700

FILE COPY
Surname:
Ching
Nelson
Martin

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

AUG 10 1956

Great Western Mineral Company
Bass Building, Box 1188
Enid, Oklahoma

Re: Docket No. DMEA-4354 (Uranium)
Humdinger Group of Claims
Mesa County, Colorado

Gentlemen:

Your application for aid in an exploration project and other information available to us in Washington concerning the above-named property have been reviewed.

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

Careful study of all our information, although noting some uranium mineralization on your property, indicates to us that the probability of disclosing significant ore reserves is not sufficiently promising to justify Government participation. We regret to advise you that, under these circumstances, your application for exploration assistance is denied.

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

Sincerely yours,

C. O. Mittendorf

Administrator

MChing/izm 8-8-56
cc to: Docket
Code 700
Mr. Ching
Admr.'s Reading File
Operating Committee
DMEA Field Team, Reg. III (2)
Messrs. JECrawford, Rm. 3643
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210,GSA

P.S.

Docket

700

Ching
Ellis

August 8, 1956

Summary of Proposed Project

Object: Denial of application for an exploration project.

Docket No.: DMEA-4354

Commodity: Uranium

Applicant: Great Western Mineral Company
Bass Building, Box 1188
Enid, Oklahoma

Property: Humdinger Nos. 1-11 claims, situated in sec. 5, T. 50 N., R. 18 W., and sec. 32, T. 51 N., R. 18 W., N.M.P.M.&B., Mesa County, Colorado. Applicant is the owner.

Date of Application: May 11, 1956

Amount of Application: $27,650.00

Work Proposed: Test the Salt Wash member of the Morrison formation by wagon and rotary drilling in two stages. Estimated Costs are as follows:

15,300 ft. non-core drilling @ $1.50/ft.	$22,950.00	
Labor, supervision, technical services	3,300.00	
Access road	500.00	
Miscellaneous	900.00	
Total		$27,650.00
Government Participation @ 75%		$20,737.50

Field Team Report: July, 1956, by H. F. Albee, USGS & H. F. Robertson, USBM:

The lowest of five known horizons of the Salt Wash member of the Morrison formation is the mineralized horizon on the subject property. Although the property lies on Tenderfoot Mesa, an area of general favorability, the available evidence indicates that the possibility of finding a significant ore deposit is remote. No favorable trends have developed from the ore deposits about 3 miles to the northwest. A few holes drilled by the AEC on the eastern side of the mesa were classed as unfavorable and no significant deposits were indicated. Of 12 wagon drill holes drilled by the AEC directly behind mineralized outcrops on the Humdinger No. 8 claim, one hole was weakly mineralized and the rest were barren. These holes adequately tested the most promising ore exposure on the property. Private drilling done about the same time, reportedly gave discouraging results, although responsible for discovery of 39 tons of ore produced by the Humdinger mine. 34 tons assayed 0.29% U_3O_8 and 1.76% V_2O_5.

Four mineralized outcrops on the property are known and were examined. Each has had a small amount of development work, but all proved too thin and low-grade for mining. The largest lens is from 1 inch to 1 foot thick and about 20 feet wide. All available information indicates that the potential ore deposits would be too small and scattered for economic mining operations. It is recommended that the application be denied.

Commodity Group Comments:

USGS, W. P. Williams, August 1, 1956:

Many unfavorable factors weigh against the likelihood of the property containing minable ore deposits. Concurs in the Field Team's recommendation that the application be denied.

USBM, John E. Crawford, August 3, 1956:

Discussed the report of examination with the AEC representative. Concurs in the recommendation that the application be denied.

Rare & Miscellaneous MetalsDiv., Michael Ching, Aug. 8, 1956:

A number of mineralized rim exposures of the ore-bearing horizon, drilling by the AEC on and adjacent to the property, and private exploratory work, all presented a rather complete picture of the limited size and scattered occurrence of potential ore bodies on this property.

Conclusions and Recommendations:

The chances of finding a worthwhile ore body on this property are poor. It is recommended that the application be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

8/7/56

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

RECEIVED
AUG - 6 1956

August 3, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Report of Examination, DMEA Docket 4354 (Uranium), Great Western Minerals Company (Humdinger group of claims) Mesa County, Colorado

I have reviewed the report of examination, DMEA Docket 4354, Great Western Minerals Company (Humdinger group of claims) Mesa County, Colorado, dated July 1956 and received in this office July 31, 1956. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The Field Team recommend that the application be denied because a careful study of available information indicates that any ore deposits discovered on the subject claims would be too small and dispersed for economic mining.

We concur in the recommendation that the application for exploration assistance be denied.

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

John E Crawford
John E. Crawford

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

RECEIVED
AUG - 6 1956

August 3, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Report of Examination, DMEA Docket 4354 (Uranium), Great Western Minerals Company (Humdinger group of claims) Mesa County, Colorado

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The Field Team recommend that the application be denied because a careful study of available information indicates that any ore deposits discovered on the subject claims would be too small and dispersed for economic mining.

We concur in the recommendation that the application for exploration assistance be denied.

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

John E. Crawford

IN REPLY REFER TO:

8/2/56

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

August 1, 1956

Memorandum

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

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

Subject: Review of field examination report, DMEA 4354 (uranium), Great Western Minerals Company, Humdinger claims, Tenderfoot Mesa, Mesa County, Colorado.

The field examiners report that the vicinity of the subject property has a poor production history. Twenty drill holes on the property failed to disclose ore. The Humdinger mine, on the northeast part of the property produced only a few tons of ore. Ore deposits in the vicinity are small and scattered, and no mineralized trends can be projected into the area of proposed exploration.

Many unfavorable factors weigh against the likelihood of the property containing minable ore deposits. I concur with the examiners' and Field Team's recommendation that the application be denied.

W. P. Williams

W. P. Williams

RECEIVED
AUG - 2 1956

IN REPLY REFER TO:

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

August 1, 1956

Memorandum

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

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

Subject: Review of field examination report, DMEA 4354 (uranium), Great Western Minerals Company, Hundinger claims, Tenderfoot Mesa, Mesa County, Colorado.

The field examiners report that the vicinity of the subject property has a poor production history. Twenty drill holes on the property failed to disclose ore. The Hundinger mine, on the northeast part of the property produced only a few tons of ore. Ore deposits in the vicinity are small and scattered, and no mineralized trends can be projected into the area of proposed exploration.

Many unfavorable factors weigh against the likelihood of the property containing minable ore deposits. I concur with the examiners' and Field Team's recommendation that the application be denied.

WPWilliams:iml
G-8/1/56

W. P. Williams

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

RECEIVED
AUG - 2 1956

8/2/56

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

RECEIVED
JUL 30 1956

July 26, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA 4354 (Uranium)
Great Western Minerals Company (Humdinger group of claims)
Mesa County, Colorado

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

The field examiners concur in the belief that no significant amount of uranium ore would be discovered on this property by further exploration. They recommend that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

By W. M. Traver
Executive Officer

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
8/1/56
(Date)

TRANSMITTED

JUL 26 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED
JUL 30 1956

P. O. Box 360
Grand Junction, Colorado

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

July 19, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

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

From: J. William Hasler

Subject: Transmittal of report
DMEA docket 4354 (Uranium) Great Western Minerals Company, Humdinger group of claims, Tenderfoot Mesa, Mesa County, Colo. Joint engineering and geologic report.

The Great Western Minerals Company, Bass Building, Enid, Oklahoma, applied to the Defense Minerals Exploration Administration for assistance in exploring for uranium on the Humdinger group of claims on the southeastern tip of Tenderfoot Mesa, Mesa County, Colorado. The application was referred to the field and an examination was made by H. F. Albee, Geological Survey, and H. F. Robertson, U. S. Bureau of Mines.

The Humdinger claims are located on exposures of the Salt Wash member of the Morrison formation of Jurassic age. Tenderfoot Mesa has, generally, been favorable for the occurrence of commercial deposits of uranium; however, the actual discoveries of ore-grade material in the applicant's area have been small and scattered. A detailed study during the time of the field examination showed that no favorable trends have developed from ore deposits three miles west of the Humdinger group. Diamond drilling done by the Atomic Energy Commission on the eastern side of Tenderfoot Mesa was classed as unfavorable, and no ore deposits of any significant size were indicated. Twelve wagon-drill holes, drilled by the AEC directly behind the mineralized outcrop on the Humdinger No. 8 claim, proved discouraging. All available information on the Humdinger group of claims to date indicate that the potential ore deposit would be too small and scattered for profitable mining operations. Therefore, the examining team recommends that the request for DMEA participation be denied. I concur with the conclusions and recommendations of the examining team.

The Atomic Energy Commission was consulted relative to the appraisal of the Humdinger claims and supplied pertinent data to the examining team.

Approved by
DMEA Operations Manager
8/1/56
(Date)

DMEA 4354 7/19/56

Enclosed are 10 copies of a joint report and 10 copies of figures 2 and 3 for inclusion in the report, as well as the applicant's brochure.

J. William Hasler

J. William Hasler,
Geologist

JWH/mlr

Enclosures

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

TRANSMITTED
JUL 26 1956

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

RECEIVED
JUL 30 1956

DMEA 4354

Great Western Minerals Company

Humdinger group of claims

Tenderfoot Mesa

Mesa County, Colorado

Uranium

Joint Engineering and Geologic Report

by

H. F. Albee,
U. S. Geological Survey

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

July 1956

8/1/56

DMEA 4354

RECEIVED
JUL 30 1956

INTRODUCTION AND SUMMARY

Great Western Minerals Company, Bass Building, Box 1188, Enid, Oklahoma, has applied for Defense Minerals Exploration Administration assistance in a non-core drilling program on claims owned by them on the southeastern tip of Tenderfoot Mesa, Mesa County, Colorado (fig. 1). The project calls for 15,300 feet of wagon- and rotary-drilling in two stages at an estimated cost of $27,650.

The property was visited on June 13, 1956 by H. F. Albeee, Geological Survey, and H. F. Robertson, Bureau of Mines. The Atomic Energy Commission was contacted for information concerning the Tenderfoot Mesa area.

The Humdinger claims are located on exposures of the Salt Wash member of the Jurassic Morrison formation in an area where geologic conditions appear to be favorable for the occurrence of commercial ore deposits, but the actual discoveries of ore-grade material have been very small and scattered. The Humdinger Mine, lone producer on the group, has accounted for 39 tons of ore assaying 0.27 percent U_3O_8 and 1.62 percent V_2O_5 according to AEC records. No evidence which would indicate the probability of larger orebodies on the subject claims has been determined by either AEC or private drilling. Small rim exposures of ore occur infrequently but subsequent wagon-drilling of the area immediately back of them has not discovered any significant mineralization to date.

A careful study of available information indicates that any ore-deposits discovered on the Humdinger group of claims would be too small and dispersed for economic mining and the examining team recommends denial of the request for Government participation in an exploration program on the subject property.

ACKNOWLEDGMENTS

The examining team was accompanied on the property by J. Morgan Harris, President of Great Western Minerals Company. The Atomic Energy Commission was contacted for information regarding results of Government drilling on Tenderfoot Mesa and for production data of the area.

LOCATION, TOPOGRAPHY, AND CLIMATE

The eleven located claims, Humdinger 1 to 11, are in a compact group on the southeastern tip of Tenderfoot Mesa in Secs. 5 and 32, T. 50 and 51 N., R. 18 W., N.N.P.M., Mesa County, Colorado (fig. 1). The claims may be reached by travelling 9 mines southeast from Grand Junction on U. S. 50 to Whitewater, Colorado; thence 16 miles over Colorado Highway 141 to Taylor's ranch; thence southerly on County Highway 101 for 21 miles to Outlaw Mesa; thence westerly about 9 miles to Tenderfoot Mesa; thence southerly about 11 miles over a marked mine access road to the Humdinger claim group. Most of the ore mined from Tenderfoot Mesa is hauled over the above route to the uranium-vanadium mill at Grand Junction.

Mining timber is available locally but most supplies would be obtained from Grand Junction, Colorado. Drilling and domestic water would be hauled from a spring about 14 miles distant. Power would have to be furnished by diesel or gasoline-driven units.

The supply of labor for mining or exploration in the region is ample. Cabins or trailers would probably be established for the proposed exploration.

The claim area, at an altitude of about 6600 feet, is rather thickly covered with pinion, cedar, and sagebrush. The claims lie on a broad bench of Salt Wash sandstones dipping gently to the Southwest. Roads and drill-sites can be constructed without difficulty.

The climate of the area is semi-arid, with infrequent local storms contributing most of the annual precipitation. Surface operations are feasible throughout the year except for short periods during a storm.

HISTORY AND PRODUCTION

The early history of mining operations on Tenderfoot Mesa is incomplete. The majority of mining claims in the area were staked during the period between 1939 and 1942. The original Humdinger claim was located in May 1940, and small mining operations conducted on the claim in 1953. A total of 39 tons of ore assaying 0.27 percent U_3O_8 and 1.62 percent V_2O_5 were shipped. A few rim exposures were opened during this period of activity but they were too thin for economic mining. The Humdinger Mine, which accounted for the 39 tons of ore shipped from the property, consists of a short and narrow (about 20 feet long and 3 feet wide) adit driven to a hole drilled by an option-holder in 1951. The seam of ore thinned to a few inches and, since subsequent drilling did not discover any more ore, the mine was abandoned. No records are available concerning the drilling done by private operators on the Humidinger claims. The above drilling was done by Mr. H. C. Gamblin of Grand Junction, Colorado. He was contacted for information regarding results of the drilling performed by him. According to Mr. Gamblin, the ore taken from the Humdinger Mine was the only minable deposit discovered by his exploratory drilling. More detailed information is not available.

OWNERSHIP AND EXTENT

The original Humdinger claim was located on May 11, 1940 by Richard L. Vaughan. Apparently the claim was abandoned after 1953 as the present eleven Humdinger claims which include the original Humdinger, were located by Alvin Ricks on June 13, 1955 and recorded on June 22, 1955 in Book 650, pp. 463 to 483, inclusive, County Clerk's office, Mesa County, Colorado. It is assumed that the Great Western Minerals Company purchased the claims from Mr. Ricks although they do not specifically state that this was done.

The area encompassed by the Humdinger claim group amounts to about 200 acres lying at the southeastern end of Tenderfoot Mesa.

PRESENT STATUS

EXPLORATION AND DEVELOPMENT

An unknown amount of non-core percussion drilling has been done on the Humdinger claim group since they were first located in 1940. No records were kept of the drilling and the applicant submitted no drill-hole data with his request for DMEA participation. The AEC drilled twelve shallow (60 ft.) holes on Humdinger claim No. 8 (fig. 3) and reported one hole as being weakly mineralized and eleven were barren. At the present time Great Western Minerals Company has a wagon-drill working on the Humdinger claim No. 8. As of June 13, 1956, eight holes had been completed and radiometric logging disclosed weak mineralization in two of them. No mineralization was evident in the cuttings recovered from either of the holes so no chemical assays were made. Offsetting about ten feet distant from the mineralized holes gave negative results according to the applicant's representative.

The Humdinger mine and a few non-productive rim workings represent the balance of the exploration and development done to date on the Humdinger group of claims.

MINING EQUIPMENT AND OTHER FACILITIES

No improvements other than access roads and drill sites for the proposed exploration have been made.

GEOLOGY

Tenderfoot Mesa is in the Gateway Mining District and lies on the southwest flank of the Uncompahgre uplift. The regional dip is southwest at a low angle toward the axis of the Dolores syncline. In the northern part of Tenderfoot Mesa the rocks dip between 3 and 4 degrees, and in the southern part of the mesa the dip is between 1 and 2 degrees. There are no known faults on the mesa.

Deep canyons bound the southern part of Tenderfoot Mesa and the rocks exposed in the vicinity of the property range from those of the Kayenta formation upward through the Morrison formation (fig.2).

The Morrison formation in this area is comprised of two members which are, from lower to upper, the Salt Wash sandstone member and the Brushy Basin shale member. The Salt Wash sandstone member crops out above the Summerville formation as a series of resistant ledges and steep, rubble covered slopes. Sandstone is predominant but interbedded with its red, and locally green, mudstone. Any relatively continuous sandstone stratum usually consists of interfingering lenses, with superposed lenses, in many

places, filling channels carved in underlying beds. Lenses are separated in places by mudstone and contain mudstone seams. The sandstone is mostly fine- to medium-grained and is composed largely of subangular to subrounded grains of quartz. The Salt Wash sandstone comprises the only rocks exposed on the property and as a result part of the upper Salt Wash has been eroded. The thickness of the Salt Wash on the property is about 200 feet.

ORE DEPOSITS

Five mineralized horizons have been recognized on Tenderfoot Mesa, of which the upper four have produced most of the uranium ore. The lowest horizon, called the Harvey-Humdinger horizon by the Atomic Energy Commission, (ROM 821, Drilling on Tenderfoot Mesa, by W. T. Davis, P. 13, 1953) is the mineralized horizon on the Humdinger claims. At the time RMO 821 was written there had been no production from this lowest horizon. Atomic Energy Commission records show that the Humdinger No. 1 since has produced 39 tons of uranium ore that averaged 0.27 percent U_3O_8 and 1.62 percent V_2O_5 and the Harvey mines about $1\frac{1}{2}$ miles northerly from the Humdinger have produced 25 tons of uranium ore that averaged 0.12 percent U_3O_8 and 0.75 percent V_2O_5.

Four mineralized outcrops on the property are known and were examined. Each has had a small amount of development work but all proved too thin and low grade for mining. The showings are in the form of thin mineralized lenses, the largest of which is from one inch to one foot thick and about 20 feet wide. This outcrop of mineralized material was presented by the applicant as being 18 inches thick and 30 feet wide. Upon examining the lease at no point does it measure 18 inches thick and a straight line measured

between the farthest points of detectable radioactivity was about 200 feet. Drilling behind these outcrops yielded negative results.

A thin lense of ore has been mined from the Humdinger No. 1 claim. The total production was 39 tons, of which 34 tons assayed 0.29 percent U_3O_8 and 1.76 percent V_2O_5. The last 5 tons of ore assayed 0.11 percent U_3O_8 and 0.73 percent V_2O_5. Only a thin seam of mineralized material remains. The 39 tons of ore were found as the result of a drill hole drilled by an option-holder in 1951. Results of further drilling was reported by the option-holder to have been negative.

All available information on the Humdinger group of claims indicates that expected ore bodies would be too small and scattered for economic exploration or mining operations.

ORE RESERVES

There is no basis upon which to estimate ore reserves. There are no indicated reserves in the Humdinger Mine and none of the drilling completed to date has discovered an orebody.

PROPOSED EXPLORATION

The applicant proposed to explore the property by two stages of percussion and rotary non-core drilling. Sixty-eight holes, ranging from 50 to 250 feet in depth, would comprise the total of 10,300 feet of drilling proposed for the first stage. All holes would be drilled to the base of the second Salt Wash rim and every third hole would penetrate to the Summer-

ville formation. The second stage would consist of an additional 5,000 feet of non-core drilling to test favorable ground discovered by the first stage holes.

The estimated overall cost of the applicant's proposed program is shown in Table 1.

Table 1

15,300 feet of contract drilling at $1.50 per foot	$22,950.00
Supervision, 60 days at $20 per day - - - - - - -	1,200.00
Consultant, 16 days at $100 per day - - - - - - -	1,600.00
Road building, 5 days at $100 per day - - - - - -	500.00
Drill Hole Probe Assembly (Purchase price)- - - -	650.00
Surveying, 5 days at $100 per day - - - - - - - -	500.00
Gasoline -	100.00
Contingencies - - - - - - - - - - - - - - - - - -	150.00
Total - - - - - - - - - - - - - -	$27,650.00
Unit cost - - - - - - - - - - -	1.81 per foot
Government participation at 75 percent - - - - - -	20,737.50

CONCLUSIONS AND RECOMMENDATIONS

Although the Humdinger property lies on Tenderfoot Mesa, an area of general favorability, evidence to date has indicated that the possibility of finding a significant ore deposit is remote. No favorable trends have developed from the ore deposits about 3 miles northwest of the Humdinger group. The few holes drilled by the AEC on the eastern side of Tenderfoot Mesa were classed as unfavorable and no significant ore deposits were indicated. Twelve wagon-drill holes were drilled by the AEC directly behind mineralized outcrops on the Humdinger No. 8 as shown on figure 3. One

hole, T560, was weakly mineralized and the rest were barren. (RMO 821, Drilling on Tenderfoot Mesa, by William T. Davis, pp. 9 and 49). These holes, on 50-foot centers and averaging 60 feet in depth, adequately tested the area behind the most promising known ore exposure on the property. The AEC did no further drilling on the Humdinger claims. Private drilling, done concurrently with the AEC drilling, is reported as having also given discouraging results, though responsible for discovery of the 39 tons of ore produced by the Humdinger mine. No records are available for verification of other results of drilling by private interests.

All available information on the Humdinger group of claims indicates that the potential ore deposits would be too small and scattered for economic exploration or mining operations. Therefore, the examining team recommends that the request for DMEA participation be denied.

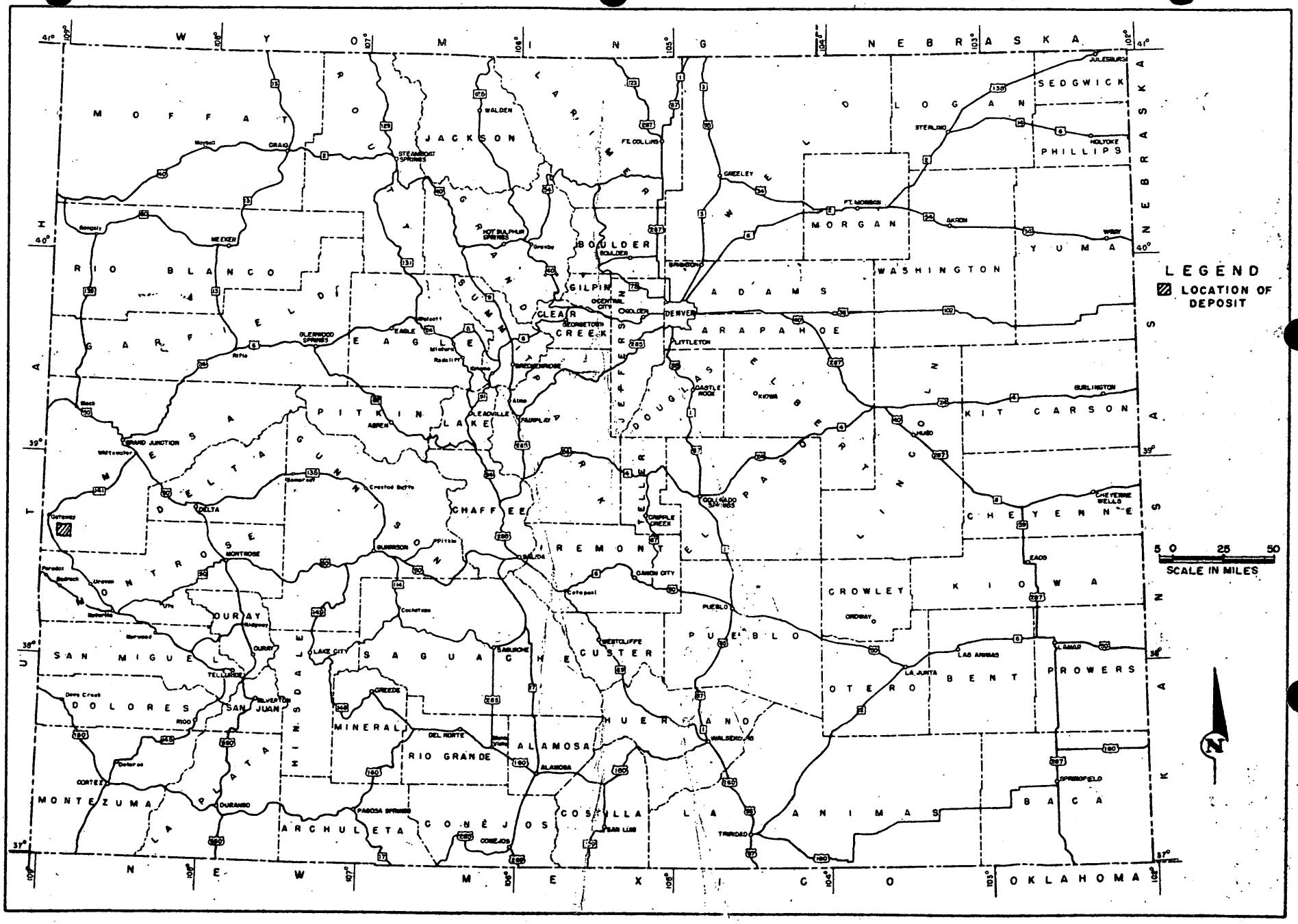
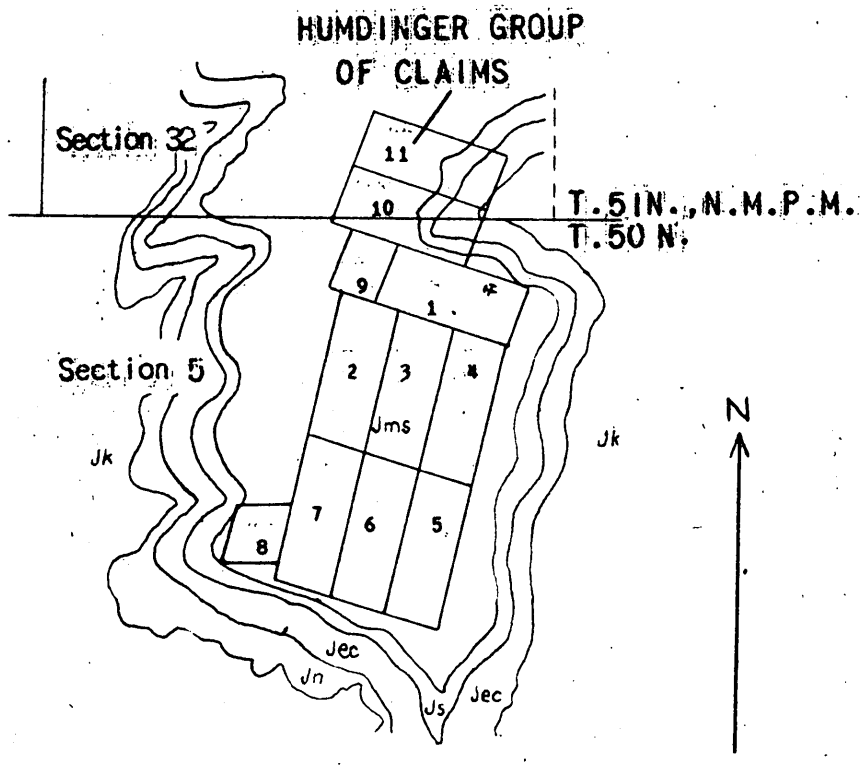


FIGURE 1 - LOCATION MAP OF THE HUMDINGER GROUP OF CLAIMS, GREAT WESTERN MINERALS COMPANY, MESA COUNTY, COLORADO. LMEA 4354



EXPLANATION

Jmb	BRUSHY BASIN MEMBER OF THE JURASSIC MORRISON FORMATION
Jms	SALT WASH MEMBER OF THE JURASSIC MORRISON FORMATION
Js	JURASSIC SUMMERVILLE FORMATION
Jec	JURASSIC ENTRADA SANDSTONE AND CARMEL FORMATION UNDIVIDED
Jn	JURASSIC AND JURASSIC(?) NAVAJO SANDSTONE
Jk	JURASSIC(?) KAYENTA FORMATION

2000 0 8000 FEET

Note: CLAIM BOUNDARIES FROM APPLICANTS MAP. BASE FROM U.S.G.S. MAP GQ 55, GEOLOGY OF THE GATEWAY QUADRANGLE.

FIGURE 2. GEOLOGIC MAP SHOWING THE HUMDINGER GROUP OF CLAIMS, GREAT WESTERN MINERALS COMPANY, MESA COUNTY, COLORADO.

RECEIVED
JUL 30 1956

7/30/56

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

July 26, 1956

[illegible] New Customhouse
Denver 2, Colorado

RECEIVED
JUL 30 1956

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, Project DMEA [illegible] (Uranium)
Great Western Minerals Company (Hamlinger group of claims)
Mesa County, Colorado

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

The field examiners concur in the belief that no significant amount of uranium ore would be discovered on this property by further exploration. They recommend that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

By W. M. Inman
Executive Officer

Enclosures

DMEA OPERATING COMMITTEE
8/2/56
(date)

TRANSMITTED

JUL 26 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED

P. O. Box 360
Grand Junction, Colorado

JUL 30 1956

MINERAL DEPENS. CO.
DMEA
RECEIVED
JUL 20 1956

U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

July 19, 1956

Memorandum

JUL 24 1956

BUREAU OF MINES
Denver, Colorado

To: Executive Officer, DMEA Field Team, Region III

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

From: J. William Hasler

Subject: Transmittal of report
DMEA docket 4354 (Uranium) Great Western Minerals Company, Humdinger group of claims, Tenderfoot Mesa, Mesa County, Colo. Joint engineering and geologic report.

The Great Western Minerals Company, Bass Building, Enid, Oklahoma, applied to the Defense Minerals Exploration Administration for assistance in exploring for uranium on the Humdinger group of claims on the southeastern tip of Tenderfoot Mesa, Mesa County, Colorado. The application was referred to the field and an examination was made by H. F. Albee, Geological Survey, and H. F. Robertson, U. S. Bureau of Mines.

The Humdinger claims are located on exposures of the Salt Wash member of the Morrison formation of Jurassic age. Tenderfoot Mesa has, generally, been favorable for the occurrence of commercial deposits of uranium; however, the actual discoveries of ore-grade material in the applicant's area have been small and scattered. A detailed study during the time of the field examination showed that no favorable trends have developed from ore deposits three miles west of the Humdinger group. Diamond drilling done by the Atomic Energy Commission on the eastern side of Tenderfoot Mesa was classed as unfavorable, and no ore deposits of any significant size were indicated. Twelve wagon-drill holes, drilled by the AEC directly behind the mineralized outcrop on the Humdinger No. 8 claim, proved discouraging. All available information on the Humdinger group of claims to date indicate that the potential ore deposit would be too small and scattered for profitable mining operations. Therefore, the examining team recommends that the request for DMEA participation be denied. I concur with the conclusions and recommendations of the examining team.

The Atomic Energy Commission was consulted relative to the appraisal of the Humdinger claims and supplied pertinent data to the examining team.

8/1/56

DMEA 4354 7/19/56

Enclosed are 10 copies of a joint report and 10 copies of figures 2 and 3 for inclusion in the report, as well as the applicant's brochure.

J. William Hasler

J. William Hasler,
Geologist

JWH/mlr

Enclosures

TRANSMITTED

JUL 26 1956

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

RECEIVED
JUL 30 1956

DMEA 4354

Great Western Minerals Company

Humdinger group of claims

Tenderfoot Mesa

Mesa County, Colorado

Uranium

Joint Engineering and Geologic Report

by

H. F. Albee,
U. S. Geological Survey

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

July 1956

Reviewed by
DMEA OPERATING COMMITTEE
8/1/56
(date)

DMEA 4354

RECEIVED
JUL 30 1956

INTRODUCTION AND SUMMARY

Great Western Minerals Company, Bass Building, Box 1188, Enid, Oklahoma, has applied for Defense Minerals Exploration Administration assistance in a non-core drilling program on claims owned by them on the southeastern tip of Tenderfoot Mesa, Mesa County, Colorado (fig. 1). The project calls for 15,300 feet of wagon- and rotary-drilling in two stages at an estimated cost of $27,650.

The property was visited on June 13, 1956 by H. F. Albeee, Geological Survey, and H. F. Robertson, Bureau of Mines. The Atomic Energy Commission was contacted for information concerning the Tenderfoot Mesa area.

The Humdinger claims are located on exposures of the Salt Wash member of the Jurassic Morrison formation in an area where geologic conditions appear to be favorable for the occurrence of commercial ore deposits, but the actual discoveries of ore-grade material have been very small and scattered. The Humdinger Mine, lone producer on the group, has accounted for 39 tons of ore assaying 0.27 percent U_3O_8 and 1.62 percent V_2O_5 according to AEC records. No evidence which would indicate the probability of larger orebodies on the subject claims has been determined by either AEC or private drilling. Small rim exposures of ore occur infrequently but subsequent wagon-drilling of the area immediately back of them has not discovered any significant mineralization to date.

A careful study of available information indicates that any ore-deposits discovered on the Humdinger group of claims would be too small and dispersed for economic mining and the examining team recommends denial of the request for Government participation in an exploration program on the subject property.

ACKNOWLEDGMENTS

The examining team was accompanied on the property by J. Morgan Harris, President of Great Western Minerals Company. The Atomic Energy Commission was contacted for information regarding results of Government drilling on Tenderfoot Mesa and for production data of the area.

LOCATION, TOPOGRAPHY, AND CLIMATE

The eleven located claims, Humdinger 1 to 11, are in a compact group on the southeastern tip of Tenderfoot Mesa in Secs. 5 and 32, T. 50 and 51 N., R. 18 W., N.N.P.M., Mesa County, Colorado (fig. 1). The claims may be reached by travelling 9 mines southeast from Grand Junction on U. S. 50 to Whitewater, Colorado; thence 16 miles over Colorado Highway 141 to Taylor's ranch; thence southerly on County Highway 101 for 21 miles to Outlaw Mesa; thence westerly about 9 miles to Tenderfoot Mesa; thence southerly about 11 miles over a marked mine access road to the Humdinger claim group. Most of the ore mined from Tenderfoot Mesa is hauled over the above route to the uranium-vanadium mill at Grand Junction.

Mining timber is available locally but most supplies would be obtained from Grand Junction, Colorado. Drilling and domestic water would be hauled from a spring about 14 miles distant. Power would have to be furnished by diesel or gasoline-driven units.

The supply of labor for mining or exploration in the region is ample. Cabins or trailers would probably be established for the proposed exploration.

The claim area, at an altitude of about 6600 feet, is rather thickly covered with pinion, cedar, and sagebrush. The claims lie on a broad bench of Salt Wash sandstones dipping gently to the Southwest. Roads and drill-sites can be constructed without difficulty.

The climate of the area is semi-arid, with infrequent local storms contributing most of the annual precipitation. Surface operations are feasible throughout the year except for short periods during a storm.

HISTORY AND PRODUCTION

The early history of mining operations on Tenderfoot Mesa is incomplete. The majority of mining claims in the area were staked during the period between 1939 and 1942. The original Humdinger claim was located in May 1940, and small mining operations conducted on the claim in 1953. A total of 39 tons of ore assaying 0.27 percent U_3O_8 and 1.62 percent V_2O_5 were shipped. A few rim exposures were opened during this period of activity but they were too thin for economic mining. The Humdinger Mine, which accounted for the 39 tons of ore shipped from the property, consists of a short and narrow (about 20 feet long and 3 feet wide) adit driven to a hole drilled by an option-holder in 1951. The seam of ore thinned to a few inches and, since subsequent drilling did not discover any more ore, the mine was abandoned. No records are available concerning the drilling done by private operators on the Humidinger claims. The above drilling was done by Mr. H. C. Gamblin of Grand Junction, Colorado. He was contacted for information regarding results of the drilling performed by him. According to Mr. Gamblin, the ore taken from the Humdinger Mine was the only minable deposit discovered by his exploratory drilling. More detailed information is not available.

OWNERSHIP AND EXTENT

The original Humdinger claim was located on May 11, 1940 by Richard L. Vaughan. Apparently the claim was abandoned after 1953 as the present eleven Humdinger claims which include the original Humdinger, were located by Alvin Ricks on June 13, 1955 and recorded on June 22, 1955 in Book 650, pp. 463 to 483, inclusive, County Clerk's office, Mesa County, Colorado. It is assumed that the Great Western Minerals Company purchased the claims from Mr. Ricks although they do not specifically state that this was done.

The area encompassed by the Humdinger claim group amounts to about 200 acres lying at the southeastern end of Tenderfoot Mesa.

PRESENT STATUS

EXPLORATION AND DEVELOPMENT

An unknown amount of non-core percussion drilling has been done on the Humdinger claim group since they were first located in 1940. No records were kept of the drilling and the applicant submitted no drill-hole data with his request for DMEA participation. The AEC drilled twelve shallow (60 ft.) holes on Humdinger claim No. 8 (fig. 3) and reported one hole as being weakly mineralized and eleven were barren. At the present time Great Western Minerals Company has a wagon-drill working on the Humdinger claim No. 8. As of June 13, 1956, eight holes had been completed and radiometric logging disclosed weak mineralization in two of them. No mineralization was evident in the cuttings recovered from either of the holes so no chemical assays were made. Offsetting about ten feet distant from the mineralized holes gave negative results according to the applicant's representative.

The Humdinger mine and a few non-productive rim workings represent the balance of the exploration and development done to date on the Humdinger group of claims.

MINING EQUIPMENT AND OTHER FACILITIES

No improvements other than access roads and drill sites for the proposed exploration have been made.

GEOLOGY

Tenderfoot Mesa is in the Gateway Mining District and lies on the southwest flank of the Uncompahgre uplift. The regional dip is southwest at a low angle toward the axis of the Dolores syncline. In the northern part of Tenderfoot Mesa the rocks dip between 3 and 4 degrees, and in the southern part of the mesa the dip is between 1 and 2 degrees. There are no known faults on the mesa.

Deep canyons bound the southern part of Tenderfoot Mesa and the rocks exposed in the vicinity of the property range from those of the Kayenta formation upward through the Morrison formation (fig.2).

The Morrison formation in this area is comprised of two members which are, from lower to upper, the Salt Wash sandstone member and the Brushy Basin shale member. The Salt Wash sandstone member crops out above the Summerville formation as a series of resistant ledges and steep, rubble covered slopes. Sandstone is predominant but interbedded with its red, and locally green, mudstone. Any relatively continuous sandstone stratum usually consists of interfingering lenses, with superposed lenses, in many

places, filling channels carved in underlying beds. Lenses are separated in places by mudstone and contain mudstone seams. The sandstone is mostly fine- to medium-grained and is composed largely of subangular to subrounded grains of quartz. The Salt Wash sandstone comprises the only rocks exposed on the property and as a result part of the upper Salt Wash has been eroded. The thickness of the Salt Wash on the property is about 200 feet.

ORE DEPOSITS

Five mineralized horizons have been recognized on Tenderfoot Mesa, of which the upper four have produced most of the uranium ore. The lowest horizon, called the Harvey-Humdinger horizon by the Atomic Energy Commission, (ROM 821, Drilling on Tenderfoot Mesa, by W. T. Davis, P. 13, 1953) is the mineralized horizon on the Humdinger claims. At the time RMO 821 was written there had been no production from this lowest horizon. Atomic Energy Commission records show that the Humdinger No. 1 since has produced 39 tons of uranium ore that averaged 0.27 percent U_3O_8 and 1.62 percent V_2O_5 and the Harvey mines about $1\frac{1}{2}$ miles northerly from the Humdinger have produced 25 tons of uranium ore that averaged 0.12 percent U_3O_8 and 0.75 percent V_2O_5.

Four mineralized outcrops on the property are known and were examined. Each has had a small amount of development work but all proved too thin and low grade for mining. The showings are in the form of thin mineralized lenses, the largest of which is from one inch to one foot thick and about 20 feet wide. This outcrop of mineralized material was presented by the applicant as being 18 inches thick and 30 feet wide. Upon examining the lense at no point does it measure 18 inches thick and a straight line measured

between the farthest points of detectable radioactivity was about 200 feet. Drilling behind these outcrops yielded negative results.

A thin lense of ore has been mined from the Humdinger No. 1 claim. The total production was 39 tons, of which 34 tons assayed 0.29 percent U_3O_8 and 1.76 percent V_2O_5. The last 5 tons of ore assayed 0.11 percent U_3O_8 and 0.73 percent V_2O_5. Only a thin seam of mineralized material remains. The 39 tons of ore were found as the result of a drill hole drilled by an option-holder in 1951. Results of further drilling was reported by the option-holder to have been negative.

All available information on the Humdinger group of claims indicates that expected ore bodies would be too small and scattered for economic exploration or mining operations.

ORE RESERVES

There is no basis upon which to estimate ore reserves. There are no indicated reserves in the Humdinger Mine and none of the drilling completed to date has discovered an orebody.

PROPOSED EXPLORATION

The applicant proposed to explore the property by two stages of percussion and rotary non-core drilling. Sixty-eight holes, ranging from 50 to 250 feet in depth, would comprise the total of 10,300 feet of drilling proposed for the first stage. All holes would be drilled to the base of the second Salt Wash rim and every third hole would penetrate to the Summer-

ville formation. The second stage would consist of an additional 5,000 feet of non-core drilling to test favorable ground discovered by the first stage holes.

The estimated overall cost of the applicant's proposed program is shown in Table 1.

Table 1

15,300 feet of contract drilling at $1.50 per foot	$22,950.00
Supervision, 60 days at $20 per day - - - - - - - -	1,200.00
Consultant, 16 days at $100 per day - - - - - - - -	1,600.00
Road building, 5 days at $100 per day - - - - - - -	500.00
Drill Hole Probe Assembly (Purchase price)- - - -	650.00
Surveying, 5 days at $100 per day - - - - - - - - -	500.00
Gasoline -	100.00
Contingencies -	150.00
Total - - - - - - - - - - - - - -	$27,650.00
Unit cost - - - - - - - - - - - -	1.81 per foot
Government participation at 75 percent - - - - - - -	20,737.50

CONCLUSIONS AND RECOMMENDATIONS

Although the Humdinger property lies on Tenderfoot Mesa, an area of general favorability, evidence to date has indicated that the possibility of finding a significant ore deposit is remote. No favorable trends have developed from the ore deposits about 3 miles northwest of the Humdinger group. The few holes drilled by the AEC on the eastern side of Tenderfoot Mesa were classed as unfavorable and no significant ore deposits were indicated. Twelve wagon-drill holes were drilled by the AEC directly behind mineralized outcrops on the Humdinger No. 8 as shown on figure 3. One

hole, T560, was weakly mineralized and the rest were barren. (RMO 821, Drilling on Tenderfoot Mesa, by William T. Davis, pp. 9 and 49). These holes, on 50-foot centers and averaging 60 feet in depth, adequately tested the area behind the most promising known ore exposure on the property. The AEC did no further drilling on the Humdinger claims. Private drilling, done concurrently with the AEC drilling, is reported as having also given discouraging results, though responsible for discovery of the 39 tons of ore produced by the Humdinger mine. No records are available for verification of other results of drilling by private interests.

All available information on the Humdinger group of claims indicates that the potential ore deposits would be too small and scattered for economic exploration or mining operations. Therefore, the examining team recommends that the request for DMEA participation be denied.

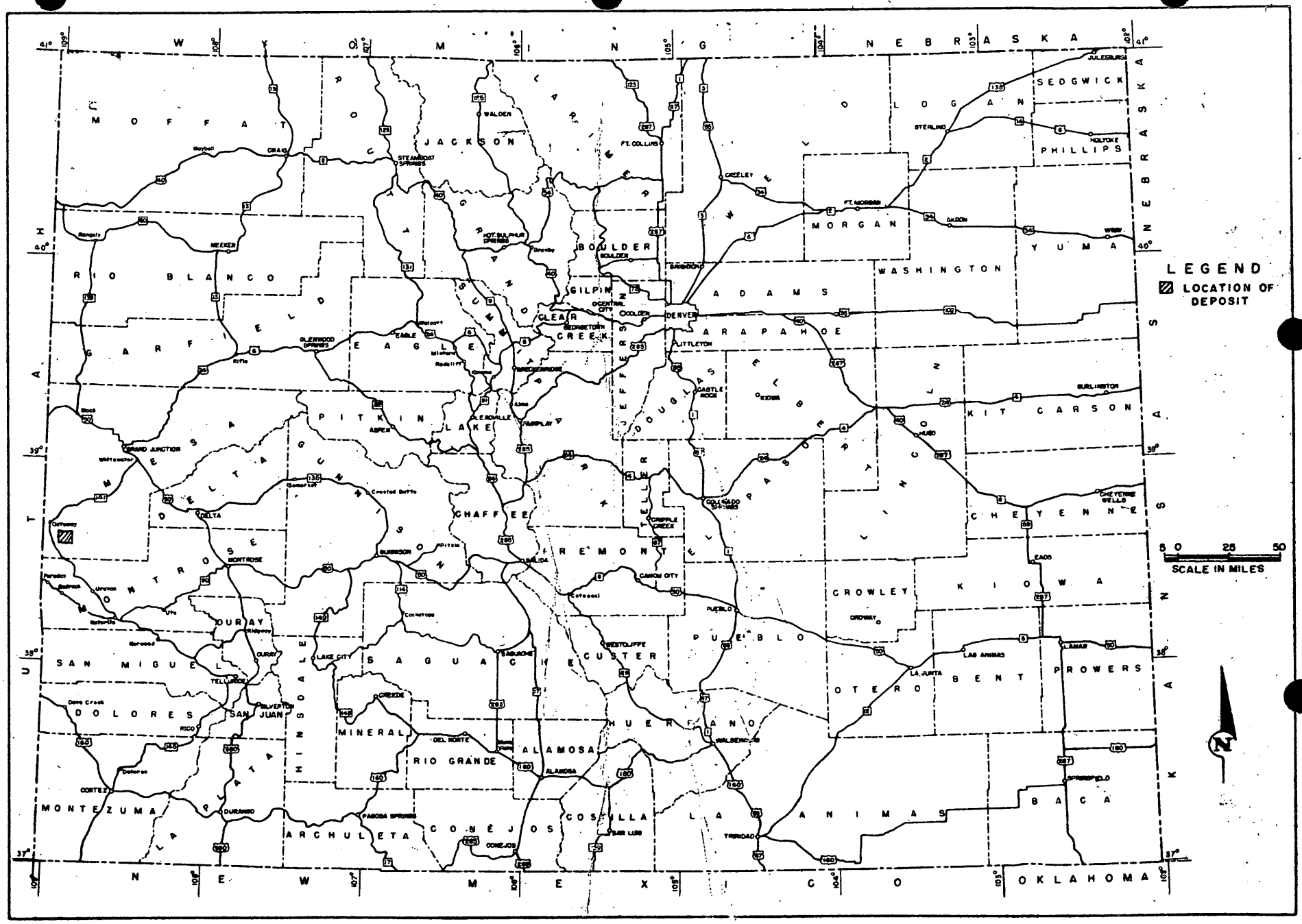


FIGURE 1 - LOCATION MAP OF THE HUMDINGER GROUP OF CLAIMS, GREAT WESTERN MINERALS COMPANY, MESA COUNTY, COLORADO. LMEA 4354

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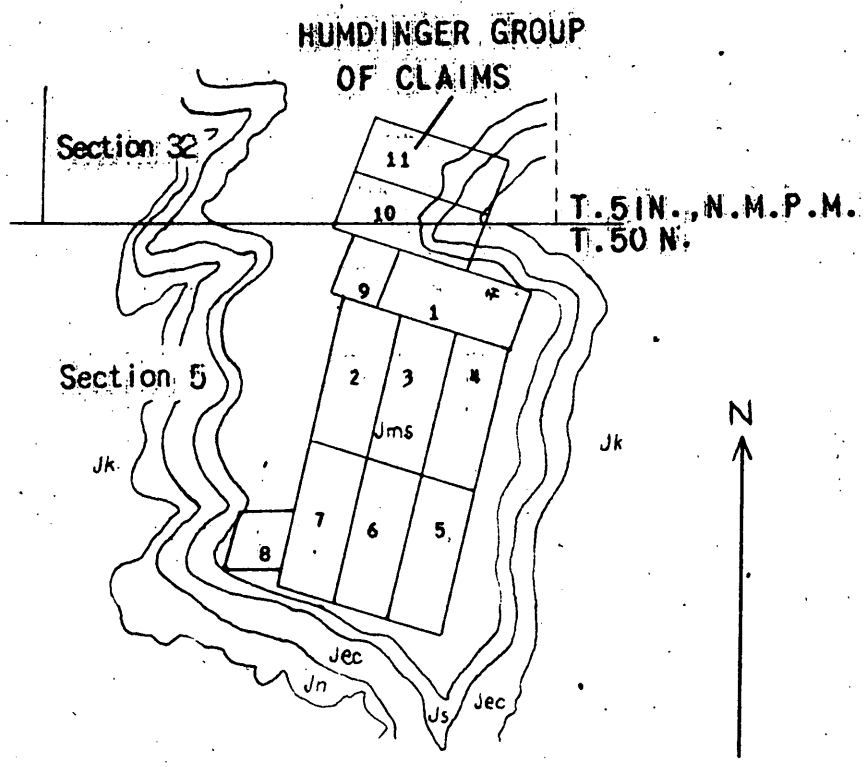

EXPLANATION

Jmb	BRUSHY BASIN MEMBER OF THE JURASSIC MORRISON FORMATION
Jms	SALT WASH MEMBER OF THE JURASSIC MORRISON FORMATION
Js	JURASSIC SUMMERVILLE FORMATION
Jec	JURASSIC ENTRADA SANDSTONE AND CARMEL FORMATION UNDIVIDED
Jn	JURASSIC AND JURASSIC(?) NAVAJO SANDSTONE
Jk	JURASSIC(?) KAYENTA FORMATION

2000 0 8000 FEET

Note: CLAIM BOUNDARIES FROM APPLICANTS MAP. BASE FROM U.S.G.S. MAP GQ 55, GEOLOGY OF THE GATEWAY QUADRANGLE.

FIGURE 2. GEOLOGIC MAP SHOWING THE HUMDINGER GROUP OF CLAIMS, GREAT WESTERN MINERALS COMPANY, MESA COUNTY, COLORADO.

RECEIVED
JUL 3 0 1956

700

Surname copy

Ching
Ellis
Kilgaard
Kuhn
Selfridge
Johnson

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

JUL 1 0 1956

Great Western Mineral Company
Base Building, Box 1188
Enid, Oklahoma

Re: Docket No. DMEA-4354 (Uranium)
Humdinger Group of Claims
Mesa County, Colorado

Gentlemen:

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

We understand that a field examination of your property was made on June 13, 1956. We will continue processing your application as soon as we receive the Field Team report.

Sincerely yours,

G. O. Mittendorf

Administrator

MChing/izm/ai 7-6-56, 7-9-56
cc to: Docket
Code 700
Mr. Ching
Admr.'s Reading File
DMEA Field Team, Region III (2)

Bill Williams called about this 7-26-56. We agreed he need not comment until Field Team report is received

R.C.K.

700

FILE COPY

Surname: Ching

Noted Ellis

Noted Tailagood

Lechner

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

Great Western Mineral Company
Bass Building, Box 1188
Enid, Oklahoma

Re: Docket No. DMEA-4354 (Uranium)
Hamdinger Group of Claims
Mesa County, Colorado

Gentlemen:

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

We understand that a field examination of your property was made on June 13, 1956. We will defer further action until we receive the report of our Field Team.

Sincerely yours,

Administrator

MChing/izm 7-6-56

cc to: Docket
ode 700
Mr. Ching
Admr.'s Reading File
DMEA Field Team, Region III (2)

700

FILE COPY

Surname: Chang

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

Great Western Mineral Company
Bass Building, Box 1188
Enid, Oklahoma

Re: Docket No. DMEA-4354 (Uranium)
Hamdinger Group of Claims
Mesa County, Colorado

Gentlemen:

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

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

We understand that a field examination of your property was made on June 13, 1956.

Sincerely yours,

Administrator

MChing/izm 7-2-56
cc to: Docket
Code 700
Mr. Ching
Admr.'s Reading File
Reg III, DMEA Field Team, (2)

700

FILE COPY
Surname:
Chang
Selfridge

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

JUL 1 0 1956

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

Re: Docket No. DMEA-4354 (Uranium)
Great Western Mineral Company
Humdinger Group of Claims
Mesa County, Colorado

Dear Mr. Traver:

We note that the subject property was examined on June 13, 1956, along with the nearby Lee E. Cox and T. R. Gillenwaters property, covered by Docket No. DMEA-4235.

We will defer further action on the application until we receive the report of the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (S/S)

APPROVED:

/s/ Robert W. Geehan (S/S)

Member, Bureau of Mines

Thor H. Kiilsgaard (S/S)

Member, Geological Survey

MChing/izm 7-6-56 (7-2-56)
cc to: Docket
Code 700
Mr. Ching
Admr.'s Reading File
Operating Committee
Messrs. JeCRawford, Rm. 3643
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

RFS.

700

FILE COPY
Surname: Chang

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

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

Re: Docket No. DMEA-4354 (Uranium)
Great Western Mineral Company
Humdinger Group of Claims
Mesa County, Colorado

Dear Mr. Traver:

The subject application is being referred to you for investigation and recommendations. It is noted that the property was examined on June 13, 1956, along with the nearby Lee E. Cox and T. R. Gillenwaters property, covered by Docket No. DMEA-4235.

The usual comments of the members of the Washington commodity group are being omitted since the field examination has already been made.

Sincerely yours,

Chairman, Operating Committee

APPROVED:

Member, Bureau of Mines

Member, Geological Survey

MChing/izm 7-2-56
cc to: Docket
Code 700
Mr. Ching
Admr.'s Reading File
Operating Committee
Messrs. JECrawford, Rm. 3643
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

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

JUL 10 1956

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

Re: Docket No. DMEA-4354 (Uranium)
Great Western Mineral Company
Hamdinger Group of Claims
Mesa County, Colorado

Dear Mr. Traver:

We note that the subject property was examined on June 13, 1956, along with the nearby Lee E. Cox and T. R. Gillenwaters property, covered by Docket No. DMEA-4235.

We will defer further action on the application until we receive the report of the Field Team.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

MChing/izm 7-6-56 (7-2-56)
cc to: Docket
Code 700
Mr. Ching
Admr.'s Reading File
Operating Committee
Messrs. JeCRawford, Rm. 3643
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

APPROVED:

/s/ Robert W. Geehan
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

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

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

Re: Docket No. DMEA-4354 (Uranium)
Great Western Mineral Company
Humdinger Group of Claims
Mesa County, Colorado

Dear Mr. Traver:

~~The subject application is being referred to you for investigation and recommendations.~~ ~~It is~~ We note that the subject property was examined on June 13, 1956, along with the nearby Lee E. Cox and T. R. Gillenwaters property, covered by Docket No. DMEA-4235.

~~The usual comments of the members of the Washington commodity group are being omitted since the field examination has already been made.~~ We will defer further action on the application until we receive the report of the field team.

Sincerely yours,

Chairman, Operating Committee

APPROVED:

Member, Bureau of Mines

Member, Geological Survey

6/28/56

IN REPLY REFER TO:

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

RECEIVED
JUN 28 1956

June 27, 1956

Re: DMEA 4354
Greater Western Mineral Co.,
Humdinger Mine
Mesa Co., Colo.
$27,650.00 - Uranium

Memorandum

To: ~~W. S. Martin~~ Eller, Defense Minerals Exploration Administration

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

Subject: Review of application

The field office says an examination of the referenced property was made June 13, 1956. Receipt of the information is hereby acknowledged.

N. E. Nelson

N. E. Nelson

IN REPLY REFER TO:

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

RECEIVED
JUN 28 1956

June 27, 1956

Re: [illegible] 4354
Greater Western Mineral Co.,
Summitmer Mine
[illegible] Co., Colo.
[illegible]2,[illegible]0.00 - Uranium

Memorandum

To: [illegible] Martin, Chief, Mineral Exploration Administration

From: [illegible] Nelson, [illegible] Geological Survey

Subject: Review of application

The field office says an examination of the referenced property was made June 13, 1956. Receipt of the information is hereby acknowledged.

N. E. Nelson

N. E. Nelson

N Nelson:btr
6/27/56

cc: J. [illegible] Crawford, 3641
J. [illegible] Hosted, 3210
Director's reading file (4212)
Branch reading file (4212)
DEM (3)
Chron. file
Docket file

6/28/56

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

RECEIVED
JUN 28 1956

June 27, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Application for Assistance, DMEA Docket 4354, Great Western Mineral Co., Humdinger group of claims (Tenderfoot Mesa), Mesa County, Colorado

I have reviewed the attached application for assistance, DMEA Docket 4354, Great Western Mineral Co., Humdinger group of claims (Tenderfoot Mesa), Mesa County, Colorado, dated May 11, and received in this office June 25, 1956. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The proposed exploration work for which Federal assistance was requested consists of 15,300 feet of drilling at a unit cost of $1.50. Associated costs make the total estimated amount of the project $27,650.

Inasmuch as the mine on Humdinger No. 1 claim has had some production and lies on the margin of the Uravan Mineral Belt, the field deemed it advisable to examine the property which is a short distance from a property scheduled for examination on June 13, 1956.

It is apparent that the claims have already been examined. Therefore, the only recourse is to await the field's report.

John E. Crawford
John E. Crawford

Attachment

RECEIVED
JUN 28 1956

June 27, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Application for Assistance, DMEA Docket 4354, Great Western Mineral Co., Mundinger group of claims (Tenderfoot Mesa), Mesa County, Colorado

I have reviewed the attached application for assistance, DMEA Docket 4354, Great Western Mineral Co., Mundinger group of claims (Tenderfoot Mesa), Mesa County, Colorado, dated May 11, and received in this office June 25, 1956. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The proposed exploration work for which Federal assistance was requested consists of 15,300 feet of drilling at a unit cost of $1.50. Associated costs make the total estimated amount of the project $27,650.

Inasmuch as the mine on Mundinger No. 1 claim has had some production and lies on the margin of the Uravan Mineral Belt, the field deemed it advisable to examine the property which is a short distance from a property scheduled for examination on June 13, 1956.

It is apparent that the claims have already been examined. Therefore, the only recourse is to submit the field's report.

John E. Crawford

Attachment

June 22, 1956

Great Western Mineral Co.
Bass Bldg. Box 1188
Enid, Oklahoma

Subject: DMEA 4354
Re: Exploration Assistance
Humdinger Claims

Gentlemen

The receipt of your application dated May 11, 1956 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA 4354 and referred to the Rare & Misc. Metals Division.

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

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

June 22, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

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

DMEA

- 4354 Great Western Mineral Company

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

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

RECEIVED
JUN 22 1956

June 20, 1956

224 New Customhouse
Denver 2, Colorado

RECEIVED
JUN 22 1956

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Application for DMEA aid (Uranium) Great Western Mineral Company (Humdinger group of claims), Mesa County, Colorado

Enclosed are two copies of the subject application which were submitted to the Grand Junction Office, DMEA, and returned by this office to the Applicant for signature.

Also enclosed are four copies of a review of the application by the members of the Grand Junction Office, DMEA. You will note that the subject property is located a few miles southeast of the Lee E. Cox property, Docket DMEA 4235, and both properties were examined June 13, 1956.

DMEA Field Team, Region III

By W. M. Traver
Executive Officer

Enclosures

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

IN REPLY REFER TO:

MINERAL DEPOSITS
DMEA
RECEIVED
JUN 14 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

June 13, 1956

DMEA
Date Rec'd.

RECEIVED
JUN 15 1956
BUREAU OF MINES
Denver, Colorado

RECEIVED
JUN 22 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: J. William Hasler
M. H. Salsbury

Through: E. N. Harshman E. N. H.

Subject: DMEA ____ (Uranium), Great Western Minerals Company, Humdinger group of claims (Tenderfoot Mesa), Mesa County, Colorado.

The Great Western Minerals Company has submitted the required number of applications and accompanying maps for DMEA aid on the Humdinger claim group, on the southeast tip of Tenderfoot Mesa.

The property is controlled by the same company listed under docket 4235, Lee E. Cox - T. R. Gillenwaters, whose property is a few miles northwest of the Humdinger group of claims.

The ore bodies in this portion of Tenderfoot Mesa are typical of those deposits on the margin of the Uravan Mineral Belt. Because of the fact that the mine lies along the margin of the Uravan Mineral Belt and that the general area has had some production, it is recommended that a field examination of the property be made.

A field examination on the Lee E. Cox - T. R. Gillenwaters Okan mine (DMEA 4235) is scheduled for Wednesday, June 13. Because the Humdinger group of claims lie a short distance from the Okan mine, an examination will be made at that time in order to conserve time and expense in sending another field team back into the same area.

We will retain one application and a copy of the maps; the balance of the material is enclosed.

J. William Hasler
J. William Hasler,
Geologist

JWH/mlr

Enclosures

IN REPLY REFER TO:

DMEA
RECEIVED
JUN 14 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED
JUN 22 1956
U. S. GEOLOGICAL SURVEY
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P. O. BOX 360
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J. William Hasler
J. William Hasler,
Geologist

JWH/mlr

Enclosures

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

RECEIVED
JUN 18 1956

June 15, 1956

234 New Customhouse
Denver 2, Colorado

4354

Mr. Keith M. Hensel
Secretary-Treasurer
Great Western Mineral Company
Rude Building
Box 1188
Enid, Oklahoma

Re: Application for DMEA Aid (Uranium),
Hundinger group of claims, Moffat County,
Colorado

Dear Mr. Hensel:

It is noted that your application for DMEA aid on the Hundinger group of claims was not signed by you.

Enclosed are the original and one copy of Form MF-103 which accompanied your application. Will you please place your signature over the typed name on the back of both of these application forms and return them to this office so that we may continue to process your application.

Very truly yours,

W. M. TRAVER,

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

Enclosures

HMC:ab
cc: Sec. Op. Comm. (2)
Harshman
Shaw (2)
Basler
Pickett
Chron.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DMEA
Date Rec'd.
JUN 15 1956

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

RECEIVED
JUN 22 1956
BUREAU OF MINES
Denver, Colorado

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

Not to be filled in by applicant

Docket No. 4354
Metal or Mineral Uranium
Date Received 6/22/56
Estimated Cost $22,650.00
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Great Western Mineral Co.
Bass Bldg. Box 1188
Enid, Okla.

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

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

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

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

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

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

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

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

(*e*) If you own the land, describe any liens or encumbrances on it
none

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

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

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

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

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

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

16—66551-1

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore uranium and thorium

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

(*c*) The work will start within 15 days and be completed within 2 months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated May 11, 195

Great Western Mineral Co.
(Applicant)

By Keith M. Hensel

Keith M. Hensel, Sec.-Treasurer

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

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

GEOLOGIC REPORT ON THE HUMDINGER CLAIM GROUP, TENDERFOOT MESA, MESA COUNTY, COLORADO

By: Robert L. Rock
Mining Engineer

23 April 1956

The Humdinger Claim Group on the southeast tip of Tenderfoot Mesa belongs to the Great Western Minerals Corporation. These claims are contiguously located and consist of nine whole claims and two fractional claims.

Tenderfoot Mesa itself is one of the smaller mesas in the area which contributes to R. P. Fischer's Uranium Mineral Belt. It is surrounded by steep-walled canyons and connects to the Uncompahgre highlands at its eastern extremity.

Geologic formations, in ascending order, which are found on the mesa are the Entrada, Summerville, Morrison and Dakota. The Salt Wash member of the Morrison Formation is of course the uranium productive member of the sequence. This member is 300 feet thick in the area and consists of three and sometimes four quite persistent ledges of sandstone separated by varying thicknesses of shale. All the beds dip gently to the southwest away from the Uncompahgre uplift.

The Salt Wash rims or ledges consist of fine to medium grained lenticular sands separated by unconformable shale partings. The sands appear to have been deposited in an intraformational channel system which resulted from an aggrading environment. Fluvial features such as lineation, festooning, crossbedding and ripple marks are easily discernible on rim exposures.

JUN 2 2 1956

The uranium and vanadium mineralization on the property is generally carnotite, although some black uraninite ores are also existent. The vanadium mineral, vanoxite, is present in widely varying amounts.

A chemical replacement of carbonaceous material by the uranium as well as primary sedimentary structures has played an important role in localizing known ore bodies. Most known deposits trend in a northerly direction and closely parallel local sedimentary depositional directions.

A mine was operated on the Humdinger No. 1 claim for a short period during 1953. About 34 tons of ore assaying .29 U_3O_8 and 1.76 V_2O_5 were reportedly shipped from this mine.

Two outcrops on the Humdinger No. 8 claim were examined, one of which looks very promising. This outcrop is approximately eighteen inches thick and thirty feet in length. No mining road has been built down to the outcropping, since it was realized that drilling was first necessary to justify the building of the road which would be quite costly.

Another outcrop on the Humdinger No. 5 claim was examined. This outcrop has been strip-mined and apparently could not be extended, however, it is not unusual to find several intermittent ore bodies along a trend such as might be developed by drilling behind this outcrop.

I recommend an initial drilling program which will utilize approximately 10,300 feet of drilling. (see accompanying map) This drilling is designed to give an adequate pattern for evaluating the deeper ground and also to give special attention to areas where mineralization is known to exist on rim exposures.

In the central part of the area is a staggered fence pattern with 400 feet between holes within each fence. Favorable ground delineated by this initial pattern will require more drilling to search-out possible ore bodies. This will be the second stage of drilling and will probably utilize about 5,000 additional feet of drilling.

In the initial drilling stage it is recommended that all wide-spaced pattern holes be drilled to at least the base of the second Salt Wash rim and that every third hole be drilled completely through the Salt Wash to check the favorability of the potential ore-bearing 1st. rim.

The roads depicted on the accompanying drill map are already built so that very little tractor work will be necessary to provide drill sites.

Drilling can be accomplished with a wagon-drill in the shallower ground, 50 to 150 foot depths, however, in the deeper ground, 150 to 250 feet, a rotary air rig which is adaptable to water would be the best bet. Some perched water tables are existent which will hamper dry-drilling of the deeper holes. Because the water haul is 14 miles over rough roads, dry-drilling should be utilized as much as possible.

All holes should be gamma-logged. Cuttings should be collected every two feet and lithologically logged. Available information from these logs can then be correlated by an experienced engineer to delineate favorable ground for the second stage of drilling.

Tenderfoot Mesa is in general a good uranium territory. Several uranium mines are operating on the mesa producing high grade uranium ores. Mineralized outcrops on the Humdinger Group indicate that the locality has been exposed to uranium mineralizing solutions and structural and chemical

localizers are easily discernible on rim exposures. Therefore, there is a very good chance that the 15,300 feet of explorative drilling herein recommended will result in the discovery of a significant uranium ore body.

Respectfully submitted,

Robert L. Rock

Robert L. Rock
Mining Engineer

Great Western Minerals Co. Bass Bldg. Box 1188 Enid, Okla.

SUPPLEMENTARY SHEET
TO DMEA FORM MF 103

JUN 22 1954

1. (c) J. Morgan Harris, President. 2777 F. Road, Grand Junction, Colo.
Dr. A. S. Kincade, 1st Vice Pres. 120½ Nor. Indep. Enid, Okla.
John H. Miller, 2nd Vice Pres. Caldwell, Kansas
Keith M. Hensel, Sec., Treas. Bass Bldg. Enid, Oklahoma

3. (f)

Humdinger	# 1,	book	650	Page	463,	Mesa County,	Colo.
"	2,	"	"	"	465	"	"
"	3,	"	"	"	467	"	"
"	4,	"	"	"	469	"	"
"	5,	"	"	"	471	"	"
"	6,	"	"	"	473	"	"
"	7,	"	"	"	475	"	"
"	8,	"	"	"	477	"	"
"	9,	"	"	"	479	"	"
"	10,	"	"	"	481	"	"
"	11,	"	"	"	483	"	"

Great Western Minerals Co. Bass Bldg. Box 1188 Enid, Okla.

SUPPLEMENTARY SHEET
TO DMEA FORM MF 103

RECEIVED
JUN 22 1955

3. (a) The land enclosed by the following metes and bounds:

825' N35°W of SE Cor. Sec. 32, T51N, R18W, NM Prin. Mer. to point of beginning; thence 1500' N73°33'W; thence 1200' S23°13'E; thence 295' S73°33' E; thence 596.3' S23°13'W; thence 103' S73°33'E; thence 2224' S13°41'W; thence 600' E; thence 600' S13°41'W; thence 600' W; thence 150'S 13°41' W; thence 1800' S73°02'W; thence 3000' N13°41W; thence 596.3 N23°13'E; thence 705' N73°33'W; thence 1200' N 23°13' E to point of beginning.

Great Western Minerals Co. Bass Bldg. Box 1188 Enid, Okla.

SUPPLEMENTARY SHEET
TO DMEA FORM MF 103

4. (a) a small mining operation was conducted on the Humdinger No. 1 Claim in 1953, from which 34 tons of ore assaying 0.29 U_3O_8 and 1.76 percent V_2O_5 were shipped. A number of small openings have been driven on rim exposures and some of the outcrops mentioned in the geologic report have been exploited on a small scale.

An option-holder drilled a few shallow holes, but reportedly ran out of funds before the project was well underway.

(b) No reserves can be calculated from the mineralized rim exposures.

)c) See geologic report

(d) The property is accessible by traveling 10 miles southeast of Grand Junction on U. S. Highway 50 to Whitewater, Colorado thence 16 miles over Colorado 141 to Taylor's ranch at which point turn left and follow a county road over the Uncompahgre highlands for 21 miles to Outlaw Mesa; at the approach to Outlaw Mesa turn right and travel 9 miles to the top of Calamity Hill; thence turn left onto Tenderfoot Mesa, traveling approximately 11 miles over a marked mine access road to the Humdinger Claim Group.

The shipping distance to the Climax mill in Grand Junction is 67 miles. Grand Junction, Colorado is also the principal supply and residence center.

(e) Adequate manpower, materials, supplies and equipment are available in Grand Junction, Colorado.

Water is available from a spring 14 miles distant from the property towards Outlaw Mesa.

Power must be provided by diesel or gasoline engines.

5. (b) See Geologic Report for drilling proposal.

(d) The applicants have interests, in addition to the Humdinger Claim Group, in another producing property located on the southwestern tip of Tenderfoot Mesa. This property is known as the Okan mine and is presently leased out.

Competent supervision will be furnished for the project. Robert L. Rock mining engineer, who has formulated the drilling program herein presented, has 5 years experience in uranium exploration and mining, a part of which has been in supervising AEC drilling projects.

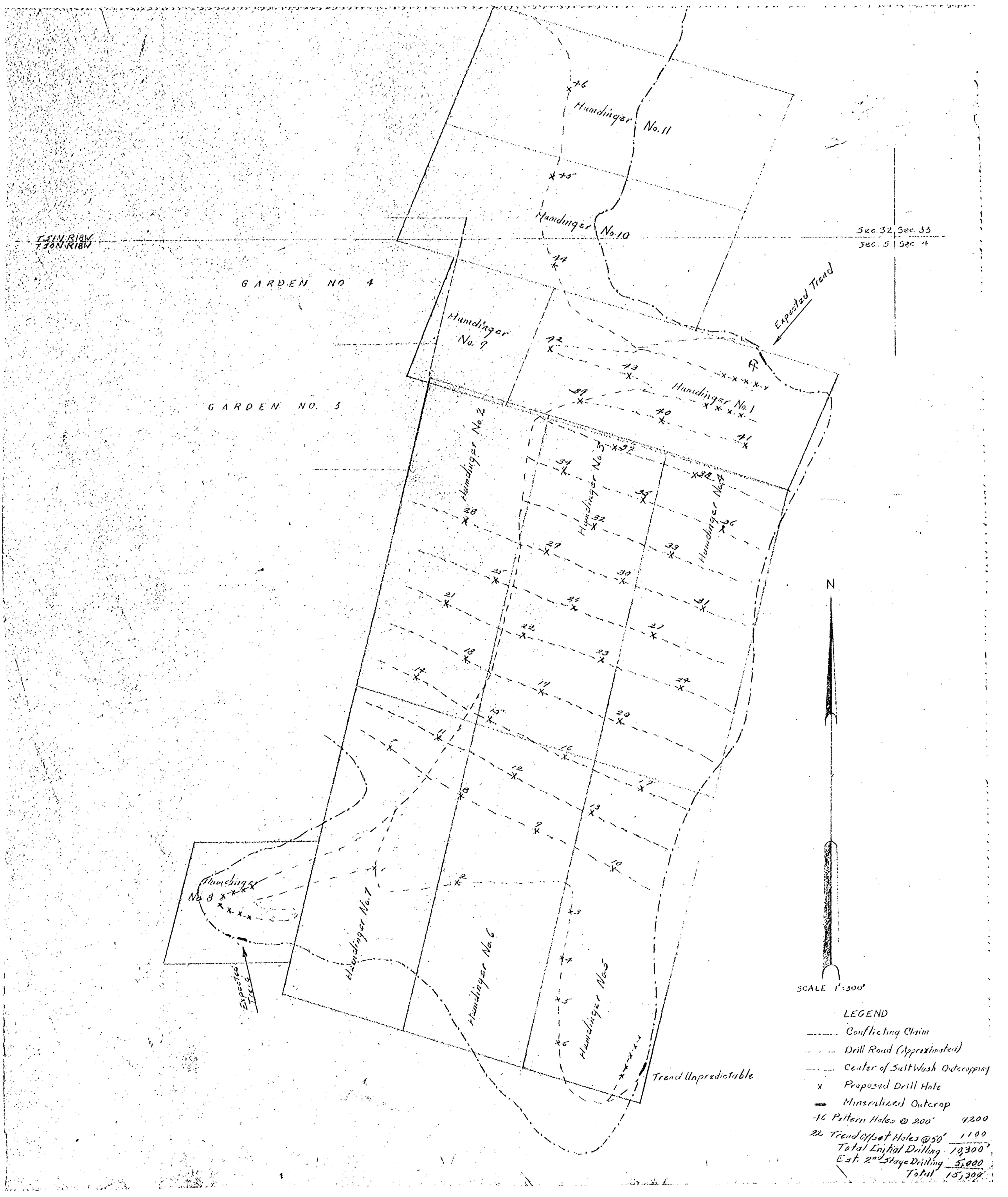
Great Western Minerals Co. Bass Bldg. Box 1188 Enid, Okla.

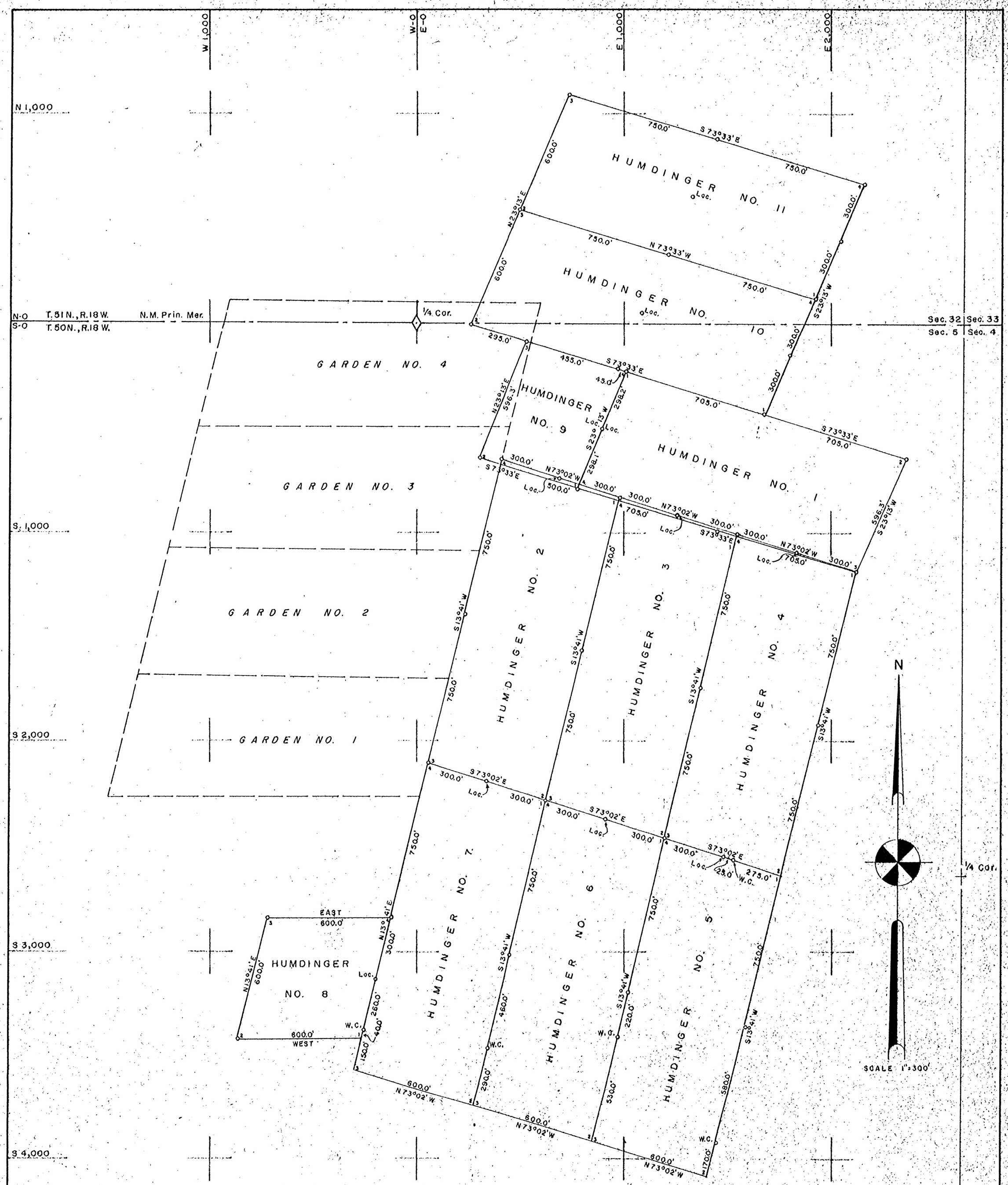
SUPPLEMENTARY SHEET
TO DMEA FORM MF 103

6. Costs:

15,300 ft. of contract drilling @ $1.50 /foot	$22,950.00
Supervision, 60 days @ $20/day	1,200.00
Consultant, 16 days @ $100/day	1,600.00
Road Building, 5 days @ $100.00/day	500.00
Drill Hole Probe Assembly (purchase price)	650.00
Surveying, 5 days @ $100/day	500.00
Gasoline	100.00
Contingencies	150.00
	$27,650.00

Great Western Mineral Co. Bass Bldg. Box 1188 Enid, Okla.


T5IN R18W
T30N R18W
Sec. 32 Sec. 33
Sec. 5 Sec. 4
GARDEN NO 4
GARDEN NO. 3
Humdinger No. 11
Humdinger No. 10
Humdinger No. 9
Humdinger No. 1
Humdinger No. 2
Humdinger No. 3
Humdinger No. 4
Humdinger No. 7
Humdinger No. 6
Humdinger No. 5
Humdinger No. 8
Expected Trend
Expected Trend
Trend Unpredictable
N
SCALE 1"=300'
LEGEND
Conflicting Claim
Drill Road (Approximated)
Center of Salt Wash Outcropping
x Proposed Drill Hole
Mineralized Outcrop
46 Pattern Holes @ 200' 9200
22 Trend Offset Holes @ 50' 1100
Total Initial Drilling 10,300'
Est. 2nd Stage Drilling 5,000
Total 15,300'



I, Richard J. Mandeville, do hereby certify that this map was plotted from notes of an actual field survey made under my supervision.

Richard James Mandeville

Registered Engineer and Land Surveyor

RICHARD JAMES MANDEVILLE 1779 GRAND JUNCTION, COLORADO

WESTERN ENGINEERS

map of

HUMDINGER GROUP and CONFLICTING CLAIMS

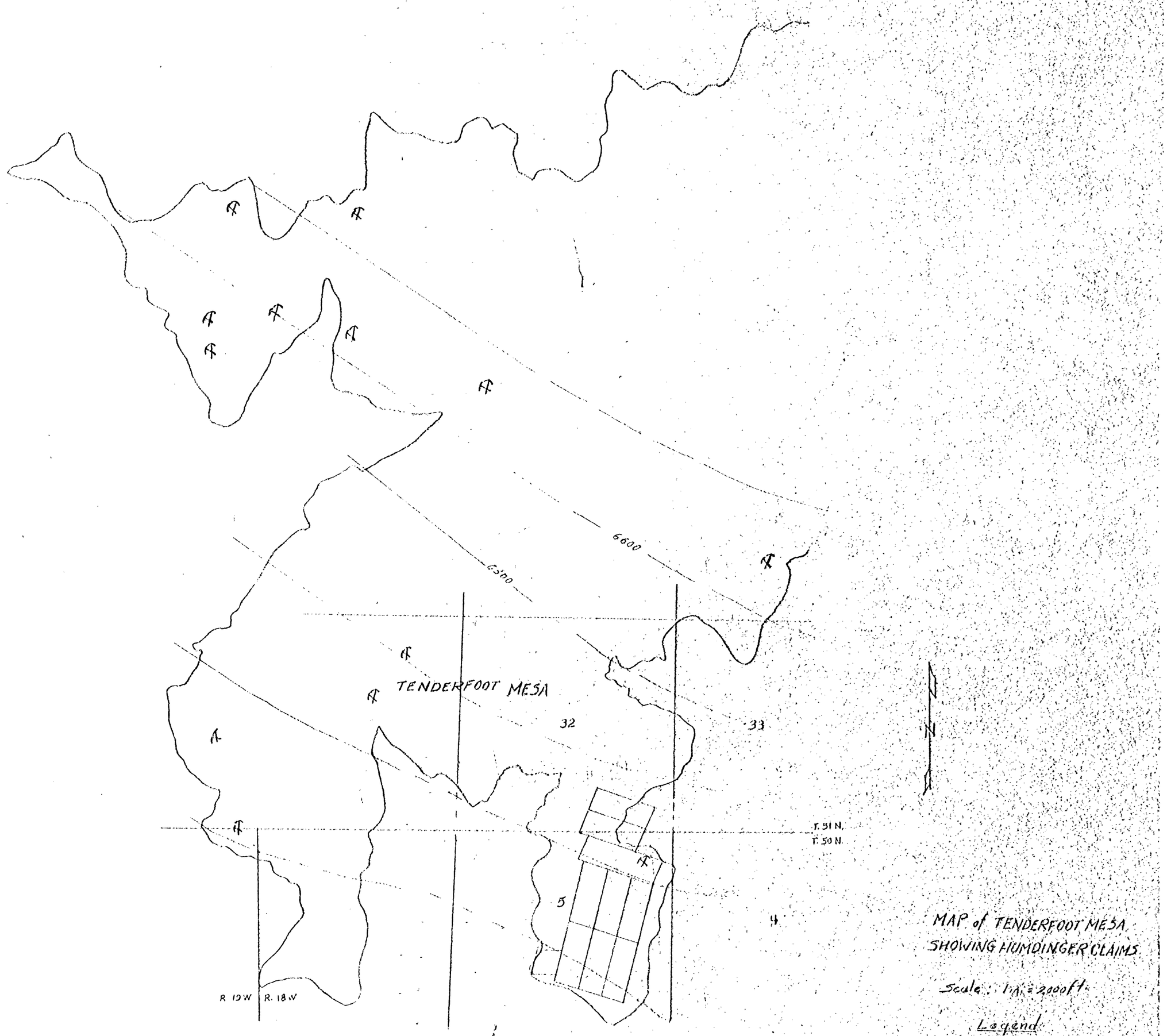
MESA COUNTY, COLORADO

SURVEYED O.B. TRACED L.B.P.

DRAWN C.B. CHECKED L.B.P.

GRAND JUNCTION, COLORADO 2-6-1 JUNE 17, 1955

2-6-1



MAP of TENDERFOOT MESA
SHOWING HUMDINGER CLAIMS

Scale: 1 in. = 2000 ft.

Legend
Mines
Structure Contour at 100' intervals on Salt Wash-Entrada contact
Outline of mesa drawn on Salt Wash-Entrada contact

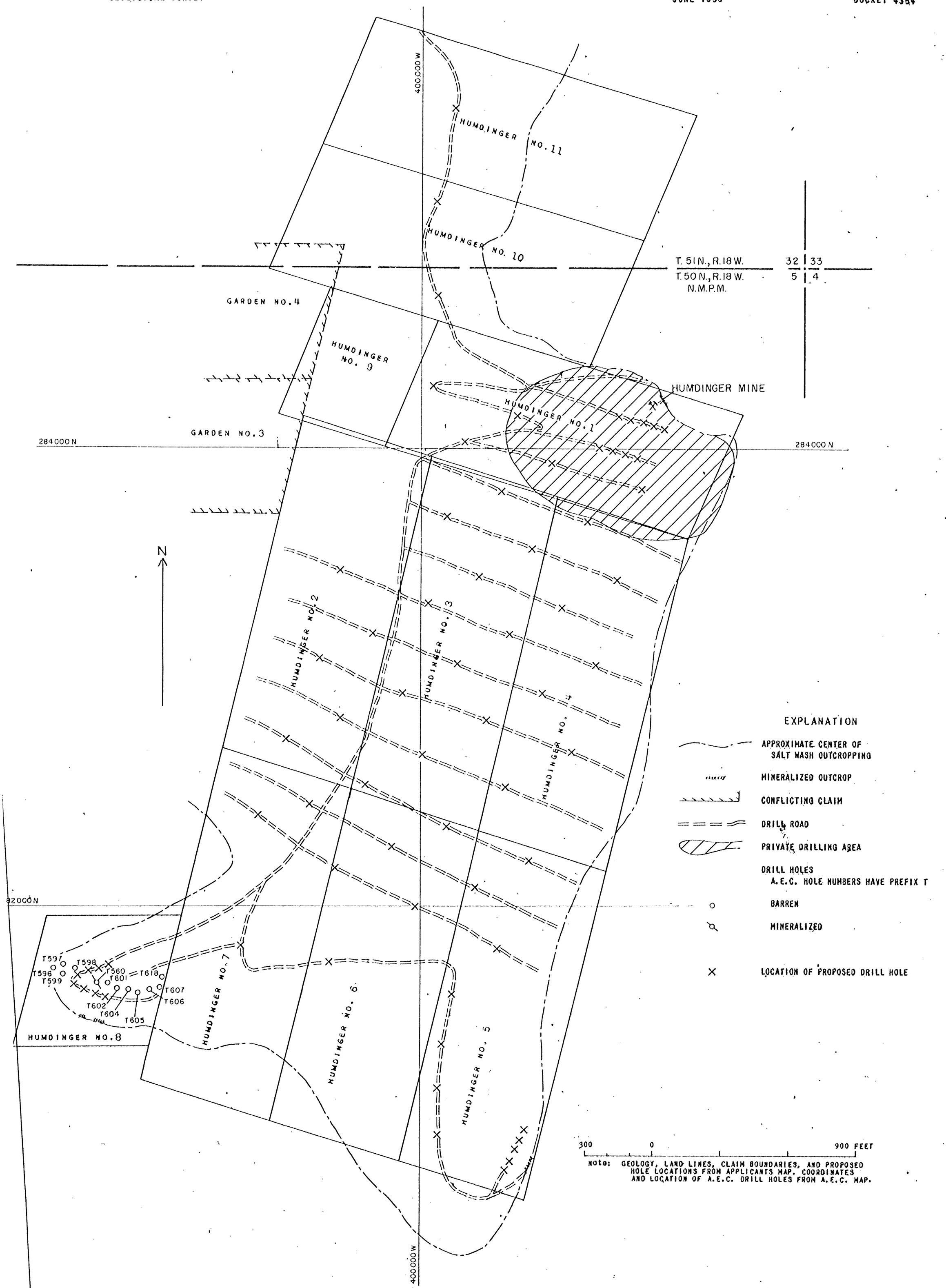


Figure 3. SKETCH MAP OF HUMDINGER GROUP OF CLAIMS SHOWING A.E.C. DRILL HOLES, AREA OF PRIVATE DRILLING AND LOCATION OF PROPOSED DRILL HOLES, GREAT WESTERN MINERALS COMPANY, TENDERFOOT MESA, MESA COUNTY, COLORADO.