Docket

700

FIKnouse
Ellis
Lamb
Kulogoard
Selfridge

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

OCT - 5 1956

Mr. W. R. Burford, Vice President
Old Texas Mining Company
Box 502
Moab, Utah

Re: Docket No. DMEA-4362 (Uranium)
Old Texas Claims
San Juan County, Utah

Dear Mr. Burford:

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

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

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

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

Sincerely yours,

C. O. Mittendorf

Administrator

FIKnouse/gla
10-3-56
cc to: Admr.'s Reading File
Operating Committee
Dpcket
Messrs.JECrawford, 3643
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210,GSA
Code 700
Mr. Knouse
DMEA Field Team, Region III (2)

R.C.L.

F. L. Ellis

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

October 3, 1956

Summary of Proposed Project

Object: Denial of application for an exploration project.

Docket No.: DMEA-4362

Commodity: Uranium

Applicant: Old Texas Mining Company, a Texas corporation
Box 502
Moab, Utah

Property: Consists of three claims and a fraction as follows: Old Texas Fraction 6-B, Old Texas Nos. 1, 7, and 8, located in sec. 1, T. 29 S., R. 23 E., S.L.M. & B., San Juan County, Utah. Applicant's interest in the land is covered by a lease entered into July 24, 1954, with Vere Westwood and Evelyn Westwood, and J. Wesley and Gladys Oliver.

Date of Application: June 20, 1956.

Proposed Work: Consists of a program to drill 40 non-core and core holes from the surface aggregating 16,000 feet (14,400 feet of non-core and 1600 feet of core) to explore indicated trends of uranium mineralization in the Salt Wash member of the Morrison formation from the Rattlesnake Mine of the Continental Uranium, Inc. The holes would average about 400 feet in depth, and the estimated total cost of the project is $39,476.29.

Seventeen holes were drilled on the property by the Applicant (two were not completed), six of which are reported to have penetrated significant uranium and vanadium mineralization.

The claims are located north about 3,000 feet from the Rattlesnake Mine open pit and about 1,800 feet from the Rattlesnake Mine incline. Applicant reports an ore reserve of 100,000 tons of 0.30% U_3O_8 on the Continental Rattlesnake and adjoining property south of the subject property.

Cost of Proposed Work

(1) Labor, Supervision, Consultants

Labor-drillers, drill helpers and tractor operator	$7,~~307~~ 28.50	
Supervision	1,718.75	
Consulting geologist	1,000.00	
		$10,006.25

(2) Operating materials and supplies

Gasoline, Diesel oil, grease, oil, rock bits, water, drilling mud, etc.	7,915.24	7,915.24

(3) Operating materials and supplies (use allowance)

Mayhew drill, Ford water truck, GMC ½-ton pickup, TD-24 tractor w/dozer, drill core barrels, and deep hole probe and counter	17,192.50	17,192.50

(4) Miscellaneous

Compensation insurance, payroll taxes, and sales tax	773.55	773.55

(5) Contingencies $35,887.75 X 10% 3,588.75 3,588.75

Total estimated cost of project	$39,476.29
Government participation at 75%	$29,607.22

Field Team Report, dated September 1956, by:
M. H, Salsbury, USBM and D. P. Elston, USGS

The proposed project area islocated about 2500 feet north from the Rattlesnake open pit and about 1500 feet north from the incline operationsof the Continental Uranium, Inc.

Rattlesnake Mine is along and near the northwest extension of the Lisbon Valley fault in an area where one member of the fault system makes an abrupt change in strike to the west and where there is a feathering into several faults. The strata near the Old Texas claims dip gently to the northeast into a broad syncline. The rocks exposed in thearea consist of the Brushy Basin member of the Morrison formation of Jurassic age, the Burro Canyon formation of Cretaceous age, and Quaternary alluvium.

Uranium-vanadium ore bodies are in the uppermost sandstone lens of the Salt Wash member of the Morrison formation. In

places a second sandstone lens beneath the uppermost lens is mineralized, but reserves in this lens are nil.

The proposed DMEA project is based on possible ore occurrences within a Salt Wash trend projected N. 45° E. from a mineralized area partially drilled out by Continental Uranium, Inc. just southwest of the Old Texas No. 8 claim. From the results of a considerable amount of drilling done by the Continental Uranium, Inc., northwest of the Rattlesnake open pit, by the Petty Exploration Company still further northwest in Sec. 2, and by Amuranium Corporation northeast of the Rattlesnake property, it is concluded that a repetition of a major Rattlesnake ore deposit is not likely to be present on the Old Texas claims and the type of ore bodies which do occur do not justify a mining operation at the depth of the potential ore horizon 270 to 575 feet. Geologists of the Continental Uranium advise they do not plan further exploration of the ore trend, on which the Applicant based its proposed exploration program, because it is not economic at the depth of occurrence. This is the best area for exploration on the Applicant's property.

The Applicant has already concentrated a number of drill holes in line with this projected trend with poor results. Except for one drill hole, other drilling done on the claims has shown negative results. Another adverse factor is the believed existance of a number of faults on the property, which has probably caused severe displacement of strata and any contained ore bodies would likely make completion of a drilling program very difficult.

On the basis of the drilling data supplied by the Applicant, Continental Uranium, Inc. and the AEC, it is concluded that the possibility of finding economic bodies of ore on the property are remote. Therefore, it is recommended that the application be denied.

The Field Team concurs with the recommendation of the examining Team.

Comments of Commodity Specialists:

U. S. Geological Survey, W. P. Williams, September 28, 1956.

The prevalence of faulting on the property would cause very difficult drilling conditions. The small ore bodies would not warrant the costly, close-centered drilling project that would be necessary for success. As a result, I am in agreement with the recommendation of the examining team and Field Team.

U. S. Bureau of Mines, John E. Crawford, October 2, 1956.

Concurs with recommendation of Field Team.

Rare and Miscellaneous Metals Division, F. L.Knouse, October 3, 1956.

Exploration drilling done on the subject property and by others south and southeast from the property indicates rather conclusively that the probability of discovering another ore body or bodies of the size and grade now being mined in the Rattlesnake open pit is remote. However, the probability of discovering smaller uneconomic bodies by a closely-spaced drilling program to depth of 270 to 575 feet in probably faulted and broken-up areas is indicated. It is not believed that the aggregate reserves of such ore bodies would add a significant amount of uranium to the National Defense Program. Therefore, the application should be denied.

Conclusions and Recommendations:

A review of all our information relating to the proposed project indicates that the probability of making a significant discovery is not sufficiently promising for Government participation. Therefore, the application should be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis

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

RECEIVED
OCT - 3 1956

Date 10/2/56

DMEA Docket No. 4362
DMEA Contract No.
Commodity Uranium
Name of applicant Old Texas Mining Company
Name of property Old Texas Claims
Location of property San Juan County, Utah
Estimated cost of project $39,476.29

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee
From: John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee
Subject: Review of Field Team Report
(Application, Field Team Report, etc.)

1. Date of subject document: Sept. 1956 2. Date received by reviewer: 9/24/56.

3. Prior reports on this property known to reviewer: Yes ☐, No ☐.

4. Prior reports on nearby properties known to reviewer: Yes ☐, No ☐.

5. Information available on past production: Yes ☐, No ☐.

6. Other pertinent factors known to reviewer: Yes ☐, No ☐.

7. Explain items marked yes above:

8. Factors needing special consideration:
a. Location ☐
b. Ownership ☐
c. Evidence of mineralization ☐
d. Geology ☐
e. Proposed exploration method ☐
f. Alternate exploration method ☐
g. Costs ☐
h. ____ ☐

9. Action advised:
a. Obtain information from applicant ☐
b. Refer to Field Team ☐
c. Denial ☒
d. Agree with Field Team ☒
e. Disagree with Field Team ☐
f. Suggest alternate plan ☐
g. Request another examination ☐
h. Approval ☐
i. Consult with Mr. ____ at ____ AEC office.

10. Remarks: (Use back of page if necessary)
Mr. J. O. Hosted, Washington representative of the Atomic Energy Commission, assisted in the review.

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

RECEIVED
OCT - 3 1956

Date 10/2/56

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f. Alternate exploration method ☐
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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Washington 25, D. C.

RECEIVED
OCT - 3 1956

Date 10/2/56

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DMEA Contract No.
Commodity Uranium
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Name of property Old Texas Claims
Location of property San Juan County, Utah
Estimated cost of project $39,476.29

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6. Other pertinent factors known to reviewer: Yes ☐, No ☐.

7. Explain items marked yes above:

8. Factors needing special consideration:
   a. Location ☐
   b. Ownership ☐
   c. Evidence of mineralization ☐
   d. Geology ☐
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   f. Alternate exploration method ☐
   g. Costs ☐
   h. _____ ☐

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   f. Suggest alternate plan ☐
   g. Request another examination ☐
   h. Approval ☐

10. Remarks: (Use back of page if necessary)

Mr. J. O. Hosted, Washington representative of the Atomic Energy Commission, assisted in the review.

9/28/56 gla

IN REPLY REFER TO:

RECEIVED
SEP 23 1956

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

September 28, 1956

Memorandum

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

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

Subject: Review of field examination report, DMEA 4362, Old Texas Mining Company, Old Texas claims, San Juan County, Utah (uranium).

The examining team reports that 15 previously completed drill holes on the applicant's property failed to discover new ore reserves. If there are any ore bodies on the property they are expected to be at depths of 270 to 550 feet. Although data from completed drilling are poor, the drilling indicates that a single thick sandstone member is present rather than the much more favorable double sandstone layers separated by altered mudstone.

Three mineralized zones appear to be trending northeastward from Continental Uranium's Rattlesnake mine toward the subject property. Two of the trends will very likely miss the subject property while the extension of the third one has been tested by the previous drilling with discouraging results.

The prevalence of faulting on the property would cause very difficult drilling conditions. The small ore bodies would not warrant the costly, close-centered drilling project that would be necessary for success.

All in all, the property possesses many adverse features where exploration drilling is concerned. As a result I am in agreement with the recommendations of the examining team and Field Team for denial of the application.

W. P. Williams

W. P. Williams

IN REPLY REFER TO:

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

RECEIVED
SEP 23 1956

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WPWilliamsLbtr
G 9/28/56

W. P. Williams

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

IN REPLY REFER TO:

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

RECEIVED
SEP 28 1956

September 28, 1956

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C 9/28/56

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J. E. Crawford, 3641
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DMEA (3)
Chron. file
Docket File

IN REPLY REFER TO:

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

RECEIVED
SEP 28 1956

September 28, 1956

Memorandum

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

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

Subject: Review of field examination report, DMEA 4362, Old Texas Mining Company, Old Texas claims, San Juan County, Utah (uranium).

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Branch reading file (4212)
DMEA (3)
Chron. file
Docket File

9/27/56 gla

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

RECEIVED
SEP 24 1956

224 New Customhouse
Denver 2, Colorado

September 21, 1956

Memorandum

To: Secretary to the Operating Committee

From: DMEA Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA #4362 (Uranium) Old Texas Mining Company (Old Texas Claims) San Juan County, Utah

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

The examiners found that the drilling results submitted by the Applicant were unsatisfactory and they concur that the chances of finding ore bodies of significant size are not good. They recommend that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Reviewed by
DMEA OPERATING COMMITTEE
9-26-56
(date)

MINERAL DEPOSITS
DMEA
RECEIVED
SEP 18 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

TRANSMITTED
SEP 21 1956

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

DMEA
DEPARTMENT OF THE INTERIOR
SEP 20 1956
REGION III
DENVER, COLORADO

September 14, 1956

Memorandum

To: Executive Officers, DMEA Field Team, Region III

RECEIVED
SEP 24 1956

Through: E. N. Harshman
J. F. Shaw JS/aeh

From: J. William Hasler

Subject: Transmittal of a joint engineering and geological report of examination, DMEA docket 4362 (Uranium), Old Texas Mining Company (Old Texas claims), San Juan County, Utah.

The Old Texas Mining Company applied to the Defense Minerals Exploration Administration for assistance to explore the Old Texas No. 1, No. 6-B, No. 7 and 8 claims in San Juan County, Utah. The application was referred to the field and an examination was made on August 8, 1956 by D. P. Elston and H. F. Robertson.

The proposed area is located about 2500 feet north of the Rattlesnake open pit operation of the Continental Uranium, Inc., and 1500 feet north of the Rattlesnake incline, operated by a lessee of the same company. The Rattlesnake is along the northwest extension of the Lisbon Valley fault where the fault system makes an abrupt change in strike westward. The strata near the Old Texas claims dip gently to the northeast into a broad syncline. The rocks exposed in the area are composed of the Brushy Basin member of the Morrison formation of Jurassic age, the Cretaceous Burro Canyon formation of Cretaceous age, and Quaternary alluvium.

The uranium-vanadium ore bodies are found in the upper sandstone lens of the Salt Wash member of the Morrison formation of Jurassic age.

The applicant proposes to explore a possible occurrence within a Salt Wash trend projected north 45° east from the mineralized area that has been partially drilled out by Continental Uranium, Inc. However, results of drilling by the Continental Uranium, Inc., and the Petty Mining Exploration Company northwest of the open pit indicate that the ore bodies, if there are any, will be much smaller than those found in the Rattlesnake pit.

Reviewed by
DMEA OPERATING COMMITTEE
9-26-56
(date)

DMEA 4362 9/14/56

Drilling results submitted by the applicant were unsatisfactory and did not afford adequate appraisal of the property. However, all information to date indicates that results will be essentially negative and it is concluded that the chances of finding ore bodies of significant size are not good. It is, therefore, recommended that the application be denied. I concur with the conclusions and recommendations of the examining team.

Enclosed are the applicant's brochure as well as the required number of maps for inclusion in the report.

The Atomic Energy Commission and members of the Geological Survey were consulted relative to the appraisal of this property.

J. William Hasler

J. William Hasler,
Geologist

JWH/mlr

Enclosures

FOR UNITED STATES GOVERNMENT USE ONLY

TRANSMITTED
SEP 21 1956

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

RECEIVED
SEP 24 1956

DMEA 4362

Old Texas Mining Company

Old Texas claims

San Juan County, Utah

Uranium

Joint Engineering and Geologic Report

By

M. H. Salsbury
Bureau of Mines

D. P. Elston
Geological Survey

September 1956

Reviewed by
DMEA OPERATING COMMITTEE
9-26-56
(date)

DMEA 4362

RECEIVED
SEP 24 1956

OLD TEXAS MINING COMPANY

SUMMARY AND INTRODUCTION

On June 22,1956, the Old Texas Mining Company, Box 502, Moab, Utah, applied for Government assistance to explore for uranium on four claims on Rattlesnake Mountain north of Big Indian Wash, San Juan County, Utah.

A program of non-core and core drilling requiring 16,000 feet of drilling in 40 holes averaging 400 feet in depth on wide-spaced centers is proposed at an estimated cost of $39,476.29. Government participation at 75 percent would be $29,607.22.

A field examination was made on August 8, 1956 by a DMEA examining team accompanied by K. D. Wahlquist, manager for the applicant.

The proposed project area is located about 2,500 feet north of the Rattlesnake open pit operation of Continental Uranium, Inc., and 1,500 feet north of the Rattlesnake incline operated by a lessee of the same company.

The Rattlesnake area is along and near the northwest extension of the Lisbon Valley fault in an area where one member of the fault system makes an abrupt change in strike to the west. The strata near the Old Texas claims dip gently to the northeast into a broad syncline. The rocks exposed in the area consist of the Brushy Basin member of the Morrison formation of Jurassic age, the Burro Canyon formation of Cretaceous age, and Quaternary alluvium.

Uranium-vanadium ore bodies are in the uppermost sandstone lens of the Salt Wash member of the Morrison formation. In places a second sandstone lens beneath the uppermost lens is mineralized, but reserves in this lens are nil.

The proposed DMEA project is based on possible ore occurrences within a Salt Wash trend projected N. 45° E. from a mineralized area partially drilled out by Continental Uranium Inc. just southwest of the Old Texas No. 8 claim. This trend is parallel to and northwest of the trend exposed in the Rattlesnake open pit. The applicant assumes that individual ore bodies, similar to those which have been found in the open pit, may average 60 feet by 240 feet by 4 feet in thickness with the long axis trending N. 45° E. Results of drilling by Continental Uranium and Petty Mining Exploration Company northwest of the open pit, and the Rattlesnake incline operation all indicate that ore occurrences on the DMEA project ground, if present, are probably much smaller.

Property rights of the applicant are satisfactory so far as could be determined in the field. Claims have been properly recorded and there is no evidence of conflicting locations on the ground. Mr. Wahlquist stated that there is a possible conflict between some adjacent claims owned by Old Texas Mining Company and the Daisy claims located by Steven Day, but that this conflict does not involve the four claims concerned in the DMEA application. Old Texas Mining Company holds a lease from the original locators of the group, J. Wesley Oliver and Vere Westwood. Oliver and Westwood will subordinate the claims.

The one stage drilling plan suggested by the applicant is unsuitable for locating ore bodies 60 feet by 240 feet, and ore bodies, if present on the Old Texas claims, are probably smaller than this, judging by results of previous drilling on and near the claims. At a depth of 400 feet, a suitable drilling program would require wide-spaced drilling in a first stage to establish geologic control and determine favorable areas by the usual criteria under probable complicated structural conditions, to be followed by a second stage confined to the areas containing mineralized or favorable sandstone. Data furnished by the applicant on previous drilling are unsatisfactory for proper evaluation of geologic conditions. The previous exploration consisted of 15 holes completed through the ore horizon, and was concentrated largely in direct line with the projected extension of the northwest Rattlesnake ore trend. One out of 7 closely spaced holes is reported to have penetrated low-grade ore but the overall result was discouraging.

On the basis of drill hole data supplied by the applicant, Continental Uranium, Inc., and the Atomic Energy Commission, it is concluded that the possibility of finding economic bodies of ore on the property is poor. It is recommended that the application be denied.

ACKNOWLEDGMENTS

The applicant submitted an application with map, drill logs, and an excellent cost estimate. The Atomic Energy Commission was consulted through Louis Garbrecht. Gordon Weir, project chief for the Geological Survey in Lisbon Valley, was also consulted. Geologic investigation by Government personnel in the immediate vicinity of the subject property has been limited. Data made available by Mr. Jay Smith, geologist, Continental Uranium, Inc., was utilized in making evaluations. Results of private drilling in the southeast corner of section 2, T. 29 S., R. 23 W., by the Petty Mining Exploration Company of San Antonio, Texas, was made available through M. A. Lekas, geologist for the Atomic Energy Commission.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The property is located in sec. 1, T. 29 S., R. 23 E., Salt Lake Meridian, about 4 miles north of Big Indian Wash area, San Juan County, Utah (fig. 1). It is adjacent to and north of the Rattlesnake operation of Continental Uranium, Inc., and 30 miles south of Moab, Utah, the site of an ore-buying station and a treatment plant in course of construction. Another treatment plant is in operation at Monticello, Utah, about 35 miles south. Grand Junction, Colo., 110 miles northeast of Moab, Utah, is the nearest major source of supplies. Hard surfaced roads have been completed to within 4 miles of the property.

The claims are on the north slope of Rattlesnake Mountain at an elevation of about 6,500 feet. Much of the surface is covered by landslide material, slopes are moderate to steep, and there are only a few rim outcrops. The access road network has been completed, and excavation of drill sites has been comparatively easy.

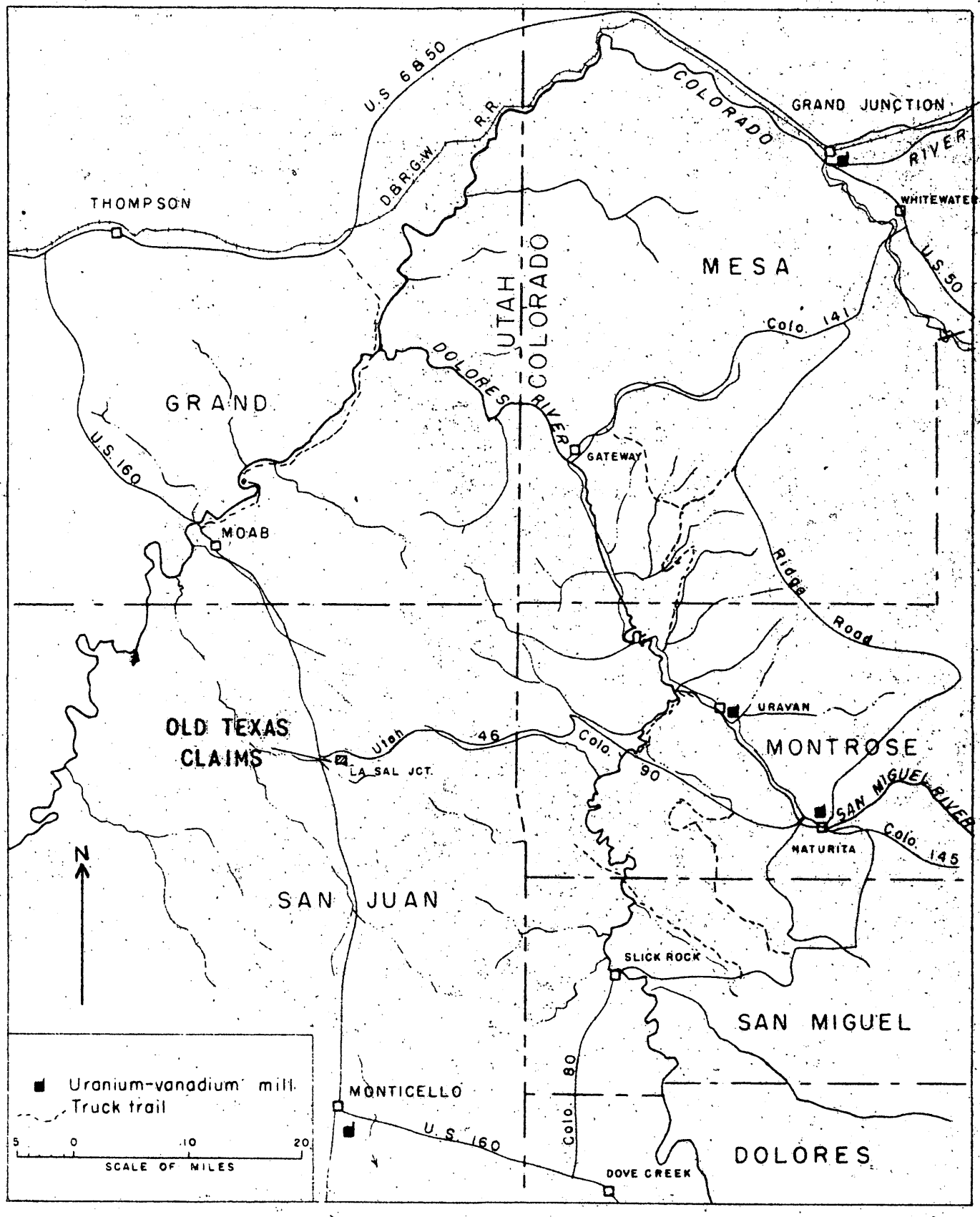


Figure 1.--INDEX MAP OF PARTS OF UTAH AND COLORADO SHOWING LOCATION OF OLD TEXAS CLAIMS, OLD TEXAS MINING CO., SAN JUAN COUNTY, UTAH.

The climate of the region is moderate with warm summers and mild to cold winters. Year-round surface operations are feasible and normal except during periods following infrequent winter storms and spring thaws.

There are no unusual problems of access, supply, power or labor. Supplies of domestic and drilling water are obtainable from intermittent streams, springs and wells. Electric power for mining operations can be installed, if justified, by connecting with lines of the Utah Power and Light Company which pass within a few miles of the property. It is proposed to employ the applicant's own drilling equipment and crew. Living quarters can be established on the claims or personnel can commute from Moab or Monticello.

HISTORY AND PRODUCTION

Mining of Salt Wash uranium-vanadium deposits a few miles north of Rattlesnake Mountain in what is known as Brown's Hole dates from 1934. Recent exploration and development of these deposits for their uranium content dates from 1952. The Old Texas and Rattlesnake claim groups were located in January 1954 as the result of a discovery of a good mineralized outcrop at the site of the present Rattlesnake open pit. Old Texas Mining Company carried on the early operation under lease from the original locations. Later the property was subleased to Continental Uranium, Inc., and extensive drilling and underground exploration has since been carried on. Continental Uranium, Inc., concluded that sufficient ore had been found to justify a large operation. They decided that an open pit was feasible and preferable. In this operation it has been necessary to strip overlying beds ranging up to nearly the full thickness of the Brushy

Basin member. Cost of excavation has exceeded the original estimate.

An underground mining operation is being carried on by a lessee of Continental Uranium, Inc., on a smaller deposit north of the open pit area. Through April 1, 1956, production from the Rattlesnake claims, including that from abandoned underground workings supplanted by the open pit, has totaled 19,177 tons of ore containing an average of 0.30 percent U_3O_8 and 0.78 percent V_2O_5. Remaining reserves on the same date as carried by the Atomic Energy Commission are 74,120 tons with an average content of 0.35 percent U_3O_8 and 1.06 percent V_2O_5. Most of the reserves are in the ore bodies being developed by open pit.

OWNERSHIP AND EXTENT

The four claims in the proposed DMEA project were located by J. Wesley Oliver and Vere Westwood of Moab, Utah in January 1954. They are part of a larger group originally leased to Old Texas Mining Company and subleased by the latter company to Woodmont, Inc., a subsidiary of Continental Uranium, Inc. By a provision in the agreement of lease, the four claims in the proposed DMEA project reverted to Old Texas Mining Company. They are Old Texas No. 1, Old Texas Fraction No. 6-B, Old Texas No. 7, and Old Texas No. 8. (fig. 2). The original location certificates were dated January 3, 1954 and filed on January 7, 1954 in Book 47, pages 155, 157 and 158 of the San Juan County records. Amended locations were filed on February 2, 1954. Lease applications under A.E.C. Circular No. 7 were filed April 8, 1954, and withdrawn on December 10, 1954. Amended locations were filed on

December 10, 1954, in Book 251, pages 471, 472, 473 and 479 under Public Law 585. So far as courthouse records and the field examination show, location procedures have been satisfactory. Old Texas Fraction No. 6-B is the amended location for Old Texas No. 6. Old Texas Fraction No. 6-B overlaps Old Texas No. 7 about 75 feet along the west side line of the fraction. Other claims are full size. Notices of labor and improvements on the four claims for the years ending June 30, 1955, and June 30, 1956, were posted and had been recorded. Copies of the original lease to Old Texas Mining Company, of the assignment to Woodmont, Inc., and of the reassignment from Woodmont, Inc., back to Old Texas Mining Company were furnished with the brochure. All appear to be in order.

No evidence of claim conflicts was found in the field. Mr. Wahlquist stated that a conflict did exist between two other of their claims, Old Texas Nos. 5 and 5A claims, and the Daisy claims, located by Steven Day. However, the claims in the proposed DMEA project are not affected.

PRESENT STATUS

Exploration and Development

The applicant has completed 14 non-core and one part core-hole in depths ranging from 250 to 600 feet penetrating the potential ore-bearing sandstone (fig. 2). Difficult drilling conditions produced mainly by badly fractured and silicified sandstones caused the abandonment of several other holes before the ore-bearing sandstone was

was penetrated. Twelve holes were concentrated on Old Texas No. 8 claim in line with the projected path of the northeast trending secondary Rattlesnake ore trend which has been indicated by drilling. Five holes were grouped on 25-foot centers. One of these, the only core hole, penetrated 3 feet of material which assayed 0.18 percent U_3O_8 chemically. Low-grade mineralization was indicated radiometrically in 8 others by probing. No evidence of a minable ore deposit was found. Information furnished by Continental Uranium, Inc., on the results of their drilling in a secondary Rattlesnake mineralized trend northwest of the Rattlesnake open pit, indicates that mineralization is spotty and low grade. Although there are several ore holes, the ore is not largely connective and Continental does not consider it minable. The depth to the ore horizon here is about the same (270 feet) as to the northeast in the western part of the applicant's claims.

The drill hole data furnished by the applicant were recorded and compiled by non-professional personnel and are based largely on examinations of cuttings or sludge from non-core drilling. Many of the holes had to be completed through the ore horizon by wet methods. Evidence bearing on strata thicknesses and favorability cannot be observed in this type of drilling, particularly when loss of circulation of drilling medium occurs. However, as the descriptions of the strata penetrated are of a sketchy nature and only the broadest lithologic units are delimited on the logs, the variations of sample sources, air cuttings and sludges, probably had little effect on the data.

Mining Equipment and Other Facilities

There is no mining or exploration equipment on the property at the present time. The applicant has available a Winter-Weiss porta drill with auxiliary equipment for wet and dry non-core and core drilling and an International Harvester TD24 crawler tractor.

GEOLOGY

General.--The Rattlesnake area is located along and near the northwest extension of the Lisbon Valley fault where there is a feathering into several faults and where there is an abrupt shift in strike to the west of one of the faults. The strata near the Old Texas claims dip gently to the northeast into a broad syncline. The rocks exposed in the area consist of strata of Jurassic, Cretaceous, and deposits of Quaternary age.

Stratigraphy

The oldest rocks naturally exposed are strata of the Brushy Basin member of the Morrison formation of Jurassic age. They crop out on the moderately steep slopes of Rattlesnake Mountain and are exposed in the open pit on the south side of the mountain. The strata consist of red, green and gray-green mudstones and siltstones, light red, very-fine grained sandstones and silty sandstones, and locally red-brown fine- to medium-grained sandstones which locally contain coarser grains of red chert. A conglomeratic sandstone about 30 feet above the base of the member is present in some places. In places there are also thin layers of dark gray and dark green silty limestone. The Brushy Basin member here is about 375 feet thick.

The Brushy Basin member is overlain by resistant sandstone of the Burro Canyon formation of Cretaceous age which caps Rattlesnake Mountain and which crops out as a cliff along the drainage east of the Old Texas claims.

The Burro Canyon formation is composed of light brown massive and crossbedded fine- to medium-grained sandstone and conglomeratic sandstone. The lower part of the formation consists mainly of white to light-gray very-fine-grained quartzitic sandstone which is extremely resistant to weathering and to drilling. In the eastern part of the Old Texas claims, near the fault which passes through the claims, outcrop and drill hole data indicate that much of the formation is silicified. Minor amounts of light green mudstone are interbedded with sandstone of the formation. Incomplete sections exposed in the area are about 80 feet thick.

Landslide deposits probably of Quarternary age derived principally from mudstones of the Brushy Basin member mantle much of the local area. These deposits on the Old Texas claims may be about 75 feet thick. In addition a veneer of talus of Quaternary age consisting of blocks and fragments of sandstone derived from the Burro Canyon formation and mudstone of the Brushy Basin member which ranges in thickness from about one to ten feet overlies the landslide. Alluvium and loessal deposits of Quaternary age mantle the relatively flat low areas and also locally forms a wedge-like filling, about 50 feet deep and 20 to 30 feet wide at the top, in the Brushy Basin member as exposed on the northeast side of the Rattlesnake pit.

Prior to stripping operations in the Rattlesnake open pit, a mineralized outcrop of sandstone of the Salt Wash member of the Morrison formation, which underlies the Brushy Basin member, was exposed on the south side of the fault which presently bounds the south side of the pit. Some distance below this to the southeast there was a small outcrop of Entrada sandstone of Jurassic age which was subsequently covered by dump material from the stripping operations. The interval between is presumed to have been largely red mudstones and siltstones of the middle and lower Salt Wash member and of the underlying Summerville formation. A deep hole drilled by Continental Uranium, Inc., in the general area of the pit, penetrated 225 feet of red mudstones below the upper sandstone lenses of the Salt Wash member, but did not penetrate Entrada sandstone. It is presumed to have bottomed either in the lowermost beds of the Salt Wash member or in the Summerville formation.

The following generalized stratigraphic section for the Rattlesnake area is compiled from several sources of generalized information, from field observations and from interpretations of drill logs.

Age	Formation	Description	Thickness (feet)
Cretaceous	Burro Canyon formation	Light brown to white sandstone, quartzitic sandstone and conglomeratic sandstone with minor green mudstone.	80 (incomplete thickness)
Jurassic	Morrison formation, Brushy Basin member	Red and green mudstone, siltstone, and red and red-brown sandstone, silty sandstone and locally conglomeratic sandstone; minor limestone.	375
	Salt Wash member	Upper part, one to two light brown to white, fine- to medium-grained sandstone lenses totaling 40 to 100 feet thick; uranium-vanadium-bearing; green mudstone and some light gray "marl" is associated with the sandstone; middle and lower part, red, and red and green mottled mudstone and minor sandstone.	325
	Summerville formation	Red siltstone	15(?)-60(?)
	Entrada sandstone	Light brown fine-grained sandstone with a few scattered rounded medium-sized quartz grains.	100+

Structure

The structure in the area is that of a simple regional dip of strata to the northeast of 3 to 5 degrees into a broad syncline (fig. 3). In detail, several high angle faults complicate the structure. The southernmost fault strikes westerly and strata are displaced downward to the north about 150 feet. A group of faults to the northeast strike northwesterly. Along the southwesternmost of these, strata are displaced downward to the southwest about 30 feet. The strata here dip about 3° to the southwest and west as seen in the mine workings of the Rattlesnake No. 2 mine. To the northeast of the Rattlesnake No. 2 mine, drill hole data indicate a zone of minor stepfaults which apparently terminate along a major fault and fault zone which extends northwesterly into the Old Texas claims. Displacement along this fault apparently is about 200 feet. Strata of the Burro Canyon formation on the east have been dropped down in juxtaposition with strata of the Brushy Basin member on the west.

Ore deposits

The Salt Wash member contains the uranium-vanadium reserves in the area. Sandstone lenses apparently are restricted to the upper part. The ore bodies are in the uppermost sandstone lens but in places an underlying sandstone lens is mineralized. Reserves in the lower lens are nil.

The uppermost lens is from 15 to 30 feet below sandstone and sandy siltstone identified as Brushy Basin. The upper lens where it contains ore is most commonly about 40 feet thick and where underlain by a second sandstone lens is separated from it by about 20 feet of red and gray-green

mudstone. The lower sandstone is commonly also about 40 feet thick. Where the intervening mudstone is absent, locally in vicinity of the Rattlesnake pit, there is but one sandstone layer ranging from 80 to 100 feet in thickness. Ore reserves in the thick single sandstone layer are reported to be nil. Mr. Jay Smith, geologist for Continental Uranium, Inc., considers the upper sandstone lens to be the main "ore-bearing sandstone." Continental Uranium, Inc., has found the major part of their reserves where the sandstone is about 40 feet thick. Extensive drilling in the area has shown a series of northeasterly trending belts of mineralized ground. Ore bodies, mineralized ground, and barren ground lie within the belts. There is some mineralized ground outside of the belt, but most of this ground is barren and has little or no potential for ore.

Drill hole data submitted by the applicant have been evaluated on the basis of generalized data obtained from nearby drilling by Continental Uranium, Inc., supplemented by observations in the Rattlesnake No. 2 mine and the Rattlesnake open pit. Drill holes in the western part of the Old Texas claims penetrated thicknesses of the ore-bearing sandstone which range from 80 to 100 feet. Examination of a part of the core in the one partly cored hole (hole number 4, Old Texas No. 8 claim) showed that one to two feet of green mudstone separates the upper sandstone lens from the lower sandstone lens. The sandstone cored in this hole is classed as favorable for ore on the basis of color and grain size. Most of the holes drilled on the Old Texas claims were bottomed before penetrating mudstone.

The poor results of offset holes on 25-foot centers in the western part of the Old Texas claims substantiates the concept of poor ore potential where the sandstone is a thick single layer. The position and results of these holes probably indicate that the western part of the claims is on the fringe of a non-economic mineralized trend drilled by Continental Uranium Inc. to the southwest. This trend, which is northwest of the main Rattlesnake trend contains scattered holes which penetrated material classed as ore, and a fairly large number of mineralized and barren holes. The ore bodies are too small and too scattered for economic mining at depths of 250 to 275 feet, about the same depths as exist in the western part of the Old Texas claims. The ore deposits of the Rattlesnake pit and Rattlesnake No. 2 mine each comprise several ore bodies. It is the clustering of these ore bodies that has made them so economically attractive.

In the eastern part of the Old Texas claims drilling depths to penetrate the ore horizon as described by the applicant ranges from about 400 to more than 500 feet. Correlations of the applicant's drill holes suggests that the sandstones are lenticular and that they may abruptly pinch and swell. Evaluation of the ground as to favorableness for ore is difficult because of the lack of descriptive data, but some of the holes tentatively are considered only semi-favorable for ore, for red mudstone is associated with the ore-bearing sandstone, as reported by the applicant (fig. 2). The applicant could supply no evidence to support his contention that sandstone of the Salt Wash member rests

directly on the Entrada sandstone. It is believed that any ore-bodies which exist on the Old Texas claims would be too small and too scattered to be mined at depths of 270 to 550 feet.

ORE RESERVES

There are no known ore reserves on the applicant's property. The large reserves reported by Mr. Wahlquist on the adjoining Rattlesnake property refer to the deposits in and around the open pit. No reserves have been developed in the secondary mineralized trend which is projected into the applicant's claims.

PROPOSED EXPLORATION

A drilling program requiring an estimated 14,400 feet of non-core and 1,600 feet of core drilling in 40 holes was proposed by the applicant. Holes would have averaged 400 feet in depth at an estimated maximum cost of $39,476.29. Government participation at 75 percent would have been $29,607.22.

The applicant proposes to use his own equipment and personnel for all phases of the work. The estimated average cost of $2.47 per foot is probably less than it would be under contract drilling prices. However, past experience by the applicant and also Continental Uranium Inc. in drilling through hard cherty zones and silicified sandstones associated with faults indicates that the work probably cannot be done at the price quoted.

It has been proposed that holes be bottomed on the Entrada formation. This is based on an assumption by the applicant's manager that the Salt Wash

member of the Morrison formation rests directly on the Entrada sandstone, the Summerville formation being absent in this area. Actually the holes drilled by the applicant appear to have been bottomed in the lower sandstone lens in the upper part of the Salt Wash member and not in the Entrada sandstone as reported. Data from Continental Uranium, Inc., drilling supports the examining team's contention that only the upper Salt Wash horizon has been reached by the applicant's drill holes.

The applicant's manager devised a drill pattern on the assumption that the minimum size ore body which could be mined would be 60 by 240 feet in lateral extent with the long axis trending northeast and southwest. The hole pattern was laid out with holes roughly on 200- to 250-foot centers at right angles to the long axes of possible ore bodies and on 250- to 400-foot centers parallel to the long axes (fig. 2). No closer spaced drilling is proposed. For good coverage of the claims area for ore bodies 60 by 240 feet, a closer spacing would be necessary.

A number of the applicant's holes are located very close to a postulated northwest-southeast striking fault traversing the eastern part of the claim area. Successful completion of these holes would probably be particularly difficult.

The probable tenor of ore on the property, judging mainly by the results of previous drilling by two operators northeast of the Rattlesnake open pit rather than by the unsatisfactory data presented by the applicant, indicate that any possible drilling plan to explore an ore horizon at depths ranging from 300 to more than 600 feet would be uneconomic.

No revision of the exploration plan and cost estimate is being made by the examining team.

CONCLUSIONS AND RECOMMENDATIONS

From the results of a considerable amount of drilling done by Continental Uranium, Inc., northwest of the Rattlesnake open pit, by Petty Mining Exploration Company still farther northwest in sec. 2, and by Amuranium Corporation northeast of the Rattlesnake property, it is concluded that a repetition of a major Rattlesnake ore deposit is not likely to be present on the Old Texas claims and the type of ore bodies which may occur do not justify a mining operation at the depth of the potential ore horizon, 270 to 575 feet. The examining team was informed by a geologist employed by Continental Uranium, that present plans do not contemplate further work on the secondary ore trend, on which the applicant based his proposed exploration, because it is not economic at the depth of occurrence. A third weaker trend, still further northwest, does not, by similar reasoning, justify more work although the examining team does not have information on future plans of the operator, Petty Mining Exploration Company. The areas between mineralized trends has already been tested south of the Old Texas claims with negative results.

The best area for exploration on the applicant's property, is on the Old Texas No. 8 claim where the target would be the possible extension of the northeast trending secondary mineralized belt from Continental Uranium, Inc., ground. The applicant has already concentrated a number of drill holes in line with this projected trend with poor results. Except for one drill hole other drilling done on the Old Texas claims has shown negative results.

It is believed that another adverse factor in the proposed exploration of the Old Texas claims is the presence of a number of faults which probably have caused severe displacements of strata and any contained ore bodies, and would tend to make successful completion of a drilling program difficult.

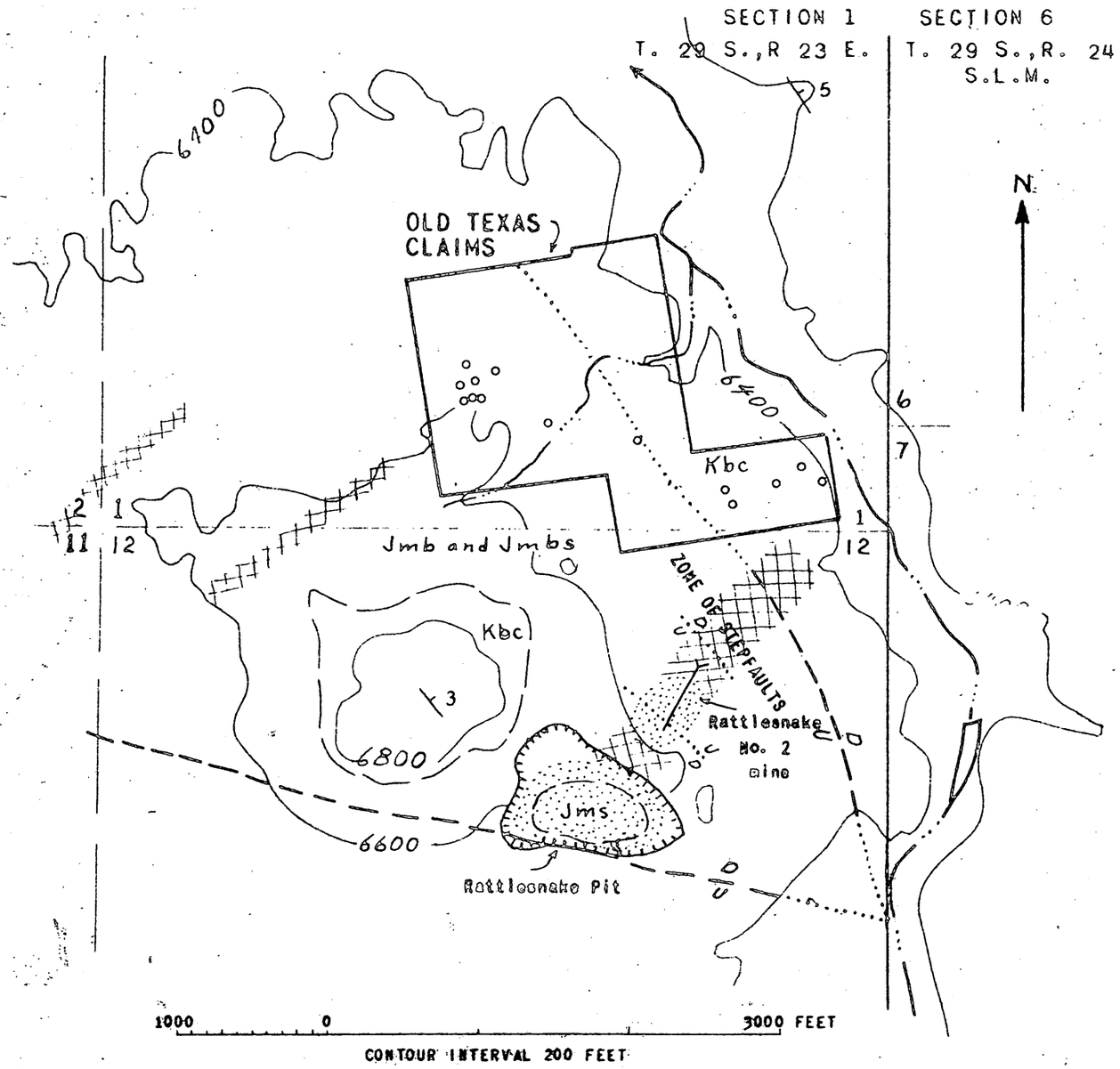
The applicant's manager has calculated that the minimum size of an ore body or closely grouped ore bodies that would justify mining would total about 16,250 feet in area, with an average thickness of 4 feet, and would contain 5,000 tons ore with a minimum gross value of $200,000.00.

The examining team agrees with this, with the added conclusion that there is little possibility of finding an ore body or ore bodies meeting this requirement.

Denial of the application for exploration assistance under docket DMEA 4362 is recommended.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
AUGUST 1956 DOCKET #362



EXPLANATION

Kbc — CRETACEOUS BURRO CANYON FORMATION

Jmb and Jmbs — BRUSHY BASIN MEMBER AND LANDSLIDE DERIVED FROM BRUSHY BASIN MEMBER OF THE JURASSIC MORRISON FORMATION, UNDIFFERENTIATED

Jms — SALT WASH MEMBER OF THE JURASSIC MORRISON FORMATION

CONTACT, LOCATED APPROXIMATELY WHERE DASHED

HIGH ANGLE FAULT
U, UP THROWN SIDE; D, DOWN THROWN SIDE
DASHED WHERE APPROXIMATELY LOCATED; DOTTED WHERE CONCEALED; FAULTS NEAR RATTLESNAKE NO. 2 DEFINED FROM DIAMOND CORE DRILL HOLE DATA

STRIKE AND DIP OF BEDS

MINERALIZED TREND DEFINED BY DRILLING:
GENERAL AREAS CONTAINING ORE BODIES; SOME MINERALIZED AND BARREN AREAS
GENERAL AREAS OF MINERALIZATION; SOME ORE HOLES, MOSTLY WEAKLY MINERALIZED WITH VARIABLE AMOUNTS OF BARREN GROUND
(SOME MINERALIZED ROCK IS OUTSIDE OF THESE TRENDS.)

GENERAL AREA OF DRILLING NEAR THE OLD TEXAS CLAIMS

DRILL HOLES ON OLD TEXAS CLAIMS, ALL HOLES NOT SHOWN

OPEN PIT MINE

MINE PORTAL

Note: TOPOGRAPHY, DRAINAGE, AND LAND LINES FROM U.S. GEOLOGICAL SURVEY QUADRANGLE, MT. PEALE 2 SE, UTAH.
ROADS NOT SHOWN.
GEOLOGY MODIFIED FROM U.S. GEOLOGICAL SURVEY PHOTOGEOLOGIC MAP U 267 SE; FROM FIELD MAPS BY G.W. WEIR, U.S. GEOLOGICAL SURVEY; FROM FIELD INSPECTION, D.P. ELSTON, U.S. GEOLOGICAL SURVEY; AND FROM FIELD MAPS, CONTINENTAL URANIUM, INC.
THIS MAP CONTAINS INFORMATION CLASSED AS COMPANY CONFIDENTIAL.

FIGURE 3.--GENERALIZED GEOLOGIC MAP OF THE RATTLESNAKE AREA SHOWING LOCATION OF OLD TEXAS CLAIMS, SAN JUAN COUNTY, UTAH

RECEIVED.
SEP 24 1956

9/24/56 gla

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

224 New Customhouse
Denver 2, Colorado

September 21, 1956

RECEIVED
SEP 24 1956

Memorandum

To: Secretary to the Operating Committee

From: DMEA Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA #4362 (Uranium) Old Texas Mining Company (Old Texas Claims) San Juan County, Utah

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

The examiners found that the drilling results submitted by the Applicant were unsatisfactory and they concur that the chances of finding ore bodies of significant size are not good. They recommend that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

By W. M. Traver
Executive Officer

Reviewed by
DMEA OPERATING COMMITTEE
9-26-56

MINERAL DEPOSITS
DMEA
RECEIVED
SEP 18 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

TRANSMITTED
SEP 21 1956

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

DMEA
DEPARTMENT OF THE INTERIOR
SEP 20 1956
REGION III
DENVER, COLORADO

September 14, 1956

Memorandum

To: Executive Officers, DMEA Field Team, Region III

RECEIVED
SEP 24 1956

Through: E. N. Harshman
J. F. Shaw JS/aek

From: J. William Hasler

Subject: Transmittal of a joint engineering and geological report of examination, DMEA docket 4362 (Uranium), Old Texas Mining Company (Old Texas claims), San Juan County, Utah.

The Old Texas Mining Company applied to the Defense Minerals Exploration Administration for assistance to explore the Old Texas No. 1, No. 6-B, No. 7 and 8 claims in San Juan County, Utah. The application was referred to the field and an examination was made on August 8, 1956 by D. P. Elston and H. F. Robertson.

The proposed area is located about 2500 feet north of the Rattlesnake open pit operation of the Continental Uranium, Inc., and 1500 feet north of the Rattlesnake incline, operated by a lessee of the same company. The Rattlesnake is along the northwest extension of the Lisbon Valley fault where the fault system makes an abrupt change in strike westward. The strata near the Old Texas claims dip gently to the northeast into a broad syncline. The rocks exposed in the area are composed of the Brushy Basin member of the Morrison formation of Jurassic age, the Cretaceous Burro Canyon formation of Cretaceous age, and Quaternary alluvium.

The uranium-vanadium ore bodies are found in the upper sandstone lens of the Salt Wash member of the Morrison formation of Jurassic age.

The applicant proposes to explore a possible occurrence within a Salt Wash trend projected north 45° east from the mineralized area that has been partially drilled out by Continental Uranium, Inc. However, results of drilling by the Continental Uranium, Inc., and the Petty Mining Exploration Company northwest of the open pit indicate that the ore bodies, if there are any, will be much smaller than those found in the Rattlesnake pit.

Reviewed by
DMEA OPERATING COMMITTEE
9-26-56
(Date)

DMEA 4362 9/14/56

Drilling results submitted by the applicant were unsatisfactory and did not afford adequate appraisal of the property. However, all information to date indicates that results will be essentially negative and it is concluded that the chances of finding ore bodies of significant size are not good. It is, therefore, recommended that the application be denied. I concur with the conclusions and recommendations of the examining team.

Enclosed are the applicant's brochure as well as the required number of maps for inclusion in the report.

The Atomic Energy Commission and members of the Geological Survey were consulted relative to the appraisal of this property.

J. William Hasler

J. William Hasler,
Geologist

JWH/mlr

Enclosures

FOR UNITED STATES GOVERNMENT USE ONLY

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

TRANSMITTED
SEP 21 1956

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

RECEIVED
SEP 24 1956

DMEA 4362

Old Texas Mining Company

Old Texas claims

San Juan County, Utah

Uranium

Joint Engineering and Geologic Report

By

M. H. Salsbury
Bureau of Mines

D. P. Elston
Geological Survey

September 1956

Reviewed by
DMEA OPERATING COMMITTEE
9-26-56
(date)

RECEIVED
SEP 24 1956

DMEA 4362

OLD TEXAS MINING COMPANY

SUMMARY AND INTRODUCTION

On June 22,1956, the Old Texas Mining Company, Box 502, Moab, Utah, applied for Government assistance to explore for uranium on four claims on Rattlesnake Mountain north of Big Indian Wash, San Juan County, Utah.

A program of non-core and core drilling requiring 16,000 feet of drilling in 40 holes averaging 400 feet in depth on wide-spaced centers is proposed at an estimated cost of $39,476.29. Government participation at 75 percent would be $29,607.22.

A field examination was made on August 8, 1956 by a DMEA examining team accompanied by K. D. Wahlquist, manager for the applicant.

The proposed project area is located about 2,500 feet north of the Rattlesnake open pit operation of Continental Uranium, Inc., and 1,500 feet north of the Rattlesnake incline operated by a lessee of the same company.

The Rattlesnake area is along and near the northwest extension of the Lisbon Valley fault in an area where one member of the fault system makes an abrupt change in strike to the west. The strata near the Old Texas claims dip gently to the northeast into a broad syncline. The rocks exposed in the area consist of the Brushy Basin member of the Morrison formation of Jurassic age, the Burro Canyon formation of Cretaceous age, and Quaternary alluvium.

Uranium-vanadium ore bodies are in the uppermost sandstone lens of the Salt Wash member of the Morrison formation. In places a second sandstone lens beneath the uppermost lens is mineralized, but reserves in this lens are nil.

The proposed DMEA project is based on possible ore occurrences within a Salt Wash trend projected N. 45° E. from a mineralized area partially drilled out by Continental Uranium Inc. just southwest of the Old Texas No. 8 claim. This trend is parallel to and northwest of the trend exposed in the Rattlesnake open pit. The applicant assumes that individual ore bodies, similar to those which have been found in the open pit, may average 60 feet by 240 feet by 4 feet in thickness with the long axis trending N. 45° E. Results of drilling by Continental Uranium and Petty Mining Exploration Company northwest of the open pit, and the Rattlesnake incline operation all indicate that ore occurrences on the DMEA project ground, if present, are probably much smaller.

Property rights of the applicant are satisfactory so far as could be determined in the field. Claims have been properly recorded and there is no evidence of conflicting locations on the ground. Mr. Wahlquist stated that there is a possible conflict between some adjacent claims owned by Old Texas Mining Company and the Daisy claims located by Steven Day, but that this conflict does not involve the four claims concerned in the DMEA application. Old Texas Mining Company holds a lease from the original locators of the group, J. Wesley Oliver and Vere Westwood. Oliver and Westwood will subordinate the claims.

The one stage drilling plan suggested by the applicant is unsuitable for locating ore bodies 60 feet by 240 feet, and ore bodies, if present on the Old Texas claims, are probably smaller than this, judging by results of previous drilling on and near the claims. At a depth of 400 feet, a suitable drilling program would require wide-spaced drilling in a first stage to establish geologic control and determine favorable areas by the usual criteria under probable complicated structural conditions, to be followed by a second stage confined to the areas containing mineralized or favorable sandstone. Data furnished by the applicant on previous drilling are unsatisfactory for proper evaluation of geologic conditions. The previous exploration consisted of 15 holes completed through the ore horizon, and was concentrated largely in direct line with the projected extension of the northwest Rattlesnake ore trend. One out of 7 closely spaced holes is reported to have penetrated low-grade ore but the overall result was discouraging.

On the basis of drill hole data supplied by the applicant, Continental Uranium, Inc., and the Atomic Energy Commission, it is concluded that the possibility of finding economic bodies of ore on the property is poor. It is recommended that the application be denied.

ACKNOWLEDGMENTS

The applicant submitted an application with map, drill logs, and an excellent cost estimate. The Atomic Energy Commission was consulted through Louis Garbrecht. Gordon Weir, project chief for the Geological Survey in Lisbon Valley, was also consulted. Geologic investigation by Government personnel in the immediate vicinity of the subject property has been limited. Data made available by Mr. Jay Smith, geologist, Continental Uranium, Inc., was utilized in making evaluations. Results of private drilling in the southeast corner of section 2, T. 29 S., R. 23 W., by the Petty Mining Exploration Company of San Antonio, Texas, was made available through M. A. Lekas, geologist for the Atomic Energy Commission.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The property is located in sec. 1, T. 29 S., R. 23 E., Salt Lake Meridian, about 4 miles north of Big Indian Wash area, San Juan County, Utah (fig. 1). It is adjacent to and north of the Rattlesnake operation of Continental Uranium, Inc., and 30 miles south of Moab, Utah, the site of an ore-buying station and a treatment plant in course of construction. Another treatment plant is in operation at Monticello, Utah, about 35 miles south. Grand Junction, Colo., 110 miles northeast of Moab, Utah, is the nearest major source of supplies. Hard surfaced roads have been completed to within 4 miles of the property.

The claims are on the north slope of Rattlesnake Mountain at an elevation of about 6,500 feet. Much of the surface is covered by landslide material, slopes are moderate to steep, and there are only a few rim outcrops. The access road network has been completed, and excavation of drill sites has been comparatively easy.

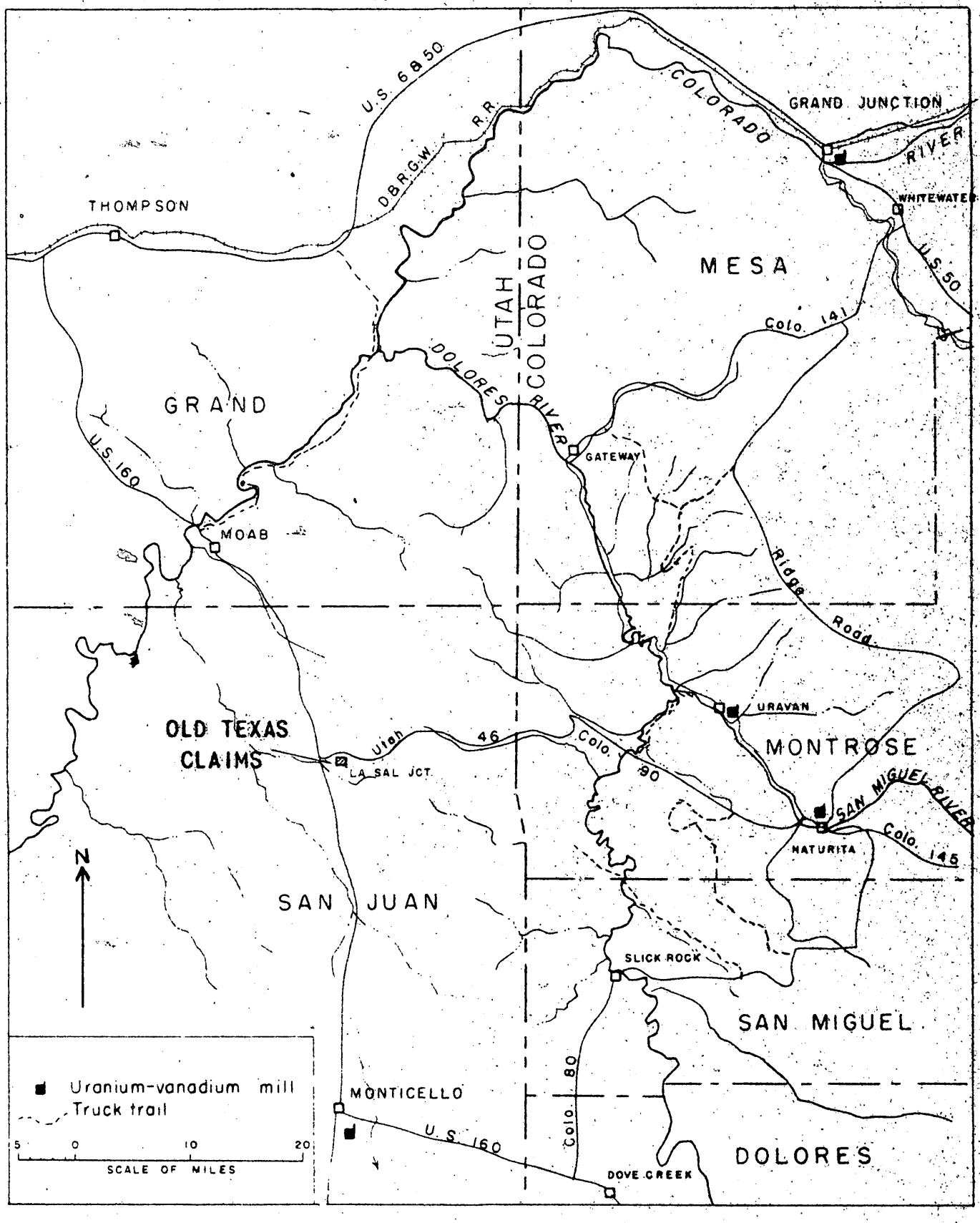


Figure 1.--INDEX MAP OF PARTS OF UTAH AND COLORADO SHOWING LOCATION OF OLD TEXAS CLAIMS, OLD TEXAS MINING CO., SAN JUAN COUNTY, UTAH.

The climate of the region is moderate with warm summers and mild to cold winters. Year-round surface operations are feasible and normal except during periods following infrequent winter storms and spring thaws.

There are no unusual problems of access, supply, power or labor. Supplies of domestic and drilling water are obtainable from intermittent streams, springs and wells. Electric power for mining operations can be installed, if justified, by connecting with lines of the Utah Power and Light Company which pass within a few miles of the property. It is proposed to employ the applicant's own drilling equipment and crew. Living quarters can be established on the claims or personnel can commute from Moab or Monticello.

HISTORY AND PRODUCTION

Mining of Salt Wash uranium-vanadium deposits a few miles north of Rattlesnake Mountain in what is known as Brown's Hole dates from 1934. Recent exploration and development of these deposits for their uranium content dates from 1952. The Old Texas and Rattlesnake claim groups were located in January 1954 as the result of a discovery of a good mineralized outcrop at the site of the present Rattlesnake open pit. Old Texas Mining Company carried on the early operation under lease from the original locations. Later the property was subleased to Continental Uranium, Inc., and extensive drilling and underground exploration has since been carried on. Continental Uranium, Inc., concluded that sufficient ore had been found to justify a large operation. They decided that an open pit was feasible and preferable. In this operation it has been necessary to strip overlying beds ranging up to nearly the full thickness of the Brushy

Basin member. Cost of excavation has exceeded the original estimate.

An underground mining operation is being carried on by a lessee of Continental Uranium, Inc., on a smaller deposit north of the open pit area. Through April 1, 1956, production from the Rattlesnake claims, including that from abandoned underground workings supplanted by the open pit, has totaled 19,177 tons of ore containing an average of 0.30 percent U_3O_8 and 0.78 percent V_2O_5. Remaining reserves on the same date as carried by the Atomic Energy Commission are 74,120 tons with an average content of 0.35 percent U_3O_8 and 1.06 percent V_2O_5. Most of the reserves are in the ore bodies being developed by open pit.

OWNERSHIP AND EXTENT

The four claims in the proposed DMEA project were located by J. Wesley Oliver and Vere Westwood of Moab, Utah in January 1954. They are part of a larger group originally leased to Old Texas Mining Company and subleased by the latter company to Woodmont, Inc., a subsidiary of Continental Uranium, Inc. By a provision in the agreement of lease, the four claims in the proposed DMEA project reverted to Old Texas Mining Company. They are Old Texas No. 1, Old Texas Fraction No. 6-B, Old Texas No. 7, and Old Texas No. 8. (fig. 2). The original location certificates were dated January 3, 1954 and filed on January 7, 1954 in Book 47, pages 155, 157 and 158 of the San Juan County records. Amended locations were filed on February 2, 1954. Lease applications under A.E.C. Circular No. 7 were filed April 8, 1954, and withdrawn on December 10, 1954. Amended locations were filed on

December 10, 1954, in Book 251, pages 471, 472, 473 and 479 under Public Law 585. So far as courthouse records and the field examination show, location procedures have been satisfactory. Old Texas Fraction No. 6-B is the amended location for Old Texas No. 6. Old Texas Fraction No. 6-B overlaps Old Texas No. 7 about 75 feet along the west side line of the fraction. Other claims are full size. Notices of labor and improvements on the four claims for the years ending June 30, 1955, and June 30, 1956, were posted and had been recorded. Copies of the original lease to Old Texas Mining Company, of the assignment to Woodmont, Inc., and of the reassignment from Woodmont, Inc., back to Old Texas Mining Company were furnished with the brochure. All appear to be in order.

No evidence of claim conflicts was found in the field. Mr. Wahlquist stated that a conflict did exist between two other of their claims, Old Texas Nos. 5 and 5A claims, and the Daisy claims, located by Steven Day. However, the claims in the proposed DMEA project are not affected.

PRESENT STATUS

Exploration and Development

The applicant has completed 14 non-core and one part core-hole in depths ranging from 250 to 600 feet penetrating the potential ore-bearing sandstone (fig. 2). Difficult drilling conditions produced mainly by badly fractured and silicified sandstones caused the abandonment of several other holes before the ore-bearing sandstone was

was penetrated. Twelve holes were concentrated on Old Texas No. 8 claim in line with the projected path of the northeast trending secondary Rattlesnake ore trend which has been indicated by drilling. Five holes were grouped on 25-foot centers. One of these, the only core hole, penetrated 3 feet of material which assayed 0.18 percent U_3O_8 chemically. Low-grade mineralization was indicated radiometrically in 8 others by probing. No evidence of a minable ore deposit was found. Information furnished by Continental Uranium, Inc., on the results of their drilling in a secondary Rattlesnake mineralized trend northwest of the Rattlesnake open pit, indicates that mineralization is spotty and low grade. Although there are several ore holes, the ore is not largely connective and Continental does not consider it minable. The depth to the ore horizon here is about the same (270 feet) as to the northeast in the western part of the applicant's claims.

The drill hole data furnished by the applicant were recorded and compiled by non-professional personnel and are based largely on examinations of cuttings or sludge from non-core drilling. Many of the holes had to be completed through the ore horizon by wet methods. Evidence bearing on strata thicknesses and favorability cannot be observed in this type of drilling, particularly when loss of circulation of drilling medium occurs. However, as the descriptions of the strata penetrated are of a sketchy nature and only the broadest lithologic units are delimited on the logs, the variations of sample sources, air cuttings and sludges, probably had little effect on the data.

Mining Equipment and Other Facilities

There is no mining or exploration equipment on the property at the present time. The applicant has available a Winter-Weiss porta drill with auxiliary equipment for wet and dry non-core and core drilling and an International Harvester TD24 crawler tractor.

GEOLOGY

General.--The Rattlesnake area is located along and near the northwest extension of the Lisbon Valley fault where there is a feathering into several faults and where there is an abrupt shift in strike to the west of one of the faults. The strata near the Old Texas claims dip gently to the northeast into a broad syncline. The rocks exposed in the area consist of strata of Jurassic, Cretaceous, and deposits of Quaternary age.

Stratigraphy

The oldest rocks naturally exposed are strata of the Brushy Basin member of the Morrison formation of Jurassic age. They crop out on the moderately steep slopes of Rattlesnake Mountain and are exposed in the open pit on the south side of the mountain. The strata consist of red, green and gray-green mudstones and siltstones, light red, very-fine grained sandstones and silty sandstones, and locally red-brown fine- to medium-grained sandstones which locally contain coarser grains of red chert. A conglomeratic sandstone about 30 feet above the base of the member is present in some places. In places there are also thin layers of dark gray and dark green silty limestone. The Brushy Basin member here is about 375 feet thick.

The Brushy Basin member is overlain by resistant sandstone of the Burro Canyon formation of Cretaceous age which caps Rattlesnake Mountain and which crops out as a cliff along the drainage east of the Old Texas claims.

The Burro Canyon formation is composed of light brown massive and crossbedded fine- to medium-grained sandstone and conglomeratic sandstone. The lower part of the formation consists mainly of white to light-gray very-fine-grained quartzitic sandstone which is extremely resistant to weathering and to drilling. In the eastern part of the Old Texas claims, near the fault which passes through the claims, outcrop and drill hole data indicate that much of the formation is silicified. Minor amounts of light green mudstone are interbedded with sandstone of the formation. Incomplete sections exposed in the area are about 80 feet thick.

Landslide deposits probably of Quarternary age derived principally from mudstones of the Brushy Basin member mantle much of the local area. These deposits on the Old Texas claims may be about 75 feet thick. In addition a veneer of talus of Quaternary age consisting of blocks and fragments of sandstone derived from the Burro Canyon formation and mudstone of the Brushy Basin member which ranges in thickness from about one to ten feet overlies the landslide. Alluvium and loessal deposits of Quaternary age mantle the relatively flat low areas and also locally forms a wedge-like filling, about 50 feet deep and 20 to 30 feet wide at the top, in the Brushy Basin member as exposed on the northeast side of the Rattlesnake pit.

Prior to stripping operations in the Rattlesnake open pit, a mineralized outcrop of sandstone of the Salt Wash member of the Morrison formation, which underlies the Brushy Basin member, was exposed on the south side of the fault which presently bounds the south side of the pit. Some distance below this to the southeast there was a small outcrop of Entrada sandstone of Jurassic age which was subsequently covered by dump material from the stripping operations. The interval between is presumed to have been largely red mudstones and siltstones of the middle and lower Salt Wash member and of the underlying Summerville formation. A deep hole drilled by Continental Uranium, Inc., in the general area of the pit, penetrated 225 feet of red mudstones below the upper sandstone lenses of the Salt Wash member, but did not penetrate Entrada sandstone. It is presumed to have bottomed either in the lowermost beds of the Salt Wash member or in the Summerville formation.

The following generalized stratigraphic section for the Rattlesnake area is compiled from several sources of generalized information, from field observations and from interpretations of drill logs.

Age	Formation	Description	Thickness (feet)
Cretaceous	Burro Canyon formation	Light brown to white sandstone, quartzitic sandstone and conglomeratic sandstone with minor green mudstone.	80 (incomplete thickness)
Jurassic	Morrison formation, Brushy Basin member	Red and green mudstone, siltstone, and red and red-brown sandstone, silty sandstone and locally conglomeratic sandstone; minor limestone.	375
	Salt Wash member	Upper part, one to two light brown to white, fine- to medium-grained sandstone lenses totaling 40 to 100 feet thick; uranium-vanadium-bearing; green mudstone and some light gray "marl" is associated with the sandstone; middle and lower part, red, and red and green mottled mudstone and minor sandstone.	325
	Summerville formation	Red siltstone	15(?)-60(?)
	Entrada sandstone	Light brown fine-grained sandstone with a few scattered rounded medium-sized quartz grains.	100+

Structure

The structure in the area is that of a simple regional dip of strata to the northeast of 3 to 5 degrees into a broad syncline (fig. 3). In detail, several high angle faults complicate the structure. The southernmost fault strikes westerly and strata are displaced downward to the north about 150 feet. A group of faults to the northeast strike northwesterly. Along the southwesternmost of these, strata are displaced downward to the southwest about 30 feet. The strata here dip about 3° to the southwest and west as seen in the mine workings of the Rattlesnake No. 2 mine. To the northeast of the Rattlesnake No. 2 mine, drill hole data indicate a zone of minor stepfaults which apparently terminate along a major fault and fault zone which extends northwesterly into the Old Texas claims. Displacement along this fault apparently is about 200 feet. Strata of the Burro Canyon formation on the east have been dropped down in juxtaposition with strata of the Brushy Basin member on the west.

Ore deposits

The Salt Wash member contains the uranium-vanadium reserves in the area. Sandstone lenses apparently are restricted to the upper part. The ore bodies are in the uppermost sandstone lens but in places an underlying sandstone lens is mineralized. Reserves in the lower lens are nil.

The uppermost lens is from 15 to 30 feet below sandstone and sandy siltstone identified as Brushy Basin. The upper lens where it contains ore is most commonly about 40 feet thick and where underlain by a second sandstone lens is separated from it by about 20 feet of red and gray-green

mudstone. The lower sandstone is commonly also about 40 feet thick. Where the intervening mudstone is absent, locally in vicinity of the Rattlesnake pit, there is but one sandstone layer ranging from 80 to 100 feet in thickness. Ore reserves in the thick single sandstone layer are reported to be nil. Mr. Jay Smith, geologist for Continental Uranium, Inc., considers the upper sandstone lens to be the main "ore-bearing sandstone." Continental Uranium, Inc., has found the major part of their reserves where the sandstone is about 40 feet thick. Extensive drilling in the area has shown a series of northeasterly trending belts of mineralized ground. Ore bodies, mineralized ground, and barren ground lie within the belts. There is some mineralized ground outside of the belt, but most of this ground is barren and has little or no potential for ore.

Drill hole data submitted by the applicant have been evaluated on the basis of generalized data obtained from nearby drilling by Continental Uranium, Inc., supplemented by observations in the Rattlesnake No. 2 mine and the Rattlesnake open pit. Drill holes in the western part of the Old Texas claims penetrated thicknesses of the ore-bearing sandstone which range from 80 to 100 feet. Examination of a part of the core in the one partly cored hole (hole number 4, Old Texas No. 8 claim) showed that one to two feet of green mudstone separates the upper sandstone lens from the lower sandstone lens. The sandstone cored in this hole is classed as favorable for ore on the basis of color and grain size. Most of the holes drilled on the Old Texas claims were bottomed before penetrating mudstone.

The poor results of offset holes on 25-foot centers in the western part of the Old Texas claims substantiates the concept of poor ore potential where the sandstone is a thick single layer. The position and results of these holes probably indicate that the western part of the claims is on the fringe of a non-economic mineralized trend drilled by Continental Uranium Inc. to the southwest. This trend, which is northwest of the main Rattlesnake trend contains scattered holes which penetrated material classed as ore, and a fairly large number of mineralized and barren holes. The ore bodies are too small and too scattered for economic mining at depths of 250 to 275 feet, about the same depths as exist in the western part of the Old Texas claims. The ore deposits of the Rattlesnake pit and Rattlesnake No. 2 mine each comprise several ore bodies. It is the clustering of these ore bodies that has made them so economically attractive.

In the eastern part of the Old Texas claims drilling depths to penetrate the ore horizon as described by the applicant ranges from about 400 to more than 500 feet. Correlations of the applicant's drill holes suggests that the sandstones are lenticular and that they may abruptly pinch and swell. Evaluation of the ground as to favorableness for ore is difficult because of the lack of descriptive data, but some of the holes tentatively are considered only semi-favorable for ore, for red mudstone is associated with the ore-bearing sandstone, as reported by the applicant (fig. 2). The applicant could supply no evidence to support his contention that sandstone of the Salt Wash member rests

directly on the Entrada sandstone. It is believed that any ore-bodies which exist on the Old Texas claims would be too small and too scattered to be mined at depths of 270 to 550 feet.

ORE RESERVES

There are no known ore reserves on the applicant's property. The large reserves reported by Mr. Wahlquist on the adjoining Rattlesnake property refer to the deposits in and around the open pit. No reserves have been developed in the secondary mineralized trend which is projected into the applicant's claims.

PROPOSED EXPLORATION

A drilling program requiring an estimated 14,400 feet of non-core and 1,600 feet of core drilling in 40 holes was proposed by the applicant. Holes would have averaged 400 feet in depth at an estimated maximum cost of $39,476.29. Government participation at 75 percent would have been $29,607.22.

The applicant proposes to use his own equipment and personnel for all phases of the work. The estimated average cost of $2.47 per foot is probably less than it would be under contract drilling prices. However, past experience by the applicant and also Continental Uranium Inc. in drilling through hard cherty zones and silicified sandstones associated with faults indicates that the work probably cannot be done at the price quoted.

It has been proposed that holes be bottomed on the Entrada formation. This is based on an assumption by the applicant's manager that the Salt Wash

member of the Morrison formation rests directly on the Entrada sandstone, the Summerville formation being absent in this area. Actually the holes drilled by the applicant appear to have been bottomed in the lower sandstone lens in the upper part of the Salt Wash member and not in the Entrada sandstone as reported. Data from Continental Uranium, Inc., drilling supports the examining team's contention that only the upper Salt Wash horizon has been reached by the applicant's drill holes.

The applicant's manager devised a drill pattern on the assumption that the minimum size ore body which could be mined would be 60 by 240 feet in lateral extent with the long axis trending northeast and southwest. The hole pattern was laid out with holes roughly on 200- to 250-foot centers at right angles to the long axes of possible ore bodies and on 250- to 400-foot centers parallel to the long axes (fig. 2). No closer spaced drilling is proposed. For good coverage of the claims area for ore bodies 60 by 240 feet, a closer spacing would be necessary.

A number of the applicant's holes are located very close to a postulated northwest-southeast striking fault traversing the eastern part of the claim area. Successful completion of these holes would probably be particularly difficult.

The probable tenor of ore on the property, judging mainly by the results of previous drilling by two operators northeast of the Rattlesnake open pit rather than by the unsatisfactory data presented by the applicant, indicate that any possible drilling plan to explore an ore horizon at depths ranging from 300 to more than 600 feet would be uneconomic.

No revision of the exploration plan and cost estimate is being made by the examining team.

CONCLUSIONS AND RECOMMENDATIONS

From the results of a considerable amount of drilling done by Continental Uranium, Inc., northwest of the Rattlesnake open pit, by Petty Mining Exploration Company still farther northwest in sec. 2, and by Amuranium Corporation northeast of the Rattlesnake property, it is concluded that a repetition of a major Rattlesnake ore deposit is not likely to be present on the Old Texas claims and the type of ore bodies which may occur do not justify a mining operation at the depth of the potential ore horizon, 270 to 575 feet. The examining team was informed by a geologist employed by Continental Uranium, that present plans do not contemplate further work on the secondary ore trend, on which the applicant based his proposed exploration, because it is not economic at the depth of occurrence. A third weaker trend, still further northwest, does not, by similar reasoning, justify more work although the examining team does not have information on future plans of the operator, Petty Mining Exploration Company. The areas between mineralized trends has already been tested south of the Old Texas claims with negative results.

The best area for exploration on the applicant's property, is on the Old Texas No. 8 claim where the target would be the possible extension of the northeast trending secondary mineralized belt from Continental Uranium, Inc., ground. The applicant has already concentrated a number of drill holes in line with this projected trend with poor results. Except for one drill hole other drilling done on the Old Texas claims has shown negative results.

It is believed that another adverse factor in the proposed exploration of the Old-Texas claims is the presence of a number of faults which probably have caused severe displacements of strata and any contained ore bodies, and would tend to make successful completion of a drilling program difficult.

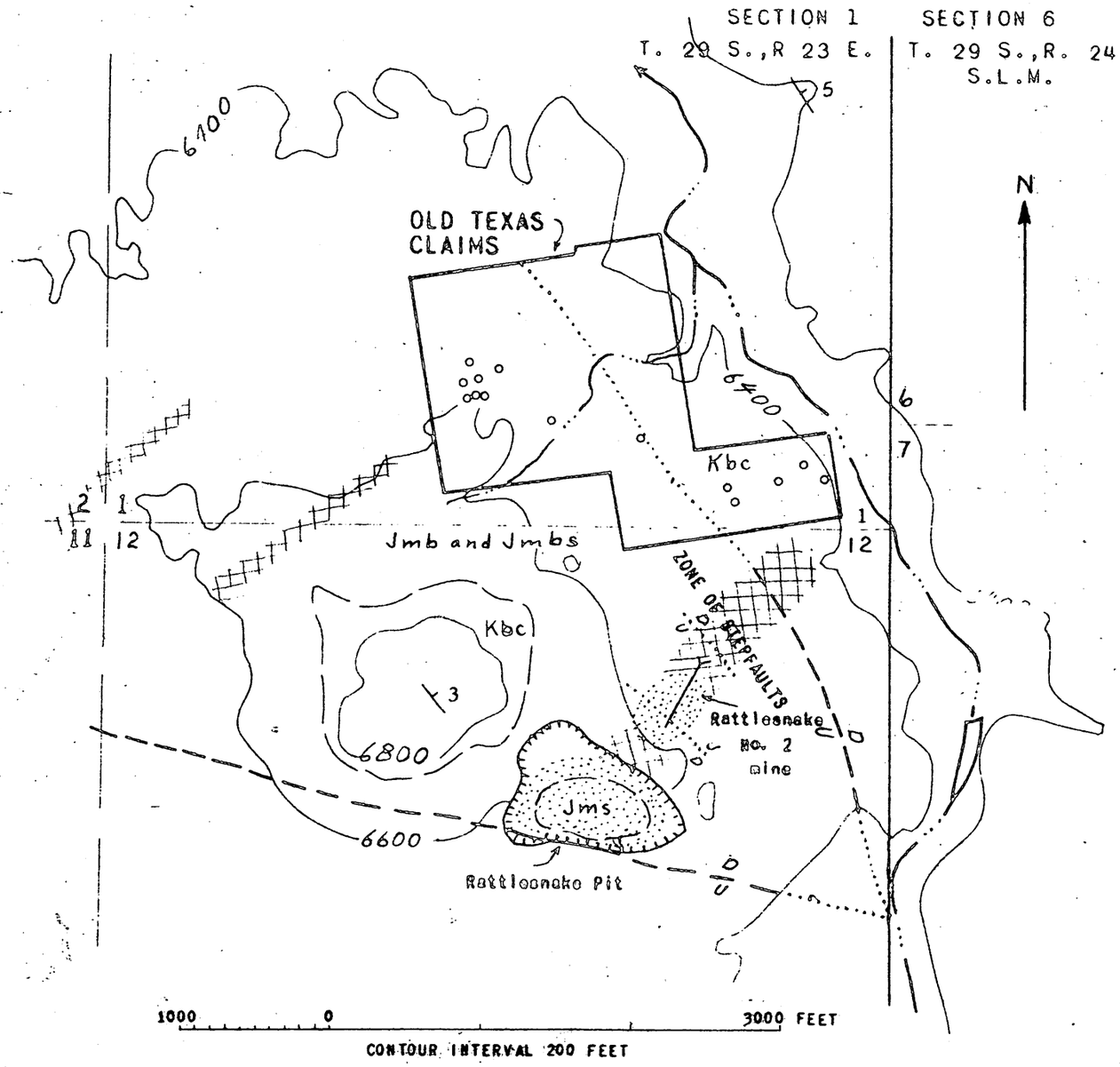
The applicant's manager has calculated that the minimum size of an ore body or closely grouped ore bodies that would justify mining would total about 16,250 feet in area, with an average thickness of 4 feet, and would contain 5,000 tons ore with a minimum gross value of $200,000.00.

The examining team agrees with this, with the added conclusion that there is little possibility of finding an ore body or ore bodies meeting this requirement.

Denial of the application for exploration assistance under docket DMEA 4362 is recommended.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
AUGUST 1956 DOCKET 4362



EXPLANATION

Kbc — CRETACEOUS BURRO CANYON FORMATION

Jmb and Jmbs — BRUSHY BASIN MEMBER AND LANDSLIDE DERIVED FROM BRUSHY BASIN MEMBER OF THE JURASSIC MORRISON FORMATION, UNDIFFERENTIATED

Jms — SALT WASH MEMBER OF THE JURASSIC MORRISON FORMATION

CONTACT, LOCATED APPROXIMATELY WHERE DASHED

HIGH ANGLE FAULT
U, UP THROWN SIDE; D, DOWN THROWN SIDE
DASHED WHERE APPROXIMATELY LOCATED; DOTTED WHERE CONCEALED; FAULTS NEAR RATTLESNAKE NO. 2 DEFINED FROM DIAMOND CORE DRILL HOLE DATA

STRIKE AND DIP OF BEDS

MINERALIZED TREND DEFINED BY DRILLING:
GENERAL AREAS CONTAINING ORE BODIES; SOME MINERALIZED AND BARREN AREAS
GENERAL AREAS OF MINERALIZATION; SOME ORE HOLES, MOSTLY WEAKLY MINERALIZED WITH VARIABLE AMOUNTS OF BARREN GROUND
(SOME MINERALIZED ROCK IS OUTSIDE OF THESE TRENDS.)

GENERAL AREA OF DRILLING NEAR THE OLD TEXAS CLAIMS

DRILL HOLES ON OLD TEXAS CLAIMS, ALL HOLES NOT SHOWN

OPEN PIT MINE

MINE PORTAL

Note: TOPOGRAPHY, DRAINAGE, AND LAND LINES FROM U.S. GEOLOGICAL SURVEY QUADRANGLE, MT. PEALE 2 SE, UTAH.
ROADS NOT SHOWN.
GEOLOGY MODIFIED FROM U.S. GEOLOGICAL SURVEY PHOTOGEOLOGIC MAP U 267 SE; FROM FIELD MAPS BY G.W. WEIR, U.S. GEOLOGICAL SURVEY; FROM FIELD INSPECTION, D.P. ELSTON, U.S. GEOLOGICAL SURVEY; AND FROM FIELD MAPS, CONTINENTAL URANIUM, INC.
THIS MAP CONTAINS INFORMATION CLASSED AS COMPANY CONFIDENTIAL.

FIGURE 3.--GENERALIZED GEOLOGIC MAP OF THE RATTLESNAKE AREA SHOWING LOCATION OF OLD TEXAS CLAIMS, SAN JUAN COUNTY, UTAH

RECEIVED
SEP 24 1956

7-25-56

DMEA
Date Rec'd

JUL 23 1956

BUREAU OF MINES
Denver, Colorado

RECEIVED
JUL 25 1956

July 23, 1956

Memorandum

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

From: Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA 4362 (Uranium), Old Texas Mining Company, (Old Texas claims), San Juan County, Utah

The application on Docket DMEA 4362, Old Texas Mining Company in the amount of $39,476.29 was received in this office on July 20, 1956.

A field examination will be made and suitable report prepared by an engineer from the Denver or Grand Junction office.

JOHN F. SHAW
John F. Shaw

cc: W. M. Traver (2)
E. H. Marshman
J. W. Hasler
M. K. Salsbury
J. F. Shaw
Sec. Op. Com (2)

DMEA
Date Rec'd.

JUL 23 1956

BUREAU OF MINES
Denver, Colorado

July 23, 1956 RECEIVED

JUL 25 1956

Memorandum

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

From: Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA 4368 (Uranium), Old Texas Mining Company, (Old Texas claims), San Juan County, Utah

The application on Docket DMEA 4368, Old Texas Mining Company in the amount of $39,476.89 was received in this office on July 20, 1956.

A field examination will be made and suitable report prepared by an engineer from the Denver or Grand Junction office.

JOHN F. SHAW

John F. Shaw

cc: W. M. Traver (2)
K. H. Barshman
J. W. Beeler
M. H. Salsbury
J. F. Shaw
Sec. Op. Com. (2)

7/23/56

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

RECEIVED
JUL 23 1956

July 19, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: J. F. Shaw (2) (With brochure)
J. W. Ensler

From: Field Team, Region III

Subject: Docket DMEA 4362 (Uranium) Old Texas Mining Company, (Old Texas claims), San Juan County, Utah

Enclosed is the subject application in the amount of $39,476.29. A field examination and suitable report are requested.

Your attention is directed to the letter from the Chairman of the Operating Committee dated July 16, 1956, copy of which is attached, showing the requirements if an exploration program is recommended. Also attached are copies of a review of the application by James Facos and T. H. Kiilsgaard.

Please return the brochure with the Report of Examination.

DMEA Field Team, Region III

W. M. TRAVER,

By W. M. Traver
Executive Officer

Enclosure

WMT:ab

cc: Sec. Op. Comm. (2)
Marshman
Docket 4362
Chron.

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

RECEIVED
JUL 23 1956

July 19, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: J. F. Shaw (2) (With brochure)
J. W. Haeler

From: Field Team, Region III

Subject: Docket DMEA 4362 (Uranium) Old Texas Mining Company, (Old Texas claims), San Juan County, Utah

Enclosed is the subject application in the amount of $39,476.29. A field examination and suitable report are requested.

Your attention is directed to the letter from the Chairman of the Operating Committee dated July 16, 1956, copy of which is attached, showing the requirements if an exploration program is recommended. Also attached are copies of a review of the application by James Pacos and T. R. Kiilsgaard.

Please return the brochure with the Report of Examination.

DMEA Field Team, Region III

W. M. TRAVER.

By W. M. Traver
Executive Officer

Enclosure

DMS:ab

cc: Sec. Op. Comm. (2)
Hershman
Docket 4362
Chron.

700

FILE COPY
Surname:

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

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

JUL 16 1956

Re: Docket No. DMEA-4362 (Uranium)
Old Texas Mining Company
Old Texas claims
San Juan County, Utah

Dear Mr. Traver:

The captioned application is referred to your office for a field examination and report on the proposed project. A copy of the application was retained by your office.

Enclosed are copies of memoranda dated July 9 and 10, 1956, from Mr. James Paone, USBM, and Mr. T. H. Kiilsgaard, USGS, respectively, relating to the subject project.

If the Field Team recommends an exploration program, we will require, in addition to the usual information, the following:

1. Nine copies of a map showing location of drill holes, and recommended work, all in relation to the property boundaries;

2. Bids from three contractors if drilling is recommended; and

3. Applicant should be requested to furnish an owners' Consent to Lien covering the land concerned signed by Vere and Evelyn Westwood and James Wesley Oliver and Gladys Oliver.

Please note the Applicant has proposed drill holes closer than 100 feet to the property boundary. No work should be recommended which is closer than 100 feet to the outside boundary of the property.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Enclosures
APPROVED:

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

Thor H. Kiilsgaard
Member, Geological Survey

Operating Committee
Messrs. JECrawford, Rm. 3643
THKiilsgaard, Rm. 5224
JHosted, Rm. 3210, GSA

FLKnouse/izm 7-13-56
cc to: Docket
code 700
Mr. Knouse
Admr.'s Reading File

P.C.

700

FILE COPY
Surname:
Knouse
Ellis
Kalgaard
Gilman
Jelledge
Johnson

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

JUL 16 1956

Old Texas Mining Company
Box 502
Moab, Utah

Re: Docket No. DMEA-4362 (Uranium)
Old Texas Claims
San Juan County, Utah

Gentlemen:

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

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

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

Sincerely yours,

C. O. Mittendorf

Administrator

FLKnouse/izm 7-13-56
cc to: Docket
Code 700
Mr. Knouse
Admr.'s Reading File
DMEA Field Team, Region III (2)

R.C.L.

7-11-56

IN REPLY REFER TO:

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

July 10, 1956

RECEIVED
JUL 11 1956

Memorandum

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

From: T. H. Kiilsgaard, U. S. Geological Survey

Subject: Review of application submitted by Old Texas Mining Company, DMEA Docket 4362 (Uranium), San Juan County, Utah.

The applicant proposes to explore the Old Texas property, situated north of Continental Uranium's Rattlesnake mine, with 40 holes drilled from the surface. Only 10 percent of the drilling is to be cored. All holes are to be drilled to the top of the Entrada formation, the average depth of which is estimated at 400 feet. Cost of the project is estimated at $39,476.29.

Within the past two years the nearby Rattlesnake mine has progressed from a small prospect mined largely with a pick, shovel, and wheelbarrow to a large open pit operation. Hasler reports the mine to have an ore reserve of 74,120 tons averaging 0.35 percent U_3O_8 and 1.6 V_2O_5. The geologic environment at the Old Texas property is comparable with that of the Rattlesnake mine; preliminary drilling has already found material of ore grade. It would certainly seem that the property warranted further exploration.

The proposed pattern of drilling seems suitable for testing the property, but it could be better checked by the field examiners than here in the office. Also, the field examiners should check the applicants statement that he would do more core drilling for the U. S. Geological Survey at negotiated prices. The Survey would not ask the applicant to do more drilling simply for its information. Survey geologists might recommend that the applicant take more than 10 percent of core so that the property could be better evaluated, which would be entirely proper and which is, I believe, what the applicant means in his statement.

I recommend referral of the application to the field for a property examination and report.

T. H. Kiilsgaard

T. H. Kiilsgaard

IN REPLY REFER TO:

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

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July 10, 1956

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I recommend referral of the application to the field for a property examination and report.

THKiilsgaard:btr
G 7/10/56
cc: J.E.Crawford, 3641
J.O.Hosted, 3210
Director's reading file (4212)
Branch reading file (4212)
DMEA (3)
Chron. file
Docket file

T. H. Kiilsgaard

7-10-56

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

July 9, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Application for Assistance, DMEA Docket 4362 (Uranium)
Old Texas Mining Company (Old Texas claims), San Juan County, Utah

I have reviewed the attached application for assistance, DMEA Docket 4362, Old Texas Mining Company (Old Texas claims), San Juan County, Utah, dated June 20 and received in this office July 6, 1956. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The Old Texas Mining Company has requested Government assistance to explore for uranium on 4 unpatented mining claims which lie some 3,000 feet north from the Continental Uranium Mining Company's Rattlesnake open pit mine and which are in the Big Indian mining district, San Juan County, Utah. The exploration project is expected to entail some 16,000 feet of core and non-core drilling at a total cost of $39,476.29.

The field team recommend that a field examination be made inasmuch as the claims have favorable criteria for the discovery of ore.

We concur in the recommendation that the application be referred to the field for appropriate action.

James Paone

James Paone

RECEIVED
JUL 9 - 1956

Attachment

7-5-56

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

RECEIVED
JUL 5 - 1956

July 3, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Docket DMEA 4362 (Uranium) Old Texas Mining Company (Old Texas claims), San Juan County, Utah

Enclosed are four copies of a review of the subject application by J. W. Hasler, USGS, and M. H. Salsbury, USBM, recommending that a field examination be made.

We concur in this recommendation.

Two copies of the application for aid in the amount of $39,476.29 were forwarded to you on June 25, 1956.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosures

7-5-56

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

RECEIVED
JUL 5 - 1956

July 3, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Docket DMEA 4362 (Uranium) Old Texas Mining Company (Old Texas claims), San Juan County, Utah

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DMEA Field Team, Region III

W. M. TRAVER,

By W. M. Traver
Executive Officer

Enclosures

MINERAL DEPOSITS
DMEA
RECEIVED
JUL 2 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED
JUL 5 - 1956

P. O. Box 360
Grand Junction, Colorado

DMEA
Date Rec'd.
JUL 2 1956
BUREAU OF MINES
Denver, Colorado

June 29, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: E. N. Harshman

From: J. William Hasler
M. H. Salsbury

Subject: Recommendation for a field examination on application DMEA aid (Uranium) Old Texas Mining Company (Old Texas claims) San Juan County, Utah

The Old Texas Mining Company has applied for aid to explore for Old Texas group of claims which lie some 3,000 feet north from the Continental Uranium Mining Company's Rattlesnake ore body in the north end of Lisbon Valley, San Juan County, Utah.

Based on earlier conversations with Mr. Jay Smith, geologist for Continental Uranium, the Old Texas group of claims probably includes a favorable northeasterly trend parallel to the trend in which the Rattlesnake ore body occurs. A cursory review of the application indicates that some diamond drilling has revealed material of ore grade.

The Ore Reserve Section of the Atomic Energy Commission shows a reported production from the Continental workings of 19,177 tons of ore that average 0.30 percent U_3O_8 and 0.78 percent V_2O_5 as of April 1, 1956. They are at present carrying a reserve balance of 74,120 tons of ore that will average 0.35 percent U_3O_8 and 1.6 percent V_2O_5.

Because of these favorable criteria, it is recommended a field examination be made. We will retain the application in this office pending further advice from Washington.

J. William Hasler
J. William Hasler,
U. S. Geological Survey

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

JWH/mlr

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MINERAL DEPOSITS
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JUL 2 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO
DMEA
Date Rec'd.
JUL 2 1956
BUREAU OF MINES
Denver, Colorado

P. O. Box 360
Grand Junction, Colorado

June 29, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: E. N. Marshman

From: J. William Hasler
M. H. Salsbury

Subject: Recommendation for a field examination on application DMEA aid (Uranium) Old Texas Mining Company (Old Texas claims) San Juan County, Utah

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J. William Hasler,
U. S. Geological Survey

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

JWH/mlr

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MINERAL DEPOSITS
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BUREAU OF MINES
Denver, Colorado
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P. O. Box 360
Grand Junction, Colorado

June 29, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

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M. H. Salsbury

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J. William Hasler
J. William Hasler,
U. S. Geological Survey

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

JWH/mlr

June 27, 1956

Old Texas Mining Company
Box 502
Moab, Utah

Subject: DMEA 4362
Re: Exploration Assistance
Old Texas Mine

Gentlemen

The receipt of your application dated June 20, 1956 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA 4362 and referred to the Rare & Misc. Metals Division.

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

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

60932

June 27, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

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

DMEA - 4362 Old Texas Mining Company

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

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

RECEIVED
JUN 27 1956

June 25, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Chairman, Operating Committee, DMEA

From: Field Team, Region III

Subject: Application for DMEA Aid (Uranium) Old Texas Mining Company (Old Texas claims), San Juan County, Utah

Enclosed are two copies of the subject application in the amount of $39,476.29.

One copy of the application is being forwarded to the Grand Junction office, DMEA, for their review and comments and one copy of the application is being retained in our file.

DMEA Field Team, Region III

By W. M. Traver
Executive Officer

Enclosures

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

RECEIVED
JUN 27 1956

June 25, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Chairman, Operating Committee, DMEA

From: Field Team, Region III

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DMEA Field Team, Region III

W. M. TRAVER,

By W. M. Traver
Executive Officer

Enclosures

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

RECEIVED
JUN 27 1956

June 25, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: J. W. Hesler

From: Field Team, Region III

Subject: Application for DMEA Aid (Uranium) Old Texas Mining Company (Old Texas claims), San Juan County, Utah

Enclosed is the subject application in the amount of $39,476.89.

Please discuss this application with the Bureau of Mines representative in the Grand Junction office and the AEC and forward this office nine copies of your recommendations concerning the advisability of making a field examination.

DMEA Field Team, Region III

W. M. TRAVER,

By W. M. Traver
Executive Officer

Enclosure

WMT:sb

cc: Docket
Chair. Op. Comm. (2)
Harshman
Shaw (2)
Gheen.

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

RECEIVED
JUN 27 1956

June 25, 1956

[illegible] New Customhouse
Denver 2, Colorado

Memorandum

To: J. W. Mealer

From: Field Team, Region III

Subject: Application for DMEA Aid (Uranium) Old Texas Mining Company (Old Texas claims), San Juan County, Utah

Enclosed is the subject application in the amount of $39,476.29.

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DMEA Field Team, Region III

W. M. TRAVER,

By W. M. Traver
Executive Officer

Enclosure

WMT:sb

cc: Docket
Chair. Op. Comm. (2)
Hardman
Shaw (2)
Graves.

B. W. BURFORD
PRESIDENT

JIM W. CROFFORD
SEC.-TREAS.

OLD TEXAS MINING COMPANY
3301 WORTH STREET :: VICTOR 3409
DALLAS, TEXAS

DMEA
Date Rec'd.
JUN 22 1956

RECEIVED
JUN 27 1956
BUREAU OF MINES
Denver, Colorado

TABLE OF CONTENTS

MF 103 - Application for Aid, with four pages text amplifying.

MF 103, par. 6 - Estimate of Costs, prepared on three analysis sheets.

EXHIBITS -

A - Mining Lease, Westwood et Oliver to Old Texas.

B - Assignment of Mining Rights, Old Texas to Woodmont.

C - Re-assignment to Old Texas, by Woodmont.

D - Listing of Recorded Documents, San Juan County. A complete abstract is available at the Old Texas office in Moab, Utah.

E - Part I - Map of Claim Features, including data assimilated from two previous drilling programs, and proposed exploration.

E - Part II - Drill Reports, Program I, June 1955.

E - Part III - Drill Reports and Cross-Sections, Program II, December1955 to January, 1956.

MF-108
(Revised April 1952)

DMEA
Date Rec'd.
JUN 22 1956

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
JUN 27 1956

BUREAU OF MINES
Denver, Colorado

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

Not to be filled in by applicant

Docket No. 4362
Metal or Mineral Uranium
Date Received 6/27/56
Estimated Cost $39,476.29
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: Old Texas Mining Company, corporation of State of Texas
Box 502
Moab, Utah

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

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

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

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

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

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

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Mining Lease, see text for amplification

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

(*e*) If you own the land, describe any liens or encumbrances on it Not applicable

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

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

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

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

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

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

16—66551-1

Par. 4 covered by accompanying text.

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

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

(*c*) The work will start within 30 days and be completed within 6 1/4 months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

☐ Money ☒ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated June 20, 1956

Old Texas Mining Company
(Applicant)

By W R Burford
W. R. Burford
Vice President (Operations)

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

B. W. BURFORD
PRESIDENT

JIM W. CROFFORD
SEC.-TREAS.

OLD TEXAS MINING COMPANY

3301 WORTH STREET :: VICTOR 3409
DALLAS, TEXAS

RECEIVED
JUN [illegible] 1956

1 c) B. W. Burford, President
6712 Bob-o-Links Drive
Dallas, Texas

W. R. Burford, Vice President and General Manager
6218 Malcolm Drive
Dallas, Texas

Jim W. Crofford, Secretary-Treasurer
3002 Commerce Street
Dallas, Texas

Kenneth D. Wahlquist II, Assistant Secretary and Manager
P. O. Box 502, Moab, Utah

3 a) Three mining claims and one fractional mining claim (unpatented) located in Section 1, T 29 S, R 23 E, SLBM, in San Juan County, Utah. The claims are in the Big Indian (unorg) Mining District, and are known as Old Texas Fraction 6-B, Old Texas 1, Old Texas 7, and Old Texas 8. All four claims were originally staked by J. Wesley Oliver and Vere Westwood of Moab, Utah, and an abstract is included under 3(f) below.

3 b) The claims above listed were kept by Old Texas Mining Co. from the group known as the Rattlesnake Group when the remainder were sold to Woodmont, Inc., a wholly owned subsidiary of Continental Uranium Company.

3 c) Old Texas holds a mining lease from J. Wesley Oliver and Vere Westwood. Title to the property is vested in J. Wesley Oliver and Vere Westwood, and the right of Old Texas to conduct operations on the claims has been passed upon by the law firm of Dixon and Wilcox of Moab, Utah. A copy of the lease to Old Texas and subsequent assignments to and reassignments from Woodmont, Inc., are included under 3 d) below.

3 d) See attached photostatic Exhibits A, B, and C.

3 f) See attached photostatic Exhibit D.

B. W. BURFORD
PRESIDENT

JIM W. CROFFORD
SEC.-TREAS.

OLD TEXAS MINING COMPANY
3301 WORTH STREET :: VICTOR 3409
DALLAS, TEXAS

4 a) Old Texas Mining Company conducted mining operations on the south side of Rattlesnake Mountain, at the Rattlesnake Mine, for a period of five months before selling their lease to Woodmont, Inc., a subsidiary as described before, of Continental Uranium. At the time of the sale, Old Texas had blocked out on the property an amount of ore valued at approximately one and one quarter million dollars. Since then, Continental has increased the ore reserve on the mountain to in excess of five million dollars. On the four claims for which this loan is asked, Old Texas has drilled a total of 5634 feet in 17 holes, as more fully detailed in reports below. This includes, however, two holes which were not completed. In six of these holes, significant mineralization of uranium and vanadium occurring in the Salt Wash member of the Morrison formation was encountered. The four claims herein discussed are located on the north side of Rattlesnake Mountain, approximately 3000 feet from the Rattlesnake open pit operation scheduled to go into production during the summer of 1956, and 1800 feet from the Rattlesnake Incline, now in production.

The property can be examined easily, since access by road has been accomplished on every claim on the mountain. From La Sal Junction on Highway US 160, the La Sal road is taken to Continental's turn-off, leaving the road to the south, crossing Coyote Wash, and continuing up the hill. After passing in front of the pit dump, the road continues around the east side of the mountain to the Old Texas #1 claim. For the best and easiest orientation on the property, the examining engineers can conveniently contact K. D. Wahlquist, Manager, at the Old Texas office in Moab, telephone number AL 3-4397. Mr. Wahlquist has been in charge of all operations on the property and can locate drill holes, monuments, and corners for the engineers.

4 b) No known ore reserves exist on the four claims in question. Ore reserves on the Continental Rattlesnake adjoining them to the south is over 100,000 tons of .30 plus % U308.

4 c) The four claims discussed are located on the north side of Rattlesnake Mountain along the east side of the Lisbon Valley Fault. They are situated with surface outcropping from the Dakota sand and conglomerate on Old Texas 1 and Old Texas 6 to the Brushy Basin of the Morrison on Old Texas 7 and Old Texas 8. That the Salt Wash member of the Morrison underlies the complete group is clearly demonstrated by the drill reports and maps included as Exhibit E. Mineralized values shown in drill holes are obtained from radiometric readings calibrated against a wet assay of core taken from Hole 4 on Old Texas 8 claim. All drilling done to date by Old Texas and Continental has indicated two lenses of Salt Wash sands based directly atop the Entrada formation. These

B. W. BURFORD
PRESIDENT

JIM W. CROFFORD
SEC.-TREAS.

OLD TEXAS MINING COMPANY
3301 WORTH STREET :: VICTOR 3409
DALLAS, TEXAS

4 c) con't. lenses are commonly separated by 20 to 40 feet of mudstone; it is interesting to note that ore holes characteristically have ore in either sand lense, but never in both. Depositions are beds having peripheral axes of N 45 E, and appear to follow a pattern of deposit roughly parallel to the Lisbon Valley Fault. This pattern has been traced by Old Texas on these claims, Continental on the Rattlesnake, and Petty on the west side of the mountain. Bedding east of the minor fault located on Old Texas 1 claim is indicated as about 300 feet deeper than on the west side. This fault has been traced by Continental across the Rattlesnake property with mineralization on both sides.

Old Texas Mining Company wishes to explore the four claims to determine any possible extensions of the Rattlesnake depositions to the north side of Rattlesnake Mountain. Our engineering reports clearly indicate that at the expected depths of exploration anticipated, no body of ore in commercially feasible quantities should be missed by the grid system planned. With the knowledge of local axes of deposition and peripheral trends which we have acquired through operation on this property for over two years, we feel certain that we can gain the maximum information with the minimum expense. The cooperation of our engineers and the staff of Continental Uranium has dictated the plan herein submitted as being in accord with every known trend of local importance.

4 d) The property is located approximately 28½ miles south of Moab, Utah, and is reached from the LaSal road by a well maintained system of access roads crossing the Continental Rattlesnake property and the Old Texas claims. Approximately half of the drill sites required by the submitted plan are in place on the property. Moab has in the past served as residence and supply point for our crews on this site. Drilling water is available either from Coyote Wash or the Rattlesnake Ranch tank, the latter at a nominal fee of $1.00/1000 gals. Present shipping of ore from the area is either to Monticello or Moab, the site being just about equidistant from these mills. When, in the future, Continental completes its mill at La Sal, any production in this vicinity by Old Texas will be to their facility. This distance will be something less than ten miles.

B. W. BURFORD
PRESIDENT

JIM W. CROFFORD
SEC.-TREAS.

OLD TEXAS MINING COMPANY
3301 WORTH STREET :: VICTOR 3409
DALLAS, TEXAS

4 e) All manpower, materials, supplies, and equipment needed in accomplishing the proposed plan are presently either in the possession or employ of the Company or can be acquired in Moab, Drill water is locally available, and water for human consumption can be carried by the crews. No known shortages exist locally which would preclude the economical conduct of a mine in the area.

5 b) The proposed exploration consists of drilling holes to accomplish a grid as indicated on the map included as Exhibit E hereto. All holes will be drilled to the Entrada formation, with anticipated average depth in the vicinity of 400'. Approximately 10% coring is anticipated for a two-fold reason: check of structure at major breaks in formation and frequent correlation of core assays to radiometric probe indications. We will be glad to core any additional amounts required for USGS information at negotiated prices.

5 d) Old Texas Mining Company has had three years of experience in exploring for, developing of, and mining of, Uranium deposits in the sedimentary structures of the Colorado Plateau. Exploration activities have been conducted by the Company in Morrison structures similar to the one covered by the proposed work as follows:

Rattlesnake Mine, San Juan County, Utah

Junction # 3 Mine, San Juan County, Utah

Bear Point # 1 Mine, Grand County, Utah

Jim Wade Mine, San Juan County, Utah

K. D. Wahlquist has supervised all drilling activities and preparatory exploration work for the Company for the past eighteen months. Among the controls for such work he has initiated are standard practices such as sampling cuttings at three-feet intervals, plane table control of drill-site locations, cross-section analysis of drill reports, detailed stratagraphic drill reports, footage cost analyses, three dimensional models, for mine control, of drill results, and correlative core-radiometric analyses of each ore body. In mining the two ore bodies he has analyzed for the Company, we have found no discrepancies between mine returns and his estimated tonnages and grades. All engineering material, cost estimates, drill reports, and mapping for this application have been prepared by Mr. Wahlquist.

RECEIVED
JUN 27 1956

MINING LEASE

THIS AGREEMENT made and entered into in duplicate as of July 24, 1954, between VERE WESTWOOD and EVELYN WESTWOOD, his wife, and JAMES WESLEY OLIVER, also known as J. WESLEY OLIVER and GLADYS OLIVER, his wife, of Moab, Utah, hereinafter called Lessors, and OLD TEXAS MINING COMPANY, a Texas corporation, whose address is 3301 Worth Street, Dallas, Texas, hereinafter called Lessee; WITNESSETH:

The parties hereto did on November 30, 1953 enter into a certain mining lease. Thereafter it was found that the mining claims described therein were within the area of an oil and gas lease. Lessors have heretofore filed an application for an Atomic Energy Commission lease under the provisions of Circular 7. That as of this date said lease has not been issued. That Congressional Legislation is pending, the purpose of which is to permit the validation of mining claims located within an oil and gas area.

IT IS MUTUALLY AGREED BETWEEN THE PARTIES HERETO:

1. That in the event of the failure of Congress to enact such validating legislation, that upon the issuance of an Atomic Energy Commission lease to Lessors, they will forthwith request the Atomic Energy Commission to approve the assignment of such lease to Lessee and upon obtaining such consent, will assign such lease to Lessee subject to the payment of royalty to Lessors as hereinafter set forth.

2. That upon the enactment of such validating Act, Lessors will fully cooperate with Lessee in performing any of the requirements of such Act. All costs incurred thereby to be paid by Lessee.

3. Upon the validation of the mining claims hereinafter described and as retroactive from November 30, 1953, Lessors, in consideration of the royalties to be paid and the covenants to be kept and performed, do hereby lease unto Lessee the following described mining claims situate in the County of San Juan, State of Utah, the location notices thereof being recorded in the office of the County Recorder of said County as follows:

Name	Book	Page
Rattlesnake Fraction Nos. 1, 5, 7, 9, 10 and 11	77	249-252
Old Texas No 1	47	155
Old Texas No. 2	47	155
Old Texas No. 3	47	156
Old Texas No. 6	47	157
Old Texas No. 7	47	158
Old Texas No. 8	47	158
Old Texas No. 9	47	159
Old Texas No. 10	47	159
Old Texas No. 11	47	160
Old Texas Fraction Nos. 1, 2, 3 and 4	77	258-260

OLD TEXAS MINING CO.
BOX 502
MOAB, UTAH

EXHIBIT A

TO HAVE AND TO HOLD unto Lessee so long as commercial ores may be mined and sold by Lessee at a profit and so long as Lessee shall keep and perform each and all of the covenants and agreements required to be kept and performed by Lessee as hereinafter set forth unless sooner forfeited through the violation of any covenant herein required to be performed by Lessee, with the right to surrender this lease as hereinafter set forth, but this lease shall continue so long as Lessors may be performing exploration work for the discovery of ores.

In consideration of such lease, Lessee covenants and agrees with Lessors as follows:

1. To cause any ore purchaser to pay Lessors a royalty of Ten percent (10%) of the proceeds of ores mined and sold from any of said claims less haulage and development allowances and to furnish Lessors with settlement sheets of all ores so sold.

2. In the event of the receipt of any bonus payment from the Atomic Energy Commission paid to Lessee, Lessee shall pay ten per cent (10%) thereof to Lessors within ten (10) days after such receipt, together with a true copy of the notice of such bonus payment.

3. To carry on all mining operations steadily and continuously so as to take out the greatest amount of ore possible.

4. To do and perform within the time prescribed by law, the annual labor required for the retention of possessory rights upon said mining claims and to make and file affidavits so stating prior to June 1st of each year in which this lease shall be in effect.

5. To keep full and accurate records at an office reasonably accessible to Lessors, of all operations carried on hereunder including drilling records, maps and assays open to the inspection of Lessors at all reasonable times, and to permit Lessors or their Agent full and free access to said claims for the purpose of inspection.

6. To carry on all mining operations in strict conformity with all laws and regulations pertaining to such operations; to carry Workmen's Compensation Insurance and to pay all State and Federal taxes and exactions under operations hereunder, including any production taxes, and to save and keep harmless Lessors from any and all liability of every kind and character arising out of Lessee's mining operations hereunder.

7. That Lessee shall commence drilling operations upon said claims on or before November 1, 1954, and expend a minimum of $2500.00 in such work.

Lessors and Lessee agree that VERE WESTWOOD shall have the prior right to contract with Lessee for the hauling of any ore that may be mined from the premises, such hauling contract to be fair and at competitive rates with other licensed ore haulers in the area under approved posted rights. VW BWB

MUTUAL COVENANTS

IT IS MUTUALLY AGREED BY THE PARTIES HERETO:

1. That Lessee may at any time surrender this lease by mailing a release thereof to any one of Lessors or by placing

OLD TEXAS MINING CO.
BOX 502
MOAB, UTAH

such release of record in the office of the County Recorder of said County.

2. Lessee shall have the right to assign this lease in whole or in part without previously obtaining Lessors' consent thereto.

3. Whenever the performance by Lessee of any covenant herein required to be kept and performed by it, except the payment of money, is hindered, prevented or delayed by reason of law, regulation or act of any governmental authority, inability to obtain labor, equipment, materials or supplies in the open market, or by reason of fires, floods, strikes, walkouts, acts of God, force, major or any other causes or conditions beyond Lessee's control, then the time for the performance of any such covenant hereunder shall be extended for the period of such delay.

4. That upon violation by Lessee of any of the covenants in this lease the term thereof shall at the option of Lessor expire and the same and said mining claims shall become forfeited to Lessors and Lessors may thereupon enter upon said mining claims and dispossess all persons occupying the same; provided, however, that if said lease is forfeited upon the election of Lessors by reason of the failure of Lessee to perform the covenants, Lessors shall give Lessee notice in writing by registered mail sent to it at its above address notifying it of such failure to perform and setting out in such notice the substantial facts as to any such default or breach, and, upon failure or refusal by Lessee to cure and correct such default within thirty (30) days from the receipt of such notice, Lessee shall surrender and deliver up possession of all of said mining claims and its rights under this lease shall thereupon cease and determine.

IT IS FINALLY AGREED that each of the terms and conditions herein shall inure to and be binding upon the successors and assigns of Lessor and Lessee.

WITNESS their names.

Vere Westwood
Vere Westwood

Evelyn Westwood
Evelyn Westwood

J. Wesley Oliver
James Wesley Oliver, also known as J. Wesley Oliver

Gladys Oliver
Gladys Oliver

OLD TEXAS MINING COMPANY

By [illegible]
Thereunto duly authorized

OLD TEXAS MINING CO.
BOX 552
MOAB, UTAH

RECEIVED

JUN 27 1956

STATE OF COLORADO)
) ss.
COUNTY OF MESA)

On this 24th day of July, 1954, personally appeared before me B. W. Burford who being by me duly sworn says that he is the President of the Old Texas Mining Company, and that the instrument was signed by him on behalf of said corporation by authority of its by-laws.

And upon this 24th day of July, 1954, personally appeared before me Vere Westwood, Evelyn Westwood, James Wesley Oliver, also known as J. Wesley Oliver, and Gladys Oliver, signers of the above instrument and each duly acknowledged to me that they executed the same.

In witness whereof I have hereunto set my hand and seal.

My commission expires ~~July 9, 1958~~ April 21st - 1956

Notary Public
Residing at Grand Junction
Colorado

OLD TEXAS MINING CO.

BOX 502
MOAB, UTAH

RECEIVED
JUN 27 1956

ASSIGNMENT OF MINING RIGHTS UNDER CIRCULAR 7

THIS ASSIGNMENT, entered into this 20th day of July, 1954, by and between OLD TEXAS MINING COMPANY, a Texas corporation, authorized to do business in the State of Utah, whose address is 3301 Worth Street, Dallas, Texas, hereinafter referred to as Assignor, and WOODMONT, INC., an Illinois corporation, whose address is 4401 West North Avenue, Chicago, Illinois, hereinafter referred to as Assignee,

WITNESSETH:

RECITALS

J. Wesley Oliver and Vere Westwood did, subsequent to January 1, 1953, locate and take possession of those thirty-one (30) unpatented mining claims, or fractions thereof, as listed in Exhibit A, and as shown on the plat attached hereto and marked Exhibit B. Since said claims and fractions were located after January 1, 1953, and on land which is subject to a prior oil and gas lease, therefore Wesley and Westwood were required to and did comply with Circular 7. That, as of this date, no lease has been issued by the A.E.C. covering these claims and fractions, and it is understood by the parties hereto that any lease issued by the A.E.C. must receive the A.E.C.'s approval prior to assignment thereof. It is also understood by the parties that there is presently pending a Bill which requires the President's signature, which, when signed, will become law, and which provides a method of validating said claims without requiring a lease from the A.E.C.

Assignor is at present in possession of said mining claims and fractions by virtue of the certain mining lease marked Exhibit C and attached hereto.

OLD TEXAS MINING CO.
BOX 802
MOAB, UTAH

EXHIBIT B

THEREFORE, IT IS MUTUALLY AGREED AS FOLLOWS:

1. Provided that the Assignee is not in default under the terms of this contract at the time that the A.E.C. lease is issued hereunder, the Assignor agrees that it will secure the assignment of said A.E.C. lease to the Assignee herein; provided, however, that should subsequent legislation be enacted to validate said claims by other methods, other than an A.E.C. lease, then in that event the Assignee agrees that it will diligently comply with the terms of said legislation in order to validate said claims. If said legislation requires any act or cooperation on the part of the Assignor, Assignor agrees that it will cooperate and perform any acts so required by said legislation, in order to validate said claims, the cost of said validation to be borne by Assignor.

2. Assignor agrees to assign the A.E.C. lease when issued, or to sub-let the mining claims and fractions as listed in Exhibit A for a total purchase price of Four Million Dollars ($4,000,000.00); said purchase price to be paid as follows to wit: $37,500.00 cash in hand, the receipt of which is hereby acknowledged by the Assignor; $75,000.00 to be mailed by check to the Republic National Bank of Dallas, Texas, as Escrow Holder, upon the signing of this contract by the parties hereto, with instructions to release same to Assignor upon receipt of a letter from Charles J. Trayler, attorney for Assignee, that said title conforms to Assignor's representations that it has good possessory title; then to pay an amount equivalent to twenty percent (20%) of the net proceeds of the first $450,000.00 worth of ore mined and sold from said claims as described in Exhibit A. "Net proceeds" being defined as that amount paid by the ore buyer, plus any bonus or premium paid by the United States Government, less development allowance and haulage allowance paid by the government or mill, less ten percent (10%) royalty to the original locators herein, less $15.00 per ton mining cost, and less all production, ad valorem, or any taxes levied by virtue of mining thereon; then to

OLD TEXAS MINING CO.

pay an amount equivalent to forty percent (40%) of the net proceeds, as heretofore defined, on additional ores mined from said claims until the sum of $37,500.00 plus the sum of $75,000.00, and the amount equivalent to 20% of the net proceeds of the $450,000.00, and the amount equivalent to the 40% of the net proceeds total Three Million Dollars ($3,000,000.00); and then to pay an amount equivalent to fifteen percent (15%) of the net proceeds, as heretofore defined, of all ores mined from said claims until the entire purchase price of $4,000,000.00 has been paid. But in any event, the total purchase price shall be paid not later than July 1, 1979.

3. Should the payments as above set out fail to total in any one month, during the first twenty-four months, the sum of $2,000.00, then and in that event Assignee agrees to pay the difference between said amount and the sum of $2,000.00.

4. Should the payments as above set out fail to total in any one month during the 24th to the 48th month, the sum of $1,000.00, then and in that event Assignee agrees to pay the difference between said amount and the sum of $1,000.00.

5. Should the payments as above set out fail to total in any one month during the next twenty-one years, or until the total purchase price is paid, the sum of $500.00, then and in that event Assignee agrees to pay the difference between said amount and the sum of $500.00.

6. It is hereby mutually agreed that the $15.00 per ton mining cost as set out in paragraph 2 above, may increase or decrease in accordance with the cost of living index formula as set out in Exhibit D, hereto attached and made a part hereof.

7. Assignee agrees to furnish to the Assignor within ten days after receipt by the Assignee of payment from any mill, or bonus payment from the government, a copy of the settlement sheet together with the payments as herein set out.

8. Upon the payment of said $37,500.00 as herein mentioned, the

OLD TEXAS MINING CO.
BOX 502
MOAB, UTAH

Assignee shall have the right to enter upon said claims and to commence the mining thereof. It is agreed that the Assignor will, within ten days, remove all equipment and fixtures except underground timbers located thereon.

9. The Assignee shall have thirty days from date within which to secure an attorney's opinion as to the title of said mining claims as described in Exhibit A. Should said attorney's opinion fail to disclose good and sufficient possessory title in the Assignor as to all persons except the United States Government, then and in that event the Assignee shall have the right to cancel this contract and the Escrow Holder shall forthwith return to Assignee its $75,000.00. In the event of such cancellation, the Assignee may elect to continue to mine said claims until it has recovered the sum of $37,500.00 from 100% of the net proceeds as outlined above, from all ores mined, or may demand the return of its $37,500.00.

10. Assignee agrees that not later than August 19, 1954, it will select four full mining claims from those set out in Exhibit A, and re-assign said four claims to the Assignor. It is understood and agreed that said four claims shall be contiguous, and that Assignee will give Assignor a right of ingress and egress to same, said transfer to be at no expense to the Assigner.

11. Assignee agrees to furnish to Assignor, upon request, from time to time, as compiled and prepared, copies of all maps, reports and other data resulting from the examination and investigation of such mines, mining claims and mining property, including, but not by way of limitation, all surveys, geological reports and assay pulp samples.

12. To permit Assignor and/or its agents, to enter in and upon all parts of said premises for the purpose of inspection at any and all reasonable times, all at the sole expense and risk of Assignor, and without interference with Assignee's operations hereunder.

13. Assignee agrees to work said claims in a proper and

Old Mars Mining Co.

BOX 502
MOAB, UTAH

customary miner-like fashion, in a manner necessary to take out the greatest amount of ore possible with economical mining practices and with due regard to the development and preservation of same as workable mining property, and to timber underground wherever and whenever necessary if good mining practice under the circumstances then obtaining should so indicate, and to keep at all times all drifts, shafts tunnels and other passages put upon said claims by the Assignee thoroughly clear and clean of loose rock and rubbish of all kinds.

14. Assignee agrees to post on each claim where mining is being carried on, a sign or notice showing the ownership of said claims by Assignee, in order to furnish notice that persons heretofore furnishing services and supplies to Assignor must look to Assignee for payment of any future services or supplies.

Assignor will upon request by Assignee execute a formal assignment of leases designated as Exhibit C for recording or any other paper necessary to clarify legal title thereto.

15. The breach or failure to perform any of the covenants or conditions hereof on the part of the Assignee shall not be a ground for cancellation or termination or forfeiture hereof, if such breach or failure to perform is caused, or compliance is prevented by, severe winter weather, explosion, unusual mining casualty, fire, flood, civil or military authority, insurrection, riots, strikes, acts of God or any other circumstance or condition beyond the control of Assignee, while any such conditions shall continue to exist.

16. Assignor warrants that as of the date of execution of this agreement that said Exhibit C is in full force and effect, and that it has not performed or failed to perform any act which will give lessors thereunder grounds for forfeiture of said leases. Assignor further warrants that it has not entered into any D.M.E.A. or other government loan, that said claims are not located upon a

OLD TEXAS MINING CO.
BOX 302
MOAB, UTAH

mined, pending, and that no liens or encumbrances of any kind whatever appear to be outstanding against any of the claims herein mentioned or any ore proceeds to be derived therefrom, and that there are no royalties outstanding in excess of the 10% to the locators herein mentioned, and if such lien or liens appear, the payments herein may be paid to an escrow holder until the rights of the parties hereto have been established by legal proceedings, or until satisfactory evidence has been furnished the Assignee that said matter is fully satisfied.

17. It is mutually agreed that a copy of any notice of forfeiture or notice of default received by Assignor shall, within [illegible] days from receipt thereof, be delivered to Assignee at the address herein stated. Assignee agrees to mail any such notices received by it within [illegible] days thereafter to Assignor at the address herein stated.

18. Assignee agrees to faithfully perform all covenants [illegible] agreed to be performed by Assignor in the A.E.C. lease, a copy of which shall be attached hereto, and Assignee agrees to do nothing which will give the government grounds to cancel same, or if no A.E.C. lease be issued, then to faithfully perform all covenants and conditions contained in Exhibit C attached hereto. Upon violation of any of the covenants herein contained, or those covenants contained in the A.E.C. lease above mentioned, said Assignor may, at its option and upon written notice to Assignee, specifying the substantial violations complained of, and giving notice of its intention to cancel and annul this agreement, [illegible] Assignee shall, within thirty days after receipt of such notice, [illegible]

[illegible]

[illegible]

OLD TEXAS MINING CO.

[illegible]

MOA[illegible]

not provided by Assignee within thirty days, the entire unpaid balance herein shall become due and payable.

19. Assignor agrees, at its own expense, to defend its possessory title to said mining claims as described in Exhibit A against all third parties except the United States Government.

20. It is mutually agreed that the provisions of this contract shall, in all respects, be governed by the laws of the State of Utah.

This agreement shall inure to the benefit of, and be binding upon the parties hereto, their successors and assigns.

WITNESS their signatures.

OLD TEXAS MINING COMPANY

By _____ President

ASSIGNOR.

ATTEST:

_____ Secretary

WOODMONT, INC.,

By _____ President

ASSIGNEE

ATTEST:

_____ Asst. Secretary of WOODMONT, INC.

OLD TEXAS MINING CO.

EXHIBIT A

Name of Claim	Location Notice Recorded in Book	Page
Rattle Snake No. 1	23	266
Rattle Snake No. 2	25	215
Rattle Snake No. 3	25	215
Rattle Snake No. 4	25	216
Rattle Snake No. 5	33	161
Rattle Snake No. 6	33	161
Rattle Snake No. 7	33	162
Rattle Snake No. 8	35	530
Rattle Snake No. 9	37	55
Rattle Snake No. 10	37	92
Rattle Snake No. 11	37	55
Rattle Snake Fraction Nos. 1, 5, 7, 9, 10 and 11	77	249-252
Old Texas No. 1	47	155
Old Texas No. 2	47	155
Old Texas No. 3	47	156
Old Texas No. 6	47	157
Old Texas No. 7	47	158
Old Texas No. 8	47	158
Old Texas No. 9	47	159
Old Texas No. 10	47	159
Old Texas No. 11	47	160
Old Texas Fraction Nos. 1, 2, 3 and 4	77	258-260

All of said claims being located in County of San Juan, and State of Utah.

Old Texas No. 4
Old Texas No. 5
Old Texas Fraction No. 6
Old Texas Fraction No. 5

(No warranty as to possessory rights)

Assignor agrees to attempt to get Oliver and Westward to assign any rights that they may have in and to the above two claims and two fractions to Assignors, and Assignor in turn will include said claims or fractions in this Assignment and Lease.

EXHIBIT A

OLD TEXAS MINING CO.

RECEIVED JUN 1956

AMENDMENT TO CONTRACT BETWEEN OLD TEXAS MINING COMPANY AND WOODMONT, INC. DATED JULY 20, 1954 ENTITLED "ASSIGNMENT OF MINING RIGHTS UNDER CIRCULAR 7"

RECEIVED JUN 1956

THIS AGREEMENT, made this 14 day of October, 1954 between OLD TEXAS MINING COMPANY, a Texas corporation and WOODMONT, INC., an Illinois corporation;

IT IS AGREED between OLD TEXAS MINING COMPANY and WOODMONT, INC. as follows in consideration of the mutual premises:

The contract between OLD TEXAS MINING COMPANY and WOODMONT, INC. dated July 20, 1954 entitled "ASSIGNMENT OF MINING RIGHTS UNDER CIRCULAR 7" is hereby amended by striking from that agreement Paragraph 6 thereof and Exhibit "B", it being the intent of the parties that the $15.00 per ton for mining costs fixed by Paragraph 2 shall remain constant.

DATED the day and year above written at Chicago, Illinois.

OLD TEXAS MINING COMPANY

ATTEST:

Secretary

By

President

WOODMONT, INC.

ATTEST:

Assistant Secretary of WOODMONT, INC.

By

President

OLD TEXAS MINING CO.
BOX 332
MOAB, UTAH

RE-ASSIGNMENT

THIS RE-ASSIGNMENT and AGREEMENT entered into this 31st day of January, 1955, by and between WOODMONT, INC., an Illinois corporation, whose address is 4401 West North Avenue, Chicago, Illinois, hereinafter referred to as Assignor, and OLD TEXAS MINING COMPANY, a Texas corporation, whose address is 3301 Worth Street, Dallas, Texas, hereinafter referred to as Assignee, WITNESSETH:

R E C I T A L S

WHEREAS, the parties hereto entered into an "Assignment of Mining Rights Under Circular 7", said Assignment being dated July 20, 1954, and

WHEREAS, said Assignment provided inter alia that Woodmont, Inc., would select four (4) full mining claims from those originally assigned to it and re-assign said four claims to Old Texas Mining Company, THEREFORE

Assignor hereby assigns, transfers and quitclaims to Assignee any and all of the interest that it may have in and to the following described unpatented lode mining claims located in the County of San Juan, State of Utah, to-wit:

NAME	LOCATION NOTICE RECORDED IN BOOK:	PAGE:
Old Texas No. 1	47	155
Old Texas No. 6	47	157
Old Texas No. 7	47	158
Old Texas No. 8	47	158.

That Assignee accepts the above described mining claims in full satisfaction and as compliance with paragraph 10 of the "Assignment of Mining Rights Under Circular 7" as above described, with the further understanding that the Assignor gives unto the Assignee the right of ingress and egress to the aforesaid mining claims.

This re-assignment shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto.

WITNESS Their signatures.

WOODMONT, INC.

ATTEST:

Secretary

President

OLD TEXAS MINING COMPANY

ATTEST:

Secretary

President

OLD TEXAS MINING CO. EXHIBIT C
BOX 502
MOAB, UTAH

STATE OF ILLINOIS)
) SS.
COUNTY OF C O O K)

RECEIVED
JUN 27 1956

I, Sidney M. Gunther, a Notary Public, do hereby certify that Gerald Gidwitz, President and Max H. Braun, Secretary of WOODMONT, INC., personally known to me to be the same persons whose names are subscribed to the foregoing instrument appeared before me this day in person and acknowledged that they signed the foregoing instrument as officers of said Corporation and as their free and voluntary act for the uses and purposes set forth. Given under my hand and notarial seal this 31st day of January, 1955.

My commission expires June 23, 1957

Sidney M. Gunther
Notary Public

STATE OF
COUNTY OF

I, Harold Helm, a Notary Public, do hereby certify that B. W. Burford, President of OLD TEXAS MINING COMPANY, personally known to me to be the same person whose name is subscribed to the foregoing instrument appeared before me this day in person and acknowledged that he signed the foregoing instrument as President of said Corporation and as his free and voluntary act for the uses and purposes set forth. Given under my hand and notarial seal this 14th day of February, 1955.

My commission expires June 1, 1955

Harold Helm
Notary Public

STATE OF
COUNTY OF

I, Harold Helm, a Notary Public, do hereby certify that Jim W. Crofford, Secretary of OLD TEXAS MINING COMPANY, personally known to me to be the same person whose name is subscribed to the foregoing instrument appeared before me this day in person and acknowledged that he signed the foregoing instrument as Secretary of said Corporation and as his free and voluntary act for the uses and purposes set forth. Given under my hand and notarial seal this 14th day of February, 1955.

My commission expires June 1, 1955

Harold Helm
Notary Public

OLD TEXAS MINING CO.
BOX 502
MOAB, UTAH

ABSTRACT - OLD TEXAS CLAIMS
Office of the Recorder, San Juan County, Utah

CLAIM	INSTRUMENT	DATE	BOOK-PAGE
Old Texas # 1	Original Location	1/7/54	47-155
	Amended Location	2/2/54	53-369
	Lease Application	4/8/54	77-252
	Withdrawal of Lease Application	12/10/54	251-470
	Amended Location	12/10/54	251-471
Old Texas # 2	Original Location	1/7/54	47-155
	Amended Location	2/2/54	53-370
	Lease Application	4/8/54	77-253
	Withdrawal of Lease Application	12/10/54	251-470
	Amended Location	12-10/54	251-471
Old Texas # 3	Original Location	1/7/54	47-156
	Amended Location	2/2/54	53-371
	Lease Application	4/8/54	77-253
	Withdrawal of Lease Application	12/10/54	251-470
	Amended Location	12-10/54	251-472
Old Texas # 4 (Amended on 12/10/54 to Old Texas Fraction 4-B)	Original Location	1/7/54	47-156
	Amended Location	2/2/54	53-372
	Lease Application	4-8-54	77-254
	Withdrawal of Lease Application	12/10/54	251-470
	Amended Location	12/10/54	251-477
Old Texas # 5 (Amended on 12/10/54 to Old Texas Fraction 5-B)	Original Location	1/7/54	47-157
	Amended Location	2/2/54	53-373
	Lease Application	4/8/54	77-254
	Withdrawal of Lease Application	12/10/54	251-470
	Amended Location	12/10/54	251-478
Old Texas # 6 (Amended to Old Texas Fraction 6-B on 12/10/54	Original Location	1/7/54	47-157
	Amended Location	2/2/54	53-374
	Lease Application	4/8/54	77-255
	Withdrawal of Lease Application	12/10/54	251-470
Incl. in application	Amended Location	12/10/54	251-479
Old Texas # 7	Original Location	1/7/54	47-158
	Amended Location	2/2/54	53-375
	Lease Application	4/8/54	77-255
	Withdrawal of Lease Application	12/10/54	251-470
	Amended Location	12/10/54	251-472
Old Texas # 8	Original Location	1/7/54	47-158
	Amended Location	2/2/54	53-376
	Lease Application	4/8/54	77-256
	Withdrawal of Lease Application	12/10/54	251-470
	Amended Location	12/10/54	251-473
Old Texas # 9	Original Location	1/7/54	[illegible]
	Amended Location	[illegible]	[illegible]
	Lease Application	[illegible]	[illegible]
	Withdrawal of Lease Application	[illegible]	[illegible]
	Amended Location	[illegible]	[illegible]

OLD TEXAS MINING CO.

BOX 332
MOAB, UTAH

EXHIBIT D

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JIM W. CROFFORD
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3301 WORTH STREET :: VICTOR 3409
DALLAS, TEXAS

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EXHIBIT "E"
Proposed Drill Program

The drill program outlined in detail on the map attached hereto was established with due consideration of two principles;

1) It has been well established by Continental Uranium and Old Texas that the directional trend of the long axes of all ore peripheries thus far located on Rattlesnake Mountain is N45 E. This has held true to a remarkable degree, enabling project engineers and geologists to spot drill sites with unusual accuracy.

2) There is a certain minimum size of ore body which can be economically exploited under any given set of circumstances. Some of the contributing factors to this size must of necessity be the depth to the body, the kind of back expected in any mining operation contemplated, the amount of expenditure essential to exploration and developmnet of the body, any royalties or fees deductible from the gross worth, taxation expected, grade of ore anticipated, etc. Obviously, it can be of no value to a mining concern to locate any body of less than this size, unless there be two or more bodies exploitable through one common development effort.

Previous exploration on Rattlesnake Mountain has developed the following facts of interest to this map:

1) Average thickness of peripheries is about four feet.

2) Drilling costs vary on the high side of price scale: contributing factors are hard chert at surface, muddy shale, fractures with resulting circulation difficulties, and fine sugar sand causing cave-ins "up-hole".

3) Drill depths to possible producing horizons will be in the neighborhood of 400'.

4) Average ore grade in mineable quantities approximates 0.25% U308.

With all these facts considered, it has been determined that the gross value of any ore body on the four claims in question would necessarily be about $200,000.00 in order that a mining venture of a profitable nature could be undertaken. Such a body of the grade commonly encountered in this vicinity would, then, be of about 5000 ton size, or approximately 65,000 cubic feet. Since average mineable thickness is anticipated at about four feet, this in turn suggests that any significant ore body must cover a total area of 16,250 square feet. The usual ore body on the mountain can be best described as an elongated lense, the dimensions of which are taken for these computations as being length of four times width. The necessary ore body would therefore be about 60 feet wide by about 240 feet long. The long axis

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will be oriented N 45 E. These computations assist materially in determining drill patterns, both as to intervals and directions.

Once again taking into consideration the necessary profitable ore body, it can be seen that any periphery originating within the known dimensions of such a body from any property line could not be exploited. Therefore, it would be useless to explore such areas. These areas have been marked off on the map and are lightly shaded as shown by the legend. In only one case has a proposed drill site been situated in one of these areas, at Site D on Old Texas 1; this is because of the mineralized hole marked A-2 to the southwest. It can be seen that if the desired body were existing with the southwest edge at A-2, the hole at Site D would pick it up.

It can be seen that any single drill hole touching on the edge of an ore body of the desired dimensions will cover an area of 60 feet on either side and 240 feet on either end wherein the desired body might be located. With this in mind, the proposed drill holes were located by use of a template scaled to 120 feet by 480 feet. It is believed that the 40 holes have been located with due regard to minimum overlap and maximum coverage. The plan is to drill every hole to the Entrada formation, since a high percentage of the best ore on the mountain is bedded directly on the Entrada sandstone. Little or no Summerville has ever been located here. The average drill depth will be about 400 feet, so that the entire program will entail some 16,000 feet of drilling. Of this amount, it is anticipated that 40 feet per hole will be cored, either in the upper or lower sandstone rim of the Salt Wash. In addition to the stratagraphic information to be gained in this manner, it is considered of prime importance to correlate core analysis and radiometric results on every opportunity. In this manner, any later drilling, either on additional DMEA programs or by the Company independently, will be relieved of the necessity of coring to as great a degree.

Obviously, there must be some spaces in a drill plan for a property this size utilizing only 40 holes, but it is felt that this plan, making the maximum use of information gained from previous exploration in the area, will be the most effective means possible of locating ore in commercial deposits.

OLD TEXAS MINING CO.
BOX 502
MOAB, UTAH

MOAB, UTAH

DIAMOND CORING RECORD

RECEIVED JUN 27 1955

COMPANY Old Texas DATE 6/27/55

CLAIM O.T. #8 HOLE NO. 1 FIELD Rattlesnake

COUNTY San Juan REPRESENTATIVE Jack Cathey, Driller

No Core - Shot Hole

SUMMARY

Bit No.	Core No.	From	To	Ft. Cut	Ft. Rec'd	%	Time on Bot.	Foot-Hr.	Total Bit Feet
1½ Tip		0	305	305					305

DEPTH From	DEPTH To	Time O'Clock From	Time O'Clock To	Time in Min.	WEIGHT Thous. lbs.	ROT. RPM	Mud Vol. GPM	FORMATION
0	130							Red & Blue Clay
130	255							Alternate Clay
								Streaks & Sand
255	271							White Sand
271	273							Yellow Sand
273	305							White Sand

Ore from 271.4 to 273.8
Reads 40-60 on #5 Scale, 640 Counter.
Ark all that way

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MOAB, UTAH

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DIAMOND CORING RECORD

RECEIVED JUN 27 1955

COMPANY OLD TEXAS DATE 6-28-55

CLAIM O.T. #8 HOLE NO. 2 FIELD RATTLESNAKE

COUNTY SAN JUAN REPRESENTATIVE JACK CATHEY, DRILLER

NO CORE - SHOT HOLE

SUMMARY

Bit No.	Core No.	From	To	Ft. Cut	Ft. Rec'd	%	Time on Bot.	Foot-Hr.	Total Bit Foot
1 TIP		0	330	330					

DEPTH From	DEPTH To	Time O'Clock From	Time O'Clock To	Time in Mins.	WEIGHT Thous. lbs.	ROT. RPM	Mud Vol. GPM	FORMATION
0	130							RED & BLUE CLAY
130	255							SANDSTONE WITH
255	264							SHALE STREAKS
264	271							RED. SHALE
271	330							WHITE SAND
								WHITE SAND
	FROM 264.4 TO 271.9 - READS 20 TO 40 ON 5							
	" 305.5 TO 307.4 - PEGS ON 4 SCALE							
			AIR ALL THE WAY					
				PROGRAM #1				

DRILLER'S NOTE — This record is to be kept for each.....foot interval. In changing tour, record time and depth at which drilling stopped. Relief driller will record time drilling starts and time the required interval is completed.

OLD TEXAS MINING CO.
BOX 502
MOAB, UTAH

MOAB, UTAH

DIAMOND CORING RECORD

COMPANY OLD TEXAS DATE 7/11/55
CLAIM O.T. #8 HOLE NO. 3 FIELD RATTLESNAKE
COUNTY SAN JUAN REPRESENTATIVE JACK CATHEY, DRILLER

SUMMARY

Bit No.	Core No.	From	To	Ft. Cut	Ft. Rec'd	%	Time on Bot.	Feet-Hr.	Total Bit Feet
V		0	45	45					

DEPTH From	DEPTH To	Time O'Clock From	Time O'Clock To	Time in Mins.	WEIGHT Thous. lbs.	ROT. RPM	Mud Vol. GPM	FORMATION
0	45							HOLE CAVED IN.
				AIR				
				PROGRAM #1				

DRILLER'S NOTE — This record is to be kept for each.....foot interval. In changing tour, record time and depth at which drilling stopped. Relief driller will record time drilling starts and time the required interval is completed.

OLD TEXAS MINING CO.
BOX 502
MOAB, UTAH

MOAB, UTAH

DIAMOND CORING RECORD

COMPANY Old Texas DATE 7/11/55
CLAIM O.T. #8 HOLE NO. 4 FIELD Rattlesnake
COUNTY San Juan REPRESENTATIVE Jack Cathey, Driller

SUMMARY

Bit No.	Core No.	From	To	Ft. Cut	Ft. Rec'd	%	Time on Bot.	Foot-Hr.	Total Bit Footage
		0	405	405					
Core From		255	315			90%			60

DEPTH From	DEPTH To	Time O'Clock From	Time O'Clock To	Time in Mins.	WEIGHT Thous. lbs.	ROT. RPM	Mud Vol. GPM	FORMATION
0	155							Red & Blue Clay
155	250							Sand & Shale Ribs
250	350							Yellow & White Sand
350	405							Red Shale & Sand
								Ribs.
		From 270 to 273: Peg on 4 Scale						
Note: Core Assay, 3' of .18 U_3O_8 by Smith								
Laboratories, Moab, Utah.								
		Air all the way						
				Program #1				

DRILLER'S NOTE — This record is to be kept for each.....foot interval. In changing tour, record time and depth at which drilling stopped. Relief driller will record time drilling starts and time the required interval is completed.

8D

Smith's Laboratory

CHEMIST AND ASSAYER

MOAR, UTAH

Old Texas Mining Co.

July 27, 1955

Sample Description	% U_3O_8	% V_2O_5	% $CaCO_3$	%	%	%			
(Rattlesnake) Ore	0.188	0.47	1.55						
	(3½' CORE, COMPLETELY PULV. & ASSAYED)								

TOTAL CHARGES $ 5.00

J. Earl Smith
CHEMIST

OLD TEXAS MINING CO.
BOX 502
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DIAMOND CORING RECORD

COMPANY OLD TEXAS DATE 7/12/55
CLAIM O.T. #8 HOLE NO. 5 FIELD RATTLESNAKE
COUNTY SAN JUAN REPRESENTATIVE JACK CATHEY, DRILLER
SHOT HOLE

SUMMARY

Bit No.	Core No.	From	To	Ft. Cut	Ft. Rec'd	%	Time on Bot.	Feet-Hr.	Total Bit Feet
V 12508		0	350	350					350

DEPTH From	DEPTH To	Time O'Clock From	Time O'Clock To	Time in Mins.	WEIGHT Thous. lbs.	ROT. RPM	Mud Vol. GPM	FORMATION
0	155							RED & BLUE CLAY
155	255							RED SHALE W/ S/S STRK
255	335							YELLOW-WHITE SAND
335	350							RED SHALE W/ S/S STRKS
		FROM 270 TO 273: 40 TO 70 ON 5 SCALE.						
		AIR ALL THE WAY						
					PROGRAM #1			

DRILLER'S NOTE — This record is to be kept for each.....foot interval. In changing tour, record time and depth at which drilling stopped. Relief driller will record time drilling starts and time the required interval is completed.

OLD TEXAS MINING CO.
BOX 502
MOAB, UTAH

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DIAMOND CORING RECORD

COMPANY OLD TEXAS DATE 7/15/55
CLAIM O.T. #8 HOLE NO. 6 FIELD RATTLESNAKE
COUNTY SAN JUAN REPRESENTATIVE JACK CATHEY, DRILLER
SHOT HOLE

SUMMARY

Bit No.	Core No.	From	To	Ft. Cut	Ft. Rec'd	%	Time on Bot.	Feet-Hr.	Total Bit Feet
V 20682	C	0	365	365					365

DEPTH From	DEPTH To	Time O'Clock From	Time O'Clock To	Time in Mins.	WEIGHT Thous. lbs.	ROT. RPM	Mud Vol. GPM	FORMATION
0	120							RED & BLUE CLAY
120	185							WHITE SANDY CLAY
185	255							RED SHALE W S/S RIBS
255	335							YELLOW S/STONE
335	365							RED SHALE W S/S RIBS
		AT:	268 - 5 ON 5 SCALE					
			269 - 15 " " "					
			270 - 20 " " "					
			271 - 15 " " "					
			272 - 30 " " "					
			272.5 - 50 " " "					
			273.3 - 25 " " "					
			272.3 - 5 " " "					
			AIR ALL THE WAY					
			PROGRAM #8					

DRILLER'S NOTE — This record is to be kept for each.....foot interval. In changing tour, record time and depth at which drilling stopped. Relief driller will record time drilling starts and time the required interval is completed.

OLD TEXAS MINING CO.

BOX 502
MOAB, UTAH

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DIAMOND CORING RECORD

COMPANY OLD TEXAS #8 DATE 7/20/55
CLAIM OLD TEXAS #8 HOLE NO. 7 FIELD RATTLESNAKE
COUNTY SAN JUAN REPRESENTATIVE JACK CATHEY, DRILLER

SHOT HOLE

SUMMARY

Bit No.	Core No.	From	To	Ft. Cut	Ft. Rec'd	%	Time on Bot.	Feet-Hr.	Total Bit Feet
V20682		365	715	350					715

DEPTH From	DEPTH To	Time O'Clock From	Time O'Clock To	Time in Mins.	WEIGHT Thous. lbs.	ROT. RPM	Mud Vol. GPM	FORMATION
0	170							RED & BLUE CLAY
170	255							RED CLAY W S/S RAS
255	350							YELLOW SANDSTONE
		AT		272	- 10	ON	5	
				271	- 20	"	"	
				270	- 5	"	"	
				269	- 10	"	"	
				268	- 0	"	"	
	AIR ALL THE WAY.							
				PROGRAM #1				

DRILLER'S NOTE — This record is to be kept for each.....foot interval. In changing tour, record time and depth at which drilling stopped. Relief driller will record time drilling starts and time the required interval is completed.

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BOX 502
MOAB, UTAH

MOAB, UTAH

DIAMOND CORING RECORD

COMPANY Old Texas DATE 7/25/55
LEASE O.T. #8 HOLE NO. 8 FIELD Rattlesnake
COUNTY San Juan REPRESENTATIVE Jack Cathey Driller

SUMMARY

Bit No.	Core No.	From	To	Ft. Cut	Ft. Rec'd	%	Time on Bot.	Feet-Hr.	Total Bit Feet
20632		715	1060						1060

DEPTH From	DEPTH To	Time O'Clock From	Time O'Clock To	Time in Mins.	WEIGHT Thous. lbs.	ROT. RPM	Mud Vol. GPM	FORMATION
0	190							Red & Blue Clay
190	270							Red Clay w/ Sh Bds
270	345							Yellow Sh w/ Blue Clay
								Stringers.
		No Core in Hole						
		Air all the way						
				Program #7				

DRILLER'S NOTE — The Drill
Core at which cut was dropped

OLD TEXAS MINING CO.
BOX 502
MOAB, UTAH

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DIAMOND CORING RECORD

COMPANY Old Texas DATE 6/29/55
CLAIM O.T. #6-B HOLE NO. 1 FIELD Rattlesnake
COUNTY San Juan REPRESENTATIVE Jack Cathey, Driller

SUMMARY

Bit No.	Core No.	From	To	Ft. Cut	Ft. Rec'd	%	Time on Bot.	Feet-Hr.	Total Bit Feet

DEPTH From	DEPTH To	Time O'Clock From	Time O'Clock To	Time in Mins.	WEIGHT Thous. lbs.	ROT. RPM	Mud Vol. GPM	FORMATION
0	80							Blue Clay
80	85							White Sandstone
85	150							Red & Blue Clay
150	185							S/S with Red Clay Streaks
185	250							White SS (?)
		Hole wet at 185'; Drilled						Mostly
	Blind to 250'; 4 sacks saw-dust & 5 loads							
	of water.							
				Program #1				

DRILLER'S NOTE — This report is to be kept for our [illegible] and [illegible] drilled. Belief driller [illegible]

OLD TEXAS MINING CO.
BOX 502
MOAB, UTAH

MOAB, UTAH

DIAMOND CORING RECORD

COMPANY Old Texas DATE 6/27/55
CLAIM O.T. #7 HOLE NO. 1 FIELD Rattlesnake
COUNTY San Juan REPRESENTATIVE Jack Cathey, Driller
Shot Hole

SUMMARY

Bit No.	Core No.	From	To	Ft. Cut	Ft. Rec'd	%	Time on Bot.	Feet-Hr.	Total Bit Feet
Nr Tip		0	405	405					405

Depth From	Depth To	Time O'Clock From	Time O'Clock To	Time in Mins.	Weight Thous. lbs.	Rot. RPM	Mud Vol. GPM	Formation
0	150							Red & Blue Clay
150	240							S/S w Red Shale
240	270							Yellow & White S/Stone
270	300							White Sandstone
300	380							Red Stone w/Blue & Red
380	405							White Sandstone
			No ore					

Program #1

DRILLERS NOTE — This record is to be kept for each _____ foot interval drilled, showing time and depth at which change occurs, hole caving, water, gas, etc. encountered, and any other _____

OLD TEXAS MINING CO.
BOX 502
MOAB, UTAH

MOAB, UTAH

DIAMOND CORING RECORD

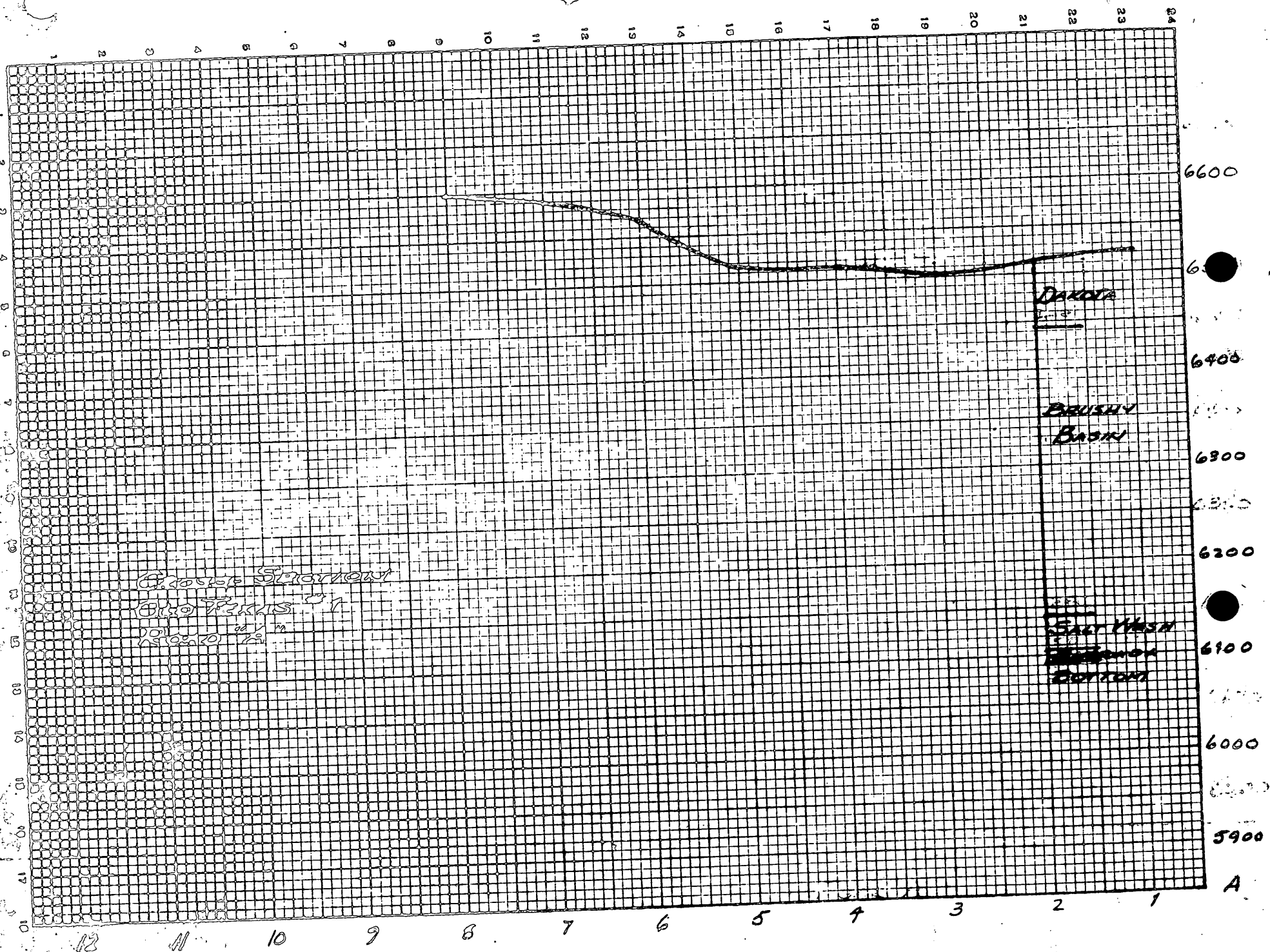
COMPANY OLD TEXAS DATE 6/30/55
CLAIM O.T. #1 HOLE NO. 1 FIELD RATTLESNAKE
COUNTY SAN JUAN REPRESENTATIVE JACK CATHEY, DRILLER
SHOT HOLE

SUMMARY

Bit No.	Core No.	From	To	Ft. Cut	Ft. Rec'd	%	Time on Bot.	Feet-Hr.	Total Bit Feet
3 BITS	IN	120 FEET		120					

DEPTH From	DEPTH To	Time O'Clock From	Time O'Clock To	Time in Mins.	WEIGHT Thous. lbs.	ROT. RPM	Mud Vol. GPM	FORMATION
0	75							HARD CHERT
NO RETURN TO 120 FEET; LOST CONE IN HOLE								
				PROGRAM #1				

DRILLER'S NOTE — This record is to be kept for each.....foot interval. In changing tour, record time and depth at which drilling stopped. Relief driller will record time drilling starts and time the required interval is completed.



OLD TEXAS MINING CO.

D. W. DURFORD
PRESIDENT

A-2

JIM W. CROFFORD
SEC.-TREAS.

OLD TEXAS MINING COMPANY

P. O. BOX 502
MOAB, UTAH

Drill Report: Hole # A-2 (Collar El. 6516)
Claim: Old Texas # 1, Rattlesnake Claims (San Juan Co., Utah)
Drilled by: Emmett Doyal, K.D.Wahlquist, Ed Curtis
Rig: Winterweiss Porta-drill, #101
Bits: New; $4\frac{1}{4}$ - 4 4 3/4 - 2 (One set Hawthorne drag bits)

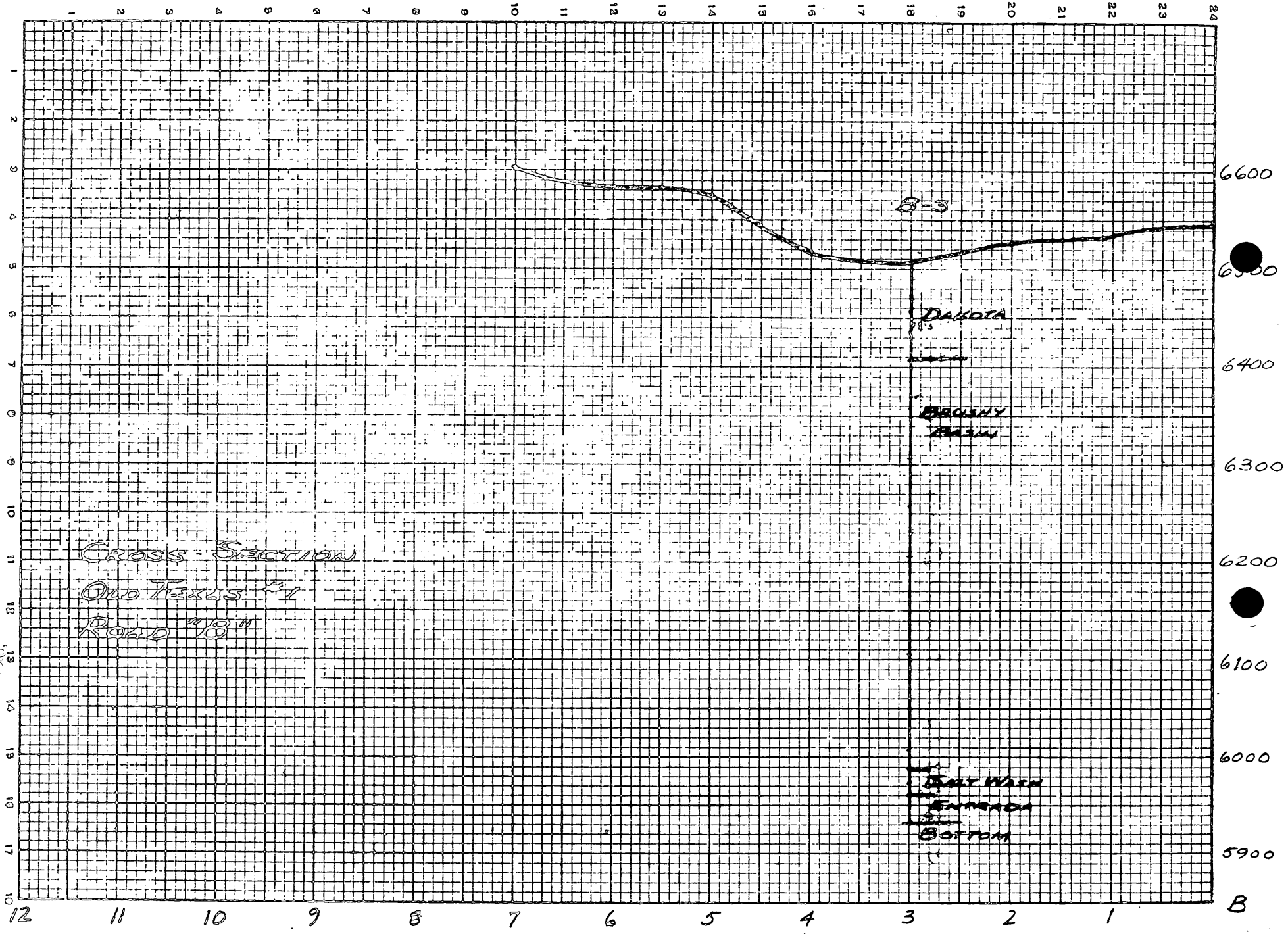
From	To	Description & Remarks	Correlation
0	9	Topsoil, white limestone, medium hard	Dakota
9	10	Soft brown sand	
10	13	White limestone, as above	
13	26	Soft brown sand	
26	30	Buff, medium hard, sand. Streaks of green shale.	
30	41	White limestone, hard	
41	45	Brown soft sandstone	
45	48	White limestone	
48	50	Brown sandstone	
50	51	White limestone	
51	52	Brown sandstone	
52	59	White SS, fairly hard	
59	65	White sandstone, very hard	
65	$65\frac{1}{2}$	Brown soft sandy shale	
$65\frac{1}{2}$	73	White hard limestone	
73	74	Brown SS, soft	
74	77	Green shale	Brushy Basin
77	90	Brown sand, red shale seams	
90	215	Red and green shale	
215	218	White hard limestone	
218	245	Red and green shale	
245	249	Hard white lime rib	
249	300	Red and green shale	
300	312	Soft brown sandstone	
312	335	Red and green shale	
335	351	White hard lime rib	
351	360	Red and green shale	
360	370	White lime rib	
370	385	Muddy white shale	
385	420	Sandy buff stone, thin shale and lime ribs	Salt Wash
420	435	White aeolic sand, globular grains	Entrada

Hole went wet at 135 feet. Had drilled with air (365 Le Roi) to that point.

Emmett Doyal
Superintendent

Radiometric: Mineralized (0.11%)
from 405-406.1
Dec.16, 1955
K.D.Wahlquist II

OLD TEXAS MINING CO.



Cross Section
Old Texas #1
Road #8

JUN 6 1966

B-3

D. W. DURFORD
PRESIDENT

JIM W. CROFFORD
SEC.-TREAS.

OLD TEXAS MINING COMPANY

P. O. BOX 502
MOAB, UTAH

December 22, 1955

Drill report: Hole # B-3 (Collar el. 6506)
Claim: Old Texas # 1, Rattlesnake Claims (San Juan Co. Utah)
Drilled by: John McKeon, Glenn Curtis
Rig: Mayhew 1000 # 102
Bits: New; $4\frac{1}{4}$ - 2 4 3/4- 2 Retips $4\frac{1}{4}$- 4 4 3/4 - 6

From	To	Description & Remarks	Correlation
0	7	Clay top soil, Dakota rocks	Dakota
7	87	Tight, consolidated white SS	
87	90	Chert, extremely hard, flinty	
90	94	Red Shale	
94	98	Hard white SS (as above	
98	148	Blue sticky shale, consistent in color and texture.	Brushy Basin
148	152	Red Shale	
152	160	Blue Shale (as above)	
160	163	Red Shale	
163	220	Red and Blue Shale, undetermined lenses	
220	240	Unrelieved Red Shale	
240	527	Alternate Red and Blue Shale with streaks of Blue hard sandy shale varying in thickness from 6" to $2\frac{1}{2}$'	
527	545	White Sandstone streaked with shale	Salt Wash
545	575	White SS, globular in grain	Entrada

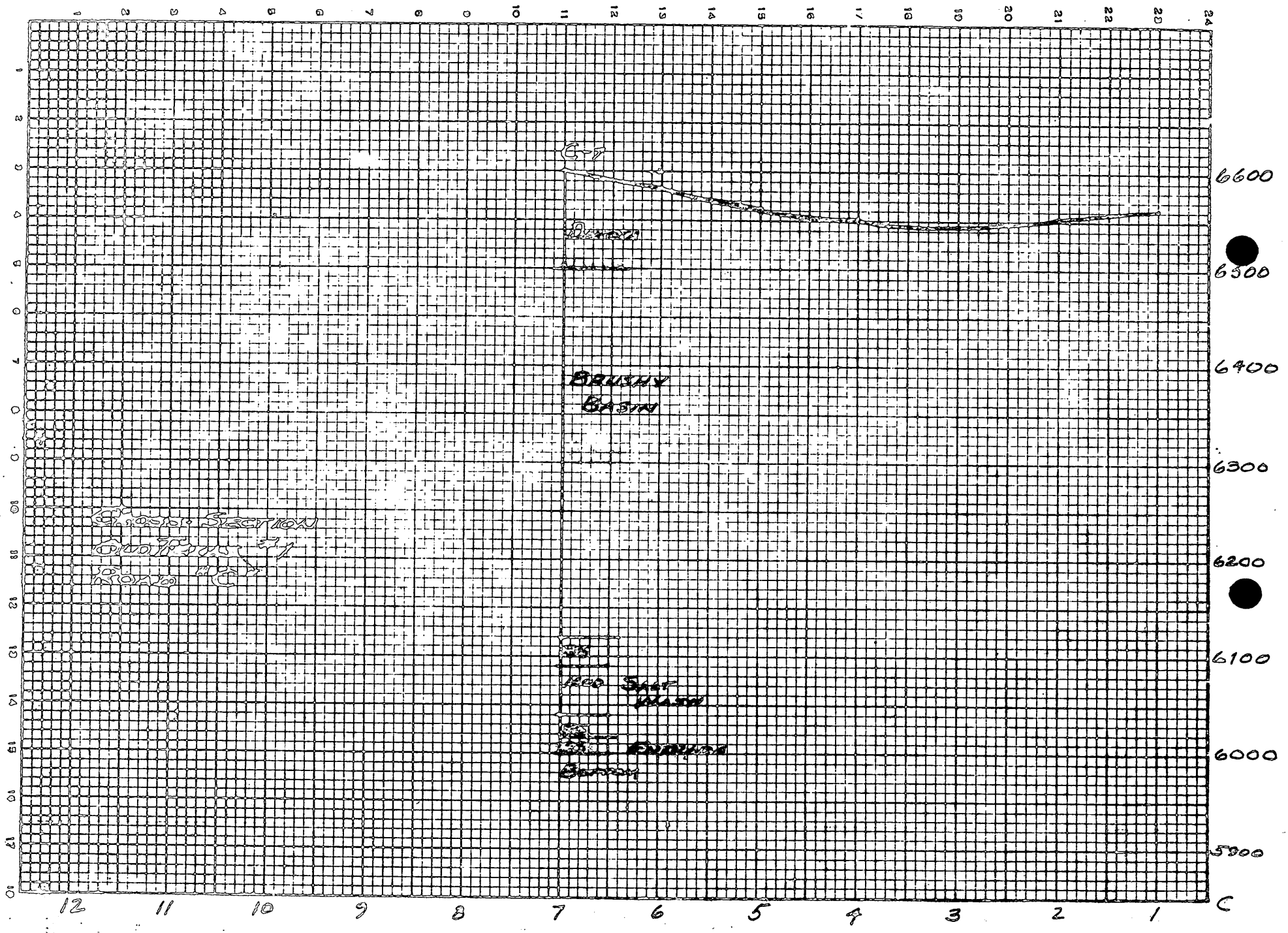
As noted above formations were in the greater part shales with a very low percentage of sand. In the upper portion of the Brushy Basin the blue shales were predominate. In the lower part to the top of the Salt Wash, shales were alternately blue and red. Throughout the Brushy Basin formation there appeared to be a clear white shale with a soft greasy texture at frequent intervals.

Hole was drilled to 105' with air (rig compressor). Contact with ground water at that depth necessitated mud drilling. It is anticipated that future drilling in the same area will result in use of water predominantly.

John McKeon,
Drill Foreman

Radiometric: Results negative
Dec. 15, 1955
K.D.Wahlquist II

OLD TEXAS MINING CO.



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PRESIDENT

JIM W. CROFFORD
SEC.-TREAS.

OLD TEXAS MINING COMPANY

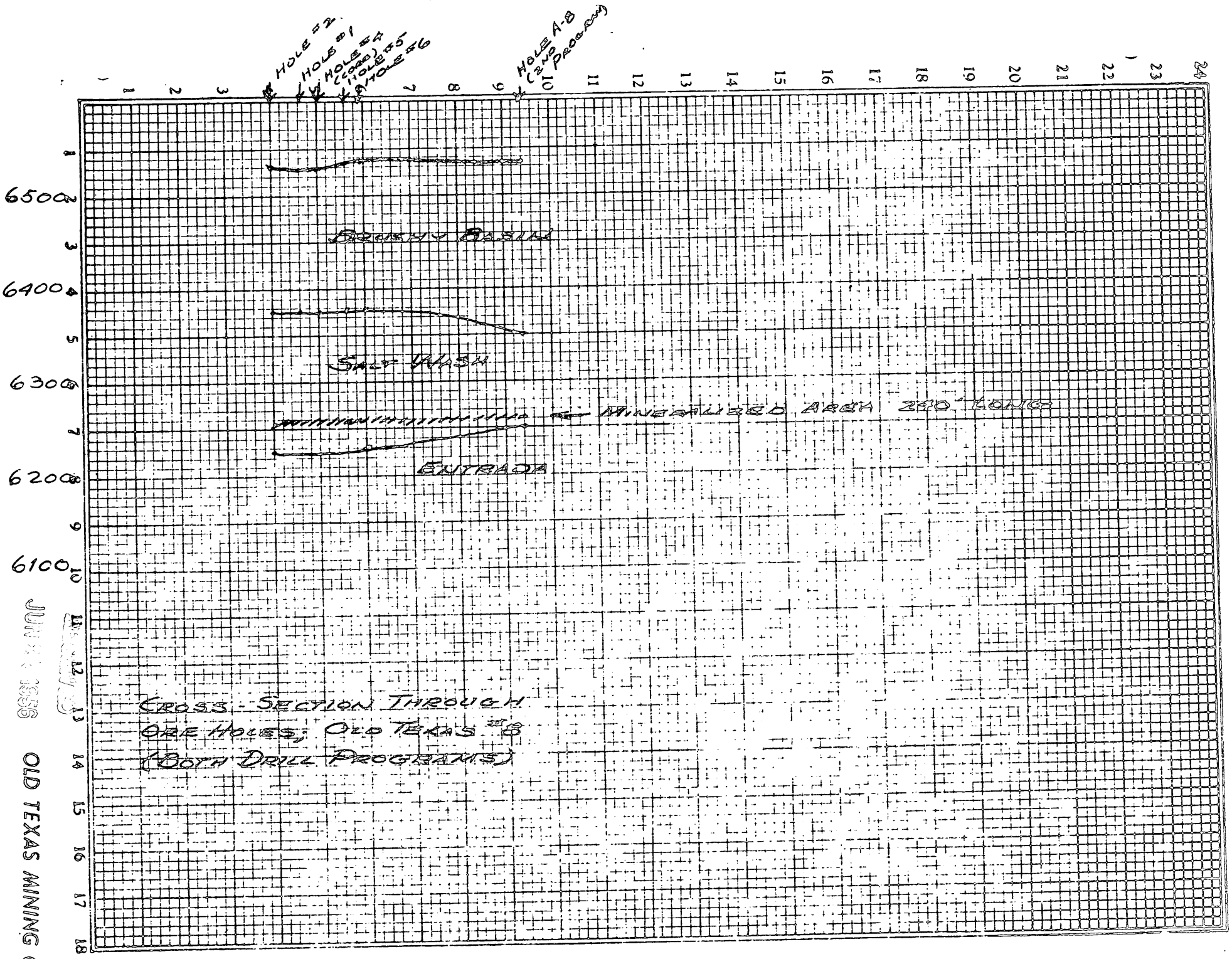
3301 WORTH STREET :: VICTOR 9409
DALLAS, TEXAS

Drill Report: Hole # C-7 Collar Elevation: 6600
Claim: Old Texas # 1, Rattlesnake Group
Drilled by: John McKeon, Glen Curtis
Rig: Mayhew 1000 # 102
Bits: New ; $4\frac{1}{4}$-1 4 3/4- 2 Retips; $4\frac{1}{4}$-7

From	To	Description and Remarks	Correlation
0	6	Clay, sand, topsoil	
6	73	Hard buff sandstone	
73	88	Hard, flinty chert, slow hard drilling	
88	96	Brown, soft sand and shale	
96	99	Hard chert, as above	Dakota
99	480	Hole wet at 100 feet, drilled in alternate streaks of muddy shale with water for 380 feet. Difficult to sample vari-colored shales due to thickening of drill mud in drilling the mudstone, so exact depths of red, blue, and yellow layers unknown.	Brushy Basin
480	510	Sands appear in cuttings at 480. Mud is successfully thinned down without losing circulation. Sands are white, medium in grain, and soft cutting. Some small amounts of white, greasy shale noticed.	
510	560	Mud thickens due to blue and red shale area.	
560	582	Sands re-appear at 560. When mud is thinned down, hole caves and sticks; sands are vari-colored to grey in color.	Salt Wash
582	600	White, translucent, globular sands appear in the thick mud at about 582. Hole caves badly around the top Salt Wash level.	Entrada

John McKeon

Radiometric: Results negative
Note: When mud was thinned sufficiently to probe hole, caving resulted down-hole. Three attempts were made to cement the sands and then thin the mud, with no results other than caving. Finally probed through the pipe, after experimentation indicated drop of 10 scale points on #5 scale of 610 counter when used in this manner. KDW



JUN 1 1986
OLD TEXAS MINING CO

B-8

B. W. BURFORD
PRESIDENT

JIM W. CROFFORD
SEC.-TREAS.

LD TEXAS MINING COMPANY

3301 WORTH STREET :: VICTOR 3409
DALLAS, TEXAS

Drill Report: Hole # B-8 Collar Elevation: 6538
Claim: Old Texas # 8
Drilled by: John McKeon, Glen Curtis
Rig: Mayhew 1000, #102

From	To	Description & Remarks	Correlation
0	75	White sticky shale	
75	145	Red, yellow, blue shale streaks	
145	150	Hard white sandstone	
150	200	Red and blue shales	
200	203	Hard white lime rib	
203	228	Shale, as above	
228	230	Sandstone	
230	238	Shale, as above	Brushy Basin
2 3	253	Coarse, white sandstone	
253	278	Sandy shale, sandstone streaks	
278	279	Yellow shale	Salt Wash
279	300	White, globular grained sandstone	Entrada

John McKeon

Radiometric: Results negative
Jan. 15, 1956
K.D.Wahlquist

Hole dry all the way. Drilled with rig compressor. Varel V-2's used $4\frac{1}{4}$" all the way. 2 bits.

B. W. BURFORD
PRESIDENT

JIM W. CROFFORD
SEC.-TREAS.

OLD TEXAS NG COMPANY
3301 WORTH S VICTOR 3409
DAL. XAS

JUN 1956

Drill Report: Hole # B-9 Collar Elevation: 6514
Claim: Old Texas # 8, Rattlesnake Group
Drilled by: John McKeon, Glen Curtis
Rig: Mayhew 1000, # 102 plus Le Roi 365 Compressor

From	To	Description and Remarks	Correlation

Same structure and results as Hole # B-8, allowing for the 20 feet difference in collar elevation.

Radiometric: Results negative John McKeon
Jan. 17, 1956
K.D.Wahlquist

Drill Report: Hole # A-8 Collar Elevation: 6536
Claim: Old Texas # 8
Drilled by: John McKeon, Glen Curtis
Rig: Mayhew 1000, # 102 plus Le Roi 365 Compressor

From	To	Description and Remarks	Correlation
0	80	White sticky shale	
80	90	Red Shale	
90	93	Coarse Sandstone, buff	
93	95	Shale, blue	
95	115	Sandstone, grey to white	
115	150	Red and blue shale	
150	154	Hard white sandstone	
154	185	Red, yellow, and blue shale	Brushy Basin
185	200	White sandstone, sharp grain	
200	220	Red and green shale	
220	235	White sandstone	
235	240	Shale	
240	285	Sandy shale with sandstone streaks	Salt Wash
285	310	White, aeolian sands, even texture	Entrada

Radiometric: Results; 272.0 - .00 John McKeon
272.9 - .12
274.0 - .20
279.0 - .10
280.0 - .00
Jan.17, 1956
K.D.Wahlquist

B. W. BURFORD
PRESIDENT

JIM W. CROFFORD
SEC.-TREAS.

OLD TEXAS MINING COMPANY

3301 WORTH STREET :: VICTOR 3409
DALLAS, TEXAS

Drill Report: Hole # B-7 Collar Elevation: 6530
Claim: Old Texas # 8
Drilled by: John McKeon, Glen Curtis
Rig: Mayhew 1000 #102 plus Le Roi 365 Compressor
Total depth: 300 feet

Details of hole identical to B-8 above.

Radiometric: Results negative
Jan.19, 1956
K.D.Wahlquist

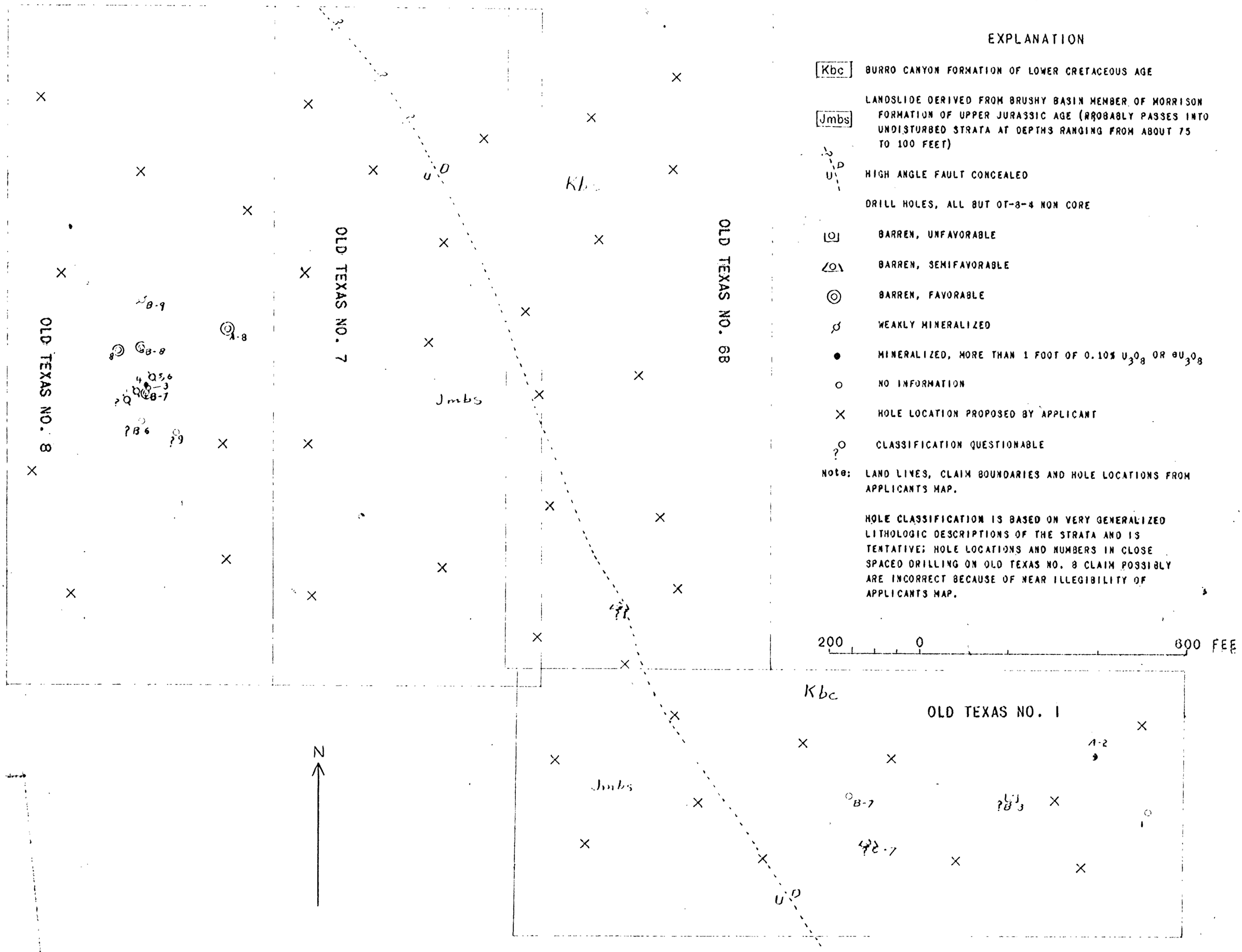
John McKeon

Note: Mac to KDW-
An effort was made to extend drilling operations south of A-6 and B-7 on B and C drill roads; because of adverse drilling conditions and limited time, equipment was returned to B-7 site which was the last hole drilled on this program.

In the event of future drilling in this area, the following information may be of value:
The formation to the south and east of hole B-7 seems to be a slough of Dakota boulders with a fine windblown fill around them of dry sand. Approximate depth of this zone extends 40' below collar el. Drilling this stuff presents the hazard of sticking the drill train, since lengthy circulation not only does not bring this sand to an angle of repose, but rather causes the boulders to cave in on the pipe.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
AUGUST 1956 DOCKET #362



EXPLANATION

Kbc — BURRO CANYON FORMATION OF LOWER CRETACEOUS AGE

Jmbs — LANDSLIDE DERIVED FROM BRUSHY BASIN MEMBER OF MORRISON FORMATION OF UPPER JURASSIC AGE (PROBABLY PASSES INTO UNDISTURBED STRATA AT DEPTHS RANGING FROM ABOUT 75 TO 100 FEET)

U D — HIGH ANGLE FAULT CONCEALED

DRILL HOLES, ALL BUT OT-8-4 NON CORE

- BARREN, UNFAVORABLE
- BARREN, SEMIFAVORABLE
- BARREN, FAVORABLE
- WEAKLY MINERALIZED
- MINERALIZED, MORE THAN 1 FOOT OF 0.10% U_3O_8 OR eU_3O_8
- NO INFORMATION
- HOLE LOCATION PROPOSED BY APPLICANT
- CLASSIFICATION QUESTIONABLE

Note: LAND LINES, CLAIM BOUNDARIES AND HOLE LOCATIONS FROM APPLICANTS MAP.

HOLE CLASSIFICATION IS BASED ON VERY GENERALIZED LITHOLOGIC DESCRIPTIONS OF THE STRATA AND IS TENTATIVE; HOLE LOCATIONS AND NUMBERS IN CLOSE SPACED DRILLING ON OLD TEXAS NO. 8 CLAIM POSSIBLY ARE INCORRECT BECAUSE OF NEAR ILLEGIBILITY OF APPLICANTS MAP.

FIGURE 2.--MAP SHOWING DRILL HOLES, TENTATIVE CLASSIFICATION OF DRILL HOLES, AND APPLICANTS PROPOSED LOCATIONS OF DRILL HOLES FOR DMEA EXPLORATION, OLD TEXAS CLAIMS, OLD TEXAS MINING COMPANY, SAN JUAN COUNTY, UTAH.

6. ESTIMATE OF COSTS –
RATTLESNAKE MT. DMEA
"OLD TEXAS" CLAIMS

IT	ITEM	TIME, UNIT, ETC.	RATE	EXT.	SUBT	T	REMARKS
A	NONE (INDEPENDENT CONTRACTS)						
	SUBTOTAL A				0.00		
B	LABOR, SUPERVISION, & CONSULTANTS (6-10 HR. DAY PER WEEK)				0.00		
	DRILLER	27 WEEKS x 40 HRS. x	2.00	2160.00			REGULAR TIME - DRILLER
		27 WEEKS x 20 HRS x	3.00	1620.00			OVER-TIME "
	HELPER	27 WEEKS x 40 HRS x	1.75	1890.00			REGULAR TIME - HELPER
		27 WEEKS x 20 HRS x	2.625	1437.50			OVER-TIME - "
	SUPERVISION, ENGINEERING 1/2 TIME, 6 1/4 MONTHS @ $550.00			1718.75			
	TRACTOR OPERATOR	80 HOURS x	2.25	180.00			REGULAR TIME
	GEOLOGICAL CONSULTATION & FINAL PROGRAM ANALYSIS			1000.00			GEORGE GRANBOUCHE, MOAB GEOLOGICAL CONSULTANT SVCE.
	SUBTOTAL B			10006.25	10006.25		
C	OPERATING MATERIALS & SUPPLIES						
	GASOLINE						
	DRILL RIG	160 DAYS x 45 GALS = 1200					
	PICK-UP TRUCK	160 DAYS x 5 GALS = 800					
	WATER TRUCK	80 DAYS x 10 GALS = 800					
		8800 GALS x .271		2384.80			
	DIESEL FUEL						
	TD-24	8 DAYS x 55 GALS. x .177		77.88			
	OIL						
	DRILL RIG	64 x 10 QTS x .22		140.80			64 CHANGES AT 25 HOUR INTERVALS
	WATER TRUCK	3 x 8 QTS x .22		5.28			3 MONTHLY CHANGES
	PICK-UP TRUCK	8 x 6 QTS x .22		10.56			8 CHANGES (EVERY 20 DAYS)
	TD-24 CRAWLER	32 QTS. x .26		8.32			1 GAL. PER 10 HOUR PERIOD
	GREASES (INCLUDING TRACK ROLLER, LUBE OR ALL-PURPOSE, JIMMY GRAY, ETC.)	160# x	.16	25.60			AVERAGE ONE POUND PER DAY
	3-CONE ROCK BITS (WILLIAMS K'S OR VAREL)						
	72 NEW 4 3/4" BITS x		54.00	3888.00			ANTICIPATED AVERAGE 100' PER BIT. (14,400 FEET OF SHOT-HOLE)
	72 RETIP 4 3/4" BITS x		12.00	864.00			

DMEA - "OLD TEXAS" CLAIMS

T	ITEM	TIME, UNIT, etc.	RATE	EXT	SUBT	T	REMARKS
C	(CONT'D.) SUPPLIES						
	WATER 80 DAYS, AT 1000 GALS.		1.00	80.00			
	MUD (WYO. GEL OR EQUIV.) 80 DAYS, AT 100#		3.50	210.00			
	BRAN 80 DAYS, AT 100#		2.00	160.00			
	SUBTOTAL C				7915.24		
					17,921.49		
D	OPERATING EQUIPMENT (TO BE FURNISHED BY OPERATOR) ALL MAINTENANCE INCLUDED IN PRICE MAYHEW 1000 DRILL RIG, WITH 400 cfm INTEGRAL COMPRESSOR, MUD PUMP, & ALL NECESSARY STEM, TOOLS, & SUBS.						
	160 DAYS OF USE AT		$80.00/DAY	12,800.00			
	1000 GAL. FORD WATER TRUCK 80 DAYS OF USE AT		$10.00/DAY	800.00			APPROXIMATELY 1/2 OF TOTAL DRILLING WILL BE WET.
	GMC 1/2 T PICK-UP TRUCK 160 DAYS OF USE AT		$5.00/DAY	800.00			GENERAL UTILITY
	TD-24 CRAWLER WITH BUCYRUS-ERIE BULLGRADER 80 HOURS		AT $18.00/HR.	1440.00			
	DAMCO CORE BARREL & 127 CARAT 4 1/2" CORE BIT 1600' AT RE-SET RATE OF .65'			1040.00			AVERAGE RESET $600.00, 800-1000'
	DEEP-HOLE PROBE & BARBEL 610 COUNTER 6 1/4 MONTHS		AT $50.00/MO.	312.50			
	SUBTOTAL D				17,192.50		
					35113.99		
E	NONE (REHABILITATION)						
	SUBTOTAL E				0.00		
					35113.99		
F	NONE (BUILDINGS, INSTALLATIONS, etc.)						
	SUBTOTAL F				0.00		
					35113.99		
G	MISCELLANEOUS						
	REPAIRS (NONE: INCLUDED IN OPERATING COSTS OF EQUIPMENT SCHEDULES)						
	WORKMEN'S COMPENSATION: $9006.25 X .02396			215.79			STATE INSURANCE FUND RATE

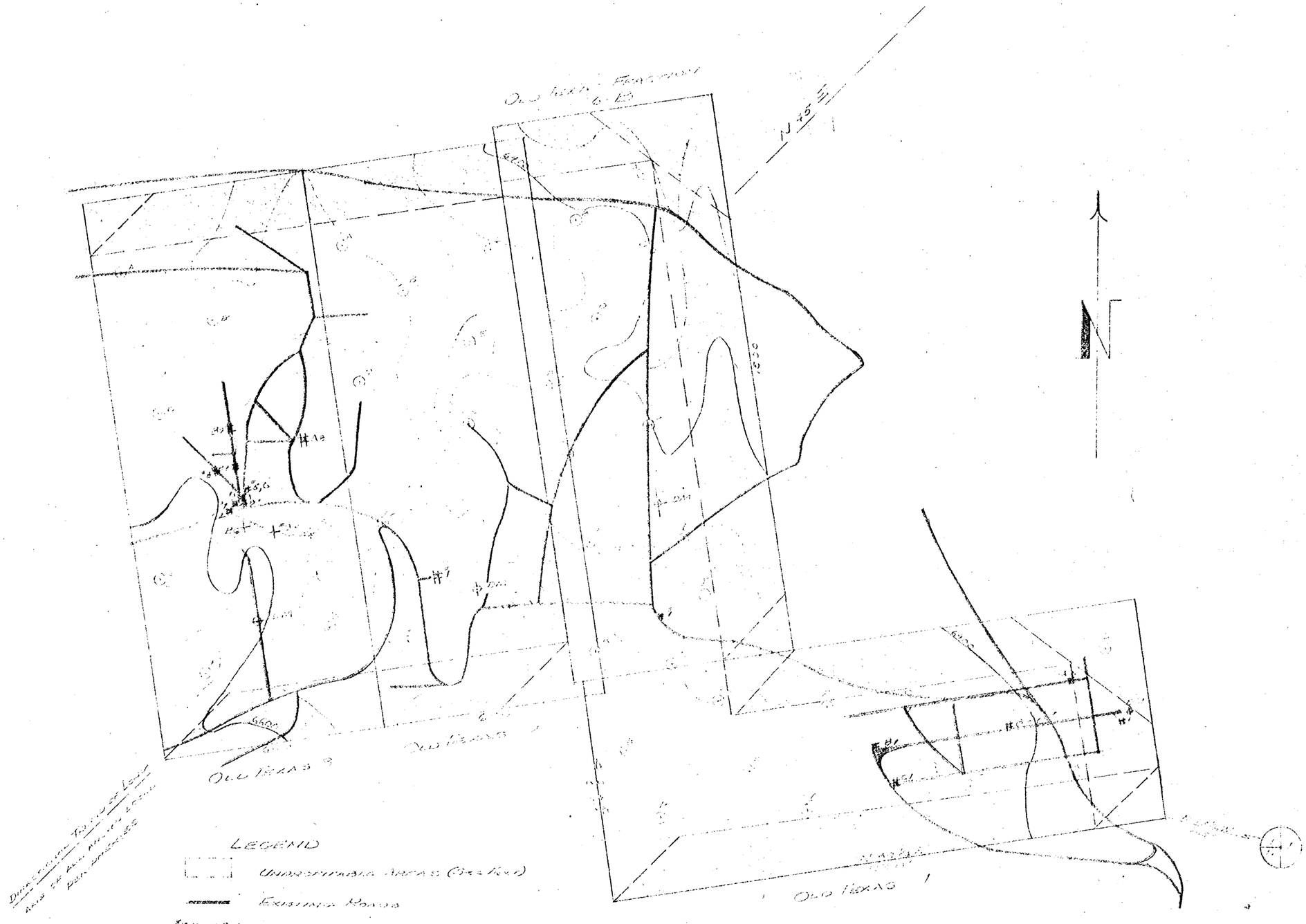
DMEA - "OLD TEXAS CLAIMS"

IT	ITEM	TIME, UNIT, ETC.	RATE	EXT	SUBT	T	REMARKS
G	MISCELLANEOUS (CON'T'D.)						
	PAYROLL TAXES $9006.25 x 5%			450.31			STATE & FEDERAL
	SALES TAX ON ABOVE SUPPLIES TAXABLE: $5372.56 AT 2%			107.45			SALES TAXABLE BY STATE.
	SUBTOTAL G				713.53		
H	CONTINGENCIES: 35,881.54 x 10%			3588.15		35881.54	
	SUBTOTAL H				3588.15		
				TOTAL PROGRAM		$39,476.29	
				DMEA		$29,601.22	
				OLD TEXAS		$9869.07	

ANALYSIS OF FOOTAGE COSTS

TOTAL	CONTRACTS	LABOR	SUPPLIES	REHAB.	BUILDINGS	MISC.	CONT.
$2.47 PER FOOT	0%	$.625/25.3%	$.49/19.8%	0%	0%	$.048/1.9%	$.224/9.1%

EQUIPMENT: $1.21/43.8%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OLD TEXAS
OLD TEXAS
OLD TEXAS
LEGEND
Unconformity Areas (Oil Zone)
Existing Roads
Drill Holes (Two Programs)
Contour Lines
Proposed Drill Holes