and right to dismantle, sever, take possession of, and remove and dispose of facilities, buildings, fixtures, equipment, or other items as provided in the contract or any amendment thereof shall prevail over and be prior and superior to any conflicting or adverse rights of the undersigned, and the Government is authorized to enter upon the land for such purposes.

2. To secure the payment to the Government of the percentage royalty on production3/ provided for under the terms of said exploration project contract or any amendment thereof there is hereby granted to the Government a lien upon the land above referred to and upon any production of minerals therefrom until said royalty is fully paid or ten years have elapsed from the date of the contract, whichever occurs first.

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Insert the name of the Operator as it will appear in the exploration project contract.

3/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

(OVER)

3. The undersigned shall commit no act nor assert any claim that may contravene or conflict with the lien, claim, or rights of the Government under the provisions of said contract. This agreement shall be binding upon the heirs, executors, administrators, successors, and assigns of the undersigned.

4. Changes and added provisions [illegible]

Dated this 10th day of August, 1954.

[illegible] [Seal]

Vance Thornburg [Seal]

[Seal]

ANNEX I

The following provisions are in lieu of Article 6 :

Repayment by Operator. --a. Certification. --If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after the Operator has rendered the final report and final account, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

b. Royalty on production. --The Operator, as principal, if the Operator is the producer, or as surety, if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, for a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

c. Basis for computation. --The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f.o.b. point); except, that charges of the buyer arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by the buyer, sampling and assaying to determine the value of the production sold, and freight paid by the buyer to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the raw ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

d. Unsold production. --If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes

its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

c. Percentages of royalty. --The percentages of the Government's royalty shall be as follows:

> One and one-half ($1\frac{1}{2}$) percent of amounts (gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half ($\frac{1}{2}$) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.
>
> (For instance: the royalty on an amount of five dollars ($5.00) per ton, would be one and one-half ($1\frac{1}{2}$) percent; on an amount of ten dollars ($10.00) per ton, three and one-half ($3\frac{1}{2}$) percent.)

f. Lien for payment. --To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

g. Notice to purchasers. --The operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

h. No obligation to produce. --Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

i. Government not obligated to buy. --Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

58694

DMEA 3281

EXHIBIT "A"

Description of the Work

Drill seven (7) diamond core drill holes to an estimated depth of 250 feet, with a maximum of 2000 feet of drilling allowed, at the approximate locations shown on Figure 2 attached. Holes are not to be on an interval of less than 100 feet. The core drilling and related operations will be performed in accordance with the following specifications:

1. Holes are to be cored a minimum of AX size from bedrock to their bottoms.

2. The drilling and the obtaining and storage of core and sludge samples shall be performed in accordance with acceptable practices pertaining thereto which are subject to approval of the Defense Minerals Exploration Administration.

3. Core barrel equipment and drilling practices shall be such as to enable a maximum of core recovery.

4. All core shall be retained intact until inspected by a DMEA representative upon which the core will be split and one-half retained and properly stored for later use by the Government.

5. Separate sludge samples shall be obtained to correspond to each coring interval. At the completion of each coring run the hole shall be washed until clean and all cuttings added to the sludge for that run.

6. All drill core and sludge will be checked for the presence of radioactive material by radiometric instrument. Each sample of sludge indicating significant mineralization will be analyzed chemically for U_3O_8 and V_2O_5.

7. The 7th hole will not be drilled unless sufficient unexpended footage remains to assure completion of the hole to its objective within the total allowable footage.

Agreed Unit Cost

Diamond core drilling 2000 feet at $4.55 1/ per foot... $9,100.00

Chemical analyses of samples for U_3O_8, V_2O_5, and lime to a maximum of $175.00 2/ ..... 175.00 *

Agreed Total Cost..... $9,275.00

Government Participation at 75%. $6,956.25

Reimbursement under the terms of the contract for the cost of diamond drilling and analysis will be on the following basis:

(a) No reimbursement will be made on partially completed holes. Claim for reimbursement for completed holes must be supported by a certified drill log of the hole or holes involved.

(b) Claim for reimbursement for analysis charges must be supported by a copy of the assay return showing costs and results.

1/ Cost of $4.55 per foot includes construction of access roads to the drill sites and all drill site preparation.

2/ Assaying charges are based on actual cost and must be supported by copies of assay returns showing charges and results.

* Indicates allowable maximum.

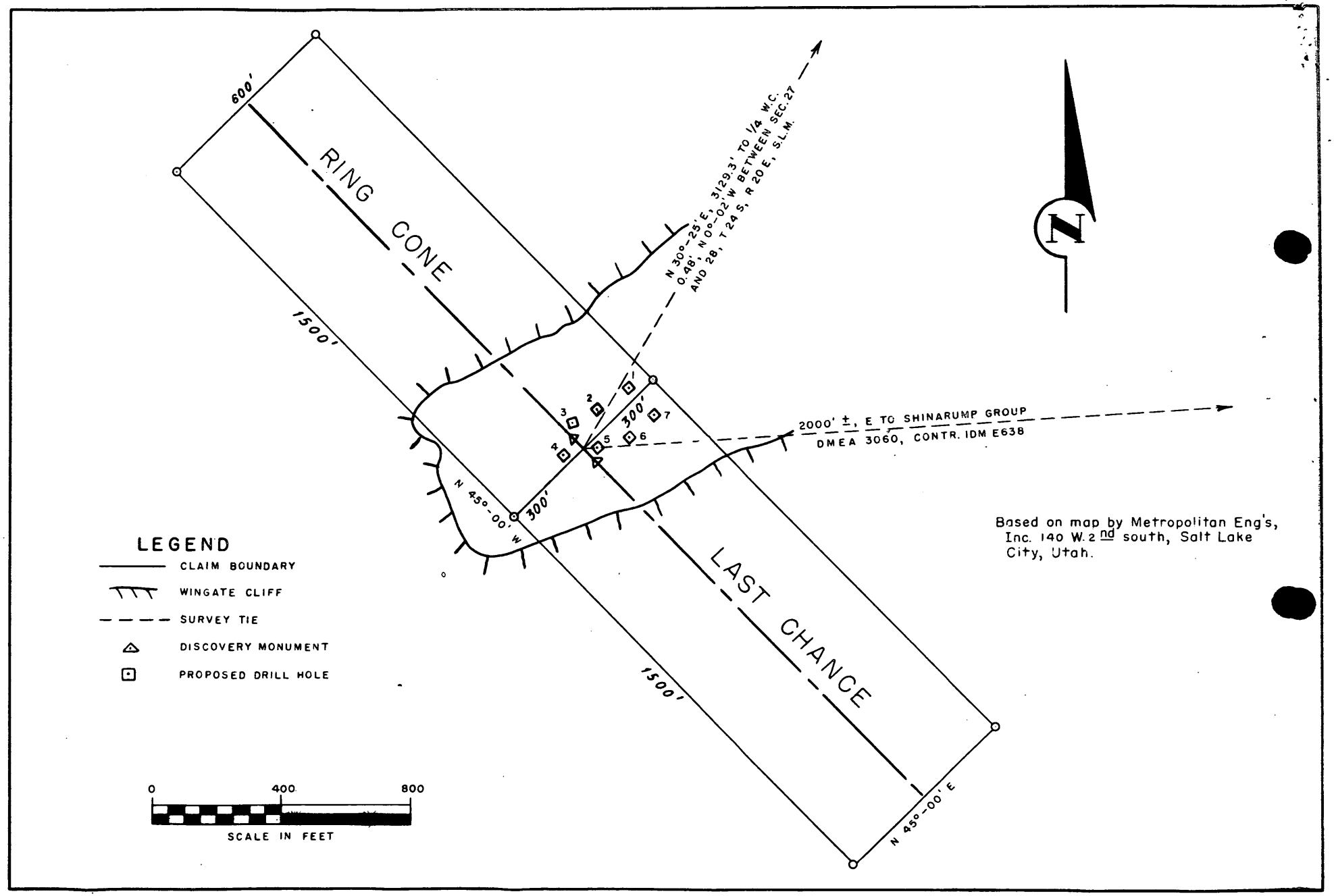


FIGURE 2-CLAIM MAP, LAST CHANCE AND RING CONE CLAIMS, INTERMOUNTAIN MINING, INC., GRAND COUNTY, UTAH (DMEA 3281)

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

EXTRA COPY, DMEA RECEIVED JAN 1957		
DATE	INITIALS	CODE
1-18	C	720
1-18	[illegible]	700

[illegible] New Customhouse
Denver 2, Colorado

January 15, 1957

Mr. E. E. Hubbard
P. O. Box [illegible]
Lander, Wyoming

Re: Docket DMEA-3281 (Uranium)
Contract Idm-E710
Intermountain Mining, Inc.
Grand County, Utah

Dear Mr. Hubbard:

Reference is made to your inquiry by letter dated January 6, 1957, for the name and location of the claims or claim drilled under the captioned DMEA contract.

The claims included under the contract and upon which drilling was performed are the following:

Last Chance claim
Ring Cone claim

These two claims are located in Sections 28 and 33, T. 24 S., R. 20 E., Salt Lake P. M., Grand County, Utah.

Very truly yours,

Original signed by
W. M. TRAVER

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

WMT:jy
cc: Sec. Op. Comm. (2) } w/copy incoming ltr.
Harshman }
Corresp. E710 w/orig. of ltr.
Chron.

E. E. HUBBARD

P. O. BOX 484 PHONE 109-W

LANDER, WYOMING

Jan. 6, 1957.

18,57

DMEA
DEPARTMENT OF THE INTERIOR
JAN 11 1957
REGION III
DENVER, COLORADO

Mr. W. M. Lowe
New Custom House Bldg.
Denver, Colo.

Dear Sir,
Will you please, from your records, supply me with the information asked as follows -

Exploration Contract #710 to
Intermountain Mining Corp.
Grand County Utah.

The name and location of the claims or claim drilled on this exploration loan.

Very truly yours
E. E. Hubbard

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

ADMINISTRATIVE CONFIDENTIAL

JUN 29 1956

Memorandum

To: Director of Inspection

From: Administrator, Defense Minerals Exploration Administration

Subject: FBI Report, dated June 15, 1956, at Denver, Colorado—J. A. Chrysler; L. G. Chrysler, Jr.—fraud against the Government

Reference is made to your memorandum dated June 25, 1956, requesting my review and comment upon the subject report covering a complaint by Elden Elbert Hubbard that funds obtained by Intermountain Mining, Inc., under Exploration Project Contract No. DMA-710, Docket DMA-3281 (Uranium), were expended for purposes other than the exploration.

My review of this report on the complaint, together with the DMA docket covering the project, has not disclosed any manner of fraud against the Government. It appears that, if Mr. Hubbard's complaint of non-payment for drilling work performed under an independent contract with Intermountain Mining, Inc., is factual, his proper recourse is a civil action against the Corporation.

The exploration project contract, as amended on September 20, 1954, and amended on December 6, 1954, provided for the Government to pay Intermountain Mining, Inc., as the Operator, 75 percent of agreed and fixed unit costs of $4.55 for each foot of diamond drilling and $5.00 for each sample analysis actually performed in accordance with specifications and within the limitations set forth therein. Other pertinent provisions are that (a) the work may be performed by the Operator or by independent contractors, (b) the Government may make payments direct to the Operator's independent contractors, if any, for the account of the Operator, and (c) pending final settlement of the contract, the Government may withhold from the last voucher not in excess of 10 percent of the maximum amount payable under the contract.

Work under the contract commenced on October 26, 1954, and was completed some time prior to December 9, 1954, when a final

inspection was made by field representatives of DMEA. The final inspection verified the satisfactory completion in accordance with contract specifications of 1,661 feet of diamond drilling (769 feet by I. E. Hubbard and 892 feet by Minerals Engineering Co.). Certified assay certificates submitted by the Operator included the results of 4 sample analyses. Therefore, on December 27, 1954, the Government paid the Operator 75 percent of a vouchered amount of $7,277.25 (for 1,661 ft. of drilling @ $4.35/ft. and 4 analyses @ $5.00/ea.) less $800.00 withheld pending final check and audit, or the net amount of $5,453.16. The $800.00 withheld was paid to the Operator on February 2, 1955, after final check and review of the project. The total amount paid to the Operator by the Government was $5,453.16 (and not $5,453.16 as stated in the Synopsis of Facts portion of the FBI report).

Although the contract specifically permits the Government to make payments directly to an independent contractor for the account of the Operator, such procedure was not given consideration by the Government because the alleged non-payment by the Operator of Mr. Hubbard's claims for drilling work performed under an independent contract, to which the Government neither was a party nor had given its approval, first came to the attention of DMEA after final settlement of the exploration project contract. On March 22, 1955, and again on May 4, 1955, Mr. Hubbard telephoned from Moab, Utah, to W. M. Tanner, Executive Officer, DMEA Field Team, Region XII, Denver, Colorado, protesting the non-payment of his claims. Mr. Tanner advised Mr. Hubbard that the Government had no legal responsibility for his claims against Intermountain Mining, Inc., under a drilling contract to which it was not a party.

On May 13, 1955, I received a telegram from Mr. Hubbard advising of his non-payment by Intermountain Mining, Inc., and his requests for Senate investigation of DMEA. By telegram dated May 16, 1955, I replied that DMEA records contained no evidence that the Government was a party to any contractual relationship between him and Intermountain Mining, Inc., and, further, that it appeared his claim was directly with Intermountain Mines, Inc.

On May 20, 1955, I received another telegram (which is not mentioned in the FBI report) from Mr. Hubbard reading as follows:

"You are advised that Intermountain Uranium Corporation has fraudulently used Government funds loaned by your office. Your failure or indifference to take action in face of such

conduct leaves you strictly in trouble. Do not advise me your position. I know that. Advise me your intentions of action. Do you intend to take action in face of such conduct. Immediately wire a direct answer."

In a telegraphic reply dated May 23, 1955, I stated:

"Reuptel May 20. We have no evidence of fraud against Intermountain Uranium. Should you possess such evidence you are urged to submit same promptly to W. M. Tanner, Executive Officer, 224 New Customhouse, Denver, as appropriate action may be taken."

Neither the requested evidence nor a further communication has been received from Mr. Hubbard.

The last paragraph of the FBI report indicates that the U. S. Attorney in Denver, Colorado, is inclined to prosecute this matter of alleged fraud against the Government under Title 18, Section 1001, of the United States Code, which provides:

"Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and wilfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than five years, or both."

Inasmuch as the Operator, Intermountain Mining, Inc., presented a claim and was paid by the Government at the contractual unit rates solely for work which was accepted by the Government as conforming to the contractual specifications, the premises for such contemplated prosecution are not unfounded.

If, perchance, such action is contemplated on the basis of Mr. Hubbard's statement to the FBI that his charges for the drilling were at the rate of $2.75 per foot for 1,661 feet plus $72.30 for core barrel and $75.00 for standby time, or a total of $4,725.05 (the correct computation would be $4,715.05) whereas the Operator's claim was for 1,661 feet at the contract rate of $4.55 per foot, or $7,557.55, consideration must be given to a provision of the contract (which was omitted from the portions thereof quoted in the FBI report) which states:

"Cost of $4.55 per foot includes construction of access roads to the drill sites and all drill site preparation."

The Operator constructed 2,700 feet of access roads and prepared seven drill sites in connection with the drilling work.

Furthermore, consideration must be given to the fact that it is DMEA policy, in contracting for uranium exploration work at agreed or fixed unit costs for drilling, to include in such costs not only the estimated charges for independent contract drilling, but also incidental costs such as supervision, engineering and geological services, radiometric checking, and other necessary and direct costs of the work. In the application for aid in the exploration project the Operator furnished estimates of costs which averaged $4.42 per foot of drilling. After an examination of the property and the proposed project the DMEA Field Team recommended a revised and enlarged drilling program and estimated costs of $4.55 per foot, which amount was set forth as the agreed unit cost in the contract finally negotiated and executed.

The copy of the subject report submitted with your memorandum of June 25, 1956, is returned herewith. 11

G. O. Mittendorf

Administrator

Attachment

11 Assistant for safeguards [illegible] office of Director of Safeguards

KDTalbert/mm
June 26, 1956

Copy to: Docket
Administrator
Adm. Reading File
Mr. Selfridge
Mr. Ellis
Mr. Dwyer
Mr. Chambers

Date September 27, 1954

To: Mr. Ellis (to be assigned to engineer)

Docket No. DMEA-3281 (Uranium) Intermountain Mining, Inc.
Contract No. Idm-E710

Attached is ~~xxxxxxxx~~ Region IV contract No. Idm-E710, dated September 20, 1954

to be reviewed.

Approved: _____

Other action _____

Please return this slip to me for my records.

Mrs. Ault

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

AUG 15 1955

Mr. J. A. Chrysler, President
Intermountain Mining, Inc.
P. O. Box 635
Chico, California

Re: Docket No. DMEA-3261 (Uranium)
Contract No. Idm-E710
Last Chance and Ring Cone claims
Grand County, Utah

Dear Mr. Chrysler:

Reference is made to your completed exploration contract with the Government.

We sincerely regret that the work performed did not result in a certification of discovery or development under the provisions of the contract. In the absence of such certification, the Government retains no claim or lien against the property subject to the contract or any future production therefrom. We, therefore, are closing our books and records on this project. Your attention, however, is called to the provisions of the contract which require the operator to keep and preserve certain records for the period indicated.

Your interest in the DMEA exploration program and participation therein are fully appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

cc: Vance Thornburg
Thornburg Mining Co.
160 West Main
Grand Junction, Colorado

EWEllis/gla
8-12-55

cc to: Admr.'s Reading File
Docket
Code 700
F. E. Johnson
DMEA Field Team, Region III (2)

Messrs. JECrawford, Rm. 3641
THKillsgaard, Rm. 5224
JCHosted, Rm. 3210, GSA
Contract Adm. and Audit Division

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

August 12, 1955

Memorandum

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

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

Subject: Report of examination, DMEA Docket 3281, Intermountain Mining, Inc., Last Chance and Ring Cone Claims, Grand County, Utah

I have reviewed the Field Team report of examination, Intermountain Mining, Inc., DMEA Docket 3281, and I have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The project was not successful in discovering uranium ore. Consequently, we concur with the Field Team that a certification of the project as a discovery or development is not recommended.

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

John E. Crawford

RECEIVED
AUG 12 1955

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

August 12, 1955

Memorandum

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

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Uranium Commodity Committee

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John E. Crawford

RECEIVED
AUG 12 1955

8/9/55 gla

IN REPLY REFER TO:

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

RECEIVED
AUG - 9 1955

August 8, 1955

Memorandum

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

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

Subject: Review of Final Geologic Report, DMEA Docket 3281, Intermountain Mining Co., Inc., Last Chance and Ring Come claims, Grand County, Utah, (Uranium).

The Operator completed 6 diamond drill holes for a total of 1,718 feet of drilling at a total expenditure of $7,577.55, of which the Government's share was 75 percent, or $5,683.16.

The objective of the program was to seek for uranium ore deposits in lower Chinle sandstones. Supervision on the project was not good in that the designated supervisor was only rarely at the project site, and proper care of core and samples was obtained only after numerous and insistent verbal requests from Government representatives.

No material of ore grade was discovered by the project, hence I concur with the recommendation that the project not be certified as a discovery or development.

WPW

W. P. Williams

WPWilliams:iml
G-8/8/55

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.

RECEIVED
AUG - 9 1955

August 5, 1955

Memorandum

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

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

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W. P. Williams

WPWilliams:iml
G-8/8/55

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.

RECEIVED
AUG - 9 1955

August 8, 1955

Memorandum

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

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

Subject: Review of Final Geologic Report, DMEA Docket 3261, Intermountain Mining Co., Inc., Last Chance and Ring Cone claims, Grand County, Utah, (Uranium).

The Operator completed 6 diamond drill holes for a total of 1,716 feet of drilling at a total expenditure of $7,577.55, of which the Government's share was 75 percent, or $5,683.16.

The objective of the program was to seek for uranium ore deposits in lower Chinle sandstones. Supervision on the project was not good in that the designated supervisor was only rarely at the project site, and proper care of core and samples was obtained only after numerous and insistent verbal requests from Government representatives.

No material of ore grade was discovered by the project, hence I concur with the recommendation that the project not be certified as a discovery or development.

WPW

W. P. Williams

WPWilliams:iml
G-8/8/55

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641
J. O. Hosted, 3210

5/27/55 gla

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

224 New Customhouse
Denver 2, Colorado

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 27 1955

May 24, 1955

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3281 (Uranium), Contract Idm-E710, Intermountain Mining, Inc. (Last Chance & Ring Cone claims), Grand County, Utah

Reference is made to your letter of May 19, 1955, concerning the subject contract, including enclosures of copies of a telegram from E.E. Hubbard, subcontractor, and your telegraphic reply.

Mr. Hubbard called me by long distance telephone from Moab, Utah on March 28, and again on May 4, 1955, protesting on both occasions nonpayment by Intermountain Mining, Inc. of his claims for drilling.

It was explained to Mr. Hubbard that the drilling by subcontract in cases such as this was not performed for the Government and that costs incurred by an operator are for his sole personal account with the Government contributing a percentage of the allowable costs as established in the contract; also, that as far as the Government is concerned with respect to subcontracts it is not a party to the agreement and bears no legal responsibility to the subcontractor.

In compliance with Mr. Hubbard's request in the telephone conversation of May 4, he was supplied with the information contained in the attached letter. Inadvertently a copy of this letter was not forwarded to you.

According to the inspecting engineer's memorandum of December 15, 1954, accompanying the one progress report submitted by Intermountain Mining, Inc. for November 1954, Hubbard Drilling Company's work was unsatisfactory. Apparently Minerals Engineering Company was employed by Hubbard to complete the last 3 holes.

No one connected with this office was authorized to, or do we believe gave formal or informal approval of, a contract between Hubbard and Intermountain Mining, Inc. Neither were we informed of the failure of our contractor to make payment to the subcontractor prior to our making final payment under the contract. Our first knowledge of the delinquency was when Mr. Hubbard called on March 28, 1955.

In addition to the letter of May 9, 1955, three items of correspondence with respect to the contract, of which you may not have copies in your files, are enclosed. These are between the Geological Survey and the contractor, dated October 7 and October 25, 1954, and from the contractor to W.M. Traver dated October 8, 1954.

Attachments 7
ret. to M. + 7
5/31/55

If there is any other information needed from this office regarding this contract and handling procedures please advise.

W. M. Traver

W. M. Traver

Enclosures

C. O. [redacted]mmdorf, Administrator

Defense Minerals Exploration
Administration
14X1401(61) Revolving
Fund, Defense Production Act, Interior
(Allocated Working Fund to the Office
of the Secretary)

MAY 2 3 1955

DMEA-3281

MR. H. E. HERRARD
HERRARD DRILLING COMPANY
MOAB, UTAH

REPORTS MAY BE HAVE NO EVIDENCE OF FRAUD AGAINST INTERNATIONAL URANIUM. SHOULD YOU POSSESS SUCH EVIDENCE YOU ARE URGED TO SUBMIT SAME PROMPTLY TO W. H. TRAVER, EXECUTIVE GROUP, 224 NEW CUSTOMHOUSE, DENVER SO APPROPRIATE ACTION MAY BE TAKEN.

C. O. Mittendorf

C. O. MITTENDORF, ADMINISTRATOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

COMittendorf/fw
5/23/55

cc: Mails & Files
Admr. Reading File
Field Team, Reg, III (2)
Mr. Ellis
Mr. Chambers
Operating Committee
Mr. Crawford
Mr. Kiilsgaard

TELEGRAM

C
O
P
Y

MOAB, UTAH, MAY 20, 1955

C. O. MITTENDORF
ADMINISTRATOR DEFENSE MINERALS EXPLORATION ADMINISTRATION

YOU ARE ADVISED THAT INTERMOUNTAIN URANIUM CORPORATION HAS FRAUDULENTLY USED GOVERNMENT FUNDS LOANED BY YOUR OFFICE. YOUR FAILURE OR INDIFFERENCE TO TAKE ACTION IN FACE OF SUCH CONDUCT LEAVES YOU STRICTLY IN TROUBLE. DO NOT ADVISE ME YOUR POSITION. I KNOW THAT. ADVISE ME YOUR INTENTIONS OF ACTION. DO YOU INTEND TO TAKE ACTION IN FACE OF SUCH CONDUCT IMMEDIATELY WIRE A DIRECT ANSWER.

E. E. HUBBARD
HUBBARD DRILLING
MOAB, UTAH

57/9/5-5-gla

MAY 1 9 1955

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

Re: Docket No. DMEA-3231 (Uranium)
Intermountain Mining, Inc.
Last Chance and Ring Cone Claims
Grand County, Utah
Contract No. Idm-8710

Dear Mr. Traver:

Attached you will please find copies of a telegram dated May 13 received from E. E. Hubbard and of our telegraphic reply of this date. You will no doubt find the subject matter self-explanatory.

Because Mr. Hubbard clearly states his intention to discredit our handling of this particular contract, it is necessary that our docket contain all possible information which could relate to his charges. We are particularly interested in learning whether your office gave any formal or informal approval of a contract between Hubbard and the operator, and whether the matter of delinquent payments was brought to your attention prior to making final payment under the contract.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

APPROVED:

J. H. Hedges
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

Enclosures-4

COMittendorf/fw
5/18/55
cc: Mails & Files
Admr. Reading File
Operating Committee
Mr. J.E.Crawford-BM-Rm.3641
Mr. Kiilsgaard-Rm.5225
Mr. Ellis
Mr. Chambers
Mr. Mittendorf

C. O. Mittendorf, Administrator

Defense Minerals Exploration
Administration
14X4401(01) Revolving Fund,
Defense Production Act, Interior
(Allocated Working Fund to the Office of
the Secretary)

MAY 1 8 1955

MR. E. E. HUBBARD
HUBBARD DRILLING COMPANY
MOAB, UTAH

REURTEL MAY 13 INTERMOUNTAIN MINES EXPLORATION CONTRACT 710. OUR RECORDS INDICATE TOTAL 1661 FEET DRILLING APPROVED AND FINAL PAYMENT OF TOTAL GOVERNMENT CONTRIBUTION OF $5683.16 MADE FEBRUARY 2, 1955. OUR RECORDS DO NOT CONTAIN EVIDENCE THAT GOVERNMENT WAS A PARTY TO ANY CONTRACTUAL RELATIONSHIP BETWEEN YOU AND OPERATOR. SINCE SUBJECT CONTRACT PROCESSED BY DENVER OFFICE MATTER BEING REFERRED TO THAT OFFICE FOR POSSIBLE ADDITIONAL INFORMATION. APPEARS TO THIS OFFICE YOUR CLAIM DIRECTLY WITH OPERATOR BASED WHOLLY ON YOUR RIGHTS UNDER YOUR DRILLING CONTRACT WITH OPERATOR.

C. O. Mittendorf

C. O. MITTENDORF, ADMINISTRATOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

COMittendorf/fw
5/18/55

cc: Mails & Files
Admr. Reading File
Mr. Ellis
Mr. Chambers
F. T. Reg. III (2)
Operating Committee
Mr. Crawford
Mr. Kiilsgaard

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

May 16, 1955

Memorandum

To: Acting Assistant Solicitor, DMEA

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

Subject: A reply to attached telegram from
E. E. Hubbard to Administrator
Docket No. DMEA-3281
Contract No. Idm-E710
Intermountain Mining, Inc.
Last Chance and Ring Cone claims
Grand County, Utah

To assist you in reviewing the docket, we have prepared a "Summary of the Project."

You will note that the contract was executed by the Field. We have no knowledge of the character or credit rating of the Applicant; however, we have had previous satisfactory contracts with the Vance Thornburg, d/b/a Thornburg Mining Co. who signed the Owner's Consent to Lien covering the two claims subject to the contract.

Kindly return the draft of the summary and the Division contract file.

Ernest Wm. Ellis

Ernest Wm. Ellis

Attachments

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

May 16, 1955

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From: Ernest Wm.Ellis,Chief
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Grand County, Utah

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Attachments

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

May 16, 1955

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E. E. Hubbard to Administrator
Docket No. DMEA-3281
Contract No. Idm-E710
Intermountain Mining, Inc.
Last Chance and Ring Cone claims
Grand County, Utah

Llis. cc telegram went to Mr. Hofflund & was not delivered 5/19/55 fa

To assist you in reviewing the docket, we have prepared a "Summary of the Project."

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Kindly return the draft of the summary and the Division contract file.

Ernest Wm. Ellis

Attachments

FMMurphy/gla
cc to: Docket
Code 700
Mr. Murphy

Memorandum (in draft), dated Dec. 15, 1954, to Chief, Mineral Resources Branch, Mining Division, Region III, from M.H. Tolentino, page 2, second paragraph, states:

"The first drilling contractor, E.E. Hubbard, had difficulty because of inexperienced personnel. The first hole drilled, No. 1, was not completed after a string of rods was broken off in the hole. Hole No. 1A was later drilled to replace this hole, and was carried in the mineral zone 120 ft apparent, where no core was obtained in Hole No. 1, unless the report, the depth reached in Hole No. 1."

"On the November 3, inspection of the project, it was found that the driller was not taking care of the core properly ...."

From the above report we infer that the cost of drilling hole No. 1 was disallowed by the Field Team.

E.E. Hubbard drilled holes 1, 1A, 2, and 3, totaling 200 feet of plug-drilling and 563 feet of core-drilling or a grand total of 763 feet.

The Minerals Engineering Co. completed holes EH1, EH2, and EH3. Totaling 160 feet of pilot, reaming, and 738 feet of core drilling on a given total of 898 feet. This drilling was undertaken under a sub-contract from Hobbard.

received April 14,

In their final report the Field Team recommend that no Certification of Discovery or Development be issued, because the holes drilled did not indicate economic mineralization.

5/16/55 gla

C
O
P
Y

TELEGRAM

OA 359 LB436
L. PVA 055 PD AR MOAB UTAH 13 115PM

C O MITTENDORF, ADMINISTRATOR DMEA
U. S. DEPT OF INTERIOR INTERIOR BLDG WASH DC

ADVISE YOU HUBBARD DRILLING CO HAS NOT BEEN PAID BY INTERMOUNTAIN MINES INC OF CHICO CALIFORNIA CONTRACT FINISHED DEC 2 1954 DOCKET 3281 CONTRACT IDM-E710 FORM MF 200A also ADVISE YOU AM ASKING FOUR DIFFERENT NATIONAL ASSOCIATIONS TO URGE SENATE INVESTIGATION OF YOUR OFFICE BASED UPON FACT YOUR OFFICE GRANTING LOANS WITH PUBLIC FUNDS TO PARTYS BEFORE COMPETENT INVESTIGATION HAS BEEN MADE ADVISE ME BY WIRE WHAT EXCUSES RECOMMENDATIONS OR ACTION YOU MIGHT TAKE

E E HUBBARD

4/22/55 gla

April 21, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: Bureau of Mines Member
Uranium Commodity Committee

Subject: Field Team recommendations on Certification of Discovery, DMEA Docket 3261, Contract Idm-8710, Intermountain Mining, Inc., Last Chance and Ring Cone claims, Grand County, Utah

I have reviewed the Field Team recommendations on Certification of Discovery, DMEA Docket 3261, Contract Idm-8710, Intermountain Mining, Inc., Last Chance and Ring Cone claims, Grand County, Utah; and I have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

We concur with the Field Team that a Certification of Discovery or Development is not recommended.

John E. Crawford

JECrawford:ds
Copy to: Division of Minerals
Branch of Rare and Precious Metals
J. O. Hosted (2)
J. E. Crawford (2)
F i l e s

IF-500

UNITED STA[illegible]
DEPARTMENT OF TH[illegible]RIOR
DEFENSE MINERALS ADMIN[illegible]TRATION

REFERENCE SLIP

DATE 4/14

REFERRED TO:

1. Mr. Ellis
2. 700
3.
4.

FOR:

..... Action	..... Recommendation
..... Approval	..... Record of .....
..... Comment	
..... Conference	..... Referring to .....
..... Consideration	
..... Filing	..... Reply for signature of .....
..... Instructions	
..... Investigation	..... Rewriting
..... Initials	..... Signature
..... Mailing	..... Suggestions
..... Previous correspondence	..... Your information

REMARKS: Final audit report need, but not Operator's nor Field Tester's. glo.

Check (X) before the items needing attention.

ROBERT E. ADAMS

Initials of sender.

GPO 16—63815-1

4/14/55 gla

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

astomhouse
, Colorado

April 11, 1955

andum

Chairman of the Operating Committee, DMEA

om: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-3281 (Uranium), Contract Idm-E710, Intermountain Mining, Inc., Grand County, Utah

Enclosed for your information are four copies of a memorandum report dated March 31, 1955 from M. H. Salsbury, Mining Engineer, U. S. Bureau of Mines, which is self-explanatory, concerning results of exploration work performed under the subject contract.

W. M. Traver

W. M. Traver

Enclosures

DMEA
Data Card
1955
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region III

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado

March 31, 1955

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 14 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: John F. Shaw,
Supervising Mining Engineer

From: M. N. Salsbury

Subject: DMEA 3851, Contract Idm-5710 (Uranium), Intermountain Mining, Inc., (Last Chance and King Cone claims), Grand County, Utah - Recommendations on Certification of Discovery

The subject DMEA project, during which 6 core-drill holes totaling 1,661 feet were drilled through the potential ore-bearing basal member of the Chinle formation, was completed in November 1954 at an approved cost of $7,577.55, in which Government participation at 75 percent amounted to $5,683.16.

Results of drilling were completely negative, no additional exploration appears to be advisable, and a Certification of Discovery or Development is not recommended.

M. N. Salsbury
M. N. Salsbury
Mining Engineer

MNS/mh

cc: 7 w/orig
Idm-5710
Chron

2/8/55 gla

RECEIVED

224 New Customhouse
Denver 2, Colorado

January 28, 1955

Memorandum

To: T. A. Christensen

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-3281 (Uranium), Contract Idm-E710, Intermountain Mining, Inc., (Last Chance and Ring Cone claims), Grand County, Utah - FINAL PAYMENT.

Reference is made to our memorandum of December 22, 1954 whereby we transmitted the final Form MF-104, Operator's Monthly Progress Report and Voucher for the period of October and November, 1954, and instructed you to withhold the amount of $200.00 from reimbursement to the Operator pending release of the Report of Review by the Contract Administration and Audit Division.

We now recommend that final payment to the Operator be made on the following basis which is in conformance with the Report of Review of the Contract Administration and Audit Division dated January 24, 1955.

Basis for Final Payment

Total accepted cost as per Report of Review	$7,577.55
Government participation at 75%	5,683.16
Total prior payments	5,483.16
Balance due the Operator	$ 200.00

W. M. TRAVER

W. M. Traver

JWT:pw
cc: Subject
Chron
Sec.Op.Comm. (2)
Shaw
Townsend

Paid 200.00
Randel R. Cooper
Authorized Certifying Officer
2-2-55 DMA-55-60

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
REGION IV

DEPARTMENT OF THE INTERIOR
Bureau of Mines Administration
RECEIVED
JAN 10 1955

Administrative Audit Difference Statement

Date: Dec. 27, 1954
Payee's Reference: [illegible]
1954

[illegible]
P. O. Box [illegible]
Chicago, Ill.

Gentlemen:

Upon examination of the above Payee's reference a difference was found which made it necessary to suspend your account accordingly:

Amount Claimed	$ 7,577.55
Difference	$
Amount Approved	$ 5,[illegible].26

The reason for the difference was due to:

$ [illegible] claimed penalty [illegible] of report of [illegible] by Personnel Administration and Pay Section.

Any reclaim for deductions made above must be supported by the ORIGINAL of this form.

Very sincerely yours,

N.E.Stokes
Audit Section

R-IV-B & F Form No. 4
4-15-52 D

Difficulty was experienced by both drilling contractors in the landslide debris and broken formations at surface. No core was recovered in the upper section of any hole but corresponding drill sludge samples were collected.

The first drilling contractor, E. E. Hubbard, had difficulty because of inexperienced personnel. The first hole drilled, No. 1, was not completed after a string of tools was broken off in the hole. Hole No. 1A was later drilled to replace this hole, and was cored in the section from 120 to 140 feet, where no core was obtained in hole No. 1, and below 205 feet, the depth reached in hole No. 1.

On the November 3 inspection of the project, it was found that the driller was not taking care of the core properly. No core boxes were available and core was being laid out on the ground. The operator's representative, J. A. Chrysler, had not been available to supervise the work, and the driller's employees did not take care of the core, or know how deep to drill the holes. A conference with Chrysler was held in Moab with H. S. Johnson of the Geological Survey present, during which the unsatisfactory operating procedures were discussed. Johnson showed Chrysler how to recognize the Moenkopi formation in which the holes were to be bottomed, and Chrysler agreed to give closer supervision and to see that core was stored properly.

On November 17, Minerals Engineering Company had taken over the work under a sub-contract from Hubbard.

The new driller was familiar with proper procedures for storing core, and had enough experience to recognize formations. Only 10 feet of core had been obtained at the time of the visit, and the core was again being placed on the ground, but the driller stated that this was a temporary measure, until the arrival of core boxes to be delivered later in the day. The drill core for the first three holes was examined in Moab at this time, but core box markings were so inadequate that an appraisal of results was impossible.

Johnson examined all the core later after the project was completed. All of the core had been straightened out by that time and he was able to make an evaluation. Johnson has submitted an interim report, finding that 1,718 feet of drilling, 57 feet more than claimed, was done. Actually 205 feet in excess of the footage claimed was done, according to drill logs, being the footage in hole No. 1, which was abandoned. Johnson probably included some footage from this hole to arrive at his total. Core recovery on the first three holes is estimated at 75 percent, and, on the last three, as 95 percent or better.

Payment of $5,683.16, or 75 percent of the amount claimed in November 1954, $7,577.55, is recommended.

M. R. Salsbury
M. R. Salsbury
Mining Engineer

MRS/lai

cc: 4
E710
DMRA Ukron.

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

224 New Customhouse
Denver 2, Colorado

January 5, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3281 (Uranium), Contract Idm-E710, Intermountain Mining Inc. (Last Chance and Ring Cone Claims, Grand County, Utah

Enclosed are two copies of the Operator's Monthly Progress Report, Form MF-104 and 104A, Operator's Narrative Report, Inspecting Engineer's Narrative Report, and other supporting data pertaining to work under the subject contract for the month of November 1954.

W. H. King

W. H. King

Encls.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

WASHINGTON 25, D. C.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 1 0 1954

December 22, 1954

Memorandum

To: T. A. Christensen

From: Executive Officer, DMEA Field Team, Region IV

Subject: DMEA Docket 3281 (Uranium), Contract Idm-E710, Intermountain Mining, Inc., (Last Chance and Ring Cone claims) Grand County, Utah. Operator's Monthly Progress Report for the period October - November 1954.

Enclosed are the original and four copies of Form MF-104 and MF-104A, Narrative Report, and Engineer's Report for the above period.

Work has been completed as authorized by the contract. No documentation is required for work performed under contracts prepared on Form MF-200A, therefore we recommend that payment be made for 75 per cent of the amount reported by the Operator on Form MF-104, contingent on your verification of arithmetical accuracy within the report.

An amount of $200.00 is to be withheld pending release of the Report of Review by the Contract Administration and Audit Division. This office will waive the requirement of a final report from the Operator.

Remarks:

Date of Report	December 9, 1954
Date Received in Field Office	December 13, 1954
Date Received in Region Office	December 21, 1954

W. H. King

Enclosures'

RDB:dm
cc: Sec. to Oper. Comm. (2)
Subject
WMTraver
JWTownsend
Chron

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

DEPARTMENT OF THE INTERIOR
Defense Materials Administration
RECEIVED
JAN 10 1955

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
December 20, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3281, Contract Idm-E710 (Uranium) Intermountain Mining, Inc., (Last Chance and Ring Cone claims), Grand County, Utah--Progress report for October-November 1954

Enclosed are the original and four copies of the subject progress report, the initial and only one--forms MF-104 and MF-104A, with transmittal letter, narrative, sketch map, one copy only of drill logs and analyses invoice--and the original and six copies of M. N. Salsbury's memorandum covering his inspection of the surface core drilling progress and checking the reporting forms. The contract is unit cost on short form MF-200A and documentation is not required except for invoices to support the analyses charges.

Salsbury has visited the project site on three occasions and verifies the 1,661 feet of core and non-core drilling reported by the operator in his narrative and entered on the MF-104A forms. Other entries and extensions are correct on the MF-104 and MF-104A forms and the claim for assay reimbursement is properly documented.

The work performance was in accordance with the terms of the contract. The inspecting engineer describes the operation of the project in complete detail mentioning that it was rather poorly supervised.

Payment is approved and certified on the MF-104 forms of $5,683.16, or 75 percent of the total $7,577.55 claimed by the contractor.

The project is completed and so far as this office is concerned the narrative for the reporting period is acceptable also as a final report. We have splits of pulps of the samples analyzed. A short final report will be prepared recommending no Certification when the work load permits. You will probably deem it advisable to withhold a nominal sum from this voucher pending receipt of a Report of Review from the Regional Contract Administration and Audit Division.

W. M. Traver

W. M. Traver

Enclsoures
WMT/ici
cc: 4 E710 DMEA Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
December 15, 1954

Memorandum

To: Chief, Mineral Resources Branch, Mining Division, Region IV

From: M. H. Salsbury

Subject: DMEA 3281, Contract Idm-E710 (Uranium) Intermountain Mining, Inc.,(Last Chance and Ring Cone claims), Grand County, Utah--Progress report for October-November, 1954

Progress under the subject contract was inspected by a Bureau of Mines representative on November 3 and December 9, 1954, and on November 17, 1954, in company with N. S. Johnson of the Geological Survey, during a trip made to another project.

Work had been started in October, consisting of access road and drill site preparation. At the time of the November 3 inspection, hole No. 1 had been abandoned without completion, and hole No. 3 was being drilled. The operator was therefore advised that a claim for payment for footage drilled in October could not be allowed before completion of a hole and no claim was presented. Prior to the inspection of December 9, the project had been completed and equipment removed.

For October and November 1954, the operator claims payment for 4 chemical analyses for U_3O_8, lime and copper at $5.00 each, or $ 20.00, and 1,661 feet of plug- and core-drilling at a unit cost price of $4.45 per foot, or $7,557.55. The claim for sample analyses is supported by certified assay certificates and that for drilling by drill logs of 6 completed holes, as follows:

Hole No.	Plug drilling feet	Core drilling feet	Total depth feet	Drilled by
1 and 1A	40	200	240	E. E. Hubbard
2	80	183	263	E. E. Hubbard
3	80	180	260	E. E. Hubbard
EH 1	70	270	340	Minerals Engineering Co.
EH 2	50	253	303	Minerals Engineering Co.
EH 3	40	215	255	Minerals Engineering Co.
Total Drilling			1,661	

P. O. BOX 635
CHICO, CALIF.

13 N. VIRGINIA ST.
SUITE 1
RENO, NEVADA

INTERMOUNTAIN MINING, INC.
P. O. BOX 463 MOAB, UTAH

Date Rec'd
BUREAU OF MINES
Denver, Colorado

Dec. 9, 1954

Mr. W. F. Traver, Jr.
U. S. Bureau of Mines,
Room 137, Bldg.20
Denver Federal Center,
Denver 14,,Colo.

re; DMEA 3281 (Uranium)
Contract # Idm-2710

Dear Mr. Traver;

We are enclosing herewith all necessary papers I beleive with our first and final Operator's Monthly Report and Voucher.

Enclosures include the following;

5 copies-- Narative and Final Report
5 copies-- Form MF 104
5 copies-- MF 104-A
5 copies-- Map indicating hole numbers
1 copy of certified drill log on each hole
1 copy of certified Chemical Analyses

If any further information is required please do not heaitate to let me know as soon as possible.

We are really quite dissapointed at the outcome of the drilling program because we were to sure that there was ore ther e eapecially after the Hunt Oil operation proved the existance of commercial ore where they are now operating.

We will appreciate anything you can do to expedite the processing of these reports and the issuence of the voucher.

It has been a pleasure to work with your personel on this contract. They have been both efficient and curteous at all times.

If Mr. H.S.Johnston arrives at a conclusion, after final study of the information derived from the cores, that would indicate the possibility of locating an ore body at some other point on the claims involved, we would be very happy to receive detailed information regarding same so that we might do some further exploration work along those lines.

Respectfully,
INTERMOUNTAIN MINING? INC.

J. A. Chrysler

by J. A. Chrysler, Pres.

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Defense Minerals Administration
RECEIVED

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of November 1954 Docket No. DMEA 3281 Contract No. Uranium Idm-3710
Operator's Name Intermountain Mining, Inc.
Address P.O. Box #433, Moab, Utah Minerals
Contract Amount, $ 9275.00 Government Participation: 75 % Amount, $ 6956.25

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent ~~xxxxxx~~ Short Form Contracts: 1661 ft.	$7557.55	none	7557.55			
Drilling						
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis	20.00	none	20.00			
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	7577.55	none	7577.55	7577.55		7577.55

I certify that the above bill is correct and just and that payment therefor has not been received.
Date Dec. 9, 54 *Payee Intermountain Mining, Inc.
Per J. A. Chugalu Title President

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

→ NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of: 6?
$5483.16

Signature Russell R. Cooper
(Authorized Certifying Officer)

Date 12-27-54 Vou. No. DMA-55-44

(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. IdM-E203 in accordance with the terms of the contract.

Signature W. R. Salsbury $5,683.16 WRT Title Mining Engineer Date December 15, 1954

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE: Clerk

Signature W. H. King Title Executive Officer Date DEC 22 1954

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration

OPERATOR'S UNIT COST AND PROGRESS REPORT

DEC 10 1955

Month of November 195 4 Docket No. DMEA 3281 Contract No Idm-E710
Operator's Name Intermountain Mining, Inc. Minerals Uranium
Address P.O.Box #483, Moab, Utah.

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 4.55 per foot		7557.55	1661	7557.55	1661	4.55	2000	4.55
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Chemical Analyses		20.00	4	20.00	4	5.00	35	5.00
TOTAL DISTRIBUTED COSTS		7577.55		7577.55				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc								
TOTAL COSTS		7577.55		7577.55				9275.00

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

REMARKS:

Date Dec. 9, 1954 Operator Intermountain Mining, Inc.

Per J. A. Lehrzelr Title President

NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

P. O. BOX 635
CHICO, CALIF.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 10 1954

N. VIRGINIA ST.
SUITE 1
RENO, NEVADA

INTERMOUNTAIN MINING, INC.

P. O. BOX 483 MOAB, UTAH

December 8, 54

Mr. W. E. Traver, Jr.
U. S Bureau of Mines,
Room 137, Bldg. 20,
Denver Federal Center,
Denver 14, Colorado.

re; Docket DMEA 3281 (Uranium)
Contract Idm-E710

Narative and Final Report

Dear Sir;

After final execution of Exploration Project Contract above refered to on 20 Sept. 1954 we proceeded to plan and schedule necessary work to carry out the terms of the contract. On approximately 6, Oct. work was started on 2000 ft. of acess road tothe Ring Cone and Last Chance claims and shortly thereafter on the 700 ft. of road necessary for the preparation of the drill sights. This work was completed on the 23rd of October 1954.

On the 26th of Oct. the Diamond Core drilling was started by the Hubbard Drilling Co on the hole designated on the accompanying map as #1. This hole was drilled to a depth of 205 ft. at which depth a tool was broken in the hole. Prior to this time 20ft. of core was lost between the depths of 120' and 140'. The drill was then moved to the #2 location and a hole was cored to a depth of 263' and bottomed in the Moenkopi formation. Hole #3 was cored to a depth of 260' and botomed in the Moenkopi formation. Then the Hubbard Drilling Co. moved back to a point approximately 3 ft. from hole #1 and plug drilled hole #1-A with the exception of the area between 120' and 140' which was cored, and from 205' to 240' which was cored and bottomed the hole in the Moenkopi.

The next three holes were drilled by Minerals Engineering Co. and were drilled in the following order. Hole #Eh-1 cored to a depth of 340' and bottomed in the Moenkopi. Hole #EH-2 cored to a depth of 303' and bottomed in the Moenkopi, and hole #EH3 cored to a depth of 255' and bottomed in the Moenkopi.

Holes # 2, 3, EH-1, & EH-2 were probed with a Babble Counter and a 500' probe unit for our own satisfaction and only hole #EH-2 showed slight radiometric count at depths from 265' to 272'

All cores were kept in core boxes and in their respective order until checked by Mr. H. S. Johnston of your Grand Junction office and Mr. Salisbury. Three segments of core from hole #EH-2 and one segment of core from hole #EH-3 were chemically analized by Smith's Laboratory in Moab, at the suggestion of Mr. H. S. Johnston. The report on these analyses are attached.

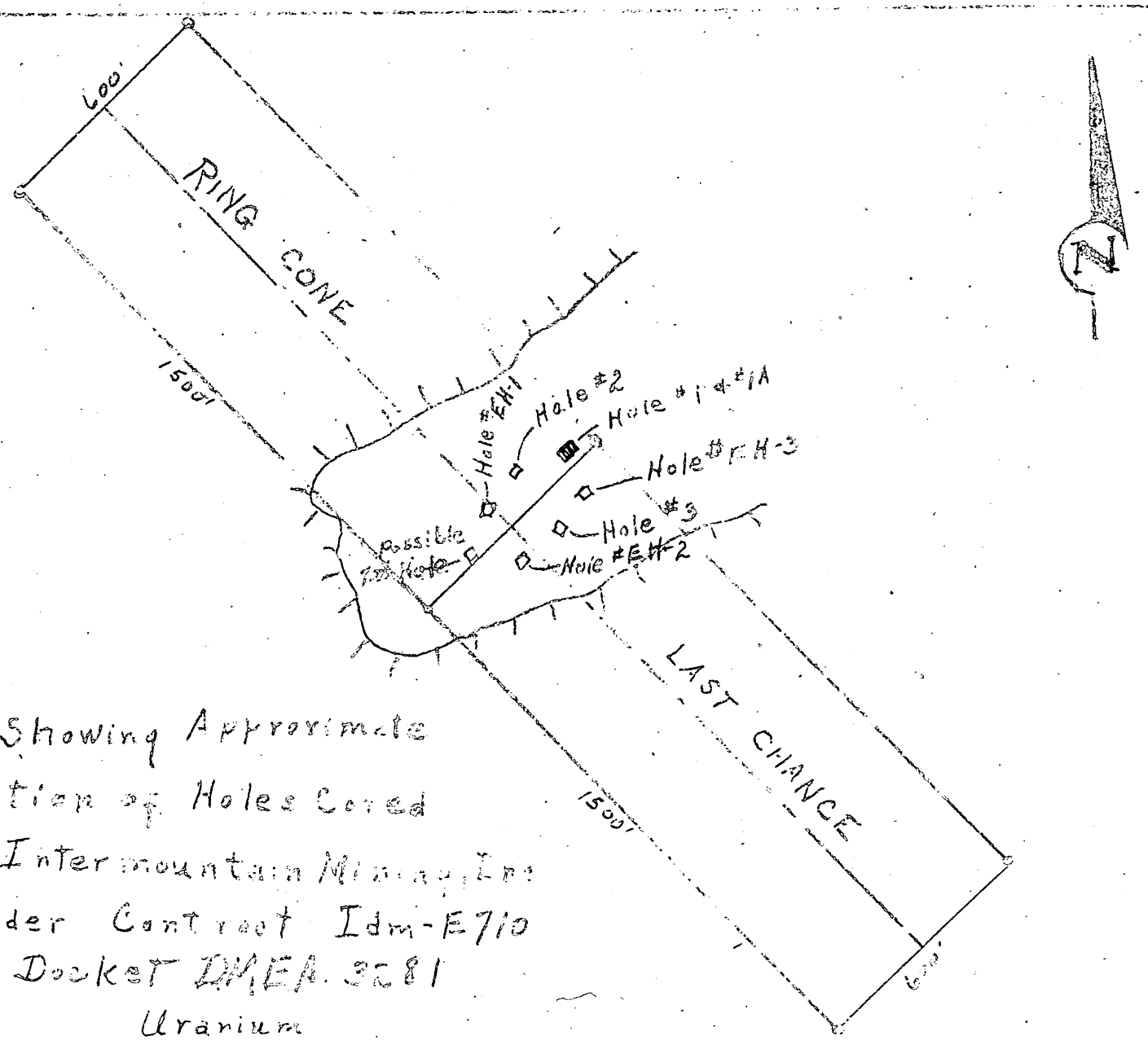
Because of the necessary location of the seventh hole and due to the dip of the formation, it is anticipated that the remaining 339' authorized would not allow us to bottom the hole in the Moenkopi formation. We have therefore concluded all exploration work on this contract with a total footage of 1661 feet of drilling.

No Uranium ore of commercial value was located.

Respectfully,
Intermountain Mining, Inc.

J. A. Chrysler

by J. A. Chrysler, Pres.



Map Showing Approximate
Location of Holes Cored
By Intermountain Mining, Inc
Under Contract Idm-E710
Docket DMEA 3281
Uranium

12/21/54 dgla

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

224 New Customhouse
Denver 2, Colorado

December 15, 1954

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3281 (Uranium), Contract Idm-E710, Intermountain Mining, Inc., Grand County, Utah

Enclosed for your information are four copies of an interim report dated December 10, 1954 by the U.S. Geological Survey relative to work under the subject contract.

W H King
W. H. King

Enclosures

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. BOX 360
COLORADO PLATEAU DISTRICT
GRAND JUNCTION, COLORADO

December 10, 1954

Memorandum

To: A. H. Koschmann, Supervising Geologist, DMEA Field Team, Region IV EMH for AHK

From: Arnold L. Brokaw, District Supervisor

Subject: DMEA 3281 (Uranium), Intermountain Mining, Inc., Grand County, Utah, Interim report

Transmitted herewith are eleven copies of an interim memorandum report by H. S. Johnson, with regard to drilling progress on the subject project.

Johnson recommends that although one hole was stopped short of the basal Chinle contact, the hole had tested the ore-bearing horizon and should, therefore, be considered a completed hole.

W. P. Williams (R)
For Arnold L. Brokaw

WPW/mlr

Enclosures 11

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
COLORADO PLATEAU DISTRICT
P. O. BOX 360
GRAND JUNCTION, COLORADO

December 10, 1954

Memorandum

To: Arnold L. Brokaw, District Supervisor

From: H. S. Johnson HSJ

Subject: DMEA 3281 (Uranium), Intermountain Mining, Inc., Grand County, Utah, interim report

Six diamond-drill holes totaling 1,718 feet have been completed on this project. The remaining 282 feet of the 2,000 allowed in the contract is not sufficient to bottom the seventh hole. I estimate the seventh hole would have to be about 330-340 feet deep to reach the base of the Chinle formation. Intermountain Mining may possibly want to complete the hole at company expense, if the DMEA would pay for 282 feet of a complete seventh hole. I rather think Intermountain will not even request permission to drill this seventh hole, however, as showings from the six already drilled are not very encouraging.

I have examined and logged all the core from the six holes drilled to date. Only two six-inch zones of weak uranium mineralization were found. Intermountain is having assays run on the mineralized sections of core and will furnish the DMEA with duplicate assay reports. A split of the material assayed will also be kept for us if we want it. I do not want this split and have no further use for any of the core or sludge samples.

All holes were completed to the Moenkopi (actually, it seems that the Cutler may be the first formation below the Chinle here) with the exception of "hole no. 3". Hole no. 3 was bottomed at 260 feet while still within the Chinle formation. This hole is within 15-20 feet of the Moenkopi, but I believe it has tested the potential ore-bearing horizon. The other five cores showed the potential ore-bearing horizon to be immediately underlain by 15-20 feet of a mottled purple and white colored zone at the very base of the Chinle formation. The last foot of hole no. 3 is just entering the top of this mottled zone. I believe that hole no. 3 has tested the potential ore-bearing zone, and I recommend that it be considered a completed hole even though it is about 15-20 feet short of the top of the Moenkopi.

11/23/54 gla

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

224 New Customhouse
Denver 2, Colorado

November 18, 1954

Mr. J. A. Chrysler, President
Intermountain Mining, Inc.
P. O. Box 635
Chico, California

Re: Docket DMEA 3281 (Uranium)
Contract Idm-E710
Intermountain Mining, Inc.
Grand County, Utah

Dear Mr. Chrysler:

Enclosed are the original and five copies of Amendment No. 1 to Contract Idm-E710, which we have prepared to establish a unit cost for assaying to effect consistency between recitation in Exhibit A and the provisions of Article 4 of the contract, which stipulates that all work will be performed at an agreed unit cost.

All copies of the amendment should be signed by you, the corporate seal affixed, and returned to this office, leaving the date blank.

Upon signature by the Executive Officer, DMEA Field Team, Region IV, for the Government, your copy of the amendment will be forwarded to you.

Yours very truly,

J. F. Shaw

J. F. Shaw for
W. H. King
Executive Officer
DMEA Field Team, Region IV

Enclosures

[illegible]

[illegible]airman, Cp. Comm. (2)
[illegible]Koschmann
[illegible]Graver
[illegible]Krckow

9/28/54 gla

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 23 1954

224 New Customhouse
Denver 2, Colorado

September 21, 1954

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 3281 (Uranium), Contract Idm-E710, Intermountain Mining, Inc., Grand County, Utah

Enclosed are four copies of the report of examination and two copies of Form B on the subject Docket.

A contract has been prepared and is in force.

W H King
W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
9/27/54

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 23 1954

224 New Customhouse
Denver 2, Colorado

August 16, 1954.

Memorandum

To: DMEA Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Engineering Report of Examination - DMEA Docket 3281 (Uranium), Intermountain Mining, Inc. (Last Chance and Ring Cone claims), Grand County, Utah.

Enclosed are the original and ten copies of the Summary, Conclusions, and Recommendations by H. S. Johnson, Geological Survey, and M. H. Salsbury, Bureau of Mines, and the original and ten copies of the Engineering Report of Examination by M. H. Salsbury.

The applicant requested $4,715.00 to drill 7 diamond drill holes to the bottom of the Shinarump formation to explore the subject claims for uranium.

The engineer examiners conclude that the exploration work is warranted but that applicant's cost estimates are too low. They recommend a maximum of 2000 feet of drilling at a total cost of $9,275.00 which includes provisions for core assaying.

We concur in these recommendations.

W H King
W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
9/27/54

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 23 1954

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
May 7, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Reg. IV

Subject: DMEA 3281, (Uranium), Intermountain Mining, Incorporated, (Last Chance and Ring Cone Claims), Grand County, Utah

Enclosed are the original and ten copies of the "Summary, Conclusions, and Recommendations", by H. S. Johnson, Geological Survey, and M. H. Salsbury, Bureau of Mines, on the subject docket and of M. H. Salsbury's engineering report.

Salsbury concludes that the applicant's two claims have a good potential for the development of uranium ore in at least two favorable horizons of the Chinle formation, citing the discovery made in a nearby property being operated under DMEA 3060, contract IDM-E638. He recommends, after a conference with the applicants and the Geological Survey participant, and their approval, a revised project comprising access road construction, drill site preparation, and 7 surface core drill holes to an estimated depth of 250 feet, maximum allowed 2,000 feet. In addition, he recommends analyses of 35 samples for U_3O_8, V_2O_5, and lime at $5.00 each. Total cost of the project will be $9,275.00, Government participation 75 percent or $6,956.25. I approve his conclusions and recommendations.

The Atomic Energy Commission representatives have given the exploration their approval.

Your special attention is called to the suggestions for diamond drill specifications which are considered important.

The brochure submitted with your memorandum of March 10, 1954, instructing us to prepare a suitable report, is also enclosed.

W. M. Traver

W. M. Traver

Enclosures

9/27/54

cc: 10
RPFischer

WMT/lel

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

May 7, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3281, Intermountain Mining, Inc., Grand County, Utah

Enclosed are 11 copies of a geologic report by H. S. Johnson of the U. S. Geological Survey covering the above docket.

It has been recommended that the applicant's request for DMEA assistance be approved for a modified program to include about 2,000 feet of core drilling in seven holes on the Last Chance and Ring Cone claims. The recommended plan is acceptable to the applicant.

E. N. Harshman
per A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (11)

Reviewed by
DMEA OPERATING COMMITTEE

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. BOX 360
GRAND JUNCTION, COLO.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 23 1954

April 29, 1954

Memorandum

To: A. H. Koschmann, DMEA Field Team, Region IV

From: R. P. Fischer, Supervisor, Colorado Plateau District

Subject: DMEA 3281, Intermountain Mining, Inc., Grand County, Utah

Transmitted herewith are eleven copies of a geologic report on the Last Chance and Ring Cone claims, Intermountain Mining, Inc., Grand County, Utah.

The company applied for assistance to explore for uranium deposits. The work proposed totaled 1,050 feet of drilling at an estimated total cost of $4,715.00.

The attached report was prepared by H. S. Johnson, and is based on a joint field examination April 9, in company with M. H. Salsbury, USBM; W. I. Finch, and R. T. Chew, USGS, and representatives of the applicant.

Johnson concludes that there is a reasonably good chance of finding mineralized rock in the ground proposed for exploration and, on that basis, he recommends that the application be approved. It appears, however, that the ore-bearing beds to be tested are more deeply buried than estimated by the applicant and for that reason the contract for any work approved should be for 2,000 feet of drilling instead of the 1,050 feet requested. The additional drilling will increase the cost of the project and, presumably, the engineering report will include a revised cost estimate. The applicants and I concur with Johnson's recommendations.

W Williams
For R. P. Fischer

Reviewed by
DMEA OPERATING COMMITTEE
9/27/54

DMEA 3281

INTERMOUNTAIN MINING, INC.,
LAST CHANCE AND RING CONE CLAIMS
GRAND COUNTY, UTAH

Summary, Conclusions, and Recommendations

By H. S. Johnson
Geologist
Geological Survey

M. H. Salsbury
Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
9/27/54

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 3281, Intermountain Mining, Inc.,

Last Chance and Ring Cone Claims

Grand County, Utah

Uranium

H. S. Johnson, Geologist
Geological Survey

M. H. Salsbury, Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
9/27/54

April 29, 1954

DMEA 3281

INTERMOUNTAIN MINING, INC.,
LAST CHANCE AND RING CONE CLAIMS
GRAND COUNTY, UTAH

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By H. S. Johnson and M. H. Salsbury

Intermountain Mining, Incorporated, P. O. Box 635, Chico, Calif., has applied for a Defense Minerals Exploration Administration loan of $4,715.00 to explore the Last Chance and Ring Cone claims which they held under lease. The claims are near the Shinarump group owned by the Thornburg Mining Company which also owns the two claims under lease to the applicant.

The applicant proposed an exploration program requiring bulldozing to clear an access road and drill sites and surface diamond core drilling, a total of 1,050 feet, to explore an ore-bearing horizon at an estimated depth of 150 feet.

Estimates by Geological Survey personnel place the depth of potential ore-bearing horizons nearer 250 feet. During the field examination, a conference was held with the applicant's representatives, and a revised program acceptable to them, at nearly double the cost was outlined.

A conflict between claims owned by the Thornburg Mining Company and the Ring Cone and Last Chance claims, which were originally owned by other parties, has been settled by the purchase of the claims by Thornburg. These claims are not in conflict with any oil or gas leases according to

the Atomic Energy Commission. A statement by the Thornburg Mining Company that they have not issued any lease in conflict with the applicant is required.

The rocks exposed in the Corral Canyon area consist of The Permian Cutler formation and the Triassic Moenkopi, Chinle, and Wingate formations. The beds are on the west flank of the Moab anticline, strike N. 15°E. and dip 8° west. Uranium occurs in the lower part of the Chinle formation, and about 2,000 tons or ore averaging about 0.40 percent U_3O_8 have been produced from the Shinarump claims, 2,000 feet east of the Last Chance and Ring Cone claims. The geology of the Last Chance and Ring Cone claims is also considered favorable for uranium mineralization in the lower part of the Chinle formation.

An investigation of the applicant's proposal was made by a Region IV Defense Minerals Exploration Administration examining team on April 9, 1954, and a revised program is suggested, including in addition to the access road construction and drill site preparation, minimum AX size core drill holes to an estimated depth of 250 feet or a total of not more than 2,000 feet. Only a small part of the total area of the claims would be explored, but the possibility of finding an ore deposit similar to those mined on the Shinarump group justifies the exploration of even this small area. The balance of the claim area, which cannot be drilled from surface economically, might be explored by underground methods later, if the proposed project results in discovery of an ore deposit which can be mined profitably. Control of ground adjoining the applicant's claims would be advantageous to protect their

and the Government's interest in ore which might be found to extend beyond the claim boundaries.

A short-form contract at a cost of $9,275.00--Government participation 75 percent, or $6,956.25--is recommended.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 23 1954

UNITED STATES DEPARTMENT OF THE INTERIOR

DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 3281, Intermountain Mining, Inc., Last Chance and Ring Cone claims
Grand County, Utah

Uranium

Geologic Report

by

H. S. Johnson
U. S. Geological Survey

INTRODUCTION AND SUMMARY

Intermountain Mining, Inc., of Chico, Calif., applied (DMEA 3281) for assistance in exploring for uranium on the Last Chance and Ring Cone claims, Grand County, Utah. These claims are about one mile southwest of U. S. Highway 160 at a point about 12 miles northwest of Moab, Utah (fig. 1). Access is gained by a dirt road passing through a group of claims held by the Thornburg Mining Company in the mouth of Corral Canyon.

The Last Chance and Ring Cone claims are on lands on which there was a prior oil and gas lease, but an amended location notice was filed and recorded on December 7, 1953, to make them valid. There is also some conflict between the Last Chance and Ring Cone claims and the Sunset No. 1, Gara No. 1, Pitchblende No. 1, and Berma Nos. 1, 2, 3, and 4 claims owned by the Thornburg Mining Company. However, since the date of the applicant's request for aid, Thornburg Mining Company has purchased the Last Chance and Ring Cone claims. Probably this was done to clear up the conflict that existed. Thornburg Mining Company is aware of the Intermountain Mining, Inc., lease and is bound by its terms. Therefore, there should no longer be any conflict between the Last Chance and Ring Cone and the Sunset, Gara, Pitchblende, and Berma claims.

A field examination of the Last Chance and Ring Cone claims was made on April 9, 1954, by a party consisting of M. H. Salsbury of the Bureau of Mines, and H. S. Johnson, W. I. Finch, and R. T. Chew of the Geological Survey. Mr. J. A. Chrysler, L. G. Chrysler, P. M. Barcelous, and Harold Mortenson were also present as representatives of Intermountain Mining, Inc.

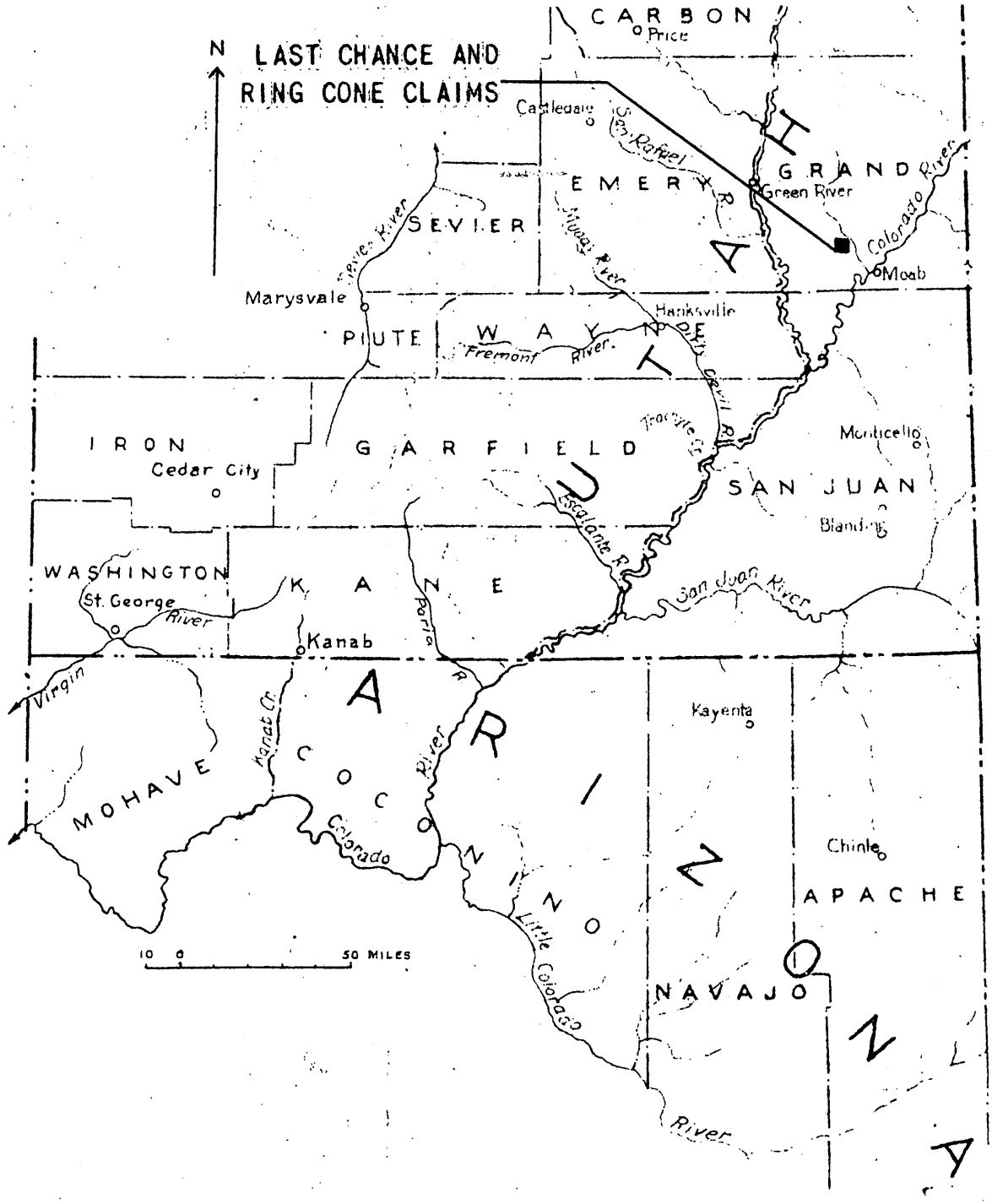


Figure 1. INDEX MAP SHOWING LOCATION OF LAST CHANCE AND RING CONE CLAIMS, INTERMOUNTAIN MINING, INC., GRAND COUNTY, UTAH

The rocks exposed in the Corral Canyon area consist of the Permian Cutler formation and the Triassic Moenkopi, Chinle, and Wingate formations (fig. 2). The beds are on the west flank of the Moab anticline and strike N. 15° E. and dip 8° west. Uranium occurs in the lower part of the Chinle formation. About 2,000 tons of ore, averaging about 0.40 percent U_3O_8, have been produced from the Shinarump claims 2,000 feet east of the Last Chance and Ring Cone claims.

The applicant originally proposed drilling seven core drill holes to test the Chinle and Shinarump formations on the Last Chance and Ring Cone claims. The amount of drilling required was estimated at 1,050 feet, and the total cost of the project at $4,715.00, of which Government participation would be $3,536.25. After examining the property, the writer feels that about 2,000 feet of hole will be necessary as the depth of each hole will have to be 250 feet or more rather than the 150 feet specified in the application.

There seems to be a good chance for uranium-bearing rock under the Last Chance and Ring Cone claims and it is suggested that this opportunity be taken to test the Chinle formation in what is considered an area of favorable geology. It is hereby recommended that the applicant's request for DMEA assistance be approved but that the exploration program be modified so as to allow for seven holes totaling about 2,000 feet of drilling instead of the 1,050 feet originally requested. The recommended plan is acceptable to the applicant.

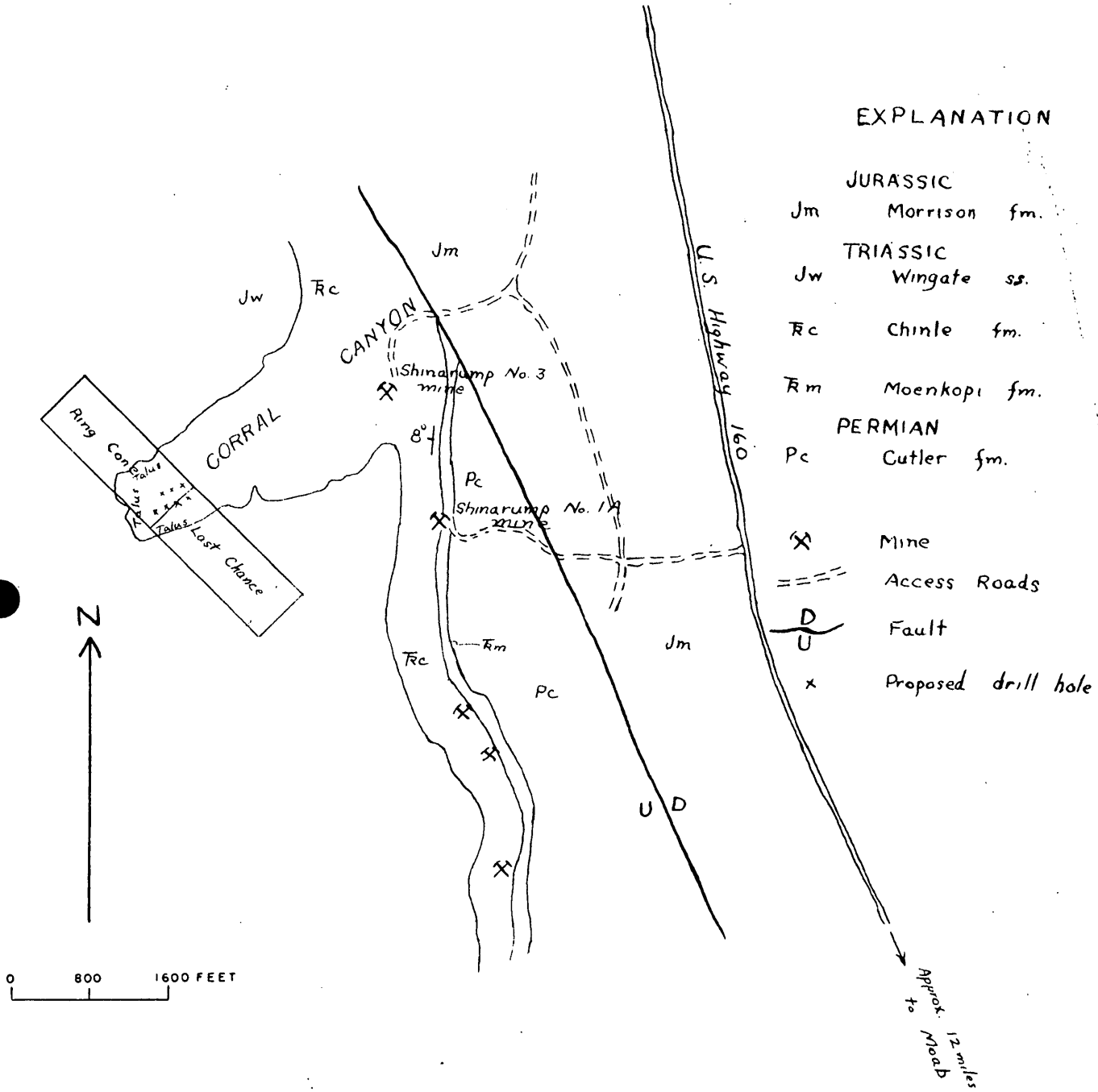


Figure 2. SKETCH MAP SHOWING GEOLOGY IN VICINITY OF THE LAST CHANCE AND RING CONE CLAIMS, GRAND COUNTY, UTAH

GEOLOGY

The formations exposed in Corral Canyon consist of the Permian Cutler formation and the Triassic Moenkopi, Chinle, and Wingate formations. At the base of the Chinle formation in this area, there are very thin, discontinuous lenses of gray-white sandstone and grit that have been called the Shinarump conglomerate in the past. _/

_/ McKnight, E. T., 1940, Geology of area between Green and Colorado Rivers, Grand and San Juan Counties, Utah: U. S. Geol. Survey Bull. 908.

It is now thought that this unit is part of the Chinle formation in the Seven Mile-Corral Canyon area and cannot be correlated with the Shinarump conglomerate as it is known farther to the southwest. The Permian and Triassic rocks in the Seven Mile-Corral Canyon area outcrop in a steep scarp that is a few hundred feet west of the Moab fault and is essentially parallel to the fault. The Moab fault is a normal fault of some 1,500-1,800 feet displacement. The beds along the front of this scarp, and in the re-entrant formed by Corral Canyon, are on the west flank of the Moab anticline and strike N.15° E. with a dip of 8° W.

The Cutler formation is exposed at the base of the scarp near the mouth of Corral Canyon. Only the top 50 feet or so of the formation is exposed, and this is composed of reddish colored medium- to coarse-grained sandstone, shaly sandstone, and reddish brown shale. No uranium or copper mineralization is known in the Cutler formation in this vicinity.

The Moenkopi formation is less than 25 feet thick where it is exposed near the mouth of Corral Canyon, and it appears to be thinning against the crest of the Moab anticline. A few miles to the south and west, the Moenkopi formation is several hundred feet thick. It is largely made up of thin-bedded shale, mudstone, and sandstone with a distinctive chocolate brown color. Flakes of detrital mica and abundant ripple marks characterize this formation.

The Chinle formation is 250-300 feet thick in the Seven Mile-Corral Canyon area and can be roughly divided into two units. The lower part is composed of thin, irregularly bedded light green to pale red siltstone, sandstone, and limestone pebble conglomerate. The upper part is composed largely of pale red shale and sandstone. Uranium-copper mineralization is found in several zones throughout the lower part of the Chinle, but so far most of the production has been from the lower 30 feet of the formation in this area.

The Wingate sandstone is about 250 feet thick in the Corral Canyon area and is composed of massive yellowish gray fine-grained sandstone that weathers to a dark reddish-brown color and forms a sheer cliff at the head of Corral Canyon. No uranium mineralization is found in the Wingate formation in this area.

ORE DEPOSITS

In the Seven Mile-Corral Canyon area, uranium deposits occur mainly in the lower 30 feet of the Chinle formation. A detailed account of the deposits on the Shinarump claims near the mouth of Corral Canyon has been given by W. I. Finch. _/ The uranium-bearing

_/ Finch, W. I., 1953, Geology of the Shinarump No. 1 mine, Seven Mile Canyon area, Grand County, Utah: U. S. Geol. Survey TEIR 287.

material occurs principally in three zones near the bottom of the Chinle formation. The lower ore zone is about 5-10 feet thick and is at the base of the formation. This zone is composed of siltstone interbedded with mudstone, sandstone, and conglomerate. Where mineralized, the beds are gray to green in color. Where barren, they are likely to be reddish brown. The middle ore zone is about 10 feet above the base of the formation and is in a one-foot thick limestone pebble conglomerate bed. The upper zone is about 23 feet above the base of the formation and is in greenish siltstone and limestone-pebble conglomerate. Uraninite or pitchblende is the principal uranium mineral and occurs associated with chalcocite and other sulfides replacing carbonaceous material and disseminated in limy siltstone. Production from the Shinarump claims at the mouth of Corral Canyon has been about 2,000 tons of ore averaging about 0.40 percent U_3O_8. Recently a new discovery has been made in the upper part of the Chinle formation in Mineral Canyon about 15 miles southwest of Corral Canyon.

Uranium-vanadium mineralization occurs here in a carbonaceous sandstone about 100 feet below the top of the Chinle formation. Although no uranium-bearing material has been found at this horizon in the Corral Canyon area, there is some possibility that the upper portions of the Chinle formation may contain uranium here as well as the lower parts.

Because the uranium in the lower 30 feet of the Chinle in this area occurs as grains, blebs, and small masses of pitchblende with a spotty distribution rather than as a blanket of uniformly mineralized rock, core drilling cannot be expected to give a truly representative sample of an ore body. A drill hole may penetrate an ore body without cutting any of these small masses of pitchblende and yet there may be enough of them present through the rock to make it rich enough to mine. Green-gray coloration of the rock, and the presence of dark-colored calcite in relatively coarse crystals and copper minerals, however, are useful as guides to ore in the Corral Canyon area, and these may be indicative of mineralized ground even though no uranium minerals are found in drill samples.

Observations made on two brief visits to the Shinarump No. 1A and No. 3 mines suggest to the writer that the streams which deposited the sediments in the ore zones were flowing in a northwest direction. There are no well defined channels or sharp scours which control the ore, but there may be some sort of very broad and shallow channel which does. At any rate, lithologic controls are in all probability in effect here and these favorable lithologies could be expected to have their greatest extent or length in the direction of stream flow. Therefore, it is possible that the favorable lithologic controls present at the Shinarump No. 1A and No. 3 mines may continue in a west or northwest direction towards the Last Chance and Ring Cone claims about 2,000 feet away.

PROPOSED EXPLORATION

The applicant proposes to do such bulldozer work as is necessary to build drill roads and then to drill seven core drill holes to the top of the Moenkopi formation on the Last Chance and Ring Cone claims. It was estimated by the applicant that the total cost of this work would be $4,715.00 of which the Government's share would be $3,536.25. Included in this cost estimate is a total of 1,050 feet of core drilling at a cost of $3.00 per foot.

The topography on the Last Chance and Ring Cone claims is such that exploration possibilities are limited. Within the boundaries of the two claims, there is an area about 300 feet by 500 feet in the canyon that is suitable for drill sites. The sheer Wingate cliff and thick talus slopes limit this accessible area on the north, west, and south.

During the field examination, it was agreed by all concerned that, should drilling be approved, the seven holes should be drilled on 100-foot centers in two lines 100 feet apart and parallel to the bottom of the canyon (fig. 2). Any wider hole spacing or different orientation will encounter the problem of drilling through the thick talus slope at the base of the Wingate cliff. Core should be taken from top to bottom of each hole because there is a possibility of finding mineralized rock in the upper portions of the Chinle formation as well as in the lower 30 feet. Holes should be bottomed as soon as the Moenkopi formation is penetrated. Assays should be made of any core that is radioactive or shows copper minerals. Provision should also be made for the preservation of the core until it can be logged by a representative of the Geological Survey.

From the proposed drill sites the writer estimates the depth to the top of the Moenkopi formation to be about 250 feet. If drilling is approved on these claims, a total of about 2,000 feet should be allowed for the seven holes. This revised estimate of the necessary depth of each hole will require a change in the estimated cost of the project. The cost can be expected to be roughly twice the $4,715.00 figure originally given by the applicant.

CONCLUSIONS AND RECOMMENDATIONS

Economic uranium deposits occur in the lower 30 feet of the Chinle formation in the Corral Canyon area, Grand County, Utah. The topography on the Last Chance and Ring Cone claims limits exploration possibilities, but the program proposed by the applicant can, with some modification, test the lower ore zone and also a potential ore zone in the upper part of the Chinle formation.

The writer feels that there is a good chance for uranium-bearing rock under the Last Chance and Ring Cone claims. Although seven drill holes on 100-foot centers will probably not provide enough information to prove the presence of a minable ore body, even if the holes cut mineralized material, the opportunity should be taken to test the Chinle formation in what is considered an area of favorable geology.

It is recommended that the applicant's request for DMEA assistance be approved for a modified program to include about 2,000 feet of core drilling in seven holes on the Last Chance and Ring Cone claims. The recommended plan is acceptable to the applicant.

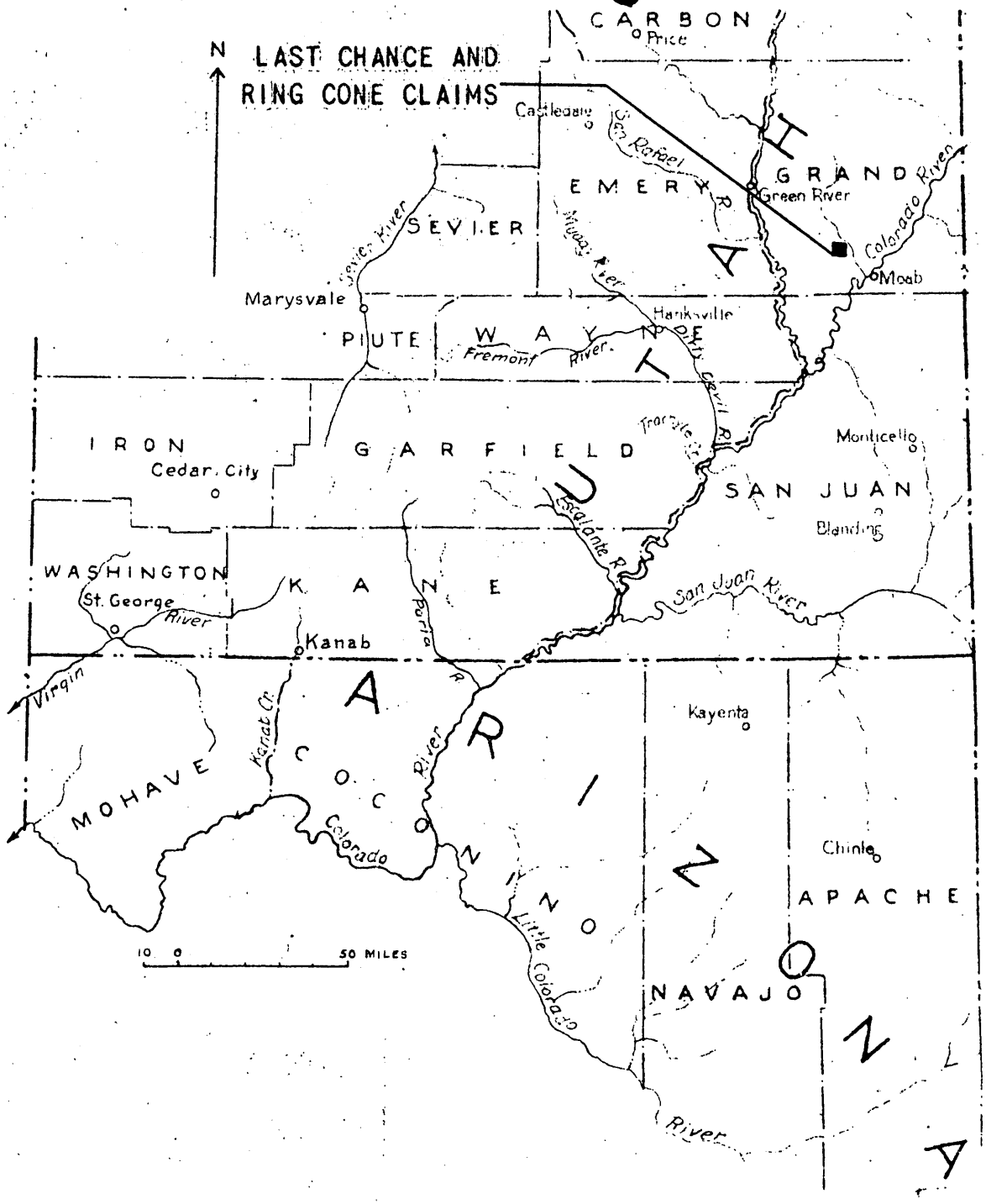


Figure 1. INDEX MAP SHOWING LOCATION OF LAST CHANCE AND RING CONE CLAIMS, INTERMOUNTAIN MINING, INC., GRAND COUNTY, UTAH

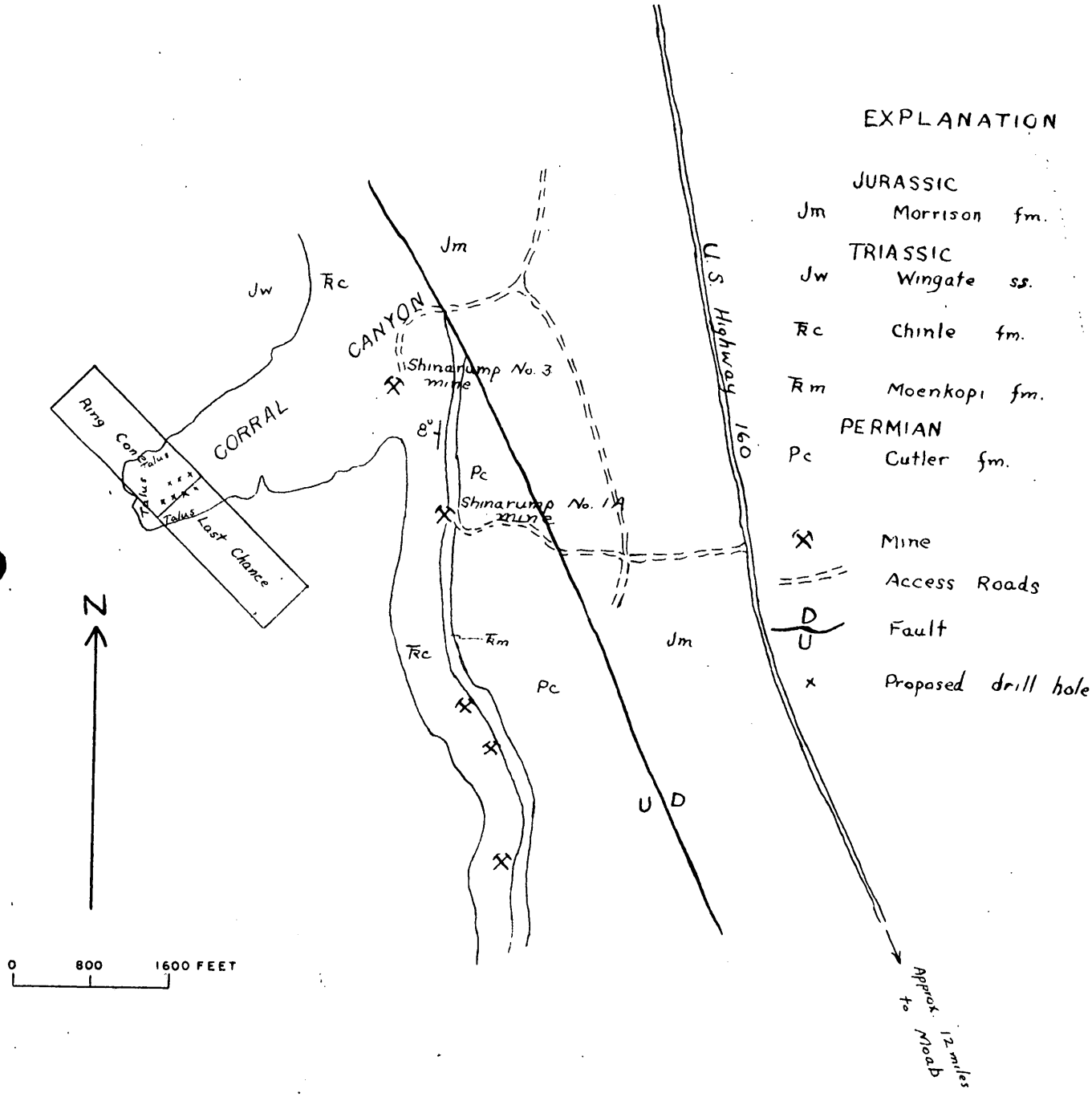


Figure 2. SKETCH MAP SHOWING GEOLOGY IN VICINITY OF THE LAST CHANCE AND RING CONE CLAIMS, GRAND COUNTY, UTAH

DMEA 3281

LAST CHANCE AND RING CONE CLAIMS
INTERMOUNTAIN MINING, INC.
GRAND COUNTY, UTAH

Engineering Report

By M. H. Salsbury
Mining Engineer
Bureau of Mines

DMEA 3281

LAST CHANCE AND RING CONE CLAIMS
INTERMOUNTAIN MINING, INC.
GRAND COUNTY, UTAH

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DMEA 3281

LAST CHANCE AND RING CONE CLAIMS
INTERMOUNTAIN MINING, INC.
GRAND COUNTY, UTAH

ENGINEERING REPORT

By

M. H. Salsbury

INTRODUCTION

Intermountain Mining, Inc., has applied for Defense Minerals Exploration Administration assistance in a project to explore for uranium two unpatented mining claims, the Last Chance and the Ring Cone, Seven Mile mining district, located near Moab, Utah. The claims are held under lease. The proposed project under DMEA 3281 calls for clearing drill sites, constructing an access road, and 1,050 feet of diamond core drilling at an estimated cost of $4,715.00--Government participation 75 percent, or $3,536.25.

A field investigation was made on April 9,1954, by a Region IV examining team representing the Bureau of Mines and Geological Survey.

ACKNOWLEDGEMENTS

The examining team was accompanied by Randall Chew and W. I. Finch of the Geological Survey, and L. G. Chrysler, Jr., J. A. Chrysler, P. B. Barceloux, and Harold Mortenson, representing the applicant. The Geological Survey member of the examining team

has consulted the Atomic Energy Commission regarding the proposed project.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Last Chance and Ring Cone claims are located in secs. 28 and 33, T. 24 S., R. 20 E. Salt Lake principal meridian, Seven Mile area, Grand County, Utah (fig. 1). They are near the Shinarump group presently being operated under DMEA 3060, contract IDM-E638, by the Thornburg Mining Company, 13.5 miles north of Moab, Utah and one-half mile west of Utah Highway 160, an oil-surfaced road. A rough access road extends within 500 feet of the proposed drilling sites.

The property, at an elevation of about 5,000 feet, is in a deep box canyon (Corral Canyon) which extends west from the north and south valley at the highway. The canyon floor is about 300 feet above the floor of the valley. High cliffs of the Wingate formation top the canyon walls, with Chinle beds forming steep slopes at the base. The narrow canyon floor is obstructed by debris consisting largely of massive sandstone blocks. The drilling sites are 15 to 20 feet above the floor on the steep slopes.

The normally arid climate is favorable for surface operations throughout the year. There are extremes of heat and cold in summer and winter and occasional heavy precipitation. Vegetation is sparse.

Mining supplies can be purchased in Moab, Utah, or in Grand Junction, Colo., which is the nearest major supply center, reached by scheduled motor freight and bus service. Mining timber

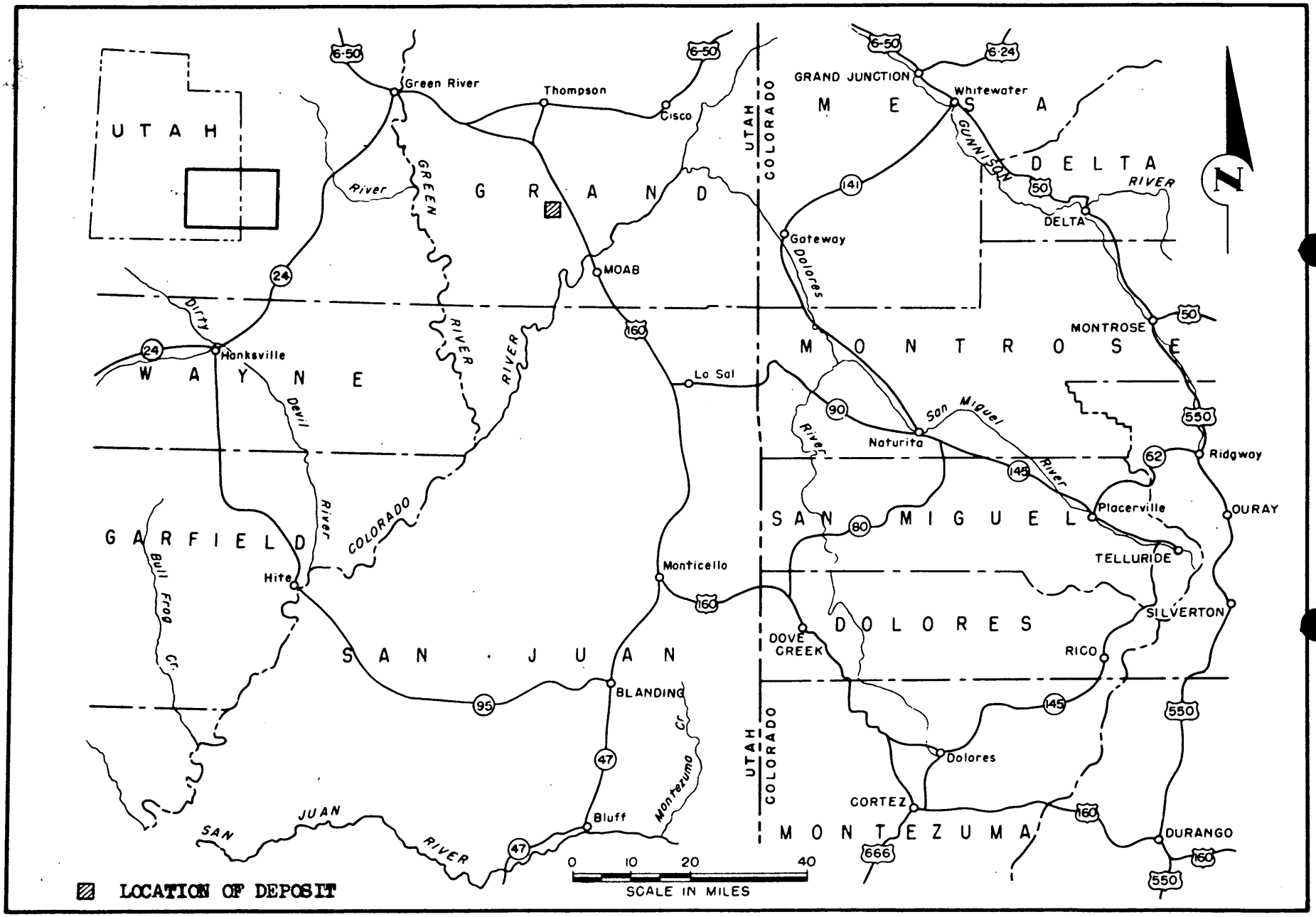

FIGURE 1. - LOCATION MAP, LAST CHANCE AND RING CONE CLAIMS, INTERMOUNTAIN MINING INC., GRAND COUNTY, UTAH (DMEA 3281)

can be obtained from lumbering operations near Moab. Water for mining purposes can be hauled from the Colorado River at Moab. No electric power is available.

The nearest purchasing depot for uranium ores is at Monticello, a distance of 70 miles over an oil-surfaced highway.

The nearest living facilities are at Moab where housing is critical at present. However, work under the proposed contract would be done by firms and personnel already established in the region and no provision need be made for living quarters.

The applicant proposes to do the proposed work under contract, employing only a supervisor directly.

HISTORY, PRODUCTION, AND PROPERTY OWNERSHIP

Uranium deposits in the Seven Mine area were discovered on Thornburg's Shinarump claims in 1949, and exploratory drilling has been carried on by the Atomic Energy Commission. A possible ore body indicated by drilling is currently being investigated by Government-assisted underground exploration under DMEA 3060, contract IDM-M638. Mining operations, which produced 1,600 tons of ore with an average content of 0.40 percent U_3O_8, have been continued and total production to date is about 2,000 tons. Other portions of Thornburg's property are being drilled by independent operators and another discovery has been reported. There has been no production from the applicant's claims.

The Last Chance and Ring Cone claims were located by Pearl Knight and N. B. Knight, respectively, on September 12, 1951, and recorded in the Grand County courthouse, entry numbers 208693 and 208694, Book 9K, pages 363 and 364, on September 17, and 16, 1951. An amended location was recorded in Book 15, pages 47 and 48 on December 7, 1953. There is apparently no conflicting oil and gas lease, and this has been rechecked with the Atomic Energy Commission. The recorded location certificates, location notices, and discovery monuments were checked by the examining team and comply with Utah laws and Atomic Energy Commission regulations except that no claim corners or boundaries appear to have been established. This requirment, however, does not seem to be generally observed in the region.

J. A. Chrysler obtained a lease on the two claims from J. B. and Pearl Knight for 10 years from October 23, 1953, with royalty payments of 15 percent of the mill returns and any bonus payments. The lease is recorded in the Grand County courthouse, November 9, 1953, entry number 214280, Book 13, pages 108 to 111. Chrysler assigned the lease, with the consent of the property owners, to Intermountain Mining, Inc., a Nevada corporation, on November 14, 1953, as recorded in the Grand county courthouse, entry number 219313, Book 19, pages 435 - 436. The officers of Intermountain Mining, Inc., P. O. Box 635, Chico, California, are as follows:

J. A. Chrysler, Jr., President, P. O. Box 679, Chico, Calif.
L. G. Chrysler, Vice-President, P. O. Box 635, Chico, Calif.

P. M. Barceloux, Secretary - Treasurer, Waterland
Breslauer Building, Chico, Calif.

After the lease was issued, J. B. and Pearl Knight sold the claims to the Thornburg Mining Company. The lease, however, is still valid, as was acknowledged in a letter seen by the examining engineer from Thornburg's attorney to the lessee. A sketch map furnished by the Atomic Energy Commission to the examining team shows a conflict between the Last Chance and Ring Cone claims and other claims owned by the Thornburg Mining Company. A surveyor employed by Thornburg was contacted in the field and gave the examining team substantially the same information. Inasmuch as the claims all belong to Thornburg now, the conflict is probably not too important. However, the applicant was advised by the examining team to get a written statement from the Thornburg Mining Company that no other lease has been issued by them on ground which has since been found to be in conflict with the applicant's leased claims. Although not essential, it would be to both the applicant's and the Government's interest to have control of ground southwest and possibly northeast of the Last Chance and Ring Cone claims.

DESCRIPTION OF THE DEPOSITS

The ore deposits of the region, so far as known to date, occur in the basal 30 feet of the Chinle formation, which outcrops on a steep slope on the nearby Shinarump claims overlooking the main north and south valley. Stratigraphically, the beds correspond

to the Shinarump formation but lack the characteristic coarse sandstone and quartz-pebble conglomerate of true Shinarump, and contain more limestone. Taking into account the 8° westerly dip of the Chinle beds and the westward rise of the floor of Corral Canyon, the base of the Chinle is an estimated 250 feet below surface at the proposed drill sites. It has been determined at the Shinarump workings that ore is found at two different stratigraphic horizons, one at the base of the Chinle, and one about 20 feet above the base. The proposed drilling should, therefore, be planned to cut both horizons. Known ore deposits in the area range from 1 to 3 feet in thickness. The uranium occurs both as disseminated grains and small masses of uraninite, replacing carbonaceous material. Unless the uraninite is in masses large enough to be seen, the ore cannot be differentiated visually from barren rock. The deposit in the south workings on the Shinarump claims, at the base of the Chinle, is comparatively uniform in grade. In the north workings, the deposit, 20 feet above the base of the Chinle, is erratic in grade and occurence. The known ore apparently does not occur in channels but there are indications of ore trends.

MINEABLE ORE RESERVES

There are no known ore reserves on the property. No sampling was possible because of the absence of any mineralized exposures.

PRESENT STATUS

Exploration and Development

The Last Chance and Ring Cone claims are entirely unexplored.

Mining and Milling Equipment and Other Facilities

The applicant does not have any equipment in the area, except automotive units. All work under the proposed project would be done under contract.

PROJECT PROPOSALS WITH COSTS

The applicant proposed the following:

Bulldozing for access roads and drill sites	$ 650.00
Core drilling 1,050 feet in 7 holes	3,150.00
Supervision (30 days)	840.00
Assaying	75.00
Total estimated cost	$4,715.00

The applicant assumed that the depth to the ore horizon is 150 feet rather than the 250 feet estimated by the examining team. The applicant's estimated cost is only half of the revised cost.

A conference was held with the applicant's representatives and a revised drilling program outlined which was satisfactory to them.

Seven core drill holes on 100-foot centers, as shown on figure 2, are proposed in the revised program. The estimated average depth of hole is estimated as 250 feet, but a maximum of 2,000 feet of drilling is allowed, to insure that the entire Chinle formation will be penetrated, inasmuch as the 250-foot estimate may not be very accurate. This work would explore only a small part of the

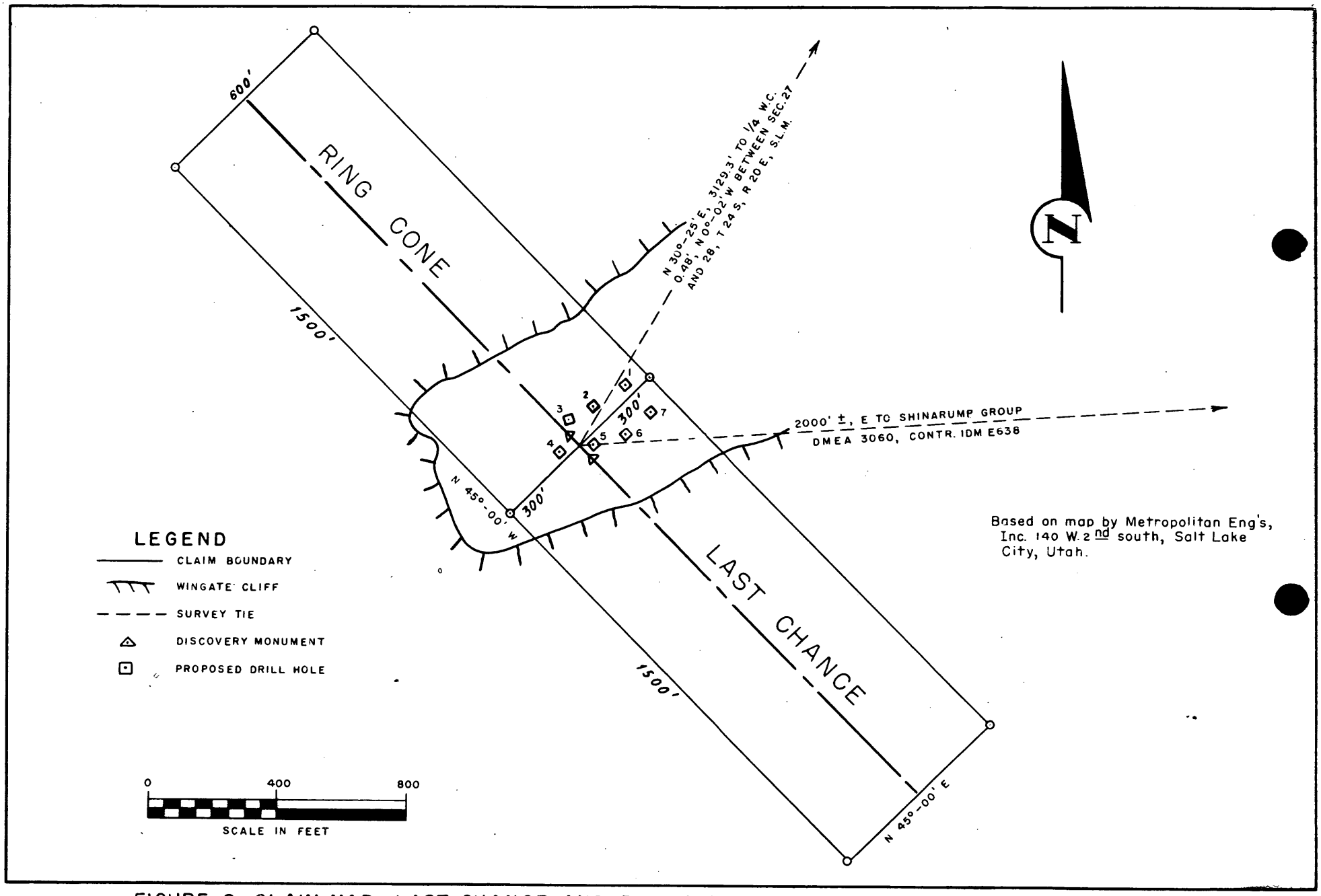

FIGURE 2-CLAIM MAP, LAST CHANCE AND RING CONE CLAIMS, INTERMOUNTAIN MINING, INC., GRAND COUNTY, UTAH (DMEA 3281)

total area of the claims but topography prohibits more extensive exploration from surface at a reasonable cost. However, the accessible drilling sites proposed are probably as favorable geologically as any other, in the absence of better data on possible ore trends.

Assuming that any ore discovered would be mined by sinking a shaft on the claims, rather than from an adit tunnel from the northeast through ground which the applicant does not now control, the estimated minimum lateral dimensions of a deposit which could be mined profitably are about 100 feet by 100 feet, using data on grade, total area, and production of ore bodies on the nearby Shinarump claims as a basis. If the ore happens to occur in the more erratic upper horizon, a production of possibly 500 tons of ore averaging 0.40 percent U_3O_8 might be expected, for a gross return of $31,500.00, compared with an estimated cost of exploration, development, and mining of $26,760.00. Such a deposit would be a reasonable target for the proposed drilling on 100-foot centers.

The estimated time for completion of the revised program is 3 months. Following is a cost estimate:

Contracts		
Bulldozing for access roads and drill sites 48 hours at $12.00 per hour	576.00	
Diamond core drilling 7 holes to an average depth of 250 feet, 2,000 feet maximum allowed at $3.50 per foot	7,000.00	
Total contracts		$7,576.00
Supervision		
Services of superintendent, half time, $350.00 per month, 3 months	1,050.00	
Total supervision		$1,050.00

Labor	none	
Supplies		
Gasoline, lubricating oil, repairs on Jeep at $75.00 per month, 3 months	$225.00	
Total supplies		$225.00
Operating Equipment		
1 used Jeep valued at $1,500.00 depreciated at $50.00 per month, 3 months	150.00	
Total operating equipment		$150.00
No initial rehabilitation and repairs, new buildings, or improvements		
Miscellaneous		
Bookkeeping - no allowance (To be done by Superintendent)	none	
Compensation insurance, Social Security, unemployment tax on supervision 8 percent of $1,050.00	84.00	
Sampling estimated 35 samples analyzed for U_3O_8, V_2O_5, and lime at $5.00 each	175.00	
Total miscellaneous		$259.00
Total estimated overall cost		$9,260.00
Total cost per foot for 2,000 feet of drilling		4.63
Total cost per foot for 2,000 feet of drilling, excluding sample analyses		4.55

Summary of costs

Contracts	$7,576.00
Supervision	1,050.00
Supplies	225.00
Operating equipment	150.00
Miscellaneous	259.00
Total estimate cost	$9,260.00

Total cost per foot of drilling	$4.63
Total cost per foot of drilling, excluding sample analyses	4.55

CONCLUSIONS

The Last Chance and Ring Cone claims cover two potential uranium ore-bearing horizons at the base of the Chinle formation near the Shinarump group which has a record of substantial production. The ore apparently does not occur in channels although there may be trends which have not been definitely established yet. There is a good possibility that significant amounts of uranium can be located by drilling at the only accessible site on the claims. This would only explore a small part of the property, but if enough ore can be located to justify underground development to reach it, further exploration of areas not accessible at present could be carried on by underground methods. Drilling 7 holes on 100-foot centers (fig. 2) would determine if there is an ore body large enough to be profitably mined. Coring the holes throughout would be advisable because data from drilling the upper part of the Chinle formation in this area are meager.

An ore body at the estimated 250-foot depth could be reached by vertical shaft, incline shaft, or adit tunnel. An incline shaft or tunnel would have to be driven in part on ground not controlled by the applicant. Control of the adjoining ground northeast, and possibly southwest, of the applicant's claims would be advantageous, both to the applicant and to the government, but it is not essential. Ore deposits which might be located by

drilling could easily extend beyond the claim limits. Acquisition of the Last Chance and Ring Cone claims by Thornburg, who recognizes the lease issued by the former owners, resolves a conflict in claim locations, but verification by Thornburg that no conflicting leases have been issued is required, along with the usual subordination agreements. A statement from the Atomic Energy Commission that there are no conflicting oil and gas leases is also necessary.

The principals of the applicant company are highway and building contractors and the company has been engaged in uranium exploration in the Moab area for the past year. The superintendent, Harold Mortenson, has 4-1/2 years experience in uranium mining and exploration and should be competent to supervise the project, provided drill cores are preserved for examination by Defense Minerals Exploration Administration representatives, and accepted drilling and sampling techniques are followed. Gamma ray logging of the holes is not considered necessary.

RECOMMENDATIONS

It is recommended that the proposed exploration project under DMEA 3281, as revised, be approved, at a cost of $9,275.00—Government participation, 75 percent or $6,956.25—under a short-form contract.

A Description of the Work for Exhibit A is suggested as follows:

Drilling Summary

Drill 7 diamond core drill holes to an estimated depth

of 250 feet, with a maximum of 2,000 feet of drilling allowed, at the approximate locations shown on figure 2. Holes are not to be on intervals of less than 100 feet. They are to be cored throughout, minimum size core AX, and a minimum core recovery of 80 percent in mineralized sections required.

Agreed Unit Cost

Diamond core drilling 2,000 feet at $4.55 per foot	$9,100.00
Chemical analyses of 35 samples for U_3O_8, V_2O_5 and lime at $5.00 each	175.00
Total agreed unit cost	$9,275.00
Government participation of 75 percent	$6,956.25

The operator shall preserve all drill core, storing it in a suitable manner until it is inspected by Region IV, Defense Minerals Exploration Administration representatives. Boxed splits of mineralized sections of the core are to be furnished to the Government.

All drill hole diameters, drill hole depths, the method of sampling, of sample determinations, and of recovering drill hole cores and sludges to be in accordance with standard Colorado Plateau practice and are subject to Government approval. All diamond-drill sludges of suspected mineralized material are to be sampled at not more than one-foot (1 ft.) intervals. Each mineralized sample of sludge or core is to be tested for equivalent U_3O_8 with a scaler and analyzed chemically for U_3O_8, V_2O_5 and lime, if any significant mineralization is indicated by the equivalent U_3O_8 determination.