DMA Form 1

DEFENSE MINERALS ADMINISTRATION
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DMA Docket No. 3798

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Exploration

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Routing Slip

To:	700	Date	5/3/55
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May 4-'55

DMEA L 3798

Hercomb unable to process until we obtain attachments shown 2nd paragraph page 4. Make sure that we request all info. necessary at one time.

Supplemental information forwarded commodity members 8-18-55

700

FILE COPY
Surname:
Ching
Ellis
Jones
Kilgaard
Selfridge
Henderson

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

Noted!

FEB 14 1956

ado Oil and Uranium Company
Esperson Building
ston 2, Texas

Re: Docket No. DMEA-3798 (Uranium)
Semando Mining Company property
La Plata County, Colorado

Gentlemen:

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

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

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

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

Sincerely yours,

C. O. Mittenson

Administrator

MChing/izm 2-10-56
cc to: Docket
Code 700
Mr. Ching
Admr.'s Reading File
Operating Committee
DMEA Field Team, Region III (2)
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

R.C.B.

Docket Copy

700

Chrono
Ellis
Yager

February 10, 1956

SUMMARY OF PROPOSED PROJECT

Object: Denial of application for an exploration project.

Docket No.: DMEA-3798

Commodity: Uranium

Applicant: Texarado Oil & Uranium Co.
1909 Esperson Bldg.
Houston 2, Texas

Property: 11 unpatented lode mining claims; Shorty Nos. 1-4, Pinky Nos. 1-2, Madden No. 1, Marge Nos. 1-2, and Hazel Nos. 1-2, situated in Sections 5 and 6, T. 36 N., R. 11 W., La Plata County, Colorado. Applicant owns 83.34% interest in the claims and L. G. Stearns owns the remaining 16.66%.

Date of Application: April 1, 1955

Amount of Application: $43,913.06

Work Proposed: Explore a radioactive shear zone as follows:

1. Extend existing 60-foot tunnel an additional distance of 200 feet, drive four or five 10-foot crosscuts across the shear zone at intervals of 50 feet, and drive two 50-foot raises 100 feet apart.

2. Expose the shear zone by bulldozing at a point 100 feet vertically below the old tunnel, drive a second tunnel 360 feet in from this point, drive five 12-foot crosscuts across the shear zone at intervals of 50 feet, beginning at the face, and drive two 100-foot raises to connect with the upper tunnel.

Estimated Cost:

Independent Contracts

670 ft. drifting & crosscutting @ $13.00/ft.	$8,710.00	
300 ft. raising @ $10.00/ft.	3,000.00	
Labor, supervision, consultants	9,340.00	
Operating materials and supplies	6,856.56	
Operating equipment	10,627.50	
Other Costs	5,379.00	
Total Estimated Cost		$43,913.06
Government Participation @ 75%		$32,934.80

Field Team Report: January 12, 1956; D. R. MacLaren, USGS and C. M. Harrer, USBM:

Rock exposed on the property is a syenite. An irregularly fractured shear zone, 12 to 20 feet wide, striking about N. 38° E., and dipping about 70° SE, is the mineralized structure. The shear zone has a known length of approximately 3 miles.

The shear zone is exposed in three short surface trenches and in a 60-foot tunnel. Samples taken in the tunnel by the Applicant and checked by the examiners show an exposed zone 12 feet long and 5 feet wide with an average grade of 0.15% U_3O_8. This ore zone could not be traced on the surface due to overburden. According to Applicant's mining engineer, within one mile southwest of the workings and more or less on line with the strike of the shear zone, samples from three pits assayed as high as 0.31% U_3O_8.

Applicant's consulting geologist took two samples, one from the lower trench and one from the middle trench mentioned above. The first assayed 0.28% eU_3O_8 and the second 0.26% eU_3O_8, 39.76% lead and 9.64 ounces silver per ton. No sample was taken from the upper trench as no vein was exposed and no radiation above background was detected. The field examiners took a sample of the best material exposed in the lower trench over a width of 2 feet. It assayed 0.38% U_3O_8.

Systematic sampling of the 60-foot tunnel by the Applicant exposed the 12-foot ore zone. The samples were taken at 4-foot intervals along the tunnel, starting at the face. Of the 12 samples taken, 3 were of ore grade and 9 ran from .02 to .09% eU_3O_8. Two selected samples taken by the examiners at the face and midway along the tunnel assayed 0.20 and 0.26% U_3O_8, respectively.

The sampling results indicate that the uranium occurs in small lenses and pockets, irregularly spaced along fractures in the shear zone. On the basis of the meager information available, it is concluded that the chance of making a significant discovery is poor. It is recommended that the application be denied. However, because this is a new uranium district in which little prospecting work has been done, and the nature of the syenite as a host rock and the extent of structural control exerted by the shear zone in the formation of ore deposits are not known, a limited exploration program may be deemed justified. Therefore such a program is included with this report.

Commodity Group Comments:

USGS, N. E. Nelson, January 31, 1956:

Apparently the uranium bearing portions of the shear zone are scattered. From the description, the 12-foot ore zone may have a greater length than indicated by the examiners, but at best, no considerable tonnage of 0.15% U_3O_8 material can be inferred. If the examiners are

reasonably certain that the ore shoot is only 5x12 feet in plan, denial of the application is recommended. If there is a possibility that the ore goes farther into the walls of the adit, a modest program of exploration should be considered.

(Note): In a later telephone conversation between Nelson and D. R. MacLaren, the USGS examiner, the latter advised that the end limits of the 12-foot ore zone were not established since they ran into the adit walls. MacLaren was inclined toward a limited program in this conversation.

USBM, John E. Crawford, February 7, 1956:

Discussed the report of examination with J. O. Hosted, AEC representative. Latter suggests that favorable consideration be given to a limited exploration program. Crawford recommends that the exposed mineralization be investigated as to the possible third dimension. Inasmuch as the Field Team recommends denial, it is assumed that the third dimension or thickness of the ore is nil, but in fairness to the Applicant, the thickness of the ore should be noted.

Rare & Miscellaneous Metals Division, Michael Ching, February 10, 1956:

The facts contained in the Report of Examination appear as much to justify a limited program as to justify a denial. The following favorable factors are noted:

1. The mineralized structure or shear zone is quite extensive, ranging from 12 to 20 feet in width and extending for a known length of 3 miles.

2. In the only underground working, a 60-foot adit, an ore zone 12 feet long and 5 feet wide was exposed which averaged 0.15% U_3O_8. Later advice from the USGS indicates that the end limits of this zone were not established since they ran into the adit walls. Furthermore, some 32 feet of the adit was mineralized, with 9 samples taken at regular intervals, running from 0.02 to 0.09% eU_3O_8.

3. Applicant reported that within one mile southwest of the adit, and more or less on line with the strike of the shear zone, samples from three pits assayed as high as 0.31% U_3O_8. However, these exposures were not checked by the field examiners.

4. Two samples by the Applicant and one by the examining team, taken from two trenches which exposed the shear zone above and northeast of the aidt, assayed 0.28% eU_3O_8, 0.26% eU_3O_8 and 0.38% U_3O_8, respectively.

The examiners do not present any specific information that is conclusively unfavorable to the property. However, they believe that the sampling results indicate that the uranium occurs in small lenses and pockets, irregularly spaced along fractures in the shear zone; consequently the chance of making a significant discovery is poor.

Conclusions and Recommendations:

The potential of this property is not impressive and the chances of finding a worthwhile ore body do not appear good. It is recommended that the application be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

2/7/56 gla

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

February 7, 1956

Memorandum

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

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

Subject: Report of Examination, DMEA Docket 3798, Texarado Oil and Uranium Company, Semands Mining Company Property, La Plata County, Colorado

I have reviewed the report of examination, Texarado Oil and Uranium Company, DMEA Docket 3798, dated January 24 and received in this office January 30. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The DMEA field personnel found uranium in a fractured shear zone about 3 miles long. On the applicant's property a 60-foot tunnel has exposed a zone 12 feet long and 5 feet wide, having an average grade of 0.15 percent U_3O_8. No indication of the amount of inferred ore was presented.

The Field Team recommends denial of the application because the chance of making a significant discovery of uranium ore is poor.

It is recommended that the exposed mineralization be investigated as to the possible third dimension. Inasmuch as the Field Team recommends denial, it is assumed that the third dimension or thickness of the ore is nil, but in fairness to the applicant, the thickness of the ore should be noted.

Mr. Hosted suggests that favorable consideration be given to the two-stage program outlined by the field examiners. Stage I would consist of extending the existing tunnel 100 feet along the shear zone in a northeasterly direction. Stage II, subject to results of Stage I, would include the driving of three crosscuts, not to exceed a combined total of 75 feet of crosscutting. The cost per foot of 7-by-5-foot drift or 7-by-5-foot crosscut would be $40, thereby making the total estimated cost of the project $7,100 and Government participation at 75 percent would be $5,325.

RECEIVED
FEB - 7 1956

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

John E. Crawford

John E. Crawford

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

February 7, 1956

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FEB - 7 1956

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John E. Crawford

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

February 7, 1956

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RECEIVED
FEB - 7 1956

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

John E. Crawford

1-31-56 [illegible]

IN REPLY REFER TO:

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

RECEIVED
JAN 31 1956

January 31, 1956

Re: DMEA 3798
Texarado Oil and Uranium Co.
Semands Mining Co. property
La Plata County, Colorado
$7,100.00 - Uranium

Memorandum

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

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

Subject: Review of Field Team report.

The applicant requested assistance in exploring a uranium-bearing shear zone in syenite. The occurrence differs somewhat from the ordinary run and is in a new area.

The shear zone has a known length of 3 miles. Apparently the uranium-bearing parts are scattered, probably widely scattered, and work has been concentrated at one locality. A 60-foot adit and three open cuts a little ahead of and above the adit explore the showings. From two of the trenches and the adit, samples of ore grade material have been taken.

The adit appears to be mineralized from a point 20 feet in to the face, but only a short section near the first elbow carries ore grade rock. The short section is characterized by N. 75° - 80° E. fractures which are oblique to the axis of the adit, and, as inferred from the geologic map, Figure 3, continue into the right wall of the adit, and as mapped end against the foot and hanging walls of the shear zone. It is not clear how the position of the hanging wall was determined, but it may have been projected from the trenches above. It would seem, though it is not quite clear whether the samples were taken across the back of the adit or along the right wall, that the ore may go into the right wall, and perhaps into the left since sample H798 was taken on the left wall. If so and the position of the hanging wall of the shear zone is not located with too great certainty, the ore body may have a greater length than now taken, but, at best, no considerable tonnage of 0.15% U_3O_8 material can be inferred. The uranium occurs with low values in lead, copper and silver, thus making a complex ore.

The examiners submit a tentative alternative work program, to cost $7,100.00, to take the place of the proposal of the applicant, the estimated cost of which is $43,913.06.

If the examiners are reasonably certain that the ore shoot is only 5 x 12 feet in plan, I recommend denial of the application. If there is a possibility that the ore 'goes into' the walls of the adit a proposal, of the order of that of the examiners, should be considered.

N. E. Nelson

IN REPLY REFER TO:

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

RECEIVED
JAN 31 1956

January 31, 1956

Re: DMEA 3798
Tamarack Oil and Uranium Co.
Demanda Mining Co. property
La Plata County, Colorado
$7,100.00 - Uranium

Memorandum

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

From: H. E. Malmon, U. S. Geological Survey

Subject: Review of Field Team report.

The applicant requested assistance in exploring a uranium-bearing shear zone in syenite. The occurrence differs somewhat from the ordinary run and is in a new area.

The shear zone has a known length of 3 miles. Apparently the uranium-bearing parts are scattered, probably widely scattered, and work has been concentrated at one locality. A 60-foot adit and three open cuts a little ahead of and above the adit explore the showings. From two of the trenches and the adit, samples of ore grade material have been taken.

The adit appears to be mineralized from a point 20 feet in to the face, but only a short section near the first elbow carries ore grade rock. The short section is characterized by N. 75° - 80° E. fractures which are oblique to the axis of the adit, and, as inferred from the geologic map, Figure 3, continue into the right wall of the adit, and as mapped and against the foot and hanging walls of the shear zone. It is not clear how the position of the hanging wall was determined, but it may have been projected from the trenches above. It would seem, though it is not quite clear whether the samples were taken across the back of the adit or along the right wall, that the ore may go into the right wall, and perhaps into the left since sample H798 was taken on the left wall. If so and the position of the hanging wall of the shear zone is not located with too great certainty, the ore body may have a greater length than now taken, but, at best, no considerable tonnage of 0.15% U_3O_8 material can be inferred. The uranium occurs with low values in lead, copper and silver, thus making a complex ore.

The examiners submit a tentative alternative work program, to cost $7,100.00, to take the place of the proposal of the applicant, the estimated cost of which is $43,913.06.

If the examiners are reasonably certain that the ore shoot is only 5 x 18 feet in plan, I recommend denial of the application. If there is a possibility that the ore 'goes into' the walls of the adit a proposal, of the order of that of the examiners, should be considered.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-1/31/56

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

IN REPLY REFER TO:

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

RECEIVED
JAN 31 1956

January 31, 1956

Re: DMEA 3756
Tamarack Oil and Uranium Co.
Seminole Mining Co. property
La Plata County, Colorado
$7,100.00 - Uranium

Memorandum

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

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

Subject: Review of Field Team report.

The applicant requested assistance in exploring a uranium-bearing shear zone in syenite. The occurrence differs somewhat from the ordinary run and is in a new area.

The shear zone has a known length of 3 miles. Apparently the uranium-bearing parts are scattered, probably widely scattered, and work has been concentrated at one locality. A 60-foot adit and three open cuts a little ahead of and above the adit explore the showings. From two of the trenches and the adit, samples of ore grade material have been taken.

The adit appears to be mineralized from a point 20 feet in to the face, but only a short section near the first elbow carries ore grade rock. The short section is characterized by N. 75° - 80° E. fractures which are oblique to the axis of the adit, and, as inferred from the geologic map, Figure 3, continue into the right wall of the adit, and as mapped and against the foot and hanging walls of the shear zone. It is not clear how the position of the hanging wall was determined, but it may have been projected from the trenches above. It would seem, though it is not quite clear whether the samples were taken across the back of the adit or along the right wall, that the ore may go into the right wall, and perhaps into the left since sample R798 was taken on the left wall. If so and the position of the hanging wall of the shear zone is not located with too great certainty, the ore body may have a greater length than now taken, but, at best, no considerable tonnage of 0.15% U_3O_8 material can be inferred. The uranium occurs with low values in lead, copper and silver, thus making a complex ore.

The examiners submit a tentative alternative work program, to cost $7,100.00, to take the place of the proposal of the applicant, the estimated cost of which is $43,913.06.

If the examiners are reasonably certain that the ore shoot is only 5 x 12 feet in plan, I recommend denial of the application. If there is a possibility that the ore 'goes into' the walls of the adit a proposal, of the order of that of the examiners, should be considered.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-1/31/56

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

IN REPLY REFER TO:

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

RECEIVED
JAN 3 1 1956

January 31, 1956

Re: DMEA 3798
Tomorrado Oil and Uranium Co.
Seminole Mining Co. property
La Plata County, Colorado
$7,100.00 - Uranium

Memorandum

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

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

Subject: Review of Field Team report.

The applicant requested assistance in exploring a uranium-bearing shear zone in syenite. The occurrence differs somewhat from the ordinary run and is in a new area.

The shear zone has a known length of 3 miles. Apparently the uranium-bearing parts are scattered, probably widely scattered, and work has been concentrated at one locality. A 60-foot adit and three open cuts a little ahead of and above the adit explore the showings. From two of the trenches and the adit, samples of ore grade material have been taken.

The adit appears to be mineralized from a point 20 feet in to the face, but only a short section near the first elbow carries ore grade rock. The short section is characterized by N. 75° - 80° E. fractures which are oblique to the axis of the adit, and, as inferred from the geologic map, Figure 3, continue into the right wall of the adit, and as mapped end against the foot and hanging walls of the shear zone. It is not clear how the position of the hanging wall was determined, but it may have been projected from the trenches above. It would seem, though it is not quite clear whether the samples were taken across the back of the adit or along the right wall, that the ore may go into the right wall, and perhaps into the left since sample 3798 was taken on the left wall. If so and the position of the hanging wall of the shear zone is not located with too great certainty, the ore body may have a greater length than now taken, but, at best, no considerable tonnage of 0.1% U_3O_8 material can be inferred. The uranium occurs with low values in lead, copper and silver, thus making a complex ore.

The examiners submit a tentative alternative work program, to cost $7,180.00, to take the place of the proposal of the applicant, the estimated cost of which is $43,913.06.

If the examiners are reasonably certain that the ore shoot is only 5 x 12 feet in plan, I recommend denial of the application. If there is a possibility that the ore 'goes into' the walls of the adit a proposal, of the order of that of the examiners, should be considered.

H. E. Nelson

H. E. Nelson

HENelson:iml
G-1/31/56

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

1-31-56 lgm

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

RECEIVED
JAN 26 1956

January 24, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA 3798 (Uranium), Texarado Oil and Uranium Company, Semands Mining Company Property, La Plata County, Colorado

Enclosed are the original and three copies of a Joint Report of Examination on the subject docket.

We believe that the subject application is a borderline case and that there is little possibility of discovering a significant amount of uranium on this property. However, little exploration has been done in this locality, and you may feel that some exploration is warranted. If so, a suggested program of exploration has been included in the report at an estimated cost of $7,100.00.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
1-30-56
(date)

Date Rec'd.

JAN 20 1956

RECEIVED

JAN 20 1956

BUREAU OF MINES
Denver, Colorado

Region III

Building 20
Denver Federal Center
Denver 2, Colorado
January 18, 1956

Memorandum

TRANSMITTED

JAN 24 1956

To: Executive Officer, DMEA Field Team, Region III

From: R. N. Marshman
John F. Shaw

Subject: Examination Report, Docket No. DMEA 3798, Texarado Oil and Uranium Company, Semands Mining Company Property, La Plata County, Colorado

Enclosed are the original and 9 copies of the Joint Engineering and Geologic Report by D. R. MacLaren, Geologist and C. M. Harrer, Mining Engineer covering Docket No. 3798.

Texarado Oil and Uranium Company applied for DMEA assistance to explore their group of 11 unpatented lode claims in La Plata County, Colorado by surface stripping, drifting, crosscutting and raising. The estimated cost of the work is $43,913.06.

The property was examined on September 22, 1955 by D. R. MacLaren and C. M. Harrer. Uranium has been found in a fractured shear zone about 3 miles long. A 60-feet tunnel has exposed a zone 12-feet long and 5-feet wide having an average grade of 0.15 percent U_3O_8. However, the examining team concluded that the chance of making a significant discovery of the uranium ore is poor.

The examining team recommended that the application be denied, but have included a suggested program in the report, in the event that the DMEA staff believes further exploration is warranted. The suggested program consists of extending the existing tunnel 100-feet northeasterly along the shear zone and driving 3 crosscuts not to exceed a combined total of 75-feet at locations to be determined after the drifting has been completed

The estimated cost of this work is $7,100.00. It is believed that this exploration project is a borderline case and that there is little possibility of discovering a significant amount of uranium on the property.

Reviewed by
DMEA OPERATING COMMITTEE
1-30-56
(date)

It is recommended that the application be denied unless the Washington Office believes that some exploration should be done in this area. If so, it is recommended that the proposed drifting and crosscutting at an estimated cost of $7,100.00 be authorized.

E. N. Harshman
Member Field Team

John F. Shaw
Supervising Mining Engineer

Enclosures

JFS:ch

cc 9
ENHarshman
DMRA 3798
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

RECEIVED
JAN 26 1956

TRANSMITTED

JAN 24 1956

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3798

TEXARADO OIL AND URANIUM COMPANY

Semands Mining Company Property

La Plata County, Colorado

Uranium

Joint Geologic and Engineering Report

By

D. R. MacLaren, Geologist
Geological Survey

C. M. Harrer, Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
1-30-56
(date)

January 12, 1956

DMEA 3798

TEXARADO OIL AND URANIUM COMPANY
SEMAND MINING COMPANY PROPERTY
LA PLATA COUNTY, COLORADO

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SUMMARY

Texarado Oil and Uranium Co., of 1909 Esperson Bldg., Houston, Texas, has applied for Defense Minerals Exploration Administration assistance to explore their group of 11 unpatented lode claims for uranium. The claims comprise about 227 acres in secs. 5 and 6, T. 36 N., R. 11 W., California Mining District, La Plata County, Colorado and are at an altitude of about 11,000 feet above sea-level. The claims are accessible by jeep and truck trails.

The applicants propose to explore their property as follows:

(a) Extend an existing adit 200 feet; explore the adit walls at 50 foot centers with 10-foot crosscuts; and drive 50-foot exploration raises at 100-foot intervals along the vein.

(b) Strip talus with a bulldozer to uncover the vein outcrop 100 feet below the existing adit and drift on the vein for about 360 feet. Short crosscuts totalling 60 feet will be driven to explore the walls of the adit.

(c) Two 100-foot raises will be driven from the lower level to connect with the upper level for ventilation and to explore the vein vertically.

Texarado Oil and Uranium Company proposes to accomplish this at a cost of $43,913.06. The Government's share would be $32,934.80.

Uranium has been found in a fractured shear zone about 3 miles long in a syenite stock. On the applicant's property a 60-foot tunnel has exposed a zone 12 feet long and 5 feet wide having an average grade of 0.15 percent U_3O_8. Two surface trenches about 65-feet northeast of the ore grade zone in the tunnel expose uranium bearing fractures ranging in grade from 0.26 percent eU_3O_8 to 0.378% U_3O_8. The uranium is in equilibrium with its disintegration products. The nature of the syenite as a host rock for uranium ore bodies and what structural control of ore deposition is exercised by the shear zone is not known.

On the basis of the information available it is concluded that the chance of making a significant discovery of uranium ore is poor and it is recommended that the application be denied. However, the examiners believe this is a borderline case and have therefore included a suggested program in the event that the DMEA staff feels that further exploration is warranted.

INTRODUCTION AND ACKNOWLEDGMENTS

Texarado Oil and Uranium Company of 1909 Esperson Bldg., Houston, Texas own 83.34 percent interest in 11 unpatented lode claims in the California Mining District of La Plata County, Colorado, which they wish to explore for uranium. They have applied for Defense Minerals Exploration Administration assistance to explore the claims with a program of underground exploration at an estimated cost of $43,913.06, (Government's share 75% or $32,936.30).

The applicant's claims were examined by a joint Bureau of Mines and Geological Survey team on September 22, 1955. Victor J. Hampton, Superintendent for Texarado Oil and Uranium Co., accompanied the examining team and contributed his knowledge of the property.

The Grand Junction, Colorado office of the Atomic Energy Commission was consulted and made available pertinent data from their files.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

Texarado Oil and Uranium Company control 11 standard and contiguous lode claims near the head of Madden Gulch on Gibbs Mountain at an altitude of about 11,000 feet above sea-level. The claims are in secs. 5 and 6, T. 36 N., R. 11 W., New Mexico Principal Meridian, in the California Mining District of La Plata County, Colorado (Fig. 1). The property is reached by driving 12.7 miles west from Durango, Colorado on U. S. Highway 160; then northerly on a gravelled county road for 4.5 miles to La Plata City; thence on a steep and rough jeep and truck access road up Bedrock and Madden gulches for 7.1 miles to the property. The terrain is rugged . Most of the slopes are steep and well forested. Water is available from intermittent streams and from the La Plata river. The nearest uranium depot is at Durango, Colo., about 25 miles distant. The property is 79 miles from the ore buying depot at Shiprock, New Mexico and 113 miles from the one at Monticello, Utah. Supplies and labor are obtainable at Durango which is the nearest residential center. The closest railroad is the Denver and Rio Grande Western at Durango. The nearest electric power line is about 7 miles distant.

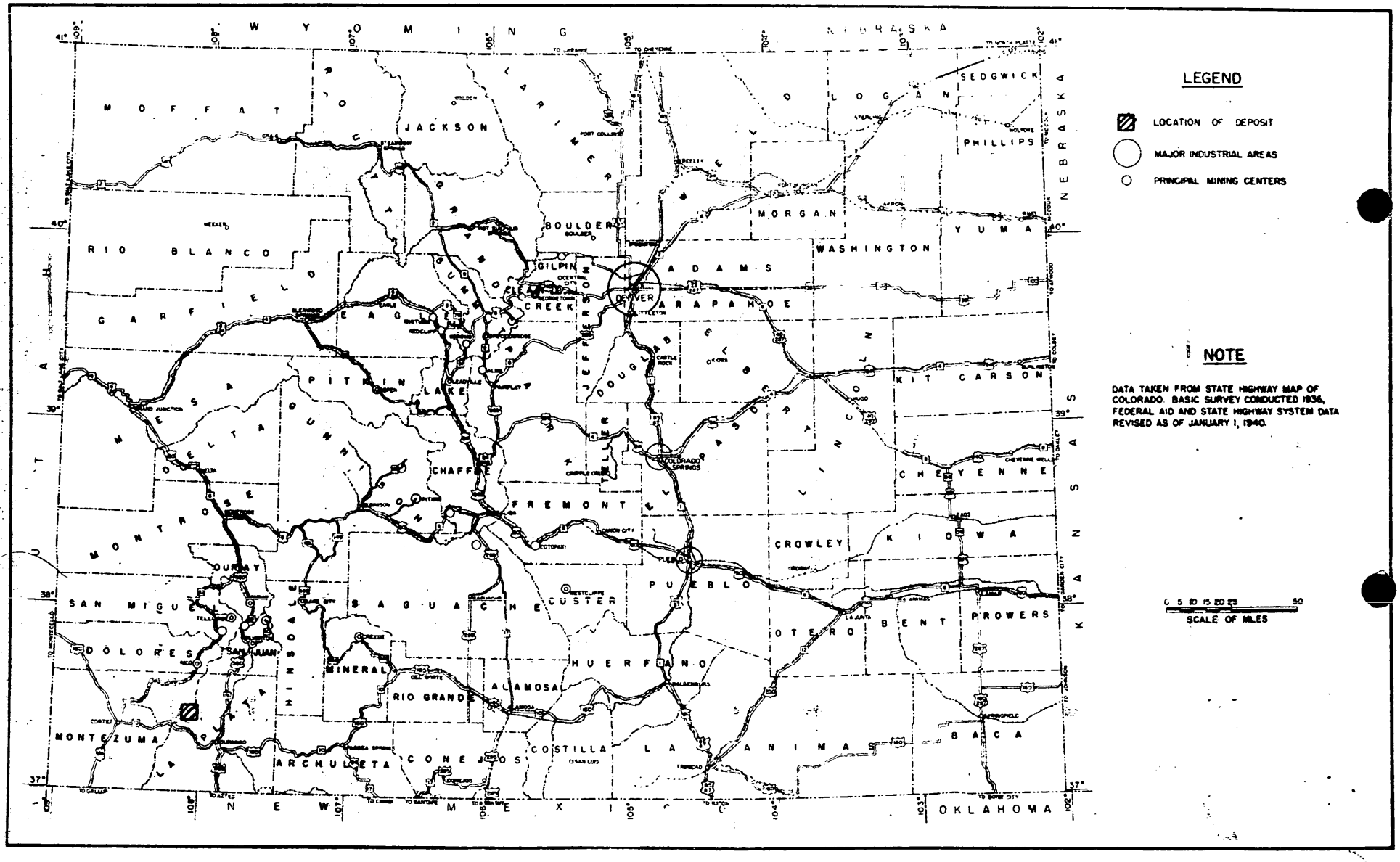

FIGURE 1 - LOCATION MAP, TEXARADO OIL AND URANIUM CO., PROPERTY, LA PLATA COUNTY, COLO. DMEA 3798

HISTORY AND PRODUCTION

The claims were originally located during July and August of 1954 by D. C. Knutson, G. B. Coan, H. C. and Olga Little, L. G. Stearns and G. Pinkstaff. There has been no production from the property to date.

OWNERSHIP

Texarado Oil and Uranium Company own an 83.34 percent interest in 11 unpatented, standard lode locations recorded in the La Plata County Court House as follows:

Claim	Date of Location	Date Filed	Book	Page	Locators
Shorty No.1	7-3-54	7-12-54	334	230	D. C. Knutson, G. B. Coan
Shorty No.2	7-5-54	7-12-54	334	231	G. B. Coan, G. Pinkstaff
Shorty No.3	7-5-54	7-12-54	334	231	G. B. Coan, G. Pinkstaff
Shorty No.4	8-5-54	8-9-54	334	405	L. G. Stearns
Pinky No. 1	7-5-54	7-12-54	334	232	G. B. Coan, G. Pinkstaff
Pinky No. 2	7-5-54	7-12-54	334	232	G. B. Coan, G. Pinkstaff
Madden No.1	7-6-54	7-12-54	334	233	H. C. and Olga Little
Marge No. 1	8-5-54	8-9-54	334	403	L. G. Stearns
Marge No. 2	8-5-54	8-9-54	334	404	L. G. Stearns
Hazel No. 1	8-5-54	8-9-54	334	401	L. G. Stearns
Hazel No. 2	8-5-54	8-9-54	334	402	L. G. Stearns

The Shorty-Pinky Group of claims were assigned to Mr. L. G. Stearns by a deed dated August 31, 1954, reserving a 13 percent royalty interest. The Madden No. 1 claim was assigned to L. G. Stearns by deed dated November 22, 1954, reserving a 10 percent interest therein. On November 23, 1954, L. G. Stearns assigned 5/6 interest in the above

mentioned 11 claims to G. H. Sanders, subject to a 13 percent royalty in the Shorty-Pinky group of 6 claims and a 10 percent royalty in the remaining 5 claims. On the same date, G. H. Sanders assigned 60.6 percent of his 5/6 interest in the above 11 claims to Martin B. Semands. On March 7, 1955, Martin B. Semands and G. H. Sanders assigned their interests in the subject 11 claims to Texarado Oil and Uranium Company.

The applicant company now owns a controlling interest of 83.34 percent in the subject 11 claims and L. G. Stearns owns the remaining 16.66 percent.

The claims (Fig. 2) comprise about 227 acres in secs. 5 and 6, T. 36 N., R. 11 W., N. M. P. M.

GEOLOGY

The geology of the La Plata Mountains is described in U. S. Geological Survey Folio 60 by Whitman Cross, A. C. Spencer, and C. W. Purington, (1901), and in U. S. Geological Survey Professional Paper 219 by E. B. Eckel, J. S. Williams, F. W. Galbraith, and others, (1950). Sedimentary rocks, ranging in age from Pennsylvanian through Upper Cretaceous, have been domed up and intruded by many stocks, dikes, and sills of late Cretaceous or Tertiary age. The domed area has been eroded forming the La Plata Mountains. The intrusive rocks are non-porphyritic and porphyritic syenite, monzonite, monzonite-diorite, diorite, and ferromagnesian rocks. The doming and intrusions were accompanied by considerable faulting and shearing followed by the formation of veins containing gold, silver, copper, lead, and zinc minerals, associated with pyrite, quartz, calcite, ankerite, and barite. These minerals also occur as disseminated bodies and replacement bodies at various localities. Uranium has been found in igneous intrusives in a fissure rim, known as the Tomahawk rim and in a shear zone about 2-1/2 miles southwest of the

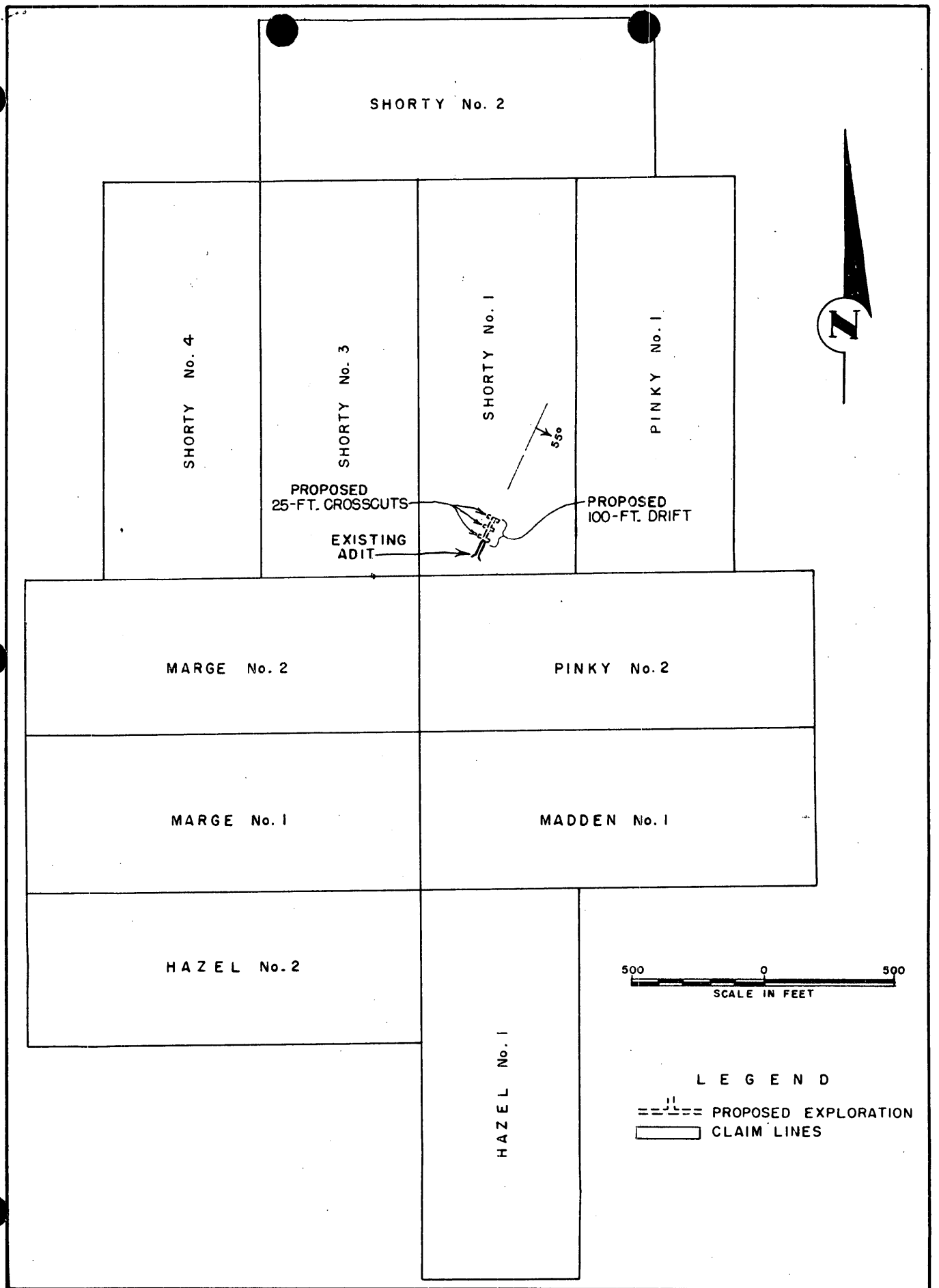

FIGURE 2 - CLAIM AND EXPLORATION MAP, TEXARADO OIL AND URANIUM CO., PROPERTY, LA PLATA COUNTY, COLO. DMEA 3798

rim. The uranium-bearing shear zone crosses the applicant's claims.

The only rock exposed on the applicant's claims is a syenite stock. An irregularly fractured shear zone, 12 to 20 feet wide, strikes about N. 38 E. and dips about 70° SE (fig. 3). The foot wall of the zone is fairly distinct but the hanging wall is rather obscure. Within the shear zone there are two sets of fractures, one set striking N. 38°-48° E. and dipping 70°-82° SE., the other striking N. 75°-80° E. and dipping 72°-80° SE. The fractures range in thickness from knife edge to 2 inches and contain small disseminated cubes of pyrite and a little galena and chalcopyrite in a gangue of gouge. The Geiger counter indicates that within many of the fractures there are small streaks that contain uranium-bearing minerals that have not yet been identified by the Atomic Energy Commission. The shear zone is exposed in three short surface trenches and in a 60-foot tunnel. Samples taken in the tunnel by the applicant and checked by the examiners indicate a zone 12 feet long and 5 foot wide that has an average grade of 0.15 percent U_3O_8 (fig. 3). Due to overburden the zone could not be traced on the surface. Wihin one mile southwest of the workings and more or less on line with the strike of the shear zone, samples from three pits assayed as high as 0.31 percent U_3O_8, according to Mr. Hampton.

In a report on an examination made by H. F. McFarland on November 1, 1954, three cuts in the vicinity of the proposed exploration called respectively lower, middle, and upper are described. Two character samples were taken, one from the lower cut and one from the middle cut. The actual location of the samples could not be established.

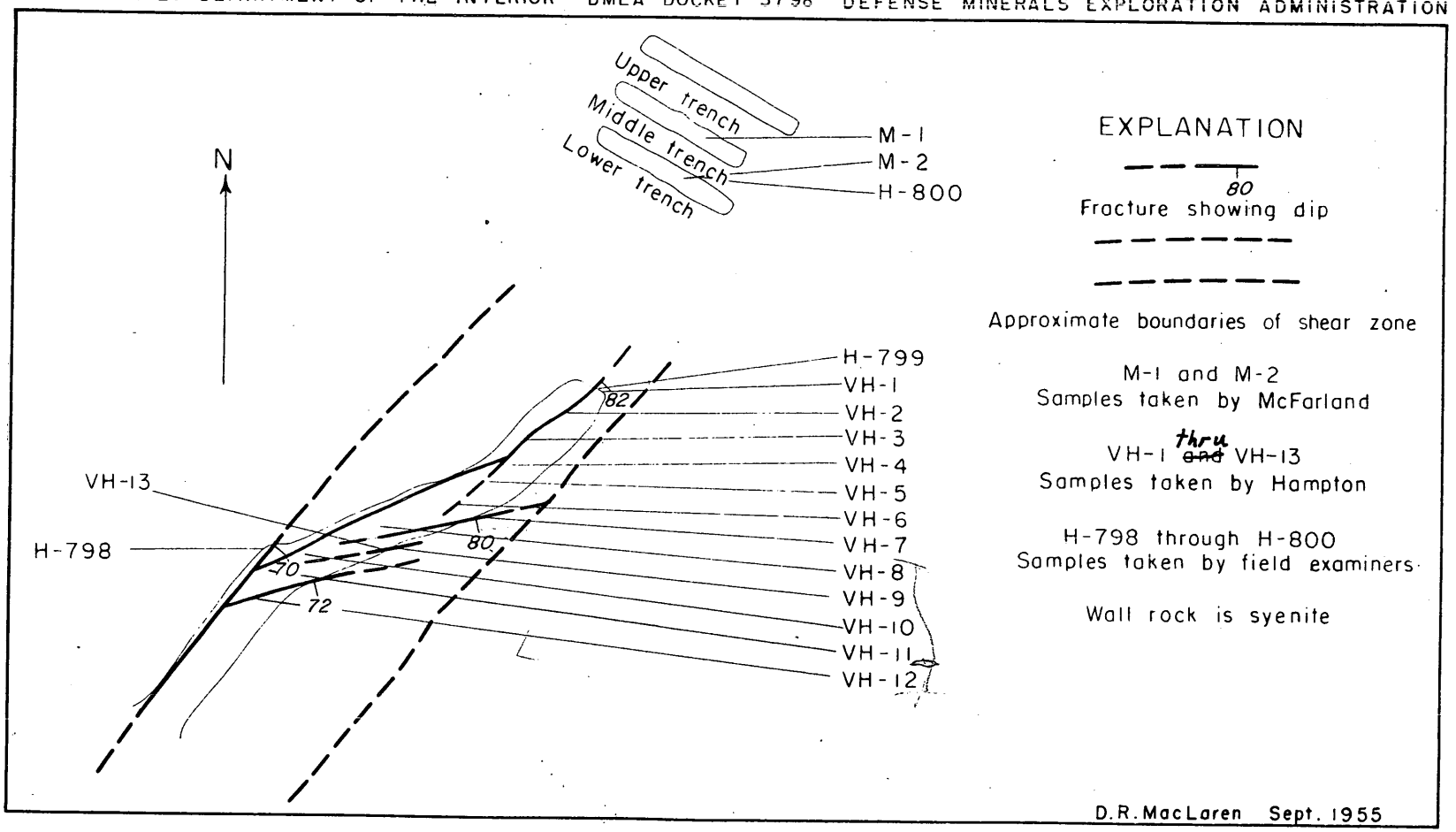

FIGURE 3.-PLAN SHOWING WORKINGS, GEOLOGY, AND SAMPLE LOCATIONS, TEXARADO OIL AND URANIUM CO. LA PLATA COUNTY COLORADO

20 10 0 20 Feet

The sample from the lower cut (M-2) assayed 0.28 percent eU_3O_8. That from the middle cut (M-1) assayed 0.26 percent eU_3O_8, 39.76 percent lead, and 0.06 ounce gold and 9.64 ounce silver per ton. No sample was taken from the upper cut as no vein was exposed and no radiation above background was detected.

On January 7, 1955, the adit was sampled by the applicant for most of its 60-foot length. Sampling was started at the breast and proceeded outwards at 4-foot intervals. The results of sampling are reported by the applicant as follows:

Sample	Feet Width	eU_3O_8	Percent Pb	Percent Cu	Ounces Per Ton Au	Ounces Per Ton Ag	Location
VH-1	0.33	0.08	0.1	0.02	Trace	0.30	Breast of adit
VH-2	5.0	0.02	0.3	0.16	"	0.40	4 ft. S.W. of adit breast
VH-3	4.0	0.04	0.2	0.08	"	0.60	8 ft. S.W. of adit breast
VH-4	4.5	0.08	1.5	0.46	0.01	3.90	12 ft. S.W. of adit breast
VH-5	5.0	0.06	1.4	0.38	0.01	1.50	16 ft. S.W. of adit breast
VH-6	5.0	0.05	2.1	0.90	0.01	2.20	20 ft. S.W. of adit breast
VH-7	1.5	0.07	1.60	0.64	0.01	3.70	24 ft. S.W. of adit breast
VH-8	1.0	0.06	2.40	0.34	0.02	6.20	28 ft. S.W. of adit breast
VH-9	5.0	0.13	0.10	0.02	Trace	0.50	32 ft. S.W. of adit breast
VH-10	5.0	0.14	0.30	0.06	"	0.80	36 ft. S.W. of adit breast
VH-11	5.0	0.16	0.30	0.07	"	0.70	40 ft. S.W. of adit breast
VH-12	5.0	0.09	0.20	0.04	"	0.40	44 ft. S.W. of adit breast

Samples VH-9, VH-10, and VH-11 were also assayed chemically for U_3O_8 with the following results: Sample 9, 0.15 percent U_3O_8; sample 10,

0.14 percent U_3O_8 ; and sample 11, 0.16 percent U_3O_8 .

A special sample VH-13 taken over 4 inches of kaolinized rock assayed 0.10 percent eU_3O_8 and 0.15 percent U_3O_8. Two samples of the most radioactive parts of the vein at the same location assayed 0.24 and 0.27 percent eU_3O_8 and 0.21 and 0.22 percent U_3O_8 respectively. In each case the difference between the eU_3O_8 and the U_3O_8 values are slight.

Three selected samples were taken by the examining team. Sample H-799 was taken of the best appearing material at the breast of the 60-foot adit and represents a lens one foot high by one foot wide. It assayed 0.198 percent U_3O_8. A second sample (H-798) was taken of the west wall of the adit midway between the breast and portal. It assayed 0.259 percent U_3O_8. The third sample (H-800) was taken of the best material exposed in the partly caved lower trench above the adit. It assayed 0.378 percent U_3O_8 over a width of 2 feet.

The sampling results indicate that the uranium occurs in small lenses and pockets, irregularly spaced along fractures in the shear zone.

MINABLE ORE RESERVES

There is no basis on which to estimate ore reserves and there has been no production to date. The applicant estimates about 800 tons of probable ore assaying, approximately 0.1 percent U_3O_8. This should more realistically be classed as inferred ore, and the amount is probably high.

PRESENT STATUS

Exploration and Development

Exploration work on the Texarado Oil and Uranium Company property includes three shallow trenches cut across outcrops on the Shorty No. 1 claim and a 5- by 7-foot adit driven on a radioactive structure on the Shorty No. 1 claim for 60-feet (fig. 3).

Mining, Milling, and other facilities

Surface plant consists of a trailer house and small tool shed. There is no compressor or drilling equipment; however, the operator has miscellaneous small tools and supplies left over from earlier exploration which he values at $1,097.23. There is no milling equipment on the property and any ore would be trucked to the nearest uranium purchasing depot at which it would be acceptable. The access road to the property is in good shape. Electric power is not available and all equipment would have to be motivated by diesel, propane or gasoline engine units.

APPLICANTS PROJECT PROPOSAL AND COSTS

Texarado Oil and Uranium Company proposes to explore their property with DMEA assistance as follows:

(a) Extend the existing adit 200-feet northeasterly along the vein and drive 10-foot crosscuts at 50-foot centers to explore the walls. In addition, 50-foot raises would be driven at 100-foot intervals to explore the vein. Exploration of the existing adit level would total 200 feet of drift, 50-feet of crosscut and 100-feet of raise.

(b) Expose the vein 100 feet below the existing adit by stripping talus with a bulldozer. If this proves unsuccessful, crosscut through talus to the vein and then drift northeasterly along the vein for about 360 feet. The walls of the drift would be explored with a total of 60 feet of short crosscuts. Two raises would be driven between the upper and lower levels to explore the vein between levels and to provide ventilation. Exploration of the lower adit level would total 360 feet of drift, 60 feet of crosscut and 200 feet of raise.

The project would be completed within 5 months. Costs for the proposed exploration program are distributed as follows:

(1) Independent Contracts:

670 feet of 5- by 7-foot drift and crosscut at $13.00/ft.	$8,710.00
300 feet of 4- by 4-foot raise at $10.00 per foot	3,000.00
Total	$11,710.00

(2) Labor and Supervision:

1 Helper at $1.50/hr., 40 hr. wk., for 5 months	1,300.00
1 Bulldozer Operator at $2.00/hr., 40 hr.wk.,for 3 mos.	1,040.00
1 Camp Cook at $250.00 per month for 5 months	1,250.00
1 Technical Supervisor at $1,000.00 per mo.for 5 mos.	5,000.00
1 Part-time Bookkeeper at $150.00 per mo. for 5 mos.	750.00
Total	$9,340.00

(3) Operating Materials and Supplies:

Timber	None
Explosives	2,568.23
Pipe	462.02
Track	550.11
Drill steel and bits	927.35
Fuel and Lubricants	1,583.89
Carbide	20.01
Miscellaneous small tools	744.95
Total	6,856.56

(4) Operating Equipment:

Rental for 5 months	
1 - 315 c.f.m. portable Compressor	2,375.00
2 - L-47 Jackhammers with air legs	750.00

2 - 15 gal. drilling water tanks	$ 65.00
4 - 50-foot by 1 inch air hoses	55.00
4 - 50-foot by 1/2 inch water hoses	125.00
2 - Line Oilers	25.00
1 - 12B Eimco Mucking Machine	1,250.00
1 - D6 Bulldozer (3 months)	3,240.00
2 - 20 cu. ft. Mine Cars	260.00
1 - 7-1/2 H.P. Slusher Hoist	1,350.00
1 - 30 inch Pacific Scraper	132.50
1 - Jeep pickup	1,000.00
Total	$ 10,627.50

(5) Initial Rehabilitation and Repairs:

Repair one house trailer and tool shed	$ 100.00
Total	$ 100.00

(6) New Buildings, Improvements, etc.

Construction of small bunkhouse with dining room and kitchen for crew of 6	$ 2,000.00
Equip with cookstove, utensils, bunks, table, etc.	600.00
Transporting equipment to property	400.00
Installation of equipment preparatory to mining	300.00
Total	$ 3,300.00

(7) Miscellaneous:

Maintenance of Bulldozer - 3 months at $1.30/hr.	$ 676.00
Compressor- 5 months at $0.50/hr.	436.00
Jackhammers--5 months at $0.10/hr.	87.00
Sharpening tungsten carbide bits-5 months,180 at $1.00 ea.	180.00
Payroll taxes, Workmens Compensation and Employee Liability Insurance	None
Total	$ 1,379.00

(8)	Contingencies	Total	$ 600.00

Total Cost of the Project was estimated at $ 43,913.06

RECAPITULATION

(1)	Independent Contracts	$ 11,710.00
(2)	Labor and Supervision	9,340.00
(3)	Operating Materials and Supplies	6,856.56
(4)	Operating Equipment (rental).....	10,627.50
(5)	Initial Rehabilitation and Repairs	100.00
(6)	New Buildings, Improvements, etc.	3,300.00
(7)	Miscellaneous	1,379.00
(8)	Contingencies	600.00
	Total	$ 43,913.06

CONCLUSIONS

Limited prospecting indicates that the shear zone may be as much as 3 miles long. On the Applicant's property one zone 12 feet long and 5 feet wide, having an average content of 0.15 percent U_3O_8 is exposed in a 60-foot tunnel. On the surface three samples showed uranium values of 0.28 to 0.38 percent U_3O_8 in one trench, and 0.26 percent U_3O_8 in another. Two of these samples were taken by McFarland over an unknown width. The third (0.38 percent) was taken by the examiners over a width of 2 feet. The distance between the two trenches is about 8 feet and the two "hot spots" may be on the same fracture. The horizontal distance from the "hot" zone in the tunnel to the trenches is about 64 feet. On the basis of the meager information available it is concluded that the uranium-bearing shoots are small and erratically spaced and that therefore the chance of making a significant discovery of uranium ore is poor.

RECOMMENDATIONS AND COSTS

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Based upon the limited information available it is recommended that the applicant's proposal be denied. However, because this is a new uranium district in which little prospecting work has been done and because the nature of the syenite as a host rock for uranium ore bodies and the extent to which the shear zone may exert a structural control on the deposition of uranium ore bodies are not known, DMEA may believe that limited exploration is justified.

Above the applicant's workings the terrain is too steep for bulldozing trenches and below, the talus cover thickens rapidly. Therefore, trenching would have to be by hand and would be costly. Diamond drilling is not advisable for the same reasons plus the probability of poor core recovery in the shear zone. The most information per dollar spent would be gained by extending the existing tunnel and driving crosscuts from the tunnel to the walls of the shear zone. Should DMEA believe that this situation justifies a limited program that is more in the nature of prospecting a known mineralized structure than of exploring an indicated favorable target area, the following two stage program is suggested.

Stage I. Extend the existing tunnel 100 feet northeasterly along the shear zone.

Stage II. After completion of the drift, and with prior approval of the Field Team, drive three crosscuts at the approximate locations shown in Fig. 2, not to exceed a combined total of 75 feet, each crosscut to be driven from the drift to the hanging wall and foot wall of the shear zone.

Drifting and crosscutting are estimated on the same unit basis. Average shift or daily advance is estimated at 3.5 feet per day and includes delays of all kinds. Exploration would be completed within 50 full working days or two months. The details upon which costs are based follow:

Cost Details

Items	Unit Costs		Cost/foot
Independent Contracts:			
Contract labor for driving			
100 feet of 7- by 5-foot drift and 75 feet of 7- by 5-foot crosscut at $13.00 per foot	$ 2,275.00		$ 13.00
Overtime at 1/12	189.58		
		$ 2,464.58	$ 14.07
Labor, Supervision and Consultants:			
Technical Supervision at $500/mo. for 2.0 months		$ 1,000.00	$ 5.71
Operating Materials and Supplies:			
Timber	None		
Explosives	$ 525.00		
Pipe (200 ft. of 2" at 55¢)	110.00		
Track (200 ft. at $1.00)	200.00		
Drill Steel and Bits	200.00		
Fuel and lubricants	350.00		
Small tools, carbide, etc.	75.00		
		$ 1,460.00	$ 8.34

Operating Equipment - Rental
2.0 Months

1 - 210 c.f.m. Compressor at $400.00	$800.00		
1 - L47 Jackleg drill at $75.00	150.00		
1 - 15 gal. water tank at $7.50	15.00		
1 - 50 ft. air hose (1") at $6.25	12.50		
1 - 50 ft. water hose (1/2") at $2.75	5.50		
1 - Line Oiler at $5.00	10.00		
1 - 12 B Eimco Mucker at $250.00	500.00		
1 - 20 cu. ft. car at $26.00	52.00		
		$ 1,545.00	$8.83

Operating Equipment - Depreciation

1 - Jeep pickup valued at $2,000.00 2.0 months at $33.33		$ 66.66	$ 0.38

Miscellaneous

Repairs to equipment	$ 87.50		
Payroll taxes (10% of $3,664.58)	366.46		
		$ 453.96	$ 2.59
		$ 6,990.20	$39.94

A maximum of 20 chemical analyses for U_3O_8 is also provided for at a cost of $100.00 additional.

Recapitulation of exploration Costs for work recommended approved

Items

Stage I

100 ft. of 7- by 5-foot drift northeasterly at a cost of $40.00 per foot $ 4,000.00

Stage II

75 feet of 7- by 5-foot crosscut at a cost of $40.00 per foot 3,000.00

20 Chemical analyses for U_3O_8 divided between stages I and II at a cost of	$ 100.00
Total estimated cost of the project is	$ 7,100.00

and Government participation of 75 percent would be $5,325.00.

1-27-56 Lyn

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

RECEIVED JAN 26 1956

January 24, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA 3798 (Uranium), Tamarado Oil and Uranium Company, Samards Mining Company Property, La Plata County, Colorado

Enclosed are the original and three copies of a Joint Report of Examination on the subject docket.

We believe that the subject application is a borderline case and that there is little possibility of discovering a significant amount of uranium on this property. However, little exploration has been done in this locality, and you may feel that some exploration is warranted. If so, a suggested program of exploration has been included in the report at an estimated cost of $7,100.00.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
1-30-56
(date)

DMEA
Date Rec'd
JAN 20 1956

RECEIVED
JAN 20 1956

BUREAU OF MINES
Denver, Colorado

Region III

Building 20
Denver Federal Center
Denver 2, Colorado
January 18, 1956

Memorandum

TRANSMITTED
JAN 24 1956

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman
John F. Shaw

Subject: Examination Report, Docket No. DMEA 3798, Texarado Oil and Uranium Company, Semands Mining Company Property, La Plata County, Colorado

Enclosed are the original and 9 copies of the Joint Engineering and Geologic Report by D. R. MacLaren, Geologist and C. M. Harrer, Mining Engineer covering Docket No. 3798.

Texarado Oil and Uranium Company applied for DMEA assistance to explore their group of 11 unpatented lode claims in La Plata County, Colorado by surface stripping, drifting, crosscutting and raising. The estimated cost of the work is $43,913.06.

The property was examined on September 22, 1955 by D. R. MacLaren and C. M. Harrer. Uranium has been found in a fractured shear zone about 3 miles long. A 60-foot tunnel has exposed a zone 12-feet long and 5-feet wide having an average grade of 0.15 percent U_3O_8. However, the examining team concluded that the chance of making a significant discovery of the uranium ore is poor.

The examining team recommended that the application be denied, but have included a suggested program in the report, in the event that the DMEA staff believes further exploration is warranted. The suggested program consists of extending the existing tunnel 100-feet northeasterly along the shear zone and driving 3 crosscuts not to exceed a combined total of 75-feet at locations to be determined after the drifting has been completed

The estimated cost of this work is $7,100.00. It is believed that this exploration project is a borderline case and that there is little possibility of discovering a significant amount of uranium on the property.

Reviewed by
DMEA OPERATING COMMITTEE
1-30-56
(date)

It is recommended that the application be denied unless the Washington Office believes that some exploration should be done in this area. If so, it is recommended that the proposed drifting and crosscutting at an estimated cost of $7,100.00 be authorized.

E. N. Harshman

E. N. Harshman
Member Field Team

John F. Shaw

John F. Shaw
Supervising Mining Engineer

Enclosures

JFS:ch

cc 9
ENHarshman
DMRA 3798
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

RECEIVED
JAN 26 1956

TRANSMITTED
JAN 24 1956

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3796

TEXARADO OIL AND URANIUM COMPANY

Sunnyside Mining Company Property

La Plata County, Colorado

Uranium

Joint Geologic and Engineering Report

By

D. R. MacLaren, Geologist
Geological Survey

G. M. Harrer, Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
1-30-56
(date)

January 12, 1956

DMEA 3796

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JAN 26 1956

TEXARADO OIL AND URANIUM COMPANY
SEMAND MINING COMPANY PROPERTY
LA PLATA COUNTY, COLORADO

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DMEA 3798

TEXARADO OIL AND URANIUM COMPANY
EDWARDS MINING COMPANY PROPERTY
LA PLATA COUNTY, COLORADO

RECEIVED
JAN 20 1956

SUMMARY

Texarado Oil and Uranium Co., of 1909 Esperson Bldg., Houston, Texas, has applied for Defense Minerals Exploration Administration assistance to explore their group of 11 unpatented lode claims for uranium. The claims comprise about 227 acres in secs. 5 and 6, T. 36 N., R. 11 W., California Mining District, La Plata County, Colorado and are at an altitude of about 11,000 feet above sea-level. The claims are accessible by jeep and truck trails.

The applicants propose to explore their property as follows:

(a) Extend an existing adit 200 feet; explore the adit walls at 50 feet centers with 10-foot crosscuts; and drive 50-foot exploration raises at 100-foot intervals along the vein.

(b) Strip talus with a bulldozer to uncover the vein outcrop 100 feet below the existing adit and drift on the vein for about 360 feet. Short crosscuts totalling 60 feet will be driven to explore the walls of the adit.

(c) Two 100-foot raises will be driven from the lower level to connect with the upper level for ventilation and to explore the vein vertically.

Texarado Oil and Uranium Company proposes to accomplish this at a cost of $43,913.06. The Government's share would be $32,934.80.

Uranium has been found in a fractured shear zone about 3 miles long in a syenite stock. On the applicant's property a 60-foot tunnel has exposed a zone 12 feet long and 5 feet wide having an average grade of 0.15 percent U_3O_8. Two surface trenches about 65-feet northeast of the ore grade zone in the tunnel expose uranium bearing fractures ranging in grade from 0.26 percent U_3O_8 to 0.378% U_3O_8. The uranium is in equilibrium with its disintegration products. The nature of the syenite as a host rock for uranium ore bodies and what structural control of ore deposition is exercised by the shear zone is not known.

On the basis of the information available it is concluded that the chance of making a significant discovery of uranium ore is poor and it is recommended that the application be denied. However, the examiners believe this is a borderline case and have therefore included a suggested program in the event that the DMEA staff feels that further exploration is warranted.

INTRODUCTION AND ACKNOWLEDGMENTS

Tamarack Oil and Uranium Company of 1909 Esperson Bldg., Houston, Texas own 83.34 percent interest in 11 unpatented lode claims in the California Mining District of La Plata County, Colorado, which they wish to explore for uranium. They have applied for Defense Minerals Exploration Administration assistance to explore the claims with a program of underground exploration at an estimated cost of $43,913.06, (Government's share 75% or $32,936.30).

The applicant's claims were examined by a joint Bureau of Mines and Geological Survey team on September 22, 1955. Victor J. Hampton, Superintendent for Texarado Oil and Uranium Co., accompanied the examining team and contributed his knowledge of the property.

The Grand Junction, Colorado office of the Atomic Energy Commission was consulted and made available pertinent data from their files.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

Texarado Oil and Uranium Company control 11 standard and contiguous lode claims near the head of Madden Gulch on Gibbs Mountain at an altitude of about 11,000 feet above sea-level. The claims are in secs. 5 and 6, T. 36 N., R. 11 W., New Mexico Principal Meridian, in the California Mining District of La Plata County, Colorado (Fig. 1). The property is reached by driving 12.7 miles west from Durango, Colorado on U. S. Highway 160; then northerly on a gravelled county road for 4.5 miles to La Plata City; thence on a steep and rough jeep and truck access road up Redrock and Madden gulches for 7.1 miles to the property. The terrain is rugged . Most of the slopes are steep and well forested. Water is available from intermittent streams and from the La Plata river. The nearest uranium depot is at Durango, Colo., about 25 miles distant. The property is 79 miles from the ore buying depot at Shiprock, New Mexico and 113 miles from the one at Monticello, Utah. Supplies and labor are obtainable at Durango which is the nearest residential center. The closest railroad is the Denver and Rio Grande Western at Durango. The nearest electric power line is about 7 miles distant.

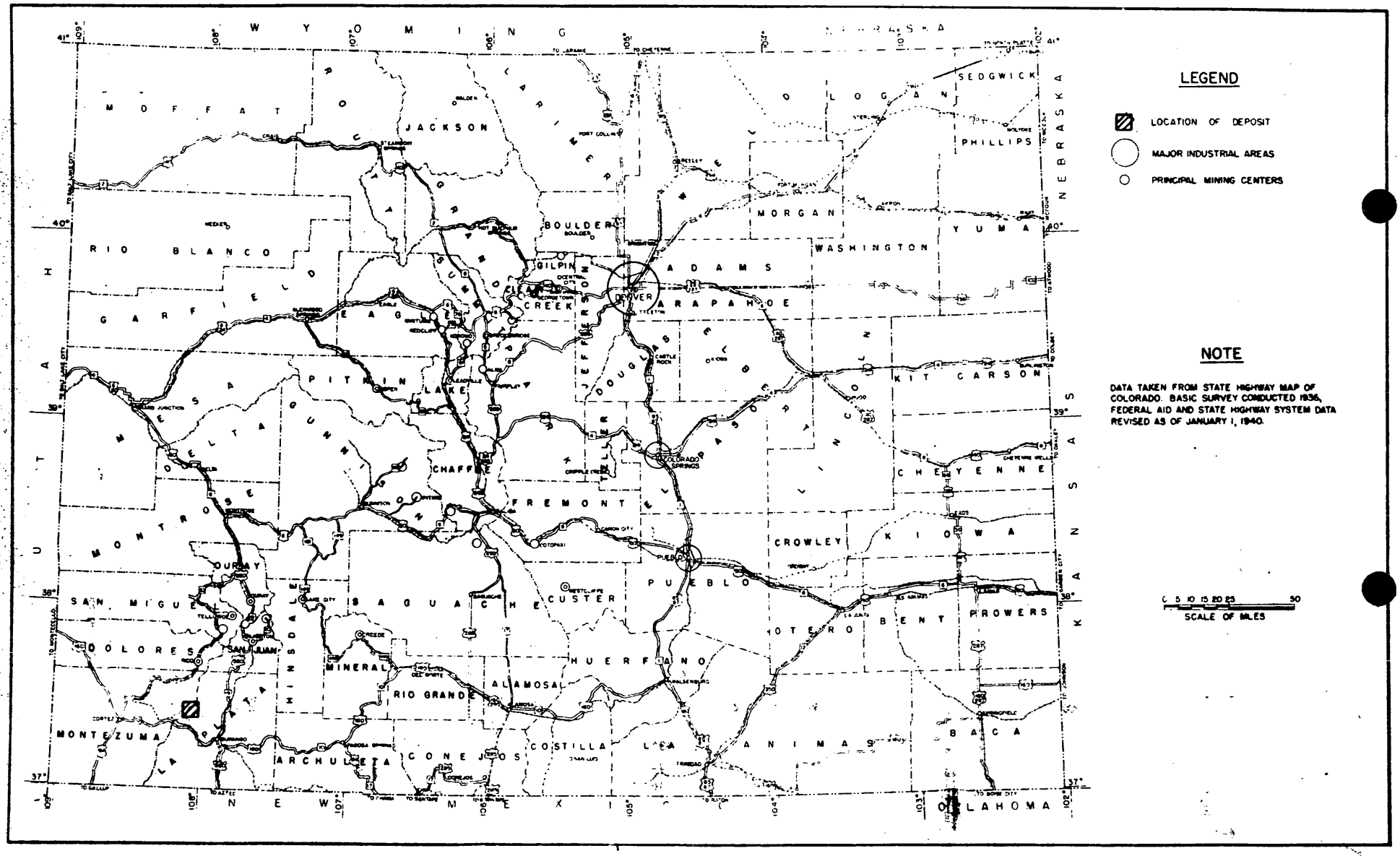

FIGURE 1 - LOCATION MAP, TEXARADO OIL AND URANIUM CO., PROPERTY, LA PLATA COUNTY, COLO. DMEA 3798

HISTORY AND PRODUCTION

The claims were originally located during July and August of 1954 by D. C. Knutson, G. B. Coan, H. C. and Olga Little, L. G. Stearns and G. Pinkstaff. There has been no production from the property to date.

OWNERSHIP

Texarado Oil and Uranium Company own an 83.34 percent interest in 11 unpatented, standard lode locations recorded in the La Plata County Court House as follows:

Claim	Date of Location	Date Filed	Book	Page	Locators
Shorty No.1	7-5-54	7-12-54	334	230	D. C. Knutson, G. B. Coan
Shorty No.2	7-5-54	7-12-54	334	231	G. B. Coan, G. Pinkstaff
Shorty No.3	7-5-54	7-12-54	334	231	G. B. Coan, G. Pinkstaff
Shorty No.4	8-5-54	8-9-54	334	405	L. G. Stearns
Pinky No. 1	7-5-54	7-12-54	334	232	G. B. Coan, G. Pinkstaff
Pinky No. 2	7-5-54	7-12-54	334	232	G. B. Coan, G. Pinkstaff
Madden No.1	7-6-54	7-12-54	334	233	H. C. and Olga Little
Marge No. 1	8-5-54	8-9-54	334	403	L. G. Stearns
Marge No. 2	8-5-54	8-9-54	334	404	L. G. Stearns
Hazel No. 1	8-5-54	8-9-54	334	401	L. G. Stearns
Hazel No. 2	8-5-54	8-9-54	334	402	L. G. Stearns

The Shorty-Pinky Group of claims were assigned to Mr. L. G. Stearns by a deed dated August 31, 1954, reserving a 13 percent royalty interest. The Madden No. 1 claim was assigned to L. G. Stearns by deed dated November 22, 1954, reserving a 10 percent interest therein. On November 23, 1954, L. G. Stearns assigned 5/6 interest in the above

mentioned 11 claims to G. H. Sanders, subject to a 13 percent royalty in the Shorty-Pinky group of 6 claims and a 10 percent royalty in the remaining 5 claims. On the same date, G. H. Sanders assigned 60.6 percent of his 5/6 interest in the above 11 claims to Martin B. Semands. On March 7, 1955, Martin B. Semands and G. H. Sanders assigned their interests in the subject 11 claims to Texarado Oil and Uranium Company.

The applicant company now owns a controlling interest of 83.34 percent in the subject 11 claims and L. G. Stearns owns the remaining 16.66 percent.

The claims (Fig. 2) comprise about 227 acres in secs. 5 and 6, T. 36 N., R. 11 W., N. M. P. M.

GEOLOGY

The geology of the La Plata Mountains is described in U. S. Geological Survey Folio 60 by Whitman Cross, A. C. Spencer, and C. W. Purington, (1901), and in U. S. Geological Survey Professional Paper 219 by E. B. Eckel, J. S. Williams, F. W. Galbraith, and others, (1950). Sedimentary rocks, ranging in age from Pennsylvanian through Upper Cretaceous, have been domed up and intruded by many stocks, dikes, and sills of late Cretaceous or Tertiary age. The domed area has been eroded forming the La Plata Mountains. The intrusive rocks are non-porphyritic and porphyritic syenite, monzonite, monzonite-diorite, diorite, and ferromagnesian rocks. The doming and intrusions were accompanied by considerable faulting and shearing followed by the formation of veins containing gold, silver, copper, lead, and zinc minerals, associated with pyrite, quartz, calcite, ankerite, and barite. These minerals also occur as disseminated bodies and replacement bodies at various localities. Uranium has been found in igneous intrusives in a fissure rim, known as the Tomahawk rim and in a shear zone about 2-1/2 miles southwest of the

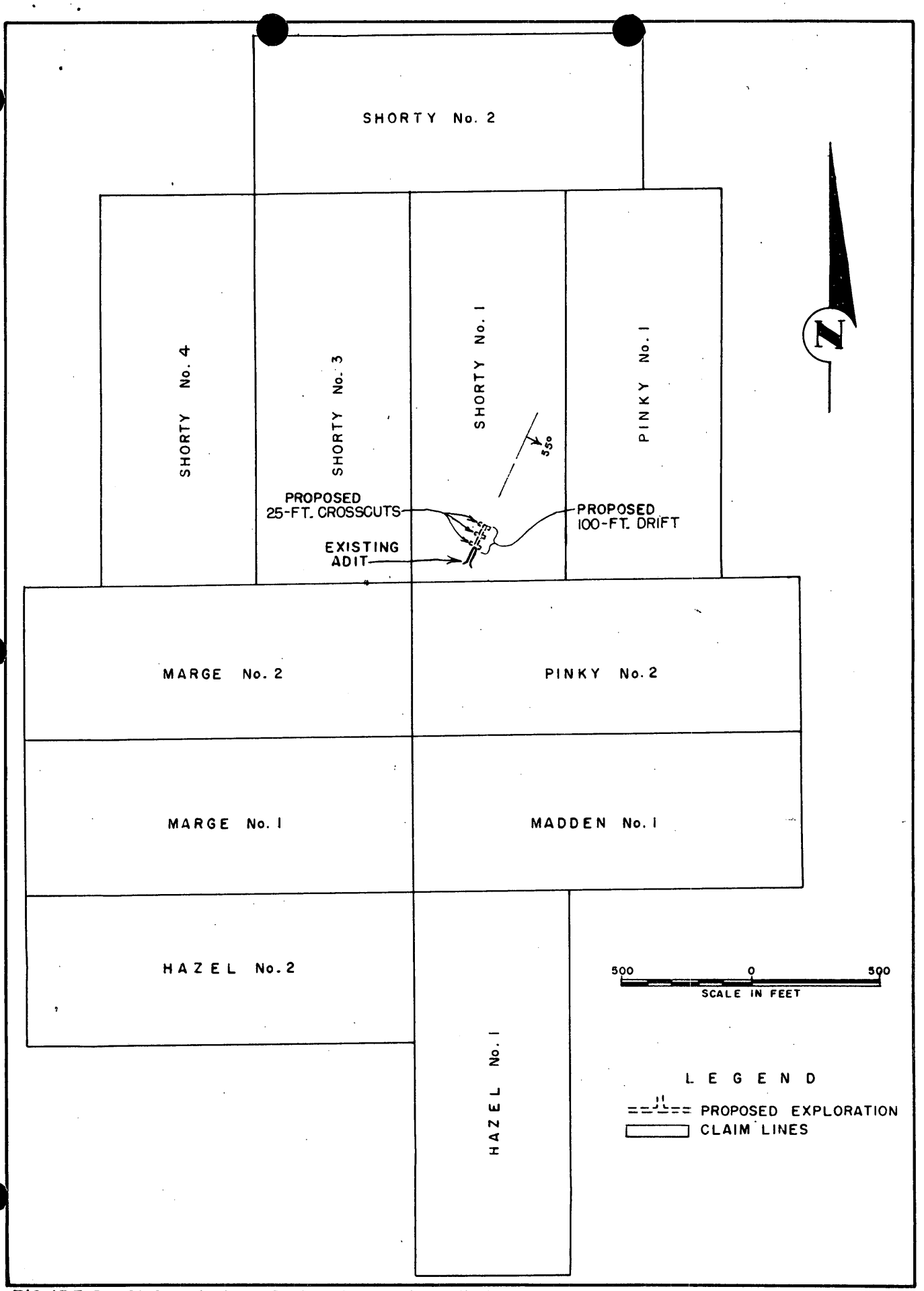

FIGURE 2 - CLAIM AND EXPLORATION MAP, TEXARADO OIL AND URANIUM CO., PROPERTY, LA PLATA COUNTY, COLO. DMEA 3798

rim. The uranium-bearing shear zone crosses the applicant's claims.

The only rock exposed on the applicant's claims is a syenite stock. An irregularly fractured shear zone, 12 to 20 feet wide, strikes about N. 38 E. and dips about 70° SE (fig. 3). The foot wall of the zone is fairly distinct but the hanging wall is rather obscure. Within the shear zone there are two sets of fractures, one set striking N. 38°-48° E. and dipping 70°-82° SE., the other striking N. 75°-80° E. and dipping 72°-80° SE. The fractures range in thickness from knife edge to 2 inches and contain small disseminated cubes of pyrite and a little galena and chalcopyrite in a gangue of gouge. The Geiger counter indicates that within many of the fractures there are small streaks that contain uranium-bearing minerals that have not yet been identified by the Atomic Energy Commission. The shear zone is exposed in three short surface trenches and in a 60-foot tunnel. Samples taken in the tunnel by the applicant and checked by the examiner's indicate a zone 12 feet long and 5 feet wide that has an average grade of 0.15 percent U_3O_8 (fig. 3). Due to overburden the zone could not be traced on the surface. Within one mile southwest of the workings and more or less on line with the strike of the shear zone, samples from three pits assayed as high as 0.31 percent U_3O_8, according to Mr. Hampton.

In a report on an examination made by M. F. McFarland on November 1, 1954, three cuts in the vicinity of the proposed exploration called respectively lower, middle, and upper are described. Two character samples were taken, one from the lower cut and one from the middle cut. The actual location of the samples could not be established.

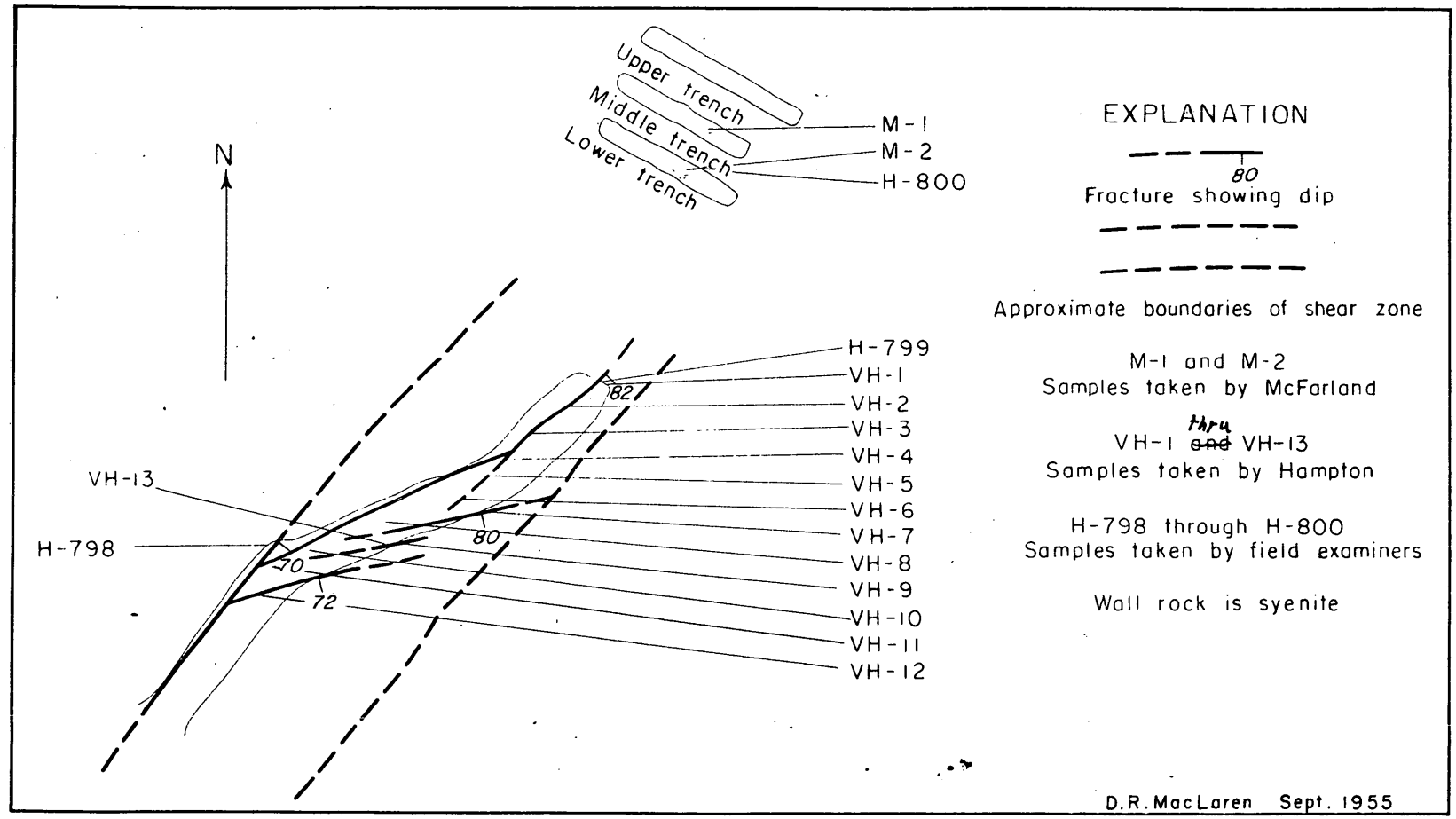

FIGURE 3.- PLAN SHOWING WORKINGS, GEOLOGY, AND SAMPLE LOCATIONS, TEXARADO OIL AND URANIUM CO. LA PLATA COUNTY COLORADO

20 10 0 20 Feet

The sample from the lower cut (M-2) assayed 0.28 percent eU_3O_8. That from the middle cut (M-1) assayed 0.26 percent eU_3O_8, 39.76 percent lead, and 0.06 ounce gold and 9.64 ounce silver per ton. No sample was taken from the upper cut as no vein was exposed and no radiation above background was detected.

On January 7, 1955, the adit was sampled by the applicant for most of its 60-foot length. Sampling was started at the breast and proceeded outwards at 4-foot intervals. The results of sampling are reported by the applicant as follows:

Sample	Feet Width	eU_3O_8	Percent Pb	Percent Cu	Ounces Per Ton Au	Ounces Per Ton Ag	Location
VH-1	0.33	0.08	0.1	0.02	Trace	0.30	Breast of adit
VH-2	5.0	0.02	0.3	0.16	"	0.40	4 ft. S.W. of adit breast
VH-3	4.0	0.04	0.2	0.08	"	0.60	8 ft. S.W. of adit breast
VH-4	4.5	0.08	1.5	0.46	0.01	3.90	12 ft. S.W. of adit breast
VH-5	5.0	0.06	1.4	0.38	0.01	1.50	16 ft. S.W. of adit breast
VH-6	5.0	0.05	2.1	0.90	0.01	2.20	20 ft. S.W. of adit breast
VH-7	1.5	0.07	1.60	0.64	0.01	3.70	24 ft. S.W. of adit breast
VH-8	1.0	0.06	2.40	0.34	0.02	6.20	28 ft. S.W. of adit breast
VH-9	5.0	0.13	0.10	0.02	Trace	0.50	32 ft. S.W. of adit breast
VH-10	5.0	0.14	0.30	0.06	"	0.80	36 ft. S.W. of adit breast
VH-11	5.0	0.16	0.30	0.07	"	0.70	40 ft. S.W. of adit breast
VH-12	5.0	0.09	0.20	0.04	"	0.40	44 ft. S.W. of adit breast

Samples VH-9, VH-10, and VH-11 were also assayed chemically for U_3O_8 with the following results: Sample 9, 0.15 percent U_3O_8; sample 10,

0.14 percent U_3O_8 ; and sample 11, 0.16 percent U_3O_8 .

A special sample VH-13 taken over 4 inches of kaolinized rock assayed 0.10 percent eU_3O_8 and 0.15 percent U_3O_8. Two samples of the most radioactive parts of the vein at the same location assayed 0.24 and 0.27 percent eU_3O_8 and 0.21 and 0.22 percent U_3O_8 respectively. In each case the difference between the eU_3O_8 and the U_3O_8 values are slight.

Three selected samples were taken by the examining team. Sample H-799 was taken of the best appearing material at the breast of the 60-foot adit and represents a lens one foot high by one foot wide. It assayed 0.198 percent U_3O_8. A second sample (H-798) was taken of the west wall of the adit midway between the breast and portal. It assayed 0.259 percent U_3O_8. The third sample (H-800) was taken of the best material exposed in the partly caved lower trench above the adit. It assayed 0.378 percent U_3O_8 over a width of 2 feet.

The sampling results indicate that the uranium occurs in small lenses and pockets, irregularly spaced along fractures in the shear zone.

MINABLE ORE RESERVES

There is no basis on which to estimate ore reserves and there has been no production to date. The applicant estimates about 800 tons of probable ore assaying, approximately 0.1 percent U_3O_8. This should more realistically be classed as inferred ore, and the amount is probably high.

PRESENT STATUS

Exploration and Development

Exploration work on the Texarado Oil and Uranium Company property includes three shallow trenches cut across outcrops on the Shorty No. 1 claim and a 3- by 7-foot adit driven on a radioactive structure on the Shorty No. 1 claim for 60-feet (fig. 3).

Mining, Milling, and other facilities

Surface plant consists of a trailer house and small tool shed. There is no compressor or drilling equipment; however, the operator has miscellaneous small tools and supplies left over from earlier exploration which he values at $1,097.23. There is no milling equipment on the property and any ore would be trucked to the nearest uranium purchasing depot at which it would be acceptable. The access road to the property is in good shape. Electric power is not available and all equipment would have to be motivated by diesel, propane or gasoline engine units.

APPLICANTS PROJECT PROPOSAL AND COSTS

Texarado Oil and Uranium Company proposes to explore their property with DMEA assistance as follows:

(a) Extend the existing adit 200-feet northeasterly along the vein and drive 10-foot crosscuts at 50-foot centers to explore the walls. In addition, 50-foot raises would be driven at 100-foot intervals to explore the vein. Exploration of the existing adit level would total 200 feet of drift, 50-feet of crosscut and 100-feet of raise.

(b) Expose the vein 100 feet below the existing adit by stripping talus with a bulldozer. If this proves unsuccessful, crosscut through talus to the vein and then drift northeasterly along the vein for about 360 feet. The walls of the drift would be explored with a total of 60 feet of short crosscuts. Two raises would be driven between the upper and lower levels to explore the vein between levels and to provide ventilation. Exploration of the lower adit level would total 360 feet of drift, 60 feet of crosscut and 200 feet of raise.

The project would be completed within 5 months. Costs for the proposed exploration program are distributed as follows:

(1) Independent Contracts:

670 feet of 5- by 7-feet drift and crosscut at $13.00/ft.	$8,710.00
300 feet of 4- by 4-foot raise at $10.00 per foot	3,000.00
Total	$11,710.00

(2) Labor and Supervision:

1 Helper at $1.50/hr., 40 hr. wk., for 5 months	1,300.00
1 Bulldozer Operator at $2.00/hr., 40 hr.wk.,for 3 mos.	1,040.00
1 Camp Cook at $250.00 per month for 5 months	1,250.00
1 Technical Supervisor at $1,000.00 per mo.for 5 mos.	5,000.00
1 Part-time Bookkeeper at $150.00 per mo. for 5 mos.	750.00
Total	$9,340.00

(3) Operating Materials and Supplies:

Timber	None
Explosives	2,568.23
Pipe	462.02
Track	550.11
Drill steel and bits	927.35
Fuel and Lubricants	1,583.89
Carbide	20.01
Miscellaneous small tools	744.95
Total	6,856.56

(4) Operating Equipment:

Rental for 5 months	
1 - 315 c.f.m. portable Compressor	2,375.00
2 - L-47 Jackhammers with air legs	750.00

2 - 15 gal. drilling water tanks	$ 65.00
4 - 50-foot by 1 inch air hoses	55.00
4 - 50-foot by 1/2 inch water hoses	125.00
2 - Line Oilers	25.00
1 - 12B Bince Mucking Machine	1,250.00
1 - D6 Bulldozer (3 months)	3,240.00
2 - 20 cu. ft. Mine Cars	260.00
1 - 7-1/2 H.P. Slusher Hoist	1,350.00
1 - 30 inch Pacific Safaper	132.50
1 - Jeep pickup	1,000.00
Total	$ 10,627.50

(5) Initial Rehabilitation and Repairs:

Repair one house trailer and tool shed	$ 100.00
Total	$ 100.00

(6) New Buildings, Improvements, etc.

Construction of small bunkhouse with dining room and kitchen for crew of 4	$ 2,000.00
Equip with cookstove, utensils, bunks, table, etc.	600.00
Transporting equipment to property	400.00
Installation of equipment preparatory to mining	300.00
Total	$ 3,300.00

(7) Miscellaneous:

Maintenance of Bulldozer - 3 months at $1.30/hr.	$ 676.00
Compressor- 5 months at $0.50/hr.	436.00
Jackhammers--5 months at $0.10/hr.	87.00
Sharpening tungsten carbide bits-5 months,180 at $1.00 ea.	180.00
Payroll taxes, Workmens Compensation and Employes Liability Insurance	None
Total	$ 1,379.00

(8) Contingencies	Total	$ 600.00

Total Cost of the Project was estimated at $ 43,913.06

RECAPITULATION

(1)	Independent Contracts	$ 11,710.00
(2)	Labor and Supervision	9,340.00
(3)	Operating Materials and Supplies	6,856.56
(4)	Operating Equipment (rental)	10,627.50
(5)	Initial Rehabilitation and Repairs	100.00
(6)	New Buildings, Improvements, etc.	3,300.00
(7)	Miscellaneous	1,379.00
(8)	Contingencies	600.00
	Total	$ 43,913.06

CONCLUSIONS

Limited prospecting indicates that the shear zone may be as much as 3 miles long. On the Applicant's property one zone 12 feet long and 5 feet wide, having an average content of 0.15 percent U_3O_8 is exposed in a 60-foot tunnel. On the surface three samples showed uranium values of 0.28 to 0.38 percent U_3O_8 in one trench, and 0.26 percent U_3O_8 in another. Two of these samples were taken by McFarland over an unknown width. The third (0.38 percent) was taken by the examiners over a width of 2 feet. The distance between the two trenches is about 8 feet and the two "hot spots" may be on the same fracture. The horizontal distance from the "hot" zone in the tunnel to the trenches is about 64 feet. On the basis of the meager information available it is concluded that the uranium-bearing sheets are small and erratically spaced and that therefore the chance of making a significant discovery of uranium ore is poor.

RECOMMENDATIONS AND COSTS

Based upon the limited information available it is recommended that the applicant's proposal be denied. However, because this is a new uranium district in which little prospecting work has been done and because the nature of the syenite as a host rock for uranium ore bodies and the extent to which the shear zone may exert a structural control on the deposition of uranium ore bodies are not known, DMEA may believe that limited exploration is justified.

Above the applicant's workings the terrain is too steep for bull-dozing trenches and below, the talus cover thickens rapidly. Therefore, trenching would have to be by hand and would be costly. Diamond drilling is not advisable for the same reasons plus the probability of poor core recovery in the shear zone. The most information per dollar spent would be gained by extending the existing tunnel and driving crosscuts from the tunnel to the walls of the shear zone. Should DMEA believe that this situation justifies a limited program that is more in the nature of prospecting a known mineralized structure than of exploring an indicated favorable target area, the following two stage program is suggested.

Stage I. Extend the existing tunnel 100 feet northeasterly along the shear zone.

Stage II. After completion of the drift, and with prior approval of the Field Team, drive three crosscuts at the approximate locations shown in Fig. 2, not to exceed a combined total of 75 feet, each crosscut to be driven from the drift to the hanging wall and foot wall of the shear zone.

Drifting and crosscutting are estimated on the same unit basis. Average shift or daily advance is estimated at 3.5 feet per day and includes delays of all kinds. Exploration would be completed within 50 full working days or two months. The details upon which costs are based follow:

Cost Details

Items	Unit Costs		Cost/foot
Independent Contracts:			
Contract labor for driving 100 feet of 7- by 5-foot drift and 75 feet of 7- by 5-foot crosscut at $13.00 per foot	$ 2,275.00		$ 13.00
Overtime at 1/22	189.58		
		$ 2,464.58	$ 14.07
Labor, Supervision and Consultants:			
Technical Supervision at $500/mo. for 2.0 months		$ 1,000.00	$ 5.71
Operating Materials and Supplies:			
Timber	None		
Explosives	$ 525.00		
Pipe (200 ft. of 2" at 55¢)	110.00		
Track (200 ft. at $1.00)	200.00		
Drill Steel and Bits	200.00		
Fuel and lubricants	350.00		
Small tools, carbide, etc.	75.00		
		$ 1,460.00	$ 8.34

Operating Equipment - Rental
2.0 Months

1 - 210 c.f.m. Compressor at $400.00	$800.00		
1 - 147 Jackleg drill at $75.00	150.00		
1 - 15 gal. water tank at $7.50	15.00		
1 - 50 ft. air hose (1") at $6.25	12.50		
1 - 50 ft. water hose (1/2") at $2.75	5.50		
1 - Line Oiler at $5.00	10.00		
1 - 12 X Rinco Mucker at $250.00	500.00		
1 - 20 cu. ft. car at $26.00	52.00		
		$ 1,545.00	$8.83

Operating Equipment - Depreciation

1 - Jeep pickup valued at $2,000.00 2.0 months at $33.33	$ 66.66	$ 0.38

Miscellaneous

Repairs to equipment	$ 87.50		
Payroll taxes (10% of $3,664.58) 3 464.58	366.46 346.46		
		$ 453.96 437.96	$ 2.59 2.48
		$ 6,990.20	$39.94

A maximum of 20 chemical analyses for U_3O_8 is also provided for at a cost of $100.00 additional.

Recapitulation of exploration Costs for work recommended approved items

Stage I

100 ft. of 7- by 5-foot drift northeasterly at a cost of $40.00 per foot	$ 4,000.00

Stage II

75 feet of 7- by 5-foot crosscut at a cost of $40.00 per foot	3,000.00

20 Chemical analyses for U_3O_8 divided between stages I and II at a cost of	$ 100.00
Total estimated cost of the project is	$ 7,100.00

and Government participation of 75 percent would be $5,325.00.

RECEIVED

SEP 16 1955

September 12, 1955

Memorandum

To: John F. Shaw

From: Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA-3798 (Uranium), Texarado Oil and Uranium Company, Semands Mining Company Property, La Plata County, Colorado

The subject application in the amount of $43,913.06 is enclosed herewith. The brochure consists of:

1. Form MF-103 and supplementary information
2. Plan map
3. Section
4. Claim map
5. An agreement transferring interests of Martin B. Semands to Texarado Oil and Uranium Company
6. Agreement transferring interest of G. H. Sanders, Milton W. McGee and J. F. Clawson to Texarado Oil and Uranium Company
7. Photocopy of memo from Acting Assistant Solicitor to the Administrator, DMEA, attention W. E. Ellis
8. Photocopy of memo from W. P. Williams to E. W. Ellis
9. Photocopy of memo from John E. Crawford to E. W. Ellis
10. Photocopy of a letter from Texarado Oil and Uranium Company to E. W. Ellis
11. Photocopy of letter of transmittal from Chairman Operating Committee to Executive Officer W. M. Traver
12. Photocopy of report of Analysis dated January 17, 1955 by Vanadium Corporation of America
13. Photocopy of report of ?Analysis dated January 13, 1955 by Vanadium Corporation of America
14. Photocopy of letter from Victor J. Hampton, Mining Engineer to Martin B. Semands

A field examination and suitable report are required. The completed report should be sent directly to the Executive Officer with a copy of your memo of transmittal to this office.

W. H. KING

W. H. King

Enclosures

cc: E. N. Harshman
W. M. Traver (3) Sec. Op. Com. (2)

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

RECEIVED
SEP 12 1955

224 New Customhouse
Denver 2, Colorado

September 8, 1955

Memorandum

To: W. H. Ring (with brochure)
R. W. Harshman

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-3798 (Uranium), Texarado Oil and Uranium Company, Samands Mining Company Property, La Plata County, Colorado.

Enclosed is the subject application in the amount of $43,913.06. The brochure consists of:

1. Form MF-103 and accompanying answer sheets
2. Claim map, plan map and vertical section
3. Supplemental information received through the Washington Office as follows:
   (a) Agreement transferring interest from Martin B. Samands to Texarado Oil and Uranium Company.
   (b) Agreement transferring interest from C. R. Sanders, Milton W. McGee and J. F. Clawson to Texarado Oil and Uranium Company.

Also attached is a copy of a letter from the Chairman of the Operating Committee and copies of the relevant reports and memoranda listed therein.

A field examination and suitable report are requested.

W. M. Traver
W. M. Traver

Enclosures
JDC:jy
cc: Docket 3798
Sec. Op. Comm. (2)
Connors
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

AUG 30 1955

Memorandum

To: The Administrator, DMEA
Attention: Mr. E. W. Ellis

From: Acting Assistant Solicitor, Defense Minerals

Subject: Docket No. DMEA-3798, Texarado Oil & Uranium Co. (uranium)

As requested in Mr. Ching's memorandum of August 18, we have reviewed the papers in the docket concerning eleven mining claims, constituting the land which is the subject of the application, to determine whether additional documents are required in connection with the execution of a contract. We have determined that the following instruments are required.

1. In addition to the copies of the two assignments in the docket, we require a copy of the agreement dated November 20, 1954, referred to in the assignments, among Martin B. Semands, G. H. Sanders, and L. G. Stearns concerning all eleven claims.

2. A Subordination Agreement is required from G. B. Coan, D. C. Knutson, Ray Atchison, C. H. Nye, and Charles Riecke covering the 13% royalty reserved by them in the claims Shorty Nos. 1 through 4 and Pinky Nos. 1 and 2.

3. (a) A Subordination Agreement is required from C. H. and Olga Little covering a 10% royalty reserved in the Madden No. 1 claim

(b) The letter dated August 12 from Mr. McGee to Mr. Ellis refers to a 10% royalty reserved in five claims, the Marge Nos. 1 and 2, and Hazel Nos. 1 and 2, in addition to the Madden No. 1. We do not understand from the papers before us just how the 10% royalty, reserved in the Marge and Hazel claims came about. This point should be clarified so that we can determine all the parties who hold this 10-percent interest, and determine whether we have all the Subordination Agreements necessary.

4. A Consent to Lien is required of L. G. Stearns covering the eleven claims.

5. A Consent to Lien is required of G. H. Sanders, Milton W. McGee, and J. F. Clawson covering the eleven claims.

6. A Consent to Lien is required of Martin B. Semands covering the eleven claims.

7. A Subordination Agreement is required of L. G. Stearns on eleven claims. ?

four ?

8. A Subordination Agreement is required of G. H. Sanders, Milton W. McGee, and J. F. Clawson covering the eleven claims. ?

9. A Subordination Agreement is required of Martin B. Semands covering the eleven claims. ?

Henry A. Pontin

for J. L. Hofflund
Acting Solicitor
Assistant
Defense Minerals

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

AUG 30 1955

Memorandum

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Attention: Mr. E. W. Ellis

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9. A Subordination Agreement is required of Martin B. Semands covering the eleven claims.

J. L. Hofflund

J. L. Hofflund
Acting Solicitor
Assistant
Defense Minerals

HCRubin/emd
Copy to: DMEA Docket
Solicitor's Docket
E. W. Ellis (3)
J. L. Hofflund
H. C. Rubin
chron.

IN REPLY REFER TO:

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

August 24, 1955

Memorandum

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

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

Subject: Review of DMEA application, Docket No. 3798, Texarado Oil and Uranium Corporation, Semands property, La Plata County, Colorado.

From reports and descriptions in the application the property contains a mineralized shear zone which the applicant wishes to explore by driving 560 feet of adit, 110 feet of cross-cuts, and 300 feet of raises. The applicant estimates the total project cost at $43,913.

It seems somewhat premature to begin the extensive underground project on the basis of what is now known of the property and its mineralization.

For proper evaluation the subject property should be examined and appraised in the field. If field examination shows that additional exploration is desirable then, perhaps the initial work might consist of bulldozer stripping and trenching to uncover more of the 'vein' on surface.

A topographic map of the property was not submitted in the application, but it should be possible to locate and direct some diamond drill holes to intersect the mineralized zone at depth.

The complex nature of the ore indicates a separation and recovery problem which has not been solved. It appears that Government participation, if a DMEA contract is approved, should be on a prorated basis between uranium and base metals.

W P Williams

W. P. Williams

RECEIVED

8/24/55 gla

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

August 23, 1955

Memorandum

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

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

Subject: Review of supplemental information, DMEA Docket 3798, Texarado Oil & Uranium Co., La Plata County, Colorado

Mr. Joseph O. Hosted, Washington representative of the Atomic Energy Commission, and I have reviewed the supplemental information submitted by Texarado Oil & Uranium Co., DMEA Docket 3798.

Mr. Hosted and I agree that the additional data provided by the Texarado Oil & Uranium Co. gives sufficient proof of uranium mineralization and favorable geology on their property to warrant forwarding the application to the Field Team for review and examination. The Field Team should consult with Mr. C. C. Towle, Atomic Energy Commission, Denver, Colorado for any information he may have on the subject property and the surrounding area.

The supplemental information is attached.

John E. Crawford

John E. Crawford

Attachment

RECEIVED
AUG 2 3 1955

Surname Copy

Ching
Ellis

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

August 18, 1955

DMEA - 3798

Memorandum

To: Acting Assistant Solicitor, DMEA

From: Michael Ching, Mining Engineer
Rare and Miscellaneous Metals Division

Subject: Docket No. DMEA-3798 (Uranium)
Texarado Oil and Uranium Company
Semands Mining Company Property
La Plata County, Colorado

Will you kindly review the property rights of the subject applicant and determine the Government's requirements (Consent to Lien or Subordination Agreement) from the various people who retain interests in or claims against the property.

Michael Ching

MChing:ai
8/18/55
cc to: Docket
Code 700
Mr. Ching

MILTON W. McGEE
CERTIFIED PUBLIC ACCOUNTANT
ESPERSON BUILDING
HOUSTON 2, TEXAS

MEMBER OF THE
TEXAS SOCIETY OF CERTIFIED
PUBLIC ACCOUNTANTS

MEMBER OF THE
AMERICAN INSTITUTE
OF ACCOUNTANTS

August 12, 1955

RECEIVED
AUG 15 1955

Mr. Ernest Wm. Ellis, Chief
Rare and Miscellaneous Metals Division
Department of Interior
Washington 25, D. C.

Re: Docket No. DMEA-3798(Uranium)
Semands Mining Company Property
La Plata County, Colorado

Dear Sir:

Your letter of May 6th and that of July 25th to Texarado Oil & Uranium Co. have been referred to me for reply. We regret the delay in the receipt of these letters and in the reply thereto.

One photostat and three typed carbon copies of the reports on the property by Mr. H. F. McFarland and by Mr. Victor J. Hampton are enclosed herewith.

The properties consist of the following unpatented lode mining claims situated in the California Mining District, La Plata County, Colorado:

Name of Claim	Date of Filing Notice of Location	Book	Page
Shorty No. 1	7-12-54	334	230
Shorty No. 2	7-12-54	334	231
Shorty No. 3	7-12-54	334	231
Shorty No. 4	8- 9-54	334	405
Pinky No. 1	7-12-54	334	232
Pinky No. 2	7-12-54	334	232
Madden No. 1	7-12-54	334	233
Marge No. 1	8- 9-54	334	403
Marge No. 2	8- 9-54	334	404
Hazel No. 1	8- 9-54	334	401
Hazel No. 2	8- 9-54	334	402

The first six claims were located by Mr. G. B. Coan and associates, D. C. Knutson, Ray Atchison, C. H. Nye and Charles Riecke, who assigned their interest therein to Mr. L. G. Stearns by deed dated 8-31-54, reserving a royalty interest of 13% in said claims.

Mr. Ernest Wm. Ellis, Chief August 12, 1955

Madden No. 1 was located by C. H. and Olga Little who assigned their interest therein to Mr. L. G. Stearns by deed dated 11-22-54, reserving a ten per cent royalty interest therein.

The other four claims were located by Mr. L. G. Stearns.

On or about November 23, 1954, L. G. Stearns assigned to G. H. Sanders 5/6 interest in these eleven claims, subject to the outstanding royalty of 13% in the first six claims and 10 per cent in the remaining five claims.

On or about the same date G. H. Sanders assigned to Martin B. Semands 60.6% of his 5/6 interest in said claims.

On or about March 7, 1955, Martin B. Semands and G. H. Sanders and their assigns assigned their interests in these claims to Texarado Oil & Uranium Co., reserving unto themselves a 5% royalty in their said interests. Enclosed herewith are two copies of the assignment from Martin B. Semands and two copies of the assignment from G. H. Sanders et al. It was understood between the interested parties that the due date of the notes set out in these assignments would be extended from time to time until the corporation was able to pay said notes. Extensions instruments have been prepared and are in process of execution.

Therefore, Texarado owns 83.34% of the working interest in said claims less the 5% royalty interest in said 83.34% reserved by Mssrs. Semands and Sanders and their assigns; and L. G. Stearns owns the remaining 16.66% of said working interest. G. B. Coan et al and their assigns own a 13% royalty interest in the first six claims; W. C. and Olga Little own a 10% royalty interest in the Madden No. 1, and L. G. Stearns and/or his associates own a 10% royalty in the last four claims.

The assays referred to in the application were made by Vanadium Corporation of America, Durango, Colorado and photostats thereof are attached to Mr. Hampton's report. An extra copy of each of the two photostats is enclosed.

Yours very truly,

TEXARADO OIL & URANIUM CO.

Milton W. McGee

Milton W. McGee, Treasurer

MWMcG:j

Enclosures

1923 Eastlawn Ave.,
Crestview, Durango, Colorado.
January 12, 1955.

Mr. Martin B. Semands,
Box 979,
Conroe, Texas.

RECEIVED
AUG 15 1955

Dear Mr. Semands:

Herewith is a preliminary report on your uranium mining property in the La Plata Mountains of Colorado.

Location of Property - The La Plata Mountains are within the San Juan Forest Reserve in the Southwestern corner of Colorado. The property is situated on the west slope of the La Plata Canyon at an elevation of about 11,000 feet. It is accessable by dirt road from State Highway 160 running east and west between Durango and Cortez, Colo. It is 11 miles from the town of Hesperus on the highway to Durango. The last three miles of the road to the mine was recently constructed up the mountain from the county road in the La Plata Canyon.

The mine is situated in a forested area just below the timber line.

Mining Claims - The property comprises 13 mining claims each 600 x 1500 ft. covering a total area of about 266 acres. Two adjacent patented claims are to be purchased from the county and four other nearby patented claims may also be acquired.

History - In July 1954 a local prospector discovered the mineralized outcrop containing uranium, by means of a Geiger Counter. He posted a location notice, staked various claims and recorded them in the county clerk's office in Durango. The claims were subsequently surveyed.

Three parallel trenches were cut across the outcrop of the vein at the discovery point and samples taken to determine the mineral contents. One of the trenches was cut across 16 ft. and samples taken of each foot of vein material. These samples assayed from less than 0.10% to a maximum of 0.5% uranium (U_3O_8)

The property was examined last November by a Denver geologist and various samples taken at the outcrop. It is understood that his report was very favorable.

The latter part of November a campsite was established just below the outcrop. Equipment, tools, and supplies were obtained for mining operations.

Exploration work began the early part of December. A tunnel 60 ft. in length was driven in on the vein below the discovery point. All operations were suspended January 5, 1955 on account of the heavy snowfall and the lack of suitable bulldozer for keeping the road open.

January 7, 1955 the tunnel was sampled systematically at four foot intervals. The results of the sampling are submitted in a separate report.

Uranium was discovered on another property last summer, about a mile in an airline Northeast. Mining operations were begun by a Denver Company but suspended after the first snowstorm.

Last Fall an aerial survey was made of the La Plata region by a large mining company in Grand Junction, Colorado. Two of the men who made the survey visited your property the early part of December and advised the miners that in flying over the property they had encountered pronounced radioactivity (anomaly) by means of a scintillator, so they came to investigate the terrain.

They further stated that they had encountered a radioactive belt continuing Northeast for several miles. The aforementioned property belonging to the Denver company presumably is also within that belt and no doubt other uranium deposits will be discovered in the area sooner or later.

Numerous mineral deposits of gold and silver have been worked in the La Plata Mountains since prospecting first began in 1878 and there are at least two mines operating at present. The recent discovery of uranium will attract a host of prospectors next Spring.

Geology - The La Plata Mountains constitute the remnants of an immense dome or uplift caused by the massive intrusion of igneous material up into the original beds of sandstone and slate.

Subsequent erosion of the uplifted sedimentary formations and of the intruded rocks, accounts for the present topography of the region.

At some period after the massive intrusion took place, further intrusions of igneous material occurred in the form of stocks, dikes and sills. These later intrusions penetrated the original igneous mass as well as the uplifted sedimentary beds and carried with them mineralizing solutions.

The tremendous upheavals caused by the initial intrusives resulted in numerous faults, fissures and fractured zones into which the mineralizing solutions penetrated to form ore deposits.

Your property is situated in one of the most highly mineralized zones in the La Plata mountains. The property encompasses part of an immense brecciated mass impregnated with copper and iron sulphides and some gold. Small amounts of platinum were detected in some ore samples, by the U.S. Geological Survey. Two long tunnels were driven into the brecciated mass many years ago. They are on claims belonging to other parties, one of them is on an old patented claim called the "Copper Age".

Down the bedrock gulch about a mile from the Copper Age claim is an old copper mine, which produced considerable ore years ago. Platinum was also found in the ore from that mine by geologists from the U.S. Geological Survey.

North of your property and over the ridge there are two old mines which were worked for gold. They have been reported on by the U.S. Geological Survey.

On the flanks of the La Plata Mountains in the sedimentary formations, various discoveries of vanadium and uranium have been made. Some of the properties are being mined and others are being drilled. Both carnotite and pitchblend are said to have been encountered. The Morrison formation is no doubt the source of the uranium and vanadium. Some of the deposits are but a short distance from Durango.

Veins and Minerals - The discovery outcrop on your property is part of a dike or vein which strikes North 25 East and dips to the South east at about 55°. It is exposed on the surface for a distance of approximately 300 ft., beyond which both below and above, the vein is covered with overburden. It is most certain to extend up and down the mountain for considerable distance. This can be determined by trenching.

A road which was cut across the vein 100 ft. down the slope from the discovery outcrop shows the vein the be about 12 ft. wide and composed of several irregular ore shoots of various widths. All the shoots are radioactive and some are highly so.

Since the original discovery was made last July further radioactive deposits have been exposed by construction of the road leading to the mine. No work has been done on them as yet.

The main vein occurs in an igneous rock which has been classed as a Diorite Porphory. The latter has been intruded into the surrounding sedimentary formations as a stock, and the vein has apparently been formed along a fault or shear zone.

The ore shoots in the vein are composed of a dark-colored, dense, hard rock which may be readily distinguished from the lighter colored rock in the vein. All the shoots as mentioned, show some radioactivity, and contain various amounts of gold, silver, lead, copper, and iron.

The lighter colored vein material is generally impregnated with iron pyrite but lead and copper sulphides are also present.

A tunnel 60 ft. long has been driven in on the vein where it was exposed by the road cut below the discovery outcrop. The tunnel follows along the footwall of the vein where the largest of the ore shoots was exposed by the road cut. This shoot however, was not the most radioactive.

A short distance inside the tunnel this shoot divided into two main branches, the larger of which goes into the east wall of the tunnel. The small branch and the less radioactive was purposely followed along the footwall, to facilitate subsequent mining operations.

At about 30 ft. in from the portal of the tunnel the smaller shoot became richer in gold, silver, lead, and copper, but poorer in uranium. The last 10 ft. of the shoot, to the face of the tunnel was poor in the other metals as well as uranium.

It is probable that further development of the vein will disclose the uranium as generally occurring in shoots practically free of the other metals. It is not yet known in what mineral form the uranium occurs but it is most probably present as pitchblend, a primary uranium mineral and the chief source of the world's uranium production.

Prospects and Recommendations - It is to be expected that the vein continues up and down the mountain for several hundred feet from the present exposures. There is every probability of it extending to considerable depth.

The exploration work done so far indicates that the highest grade uranium ore is in the hanging wall part of the vein to the east of the tunnel. The plans have been to explore that part of the vein by means of crosscuts at regular intervals or by means of drill holes from the tunnel. Operations were suspended before such exploration work could be done.

It is probable that the various ore shoots in the vein may join in places to form single ore bodies of considerable dimensions, and one may expect to encounter shoots of high grade uranium ore.

In only three weeks of actual exploration work the value of the property has been greatly increased beyond the original prospects and there is every reason to believe that further exploration will enhance its value .

The presence of gold, silver, lead and copper in the vein, in addition to uranium may prove to be very advantageous if a method for their separation from the uranium can be developed. A limited amount of test work has already been done on the ore, with encouraging results.

There is some evidence that the uranium does not occur closely associated with other metals and it may be that it can be mined selectively once the vein is developed and the different ore bodies blocked out. If such proves feasible the uranium ore might be shipped directly to ore treatment plants. The ore carrying other metals and possibly small amounts of uranium would have to be milled to produce a concentrate for shipment to a smelter. The overall prospects for developing a producing mine on the property are very good and fully warrant the necessary expenditures for further exploration and development work.

It is recommended that exploration work be resumed in the present tunnel just as soon as possible and that a road-cut be made at least 100 ft. below the tunnel to expose the continuation of the vein.

A second tunnel should also be driven on the vein at the lower level. The two tunnels would eventually be connected by one or more raises, for ventilation and to explore the vein vertically.

A bulldozer should be acquired as a permanent piece of equipment, to maintain the the road and for surface exploration work.

Respectfully submitted.

Yours very truly,

Victor J. Hampton

Victor J. Hampton, Mining Engineer.

VW82-C9

VANADIUM CORPORATION OF AMERICA

DURANGO, COLORADO

January 13, 1954

Mr. Victor Hampton

REPORT OF ANALYSIS

Date	Lot No.	Name of Claim	$\%V_2O_5$	Geiger $\%U_3O_8$	$\%CaCO_3$
		Sp. #1		.02	
		SP. #2		.10	
		Sp. #3		.24	
		Sp. #4		.27	
		#1 at face of tunnel -		.08	
		#2		.02	
		#3		.04	
		#4		.08	
		#5		.06	
		#6		.05	note: these samples highest in other metals.
		#7		.07	
		#8		.06	
		#9		.13	
		#10		.14	
		#11		.16	
		#12		.09	

note: Samples checked through are being run by wet method at VCA.

Very Truly Yours,

VANADIUM CORPORATION OF AMERICA

3

VANADIUM CORPORATION OF AMERICA

DURANGO, COLORADO

January 17, 1955

Victor Hampton

REPORT OF ANALYSIS

Date	Lot No.	Name of Claim	$\%V_2O_5$	$\%U_3O_8$	$\%C=CO_2$	-Geiger
	4824	S.P. #2	.29	.15	Chemical	.10
	4825	S.P. #3	Nil.	.21	"	.24
	4826	S.P. #4	Nil.	.22	"	.27
	4827	#9	Nil.	.15	"	.13
	4828	#10	Nil.	.14	"	.14
	4829	#11	Nil.	.16	"	.16
	4831	#4 Mn. Concentrate		.10	Geiger	
	4832	#4 Tailing		.08	Geiger	

Sample S.P. #2 was from yellow kaolin vein going into east wall.
" S.P. #3 " " branch vein entering EAST wall.
" S.P. #4 " " hard wall of vein entering east wall of tunnel.
" #9,10 and 11 were from systematic sampling of tunnel.

Note: S.P. #2 the only sample which has shown any Vanadium. V.J.H.

3330

Very Truly Yours,

VANADIUM CORPORATION OF AMERICA

26

A+ 250

REC'D NOV 11
READ BY

November 9, 1954.

Ginther, Warren & Ginther,
Esperson Building,
Houston, 2, Texas.

Gentlemen:-

On November 1, 1954, in the company of H. C. Warren, Ralph Warren, and others I made an examination of a property held by Mr. G. H. Sanders. The purpose of this memorandum is to record the observations made at that time, to place on record the results of the five assays of samples from the property, and to offer several recommendations.

LOCATION OF PROPERTY.

The property is located some twenty-three miles north and west of DURANGO, COLORADO. It consists of eleven mineral claims held by right of mineral location and continued occupancy as prescribed by Fereral Statute. That part of the staking seen was done in a workmanlike manner. A crew of surveyors was engaged

in making an accurate re-location survey of the claims at the time of our visit.

The property is reached by road, first by an oiled road, then by a county secondary which goes to within some four miles of the property. From this point a road has been dozed out to the claims. This last four miles is steep and narrow, but is sufficiently good to permit haulage of ore and machinery. On the property are three cuts across a fractured and mineralized zone. Mineralization of sufficient extent and value is showing in these cuts that it may be classified as ore. The cuts are almost at timberline, which, in this area occurs at about 11,000 feet elevation.

GENERAL GEOLOGY.

The country rock is igneous. In the immediate area of the cuts it is a quartz porphery. There has been secondary silification, and where exposed to weathering the feldspar has been altered to Kaolin.

In the cuts mentioned above the mineralization appears to be present in two

distinct forms;- (1) As dark heavy sulphides which appear to be magmatic segregations within the quartz porphery, and (2) Fracture zones with no sulphides, in which the mineralization is oxides and other complex minerals of uranium. Sample 1, called "Highgrade Lead" is typical of the heavy sulphides; Sample 2, described as "Lower Cut" may be taken as representitive of the fracture zone type of enrichment.

DESCRIPTION OF EXAMINATION.

Examination was limited to the three cuts mentioned, to three old,(about 1906) copper prospects on the claims some five hundred feet south of the cuts, and to general observations of the area. Two samples were taken, one in the center cut, the other in the lower. These were assayed; the results thereof appear later.

In the three old copper prospects only hand samples were taken. These showed oxide minerals of copper such as Azurite and Malachite. No sulphides were noted, the assum-

ption is that in this area oxidation has been complete.

SAMPLE ASSAYS.

The sample marked "Highgrade Lead Sample" on the enclosed assay certificate was from an irregular black sulphide mass exposed in the middle cut. Its horizontal dimensions were on the order of one foot by one foot, although indications were that it extended downward. The values were as follows:-

Gold	Silver	Lead	Uranium
0.06 ozs.	9.64 ozs	39.76%	0.22%

Calculating these values at market price with all bonuses the component and total values would be:-

$2.10	$8.68	$115.30	$33.30	$159.38

In the case of the sample marked "Lower Cut" there was no indication of any values other than uranium, therefor only the uranium values were assayed. The U_3O_8 content determined by radiometric assay was 0.24% which has, with all bonuses except haulage, a value of $36.60 per ton.

In addition to the two samples cut on the property, the value of which is noted above, a third sample was studied. This sample was furnished by Mr. Warren, and had been given him by one of the parties interested in the property. This sample was divided into three parts and each of these parts was assayed for those metals from which it appeared to have the most value. They were marked "Lead Sample","Uranium and"Lead Sample"and"Fluorite Sample". The values were as follows:-

Lead Sample

Gold	Silver	Copper	Lead	U_3O_8	
0.01 oz.	4.95 oz.	1.16%	5.38%	0.17%	
and the gross values were:-					
$0.35	$4.46	$6.94	$15.60	$21.42	$48.77
Uranium and Lead Sample					
Trace	3.70 oz		1.35%	0.20%	
and its gross values were:-					
$0.00	$3.30		$3.92	$30.00	$37.22

The Fluorite sample was run primarily for its Fluorite content; the gold, silver and

uranium were checked, not with the expectation of any appreciable value, but to see if this type ofsample would carry any value. Analysis showed the following:-

Gold	Silver	Fluorite	U_3O_8
Trace	0.26 oz	32.41%	0.09%

STUDY OF INFORMATION

A study of the assay returns leads to several basic conclusions. First it will be noted that all the samples, spread over a considerable area, carry substantial values in Uranium. All except one are actually ore, and even this one(Fluorite) is very close. The values are consistant; none are high and none are barren. Also to be noted is the fact that "Higrade Lead", which showed no apparent uranium mineralization, even under the microscope, carried $33.30 uranium. This indicates a general dissemination of the uranium throughout the entire mineralized zone rather than in concentrations either in the sulphides or the fracture zones.

Secondly, in two of the samples, "Higrade Lead" and "Lead Sample", the value of the gold, silver, copper and lead was larger than that of the uranium. This in no way detracts from its value as a uranium prospect but enhances it. In other words it has sufficient value to make it worthy of consideration proposition and in addition has as much or more value in other metals.

The fact that the values are of two different types presents a metallurgical problem. If full values were to be realized a separation will be necessary. While it is a major problem it is not insurmountable, and should not deter anyone from serious consideration of the property.

CONCLUSIONS AND RECOMMENDATIONS.

In my opinion there is sufficient showing on this property to justify prospecting and exploration.

It is impossible at this time to set any value on it. This cannot be determined until the nature, continuity and extent of the

of the ore is more fully established.

Prospecting would best be accomplished by means of first, cuts across the vein at intervals both above and below the present cuts, and then second by drifts driven into the mountain on those cuts which show the most promise. Five to twenty thousand dollars spent in this manner should give two or three drifts along the mineralized zones, and several crosscuts to determine the longitudinal extent and nature of the deposits. It would also furnish the large metallurgical samples required to study the metallurgical problems involved. Due to the irregularity of the deposits I should not recommend any diamond drilling until the general nature of the enrichment is more fully understood

Considering the altitude and the general area I would suggest that operations be discontinued from, say, December 15 until April 15. The winters are severe and the roads would require constant work if they are to be kept open. This would make an expense which is not consistant with the time gained.

Respectfully submitted,

H. F. McFarland

Spruce 7-2807
Denver

STATE OF COLORADO

2114 CURTIS STREET

TELEPHONE MAin 1852

[redacted]

CHEMISTS • ASSAYERS • ENGINEERS

DENVER 2, COLORADO

Folio 6314

Date Nov. 5, 1954.

H. F. McFarland,
1861 So. Corona St.,
Denver, Colo.

.10

We hereby Certify, that the samples assayed for you gave the following results:

DESCRIPTION	GOLD OUNCES PER TON	SILVER OUNCES PER TON	COPPER PER CENT (WET)	LEAD PER CENT (WET)	ZINC PER CENT	IRON PER CENT	INSOLUBLE PER CENT	VALUE PER TON
								Uranium oxide (U3O8)
Lead Samples	0.01	4.95	1.16	5.38				0.173%
Uranium and leads	trace	3.70		1.35				0.20%
Highgrade Lead samples	0.06	9.64		39.76				0.22% eU
Lower cut:								0.24% eU
Fluorite Samples	trace	0.26				CaF2: 32.41%		0.091%

.10

Gold at_____per ounce Copper at_____per unit

Silver at_____per ounce Zinc at_____per unit

Lead at_____per unit _____

Charge $ 34.00

CHARLES O. PARKER & CO.

CHEMISTS, ASSAYERS and ENGINEERS

29

RECEIVED
AUG 15 1956

THE STATE OF COLORADO)
)
COUNTY OF LA PLATA)

WHEREAS, as reflected by that certain Agreement executed by Martin B. Demands, G. R. Sanders and L. C. Stearns, dated November 20, 1954, and subsequently recorded in La Plata County, Colorado, said three parties then owned eleven (11) certain unpatented lode mining claims in the California Mining District, La Plata County, Colorado, as therein listed, subject to certain royalty interests as therein set forth; and

WHEREAS, the undersigned Martin B. Demands is still the owner of the fifty and one-half (50½%) per cent interest in each of said claims and all rights therein as set out in said contract, but subject to the provisions therein and thereof;

NOW, THEREFORE, in consideration of the sum of Ten ($10.00) Dollars, together with other good and valuable considerations to me cash in hand paid by TEXAMADO OIL & URANIUM CO., a corporation organized under the Laws of the State of Delaware with an office in the City of Wilmington, County of New Castle, Delaware, and an office in the City of Houston, Harris County, Texas, receipt of all of which is hereby acknowledged, together with the further consideration of the sum of Sixty Thousand ($60,000) Dollars to be paid as evidenced by that certain promissory note of even date herewith, executed by said TEXAMADO OIL & URANIUM CO. and payable to the order of MARTIN B. DEMANDS at Houston, Texas, in the original principal sum of Sixty Thousand ($60,000) Dollars on or before June 7, 1955, with interest at the rate of 5% per annum, and the payment of which is secured by the Vendor's Lien herein retained, and by a good and valid first mortgage lien on and against the interests in each of the claims, interests and rights hereinabove mentioned and herein assigned and conveyed, I, the undersigned, MARTIN B. DEMANDS

have SOLD, CONVEYED and ASSIGNED and by these presents do hereby SELL, CONVEY and ASSIGN unto said EL CARAMO OIL & URANIUM CO., but subject to the terms and provisions hereof and the reservations and exceptions hereinafter set forth:

A. All of my fifty and one-half (50½%) per cent interest and ownership in and to the following described unpatented lode mining claims situated in the California Mining District, LaPlata County, Colorado, to wit:

1. Shorty No. 1
2. Shorty No. 2
3. Shorty No. 3
4. Shorty No. 4
5. Pinky No. 1
6. Pinky No. 2
7. Madden No. 1
8. Marge No. 1
9. Marge No. 2
10. Hazel No. 1
11. Hazel No. 2

said claims being subject to a reservation of 13% royalty interest in the first 6 above described claims and a 10% reserved royalty interest in the last 5 above described claims, such royalty interest being free and clear of all expenses but not participating in the discovery, development or transportation bonuses;

B. All of the right belonging and accruing to said fifty and one-half (50½%) per cent interest in said mining claims and unto the owner thereof to explore, develop, mine, possess, manage and control operations with reference thereto and handling and disposition of ore therefrom.

C. All of my fifty and one-half (50½%) per cent interest in the two (2) mining claims (mentioned in paragraph 3 of the November 20, 1954 agreement) which have been acquired pursuant to the terms thereof and in the name of D. G. Stearns.

D. All rights (exclusive of, and other than, those mentioned in Section B above) of possession of the above described claims granted the undersigned Semands in paragraph numbered 1 of the above mentioned November 20, 1954 agreement, but with the obligation of Grantee herein to furnish all capital necessary to carry out the exploration, development and mining of the above mentioned claims.

1. Except as otherwise provided for herein, Grantee,

TERRAZAS OIL & URANIUM CO. shall have, and is hereby assigned and conveyed all rights, powers and privileges and, by its acceptance hereof, said Grantee assumes and agrees to fully perform and comply with all of the obligations and duties provided in said November 20, 1954 agreement to and for the benefit of, and imposed upon, the undersigned MARVIN B. SEWARDS. In this connection, with particular reference to paragraph number 3 in said contract, however, it is stipulated that in lieu of the semi-annual reports to be furnished the parties and the right of inspection of books, Grantee herein shall make its regular periodic reports to its stockholders and the right of inspection of the books shall be the rights of the stockholders of Grantee corporation.

2. It is expressly stipulated, understood and agreed that Assignor herein expressly retains a vendor's lien on all of the properties and interests conveyed and assigned hereby and set forth in paragraphs A,B,C and D above to secure the prompt and punctual payment of the above described note, payment whereof is additionally secured by a mortgage and deed of trust of even date herewith, executed by Grantee herein.

3. It is stipulated that in view of this conveyance and other conveyances made and to be made to Grantee herein by the parties to said November 20, 1954 agreement, paragraphs numbered 4, 5, 6 and 7, as contained therein, are no longer pertinent and the rights and obligations set forth in said paragraphs are cancelled.

4. It is stipulated that the matters concerning possible conflicting mining claims, as mentioned in paragraph 8 of said November 20, 1954 agreement, have been sufficiently executed and performed by the parties thereto and any further actions with reference to such matters shall be solely in the discretion

and at the election of Grantee herein.

5. It is expressly understood, stipulated and agreed, however, that there is excepted herefrom and reserved unto Assignor, MARTIN B. SEMANDS, and unto his heirs and assigns (exclusive of and in addition to any and all other royalty interests applicable to the above listed and described mining claims), a royalty interest of fifty and one-half (50½%) per cent of five (5%) per cent of all ore and minerals including, without in anywise limiting the generality hereof, uranium, which might be mined, saved, stockpiled or sold from any and each of the above listed and described mining claims; which royalty interest shall be free and clear of any and all costs and expenses but shall not participate in discovery, development or transportation bonuses, if any. It is the intention hereby that the three parties to said November 20, 1954 agreement, to wit: MARTIN B. SEMANDS, G. H. SANDERS and L. G. STEARNS, and their respective assigns, shall reserve and own an aggregate of five (5%) per cent royalty interest of all of such minerals in the same percentage fractional portions as said three parties own the above listed mining claims as stated in said agreement, to wit: MARTIN B. SEMANDS - 50.5%, G. H. SANDERS - 32.84% and L. G. STEARNS - 16.66%.

6. It is further stipulated, however, that the ore and minerals attributable to said reserved and excepted royalty shall be handled, stockpiled and sold from the premises without physical separation from the ore and minerals owned by Grantee herein; but the owners of said royalty interests shall keep Grantee herein advised of any change of ownership of any interest in, or portions of, such royalty interest and Grantee herein (but not to the exclusion of any such royalty owners) shall furnish the smelter or purchaser of such ore or minerals with proper instructions as to division and payment therefor.

7.a. It is specifically stipulated that in the event

default is made in the payment of the above described note, Grantor, MARTIN B. SEMANDS and his assigns (other than Grantee herein or its successors or assigns) shall have the right and option to enter into and take exclusive possession of all of the properties, claims, interests, rights and powers sold, conveyed and assigned hereby pending foreclosure of the liens herein provided for, or other revesting of title in Grantor, or other mutually satisfactory disposition of the matter between the parties.

7-b. In this connection, however, it is further stipulated that as consideration for this conveyance, Grantee, TEXARADO OIL & URANIUM CO., is issuing certain of its capital stock to MARTIN B. SEMANDS; and in the event the liens herein provided for are foreclosured, or title is otherwise revested in Grantor Semands by reason of the above described note not being paid on or before its stated due date, then all of such capital stock of Grantee issued as consideration for this conveyance shall be surrendered by Grantor herein to said TEXARADO OIL & URANIUM CO; so that Grantee shall own no further interests of any kind in any of the matters conveyed hereby and said SEMANDS shall own none of the stock issued as consideration herefor.

7-c. In the event of such foreclosure or other revesting of title in Grantor, Grantor MARTIN B. SEMANDS shall have peaceable and exclusive possession of the above described claims for the purpose of exploring for, developing and mining minerals, including uranium, together with exclusive management and control of the operations and handling and disposition of ore therefrom; but neither TEXARADO OIL & URANIUM CO., nor its Assigns, nor its Grantors, G. M. SAMMONS or L. G. SMALLIS, nor their respective third party assigns, shall be required to furnish capital to carry out the exploration, development,

mining on or of the above claims, or handling, disposition or sale of ore therefrom; but said JAMES B. DEMANDS or his assigns shall be entitled to all proceeds and benefits from and in connection with said claims until the said Demands, or his Assigns, shall have received from the disposition and sale of ore mined from said claims, the sum equal to the aggregate of Sixty Thousand ($60,000) Dollars, together with interest thereon from date hereof at the rate of 5% per annum, expenses and costs, if any, incident to the foreclosure or other revesting of title in said Demands, or his Assigns, the costs and expenses of and incident to exploring, developing, mining, managing, controlling and operating each of said properties and handling, disposing of and selling ore therefrom. After Demands or his assigns shall have so received such aggregate sum, future and further operations on the properties and disposition of ore mined therefrom shall be for the joint account of the then owners with the full right in the said Demands, or his assigns, to withhold from proceeds, if any, accruing to the other then owners, its or their proportionate part and share of the costs and expenses of operating said properties and disposing of ore mined therefrom.

TO HAVE AND TO HOLD the herein conveyed and assigned properties and interests, but subject to the terms, provisions, conditions, reservations and exceptions herein set forth, unto said THORIUM OIL & URANIUM CO., its successors and assigns forever; and for the same considerations I, the undersigned Grantor, covenant and warrant that since the acquisition of the interests and rights conveyed and assigned hereby, I have not conveyed nor assigned same to any other persons and have full right and authority to convey same as is done hereby and that I hereby bind myself, my heirs, administrators, executors and assigns to warrant and forever defend said property and

interest unto TEXARADO OIL & URANIUM CO. against all persons whomsoever lawfully claiming or to claim the same or any part thereof, by, through or under me.

The terms, provisions, agreements, reservation and exceptions herein contained shall be binding upon and inure to the benefit of the heirs, executors, administrators, successors and assigns of the respective parties hereto.

TEXARADO OIL & URANIUM CO. joins in the execution hereof to evidence its full agreement hereto.

IN WITNESS WHEREOF, Grantor has hereunto set his hand and seal and Grantee has caused these presents to be executed by its duly authorized officers, this the 7th day of MARCH, 1955.

Martin B. Demands
Martin B. Demands

TEXARADO OIL & URANIUM CO.

By Edgar E. Townes
President

ATTEST:

Secretary

THE STATE OF TEXAS)
)
COUNTY OF HARRIS)

BE IT REMEMBERED, the undersigned authority, on this day personally appeared MARTIN B. DEMANDS, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this 15th day of ~~February~~ MARCH, 1955.

Minnie S. Brooks
Notary Public in and for
Harris County, Texas

MINNIE S. BROOKS
Notary Public in and for Harris County, Texas
My Commission Expires June 1, 1955

THE STATE OF TEXAS)
)
COUNTY OF HARRIS)

BE IT REMEMBERED, the undersigned authority, on this day personally appeared EDGAR E. TOWNES, JR., President of TEXARADO OIL & URANIUM CO., known to me to be the person and officer whose name is subscribed to the foregoing instrument and acknowledged

to me that the same was the act of the said TRAMADO OIL & URANIUM CO., a corporation, and that he executed the same as the act of such corporation for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 15th day of March, 1955.

Minnie S. Brooks
Notary Public in and for
Harris County, Texas

MINNIE S. BROOKS
Notary Public in and for Harris County, Texas
My Commission Expires June 1, 1955

RECEIVED
AUG 15 1956

THE STATE OF COLORADO)
)
COUNTY OF LA PLATA)

WHEREAS, as reflected by that certain Agreement executed by Martin L. Lemends, G. H. Sanders and L. G. Stearns, dated November 20, 1954, and subsequently recorded in La Plata County, Colorado, said three parties then owned eleven (11) certain unpatented lode mining claims in the California Mining District, La Plata County, Colorado, as therein listed, subject to certain royalty interests as therein set forth; and

WHEREAS, the 32.84% interest owned by G. H. Sanders in each of said claims and rights as set out in said contract is now owned 26.84% by said G. H. Sanders, 3% by Milton W. McGee, and 3% by J. F. Clawson, but subject to the provisions therein and thereof;

NOW, THEREFORE, in consideration of the sum of Ten ($10.00) Dollars, together with other good and valuable considerations to each of us cash in hand paid by TEXAS OIL & URANIUM CO., a corporation organized under the laws of the State of Delaware with an office in the City of Wilmington, County of New Castle, Delaware, and an office in the City of Houston, Harris County, Texas, receipt of all of which is hereby acknowledged, we, the undersigned, G. H. SANDERS, MILTON W. McGEE and J. F. CLAWSON have SOLD, CONVEYED and ASSIGNED and by these presents do hereby SELL, CONVEY and ASSIGN unto TEXAS OIL & URANIUM CO., but subject to the terms and provisions hereof and the reservations and exceptions hereinafter set forth:

A. All of our above stated respective interests and ownerships (aggregating 32.84)in and to the following described unpatented lode mining claims situated in the California

Mining District, La Plata County, Colorado, to wit:

1. Shorty No. 1
2. Shorty No. 2
3. Shorty No. 3
4. Shorty No. 4
5. Pinky No. 1
6. Pinky No. 2
7. Madden No. 1
8. Marge No. 1
9. Marge No. 2
10. Hazel No. 1
11. Hazel No. 2

said claims being subject to a reservation of 13% royalty interest in the first 6 above described claims and a 10% reserved royalty interest in the last 5 above described claims, such royalty interest being free and clear of all expenses but not participating in the discovery, development or transportation bonuses;

B. All of the right belonging and accruing to our respective interests and ownerships in said mining claims and unto the owner thereof to explore, develop, mine, manage and control operations with reference thereto and handling and disposing of ore th refrom.

C. All of our above stated respective interests and ownerships in the two (2) mining claims (mentioned in paragraph 3 of the November 20, 1954 agreement) which have been acquired pursuant to the terms thereof and in the name of L. G. Stearns.

D. All of our rights of possession of the above described claims granted Martin B. Demands in paragraph numbered 1 of the above mentioned November 20, 1954 agreement, but with the obligation of Grantee herein to furnish all capital necessary to carry out the exploration, development and mining of the above mentioned claims.

1. Except as otherwise provided for herein, Grantee, IMPERIAL OIL & URANIUM CO. shall have, and is hereby assigned and conveyed all rights, powers and privileges and, by its acceptance hereof, said Grantee assumes and agrees to fully perform and comply with all of the obligations and duties provided in said November 20, 1954 agreement to and for the benefit of, and imposed upon, the respective parties thereto. In this connection, with particular reference to paragraph

number 3 in said contract, however, it is stipulated that in lieu of the semi-annual reports to be furnished the parties and the right of inspection of books, Grantee herein shall make its regular periodic reports to its stockholders and the right of inspection of the books shall be the rights of the stockholders of Grantee corporation.

2. It is stipulated that in view of said conveyance and other conveyances made and to be made to Grantee herein by the parties to said November 20, 1954 agreement, paragraphs numbered 4, 5, 6 and 7, as contained therein, are no longer pertinent and the rights and obligations set forth in said paragraphs are cancelled.

3. It is stipulated that the matters concerning possible conflicting mining claims, as mentioned in paragraph 8 of said November 20, 1954 agreement, have been sufficiently executed and performed by the parties thereto and any further actions with reference to such matters shall be solely in the discretion and at the election of Grantee herein.

4. It is expressly understood, stipulated and agreed, however, that there is excepted herefrom and reserved unto Assignors herein and unto their respective heirs and assigns (exclusive of and in addition to any and all other royalty interests applicable to the above listed and described mining claims), a royalty interest aggregating 32.84% of 5% of all ore and minerals including, without in anywise limiting the generality hereof, uranium, which might be mined, saved, stockpiled or sold from any and each of the above listed and described mining claims; which royalty interest shall be free and clear of any and all costs and expenses but shall not participate in discovery, development or transportation bonuses, if any. It is the intention hereby that the three parties to said November

20, 1954 agreement, to wit: MARTIN B. SEMANDS, G. H. SANDERS and L. G. STEARNS, and their respective assigns, shall reserve and own an aggregate of a five (5%) per cent royalty interest of all of such minerals in the same percentage fractional portions as said three parties own the above listed mining claims as stated in said agreement, to wit: MARTIN B. SEMANDS - 50.5%, G. H. SANDERS - 32.84% and L. G. STEARNS - 16.66%; and that Assignors herein reserve and own separately their respective portions of the above 32.84% of said 5% royalty, to wit: G. H. SANDERS - 26.84%; MILTON W. McGEE - 3.0% and J. E. CLAWSON - 3.0%.

5. It is further stipulated, however, that the ore and minerals attributable to said reserved and excepted royalty shall be handled, stockpiled and sold from the premises without physical separation from the ore and minerals owned by Grantee herein; but the owners of such royalty interests shall keep Grantee herein advised of any change of ownership of any interest in, or portions of, such royalty interest and Grantee herein (but not to the exclusion of any such royalty owners) shall furnish the smelter or purchaser of such ore or minerals with proper instructions as to division and payment therefor.

6. A part of the consideration for this conveyance is the sum of Thirty Five Hundred ($3500) Dollars to be paid as evidenced by that certain promissory note of even date herewith executed by said TEXAMADO OIL & URANIUM CO. and payable to the order of G. H. SANDERS, at Houston, Texas, in the original principal sum of $3500 on or before June 7, 1955, with interest at the rate of 5% per annum and the payment of which is secured by a vendor's lien which is hereby retained and by a good and valid first mortgage lien, on and against all of the properties and interests in each of the claims, interests and rights conveyed and assigned hereby and as set

forth in paragraphs A, B, C and D above, to secure the prompt and punctual payment of said note, and which mortgage and deed of trust of even date herewith is executed by Grantee herein.

7-a. It is expressly stipulated that in the event default is made in the payment of the above described note, Grantor G. H. SEMARS and his Assigns (other than Grantee herein or its successors or assigns) shall have the right and option to enter into and take exclusive possession of all of the properties, claims, interests, rights and powers sold, conveyed and assigned hereby pending foreclosure of the liens herein provided for, or other revesting of title in Grantors herein, or other mutually satisfactory disposition of the matter between the parties; provided, however, that the rights of Grantors contained in this paragraph 7-a are and shall be subordinate and inferior to the similar right and option of MARTIN B. SEMARS, as provided in paragraph 7-a of the conveyance of even date herewith from the said MARTIN B. SEMARS to TEXARADO OIL & URANIUM CO., and which demands right and option may be exercised to the exclusion of the rights of these Grantors as in this paragraph 7-a provided.

7-b. In this connection, however, it is further stipulated that as consideration for this conveyance, Grantee, TEXARADO OIL & URANIUM CO., is issuing certain of its capital stock to G. H. SEMARS, WILSON W. MCGEE and J. F. CLAWSON; and in the event the liens herein provided for are foreclosed, or title is otherwise revested in Grantors by reason of the above described note not being paid on or before its stated due date, then all of such capital stock of Grantee issued as consideration for this conveyance shall be surrendered by Grantors herein to said TEXARADO OIL & URANIUM CO.; so that Grantee shall own no further interests of any kind in any of the matters conveyed hereby and said Grantors herein shall own

none of the stock issued as consideration herefor.

7-c. In the event of such foreclosure or other revesting of title in Grantors, all titles, interests and rights of every kind and character conveyed and assigned hereby shall be and become vested in Grantors Sanders, McGee and Clawson, or in their respective assigns, in the respective proportionate interests and fractions in which they own the aggregate 32.84% interest and ownership as hereinabove mentioned; and in the event of foreclosure or other revesting of title in MARTIN B. SIMMES as provided in the above mentioned conveyance of even date herewith from Semands to Grantee herein, the said MARTIN B. SIMMES and his assigns shall have peaceable and exclusive possession of the above described claims for the purposes and with the powers and authorities as set forth in paragraph 7-c of said Semands to SIMMES conveyance; and as between Grantors herein, out of the proceeds (after payment of the accrued sums to Semands as in said paragraph 7-c provided) accruing to the undersigned or their assigns, the first sums aggregating $3500, together with interest from date hereof at the rate of 5% per annum, together with expenses and costs, if any, incident to the foreclosure or other revesting of title in Grantors herein and paid by Sanders, shall be paid to said G. H. SANDERS, with all subsequent proceeds accruing to the interests of the undersigned to thereafter be prorated among the undersigned and their assigns in proportion to their respective interests as above stated. In the event the said Semands does not foreclose his lien or otherwise obtain revesting of title in him, or his assigns, and in the event the liens herein provided for are foreclosed, or title is otherwise revested in Grantors, then Grantor G. H. SANDERS shall have peaceable and exclusive possession of the above described claims for the same purposes and on the same terms and provisions as

provided in behalf of and with relation to the said MARTIN B. SHIRLEY in his said conveyance to Grantee herein with the further right of payment and reimbursement to Sanders as hereinabove provided.

TO HAVE AND TO HOLD the herein conveyed and assigned properties and interests, but subject to the terms, provisions, conditions, reservations and exceptions herein set forth, unto said TURAMADO OIL & URANIUM CO., its successors and assigns forever; and for the same considerations we, the undersigned Grantors, covenant and warrant that since our respective acquisitions of our above stated interests and rights conveyed and assigned hereby, we have not conveyed nor assigned same to any other person (except as among ourselves resulting in the above stated fractions) and have full right and authority to convey same as is done hereby and we hereby bind ourselves, our heirs, administrators, executors and assigns to warrant and forever defend our respective herein conveyed property and interests unto TURAMADO OIL & URANIUM CO. against all persons whomsoever lawfully claiming or to claim the same or any part thereof, by, through or under us, respectively.

The terms, provisions, agreements, reservations and exceptions herein contained shall be binding upon and inure to the benefit of the heirs, executors, administrators, successors and assigns of the respective parties hereto.

TURAMADO OIL & URANIUM CO. joins in the execution hereof to evidence its full agreement hereto.

IN WITNESS WHEREOF, Grantors (sometimes designated Assignors herein) have hereunto set our hands and seals and Grantee has caused these presents to be executed by its duly authorized officers, this the 7th day of March, 1955.

G. H. Sanders

Milton H. McKee

J. P. Clawson

TURAMADO OIL & URANIUM CO.

By J. P. Clawson
President

ATTEST:

J. P. Clawson
Secretary

THE STATE OF TEXAS |
COUNTY OF HARRIS |

BE IT REMEMBERED, the undersigned authority, on this day personally appeared MILL N W. McCLA, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this 15th day of ~~February~~ MARCH, 1955.

Minnie S. Brooks
Notary Public in and for
Harris County, Texas

MINNIE S. BROOKS
Notary Public in and for Harris County, Texas
My Commission Expires June 1, 1955

THE STATE OF TEXAS |
COUNTY OF HARRIS |

BE IT REMEMBERED, the undersigned authority, on this day personally appeared J. F. CLAWSON, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this 15th day of ~~February~~ MARCH, 1955.

Minnie S. Brooks
Notary Public in and for
Harris County, Texas

MINNIE S. BROOKS
Notary Public in and for Harris County, Texas
My Commission Expires June 1, 1955

THE STATE OF TEXAS |
COUNTY OF HARRIS |

BE IT REMEMBERED, the undersigned authority, on this day personally appeared EDGAR E. TOWNES, JR., President of MARALDO OIL & DRILLING CO., known to me to be the person and officer whose name is subscribed to the foregoing instrument and acknowledged to me that the same was the act of the said MARALDO OIL & DRILLING CO., a corporation, and that he executed the same as the act of such corporation for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this 15th day of ~~February~~ MARCH, 1955.

Minnie S. Brooks
Notary Public in and for
Harris County, Texas

MINNIE S. BROOKS
Notary Public in and for Harris County, Texas
My Commission Expires June 1, 1955

THE STATE OF TEXAS)
)
COUNTY OF HARRIS)

BEFORE ME, the undersigned authority, on this day personally appeared G. H. HARRIS, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this 15th day of March, 1955.

Minnie S. Brooks
Notary Public in and for
Harris County, Texas

MINNIE S. BROOKS
Notary Public in and for Harris County, Texas
My Commission Expires June 1, 1955

Surname 700

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

Ellis
Mitchell

JUL 2 5 1955

Mr. Martin D. Semands
Vice-President
Texardo Oil & Uranium Company
P. O. Box 979
Conroe, Texas

Re: Docket No. DMEA-3798 (Uranium)
Semands Mining Company Property
La Plata County, Colorado

Dear Mr. Semands:

Reference is made to our letter of May 6, 1955, originally mailed to your company at 1909 Esperson Building, Houston 2, Texas, the address shown on your above-docketed application, dated April 1, 1955. This letter was returned by the Post Office marked "Unknown at this address" and was re-sent to you at the address shown above. To date we have received no reply.

We are unable to take further action on your application until the information requested has been supplied. If you are no longer interested in the processing of this application, please advise us.

Sincerely yours,

SIGNED

Ernest W. Ellis, Chief
Rare and Miscellaneous
Metals Division

MChing:am
7-25-55
cc to: Admr. Reading File
Docket
Messrs. J. E. Crawford, Rm. 3641
T. H. Kiilsgaard, Rm. 5222
J. O. Hosted, Rm. 3210, GSA
Code 700
Mr. Ching
DMEA Field Team, Region III (2)

R.C.B.

5/12/55 gla

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

Defense Minerals Administration
RECEIVED
MAY 12 1955

May 11, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Docket 3798, Texarado Oil & Uranium Co., California Mining District, La Plata County, Colorado

I have reviewed the attached application of the Texarado Oil & Uranium Co., DMEA Docket 3798; and I have discussed it with Mr. Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

While the application of the Texarado Oil & Uranium Co. contains favorable information, before recommending its referral to the Field Team we suggest that the company be requested to submit copies of reports by H. F. McFarland and Victor J. Hampton mentioned on page 4 of the application. It is assumed that the reports contain geological data substantiating the request for exploration assistance.

John E. Crawford

John E. Crawford

Attachment

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

DEPARTMENT OF THE INTERIOR
Domestic Atomic Minerals
RECEIVED
MAY 12 1955

May 11, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Docket 3798, Texarado Oil & Uranium Co., California Mining District, La Plata County, Colorado

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John E. Crawford

Attachment

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

Records Administration
RECEIVED
MAY 12 1955

May 11, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Docket 3798, Texarado Oil & Uranium Co., California Mining District, La Plata County, Colorado

I have reviewed the attached application of the Texarado Oil & Uranium Co., DMEA Docket 3798; and I have discussed it with Mr. Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

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John E. Crawford

Attachment

Surname 700

Ching
Ellis
Johnson

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

Texarado Oil and Uranium Company
1909 Esperson Building
Houston 2, Texas

MAY - 6 1955

Letter returned 5/13/55 P.O. marking "Unknown at this address" gfa

Re: Docket No. DMEA-3798 (Uranium)
Semands Mining Company Property
La Plata County, Colorado

Gentlemen:

Under 4 (c) of the subject application you advised that you were attaching reports on your property by H. F. McFarland and Victor J. Hampton. These reports were not received with the application and were undoubtedly overlooked in mailing. Will you kindly forward four copies of each report to this office at your earliest convenience.

We are not clear regarding the status of the property rights. As we understand it, you are the owner of an 83.34 percent interest in the claims but your interest is subject to a purchase price lien of $63,000 and 83.34% of a 5% overriding royalty on production. Please list the names of the seller, the owner of the minority interest in the property, and the holder or holders of the overriding royalty. To further clarify this matter please send two copies each of the purchase agreement and other pertinent documents.

Kindly give us the name of the firm which analyzed the 15 samples referred to in your application. If possible forward us two copies each of the assay certificates.

We shall continue to process your application upon receipt of the foregoing information.

Sincerely yours,

SIGNED

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

MChing:am
5-6-55
cc to: Admr. Reading File
Docket
Messrs. J.E.Crawford,Rm.3641
T.H.Kiilsgaard,Rm.5224
J.O.Hosted,Rm.3210,GSA
Code 700
Mr. Ching
DMEA Field Team, Region III(2)

5/13/55
resent to:
Mr. Martin B. Semands,
Vice-President,
Texardo Oil & Uranium Company
P.O. Box 979, Comroe, Texas.

Please advise us correct mailing address for further communications.

Ernest Wm. Ellis

R.C.J.

Texarado Oil & Uranium Co.
1909 Esperson Building
Houston 2, Texas

May 3, 1955
Subject: DMEA 3798
Re: Exploration Assistance
Semands Mining Co. property

Gentlemen:

The receipt of your application dated April 1, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA 3798 and referred to the Rare and Miscellaneous 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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 2 - 1955

TEXARADO OIL & URANIUM CO.
1909 Esperson Building
Houston, Texas

April 26, 1955

Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
Department of Interior
Washington 25, D. C.

Dear Sir:

Enclosed herewith in quadruplicate is the Application for Aid In An Exploration Project, Pursuant to DMEA Order 1, Under The Defense Production Act of 1950, as Amended, Form MF-103, of Texarado Oil & Uranium Co., 1909 Esperson Building, Houston, Texas.

We believe that we have a very excellent uranium prospect and will very much appreciate your expediting the consideration of this application.

Yours very truly,

TEXARADO OIL & URANIUM CO.

Milton W. McGee

Milton W. McGee, Treasurer

MWMc:j

Enclosure

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
MAY 2 - 1955

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. 3798
Metal or Mineral Uranium
Date Received 5-2-55
Estimated Cost $43,913.06
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: (a) Texarado Oil & Uranium Co. (A Delaware Corporation)
1909 Esperson Building
Houston, Texas

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

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

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract
eleven (11) mining claims in California Mining District, La Plata County, Colorado listed in Supporting Data, item 3 (a)

(*b*) State any mine name by which the property is known. see supporting data, item 3 (b)

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise owner of a working interest in mining claims - see supporting data

(*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 $63,500.00 purchase money lien and 83.34 % of 5% overiding royalty

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

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.

(*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.

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

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

(*c*) The work will start within 30 days and be completed within 5 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?

[X] Money [X] 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 April 1, 1955

TEXARADO OIL & URANIUM CO.
(Applicant)

By Martin B. Demaude
Vice-President

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

Supporting Data
Application For Aid In An Exploration Project, Form MF-103
TEXARADO OIL & URANIUM CO.
1909 Esperson Building
Houston, Texas

1. (c) Edgar E. Townes, Jr. - President and a director
477 San Jacinto Building
Houston, Texas

Martin B. Semands - Vice-president and a director
P. O. Box 979
Conroe, Texas

J. F. Clawson - Secretary and a director
805 Sterling Building
Houston, Texas

Milton W. McGee - Treasurer and a director
1910 Esperson Building
Houston, Texas

3. Applicant's property rights: -
(a) The following described unpatented lode mining claims situated, lying and being in the California Mining District, La Plata County, Colorado:

Name of Claims	Date of Filing Notice of Location	Book	Page
Shorty No. 1	July 12, 1954	334	230
Shorty No. 2	July 12, 1954	334	231
Shorty No. 3	July 12, 1954	334	231
Shorty No. 4	August 9, 1954	334	405
Pinky No. 1	July 12, 1954	334	232
Pinky No. 2	July 12, 1954	334	232
Madden No. 1	July 12, 1954	334	233
Marge No. 1	August 9, 1954	334	403
Marge No. 2	August 9, 1954	334	404
Hazel No. 1	August 9, 1954	334	401
Hazel No. 2	August 9, 1954	334	402

(b) Mine is not named but known locally as Semands Mining Co. property.

(c) Owner of 83.34 per cent interest in the working interest in the claims. Subject to $63,500. purchase money lien, and 83.34% of 5% Overriding Royalty.

3. (d) See above

(e) None - except as above

(f) See above

4. PHYSICAL DESCRIPTION:

(a) The exploration work so far done on the property consists of three shallow trenches cut across the discovery outcrop of the vein by the locator of the claims and a 5 ft. x 7 ft. tunnel driven in on the vein a distance of 60 ft. by the present operator. Various mineralized outcrops were exposed during the construction of the access road to the property. Part of the road was laid out for the purpose of exploring for such outcrops.

The existing production facilities consist of a road, a campsite with a trailer house, a tool shed and limited equipment and tools listed separately in this application.

The applicant owns the controlling interest in the property and has borne all the expenses to date in building the road, establishing a camp and conducting the exploration work.

(b) There has been no production from the property and there are no ore reserves blocked out. There are approximately 800 tons of probable ore above the 60 ft. tunnel, with an average grade of about 0.10% U_3O_8.

(c) The property lies within the area of a large irregular igneous stock which has been intruded into the adjacent sedimentary formations. The intrusive rock has been classified as Augite-Syenite and the sedimentaries are known as the Cutler and Dolores redbeds.

The geologic features of the La Plata district, in which the property is situated, are described in detail in Professional Paper 219 of the U. S. Geological Survey, published in 1949. They are alos described in Folio No. 60 of the Survey's Geological Atlas, published in 1899 and now out of print.

Both publications describe the area in which the property lies, with accompanying topographical and geological maps in color, showing all the formations and structural details.

Professional Paper 219 includes Plate 14, Map of Patented Claims, La Plata (California) Mining District, La Plata and Montezuma Counties, Colorado. The properties of Texarado Oil & Uranium Co. are not shown on this map but they are situated in the western portion of section 5 and the eastern portion of section 6, T 36 N. R 11 W.

4. PHYSICAL DESCRIPTION:
(c) (Continued)

Professional Paper 219 also includes Plate 1, Topographic Map, showing Location of Mines and Prospects and Distribution of Known Placer Deposits, La Plata District, Colorado. The properties of Texarado are situated on and adjacent to Gibbs Peak which is shown on said plate southwest of the intersection of Latitude 37° 25' and Longitude 108° 05'.

Professional Paper 219 also includes Plate 2, Geologic Map and Structure Sections of the La Plata District, Colorado. The properties of Texarado are situated on and adjacent to Gibbs Peak, which may be located on said map southwest of the intersection of Latitude 37° 25' and Longitude 108° 05'.

The main ore deposit on the property is in the form of a vein or dike about 12 ft. wide occurring in an igneous stock. It strikes North 25° East and dips about 55° to the Southeast.

The vein is composed of irregular shoots of dark-colored silicious rock which is radioactive and carries fine-grained crystals of disseminated sulphides. The gangue material in the vein is a light-colored granular rock impregnated with considerable pyrite. It appears to be of igneous origin and occasional inclusions of igneous boulders or rounded masses are encountered in it. There is considerable brecciation, with quartz and sulphides as cementing materials.

Shearing is evident throughout the vein and it may constitute a zone rather than a dike. Both types occur in the La Plata district. Considerable Kaolinization has taken place and one seam or vein of yellowish Kaolin 4 inches wide paralleling the strike of the vein, assayed 0.15% U_3O_8 (wet) and 0.29% V_2O_5.

There are scattered pockets and stringers of galena, chalcopyrite and pyrite in the vein as well as disseminated occurrences. At the outcrops and in the tunnel considerable oxidation of the sulphides has taken place. Fluorite is fairly abundant in the vein and in other minor outcrops. Silver and gold accompany the sulphides.

4. PHYSICAL DESCRIPTION:
(c) (Continued):

It is not yet known in what mineral form the uranium occurs but it is most probably present as a primary mineral and may be pitchblende.

Applicant wishes to explore further the vein because the work so far done indicates that it may develop into an important mineral deposit. The property has been inspected by several geologists and mining engineers who appear favorably impressed.

Attached is a report on the property by Mr. H. F. McFarland, a consulting geologist of Denver, Colorado. Also attached is a preliminary report by Mr. Victor J. Hampton, mining engineer, of Durango, Colorado.

The tunnel which has been driven on the vein followed the footwall and one of the ore shoots. The latter split and the main branch entered the hanging wall side of the tunnel about 25 ft. in from the portal.

The tunnel was sampled January 7, 1955 after operations were suspended. Sample cuts were made every four feet from the face back towards the portal. The results were as follows:

Sample	Width	$\%U_3O_8$	Oz.-Au	Oz.-Ag	%Pb	%Cu	
1.	4 in.	.08	Trace	0.3	0.1	.02	
2.	5 ft.	.02	Trace	0.4	0.3	.16	
3.	4 ft.	.04	Trace	0.6	0.2	.08	
4.	4.5 ft.	.08	.01	3.90	1.5	.46	
5.	5 ft.	.06	.01	1.50	1.4	.38	
6.	5 ft.	.05	.01	2.20	2.1	.90	
7.	18 in.	.07	.01	3.70	1.6	.64	
8.	12 in.	.06	.02	6.20	2.4	.34	
9.	5 ft.	.15	Trace	0.5	0.1	.02	
10.	5 ft.	.14	Trace	0.8	0.3	.06	
11.	5 ft.	.16	Trace	0.7	0.3	.07	
12.	5 ft.	.09	Trace	0.4	0.2	.04	V_2O_5
A-Kaolin	4 in.	.15	- -	- -	- -	- -	0.29
B-Special	10 in.	.21	0.01	2.10	0.5	0.14	
C-Special	- -	.22	Trace	0.6	0.2	0.06	

4. PHYSICAL DESCRIPTION:
(c) (Continued):
NOTE: Samples A, B, and C, were taken opposite Sample No. 9 above, from main ore shoot entering hanging wall side of tunnel. Sample C was cut from wall of ore shoot exposed in the tunnel. Width of shoot is not known.

Samples 1 to 12 were taken across back of tunnel and include both waste rock and mineralized ore shoots.

(d) The property is accessible over a recently constructed three-mile road up Bedrock Gulch from the county road in La Plata Canyon. The latter road joins Colorado State Highway 160 eight miles from Bedrock Gulch or 11 miles from the property. The junction with the highway is 11 miles from Durango, Colorado. The latter is the nearest shipping point and the site of the nearest plant for treating uranium ores. The property is 79 miles from the Shiprock Plant in New Mexico and 113 miles from the plant in Monticello.

Durango, Colorado is 22 miles from the property and is the nearest source of supplies. It is the nearest residential center, although there are numerous summer cottages in La Plata Canyon.

(e) Manpower is plentiful in Durango and the vicinity. Materials, supplies and equipment for mining purposes may be obtained there. There is no water on the property except that from melting snow. In the warmer months water for mining and drinking purposes must be hauled up from La Plata canyon. The nearest power line is seven miles from the property. A Diesel-driven compressor is indicated for exploration work.

5. THE EXPLORATION PROJECT:
(a) Applicant wishes to explore for uranium minerals

(b) Applicant proposes to continue the present tunnel along the vein for a distance of 200 ft.; to make exploratory crosscuts of about 10 ft. each every 50 feet; and to put up exploratory raises of 50 feet each on the vein at intervals of 100 feet.

Applicant further proposes to explore, by means of a bulldozer, for the extension of the vein, about 100 feet vertically down the mountain from the present tunnel level and to drive a second tunnel in on the vein a distance of approximately 360 feet, with about 60 feet of short crosscuts to explore the full width of the vein. Two raises of 100 feet each will be put up on the vein to connect with the upper level for ventilation and to explore the vein vertically.

The bulldozer will be used to rehabilitate and maintain the 3 mile road to the property, and to explore for outcrops covered with overburden.

Attached are sketches of the property showing a plan and vertical projection of the present mine workings and the location of the proposed exploratory work.

5. THE EXPLORATION PROJECT: (Continued)

(c) The work will start within 30 days and be completed within 5 months from the date of the exploration contract.

(d) The Vice-President of the applicant is a construction contractor with a wide experience in excavation work and the handling of equipment similar to that used in mining operations.

The actual exploration work will be done by experienced miners under the supervision of a reputable mining engineer, Mr. Victor J. Hampton, whose experience record is attached.

6. ESTIMATE OF COSTS:

(a) Independent Contracts: A contract will be given to drive 670 feet of tunnels having a cross section of 5 x 7 ft., at a cost of $13.00 (thirteen dollars) per linear foot, and 300 feet of raises with a cross section of 4 x 4 feet at a price of $10.00 per linear foot.

All equipment, tools, and materials necessary for the exploration work will be furnished by the operator.

Estimated Cost:	670' @ $13.00 per ft. =	$ 8,710.00
	300' @ $10.00 per ft. =	3,000.00
Total Contract		$11,710.00

(b) Labor, Supervision, Consultants:

1 Helper will be hired to operate a jeep for transporting supplies. He will assist with work not pertaining directly to the mining contracts.	
Base wage - $1.50/hr. 40 hr. week, for 5 months	$1,300.00
1 Bulldozer operator	
Base wage $2.00/hr. 40 hr. week for 3 months	1,040.00
1 Technical supervisor and manager	
Salary basis $1,000/month for 5 months	5,000.00
1 Part-time bookkeeper	
Monthly basis $150.00/month	750.00
1 Camp Cook	
$250.00/month for 5 months	1,250.00
Total Labor, Supervision, Consultants	$9,340.00

6. ESTIMATE OF COSTS: (Continued)

(c) (i) Operating Materials and Supplies to be Purchased:

1200 ft. Slusher Cable 1/2"	$ 163.20
4 sets Drill Steel 3', 6', 8' @ 24.31/set	97.24
4 doz. Carbide Bits @ $11.50 ea.	552.00
500 ft. Galvanized Pipe 2" @ $54.72/100'	273.00
1400 ft. Used Mine Rail 16# @ $140.00/ton	466.77
50 prs. Fish Plates	35.00
1 keg Track spikes 3/8" x 3 1/2"	16.55
1 keg Track Bolts 1/2 x 1 3/4	21.00
1 Blowpipe for drill holes - 1/2"	4.50
1 Wheelbarrow	38.00
1 Scaling Bar	2.75
2 Round-pointed shovels	6.70
2 Miners Picks	6.70
10 Rolls Lead fuse spitter	6.50
10,000 lbs. Dynamite @ $20.00/100#	2,000.00
3,500 Blasting caps No. 6 @ $2.50/100	87.50
25,000 ft. Fuse @ $1.50/100'	375.00
100 lbs. Carbide @ .18/lb	18.00
Bulldozer, Fuel, Oil, Grease, Gas for 3 months (520 hrs.) @ 0.75/hr.	390.00
Compressor - Fuel, Oil, Grease, Gas for 5 months (872 hrs. @ 0.50/hr.	436.00
Jeep - Gas, Oil, Grease	400.00
Heat and Light - Butane, Kerosene, Gas	250.00
	$5,646.41
2% Sales Tax	112.92
Total Operating Materials and Supplies to be Purchased	$5,759.33

(c)(ii) Operating Materials, Supplies and Equipment Purchased by Operator, and Now on Property:

1 First Aid Kit	$ 12.50
1 - 30 gal. Garbage Can (for drinking water)	8.25
1 - 5 gal. Kerosene Can	2.75
1 - 2 gal. Gasoline Can	1.65
1 - 1 gal. Oiling Can	10.90
2 - 10 gal. Milk Can (for transporting water)	27.00
2 Water Buckets	3.30
1 Copper Funnel	1.95
2 Coleman Gasoline Lamps	23.90
1 Kerosene Lamp and Globe	1.60
2 Carbide Lamps	3.70
1 Kerosene Lantern	3.50
1 Flashlight	2.59
1 Blowtorch	15.75
1 Burner for Oilstove	10.90
2 Heating Stoves (used)	32.50
1 Folding Bed and Mattress (used)	22.50

TEXARADO OIL & URANIUM CO.
1909 Esperson Building
Houston, Texas

6. ESTIMATE OF COSTS:

(c)(ii) Operating Materials, Supplies and Equipment Purchased by Operator, and Now on Property: (Continued)

1 File	.70
1 Rasp	2.05
1 Clawhammer	3.35
1 Handaxe	4.13
1 Mine axe	3.95
1 Tin snips	2.40
1 6 ft. Rule	0.35
1 8# Sledgehammer	4.00
1 Extra handle	1.10
1 Single Jackhammer 4#	2.95
1 Extra handle	0.65
2 Roundpointed shovels	6.70
1 Snow Shovel	3.60
1 Carpenter's Saw	6.95
1 Hose-clamp tool	8.25
4 Powder-loading Sticks	4.80
6 10 inch steel sampling moils	16.50
1 Brace and 4 Bits	12.49
1 Steel Square	1.75
1 Level	5.60
2 Miners Picks	6.70
2 Extra Handles	2.50
1 14" Pipe Wrench	4.00
1 18" Pipe Wrench	5.70
1 Cap Crimper	2.50
1 Scaling Bar	2.75
1 Sheave Block (for use with slusher)	46.85
2 Bit Knockers	15.50
1 Vacuum Hand Pump for Oil and Gas Drums	22.50
2 Tarpaulins	30.95
1 Tarpaulin (for sampling)	4.75
2 Log Chains	9.85
4 Tire Chains for Jeep	12.87
1 Pipe Rack for Jeep	29.80
290 ft. 5/16" Slushing Cable	24.90
1 Eye Bolt and Wedge for Anchoring Slushing Cable	12.40
10 Cable Clamps	3.50
147 ft. 2" Galvanized Pipe	85.61
Cost of cutting five lenghts in half and threading	14.50
1 Blowpipe and valve, for drill holes	4.50
4 Hose Clamps	0.32
4 Knox Air Valves	28.00
1 - 2" Brass Gate Valve	7.95
1 lot Pipe and Hose Fittings	47.53
2 Boxes Nails	1.20
6 pcs. Drill Steel 2 ea. 3, 6, & 8 ft.	48.62
6 New Tungsten Carbide Bits	69.00
13 Used Tungsten Carbide Bits (require sharpening)	149.50
1 Part Can of Carbide 8#	1.65

TEXARADO OIL & URANIUM CO.
1909 Esperson Building
Houston, Texas

6. ESTIMATE OF COSTS:

(c)(ii) Operating Materials, Supplies and Equipment Purchased by Operator, and Now on Property: (Continued)

1 Part can of Gun Grease	2.00
1 Part can of Rockdrill Oil 4 gal.	3.80
1 Part can of Diesel Oil 3 gal.	2.35
1 1/2 Drums Diesel fuel in two drums	12.00
1 1/2 Drums Stove Oil in Two Drums	16.00
1 Part Drum White Gasoline	6.00
1 Part Drum Kerosene	5.00
6 Drums empty, Value for Return	24.00
11 Qts. Gulf Lube 20 Wt.	2.55
2 - 5 Qt. Can Gulf Drill Oil	2.37
1 - 5 lb. Can Pressure-gun Grease	2.30
1 1/2 Boxes 45% Dynamite (opened)	35.55
4 Rolls Fuse	5.30
1 Part Box Caps	1.50
1 Part Can Capsealer	1.30
2 Rolls Lead Fuse Spitter	1.30
Total Operating Materials, Supplies and Equipment to be Furnished by Operator	$1,097.23
Total Operating Materials and Supplies	$6,856.56

(d) Operating Equipment - Rental-Purchase Basis:

	Rental Per Month	Rental 5 Months	Purchase Price
1 - 315 cu. ft. Portable Compressor	$ 475.00	$ 2,375.00	$ 9,119.00
2 - L-47 Jackhammers with air legs	150.00	750.00	1,190.00
2 - 15 gal. Water Tanks	13.00	65.00	125.25
4 - 50 ft x 1" Air Hoses	11.00	55.00	103.32
4 - 50 ft x 1/2" Water Hoses	25.00	125.00	244.12
2 Line Oilers	5.00	25.00	44.50
1 - 12 B Eimco Mucking Machine	250.00	1,250.00	2,957.00
1 - D-6 used Bulldozer (3 months)	1,080.00	3,240.00	10,675.00
2 - 20 cu. ft. Mine Cars	52.00	260.00	520.00
1 7 1/2 H.P. Slusher Hoist	270.00	1,350.00	2,705.00
1 - 30" Pacific Scraper	26.50	132.50	265.00
1 Jeep Pickup (property of operator)	200.00	1,000.00	2,000.00
Totals	$2,557.50	$10,627.50	$29,948.19
Sales Tax - 2%			598.96
Total			$30,547.15

TEXARADO OIL & URANIUM CO.
1909 Esperson Building
Houston, Texas

6. ESTIMATE OF COSTS: (Continued)

(e) Rehabilitation and Repairs:

Cost of rehabilitating trailer (Trailer House (Cost $750.) and 1 small shed (Cost $500.) are on the property)	$100.00

(f) New Buildings, Improvements, Installations:

Cost of constructing 1 small bunkhouse with dining room and kitchen (for crew of 6 men)	$2,000.00
To equip with cookstove, table, benches, utensils and bunks	600.00
	$2,600.00
Installation of pipelines and equipment preparatory to mining	300.00
Transportation of rented and purchased equipment to property	400.00
	$3,300.00

(g) Miscellaneous:

Maintenance of Bulldozer - 3 mos. @ $1.30/hr	$ 676.00
Maintenance of Compressor - 5 mos. (872 hrs.) @$.50/hr	436.00
Maintenance of Jackhammers - 5 mos. @ $.10/hr	87.00
Carbide bit-sharpening - 5 mos. 180 @ $1.00/ea.	180.00
	$1,379.00

Workmens' Compensation
Employees Liability Insurance
Pay roll Taxes

(h) Contingencies $600.00

SUMMARY OF COSTS

		Purchase Basis	Rental Basis
6 (a)	Mining Contract	$11,710.00	$11,710.00
6 (b)	Labor, Supervision, Consultant	9,340.00	9,340.00
6 (c)	Operating, Materials and Supplies	6,856.56	6,856.56
6 (d)	Operating Equipment	30,547.15	10,627.50
6 (e)	Rehabilitation and Repairs	100.00	100.00
6 (f)	New Buildings, Improvements, Installations	3,300.00	3,300.00
6 (g)	Miscellaneous	1,379.00	1,379.00
6 (h)	Contingencies	600.00	600.00
	Total Estimated Costs	$63,832.71	$43,913.06
	75% Thereof	$47,874.53	$32,934.80

VICTOR J. HAMPTON
Mining & Metallurgical Engineer

EXPERIENCE RECORD

Graduate - School of Mines, University of Utah, U.S.A.

Member - American Institute of Mining and Metallurgical Engineers

1953-1954 General Manager, EMPRESA MINERA CATAVI, Bolivia. This is the largest tin mine in the world, employing 6,000 workmen. In November, 1952, the property was nationalized by the Bolivian government. Previously, it was operated by Patino Mines & Enterprises, Inc.

1951-1952 President and General Manager, Mineracao Wahehang S/A, a Brazilian subsidiary mining and milling company of the WAH CHANO CORPORATION, New York, who are the largest importers and processors of tungsten ores in the U.S.A. Duties comprised the formation of the Brazilian company, the developement of a mine and the installation of a concentrating mill. The property is producing around $100,000 per month in tungsten concentrates for the U. S. stockpile.

1941-1950 General Superintendent, Tin Processing Corporation, Texas City, Texas.

1940 Mining and Metallurgical Consultant to the Bolivian Bureau of Mines.

1938-1940 General Manager of San Jose Mines of Compania Minera de Oruro, Bolivia, controlled by Mauricio Hochschild.

1934-1937 Exploration Engineer of Patino Mines & Enterprises, Inc., Bolivia.

1931-1933 Consulting Engineer, Mining and Metallurgy, Salt Lake City, Utah.

1926-1931 Assistant Mine Superintendent, Patino Mines & Enterprises, Inc., Bolivia.

1920-1925 Chief Metallurgist and General Manager, Compania Minera San Vicente, Bolivia.

1915-1919 Shift Boss and Mill Metallurgist of Braden Copper Company, Chile, a subsidiary of the Kennecott Copper Corporation.

REFERENCES

George A. Easley, Consulting Engineer, 120 Broadway, New York, N. Y.

Clyde F. Williams, Director, Battelle Memorial Research Institution, Columbus, Ohio.

John S. Ivy, Consulting Engineer, Niels Esperson Building, Houston, Texas.

Crawford

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

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

Not to be filled in by applicant

Docket No. 3798
Metal or Mineral Uranium
Date Received 5-2-55
Estimated Cost $43,913.06
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: [illegible]

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

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

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract [illegible] (11) mining claims in [illegible] Mining District, [illegible] County, Colorado listed in accompanying [illegible] Item 3 (a)

(*b*) State any mine name by which the property is known. [illegible] Item 3 (b)

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise [illegible] owner of a working interest in mining claims - [illegible]

(*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 [illegible]

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

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.

(*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.

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

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

(*c*) The work will start within ----30---- days and be completed within ----6---- 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 ----------July 14----------, 195--

(Applicant)

By Martin B. Hernandez

Vice-President

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

Supporting Data
Application For Aid In An Exploration Project, Form NF-103
TEXARADO OIL & URANIUM CO.
1909 Esperson Building
Houston, Texas

1. (a) Edgar E. Townes, Jr. - President and a director
477 San Jacinto Building
Houston, Texas

Martin B. Semands - Vice-president and a director
P. O. Box 979
Conroe, Texas

J. F. Clawson - Secretary and a director
805 Sterling Building
Houston, Texas

Milton L. McGee - Treasurer and a director
1910 Esperson Building
Houston, Texas

3. Applicant's property rights: -
(a) The following described unpatented lode mining claims situated, lying and being in the California Mining District, La Plata County, Colorado:

Name of Claims	Date of Filing Notice of Location	Book	Page
Shorty No. 1	July 12, 1954	334	230
Shorty No. 2	July 12, 1954	334	231
Shorty No. 3	July 12, 1954	334	231
Shorty No. 4	August 9, 1954	334	405
Pinky No. 1	July 12, 1954	334	232
Pinky No. 2	July 12, 1954	334	232
Maudon No. 1	July 12, 1954	334	233
Large No. 1	August 9, 1954	334	403
Large No. 2	August 9, 1954	334	404
Hazel No. 1	August 9, 1954	334	401
Hazel No. 2	August 9, 1954	334	402

(b) Mine is not named but known locally as Semands Mining Co. Property.

(c) Owner of 83.34 per cent interest in the working interest in the claims. Subject to $63,500. purchase money lien, and 83.34% of 5% Overriding Royalty.

TEXARADO OIL & URANIUM CO.
1909 Esperson Building
Houston, Texas

3. (d) See above

(e) None - except as above

(f) See above

4. PHYSICAL DESCRIPTION:

(a) The exploration work so far done on the property consists of three shallow trenches cut across the discovery outcrop of the vein by the locator of the claims and a 5 ft. x 7 ft. tunnel driven in on the vein a distance of 60 ft. by the present operator. Various mineralized outcrops were exposed during the construction of the access road to the property. Part of the road was laid out for the purpose of exploring for such outcrops.

The existing production facilities consist of a road, a campsite with a trailer house, a tool shed and limited equipment and tools listed separately in this application.

The applicant owns the controlling interest in the property and has borne all the expenses to date in building the road, establishing a camp and conducting the exploration work.

(b) There has been no production from the property and there are no ore reserves blocked out. There are approximately 800 tons of probable ore above the 60 ft. tunnel, with an average grade of about 0.10% U_3O_8.

(c) The property lies within the area of a large irregular igneous stock which has been intruded into the adjacent sedimentary formations. The intrusive rock has been classified as Augito-Syenite and the sedimentaries are known as the Cutler and Dolores redbeds.

The geologic features of the La Plata district, in which the property is situated, are described in detail in Professional Paper 21[illegible] of the U. S. Geological Survey, published in 1[illegible]. They are also described in Folio No. 60 of the Survey's Geological Atlas, published in 1899 and now out of print.

Both publications describe the area in which the property lies, with accompanying topographical and geological maps in color, showing all the formations and structural details.

Professional Paper 21[illegible] includes Plate 14, Map of Patented Claims, La Plata (California) Mining District, La Plata and Montezuma Counties, Colorado. The properties of Texarado Oil & Uranium Co. are not shown on this map but they are situated in the western portion of section 5 and the eastern portion of section 6, T 36 N. R 11 W.

4. PHYSICAL DESCRIPTION:

(c) (Continued)

Professional Paper 210 also includes Plate 1, Topographic Map, showing Location of Mines and Prospects and Distribution of Known Placer Deposits, La Plata District, Colorado. The properties of Texarado are situated on and adjacent to Gibbs Peak which is shown on said plate southwest of the intersection of Latitude 37° 25' and Longitude 108° 05'.

Professional Paper 210 also includes Plate 2, Geologic Map and Structure Sections of the La Plata District, Colorado. The properties of Texarado are situated on and adjacent to Gibbs Peak, which may be located on said map southwest of the intersection of Latitude 37° 25' and Longitude 108° 05'.

The main ore deposit on the property is in the form of a vein or dike about 12 ft. wide occurring in an igneous stock. It strikes North 25° East and dips about 55° to the Southeast.

The vein is composed of irregular shoots of dark-colored siliceous rock which is radioactive and carries fine-grained crystals of disseminated sulphides. The gangue material in the vein is a light-colored granular rock impregnated with considerable pyrite. It appears to be of igneous origin and occasional inclusions of igneous boulders or rounded masses are encountered in it. There is considerable brecciation, with quartz and sulphides as cementing materials.

Shearing is evident throughout the vein and it may constitute a zone rather than a dike. Both types occur in the La Plata District. Considerable Kaolinization has taken place and one seam or vein of yellowish Kaolin 4 inches wide paralleling the strike of the vein, assayed 0.15% U_3O_8 (wet) and 0.20% V_2O_5.

There are scattered pockets and stringers of galena, chalcopyrite and pyrite in the vein as well as disseminated occurrences. At the outcrops and in the tunnel considerable oxidation of the sulphides has taken place. Fluorite is fairly abundant in the vein and in other minor outcrops. Silver and gold accompany the sulphides.

TEXARADO OIL & URANIUM CO.
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Houston, Texas

4. PHYSICAL DESCRIPTION:
(c) (Continued):

It is not yet known in what mineral form the uranium occurs but it is most probably present as a primary mineral and may be pitchblende.

Applicant wishes to explore further the vein because the work so far done indicates that it may develop into an important mineral deposit. The property has been inspected by several geologists and mining engineers who appear favorably impressed.

Attached is a report on the property by Mr. H. F. McFarland, a consulting geologist of Denver, Colorado. Also attached is a preliminary report by Mr. Victor J. Hampton, mining engineer, of Durango, Colorado.

The tunnel which has been driven on the vein followed the footwall and one of the ore shoots. The latter split and the main branch entered the hanging wall side of the tunnel about 25 ft. in from the portal.

The tunnel was sampled January 7, 1955 after operations were suspended. Sample cuts were made every four feet from the face back towards the portal. The results were as follows:

Sample	Width	$\%U_3O_8$	Oz.-Au	Oz.-Ag	%Pb	%Cu	
1.	4 in.	.08	Trace	0.3	0.1	.02	
2.	5 ft.	.02	Trace	0.4	0.3	.16	
3.	4 ft.	.04	Trace	0.6	0.2	.08	
4.	4.5 ft.	.03	.01	3.00	1.5	.46	
5.	5 ft.	.06	.01	1.50	1.4	.38	
6.	5 ft.	.05	.01	2.20	2.1	.30	
7.	18 in.	.07	.01	3.70	1.6	.64	
8.	12 in.	.06	.02	6.20	2.4	.34	
9.	5 ft.	.15	Trace	0.5	0.1	.02	
10.	5 ft.	.14	Trace	0.8	0.3	.06	
11.	5 ft.	.16	Trace	0.7	0.3	.07	
12.	5 ft.	.09	Trace	0.4	0.2	.04	V_2O_5 0.29
A-Kaolin	4 in.	.15	- -	- -	- -	- -	
B-Special	10 in.	.21	0.01	2.10	0.5	0.14	
C-Special	- -	.22	Trace	0.6	0.2	0.06	

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4. PHYSICAL DESCRIPTION:
(c) (Continued):

NOTE: Samples A, B, and C, were taken opposite Sample No. 9 above, from main ore shoot entering hanging wall side of tunnel. Sample C was cut from wall of ore shoot exposed in the tunnel. Width of shoot is not known.

Samples 1 to 12 were taken across back of tunnel and include both waste rock and mineralized ore shoots.

(d) The property is accessible over a recently constructed three-mile road up Bedrock Gulch from the county road in La Plata Canyon. The latter road joins Colorado State Highway 160 eight miles from Bedrock Gulch or 11 miles from the property. The junction with the highway is 11 miles from Durango, Colorado. The latter is the nearest shipping point and the site of the nearest plant for treating uranium ores. The property is 73 miles from the Shiprock Plant in New Mexico and 119 miles from the plant in Monticello.

Durango, Colorado is 22 miles from the property and is the nearest source of supplies. It is the nearest residential center, although there are numerous summer cottages in La Plata Canyon.

(e) Manpower is plentiful in Durango and the vicinity. Materials, supplies and equipment for mining purposes may be obtained there. There is no water on the property except that from melting snow. In the warmer months water for mining and drilling purposes must be hauled up from La Plata canyon. The nearest power line is seven miles from the property. A diesel-driven compressor is indicated for exploration work.

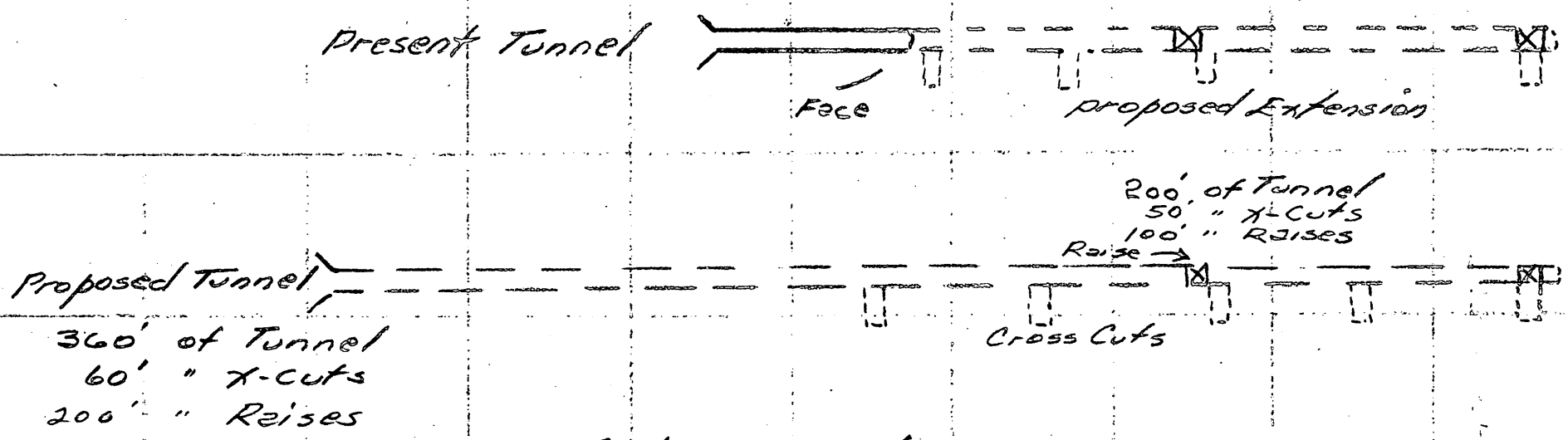
5. THE EXPLORATION PROGRAM:
(a) Applicant wishes to explore for uranium minerals

(b) Applicant proposes to continue the present tunnel along the vein for a distance of 250 ft., to make exploratory crosscuts of about 12 ft. each every 50 feet; and to put up exploratory raises of 50 feet each on the vein at intervals of 100 feet.

Applicant further proposes to explore, by means of a bulldozer, for the extension of the vein, about 100 feet vertically from the mountain from the present tunnel level and to drive a second tunnel in on the vein a distance of approximately 250 feet, with about 60 feet of short crosscuts to explore the full width of the vein. Two raises of 100 feet each will be put up on the vein to connect with the upper level for ventilation and to explore the vein vertically.

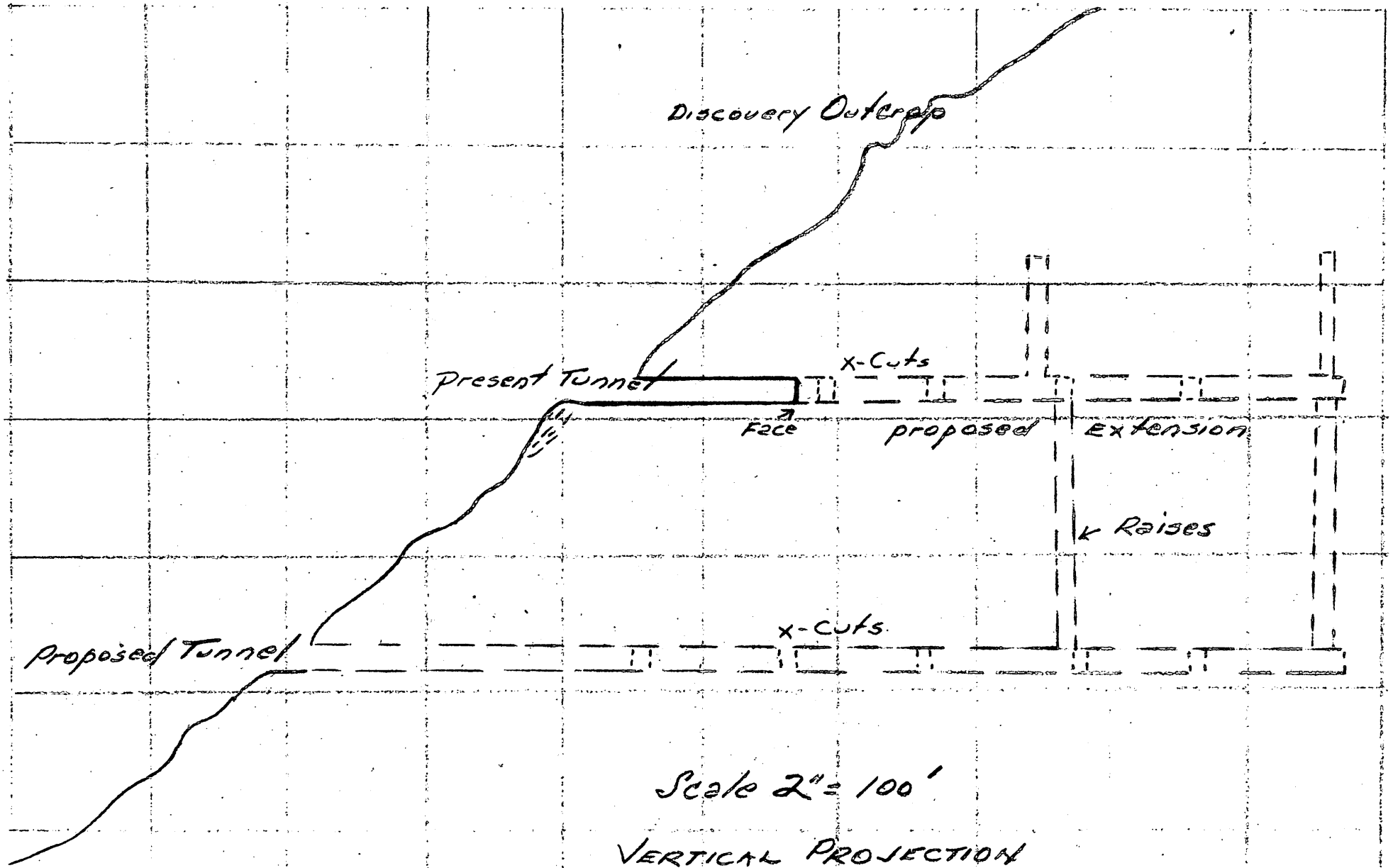
The bulldozer will be used to rehabilitate and maintain the 3 mile road to the property, and to explore for outcrops covered with overburden.

Attached are sketches of the property showing a plan and vertical projection of the present mine workings and the location of the proposed exploratory work.



Scale 2" = 100'

PLAN OF WORKINGS
Exploration Project
TEXARADO OIL & URANIUM CO



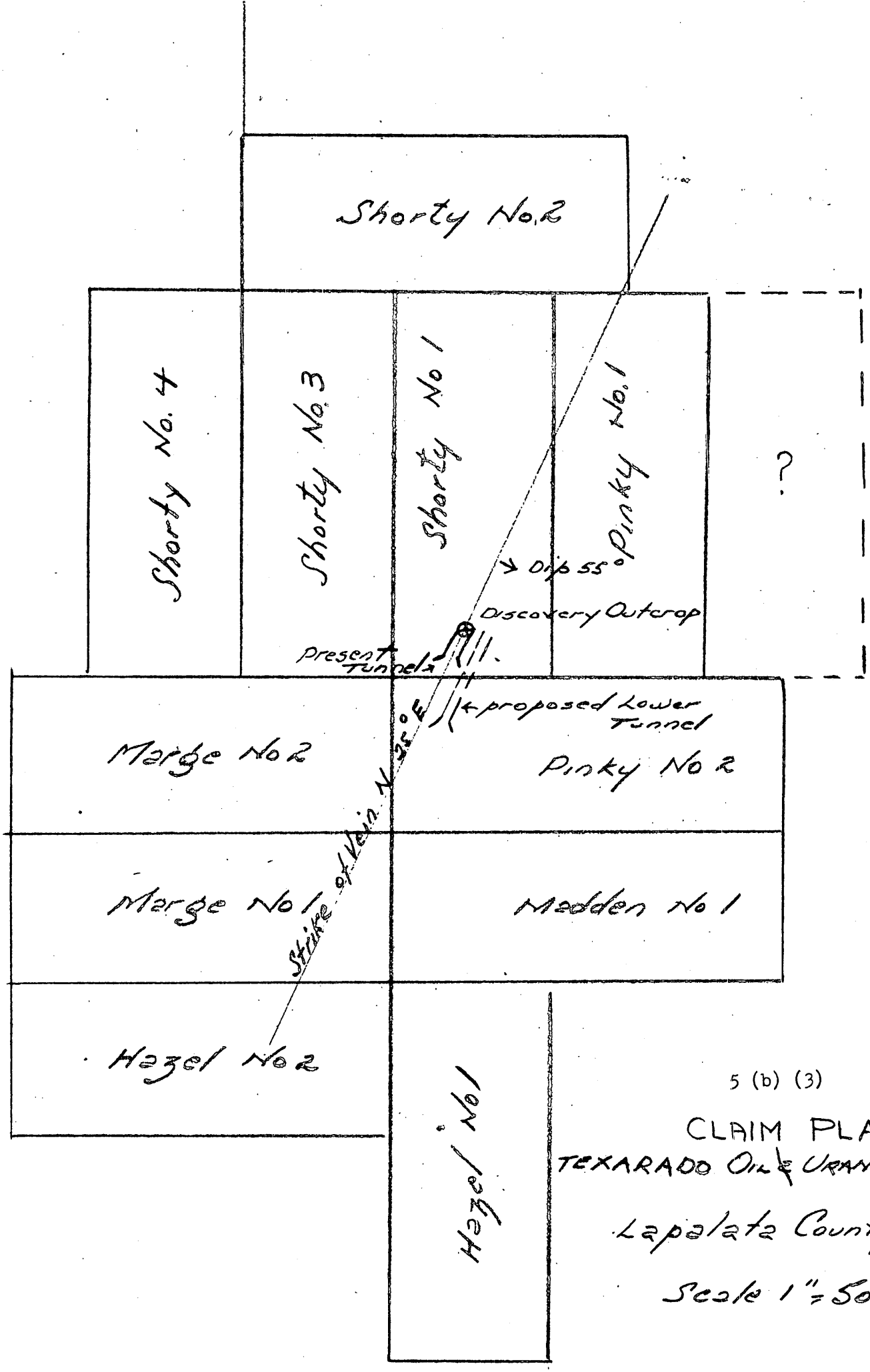
Scale 2" = 100'

VERTICAL PROJECTION

Exploration Project

TEXARADO OIL & URANIUM CO.

5 (b) (2)



5 (b) (3)

CLAIM PLAT

TEXARADO OIL & URANIUM CO

Lapalata County, Colo

Scale 1" = 500'

5. THE EXPLORATION PROJECT: (Continued)

(c) The work will start within 30 days and be completed within 5 months from the date of the exploration contract.

(d) The Vice-President of the applicant is a construction contractor with a wide experience in excavation work and the handling of equipment similar to that used in mining operations.

The actual exploration work will be done by experienced miners under the supervision of a reputable mining engineer, Mr. Victor J. Hampton, whose experience record is attached.

6. [illegible]

(a) Independent Contracts: A contract will be given to drive 670 feet of tunnels having a cross section of 5 x 7 ft., at a cost of $13.00 (thirteen dollars) per linear foot, and 300 feet of raises with a cross section of 4 x 4 feet at a price of $10.00 per linear foot.

All equipment, tools, and materials necessary for the exploration work will be furnished by the operator.

Estimated Cost: 670' @ $13.00 per ft. =	$ 8,710.00
300' @ $10.00 per ft. =	3,000.00
Total Contract	$11,710.00

(b) Labor, Supervision, Overhead:

1 Driller will be hired to operate a jeep for transporting supplies. He will assist with [illegible] pertaining directly to the mining contracts.

Base wage - $1.50/hr. 40 hr. week, for 5 months	1,300.00
1 Bulldozer operator	
Base wage $2.00/hr. 40 hr. week for 5 months	1,040.00
1 Technical supervisor and manager	
Salary basis $1,000/month for 5 months	5,000.00
1 Part-time bookkeeper	
Monthly basis $150.00/month	750.00
1 Camp cook	
$250.00/month for 5 months	1,250.00
Total Labor, Supervision, Overhead	$[illegible],340.00

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6. ESTIMATE OF COSTS: (Continued)

(c) (i) Operating Materials and Supplies to be Purchased:

1200 ft. Slusher Cable 1/2"	$ 163.20
4 sets Drill Steel 3', 6', 8' @ 24.31/set	97.24
4 Coz. Carbide Bits @ $11.50 ea.	552.00
500 ft. Galvanized Pipe 2" @ $54.72/100'	273.00
1400 ft. Used Mine Rail 16# @ $60.00/ton	466.77
50 prs. Fish Plates	35.00
1 keg Track spikes 3/8" x 3 1/2"	16.55
1 keg Track Bolts 1/2 x 1 3/4	21.00
1 Blowpipe for drill holes - 1/2"	4.50
1 Wheelbarrow	38.00
1 Scaling bar	2.75
2 Round-pointed shovels	6.70
2 Miners Picks	6.70
10 Rolls Lead Fuse spitter	6.50
10,000 Det. Nyan 2's @ $20.00/100#	2,000.00
3,500 Blasting caps No. 6 @ $2.50/100	87.50
25,000 ft. Fuse @ $1.50/100'	375.00
100 lbs. Carbide @ .15/lb	15.00
Bulldozer, Fuel, Oil, Grease, Gas for 3 months (520 hrs.) @ 0.75/hr.	390.00
Compressor - Fuel, Oil, Grease, Gas for 3 months (872 hrs. @ 0.50/hr.	436.00
Jeep - Gas, Oil, Grease	400.00
Heat and Light - Butane, Kerosene, Gas	250.00
	$5,646.41
2% Sales Tax	112.92
Total Operating Materials and Supplies to be Purchased	$5,759.33

(c)(ii) Operating Materials, Supplies and Equipment Purchased by Operator, and Now on Property:

1 First Aid Kit	$ 12.50
1 - 20 gal. Garbage Can (for drinking water)	8.25
1 - 5 gal. Kerosene Can	2.75
1 - 2 gal. Gasoline Can	1.65
1 - 1 gal. Oiling Can	10.90
2 - 10 gal. Milk Can (for transporting water)	27.00
2 Water Buckets	3.30
1 Copper Funnel	1.95
2 Coleman Gasoline Lamps	23.90
1 Kerosene Lamp and Globe	1.60
2 Carbide Lamps	3.70
1 Kerosene Lantern	3.50
1 Flashlight	2.50
1 Blowtorch	15.75
1 Burner for Oilstove	10.10
2 Heating Stoves (used)	32.50
1 Folding Bed and Mattress (used)	22.50

TEXARADO OIL & URANIUM CO.
1500 Esperson Building
Houston, Texas

6. ESTIMATE OF COSTS:

(c)(ii) Operating Materials, Supplies and Equipment Purchased by Operator, and Now on Property: (Continued)

1 File	.70
1 Rasp	2.05
1 Clawhammer	3.35
1 Handaxe	4.13
1 Mine axe	3.95
1 Tin snips	2.40
1 6 ft. Rule	0.35
1 8# Sledgehammer	4.00
1 Extra handle	1.10
1 Single Jackhammer 4#	2.95
1 Extra handle	0.65
2 Roundpointed shovels	6.70
1 Snow Shovel	2.60
1 Carpenter's Saw	6.95
1 Hose-clamp tool	8.25
4 Powder-loading Sticks	4.80
6 10 inch steel sampling moils	16.50
1 Brace and 4 Bits	12.49
1 Steel Square	1.75
1 Level	5.60
2 Miners Picks	6.70
2 Extra Handles	2.50
1 14" Pipe Wrench	4.00
1 18" Pipe Wrench	5.70
1 Cap Crimper	2.50
1 Scaling Bar	2.75
1 Sheave Block (for use with slusher)	46.85
2 Bit Knockers	15.50
1 Vacuum Hand Pump for Oil and Gas Drums	22.50
2 Tarpaulins	30.95
1 Tarpaulin (for sampling)	4.75
2 Log Chains	5.35
4 Tire Chains for Jeep	12.87
1 Pipe Rack for Jeep	29.00
250 ft. 5/16" Slushing Cable	24.00
1 Eye Bolt and Wedge for Anchoring Slushing Cable	12.40
10 Cable Clamps	3.50
147 ft. 2" Galvanized Pipe	85.61
Cost of cutting five lengths in half and threading	14.50
1 Blowpipe and valve, for drill holes	4.50
4 Hose Clamps	0.32
4 Knox Air Valves	28.00
1 - 2" Brass Gate Valve	7.95
1 lot Pipe and Hose Fittings	47.52
2 boxes Nails	1.20
6 pcs. Drill Steel 2 ea. 3, 6, & 8 ft.	42.62
6 New Tungsten Carbide Bits	69.00
13 Used Tungsten Carbide Bits (require sharpening)	149.50
1 Part Can of Carbide 8#	1.65

TEXHEADO OIL & URANIUM CO.
1909 Esperson Building
Houston, Texas

6. ESTIMATE OF COSTS:

(c)(ii) Operating Materials, Supplies and Equipment Purchased by Operator, and Now on Property: (Continued)

1 Part can of Gun Grease	2.00
1 Part can of Rockdrill Oil 4 gal.	3.80
1 Part can of Diesel Oil 3 gal.	2.35
1 1/2 Drums Diesel fuel in two drums	12.00
1 1/2 Drums Stove Oil in Two Drums	16.00
1 Part Drum White Gasoline	6.00
1 Part Drum Kerosene	5.00
6 Drums empty, Value for Return	24.00
11 Qts. Gulf Lube 20 Wt.	2.55
2 - 5 Qt. Can Gulf Drill Oil	2.37
1 - 5 lb. Can Pressure-gun Grease	2.30
1 1/2 Boxes 45% Dynamite (opened)	35.55
4 Rolls Fuse	5.30
1 Part Box Caps	1.50
1 Part Can Capsealer	1.30
2 Rolls Lead Fuse Spitter	1.30
Total Operating Materials, Supplies and Equipment to be Furnished by Operator	$1,097.23
Total Operating Materials and Supplies	$6,656.56

(d) Operating Equipment - Rental-Purchase Basis:

	Rental For Month	Rental 5 Months	Purchase Price
1 - 315 cu. ft. Portable Compressor	$ 475.00	$ 2,375.00	$ 9,119.00
2 - L-47 Jackhammers with air legs	150.00	750.00	1,190.00
2 - 15 gal. Water Tanks	13.00	65.00	125.25
4 - 50 ft x 1" Air Hoses	11.00	55.00	103.32
4 - 50 ft x 1/2" Water Hoses	25.00	125.00	244.12
2 Line Oilers	5.00	25.00	44.50
1 - 12 B Eimco Mucking Machine	250.00	1,250.00	2,957.00
1 - D-6 used Bulldozer (3 months)	1,080.00	3,240.00	10,675.00
2 - 20 cu. ft. Mine Cars	52.00	260.00	520.00
1 7 1/2 H.P. Slusher Hoist	270.00	1,350.00	2,705.00
1 - 30" Pacific Scraper	26.50	132.50	265.00
1 Jeep Pickup (property of operator)	200.00	1,000.00	2,000.00
Totals	$2,557.50	$10,627.50	$29,948.19
Sales Tax - 2%			598.96
Total			$30,547.15

6. ESTIMATE OF COSTS: (Continued)

(e) Rehabilitation and Repairs:

Cost of rehabilitating trailer (Trailer House (Cost $750.) and 1 small shed (Cost $500.) are on the property)	$100.00

(f) New Buildings, Improvements, Installations:

Cost of constructing 1 small bunkhouse with dining room and kitchen (for crew of 6 men)	$2,000.00
To equip with cookstove, table, benches, utensils and bunks	600.00
	$2,600.00
Installation of pipelines and equipment preparatory to mining	300.00
Transportation of rented and purchased equipment to property	400.00
	$3,300.00

(g) Miscellaneous:

Maintenance of Bulldozer - 3 mos. @ $1.30/hr	$ 676.00
Maintenance of Compressor - 5 mos. (872 hrs.) @ .50/hr	436.00
Maintenance of Jackhammers - 5 mos. @ $.10/hr	87.00
Carbide bit-sharpening - 5 mos. 120 @ $1.00/ea.	120.00
	$1,379.00

Workmens' Compensation
Employees Liability Insurance
Pay roll Taxes

(h) Contingencies	$600.00

SUMMARY OF COSTS

		Purchase Basis	Rental Basis
6 (a)	Mining Contract	11,710.00	$11,710.00
6 (b)	Labor, Supervision, Consultant	7,540.00	7,540.00
6 (c)	Operating, Materials and Supplies	6,856.56	6,856.56
6 (d)	Operating Equipment	30,547.15	10,627.50
6 (e)	Rehabilitation and Repairs	100.00	100.00
6 (f)	New Buildings, Improvements, Installations	3,300.00	3,300.00
6 (g)	Miscellaneous	1,379.00	1,379.00
6 (h)	Contingencies	600.00	600.00
	Total Estimated Costs	$62,832.71	$42,913.06
	75% Thereof	$47,874.53	$32,174.80

VICTOR J. HAMPTON
Mining & Metallurgical Engineer

EXPERIENCE RECORD

Graduate - School of Mines, University of Utah, U.S.A.

Member - American Institute of Mining and Metallurgical Engineers

1953-1954 General Manager, EMPRESA MINERA CATAVI, Bolivia. This is the largest tin mine in the world, employing 6,000 workmen. In November, 1952, the property was nationalized by the Bolivian government. Previously, it was operated by Patino Mines & Enterprises, Inc.

1951-1952 President and General Manager, Mineracao Wahehang S/A, a Brazilian subsidiary mining and milling company of the WAH CHANG CORPORATION, New York, who are the largest importers and processors of tungsten ores in the U.S.A. Duties comprised the formation of the Brazilian company, the developement of a mine and the installation of a concentrating mill. The property is producing around $100,000 per month in tungsten concentrates for the U. S. stockpile.

1941-1950 General Superintendent, Tin Processing Corporation, Texas City, Texas.

1940 Mining and Metallurgical Consultant to the Bolivian Bureau of Mines.

1938-1940 General Manager of San Jose Mines of Compania Minera de Oruro, Bolivia, controlled by Mauricio Hochschild.

1934-1937 Exploration Engineer of Patino Mines & Enterprises, Inc., Bolivia.

1931-1933 Consulting Engineer, Mining and Metallurgy, Salt Lake City, Utah.

1926-1931 Assistant Mine Superintendent, Patino Mines & Enterprises, Inc., Bolivia.

1920-1925 Chief Metallurgist and General Manager, Compania Minera San Vicente, Bolivia.

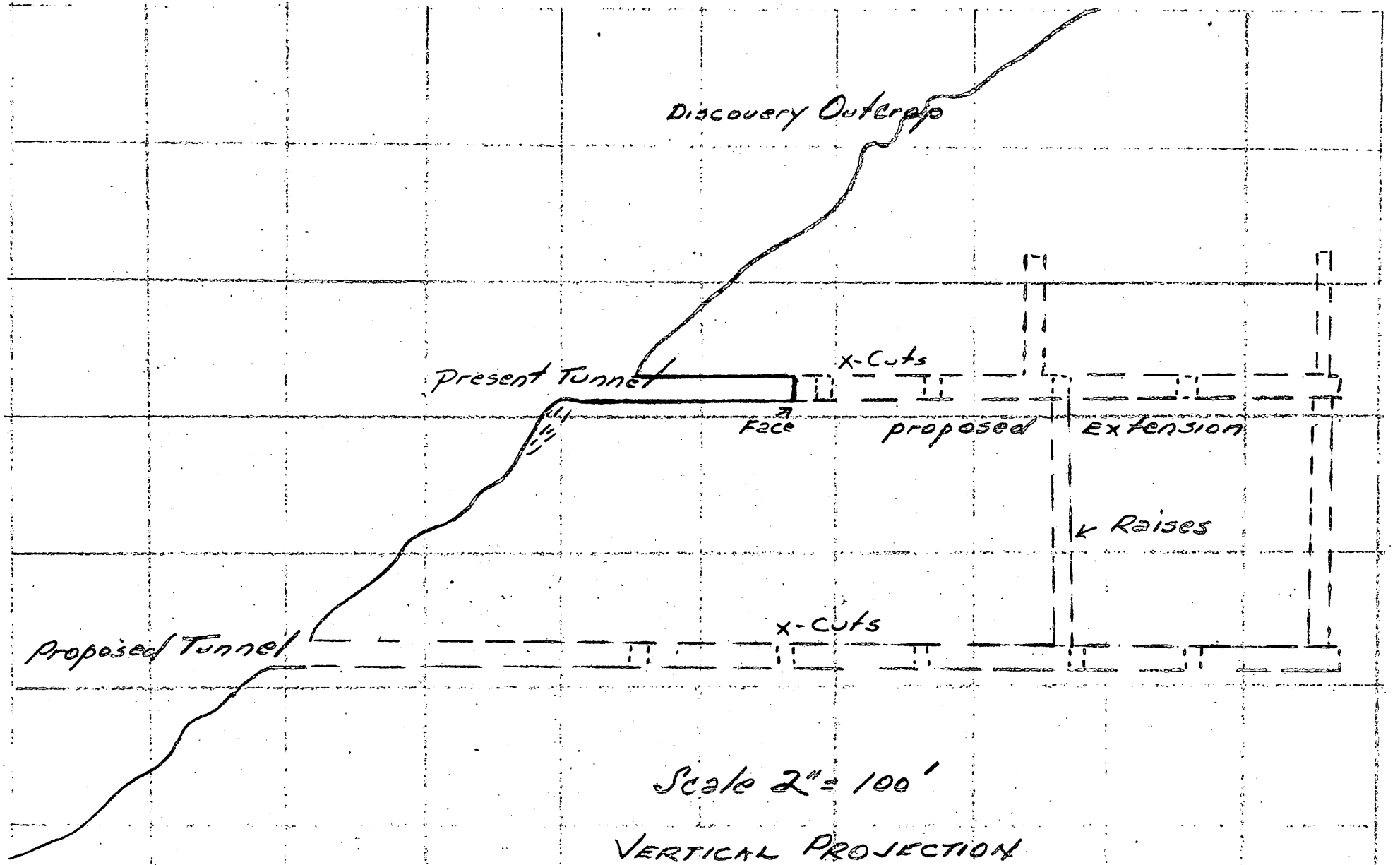
1915-1919 Shift Boss and Mill Metallurgist of Braden Copper Company, Chile, a subsidiary of the Kennecott Copper Corporation.

REFERENCES

George A. Bacley, Consulting Engineer, 120 Broadway, New York, N. Y.

Clyde F. Williams, Director, Battelle Memorial Research Institution, Columbus, Ohio.

John S. Ivy, Consulting Engineer, Niels Esperson Building, Houston, Texas.



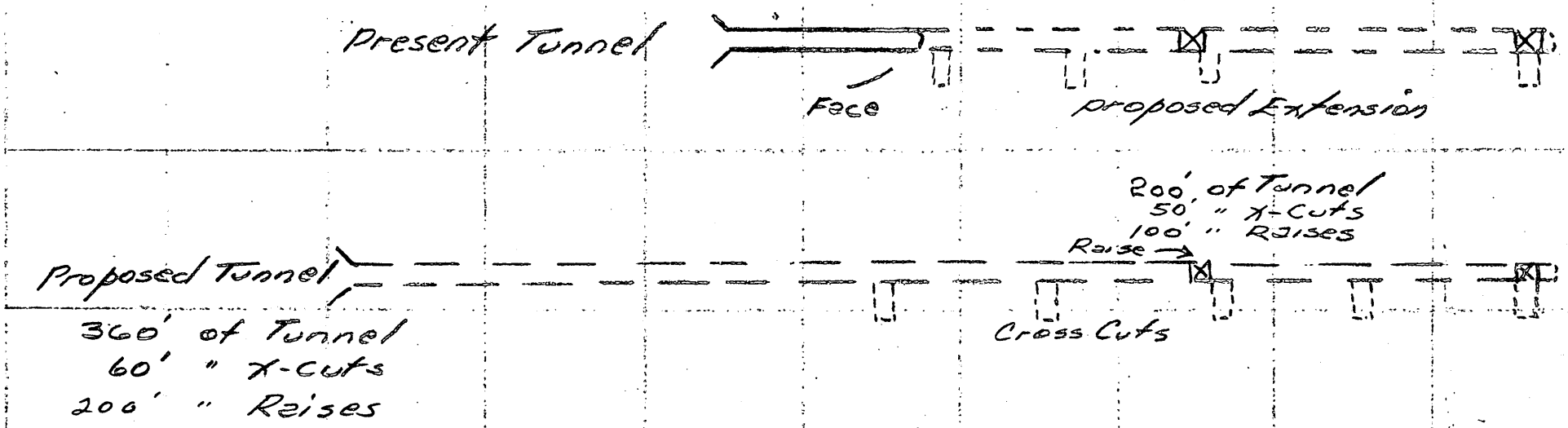
Scale 2" = 100'

VERTICAL PROJECTION

Exploration Project

TEXARADO OIL & URANIUM CO.

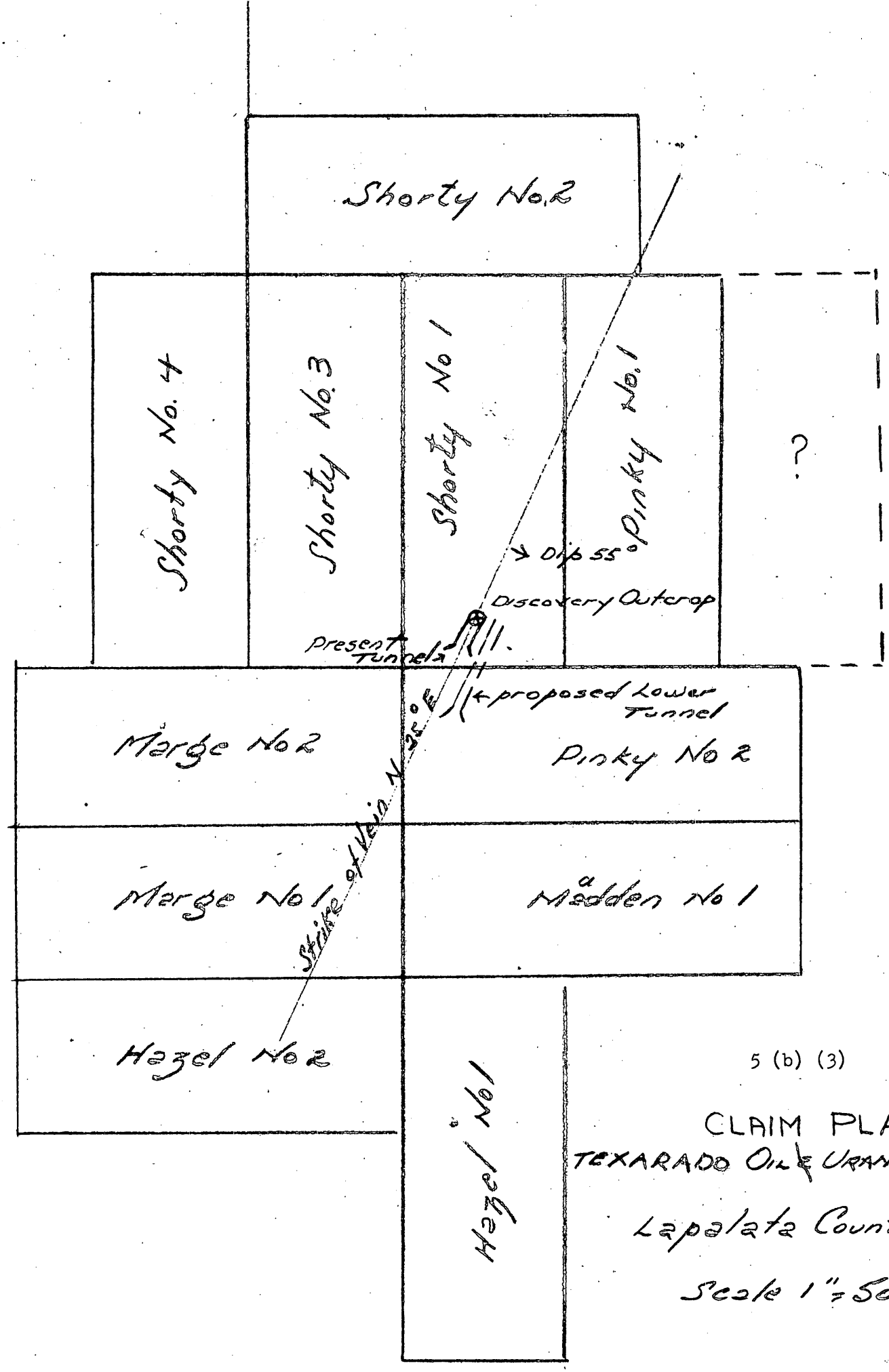
5 (b)(2)



Scale 2" = 100'

PLAN OF WORKINGS
Exploration Project
TEXARADO OIL & URANIUM Co

5 (b) (1)



5 (b) (3)

CLAIM PLAT
TEXARADO OIL & URANIUM CO
Lapalata County, Colo.
Scale 1" = 500'

Ellra

November 9, 1954.

Ginther, Warren & Ginther,
Esperson Building,
Houston, 2, Texas.

Gentlemen:-

On November 1, 1954, in the company of H. C. Warren, Ralph Warren, and others I made an examination of a property held by Mr. G. H. Sanders. The purpose of this memorandum is to record the observations made at that time, to place on record the results of the five assays of samples from the property, and to offer several recommendations.

LOCATION OF PROPERTY.

The property is located some twenty-three miles north and west of DURANGO, COLORADO. It consists of eleven mineral claims held by right of mineral location and continued occupancy as proscribed by Federal Statute. That part of the staking seen was done in a workmanlike manner. A crew of surveyors was engaged in making an accurate re-location survey of the claims at the time of our visit.

The property is reached by road, first by an oiled road, then by a county secondary which goes to within some four miles of the property. From this point a road has been dozed out to the claims. This last four miles is steep and narrow, but is sufficiently good to permit haulage of ore and machinery. On the property are three cuts across a fractured and mineralized zone. Mineralization of sufficient extent and value is showing in these cuts that it may be classified as ore. The cuts are almost at timberline, which, in this area occurs at about 11,000 feet elevation.

GENERAL GEOLOGY.

The country rock is igneous. In the immediate area of the cuts it is a quartz porphery. There has been secondary silification, and where exposed to weathering the feldspar has been altered to Kaolin.

In the cuts mentioned above the mineralization appears to be present in two distinct forms:- (1) As dark heavy sulphides which appear to be magmatic segregations within the quartz porphery, and (2) Fracture zones with no sulphides, in which the mineralization is oxides and other complex minerals of uranium. Sample 1, called "Highgrade Lead" is typical of the heavy sulphides; Sample 2, described as "Lower Cut" may be taken as representative of the fracture zone type of enrichment.

DESCRIPTION OF EXAMINATION.

Examination was limited to the three cuts mentioned, to three old, (about 1906) copper prospects on the claims some five hundred feet south of the cuts, and to general observations of the area. Two samples were taken, one in the center cut, the other in the lower. These were assayed; the results thereof appear later.

In the three old copper prospects only hand samples were taken. These showed oxide minerals of copper such as Azurite and Malachite. No sulphides were noted, the assumption is that in this area oxidation has been complete.

SAMPLE ASSAYS.

The sample marked "Highgrade Lead Sample" on the enclosed assay certificate was from an irregular black sulphide mass exposed in the middle cut. Its horizontal dimensions were on the order of one foot by one foot, although indications were that it extended downward. The values were as follows:-

Gold	Silver	Lead	Uranium
0.06 ozs.	9.64 ozs.	39.76%	0.22%

Calculating these values at market price with all bonuses the component and total values would be:-

$2.10	$8.68	$115.30	$33.30	$159.38

In the case of the sample marked "Lower Cut" there was no indication of any values other than uranium, therefor only the uranium values were assayed. The U_3O_8 content determined by radiometric assay was 0.24% which has, with all bonuses except haulage, a value of $36.60 per ton.

In addition to the two samples cut on the property, the value of which is noted above, a third sample was studied. This sample was furnished by Mr. Warren, and had been given him by one of the parties interested in the property. This sample was divided into three parts and each of these parts was assayed for those metals from which it appeared to have the most value. They were marked "Lead Sample", "Uranium and "Lead Sample" and "Fluorite Sample". The values were as follows:-

Lead Sample

Gold	Silver	Copper	Lead	U_3O_8
0.01 oz.	4.95 oz.	1.16%	5.38%	0.17%

and the gross values were:-

$0.35	$4.46	$6.94	$15.60	$21.42	$48.77

Uranium and Lead Sample

Gold	Silver	Copper	Lead	U_3O_8	
Trace	3.70 oz.		1.35%	0.20%	
and its gross values were:-					
$0.00	$3.30		$3.92	$30.00	$37.22

The Fluorite sample was run primarily for its Fluorite content; the gold, silver and uranium were checked, not with the expectation of any appreciable value, but to see if this type of sample would carry any value. Analysis showed the following:-

Gold	Silver	Fluorite	U_3O_8
Trace	0.26 oz.	32.41%	0.09%

STUDY OF INFORMATION

A study of the assay returns leads to several basic conclusions. First it will be noted that all the samples, spread over a considerable area, carry substantial values in Uranium. All except one are actually ore, and even this one (Fluorite) is very close. The values are consistent; no ~~ne~~ are high and none are barren. Also to be noted is the fact that "Higrade Lead", which showed no apparent uranium mineralization, even under the microscope, carried $33.30 uranium. This indicates a general dissemination of the uranium throughout the entire mineralized zone rather than in concentrations either in the sulphides or the fracture zones.

Secondly, in two of the samples, "Higrade Lead" and "Lead Sample", the value of the gold, silver, copper and lead was larger than that of the uranium. This in no way detracts from its value as a uranium prospect but enhances it. In other words it has sufficient value to make it worthy of consideration proposition and in addition has as much or more value in other metals.

The fact that the values are of two different types presents a metallurgical problem. If full values were to be realized a separation will be necessary. While it is a major problem it is not insurmountable, and should not deter anyone from serious consideration of the property.

CONCLUSIONS AND RECOMMENDATIONS.

In my opinion there is sufficient showing on this property to justify prospecting and exploration.

It is impossible at this time to set any value on it. This cannot be determined until the nature, continuity and extent of the ore is more fully established.

Prospecting would best be accomplished by means of first, cuts across the vein at intervals both above and below the present cuts, and then second by drifts driven into the mountain on those cuts which show the most promise. Five to twenty thousand dollars spent in this manner should give two or three drifts along the mineralized zones, and several crosscuts to determine the longitudinal extent and nature of the deposits. It would also furnish the large metallurgical samples required to study the metallurgical problems involved. Due to the irregularity of the deposits I should not recommend any diamond drilling until the general nature of the enrichment is more fully understood.

Considering the altitude and the general area I would suggest that operations be discontinued from, say, December 15 until April 15. The winters are severe and the roads would require constant work if they are to be kept open. This would make an expense which is not consistent with the time gained.

Respectfully submitted,

(Signed) H. F. McFarland (SEAL)

COPY

2114 Curtis Street

Telephone MAin 1852

CHARLES O. PARKER & CO.

CHEMISTS - ASSAYERS - ENGINEERS

Denver 2, Colorado

Folio 6314

Date Nov. 5, 1954.

H. F. McFarland,
1861 So. Corona St.,
Denver, Colo.

WE HEREBY CERTIFY, that the samples assayed for you gave the following results:

Description	Gold Ounces Per Ton	Silver Ounces Per Ton	Copper Per Cent (Wet)	Lead Per Cent (Wet)	Zinc Per Cent	Iron Per Cent	Value Per Ton
						Uranium oxide (U3O8)	
Lead Sample:	0.01	4.95	1.16	5.38		0.173%	
Uranium and lead:	trace	3.70		1.35		0.20 %	
Highgrade Lead sample:	0.06	9.64		39.76		0.22% eU	
Lower cut:						0.24% eU	
Fluorite Sample:	trace	0.26			CaF2: 32.41%	0.091%	

Gold at _____ per ounce
Silver at _____ per ounce
Lead at _____ per unit

Copper at _____ per unit
Zinc at _____ per unit

CHARGE $ 34.00

CHARLES O. PARKER & CO.
Chemists, Assayers
and Engineers

1923 Eastlawn Ave.,
Crestview, Durango, Colorado.
January 12, 1955.

Mr. Martin B. Semands,
Box 979,
Conroe, Texas.

Dear Mr. Semands:

Herewith is a preliminary report on your uranium mining property in the La Plata Mountains of Colorado.

Location of Property - The La Plata Mountains are within the San Juan Forest Reserve in the Southwestern corner of Colorado. The property is situated on the west slope of the La Plata Canyon at an elevation of about 11,000 feet. It is accessible by dirt road from State Highway 160 running east and west between Durango and Cortez, Colo. It is 11 miles from the town of Hesperus on the highway to Durango. The last three miles of the road to the mine were recently constructed up the mountain from the county road in the La Plata Canyon.

The mine is situated in a forested area just below the timber line.

Mining Claims - The property comprises 13 mining claims each 600 x 1500 ft. covering a total area of about 266 acres. Two adjacent patented claims are to be purchased from the county and four other nearby patented claims may also be acquired.

History - In July 1954 a local prospector discovered the mineralized outcrop containing uranium by means of a Geiger Counter. He posted a location notice, staked various claims and recorded them in the county clerk's office in Durango The claims were subsequently surveyed.

Three parallel trenches were cut across the outcrop of the vein at the discovery point and samples taken to determine the mineral contents. One of the trenches was cut across 16 ft. and samples taken of each foot of vein material. These samples assayed from less than 0.10% to a maximum of 0.5% uranium (U_3O_8).

The property was examined last November by a Denver geologist and various samples taken at the outcrop. It is understood that his report was very favorable.

The latter part of November a campsite was established just below the outcrop. Equipment, tools, and supplies were obtained for mining operations.

Exploration work began the early part of December. A tunnel 60 ft. in length was driven in on the vein below the discovery point. All operations were suspended January 5, 1955 on account of the heavy snowfall and the lack of suitable bulldozer for keeping the road open.

January 7, 1955 the tunnel was sampled systematically at four foot intervals. The results of the sampling are submitted in a separate report.

Uranium was discovered on another property last summer, about a mile in an airline Northeast. Mining operations were begun by a Denver Company but suspended after the first snowstorm.

Last Fall an aerial survey was made of the La Plata region by a large mining company in Grand Junction, Colorado. Two of the men who made the survey visited your property the early part of December and advised the miners that in flying over the property they had encountered pronounced radioactivity (anomaly) by means of a scintillator, so they came to investigate the terrain.

They further stated that they had encountered a radioactive belt continuing Northeast for several miles. The aforementioned property belonging to the Denver company presumably is also within that belt and no doubt other uranium deposits will be discovered in the area sooner or later.

Numerous mineral deposits of gold and silver have been worked in the La Plata Mountains since prospecting first began in 1876 and there are at least two mines operating at present. The recent discovery of uranium will attract a host of prospectors next Spring.

<u>Geology</u> - The La Plata Mountains constitute the remnants of an immense dome or uplift caused by the massive intrusion of igneous material up into the original beds of sandstone and slate.

Subsequent erosion of the uplifted sedimentary formations and of the intruded rocks, accounts for the present topography of the region.

At some period after the massive intrusion took place, further intrusions of igneous material occurred in the form of stocks, dikes and sills. These later intrusions penetrated the original igneous mass as well as the uplifted sedimentary beds and carried with them mineralizing solutions.

The tremendous upheavals caused by the initial intrusives resulted in numerous faults, fissures and fractured zones into which the mineralizing solutions penetrated to form ore deposits.

Your property is situated in one of the most highly mineralized zones in the La Plata Mountains. The property encompasses part of an immense brecciated mass impregnated with copper and iron sulphides and some gold. Small amounts of platinum were detected in some ore samples, by the U.S. Geological Survey. Two long tunnels were driven into the brecciated mass many years ago. They are on claims belonging to other parties, one of them is on an old patented claim called the "Copper Age".

Down the bedrock gulch about a mile from the Copper Age claim is an old copper mine, which produced considerable ore years ago. Platinum was also found in the ore from that mine by geologists from the U.S. Geological Survey.

North of your property and over the ridge there are two old mines which were worked for gold. They have been reported on by the U.S. Geological Survey.

On the flanks of the La Plata Mountains in the sedimentary formations, various discoveries of vanadium and uranium have been made. Some of the properties are being mined and others are being drilled. Both carnotite and pitchblend are said to have been encountered. The Morrison formation is no doubt the source of the uranium and vanadium. Some of the deposits are but a short distance from Durango.

Veins and Minerals - The discovery outcrop on your property is part of a dike or vein which strikes North 25 East and dips to the South east at about 55°. It is exposed on the surface for a distance of approximately 300 ft., beyond which both below and above, the vein is covered with overburden. It is most certain to extend up and down the mountain for considerable distance. This can be determined by trenching.

A road which was cut across the vein 100 ft. down the slope from the discovery outcrop shows the vein to be about 12 ft. wide and composed of several irregular ore shoots of various widths. All the shoots are radioactive and some are highly so.

Since the original discovery was made last July further radioactive deposits have been exposed by construction of the road leading to the mine. No work has been done on them as yet.

The main vein occurs in an igneous rock which has been classed as a Diorite Porphory. The latter has been intruded into the surrounding sedimentary formations as a stock, and the vein has apparently been formed along a fault or shear zone.

The ore shoots in the vein are composed of a dark-colored, dense, hard rock which may be readily distinguished from the lighter colored rock in the vein. All the shoots as mentioned, show some radioactivity, and contain various amounts of gold, silver, lead, copper, and iron.

The lighter colored vein material is generally impregnated with iron pyrite but lead and copper sulphides are also present.

A tunnel 60 ft. long has been driven in on the vein where it was exposed by the road cut below the discovery outcrop. The tunnel follows along the footwall of the vein where the largest of the ore shoots was exposed by the road cut. This shoot, however, was not the most radioactive.

A short distance inside the tunnel this shoot divided into two main branches, the larger of which goes into the east wall of the tunnel. The small branch and the less radioactive was purposely followed along the footwall, to facilitate subsequent mining operations.

At about 30 ft. in from the portal of the tunnel the smaller shoot became richer in gold, silver, lead, and copper, but poorer in uranium. The last 12 ft. of the shoot, to the face of the tunnel was poor in the other metals as well as uranium.

It is probable that further development of the vein will disclose the uranium as generally occurring in shoots practically free of the other metals.

It is not yet known in what mineral form the uranium occurs but it is most probably present as pitchblend, a primary uranium mineral and the chief source of the world's uranium production.

Prospects and Recommendations - It is to be expected that the vein continues up and down the mountain for several hundred feet from the present exposures. There is every probability of it extending to considerable depth.

The exploration work done so far indicates that the highest grade uranium ore is in the hanging wall part of the vein to the east of the tunnel. The plans have been to explore that part of the vein by means of crosscuts at regular intervals or by means of drill holes from the tunnel. Operations were suspended before such exploration work could be done.

It is probable that the various ore shoots in the vein may join in places to form single ore bodies of considerable dimensions, and one may expect to encounter shoots of high grade uranium ore.

In only three weeks of actual exploration work the value of the property has been greatly increased beyond the original prospects and there is every reason to believe that further exploration will enhance its value.

The presence of gold, silver, lead and copper in the vein, in addition to uranium may prove to be very advantageous if a method for their separation from the uranium can be developed. A limited amount of test work has already been done on the ore, with encouraging results.

There is some evidence that the uranium does not occur closely associated with other metals and it may be that it can be mined selectively once the vein is developed and the different ore bodies blocked out. If such proves feasible the uranium ore might be shipped directly to ore treatment plants. The ore carrying other metals and possibly small amounts of uranium would have to be milled to produce a concentrate for shipment to a smelter. The overall prospects for developing a producing mine on the property are very good and fully warrant the necessary expenditures for further exploration and development work.

It is recommended that exploration work be resumed in the present tunnel just as soon as possible and that a road-cut be made at least 100 ft. below the tunnel to expose the continuation of the vein.

A second tunnel should also be driven on the vein at the lower level. The two tunnels would eventually be connected by one or more raises, for ventilation and to explore the vein vertically.

A bulldozer should be acquired as a permanent piece of equipment, to maintain the road and for surface exploration work.

Respectfully submitted.

Yours very truly,

(Signed) Victor J. Hampton
Victor J. Hampton, Mining Engineer.

COPY

VANADIUM CORPORATION OF AMERICA
DURANGO, COLORADO

January 13, 1954

Mr. Victor Hampton

REPORT OF ANALYSIS

Date	Lot No.	Name of Claim	$\%V_2O_5$	Geiger $\%U_3O_8$	$\%CaCO_3$
		Sp. #1		.02	
		Sp. #2		.10	
		Sp. #3		.24	
		Sp. #4		.27	
		#1		.08	
		#2		.02	
		#3		.04	
		#4		.08	
		#5		.06	
		#6		.05	
		#7		.07	
		#8		.06	
		#9		.13	
		#10		.14	
		#11		.16	
		#12		.09	

Very Truly Yours,

VANADIUM CORPORATION OF AMERICA

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VANADIUM CORPORATION OF AMERICA
DURANGO, COLORADO

January 17, 1955

Victor Hampton

REPORT OF ANALYSIS

Date	Lot No.	Name of Claim	$\%V_2O_5$	$\%U_3O_8$	$\%CaCO_3$	-Geiger
	4824	S.P. #2	.29	.15	Chemical	.10
	4825	S.P. #3	Nil.	.21	"	.24
	4826	S.P. #4	Nil.	.22	"	.27
	4827	#9	Nil.	.15	"	.13
	4828	#10	Nil.	.14	"	.14
	4829	#11	Nil.	.16	"	.16
	4831	#4 Mn. Concentrate		.10	Geiger	
	4832	#4 Tailing		.08	Geiger	

Sample S.P. #2 was from yellow kaolin vein going into east wall.
" S.P. #3 " " branch vein entering East wall.
" S.P. #4 " " hard wall of vein entering east wall of tunnel.
#9, 10, and 11 were from systematic sampling of tunnel.

Note: S.P. #2 the only sample which has shown any Vanadium.

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