STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

DEPARTMENT OF THE INTERIOR
Defense Materials Branch
RECEIVED
NOV 10 1953

TO : E. Wm. Ellis, DMEA Member, Uranium Commodity Committee

DATE: November 6, 1953

FROM : Arthur P. Butler, Jr., USGS Member, Uranium Commodity Committee

SUBJECT: Final Field Team Report, DMEA Docket 3175, Dante Exploration Company, Cripple Creek, Colorado, applicant; Sunday group of claims, Secs. 13 and 24, T. 44 N., R. 18 W., Gypsum Valley District, San Miguel County, Colorado.

The final Field Team report on results of examination of the property identified above has been reviewed. A member of the staff, Grand Junction Operations Office, was consulted about the application and was in general concurrence with findings of the Field Team examiners.

Comment

Uranium minerals on this property occur in a lens of sandstone conglomerate near the base of the Brushy Basin shale member of the Jurassic Morrison formation. The thickness of the deposit is six inches, its length and width are unknown. The nearest exposure of the Salt Wash member of the Morrison formation, about 5,000 feet to the northwest, is not favorable for the occurrence of uranium ore according to the criteria developed by the U. S. Geological Survey.

As the result of examination, the examining members believe the probability of finding significant deposits of uranium ore in the Brushy Basin member is small, the Salt Wash member is too badly fractured and too deeply buried to be successfully tested by wagon drilling and that the Salt Wash member is unlikely to contain deposits of minable grade and thickness. Denial of the application was, therefore, recommended and the application was denied in Region IV.

Conclusion

I concur with the recommendation of the Field Team in denying the application.

Arthur P. Butler Jr.

E. Wm. Ellis (2)

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

November 4, 1953

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4640

From: H. D. Keiser, Bureau of Mines Member
Uranium Commodity Committee

Subject: Report of Examination, DMEA Docket 3175, Dante Exploration Co., Sunday Group, San Miguel County, Colorado.

I have reviewed the subject report and discussed it with Joseph O. Hosted, representative of the Atomic Energy Commission.

I concur with the Field Team in denial of the application involved under the subject docket.

The report has been forwarded to the Chief, Minerals Division, Bureau of Mines, in accord with the routing slip attached thereto.

H. D. Keiser

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

November 4, 1953

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4640

From: H. D. Keiser, Bureau of Mines Member
Uranium Commodity Committee

Subject: Report of Examination, DMEA Docket 3175, Dante Exploration Co., Sunday Group, San Miguel County, Colorado.

I have reviewed the subject report and discussed it with Joseph O. Hosted, representative of the Atomic Energy Commission.

I concur with the Field Team in denial of the application involved under the subject docket.

The report has been forwarded to the Chief, Minerals Division, Bureau of Mines, in accord with the routing slip attached thereto.

Signed

H. D. Keiser

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

224 New Customhouse
Denver 2, Colorado

October 22, 1953.

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Joint Report of Examination - DMEA Docket 3175 (Uranium), Dante Exploration Company, Sunday Group, San Miguel County, Colorado.

Enclosed are four copies of a joint report of examination on the subject docket, a copy of the letter of denial to the applicant, and two copies of Form 3b.

John F. Shaw
John F. Shaw
For W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
10-30-53
(date)

C O P Y

224 New Customhouse
Denver 2, Colorado

October 22, 1953

Mr. Franklin Ferguson, President
The Dante Exploration Company
P. O. Box 188
Cripple Creek, Colorado

Re: Docket DMEA-3175

Dear Mr. Ferguson:

Reference is made to your application for Government aid on the Sunday group of claims.

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

A careful study of your property and data available to this agency reveals that the probability of disclosing mineable reserves of Uranium is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for exploration aid is denied.

Very truly yours,

s/ John F. Shoa
For W. N. King
Field Team, Region IV

s/ A. H. Koschmann
Field Team, Reg. IV

CC. Docket
Admin. DMEA
ERGordon
RPFischer
WMTraver
AHKoschmann (2)
Chron.

Reviewed by
DMEA OPERATING COMMITTEE
10-30-53
(date)

mds

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

October 22, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Joint Report of Examination - DMEA Docket 3175 (Uranium), Dante Exploration Company, Sunday Group, San Miguel County, Colorado.

Enclosed are eleven copies of a report prepared jointly by the Bureau of Mines and Geological Survey on the subject docket.

The applicant requested $11,500.00 for 13,330 feet of wagon drilling to explore the Sunday group.

The examiners agree that chances of finding ore in the Brushy Basin member in quantities commensurate with the cost of exploration are poor and they recommend that the application be denied.

We concur in this recommendation.

John F. Shaw
John F. Shaw
For W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
10-30-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
October 20, 1953

Memorandum

To: Executive Officer, Field Team, Region IV

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

Subject: DMEA 3175, Sunday claims (Uranium), Dante Exploration Company, San Miguel County, Colorado

Enclosed are the original and ten copies of the "Summary, Conclusions, and Recommendations" by M. N. Salsbury, Bureau of Mines, and C. F. Withington, Geological Survey, and of Salsbury's engineering report on the above docket.

Salsbury concludes the possibility of a significant uranium discovery on the Sunday claims is slight due to unfavorable stratigraphy and structure, the lack of mineralized exposures, and unsatisfactory previous experience in the area. He recommends denial of the application and I approve his conclusions and recommendation.

The brochure furnished with your instruction memorandum of September 16, 1953, and the request for amendment of the application with your memorandum of October 8, 1953, are also returned herewith.

W. M. Traver

W. M. Traver

enclosures

WMT/kp

cc 10
DMEA 3175
DMEA Chron

Reviewed by
DMEA OPERATING COMMITTEE
10-30-53
(date)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

October 21, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: Amendment to DMEA Docket 3175 (uranium), Dante Exploration Company, Sunday group, San Miguel County, Colorado

Enclosed are 11 copies of a memorandum by C. F. Withington of the U. S. Geological Survey covering an amendment to the above docket.

It has been recommended that this amendment also be denied.

A. H. Koschmann

A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (11)

Reviewed by
DMEA OPERATING COMMITTEE
10-30-53
(date)

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

October 20, 1953

Memorandum

To: DMEA Field Team, Region IV

From: C. F. Withington, Geologist

Subject: Amendment to Docket DMEA 3175 (Uranium), Dante Exploration Company, Sunday group, San Miguel County, Colorado

Docket DMEA 3175, which was submitted by the Dante Exploration Company for proposed work on the Sunday group of claims in San Miguel County, Colo., has been amended to include the number and approximate depths of the drill holes planned for drilling on the Sunday group. This information was omitted from the original application.

Inasmuch as this amendment does not alter the general plan of exploration as outlined in the application, and inasmuch as no new geologic information, which would change the conclusions of the report of the examining team, has been submitted with this amendment, it is recommended that this amendment also be denied.

CFW
C. F. Withington
Geologist

CFW/mlr

Reviewed by
DMEA OPERATING COMMITTEE
10-30-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
200 New Customhouse
Denver 2, Colorado

October 14, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3175, Dante Exploration Company, Sunday group of claims, San Miguel County, Colorado

Enclosed are 11 copies of the geologic report by C. F. Withington of the U. S. Geological Survey and W. H. Salsbury of the Bureau of Mines covering the above docket.

It has been recommended that the loan be denied.

A. H. Koschmann

A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (11)

Reviewed by
DMEA OPERATING COMMITTEE
10-30-53
(date)

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

October 7, 1953

Memorandum

To: A. H. Koschmann and W. H. King, DMEA Field Team, Region IV (through W. M. Traver, Jr.)

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

Subject: DMEA 3175, Dante Exploration Company, Sunday group of claims, San Miguel County, Colorado

Transmitted herewith are eleven copies of a report prepared jointly by C. F. Withington, USGS, and M. H. Salsbury, USBM, regarding the application of the Dante Exploration Company for DMEA assistance to explore for uranium deposits on the Sunday group of claims, San Miguel County, Colo.

Withington contributed his part of the report on the basis of general knowledge of the area and a U.S.G.S. file report by C. M. Mobley. Salsbury visited the area on September 25, 1953.

The writers conclude that the chances of finding significant uranium deposits are negligible and recommend the application be denied. E. V. Reinhardt, AEC, was consulted regarding this application and is in general concurrence with the conclusions and recommendation of this report, I also concur.

R P Fischer

R. P. Fischer
Acting District Supervisor

Enclosures

RPF/ars

Reviewed by
DMEA OPERATING COMMITTEE
10-30-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 3175, Sunday Claims

Dante Exploration Company

San Miguel County, Colo.

Uranium

M. H. Salsbury, Mining Engineer
Bureau of Mines

C. F. Withington, Geologist
Geological Survey

October 12, 1953

Reviewed by
DMEA OPERATING COMMITTEE
10-30-53
(date)

DMEA 3175

SUNDAY CLAIMS
DANTE EXPLORATION COMPANY
SAN MIGUEL COUNTY, COLO.

Summary, Conclusions, and Recommendations

By M. H. Salsbury
Mining Engineer
Bureau of Mines

and

C. F. Withington
Geologist
Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE

10-30-53
(date)

DMEA 3175

SUNDAY CLAIMS
DANTE EXPLORATION COMPANY
SAN MIGUEL COUNTY, COLO.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By M. H. Salsbury and C. F. Withington

The Dante Exploration Company, F. W. Ferguson, President, Post Office Box 188, Cripple Creek, Colo., has applied, under DMEA 3175, for a Defense Minerals Exploration Administration loan of $11,500.00, to explore the Sunday group of claims in Big Gypsum Valley, San Miguel County, Colo., by an indeterminate amount of wagon drilling. Seven unpatented claims are owned by Ed Joseph, Horace Joseph, Julian Davis, and Leroy Davis, all of Norwood, Colo. The applicant holds a 5-year lease on the claims. Most of the claim area lies within ground withdrawn from entry by the Atomic Energy Commission, but the location dates are prior to the withdrawal. The property was examined by a Bureau of Mines engineer on September 25, 1953. It had been examined previously by a Geological Survey geologist. The staff geologist of the Atomic Energy Commission concurs in the examining team's recommendations.

The deposit of mineralized material on the Sunday group is in a sandstone conglomerate near the base of the Brushy Basin member of the Jurassic Morrison formation. The deposit consists of a tabular layer 6 inches thick and of unknown width and length. The underlying Salt Wash member of the Morrison formation from which most of the

production has come in the Gypsum Valley district, is deeply buried and is likely to be unfavorable for containing deposits of mineable grade and thickness.

The applicant did not present a definite exploration program with the original application. In an amendment dated October 2, 1953, approximately 13,000 feet of wagon drilling was apportioned between six drilling areas but definite hole locations were not designated. There is one minor exposure of mineralization on the property, in the Jurassic Brushy Basin formation which is not the potential ore horizon of the area. The Geological Survey, which is drilling in the general area, has rejected the Sunday claims as a drilling site.

It is concluded that, considering the unfavorable stratigraphy and structure, weak mineralization, and unsuitability of wagon drilling to the highly fractured formations, there is little possibility of a discovery of uranium ore in a significant amount. Denial of the loan application is recommended.

UNITED STATES DEPARTMENT OF THE INTERIOR

DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM

REGION IV

DMEA 3175, Dante Exploration Company, Sunday group of claims

Gypsum Valley District, San Miguel County, Colorado

Uranium

C. F. Withington
Geological Survey

M. H. Salsbury
Bureau of Mines

October 7, 1953

Reviewed by
DMEA OPERATING COMMITTEE
10-30-53
(date)

DMEA 3175

DANTE EXPLORATION COMPANY, SUNDAY GROUP OF CLAIMS, GYPSUM VALLEY DISTRICT, SAN MIGUEL COUNTY, COLORADO

By C. F. Withington and M. H. Salsbury

INTRODUCTION AND SUMMARY

The Dante Exploration Company, Franklin Ferguson, President, P. O. Box 188, Cripple Creek, Colo., has applied for a DMEA loan of $11,500.00 for approximately 13,330 feet of wagon drilling to explore for uranium ore on the Sunday group of claims, Gypsum Valley district, San Miguel County, Colo. (fig. 1). Seven claims are owned by Ed Joseph, Horace Joseph, Julian Davis, and Leroy Davis, all of Norwood, Colo., in whose names they were located. The claims apparently are not in conflict with any land withdrawal. The applicant leased the Sunday group of claims from the owners until July 16, 1958.

The property was examined by M. H. Salsbury of the U. S. Bureau of Mines on September 25, 1953, and C. M. Mobley, geologist, U. S. Geological Survey examined the claims during August 1952.

Because the chances of finding ore are poor, it is recommended that the application be denied.

GEOLOGY

The rocks exposed on the Sunday claims consist of the Brushy Basin member of the Jurassic Morrison formation, and the Cretaceous Burro Canyon, Dakota, and Mancos formations (fig. 2). The Brushy Basin member consists predominantly of red and green mudstone, with thin lenses of sandstone and sandstone conglomerate, 5 to 10 feet thick, near the base. The Burro Canyon and Dakota formations are each about 150 feet thick and consist of sandstone

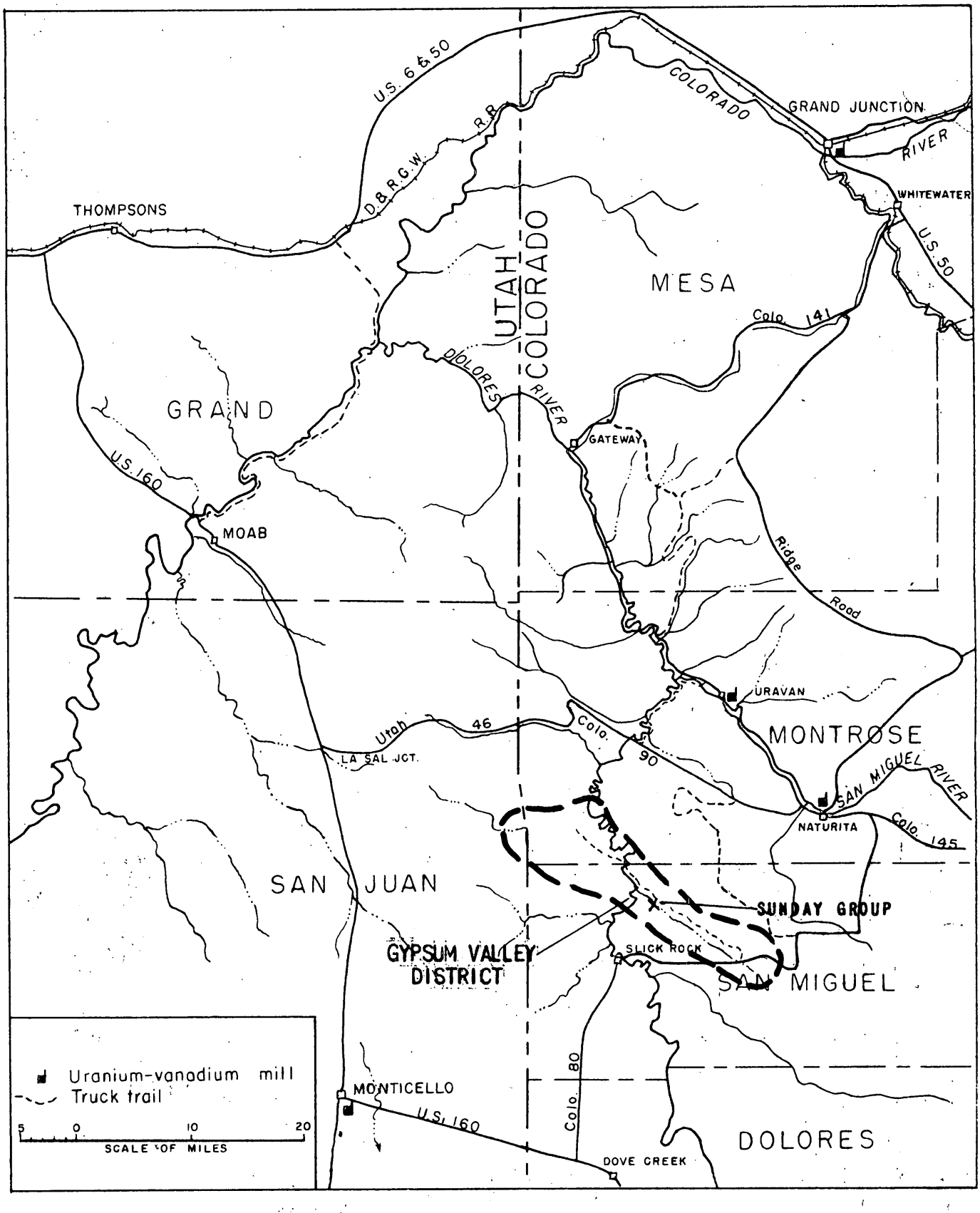
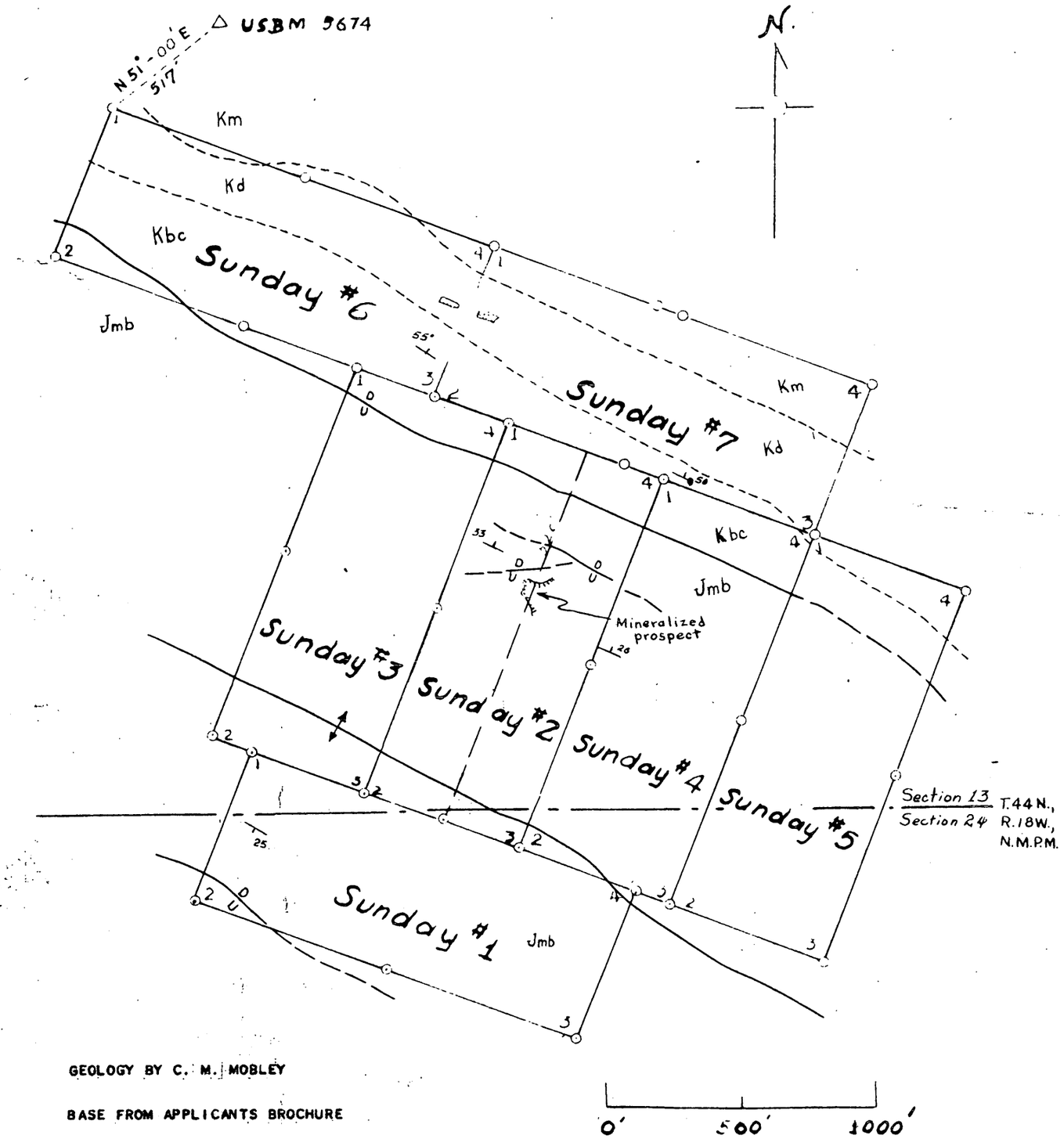


Figure 1. INDEX MAP OF PART OF THE COLORADO PLATEAU SHOWING THE LOCATION OF THE SUNDAY GROUP OF CLAIMS, GYPSUM VALLEY DISTRICT, SAN MIGUEL COUNTY, COLORADO

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET 3175



GEOLOGY BY C. M. MOBLEY

BASE FROM APPLICANTS BROCHURE

EXPLANATION

Km	CRETACEOUS MANCOS FORMATION
Kd	CRETACEOUS DAKOTA FORMATION
Kbc	CRETACEOUS BURRO CANYON FORMATION
Jmb	BRUSHY BASIN MEMBER, JURASSIC MORRISON FORMATION
- - - - - - - -	FORMATION CONTACT, APPROXIMATELY LOCATED
- - - D/U	FAULT, SHOWING RELATIVE MOVEMENT, DASHED WHERE INFERRED
↕	ANTICLINAL AXIS
25	STRIKE AND DIP OF BEDS
	MINE WORKINGS, OPEN CUT

Figure 2. SKETCH MAP OF THE SUNDAY GROUP OF CLAIMS, GYPSUM VALLEY DISTRICT, SAN MIGUEL COUNTY, COLORADO

beds up to 50 feet thick, separated by thin beds of shale. The Mancos formation consists of black and gray shale of undetermined thickness. The beds in the area strike generally NW. In the southern part of the Sunday group, the beds dip 25° SW and in the northern part of the Sunday group, they dip 25° to 55° NE. The rocks are cut by several W-to NW-trending faults.

In the Sunday group, mineralized material is associated with a lens of sandstone conglomerate 5 feet thick and of unknown length and width. No ore has been shipped from the Sunday group, and there are no reserves on the claims. A chemical analysis of mineralized material from the deposit on the Sunday group, submitted with the application shows a grade of 0.17 percent U_3O_8 and 0.08 percent V_2O_5.

The mineralized material which is exposed on the Sunday group probably represents only a small body containing no more than a few tons. Additional small pods of mineralized material averaging a few tons each are probably present.

In the Gypsum Valley district, the uranium deposits in the Brushy Basin member of the Morrison formation average less than 50 tons each. The majority of the production from the district has come from the Salt Wash member of the Morrison formation, which directly underlies the Brushy Basin member. Although the applicants state that the Salt Wash member is exposed on the Sunday group, the nearest exposure is in reality about 5,000 feet to the NW. According to the criteria developed by the U. S. Geological Survey/, the sandstones in this

---

/ Weir, D. B., 1952, Geologic guides to prospecting for carnotite deposits on Colorado Plateau: U. S. Geol. Survey Bull. 988-B

---

exposure of the Salt Wash member are unfavorable for the occurrence of ore.

PROPOSED EXPLORATION

The applicant have requested $11,500.00 for exploration by wagon-drill on the Sunday group. Of this amount, $10,000.00 would be used for wagon drilling about 13,330 feet at an estimated cost of $0.75 per foot. Of the remaining $1,500.00, $700.00 would be used for supervision, and $800.00 would be used to hire an engineer and a consulting geologist. Neither an estimate of the average depth of the holes planned nor an indication of the proposed spacing of the drill holes is included in the application.

CONCLUSIONS AND RECOMMENDATIONS

The deposit of mineralized material on the Sunday group is in a sandstone conglomerate near the base of the Brushy Basin member of the Jurassic Morrison formation. The deposit consists of a tabular layer 6 inches thick and of unknown width and length. No reserves are present in this deposit. The applicant has not submitted a definite exploration program, but apparently the plan of drilling is to test for further deposits within the Brushy Basin member. However, the chances of finding ore in the Brushy Basin member in quantities commensurate with the cost of exploration are poor. No alternative proposal to test the Salt Wash member was made by the field team, for, although the majority of the production from the Gypsum Valley district has come from the Salt Wash member, on the Sunday group this member is too deeply buried and too badly fractured to be tested successfully by wagon-drill. In addition, it is likely that the Salt Wash member is unfavorable for containing deposits of

minable grade and thickness.

It is recommended, therefore, that no exploration be done on the Sunday group, and that the application be denied.

DMEA 3175

SUNDAY CLAIMS
DANTE EXPLORATION COMPANY
SAN MIGUEL COUNTY, COLO.

Engineering Report

By M. H. Salsbury
Mining Engineer
Bureau of Mines

DMSA 3175

SUNDAY CLAIMS
DANTE EXPLORATION COMPANY
SAN MIGUEL COUNTY, COLO.

CONTENTS

Engineering Report — Page

Introduction..... 1
Acknowledgements..... 1
Location, topography, and physical features..... 2
Labor and living conditions..... 3
History and production..... 4
Ownership and extent..... 4
Description of the deposits..... 5
Minerable ore reserves..... 5
Present status..... 6
Exploration and development..... 6
Mining equipment and other facilities..... 6
Project proposals with costs..... 6
Production plan..... 8
Proposed financing..... 8
Conclusions..... 8
Recommendations..... 9

ILLUSTRATIONS

Figure — Follows Page

1. Location map, Dante Exploration Company, Sunday claims, San Miguel County, Colo..... 2

DMEA 3175

SUNDAY CLAIMS
DANTE EXPLORATION COMPANY
SAN MIGUEL COUNTY, COLO.

ENGINEERING REPORT

By

M. H. Salsbury

INTRODUCTION

An application under DMEA 3175 for Government assistance to explore uranium claims was made by the Dante Exploration Company, F. W. Ferguson, President, Box 188, Cripple Creek, Colo. The property, seven claims known as the Sunday group, was examined on September 25, 1953, by a Bureau of Mines engineer accompanied by Howard B. Dutro of the Geological Survey, who acted as guide. It had previously been examined by the Geological Survey member of the examining team.

A loan of $11,500.00 was requested for exploration by an estimated 13,000 feet of wagon drilling. Because of unfavorable geology and unsuitability of wagon drilling to the faulted, broken formations, denial of the loan application is recommended.

ACKNOWLEDGEMENTS

Data were obtained from a memorandum report and map of the property made by C. M. Mobley, geologist, Geological Survey, and by conferences with Howard B. Dutro and R. P. Fischer of the Geological Survey. It was brought out that C. F. Withington's conclusions on the proposal

are substantially those expressed by Mobley and Dutro. Withington was elsewhere in the field at the time of the Bureau engineer's examination and was not contacted personally. Elmer V. Reinhardt, staff geologist, Atomic Energy Commission, was consulted by R. P. Fischer of the Geological Survey and concurred in the conclusions.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Sunday claims are located on the southwest side of Big Gypsum Valley, San Miguel County, Colo. (fig. 1). They are in secs. 13 and 24, T. 44 N., R. 18 W., New Mexico principal meridian. The area is shown on the Geological Survey's Naus Canyon Quadrangle topographical map.

The claims are in an area of small steep-sided hills formed from fault blocks lying below the southwest rim of the valley and on the slope above the valley floor. The terrain becomes increasingly rough approaching the rim. The claims extend over the rim and into the drainage area of the next valley to the southwest.

The climate of the region, at elevations from 5,800 feet on the valley floor to 6,200 feet at the rim, is typical of southwestern Colorado with hot, dry summers and mild to moderately cold winters. There are occasional violent summer and winter storms with heavy precipitation for short periods but average yearly precipitation is low. Surface operations are feasible throughout the year except for occasional periods after storms or during the spring thaw.

The property is 5 miles southeast of the Geological Survey camp in Big Gypsum Valley, and 36 miles over graded dirt road, graveled State

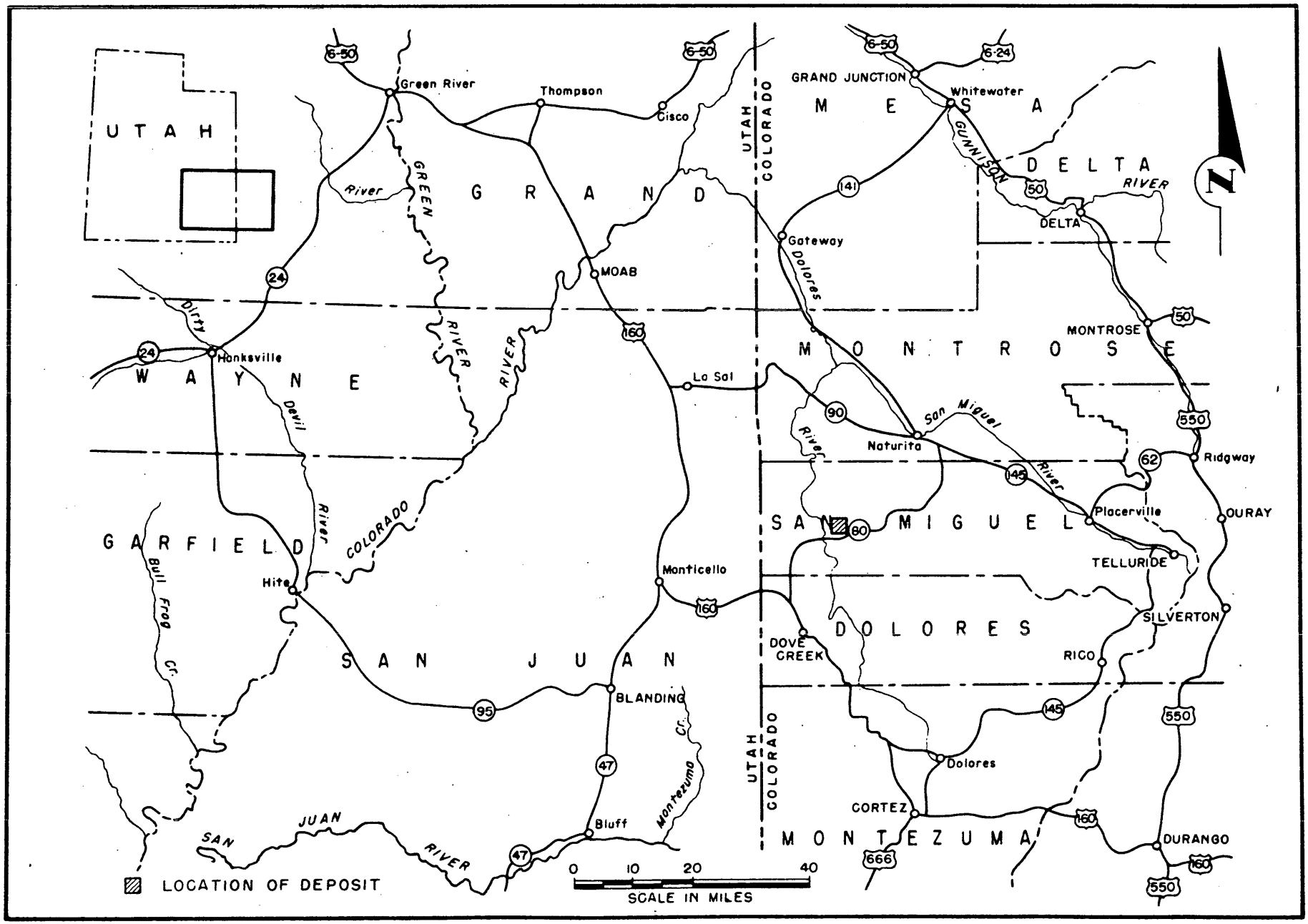


FIGURE 1. - LOCATION MAP, SUNDAY CLAIMS, DANTE EXPLORATION COMPANY, SAN MIGUEL COUNTY, COLO.
(DMEA 3175)

Highway 80, and surfaced State Highway 145 from Naturita, Colo., the nearest permanent settlement. Ridgeway, Colo., the nearest railhead, is 86 miles distant and Grand Junction, Colo., the nearest major source of supplies, 174 miles, all but the first 32 miles over paved highways.

Big Gypsum creek is dry during most of the year, but water for domestic purposes can usually be obtained from springs. In dry seasons, mining requirements are met by hauling from the nearest stream crossing. In the case of the Sunday claims, the water haul is 15 miles. Storm run-off is sometimes stored in small retaining ponds.

An abundant supply of firewood can be obtained from pinon pine and juniper growth. Mining timber is obtainable from lumbering operations in stands of ponderosa pine on the higher mesas near Norwood, Colo., and elsewhere. Power requirements must be met by the individual operator.

Uranium-vanadium ores of the area can be sold to the United States Vanadium Corporation which operates a milling plant at Uravan, Colo., 50 miles from the property.

Labor and Living Conditions

Labor in the area is scarce and experienced, reliable miners are always in demand. The standard wage rate quoted for the region is $1.35 per hour, but the rate paid is actually $1.50 per hour or more.

Labor for the applicant's proposed work, planned on a contract basis, could probably be obtained fairly easily.

Living facilities would have to be furnished by the applicant or the contractor.

HISTORY AND PRODUCTION

Very little exploration was carried on in Big Gypsum Valley before 1940. Since then, some production has resulted from limited operations, practically all from mine workings in the Salt Wash formation. Production from the Brushy Basin formation has been negligible.

OWNERSHIP AND EXTENT

The Sunday claims were located by the present owners in May and July 1952, on the strength of a mineralized outcrop on the Sunday No. 2 claim.

In 1953, a large block of ground, including part of the Sunday claims, was withdrawn from entry by the Atomic Energy Commission at the request of the Geological Survey which is engaged in drilling exploration in the general area. No exploration under this program has been undertaken in the vicinity of the Sunday claims.

There has been no production from the property, or from any ground nearby.

The property consists of seven unpatented mining claims. The location certificates are recorded in the San Miguel County courthouse, Telluride, Colo. The owners are Edwin Joseph, Horace Joseph, Leroy Davis, and Julian Davis, all of Norwood, Colo. The applicant holds a 5-year lease on the property, expiring July 16, 1958. The claim locations antedate the withdrawal of the area by the Atomic Energy Commission on June 15, 1953, as verified at the Grand Junction offices. The applicant did not furnish an Atomic Energy Commission "validating lease" for the claims. Because a denial of the application was indicated, no further check of the property rights on the claims was made.

DESCRIPTION OF THE DEPOSITS

There is a mineralization showing at only one point on the property. An exposure in the Brushy Basin formation, on an outcrop of a tilted fault block forming a small hill on the Sunday No. 2 claim, shows bleaching of a conglomerate bed and green coloration of an underlying mudstone which are often indicative of uranium-vanadium mineralization in the Uravan area. In a test pit 5 feet long and 3 feet deep sunk through the wash, there is a lens 6 inches thick with a slight indication of some vanadium content. There is no visible sign of uranium. The bed strikes N. 70° E. and dips 20-25° northwest. This altitude is out of harmony with the general bedding strike and dip. The mineralized bed is probably cut off a few feet down the dip by a fault exposed on top of the hill just northwest of the outcrop. To the southeast the beds have been removed by erosion. There is a possible continuation of the formation on the other side of the wash, some 30 or 40 feet from the outcrop, but it is not visible.

The applicant states that the Salt Wash formation, the favorable ore horizon, is exposed on the property but reconnaissance by the Geological Survey does not confirm this. The formation is undoubtedly present, but any possible outcrop is masked by surface wash and landslide debris.

MINEABLE ORE RESERVES

There are no measurable ore reserves nor is there mineable ore exposed on the property.

PRESENT STATUS

Exploration and Development

The only work done on the claims are several trenches, the test pit on the Sunday No. 2 claim, and a short access road.

There are no other workings in the vicinity and Dutro of the Geological Survey reports that there has been no discovery of ore in profitable quantities within a reasonable distance of the property.

The Geological Survey, even though they are operating in the area, is not planning any drilling on the Sunday claims, because an examination indicated adverse stratigraphic and structural conditions.

One of the owners of the Sunday claims submitted a specimen to the Atomic Energy Commission which ran 0.17 percent U_3O_8 and 0.05 percent V_2O_5. This was reported to be from the outcrop on the Sunday No. 2 claim but there is no visible uranium in the test pit, and no uranium mineralization was found by Geological Survey personnel, using a scintillometer.

Mining Equipment and Other Facilities

There are no housing facilities, mine structures, or other equipment on the property. The applicant lists various items of equipment, including drills, compressor, ventilation equipment, trailer house and truck, as being available. The closest ore purchasing depot is located at Uravan, Colo., 50 miles from the property.

PROJECT PROPOSALS WITH COSTS

The applicant proposed an exploration project at an estimated cost of $11,500.00, including access roads. The proposal in the original

application was indefinite but an amendment dated October 2, 1953, designates six drilling areas with a total of 13,000 feet of wagon drilling as follows:

1. Area No. 1, 24 holes 75 to 90 feet deep on 100-foot centers (this is the location of the mineralized outcrop on the Sunday No. 2 claim).

2. Area No. 2, 40 holes 60 to 70 feet deep, or through the subclay, on 100-foot centers (on Sunday No. 2 claim).

3. Areas No. 3 and 4, 35 holes 50 to 100 feet deep on 100-foot centers (on Sunday Nos. 1 and 4 claims)

4. Area No. 5, 20 to 25 holes 50 to 75 feet on 100-foot centers (on Sunday No. 2 claim).

5. Area No. 6, 20 to 25 holes 50 to 60 feet deep on 100-foot centers (on Sunday No. 3 claim).

No definite hole locations were given in the amended exploration proposal and no basis was shown for the estimated depth of holes. The applicant had a quotation from a drilling contractor of $0.75 per foot. At this price, the cost of 13,000 feet of wagon drilling would be $9,750.00, leaving $1,750.00 for drill site preparation, access roads, sampling and analysis, and supervision.

A similar project, DMEA 2483, contract Idm-2533, was approved at a contract price of $1.35 per foot. It is believed that work on the Sunday claims would cost a similar amount, an estimated total of $17,550.00, compared to the applicant's estimate of $11,500.00.

It would be very difficult to lay out a good drilling program on the Sunday claims under the existing conditions without close preliminary study which, in itself, might require diamond drilling for information.

PRODUCTION PLAN

The applicant estimates that the work could be completed in 2 months.

PROPOSED FINANCING

The Dante Exploration Company is a Colorado corporation operating in the Cripple Creek Mining District, Colo. Their resources are probably limited. It is stated in the application that they are prepared to finance their share of the cost of the proposed work, which would probably be less than their management contributions.

CONCLUSIONS

The possibility of a significant uranium discovery on the Sunday claims is unlikely from every standpoint. The ground is unfavorable stratigraphically and structurally. The one known ore exposure shows very slight mineralization, and even this is probably interrupted in a short distance by a known fault.

The applicant makes a point of the fact that the Atomic Energy Commission withdrew the area from entry, but this is meaningless, because much of the ground in such an area may be worthless.

The Salt Wash formation, the favorable ore horizon, is probably present at moderate to shallow depth but probably cut up by the known faults. It is certainly present to the southwest below the Dakota cap rock. However, there are no ore exposures on it in the vicinity and the area does not lie within a known ore trend.

The experience of the Bureau of Mines at the Truck group, 4 miles southeast of the Sunday claims, where a wagon drilling project on a similar faulted and broken structure was carried on, shows that wagon

or diamond drilling, under the adverse ground conditions encountered, is inadvisable (see final report EMEA 2483, contract Idm-E533). Of 65 holes started, 24 holes were lost because of the badly fractured ground penetrated, and the project was terminated by agreement before completion.

Even if there was good, strong uranium mineralization at surface, the success of a drilling program would be doubtful.

RECOMMENDATIONS

Denial of the lease application is recommended.

/kp

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

224 New Customhouse
Denver 2, Colorado

October 22, 1953.

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Joint Report of Examination - DMEA Docket 3175 (Uranium), Dante Exploration Company, Sunday Group, San Miguel County, Colorado.

Enclosed are four copies of a joint report of examination on the subject docket, a copy of the letter of denial to the applicant, and ~~two copies of Form~~ 3b.

John F. Shaw
For W. H. King

A. H. Koschmann

Enclosures

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

224 New Customhouse
Denver 2, Colorado

October 22, 1953.

Mr. Franklin Ferguson, President
The Dante Exploration Company
P. O. Box 108
Cripple Creek, Colorado

Re: Docket DMEA-3175

Dear Mr. Ferguson:

Reference is made to your application for Government aid on the Sunday group of claims.

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

A careful study of your property and data available to this agency reveals that the probability of disclosing minable reserves of Uranium is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for exploration aid is denied.

Very truly yours,

John F. Shaw
for W. H. King
Field Team, Region IV

A. H. Koschmann
A. H. Koschmann
Field Team, Region IV

HMC:cwm

cc: Docket
Administrator, DMEA
ERGordon
RPFischer
WMTraver
AHKoschmann (2)
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

October 22, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Joint Report of Examination - DMEA Docket 3175 (Uranium), Dante Exploration Company, Sunday Group, San Miguel County, Colorado.

Enclosed are eleven copies of a report prepared jointly by the Bureau of Mines and Geological Survey on the subject docket.

The applicant requested $11,500.00 for 13,330 feet of wagon drilling to explore the Sunday group.

The examiners agree that chances of finding ore in the Brushy Basin member in quantities commensurate with the cost of exploration are poor and they recommend that the application be denied.

We concur in this recommendation.

John F. Shaw
John F. Shaw
For W. E. King

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
October 20, 1953

Memorandum

To: Executive Officer, Field Team, Region IV

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

Subject: DMRA 3175, Sunday claims (Uranium), Dante Exploration Company, San Miguel County, Colorado

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

Salsbury concludes the possibility of a significant uranium discovery on the Sunday claims is slight due to unfavorable stratigraphy and structure, the lack of mineralized exposures, and unsatisfactory previous experience in the area. He recommends denial of the application and I approve his conclusions and recommendation.

The brochure furnished with your instruction memorandum of September 16, 1953, and the request for amendment of the application with your memorandum of October 8, 1953, are also returned herewith.

W. M. Traver

W. M. Traver

enclosures

WMT/kp

cc 10
DMRA 3175
DMRA Chron

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

October 21, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: Amendment to DMEA Docket 3175 (uranium), Dante Exploration Company, Sunday group, San Miguel County, Colorado

Enclosed are 11 copies of a memorandum by C. F. Withington of the U. S. Geological Survey covering an amendment to the above docket.

It has been recommended that this amendment also be denied.

A. H. Koschmann

A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (11)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 360
Grand Junction, Colo.

October 20, 1953

Memorandum

To: DMEA Field Team, Region IV

From: C. F. Withington, Geologist

Subject: Amendment to Docket DMEA 3175 (Uranium), Dante Exploration Company, Sunday group, San Miguel County, Colorado

Docket DMEA 3175, which was submitted by the Dante Exploration Company for proposed work on the Sunday group of claims in San Miguel County, Colo., has been amended to include the number of approximate depths of the drill holes planned for drilling on the Sunday group. This information was omitted from the original application.

Inasmuch as this amendment does not alter the general plan of exploration as outlined in the application, and inasmuch as no new geologic information, which would change the conclusions of the report of the examining team, has been submitted with this amendment, it is recommended that this amendment also be denied.

CFW
C. F. Withington
Geologist

CFW/mlr

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
200 New Customhouse
Denver 2, Colorado

October 14, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3175, Dante Exploration Company, Sunday group of claims, San Miguel County, Colorado

Enclosed are 11 copies of the geologic report by C. F. Withington of the U. S. Geological Survey and M. H. Salsbury of the Bureau of Mines covering the above docket.

It has been recommended that the loan be denied.

A. H. Koschmann
A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (11)

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

October 7, 1953

Memorandum

To: A. H. Koschmann and W. H. King, DMEA Field Team, Region IV (through W. M. Traver, Jr.)

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

Subject: DMEA 3175, Dante Exploration Company, Sunday group of claims, San Miguel County, Colorado

Transmitted herewith are eleven copies of a report prepared jointly by C. F. Withington, USGS, and M. H. Salsbury, USBM, regarding the application of the Dante Exploration Company for DMEA assistance to explore for uranium deposits on the Sunday group of claims, San Miguel County, Colo.

Withington contributed his part of the report on the basis of general knowledge of the area and a U.S.G.S. file report by C. M. Mobley. Salsbury visited the area on September 25, 1953.

The writers conclude that the chances of finding significant uranium deposits are negligible and recommend the application be denied. E. V. Reinhardt, AEC, was consulted regarding this application and is in general concurrence with the conclusions and recommendation of this report, I also concur.

R P Fischer

R. P. Fischer
Acting District Supervisor

Enclosures

RPF/ars

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 3175, Sunday Claims

Dante Exploration Company

San Miguel County, Colo.

Uranium

M. H. Salsbury, Mining Engineer
Bureau of Mines

C. F. Withington, Geologist
Geological Survey

October 12, 1953

DMEA 3175

SUNDAY CLAIMS
DANTE EXPLORATION COMPANY
SAN MIGUEL COUNTY, COLO.

Summary, Conclusions, and Recommendations

By M. H. Salsbury
Mining Engineer
Bureau of Mines

and

C. F. Withington
Geologist
Geological Survey

DMEA 3175

SUNDAY CLAIMS
DANTE EXPLORATION COMPANY
SAN MIGUEL COUNTY, COLO.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By M. H. Salsbury and C. F. Withington

The Dante Exploration Company, F. W. Ferguson, President, Post Office Box 188, Cripple Creek, Colo., has applied, under DMEA 3175, for a Defense Minerals Exploration Administration loan of $11,500.00, to explore the Sunday group of claims in Big Gypsum Valley, San Miguel County, Colo., by an indeterminate amount of wagon drilling. Seven unpatented claims are owned by Ed Joseph, Horace Joseph, Julian Davis, and Leroy Davis, all of Norwood, Colo. The applicant holds a 5-year lease on the claims. Most of the claim area lies within ground withdrawn from entry by the Atomic Energy Commission, but the location dates are prior to the withdrawal. The property was examined by a Bureau of Mines engineer on September 25, 1953. It had been examined previously by a Geological Survey geologist. The staff geologist of the Atomic Energy Commission concurs in the examining team's recommendations.

The deposit of mineralized material on the Sunday group is in a sandstone conglomerate near the base of the Brushy Basin member of the Jurassic Morrison formation. The deposit consists of a tabular layer 6 inches thick and of unknown width and length. The underlying Salt Wash member of the Morrison formation from which most of the

production has come in the Gypsum Valley district, is deeply buried and is likely to be unfavorable for containing deposits of mineable grade and thickness.

The applicant did not present a definite exploration program with the original application. In an amendment dated October 2, 1953, approximately 13,000 feet of wagon drilling was apportioned between six drilling areas but definite hole locations were not designated. There is one minor exposure of mineralization on the property, in the Jurassic Brushy Basin formation which is not the potential ore horizon of the area. The Geological Survey, which is drilling in the general area, has rejected the Sunday claims as a drilling site.

It is concluded that, considering the unfavorable stratigraphy and structure, weak mineralization, and unsuitability of wagon drilling to the highly fractured formations, there is little possibility of a discovery of uranium ore in a significant amount. Denial of the loan application is recommended.

UNITED STATES DEPARTMENT OF THE INTERIOR

DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM

REGION IV

DMEA 3175, Dante Exploration Company, Sunday group of claims

Gypsum Valley District, San Miguel County, Colorado

Uranium

C. F. Withington
Geological Survey

M. H. Salsbury
Bureau of Mines

October 7, 1953

DMEA 3175

DANTE EXPLORATION COMPANY, SUNDAY GROUP OF CLAIMS, GYPSUM VALLEY DISTRICT, SAN MIGUEL COUNTY, COLORADO

By C. F. Withington and M. H. Salsbury

INTRODUCTION AND SUMMARY

The Dante Exploration Company, Franklin Ferguson, President, P. O. Box 188, Cripple Creek, Colo., has applied for a DMEA loan of $11,500.00 for approximately 13,330 feet of wagon drilling to explore for uranium ore on the Sunday group of claims, Gypsum Valley district, San Miguel County, Colo. (fig. 1). Seven claims are owned by Ed Joseph, Horace Joseph, Julian Davis, and Leroy Davis, all of Norwood, Colo., in whose names they were located. The claims apparently are not in conflict with any land withdrawal. The applicant leased the Sunday group of claims from the owners until July 16, 1958.

The property was examined by M. H. Salsbury of the U. S. Bureau of Mines on September 25, 1953, and C. M. Mobley, geologist, U. S. Geological Survey examined the claims during August 1952.

Because the chances of finding ore are poor, it is recommended that the application be denied.

GEOLOGY

The rocks exposed on the Sunday claims consist of the Brushy Basin member of the Jurassic Morrison formation, and the Cretaceous Burro Canyon, Dakota, and Mancos formations (fig. 2). The Brushy Basin member consists predominantly of red and green mudstone, with thin lenses of sandstone and sandstone conglomerate, 5 to 10 feet thick, near the base. The Burro Canyon and Dakota formations are each about 150 feet thick and consist of sandstone

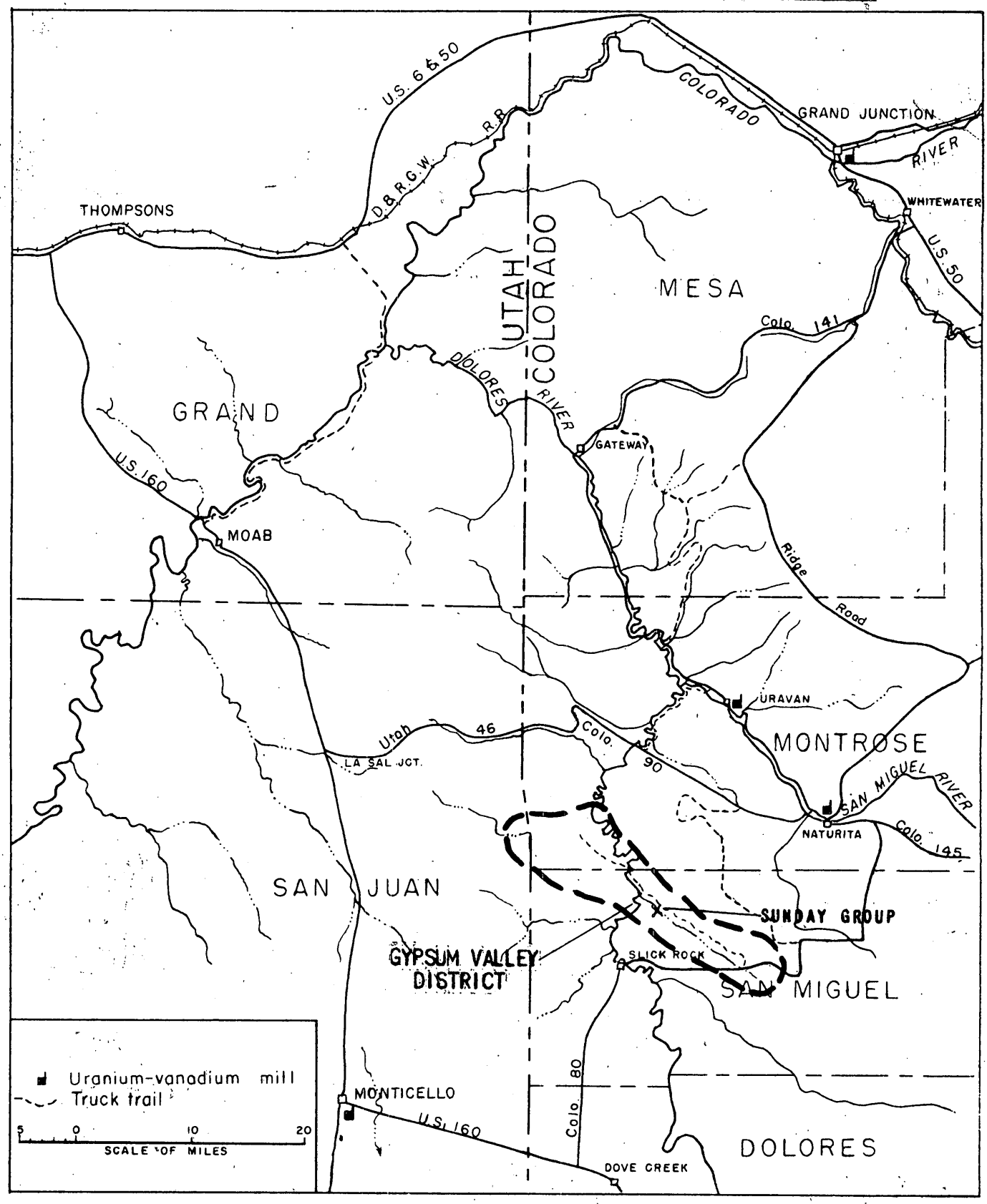


Figure 1. INDEX MAP OF PART OF THE COLORADO PLATEAU SHOWING THE LOCATION OF THE SUNDAY GROUP OF CLAIMS, GYPSUM VALLEY DISTRICT, SAN MIGUEL COUNTY, COLORADO

beds up to 50 feet thick, separated by thin beds of shale. The Mancos formation consists of black and gray shale of undetermined thickness. The beds in the area strike generally NW. In the southern part of the Sunday group, the beds dip 25° SW and in the northern part of the Sunday group, they dip 25° to 55° NE. The rocks are cut by several W-to NW-trending faults.

In the Sunday group, mineralized material is associated with a lens of sandstone conglomerate 5 feet thick and of unknown length and width. No ore has been shipped from the Sunday group, and there are no reserves on the claims. A chemical analysis of mineralized material from the deposit on the Sunday group, submitted with the application shows a grade of 0.17 percent U_3O_8 and 0.08 percent V_2O_5.

The mineralized material which is exposed on the Sunday group probably represents only a small body containing no more than a few tons. Additional small pods of mineralized material averaging a few tons each are probably present.

In the Gypsum Valley district, the uranium deposits in the Brushy Basin member of the Morrison formation average less than 50 tons each. The majority of the production from the district has come from the Salt Wash member of the Morrison formation, which directly underlies the Brushy Basin member. Although the applicants state that the Salt Wash member is exposed on the Sunday group, the nearest exposure is in reality about 5,000 feet to the NW. According to the criteria developed by the U. S. Geological Survey_/, the sandstones in this

---

_/ Weir, D. B., 1952, Geologic guides to prospecting for carnotite deposits on Colorado Plateau: U. S. Geol. Survey Bull. 988-B

---

exposure of the Salt Wash member are unfavorable for the occurrence of ore.

PROPOSED EXPLORATION

The applicant have requested $11,500.00 for exploration by wagon-drill on the Sunday group. Of this amount, $10,000.00 would be used for wagon drilling about 13,330 feet at an estimated cost of $0.75 per foot. Of the remaining $1,500.00, $700.00 would be used for supervision, and $800.00 would be used to hire an engineer and a consulting geologist. Neither an estimate of the average depth of the holes planned nor an indication of the proposed spacing of the drill holes is included in the application.

CONCLUSIONS AND RECOMMENDATIONS

The deposit of mineralized material on the Sunday group is in a sandstone conglomerate near the base of the Brushy Basin member of the Jurassic Morrison formation. The deposit consists of a tabular layer 6 inches thick and of unknown width and length. No reserves are present in this deposit. The applicant has not submitted a definite exploration program, but apparently the plan of drilling is to test for further deposits within the Brushy Basin member. However, the chances of finding ore in the Brushy Basin member in quantities commensurate with the cost of exploration are poor. No alternative proposal to test the Salt Wash member was made by the field team, for, although the majority of the production from the Gypsum Valley district has come from the Salt Wash member, on the Sunday group this member is too deeply buried and too badly fractured to be tested successfully by wagon-drill. In addition, it is likely that the Salt Wash member is unfavorable for containing deposits of

minable grade and thickness.

It is recommended, therefore, that no exploration be done on the Sunday group, and that the application be denied.

DMEA 3175

SUNDAY CLAIMS
DANTE EXPLORATION COMPANY
SAN MIGUEL COUNTY, COLO.

Engineering Report

By M. H. Salsbury
Mining Engineer
Bureau of Mines

DMEA 3175

SUNDAY CLAIMS
DANTE EXPLORATION COMPANY
SAN MIGUEL COUNTY, COLO.

CONTENTS

Engineering Report — Page

Introduction..... 1
Acknowledgements..... 1
Location, topography, and physical features..... 2
Labor and living conditions..... 3
History and production..... 4
Ownership and extent..... 4
Description of the deposits..... 5
Mineable ore reserves..... 5
Present status..... 6
Exploration and development..... 6
Mining equipment and other facilities..... 6
Project proposals with costs..... 6
Production plan..... 8
Proposed financing..... 8
Conclusions..... 8
Recommendations..... 9

ILLUSTRATIONS

Figure — Follows Page

1. Location map, Dante Exploration Company, Sunday claims, San Miguel County, Colo..... 2

DMEA 3175

SUNDAY CLAIMS
DANTE EXPLORATION COMPANY
SAN MIGUEL COUNTY, COLO.

ENGINEERING REPORT

By

M. H. Salsbury

INTRODUCTION

An application under DMEA 3175 for Government assistance to explore uranium claims was made by the Dante Exploration Company, F. W. Ferguson, President, Box 188, Cripple Creek, Colo. The property, seven claims known as the Sunday group, was examined on September 25, 1953, by a Bureau of Mines engineer accompanied by Howard B. Dutro of the Geological Survey, who acted as guide. It had previously been examined by the Geological Survey member of the examining team.

A loan of $11,500.00 was requested for exploration by an estimated 13,000 feet of wagon drilling. Because of unfavorable geology and unsuitability of wagon drilling to the faulted, broken formations, denial of the loan application is recommended.

ACKNOWLEDGEMENTS

Data were obtained from a memorandum report and map of the property made by C. M. Mobley, geologist, Geological Survey, and by conferences with Howard B. Dutro and R. P. Fischer of the Geological Survey. It was brought out that C. F. Withington's conclusions on the proposal

are substantially those expressed by Mobley and Dutro. Withington was elsewhere in the field at the time of the Bureau engineer's examination and was not contacted personally. Elmer V. Reinhardt, staff geologist, Atomic Energy Commission, was consulted by R. P. Fischer of the Geological Survey and concurred in the conclusions.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Sunday claims are located on the southwest side of Big Gypsum Valley, San Miguel County, Colo. (fig. 1). They are in secs. 13 and 24, T. 44 N., R. 18 W., New Mexico principal meridian. The area is shown on the Geological Survey's Hamm Canyon Quadrangle topographical map.

The claims are in an area of small steep-sided hills formed from fault blocks lying below the southwest rim of the valley and on the slope above the valley floor. The terrain becomes increasingly rough approaching the rim. The claims extend over the rim and into the drainage area of the next valley to the southwest.

The climate of the region, at elevations from 5,800 feet on the valley floor to 6,200 feet at the rim, is typical of southwestern Colorado with hot, dry summers and mild to moderately cold winters. There are occasional violent summer and winter storms with heavy precipitation for short periods but average yearly precipitation is low. Surface operations are feasible throughout the year except for occasional periods after storms or during the spring thaw.

The property is 5 miles southeast of the Geological Survey camp in Big Gypsum Valley, and 36 miles over graded dirt road, graveled State

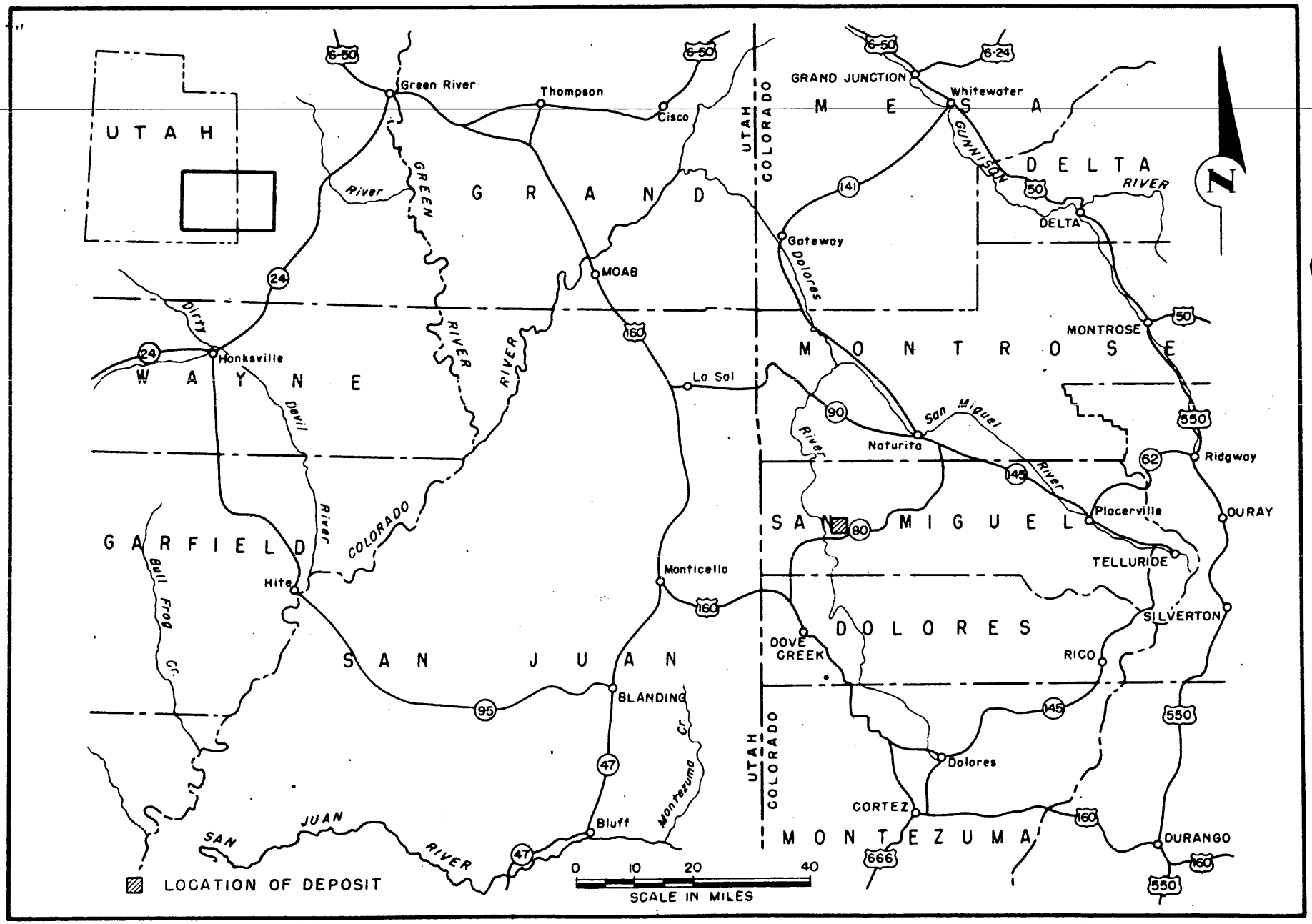


FIGURE 1. - LOCATION MAP, SUNDAY CLAIMS, DANTE EXPLORATION COMPANY, SAN MIGUEL COUNTY, COLO.
(DMEA 3175)

Highway 80, and surfaced State Highway 145 from Naturita, Colo., the nearest permanent settlement. Ridgeway, Colo., the nearest railhead, is 86 miles distant and Grand Junction, Colo., the nearest major source of supplies, 174 miles, all but the first 32 miles over paved highways.

Big Gypsum creek is dry during most of the year, but water for domestic purposes can usually be obtained from springs. In dry seasons, mining requirements are met by hauling from the nearest stream crossing. In the case of the Sunday claims, the water haul is 15 miles. Storm run-off is sometimes stored in small retaining ponds.

An abundant supply of firewood can be obtained from pinon pine and juniper growth. Mining timber is obtainable from lumbering operations in stands of ponderosa pine on the higher mesas near Norwood, Colo., and elsewhere. Power requirements must be met by the individual operator.

Uranium-vanadium ores of the area can be sold to the United States Vanadium Corporation which operates a milling plant at Uravan, Colo., 50 miles from the property.

Labor and Living Conditions

Labor in the area is scarce and experienced, reliable miners are always in demand. The standard wage rate quoted for the region is $1.35 per hour, but the rate paid is actually $1.50 per hour or more.

Labor for the applicant's proposed work, planned on a contract basis, could probably be obtained fairly easily.

Living facilities would have to be furnished by the applicant or the contractor.

HISTORY AND PRODUCTION

Very little exploration was carried on in Big Gypsum Valley before 1940. Since then, some production has resulted from limited operations, practically all from mine workings in the Salt Wash formation. Production from the Brushy Basin formation has been negligible.

OWNERSHIP AND EXTENT

The Sunday claims were located by the present owners in May and July 1952, on the strength of a mineralized outcrop on the Sunday No. 2 claim.

In 1953, a large block of ground, including part of the Sunday claims, was withdrawn from entry by the Atomic Energy Commission at the request of the Geological Survey which is engaged in drilling exploration in the general area. No exploration under this program has been undertaken in the vicinity of the Sunday claims.

There has been no production from the property, or from any ground nearby.

The property consists of seven unpatented mining claims. The location certificates are recorded in the San Miguel County courthouse, Telluride, Colo. The owners are Edwin Joseph, Horace Joseph, Leroy Davis, and Julian Davis, all of Norwood, Colo. The applicant holds a 5-year lease on the property, expiring July 16, 1958. The claim locations antedate the withdrawal of the area by the Atomic Energy Commission on June 15, 1953, as verified at the Grand Junction offices. The applicant did not furnish an Atomic Energy Commission "validating lease" for the claims. Because a denial of the application was indicated, no further check of the property rights on the claims was made.

DESCRIPTION OF THE DEPOSITS

There is a mineralization showing at only one point on the property. An exposure in the Brushy Basin formation, on an outcrop of a tilted fault block forming a small hill on the Sunday No. 2 claim, shows bleaching of a conglomerate bed and green coloration of an underlying mudstone which are often indicative of uranium-vanadium mineralization in the Uravan area. In a test pit 5 feet long and 3 feet deep sunk through the wash, there is a lens 6 inches thick with a slight indication of some vanadium content. There is no visible sign of uranium. The bed strikes N. 70° E. and dips 20-25° northwest. This altitude is out of harmony with the general bedding strike and dip. The mineralized bed is probably cut off a few feet down the dip by a fault exposed on top of the hill just northwest of the outcrop. To the southeast the beds have been removed by erosion. There is a possible continuation of the formation on the other side of the wash, some 30 or 40 feet from the outcrop, but it is not visible.

The applicant states that the Salt Wash formation, the favorable ore horizon, is exposed on the property but reconnaisance by the Geological Survey does not confirm this. The formation is undoubtedly present, but any possible outcrop is masked by surface wash and landslide debris.

MINEABLE ORE RESERVES

There are no measurable ore reserves nor is there mineable ore exposed on the property.

PRESENT STATUS

Exploration and Development

The only work done on the claims are several trenches, the test pit on the Sunday No. 2 claim, and a short access road.

There are no other workings in the vicinity and Dutro of the Geological Survey reports that there has been no discovery of ore in profitable quantities within a reasonable distance of the property.

The Geological Survey, even though they are operating in the area, is not planning any drilling on the Sunday claims, because an examination indicated adverse stratigraphic and structural conditions.

One of the owners of the Sunday claims submitted a specimen to the Atomic Energy Commission which ran 0.17 percent U_3O_8 and 0.08 percent V_2O_5. This was reported to be from the outcrop on the Sunday No. 2 claim but there is no visible uranium in the test pit, and no uranium mineralization was found by Geological Survey personnel, using a scintillometer.

Mining Equipment and Other Facilities

There are no housing facilities, mine structures, or other equipment on the property. The applicant lists various items of equipment, including drills, compressor, ventilation equipment, trailer house and truck, as being available. The closest ore purchasing depot is located at Uravan, Colo., 50 miles from the property.

PROJECT PROPOSALS WITH COSTS

The applicant proposed an exploration project at an estimated cost of $11,500.00, including access roads. The proposal in the original

application was indefinite but an amendment dated October 2, 1953, designates six drilling areas with a total of 13,000 feet of wagon drilling as follows:

1. Area No. 1, 24 holes 75 to 90 feet deep on 100-foot centers (this is the location of the mineralized outcrop on the Sunday No. 2 claim).

2. Area No. 2, 40 holes 60 to 70 feet deep, or through the subclay, on 100-foot centers (on Sunday No. 2 claim).

3. Areas No. 3 and 4, 35 holes 50 to 100 feet deep on 100-foot centers (on Sunday Nos. 1 and 4 claims)

4. Area No. 5, 20 to 25 holes 50 to 75 feet on 100-foot centers (on Sunday No. 2 claim).

5. Area No. 6, 20 to 25 holes 50 to 60 feet deep on 100-foot centers (on Sunday No. 3 claim).

No definite hole locations were given in the amended exploration proposal and no basis was shown for the estimated depth of holes. The applicant had a quotation from a drilling contractor of $0.75 per foot. At this price, the cost of 13,000 feet of wagon drilling would be $9,750.00, leaving $1,750.00 for drill site preparation, access roads, sampling and analysis, and supervision.

A similar project, DMEA 2483, contract Idm-E533, was approved at a contract price of $1.35 per foot. It is believed that work on the Sunday claims would cost a similar amount, an estimated total of $17,550.00, compared to the applicant's estimate of $11,500.00.

It would be very difficult to lay out a good drilling program on the Sunday claims under the existing conditions without close preliminary study which, in itself, might require diamond drilling for information.

PRODUCTION PLAN

The applicant estimates that the work could be completed in 2 months.

PROPOSED FINANCING

The Dante Exploration Company is a Colorado corporation operating in the Cripple Creek Mining District, Colo. Their resources are probably limited. It is stated in the application that they are prepared to finance their share of the cost of the proposed work, which would probably be less than their management contributions.

CONCLUSIONS

The possibility of a significant uranium discovery on the Sunday claims is unlikely.from every standpoint. The ground is unfavorable stratigraphically and structurally. The one known ore exposure shows very slight mineralization, and even this is probably interrupted in a short distance by a known fault.

The applicant makes a point of the fact that the Atomic Energy Commission withdrew the area from entry, but this is meaningless, because much of the ground in such an area may be worthless.

The Salt Wash formation, the favorable ore horizon, is probably present at moderate to shallow depth but probably cut up by the known faults. It is certainly present to the southwest below the Dakota cap rock. However, there are no ore exposures on it in the vicinity and the area does not lie within a known ore trend.

The experience of the Bureau of Mines at the Truck group, 4 miles southeast of the Sunday claims, where a wagon drilling project on a similar faulted and broken structure was carried on, shows that wagon

or diamond drilling, under the adverse ground conditions encountered, is inadvisable (see final report DMEA 2483, contract Idm-E533). Of 65 holes started, 24 holes were lost because of the badly fractured ground penetrated, and the project was terminated by agreement before completion.

Even if there was good,strong uranium mineralization at surface, the success of a drilling program would be doubtful.

RECOMMENDATIONS

Denial of the loan application is recommended.

/kp

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

OCT 16 1953

Mr. W. H. King
Executive Officer
Region IV
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-3173 (Tungsten
Johnson Brothers and Prime
Boulder County, Colorado
Docket No. DMEA-3174 (Beryl-Columbite-Tantalite-Mica)
Hepburn T. Armstrong
Fremont County, Wyoming
Docket No. DMEA-3175 (Uranium)
Dante Exploration Company
San Miguel County, Colorado

Dear Mr. King:

This will acknowledge your memorandum dated October 7, 1953, in which you request that we make a further check of our records concerning the return of the above-mentioned applications.

A further check of our records indicates that the three applications mentioned in the above subject, identifying the docket numbers assigned, were returned to Region IV on September 21, 1953.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

APPROVED:

J. H. Hedges

Member, Bureau of Mines

T. P. Thayer

Member, Geological Survey

R.C.G.

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

224 New Customhouse
Denver 2, Colorado

September 18, 1953.

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: Code 200

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docketing for Exploration Assistance

Enclosed herewith in duplicate is DMA Form 3a and MF-103 and supporting data pertaining to the following applications for Government assistance in exploration work:

Mining Ventures, Inc. (Charlene No. 1) 303 Bon Durant Bldg. Pueblo, Colorado	Tungsten
Mining Ventures, Inc. (Venture No. 1) 303 Bon Durant Bldg. Pueblo, Colorado	Tungsten
Dante Exploration Co. P. O. Box 188 Cripple Creek, Colorado	Uranium
Johnson Brothers & Prime Nederland Colorado	Tungsten
Hepburn T. Armstrong 3636 - 16th Street, N.W. Washington, D. C.	Beryl-Columbite-Tantalite and Mica

W. H. King
W. H. King

Enclosures

APPLICATION OF

DANTE EXPLORATION COMPANY
A Colorado Corporation

FOR

AID IN AN EXPLORATORY PROJECT, PURSUANT TO

DMEA ORDER NO. 1 UNDER THE DEFENSE

PRODUCTION ACT OF 1950

AS AMENDED

DANTE EXPLORATION COMPANY

Post Office Box 188

Cripple Creek, Colorado

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

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. DMEA-3175
Metal or Mineral
Date Received 9-21-53
Estimated Cost
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: Applicant is a Colorado corporation
DANTE EXPLORATION COMPANY - Franklin Ferguson, President
Post Office Box 188 William Kumetat, Vice-president
Cripple Creek, Colorado Jack Alfred Welsh, Secy.-Treas.
all of Cripple Creek, Colo.

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

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

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

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

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

(*b*) State any mine name by which the property is known. Answer on separate sheet attached.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise
Answer on separate sheet attached

(*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. Answer on separate sheet attached

(*e*) If you own the land, describe any liens or encumbrances on it
Answer on separate sheet attached

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

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. Answer on separate sheet attached

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.
Answer on separate sheet attached

(*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. Answer on separate sheet attached

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

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

16—66551-1

Answer on separate sheet attached.

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

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

(*c*) The work will start within 5 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. Answer on separate sheet attached

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: Answer on separate sheet attached

(*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.). Answer on separate sheet attached

(*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. Answer on separate sheet attached

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

(*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. Answer on separate sheet attached

(*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. Answer on separate sheet attached

(*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. Answer on separate sheet attached

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

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?

[X] 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 September 15, 1953.

DANTE EXPLORATION COMPANY
(Applicant)

By F. W. Ferguson
President

Post Office Box 188
Cripple Creek, Colorado

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

Re: Dante Exploration Company
Post Office Box 188
Cripple Creek, Colorado

3. Applicant's property rights.--(a) and (f).

[redacted]

The land upon which the applicant wishes to explore consists of seven unpatented lode mining claims, being:

Sunday No. 1 - located May 14, 1952, the location certificate being recorded in Book 175 at Page 143
Sunday No. 2 - located May 20, 1952, the location certificate being recorded in Book 216 at Page 164
Sunday No. 3 - located May 20, 1952 - the location certificate being recorded in Book 216 at Page 164
Sunday No. 4 - located May 20, 1952, the location certificate being recorded in Book 216 at Page 165
Sunday No. 5 - located May 20, 1952, the location certificate being recorded in Book 216 at Page 166
Sunday No. 6 - located July 14, 1952, the location certificate being recorded in Book 175 at Page 158
Sunday No. 7 - located July 14, 1952, the location certificate being recorded in Book 175 at Page 159

all in the Recorder's office of San Miguel County, State of Colorado. Each claim is 600 feet in width and 1,500 feet in length, forming a compact group known as the Sunday Group. The claims are located in Sections 13 and 24, Township 44 North, Range 18 West of the New Mexico-Colorado Principal Meridian. The foremost southerly claim of this group is nearly all in Section 24. For further identification, description, and approximate location, the following map is attached.

(M A P F O L L O W S)

Dante Exploration Company
Post Office Box 188
Cripple Creek, Colorado

(b) The property is known as the Sunday Group of mining claims.

(c) The applicant is lessee of the property.

(d) See copy of lease attached.

(e) There are no liens or encumbrances, and assessment work for the years 1952 and 1953 has been completed and recorded.

4. Physical Description.--(a) No mining operations have been done on these properties and no mining operation is being done. The north end of the Sunday Group of mining claims adjoins a gravelled highway and the claims are about 35 miles distant from the Vanadium Corporation of America mill located at Naturita, Colorado, and are about 51 miles from the U. S. Vanadium mill located at Uravan, Colorado. Presently there is an access road under construction for exploration purposes which leaves the main highway in the valley floor and climbs gradually to the Big Gyp Rim. These properties are readily accessible for examination purposes, the access road going right to them.

(b) There has been no production and there is no known ore reserve in that there have been no mining operations on the property.

(c) The applicant considers that the geological features of the properties under lease are best told in the report of an examination of these claims made by Lewis D. Anderson, herewith attached, together with a statement by F. W. Ferguson, president of the Dante Exploration Company also attached, and a plat showing where applicant proposes to start drilling.

(d) Information concerning the accessibility and access roads has been stated under Subparagraph (a) of this Item 4. Distances to shipping, supply, and residents points are 35 miles to the Town of Naturita, Colorado, previously mentioned, and 1½ hours driving time to the Town of Norwood, Colorado.

(e) All water needed can be hauled a distance of about 15 miles, from either cedar or the Dry Creek Store. Only two men will be required for drilling operations during the exploratory work, who will drive back and forth to Naturita or Norwood, Colorado. If ore is discovered and mining development entered into, the company owns and has available:

5 pneumatic drills	2 Lamb air blowers
3 stopers	2 Tram air motors
2 Jack legs with machines	1 #210 Compresser
2 Ingersoll slushers	1 trailer house
2 steel ramps	1 1953 pick-up truck

1,200 feet of 2" galvanized pipe air line

Dante Exploration Company
Post Office Box 188
Cripple Creek, Colorado

All manpower necessary in the event of mining development operations will be obtained from Cripple Creek, Colorado, all of whom are experienced miners.

The power for exploration work will be gas or oil. The power for mining development will be diesel and the compressors are diesel.

5. (a) Uranium.

(b) The proposed exploratory work will be done by wagon drilling as set forth on the accompanying sketch under Item 4 (c). This drilling is being contracted for at 75 cents per foot, the contractor furnishing all equipment, labor, etc.

(c) If the loan be granted, the work will be started in 5 days after notification and completed within 2 months.

(d) F. W. Ferguson, president of the applicant corporation, will be in full charge of the exploratory operations but will have during the life of the exploratory operations the assistance of a competent engineer and geologist. He has been engaged in mining and leasing operations in Cripple Creek, Colorado, for 25 years and presently is in full charge of the Dante Exploration Company's operations at Cripple Creek.

6. (a) It is proposed to enter into a contract for drilling operations at 75 cents per foot, or a total of $10,000.00

(b) Supervision - $700.00
Engineer and Consulting Geologist - $800.00

(c) None. Total - $11,500.00

(d) None.

(e) None.

(f) None.

(g) None.

(h) None.

7. (a) Yes.

(b) Money.

COPY

OF

REPORT ON EXAMINATION OF THE SUNDAY CLAIMS IN BIG GYPSUM VALLEY, SAN MIGUEL COUNTY, COLORADO

by

Leonard D. Anderson, E. M.

Professional Engineer

RE: Item 4(c)

COPY

REPORT ON EXAMINATION OF THE SUNDAY CLAIMS IN BIG GYPSUM VALLEY, SAN MIGUEL COUNTY, COLORADO

INDEX

	Page
Map #1	
Map #2	
Introduction	1
Description	1
Location and Physiography	2
Geology	3
Exploration Suggestions	4
Mining	4
Miscellaneous	5
Conclusion	5

UNITED STATES
ATOMIC ENERGY COMMISSION
GRAND JUNCTION, COLORADO

ADDRESS REPLY TO:

MANAGER,
COLORADO RAW MATERIALS OPERATIONS
U. S. ATOMIC ENERGY COMMISSION
P. O. BOX 270
GRAND JUNCTION, COLORADO

July 15, 1952

AND REFER TO MI:JNW

Mr. Ed Joseph
Norwood
Colorado

Dear Mr. Joseph:

We have received the following report from our laboratory on the sample which you recently brought in from Gypsum Valley:

Sample No.	U_3O_8	V_2O_5	$CaCO_3$
CR-934	0.17%	0.08%	3.1%

We hope that this information will prove helpful to you.

Very truly yours,

Charles A. Rasor

Charles A. Rasor
Geologist

REPORT ON EXAMINATION OF THE SUNDAY CLAIMS IN
BIG GYPSUM VALLEY, SAN MIGUEL COUNTY, COLORADO

INTRODUCTION

The Sunday Claims are a group of seven uranium claims located on the west rim of the Big Gyp Valley, San Miguel County, Colorado.

The claims have been surveyed and are located as to Sections, Townships, and Ranges. They are, in part, located on A.E.C. withdrawn land, but were located prior to the withdrawal.

They have produced no uranium ore but ore samples have been cut from outcrops. Future exploration of ore possibilities by a wagon drilling program is desirable.

DESCRIPTION

The seven claims described in this report are:

Sunday No. 1
" No. 2
" No. 3
" No. 4
" No. 5
" No. 6
" No. 7

They are located in Sections 13 and 24, Township 44 North; Range 18 West of the New Mexico Principal Meridian. See Map #1. The claims have been surveyed and amended locations are recorded in the office of the San Miguel County Clerk, Telluride, Colorado.

These claims are owned by Messrs. Edwin Joseph, Horace Joseph, Leroy Davis and Julian Davis of Norwood, Colorado.

The Atomic Energy Commission withdraws certain areas of land

from entry for location while they examine the area by drilling or leasing for mining. They have withdrawn Section 13, but have not taken in Section 24 yet. This means that no new claims may be staked in Section 13 but may be in No. 24. These claims were located prior to the withdrawal order.

The withdrawal of an area always indicates the A.E.C. believes it has uranium potentialities and that they wish to control the unclaimed ground while they are examining it.

This staked ground is on the west wall of Big Gypsum Valley about four miles southeast of the Dolores River, and about seven miles north of Colorado State Highway 90.

The claims, each 600 feet in width by 1500 feet in length, form a compact group that extends from the bottom of Big Gypsum Valley up the west wall and over onto the drainage area of Disappointment Valley.

The claims were staked to cover the entire series of formations that normally would be exposed on this west wall. However, the formations are covered here with broken displaced talus that tends to mark most of the probable ore bearing strata.

No ore has been shipped from this property. An assay taken from the discovery cut on Sunday No. 2 ran 0.17% uranium, 0.08% vanadium and 3.1% lime according to the A.E.C. reports.

LOCATION AND PHYSIOGRAPHY

These claims are situated on the west side of Big Gypsum Valley and extend over the ridge into the Disappointment Valley side.

The area is approximately 60 road miles from the U. S. Vanadium Company uranium mill at Uravan. This entire distance is on improved gravel or hard-surfaced roads. A landing field could be made with a

minimum amount of work.

The district known as Big Gyp is in the southern part of the Uravan Mineral Belt. See Map #2. This belt is a narrow elongated tract of richer uranium deposits than its surroundings. It has rather indefinite boundaries and forms a reverse capital "C" as shown on the map. It stretches from east central Utah into Colorado along the Dolores River and back into the southeast corner of Utah. The Mineral Belt, on the average, has deposits of better grade, greater tonnages and closer groupings than those in the adjoining areas of the Colorado Plateau.

The topography of Gyp Valley is typical of this section of the Colorado Plateau. The formations on this side plunge beneath the surface rather rapidly to the westward. The general surface is rough and has a scant covering of dwarf cedar trees. An annual precipitation of less than 10 inches makes the climate semi-arid. Severe winters and heavy snows are exceptional.

GEOLOGY

The geological formations in the region of Big Gyp have been subjected to severe folding. Thus, a series of domes or anticlines and dips or synclines were formed. The Big Gyp area was an anticline while Dry Creek Basin on the east and Disappointment Valley on the west are synclines. Certain formations under the Big Gyp anticline were leached away and allowed the surface to cave.

On the north and east of Big Gyp Valley the walls are several hundred feet high and many formations of the Paleozoic and Mesozoic areas are exposed.

On the west side, the walls are lower with fewer formations exposed. The capping of Dakota sandstone is exposed along the rim of the Sunday No. 1. Beneath this on the slope is a slight exposure of the Salt Wash section of the Morrison formation.

Much of the west wall is covered with talus or displaced formations. These have retarded the locating of many uranium deposits by the use of Geiger Counters or Scintillometers.

EXPLORATION SUGGESTIONS

It is suggested that the preliminary exploration be done with wagon drills. These are pneumatic drills mounted on trucks that drill dry holes. The rock dust that is blown from these holes is collected and analyzed for uranium and vanadium.

The majority of the surface covered by Sunday No. 6 and No. 7 claims can be drilled without the expense of road building.

A drilling program could be started on these claims while a road is being built onto Sunday No. 1. From No. 1, the entire ore bearing formations can be drilled. Future exploration could be done on the other claims as desired.

No orientation pattern of drill holes can be formulated due to the uneven terrain of most of the claims. An estimation of drill footage cannot be given due to the variables of hole depth, hole spacing, road building, presence of ore and the surface terrain.

Many deposits of commercial grade ore have been found on the same side of Big Gyp Valley. Due to the foreign covering, most local indications of ore have been covered.

MINING

There has been no production from these claims. Mining would

depend on the location of the ore horizon. The best probability would be an inclined shaft pitching with the dip of the beds. By carrying this below the ore, overhead stoping could be done and the ore loaded directly into the skips for hoisting.

The most generally used mining method is open stope supported with pillars and wooden stulls. The larger mines are fully mechanized with use of diesel, compressed air or electrical equipment.

MISCELLANEOUS

Most of the exploration drilling on the Colorado is contracted to local drillers who are paid one price per foot to a certain depth and an increased price for depths below this.

Driving time from Norwood to the claims is approximately one and one-half hours. Therefore, some sort of living quarters would have to be provided at the mine. Mine water could be hauled from the Dolores River, but drinking water would have to be hauled from Cedar or the Dry Creek Store, a distance of 15 miles.

CONCLUSION

The Sunday group of uranium claims is located in a good potential producing area. While no ore has been podused on these claims, other claims located on the west rim of Big Gyp Valley have good production records.

The area has been withdrawn by the Atomic Energy Commission from entry for location. This is a favorable indication, although not positive proof of commercial deposits of uranium ore.

The author believes that a systematic drilling program will

discover ore of a mining grade within the boundaries of hese claims.

/s/ Lewis D. Anderson

Lewis D. Anderson

Professional Engineer
Colorado License 1844

township line, which in my opinion they shall do.

Geological Remarks:

Part of the area of the Sunday Claims lays on a fairly level plane with a steep north side showing the Dakota and Brushy Basin Rim exposes. The ore making clay beds of blue and green color are also exposed to view in several places. Prehistoric bones and small bone fragments appear on surface - also considerable amounts of agatized fragments. The bones all show a count by Geiger Counter. The radio-activity found in these bones was what led to the prospecting and locating of these Claims, also the finding of an ore body on Sunday No. 2 which has never been developed farther than the necessary location and assessment work required. The ore making Walt Wash rim of sandstone is exposed at various places. The stratified formations on northerly end of the Claims is tilted at angles varying from 10^0 to 60^0.

The Sunday Claims are 35 miles from the V. C. A. mill at Naturita, Colorado, and 51 miles from the U. S. V. mill at Uravan, Colorado.

The rain as well as snowfall is very light in this locality and these claims may easily be worked continuously through the year.

[illegible]

Having mined and leased for 25 years of my life I feel capable of giving this practical report of this property as a very good possibility of having everything that it takes to be a good producing mine.

(signed) F. W. Ferguson

in this area. Map reference will show it to be located in either Hanna Canyon or Bull Canon Quadrangle.

On the west the nearest operating mine is located 1/4 mile from the highway and 2 miles west of the Sunday Claims. This is the Wilson lease - a new one and they have opened a good grade of ore.

There us a U. S. Geological Survey Camp on the bank of the Dolores River 5 miles west of Sunday Claims which has been established within the past 15 or 18 months for exploration purposes of the Big and Little Gyp Valley areas.

On the east of the Sunday Claims is the Chief Mine. It is an older mine 2 miles away and has had quite a good production. The outside pillars of this mine show a good grade of ore.

In the nearby Little Gyp Valley is located the American Eagle Mine, which is a large producer.

Section 13, on which six of the Sunday Claims are located has been withdrawn for Government exploration; but had not been withdrawn at the time of filing and recording of these claims. Most of the Township joining Sunday Claims on the east has been withdrawn for sometime for Government exploration. There is a road under construction at this time for exploration purposes which leaves the valley floor and gradually climbs to the Big Gyp West Rim. It has been started within the past three weeks and is about one mile long, running directly above most of the Sunday Claims if completed to

C
O
P
Y

Dante Exploration Company
Post Office Box 188
Cripple Creek, Colorado

Report of various general conditions concerning Sunday uranium claims located on the west side of Big Gyp Valley.

Five of these claims were recorded in Telluride, Colorado, County of San Miguel - May 14, 1952. The remaining two were recorded July 14, 1952. They are located in Sec. 13 and 24, Township 44 N., Range 18 W. of the New Mexico-Colorado, Principal Meridian.

The farthermost South claim of this group is nearly all in Section 24, the remaining six are in Section 13. The South claim is located on the top of Gyp rim but on the south slope towards Disappointment Valley within about 3 - 4 airline miles of the north boundary of what is known as the Slick Rock Uranium mining area.

The others are on the north slope and in the bottom of Gyp Valley.

The north end of these claims are located adjoining the highway that leads thru Big Gyp Valley.

About half of the area of the claims are in hilly and rimrock terrains consisting mostly of stratified sandstone and clay formations.

Details concerning surrounding operations:

Directly north and almost in sight of the Sunday Claims lie the McKee Mines which are located on Hamm Bench not more than 3 airline miles from Sunday group and is one of the best producers

RE: Item 4(c)

Dante Exploration Company
Post Office Box 188
Cripple Creek, Colorado

LEASE AND AGREEMENT

This LEASE AND AGREEMENT, made and entered into this 16th day of July, 1953, by and between

Ed Joseph of Norwood, Colorado
Horace Joseph of Norwood, Colorado
Julian Davis of Norwood, Colorado
Leroy Davis OF U.S. Navy, Fleet Sonar School

as Lessor(s), hereinafter referred to as the "Claim Owners", and The Dante Exploration Company, Cripple Creek, Colo. as Lessee(s), hereinafter referred to as the "Lessee(s)" or "Company".

WITNESSETH THAT:

The Claim Owners hereby agree to lease to the above named Lessee(s), the Sunday 1 to 7 Inclusive Sec. 13 + 24 Twp 44N R18W Mining Claims, and

WHEREAS, The Claim Owners are desirous of leasing said claims to the Lessee(s), and the Lessee is desirous of leasing said claims from the Claim Owners upon certain terms and conditions hereinafter set forth.

NOW THEREFORE, in consideration of the royalties hereinafter reserved, and covenants and agreements hereinafter expressed, and by the Lessee(s) to kept and performed, the said Claim Owners hereby grant, demise, and lease to the Lessee(s) all right, title, and interest, now held or hereinafter to be acquired, in and to the above described mines, mining claims, and mining properties, together with all appurtenances, rights, and franchises thereunto belonging, or in any wise appertaining.

To have and to hold unto said Lessee(s) for the term of 5 year(s) from date hereof, expiring at noon on the 16th day of July, 1958, unless sooner forfeited or terminated through the violation of any covenant herein required to be performed by the Lessee(s), but with the right of renewal for a 1 yr. period under the same conditions if this lease is fully performed by the Lessee(s).

In consideration of such demise, the Lessee(s) covenants and agrees with the Claim Owners as follows, to wit:

1. To enter upon said mines, mining claims, and premises within 30 days after date hereof and investigate the same, including the performance of engineering and geological work necessary to properly appraise and evaluate the properties for the development of ore, and the formulation of a development and mining plan, and, within 30 days after entering upon said claims for the purposes aforesaid, to either release the Claim Owners from this Lease and Agreement or immediately institute exploration and development work and thereafter carry such work forward with due diligence in accordance with the terms of this Lease and Agreement.

2. To thereafter, during the life of this Lease and Agreement, perform all necessary yearly assessment work on all of said mining claims and file the necessary affidavits of such assessment work prior to June 1st of each and every year.

3. To provide at Lessee's own expense, all equipment, machinery, tools, supplies, employees, and labor, skilled and unskilled, as may be required for the work.

4. To provide at Lessee's own expense, all necessary trucking equipment, or service, labor, employees and other facilities, including all required carrier insurance, necessary to promptly transport all ore, produced as a result of said work, to purchasing depots.

5. To, at all times during the term of this Lease, keep at least three notices constantly and conspicuously posted, setting forth the fact that the premises are being leased and operated by the Lessee(s) and that the interest of the Lessor therein shall not be subjected to liens for services or labor rendered, or materials or supplies furnished or used on or in connection with the premises or mining operations of the Lessee(s) thereon or therein. The notice shall have the following form, to wit:

NOTICE TO ALL EMPLOYEES OF THE PROPERTY AND TO ALL OTHERS WHOM IT MAY CONCERN

NOTICE IS HEREBY GIVEN TO ALL PARTIES PERFORMING LABOR OR FURNISHING SKILL, MATERIALS, MACHINERY OR OTHER FIXTURES OR SUPPLIES, OF ANY KIND, IN, TO OR ON ANY MINE UPON THIS

Re: Item 3(d)

Dante Exploration Company
Post Office Box 188
Cripple Creek, Colorado

PROPERTY, OR IN, TO OR ON SAID PROPERTY OR ANY PART THEREOF, THAT THE UNDERSIGNED, THE OWNERS OF SAID PROPERTY, ARE NOT AND WILL NOT BE RESPONSIBLE FOR ANY LABOR PERFORMED OR SKILL, MATERIALS, MACHINERY, FIXTURES OR SUPPLIES OF ANY KIND FURNISHED IN, TO OR UPON SAID PROPERTY OR ANY PART THEREOF, NOR SHALL THE INTEREST OF SAID OWNERS BE SUBJECT TO ANY LIEN FOR SAME. ALL PERSONS ARE HEREBY NOTIFIED THAT THE PROPERTY AFORESAID IS BEING OPERATED BY Dante Exploration Co TO WHOM ALL PERSONS MUST LOOK FOR PAYMENT.

F W Ferguson
President

CLAIM OWNERS

6. To pay and discharge or otherwide dispose of any and all claims, suits, actions, and demands of any nature whatsoever, for injury to any person or persons, including death resulting therefrom, and loss of, or damage to, property caused by or in connection with the performance of the work under this agreement.

7. To take out, carry and maintain full industrial insurance with the Colorado State Industrial Commission for any and all persons employed in or upon said premises by the Lessee(s), and to conduct all operations so as to comply fully with the laws of Colorado relating to mining, safety regulations, and in every other respect.

8. To comply with the Federal and State laws in regard to Social Security, unemployment laws in regard to Social Security, Unemployment Compensation, and Withholding tax.

9. To install full and complete books of account covering all phases of exploration, development, and operations of the mines, mining claims, and mining property.

10. To furnish to the Claim Owners, on or before the 10th day of each month, a report of the number of tons of ore taken from said property during the previous month, settlement sheets in the form of a monthly report showing such tonnage and complete payment for such ore.

11. To pay 75 % of any production tax now in effect or which may become effective during the life of this lease.

12. To furnish to the Claim Owners, as compiled and prepared, copies of all maps, reports, drill logs, and other data resulting from examination, exploration, and investigation of such mines, mining claims, and mining property.

13. To work said property, steadily and continually, and to perform, or cause to be performed, in exploration, development or operations of said property 384 man hours of work per month, unless prevented by strikes, fire or Acts of God, over which the Lessee(s) have no control, but with the right nevertheless to centralize or concentrate such work on any claim or at one or more points, as determined by the Lessee(s).

14. To work said property mine fashion, in a manner necessary to good and economical mining so as to take out the greatest amount of ore possible with due regard to the development and preservation of the same as workable mining property.

15. To timber underground whenever and wherever good mining practice shall so indicate.

16. To expend in actual new development, by drilling, when, as and if production commences from any of said claims, not less than fifty cents (50¢) per pound of U_3O_8 produced from said claims in so long as such development allowance is available from the Atomic Energy Commission, but in any event to expend such amounts in the way of exploration and development by drilling.

17. To pay to the Claim Owners as non-assessable royalties, 25 % of the gross mill returns and 25 % of any bonus and premiums received from the sale of all ores which may be found in or upon the above mentioned mines, mining claims, and mining property all of said royalties to be reserved by the mills purchasing such ores under authorization of the Lessee(s) for direct remission to the Claim Owners as they may instruct.

18. To allow the Claim Owners and their agents, at any time, to enter in and upon said mines, mining claims, and mining property for the purpose of inspection, sampling, and general investigation.

Dante Exploration Company
Post Office Box 188
Cripple Creek, Colorado

19. It is agreed between the parties hereto that this lease shall be non-transferable and non-assignable and the Lessee(s) shall not sublet said premises.

20. The Lessee(s) also agree that they will not attempt to recover, by suit or in any other manner, any expenditure of any nature in the event any ruling, law, or any other action by any Commission, Bureau, Agency, Department or any other branch of the Federal Government, at any time, invalidates in any degree, the Lessors right or title to any of the mines, mining claims, mining property or any other property covered by this Lease and Agreement.

21. Upon violation of any covenant or covenants hereinabove reserved, this Lease and Agreement, at the option of the Claim Owners, shall expire, and the Claim Owners, or their agents, may thereupon after thirty (30) days due notice in writing to the Lessee(s), addressed to an address to be designated by said Lessee(s), and provided the deficiencies complained of have not been corrected within said period, enter upon said premises and dispossess all persons occupying the same, and the said Claim Owners shall thereupon, in case of cancellation, retain all considerations theretofore received by them as liquidated damages for non-performance, but the Lessee(s) shall have the right to remove its machinery and equipment from said claims for a period of sixty days (60) after any such termination, without the right, however, to remove ore bins or other improvements of a permanent nature, however, in the event that a dispute should arise as to whether or not any of the terms of this Lease have been breached, the parties have agreed that the question shall be submitted to an arbitrator, one arbitrator to be named by the Claim Owners, one arbitrator to be named by the Lessee(s) and one arbitrator to be appointed by the mutual consent of the Claim Owners and the Lessee(s). The decision of the arbitrators shall be final and binding upon both parties.

22. Each and every clause of this Lease and Agreement and all covenants and conditions contained herein, expressed or implied, shall extend to the successors, heirs, executors, administrators, and lawful assigns of all parties hereto.

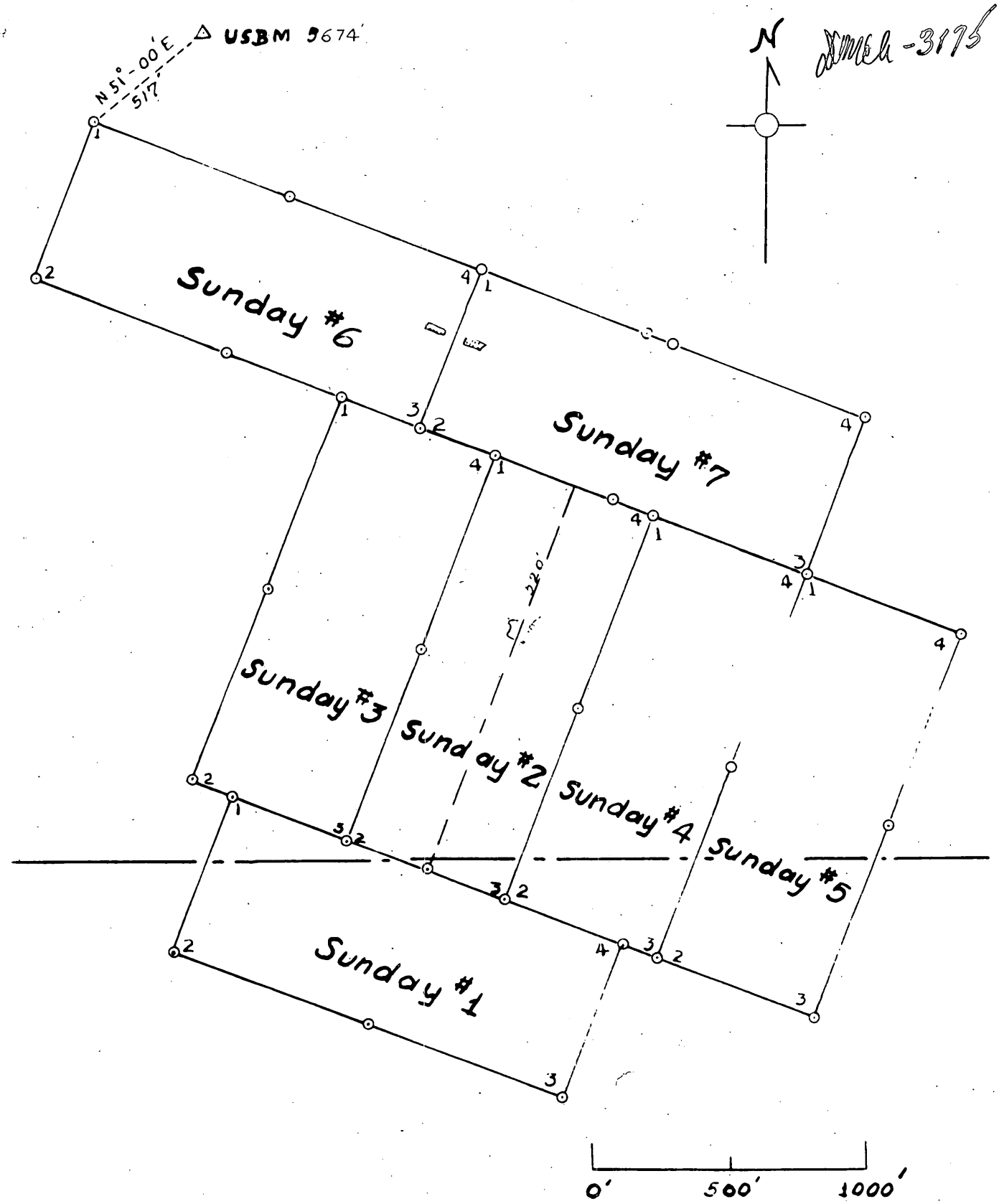
IN WITNESS WHEREOF the parties hereto have hereunto subscribed their names on this day and year first above named and written.

Subscribed and sworn to before me, this
16th day of July, A. D. 1953
My commission expires June 1, 1954
Frank McKean
Notary Public

Ed Joseph
Julian Davis
Leroy Davis by Julian Davis
Grace Joseph

Subscribed and sworn to before me, this
23rd day of July, A. D. 1953
My commission expires March 1, 1955
[illegible]
Notary Public
City and County of Denver
State of Colorado

DANTE EXPLORATION CO.
By
F. W. Ferguson
F. W. Ferguson, President



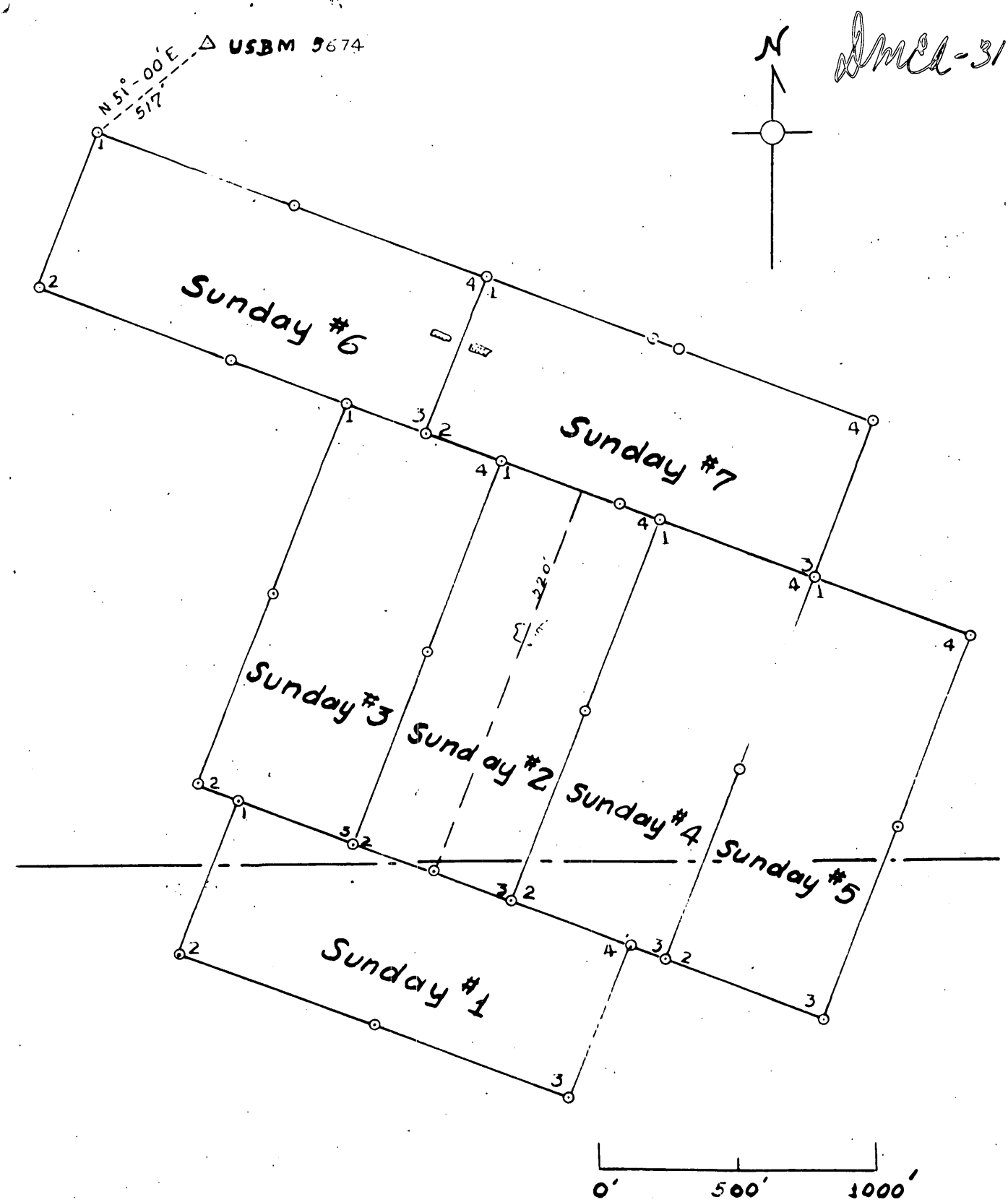
Map #1

DANTE EXPLORATION COMPANY
Post Office Box 188
Cripple Creek, Colorado

Re: Item 3(a)

Sunday Claims
Big Gyp Valley
LDA T-53

2-C—305-B--Denver Blue Print Co.



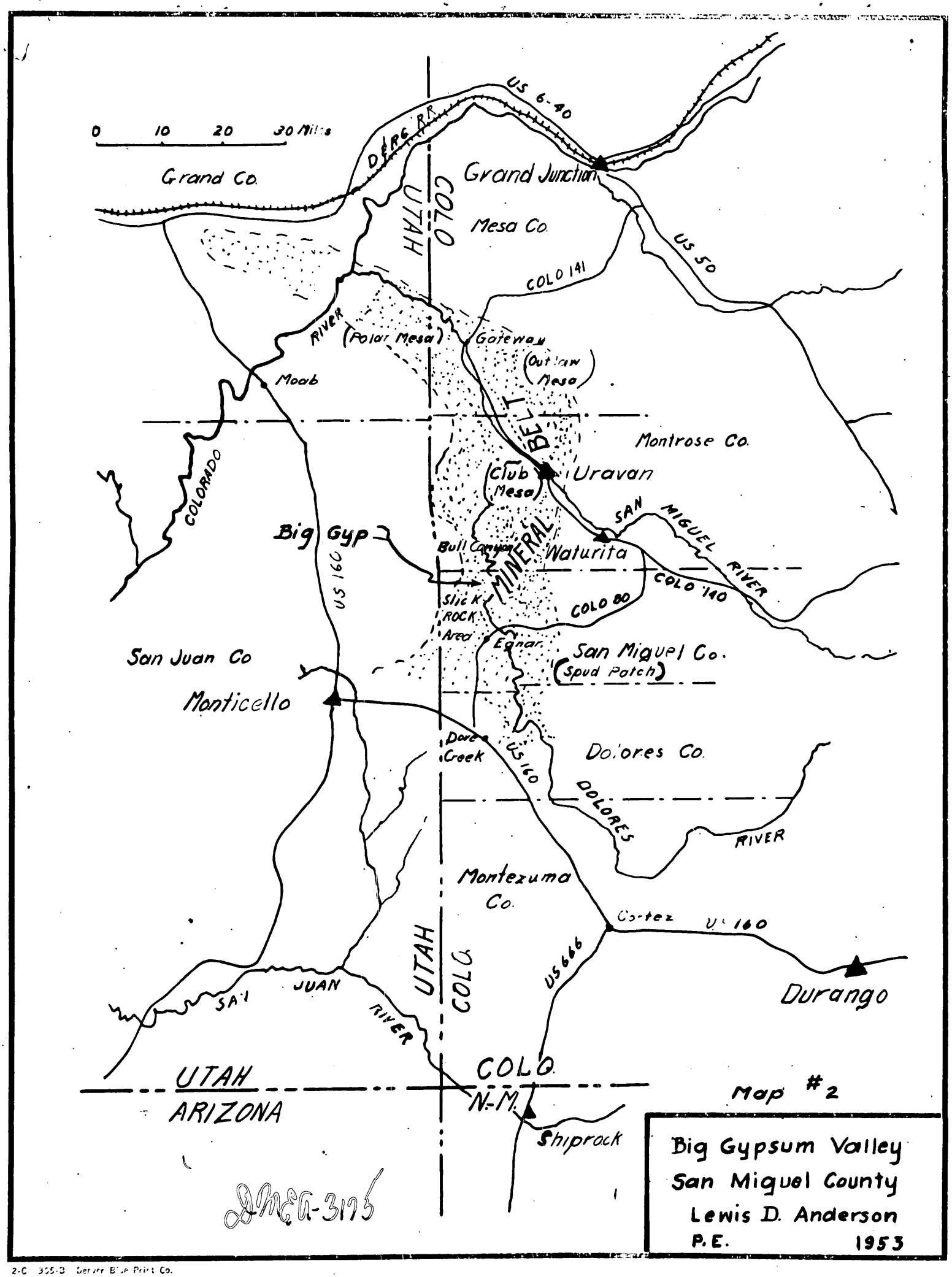
Map #1

Sunday Claims

Big Gyp Valley

LDA

2-C-305-B Denver Blue Print Co.



DMEG-3175

2-C 355-3 Denver Blue Print Co.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
1012 Flood Building
870 Market Street
San Francisco 2, Calif.
OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE $300.
(PMGC)

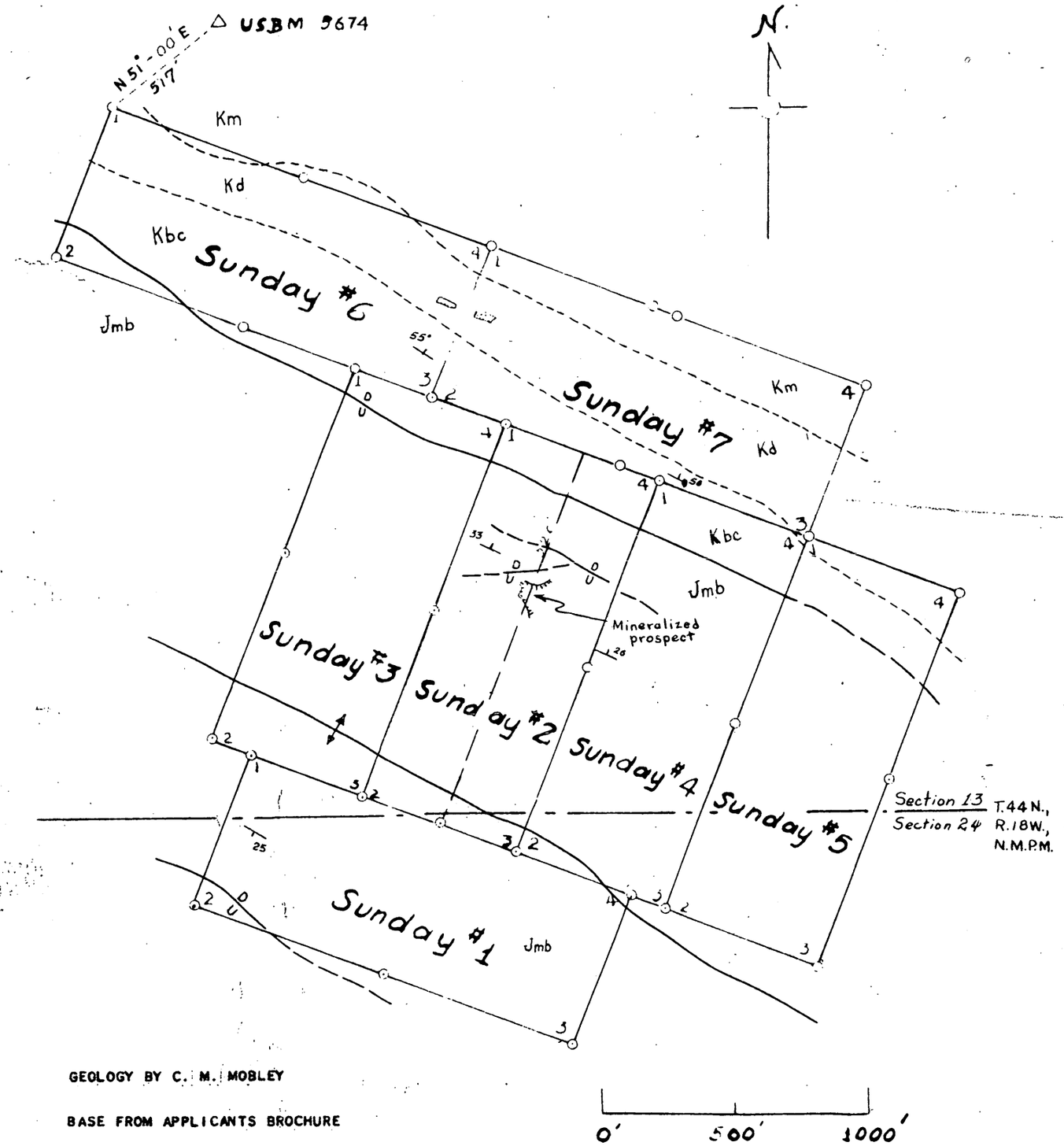
SAN FRANCISCO CALIF. SEP 1963

Defense Minerals Exploration Administration
Interior Building
Washington 25, D. C.

FIRST CLASS

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET 3175



GEOLOGY BY C. M. MOBLEY

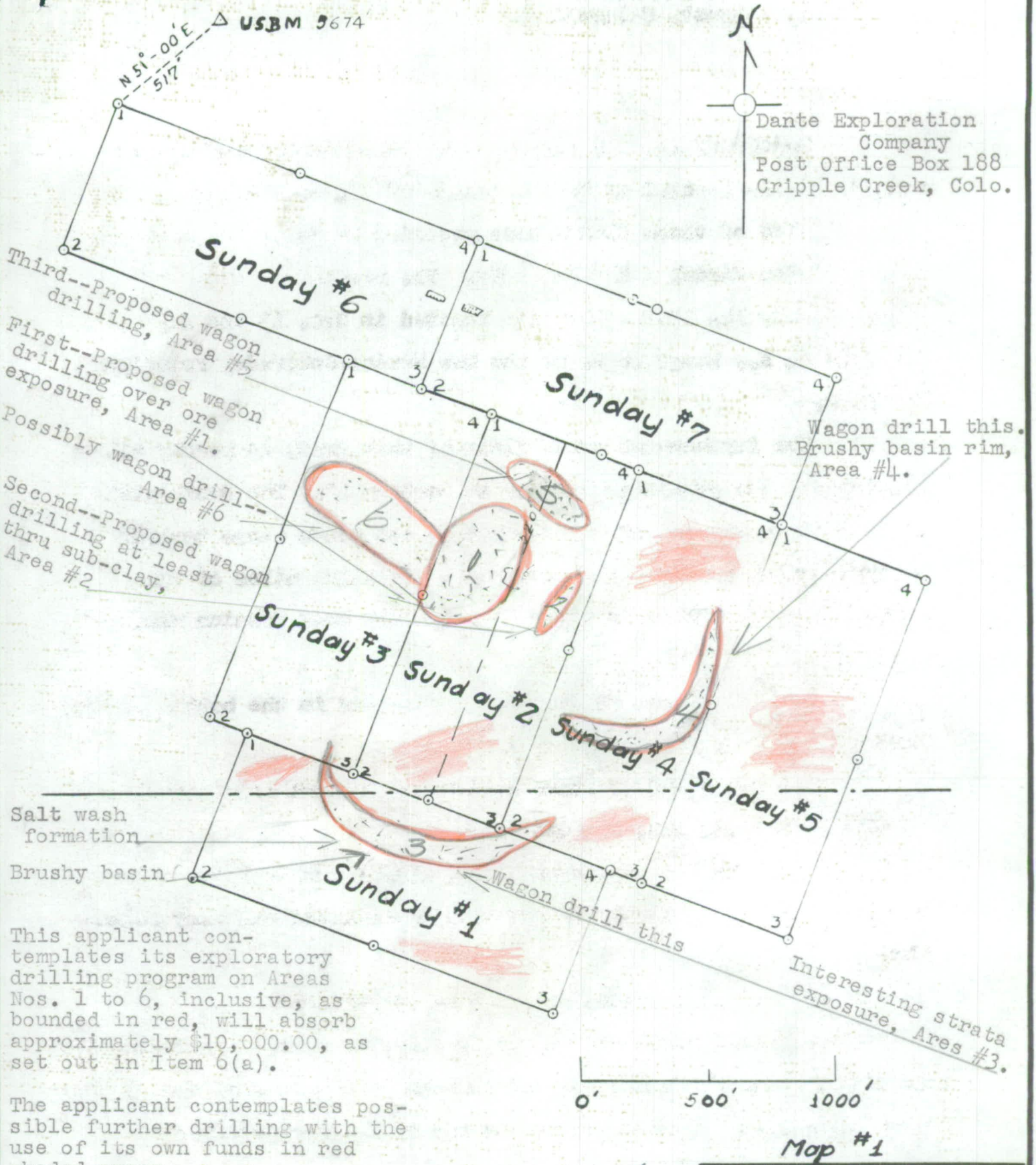
BASE FROM APPLICANTS BROCHURE

EXPLANATION

Km	CRETACEOUS MANCOS FORMATION
Kd.	CRETACEOUS DAKOTA FORMATION
Kbc	CRETACEOUS BURRO CANYON FORMATION
Jmb	BRUSHY BASIN MEMBER, JURASSIC MORRISON FORMATION
- - - - - - - -	FORMATION CONTACT, APPROXIMATELY LOCATED
D U	FAULT, SHOWING RELATIVE MOVEMENT, DASHED WHERE INFERRED
	ANTICLINAL AXIS
25	STRIKE AND DIP OF BEDS
	MINE WORKINGS, OPEN CUT

Figure 2. SKETCH MAP OF THE SUNDAY GROUP OF CLAIMS, GYPSUM VALLEY DISTRICT, SAN MIGUEL COUNTY, COLORADO

1



Map #1

This applicant contemplates its exploratory drilling program on Areas Nos. 1 to 6, inclusive, as bounded in red, will absorb approximately $10,000.00, as set out in Item 6(a).

The applicant contemplates possible further drilling with the use of its own funds in red shaded areas.

DMG G-3175

Sunday Claims

Big Gyp Valley

LDA 7-53

This plat relates to Items 4(c) and 5(b)

2-C—305-B—Denver Blue Print Co.