224 New Customhouse
Denver 2, Colorado

December 20, 1954

Mr. George S. Casey
UTCO Uranium Corporation
718 Majestic Building
Denver, Colorado

Re: Docket DMEA 3567

Dear Mr. Casey:

Reference is made to your application for Government aid on the Corral group.

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

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

Very truly yours,

W. H. King

W. H. King

DRMacharen
for E. N. Harshman

Field Team, Region IV

HMC:dm
cc: Administrator
DMEA
Mining Div.
WMTraver
ALBrokaw
ENHarshman
AEC
Subj
Chron

1/4/55 gla

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

224 New Customhouse
Denver 2, Colorado

December 20, 1954

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Report of Examination, DMEA Docket 3567 (Uranium), UTCO Uranium Corp., Corral group, San Juan County, Utah.

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

W. H. King

for D R Macharen
E. N. Harshman

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
1-3-55
(date)

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

COPY

224 New Customhouse
Denver 2, Colorado

December 20, 1954

Mr. George S. Casey
UTCO Uranium Corporation
718 Majestic Building
Denver, Colorado

Re: Docket DMEA 3567

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Very truly yours,

/s/ W. H. King

/s/ D. R. MacLaren for
E. N. Harshman

Field Team, Region IV

HMC:dm
cc: Administrator
DMEA
Mining Div.
WMTraver
ALBrokaw
ENHarshman
AEC
Subj.
Chron.

Reviewed by
DMEA OPERATING COMMITTEE

(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

224 New Customhouse
Denver 2, Colorado

December 20, 1954

Memorandum

To: DMEA Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination, DMEA Docket 3567 (Uranium), UTCO Uranium Corp., Corral group, San Juan County, Utah.

Enclosed are eleven copies of the engineering report of examination on the subject property.

The applicant requested $33,152.21 to explore the Corral claims by 16,199 feet of wagon and rotary dry drilling.

The engineer examiner found no rim outcrops on the Corral claims and the results of AEC drilling in the area have been disappointing. He believes no significant amount of uranium would be found as a result of the exploration program and he recommends that the application be denied.

We concur in this recommendation.

W. H. King

W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
1-3-55
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
December 7, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

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

Subject: DMEA 3567 (Uranium) UTCO Uranium Corp., (Corral group)
San Juan County, Utah

Transmitted herewith are the original and 10 copies of a "Summary, Conclusions, and Recommendations" by M. H. Salsbury, Bureau of Mines and H. S. Johnson, Geological Survey and of Salsbury's engineering report on the subject docket.

Salsbury concludes the Corral group on which the applicant requests loan assistance is not in an area with any great potential for the discovery of uranium ore deposits. If any deposits should be discovered, they are likely to be small and scattered. There are no rim outcrops on the Corral claims and reconnaissance in the general area by the Geological Survey and the Atomic Energy Commission, have been disappointing. Denial of the request for a loan of $33,152.21 is recommended.

I concur in the conclusions and recommendations.

The application furnished with your memorandum of November 3, 1954, requesting a field examination and report is returned herewith.

W. M. Traver

W. M. Traver

WMT/dj

enclosures

cc: 10
DMEA 3567
Chron

Reviewed by
DMEA OPERATING COMMITTEE
1-3-55
(date)

IN REPLY REFER TO:

Mining Division
Date Rec'd.
DEC 10 1954
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

December 16, 1954

Memorandum

To: DMEA Field Team, Region IV

From: E. N. Harshman

Subject: DMEA Docket 3567, UTCO Uranium Corporation, Corral group of claims, Monument Canyon area, San Juan County, Utah

Enclosed are 10 copies of a geologic report by H. S. Johnson of the U. S. Geological Survey covering the above docket.

Small, scattered, low-grade uranium deposits occur in the Salt Wash member of the Morrison formation in the vicinity of the Corral group of claims. Production from these deposits has been intermittent and the ore has been of marginal grade.

A.E.C. drilling on what is considered the most favorable ground in the area has not been successful in discovering significant, well defined bodies of uranium ore.

Johnson concludes from the physical character of the Salt Wash on the Corral group of claims and past production history of the area that the discovery of significant uranium deposits by the proposed exploration is unlikely, and he recommends denial of the application for exploration assistance. His conclusions and recommendations are justified by the data presented in the geologic report.

Phillip H. Dodd, A.E.C. supervisor for the Montezuma-Monument Canyon area, concurs in Johnson's conclusions and recommendations.

E. N. Harshman

E. N. Harshman
Project Chief

Enclosures (10)

Reviewed by
DMEA OPERATING COMMITTEE
1-3-55
(date)

Mining Division
Date Rec'd.

DEC 16 1954

BUREAU OF MINES
Denver, Colorado

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

December 10, 1954

Memorandum

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

From: Arnold L. Brokaw, District Supervisor

Subject: DMEA 3567, UTCO Uranium Corporation, Corral group of claims, Monument Canyon area, San Juan County, Utah

Transmitted herewith are 10 copies of a geologic report by H. S. Johnson, covering field examination of the above-referenced DMEA application.

Johnson recommends that the application be denied because the production history of the Montezuma-Monument Canyon district has not been significant in the past, and geologic conditions on the property are not favorable for the occurrence of anything but small, scattered, low-grade uranium ore deposits.

The Exploration Division, U. S. Atomic Energy Commission, Grand Junction Operations Office, has cooperated in evaluating this application.

W P Williams
For Arnold L. Brokaw

WPW/mlr
Enclosures 10

Reviewed by
DMEA OPERATING COMMITTEE
1-3-55
(date)

DMEA 3567

CORRAL GROUP
UTCO URANIUM CORPORATION
SAN JUAN COUNTY, UTAH

Summary, Conclusions, and Recommendations

By M. H. Salsbury
Mining Engineer
Bureau of Mines

H. S. Johnson
Geologist
Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE
1-3-55
(date)

DMEA 3567

CORRAL GROUP
UTCO URANIUM CORPORATION
SAN JUAN COUNTY, UTAH

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

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

The Utco Uranium Corporation, 718 Majestic Building, Denver, Colorado applied for Defense Minerals Exploration Administration assistance in exploration for uranium of its property in San Juan County, Utah, 24 miles southeast of Monticello. A drilling program consisting of 16,199 feet of wagon and rotary dry drilling in two stages was requested at an estimated cost of $33,152.21--Government participation 75 percent, or $24,864.16.

The property was examined on November 17, 1954 by a Region IV DMEA examining team accompanied by the company president, consulting geologist and field superintendent. The Atomic Energy Commission has been consulted in regard to production and possibilities of the area.

The property consists of 17 located claims in sec. 33, T. 36 S., and secs. 4 and 5, T. 37 S., all in R. 25 E., Salt Lake principal meridian, San Juan County, Utah. They were located as leases under the AEC Domestic Uranium Program Circular No. 7 on March 4, 1954, and amended under the provisions of Public Law 585 on September 1, 1954. The location procedures appear to be in order. Two adverse locations may be in conflict, but are probably not valid. The claims were sold to the applicant company under a purchase agreement providing for the payment of royalties on ore production.

The rocks exposed on the Corral group are confined to sandstones and shales of the Morrison formation. The beds are essentially flat

lying and the topography consists of small buttes, steep slopes, narrow benches and sharp canyons up to 200-300 feet deep. Remnants of the Cretaceous Burro Canyon and Dakota formations cap small buttes in the area. Beneath these resistant formations the varicolored Brushy Basin shales of the Morrison formation are about 300 feet thick and outcrop as steep slopes which level off to narrow benches on top of the sandstones of the Salt Wash member of the Morrison. Steep-walled canyons have been cut into the 300-foot thick Salt Wash member and in a few places in the district erosion has exposed the top of the underlying San Rafael group.

All the vanadium and uranium mineralization in the Montezuma and Monument canyon area occurs as carnotite deposits in fluviatile sandstones and shales of the Salt Wash member of the Morrison formation. Most of the deposits are small and discontinuous and are associated with carbonaceous material along thin mudstone streaks within the thicker sandstone units. The Salt Wash in this area is about 60 percent sandstone occurring as units which are relatively continuous and probably flood plain deposits rather than channel-fill sediments. Mineralizing solutions moving laterally through these rocks would tend to be widely dispersed rather than concentrated. For this reason, many small tenuous deposits are to be expected, rather than large well defined deposits.

The area surrounding the Corral group has been examined by both the Geological Survey and the Atomic Energy Commission and shallow exploration of "shows" along rim outcrops has been carried on on ground adjoining the applicant's property, since before World War II.

Only small discontinuous lenses of uranium-vanadium ore have been mined during this activity, with production anywhere in the immediate vicinity of the Corral claims, of not more than 50 tons of ore, estimated from incomplete records of the Atomic Energy Commission and Union Mines Development Corporation. This ore was mined for its vanadium content estimated at about 1.5 percent V_2O_5 with the uranium content undetermined, but probably around .10 percent U_3O_8. The closest significant production came from the Cliff House and Monument Mines 4 miles and 7 miles north and northeast respectively from the applicant's property.

The conclusion is reached, from the evidence of exploration in the area to date, and the reconnaissance efforts by the Government agencies, that there is a very poor possibility of finding significant ore deposits on the Corral group, or of repaying more than a small part of the Government's share of the proposed exploration costs.

Denial of the loan application is recommended.

UNITED STATES DEPARTMENT OF THE INTERIOR

DOUGLAS McKAY, SECRETARY

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

DMEA 3567, UTCO Uranium Corporation, Corral group of claims, Monument Canyon area, San Juan County, Utah

Uranium

Geologic Report

by

H. S. Johnson
U. S. Geological Survey

December 10, 1954

Reviewed by
DMEA OPERATING COMMITTEE
1-3-55
(date)

INTRODUCTION AND SUMMARY

UTCO Uranium Corporation, 718 Majestic Building, Denver, Colorado, applied in Octover 1954 for DMEA assistance in exploring the Corral group of claims in the Monument Canyon area of San Juan County, Utah (fig. 1). The Corral group as referred to below consists of 17 adjoining, unpatented mining claims in the west half of sec. 33, T. 36 S., R. 25 E., and in secs. 4 and 5, T. 37 S., R. 25 E., Salt Lake Meridian. The property is about 56 miles by road from Monticello, Utah. UTCO Uranium Corporation also has option to buy 90 additional claims which lie to the east and west of the Corral group and form a continuous block with it. According to Exhibit 2 attached to the application, the 17 claims which UTCO proposes to explore were located as leases under AEC Circular 7 and the applications were recorded in the county courthouse at Monticello, Utah. Under the provisions of Public Law 585, 83rd Congress, these lease applications will have to be withdrawn and amended locations filed.

To explore the Corral group of claims, UTCO Uranium Corporation proposes drilling a total of 114 non-core drill holes with the first 62 holes spaced about 500 feet apart and the other 52 holes placed as offsets 25 to 50 feet away from mineralized holes found in the first stage drilling. UTCO estimates the total cost of the project at $33,152.21, of which the Government's share would be 75 percent, or $24,864.16.

The DMEA Field Team, consisting of M. H. Salsbury of the U. S. Bureau of Mines and H. S. Johnson of the U. S. Geological Survey, examined the Corral group of claims on November 17, 1954. George S. Casey, Mason Rankin, and Ben H. Simpson were present during the examination as representatives of UTCO Uranium Corporation.

No uranium deposits are known at present on the Corral group. A few hundred feet east of the claims, small low-grade vanadium-uranium deposits occur in the Salt Wash member of the Morrison formation in Picket Pen Canyon, but there has been no significant production from these. Similar small, low-grade deposits probably occur on the Corral group, but the geology of the area is not considered favorable for deposits larger than a few hundred to a thousand tons. Because targets are expected to be small and possibilities of finding a significant deposit seem remote, it is recommended that the application be denied.

Philip H. Dodd, AEC district supervisor for the Montezuma-Monument Canyon area, was consulted in regard to the UTCO application. Dodd reports that AEC work (including approximately 39,500 feet of diamond drilling) in the area indicates that small low-grade deposits up to a few hundred tons in size may be found, but that larger deposits are unlikely. He concurs with the recommendation for denial of the application.

GEOLOGIC SETTING

The rocks exposed on the Corral group are confined to sandstones and shales of the Morrison formation. The beds are essentially flat-lying and the topography consists of small buttes, steep slopes, narrow benches, and sharp canyons up to 200-300 feet deep. Remnants of the Cretaceous Burro Canyon and Dakota formations cap small buttes in the area. Beneath these resistant formations, the varicolored Brushy Basin shales of the Morrison formation are about 300 feet thick and outcrop as steep slopes which level off to narrow benches on top of the sandstones of the Salt Wash member of the Morrison. Steep-walled canyons have been cut into the 300-foot thick Salt Wash member, and in a few places in the district erosion has exposed the top of the underlying San Rafael group.

ORE DEPOSITS

All the vanadium and uranium mineralization in the Montezuma and Monument Canyon area occurs as carnotite-type deposits in fluviatile sandstones and shales of the Salt Wash member of the Morrison formation (fig. 2). Most of the deposits are small and discontinuous and are associated with carbonaceous material along thin mudstone streaks within the thicker sandstone units. The Salt Wash in this area is about 60 percent sandstone and this occurs as units which are relatively continuous and are probably floodplain deposits rather than channel-fill sediments. Mineralizing solutions moving laterally

through these rocks would tend to be dispersed widely through them rather than concentrated. For this reason, many small tenuous deposits are to be expected rather than large, well-defined ones.

Production from the area within a 6-mile radius of the Corral group has been intermittent and small. Most of the production was obtained by the selective mining of deposits of less than 1,000 tons. The following table shows the approximate total production from this area up through September 1954:

Table 1. Production from part of Montezuma-Monument Canyon district through September 1954 /

Area (fig. 2)	Short tons produced	Average $\%U_3O_8$ estimated	Average $\%\ V_2O_5$ estimated
Lower Monument Canyon	135	0.05 - .10	1.50
Middle Monument Canyon	50	.10	1.50
Upper Monument Canyon	2,260	.10	1.50
Coal Bed Canyon	2,574	.10	1.50
Trail-Springs Canyon	190	.10	1.75
Devil Canyon	586	.15	1.50
Bradford Canyon	1,500	.10	1.50
Squaw Creek	331	.10	1.25

/ Compiled from Metals Reserve Corp., Union Development Corp., and AEC records. Estimates in part.

As well as being marginal in grade, most of this ore has assayed from 10-15 percent $CaCO_3$ and would, accordingly, be penalized for its high lime content.

The AEC has recently concluded a drilling program designed to test the most favorable ground in the Montezuma Canyon area. After conducting geologic reconnaissance to determine the most favorable areas, 39,500 feet of diamond-drill holes were drilled around the better deposits in Montezuma, Coal Bed, and Upper Monument Canyon. Results of this drilling indicates that small, scattered, low-grade vanadium mineralization is widespread, but that large, well-defined deposits are not likely to occur.[1] P. H. Dodd, AEC supervisor for

---

[1] Carlson, W. A., Results of exploration drilling in the Montezuma Canyon area, San Juan County, Utah: AEC file report in preparation.

---

the Montezuma-Monument Canyon district, stated to the writer that the AEC has no plans for further exploration in the area.

Judging from the appearance and past performance of the Salt Wash near the Corral group, deposits of more than a few hundred tons in size are not likely to occur on these claims. Targets for drilling might be expected to be up to 200 feet by 75 feet in area. No especially favorable trend can be shown to project into the Corral group, but sedimentary trends in the area appear to be oriented roughly easterly. Any deposits which do exist on these claims are likely to have their longest dimension oriented in an easterly direction.

PROPOSED EXPLORATION

UTCO Uranium Corporation proposes testing the Corral group by drilling 114 non-core drill holes totaling 16,196 feet of hole. Sixty-two holes would be drilled on a 500-foot spacing as the first stage of the work. The remaining 52 holes would then be used in off-setting at 25- to 50-foot intervals any mineralized holes found in the first stage drilling. A total of 14,107 feet of wagon drilling is planned as the cheapest method of testing ground where the potential ore horizon is less than 150 feet deep. The remaining 2,089 feet would be drilled with a rotary rig using a tri-cone rock bit and drilling without water. The deepest hole needed will probably be about 260 feet and the average depth will probbly be about 142 feet. UTCO estimates the project will take 6 months to complete, using one drill, and will cost $33,152.21, of which the Government's share would be 75 percent, or $24,864.16.

The program proposed by UTCO should serve to explore the ground fairly well, although small deposits could be missed by the wide, first-stage drilling pattern. The problem is, however, not how best to explore the ground, but rather are these claims likely to contain a deposit that would pay for the cost of finding it? A 1,000 ton deposit with an average grade of 0.20 percent U_3O_8 would have a gross value of about $30,000, provided the initial production bonus of $14.00 per ton could be obtained on all the ore shipped. The vanadium contained in this ore might pay part of the mining costs, but can not be expected to add much to the value because the lime penalty would

largely counteract the vanadium payments. Therefore, it would take a deposit of approximately 1,000 tons to pay for the exploration program suggested by UTCO and one roughly 20 times this size to repay the Government's share in the project cost. There is also some question as to whether the ore grade would be high enough to allow mining to continue after the initial production bonus (this essentially amounts to doubling the base price on the first 10,000 pounds of U_3O_8 produced) was exhausted.

CONCLUSIONS AND RECOMMENDATIONS

The history of the Montezuma-Monument Canyon district is one of intermittent production of low-grade vanadium and uranium ores. Mining has of necessity been highly selective in order to maintain an acceptable grade, and the $CaCO_3$ content of the ores has been, for the most part, between 10 and 15 percent. Production records and geologic reconnaissance suggest that the most favorable ground in the district is an ill-defined belt extending from Montezuma Canyon through Coal Bed Canyon to Upper Monument Canyon. Recent AEC drilling in this ground met with little success and indicated that uranium and vanadium deposits are small, scattered, and low grade and can be profitably exploited only if the deposits are near canyon rims.[/]

[/] Carlson, W. A., Results of exploration drilling in the Montezuma Canyon area, San Juan County, Utah: AEC file report, in preparation.

Rim exposures of the Salt Wash member of the Morrison formation in the vicinity of the Corral group show only small, scattered deposits of weak vanadium-uranium mineralization. No especially favorable trends can be projected onto the Corral group of claims. Small, low-grade deposits probably underlie these claims, but ore bodies of 1,000 tons or more are extremely unlikely. Because the geology does not seem favorable for ore-grade deposits large enough to pay back exploration costs, it is recommended that the UTCO application be denied.

DMEA 3567

CORRAL GROUP
UTCO URANIUM CORPORATION
SAN JUAN COUNTY, UTAH

Engineering Report

By M. H. Salsbury
Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE

1-3-55
(date)

DMEA 3567

CORRAL GROUP
UTCO URANIUM CORPORATION
SAN JUAN COUNTY, UTAH

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ILLUSTRATIONS

Figure — Follows Page

1. Location map, Corral group, Utco-Uranium Corp., San Juan County, Utah (DMEA 3567) 2

DMEA 3567

CORRAL GROUP
UTCO URANIUM CORPORATION
SAN JUAN COUNTY, UTAH

ENGINEERING REPORT

By M. H. Salsbury

INTRODUCTION

The Corral group of mining claims in San Juan County, Utah was examined on November 17, 1954, by a Defense Minerals Exploration Administration, Region IV examining team, accompanied by George W. Casey, President; Mason Rankin, Consulting Geologist and Ben N. Simpson, Superintendent of the applicant company. Application has been made for Government assistance in exploring the property for uranium by 16,199 feet of wagon and rotary dry drilling in two stages, at an estimated cost of $33,152.21--Government participation 75 percent or $24,864.16.

ACKNOWLEDGMENTS

The history of the property was furnished by the applicant's superintendent Ben N. Simpson, who has been active in the immediate area since before World War II. Phillip Dodd of the Atomic Energy Commission, formerly in charge of this area, was consulted by the Geological Survey member of the examining team, as was Lyman C. Huff of the Geological Survey, who had at one time been assigned to this area. Production records were furnished by the Atomic Energy Commission.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Corral group of claims are located in sec. 33, T. 36 S., and secs. 4 and 5, T. 37 S., R. 25 E. of Salt Lake principal meridian, San Juan County, Utah, on the west side of Picket Corral Canyon, a tributary of Monument Canyon which it joins several miles to the south (fig. 1). The property is reached over 24 miles of good to poor access road, virtually impassable in wet weather, extending south and west from a junction with surfaced Colorado State Highway 160, 18 miles west of Monticello, Utah. Monticello is 175 miles by hard-surfaced highways from Grand Junction, Colo., the nearest major source of supplies, and is served by scheduled motor freight lines.

The region, at an altitude of 6,000 feet, has comparatively low relief at the property, and the highest points on the terraced mesas are only 90 to 100 feet above the floor of Picket Corral Canyon, except in the southeast corner on Corral claim No. 15, where the canyon has been cut 100 feet or more deep.

The climate is semi-arid with cool to warm summers and moderate winters with occasional periods of extreme cold. Snow may accumulate in the fairly heavy stand of pinon pine on the mesas. Mining operations are feasible throughout the year in this region, if provision is made to continue during periods when travel is inadvisable.

Power needs for exploration must be met by the operator, usually in the form of gas-or diesel-driven units. Water for mining purposes can be collected in retaining ponds, but in a dry season may have to be hauled some distance. Domestic water is obtainable

from nearby springs and the supply of pinon pine for fuel is ample. The nearest market for uranium ores is at the ore-buying station and plant in Monticello, Utah, operated by the American Smelting and Refining Company, a distance of 43 miles from the property.

The nearest town is Dove Creek, Colo., but there are no housing facilities available at this time either there or in Monticello. The applicants propose to contract the work, to an established drilling firm which would presumably furnish living quarters for personnel. Three house trailers are included in the cost estimate for housing employees. The only direct labor cost would be for supervision by the applicant's personnel already employed.

HISTORY, PRODUCTION AND OWNERSHIP

Exploration for vanadium ores has been carried on in this region since before World War I, with production of vanadium-uranium ores in small quantities from many shallow rim workings. The area in the immediate vicinity of the applicant's Corral claims was prospected by Ben N. Simpson and J. B. Claybaugh, Sr., about 1940, and a small tonnage of ore was mined on a rim exposure on the Picket Corral claims on the east side of Picket Corral Canyon, just east of the Corral claims. Other small nearby operations, among them the Big Bluff, Jack Rabbit, Blue Jay Nos. 2, 4 and 5, and Hidden Mine were further south and east. There have been no mines with substantial production records closer than 4 miles distance away, and very little mining was done for uranium. It has not been possible to follow any of the deposits very far from the rim outcrops and the interior of the mesas on and near the Corral group is unexplored.

Because most of the ore from this area was produced before World War II, available records are not complete and the uranium content is not recorded. Using Atomic Energy Commission figures, including records of the Union Mines Development Corporation during World War II, the production of the Middle Monument Canyon group, some 6 or 8 mines, including the Picket Corral workings, did not exceed an estimated 50 tons averaging 1.5 percent V_2O_5 and .083 percent U_3O_8, using a ratio for V_2O_5 to U_3O_8 of 18 to 1. The only significant production in the immediate area has come from the Cliff House group of the United States Vanadium Company 4 miles north, where an estimated 2,000 tons of "good" vanadium ore was mined prior to 1943. The Monument group, 7 miles northeast is reported to have produced 1,500 tons of ore, grade not given. Neither group is being operated at the present time.

The deposits of this area all contain ores with a comparatively high vanadium and lime content.

The 17 unpatented Corral claims, Nos. 1 and 2 and 5 to 19 inclusive, were located by Ben N. Simpson, J. B. Claybaugh, Sr., and Fred C. Clymer. The locations were made on March 4, 1954 under AEC Circular No. 7, and amended notices were filed and recorded on September 1, 1954 to comply with Public Law 585. The claims are shown on a map with the geologic report. Several of the claim corners and discovery monuments and notices were found during the field examination and all appear to be in order. There are two other locations nearby which may conflict, but are probably not valid. One claim, the Mooney Uranium lease, located by Chas. C. Goulding and James N. Ray is described on the location certificate as starting at "corner No. 2

300 feet north from the southeast corner of sec. 32" and extending 600 feet north of this point and 1,500 feet east. This places it in conflict with the applicant's Corral Nos. 7 and 8 claims. The date of location is the same as the Corral claims--March 4, 1954. However, the location of corner No. 2 is actually some 600 feet east of the described site. Assuming that the actual location on the ground governs, the claim probably does not conflict with the Corral group. Another location, Sunlight No. 1 claim, was found just east of the Corral No. 6 claim. The only corner found for this claim was No. 1, the southwest corner, and a location description was not found. The claim may conflict in part with Corral No. 6 claim. The Utco Uranium Corporation has acquired the claims covered by the application on a purchase agreement, presumably without time limit, whereby the purchaser made a down payment of $1,700.00, is obligated to keep up the assessment work, and pays a royalty of 5 to 15 percent of the value of all ores shipped. The purchase agreement was not included in the copy of the applicant's brochure furnished the Mineral Resources Branch. In addition to the 17 claims included in the application, Utco Uranium Corporation holds options on 92 adjoining claims. A further check on property rights was considered unnecessary inasmuch as it appeared that a denial of the loan would be recommended.

DESCRIPTION OF THE DEPOSITS

The rocks exposed in the vicinity of the property consist mainly of the upper horizons of the Salt Wash member of the Jurassic Morrison formation, with a thin cover of Brushy Basin sediments remaining in higher areas. The region is within a southwest extension of the

Uravan Mineral Belt, which has accounted for most of the production from the Salt Wash in the Gateway, Uravan and Slick Rock districts. The deposits mined to date in the vicinity of the applicant's property are in the top horizon of the Salt Wash formation and consist of discontinuous lenses of ore in rolls 2 to 3 feet wide and 15 to 20 feet long, found in rim exposures. There are no Salt Wash rim outcrops on the Corral claims. None of the nearby ore bodies found to date are of significant size, and geological criteria applied to the area do not indicate that deposits of greater size are present on the Corral claims. Thickening of the potential ore bearing sandstone, where seen in the rim outcrops, is not particularly prominent, and specific evidence of geologic conditions favorable to uranium deposition is lacking.

The largest deposits mined to date anywhere in the Monument Canyon area are 4 to 7 miles from the Corral claims and neither the aggregate production or the size of the individual ore lenses is large, the vanadium content being high in proportion to the uranium.

The Pure Luck mine, an operation of the Slagter Exploration Company about one mile northeast of the Corral group is reported to have developed a substantial ore body on the basis of results obtained by probing exploratory drill holes. However, results obtained by the Atomic Energy Commission in probing the same holes did not verify the operator's results, and the accuracy of the operator's evaluation is questionable. Drifting operations by the owner have just reached the deposit and it is reported to be good ore, but no later information is available.

The Atomic Energy Commission originally withdrew three areas several miles north, northwest and west of the Corral group. Two of these, except for a small strip, have been restored, and a Commission representative indicated that this strip will probably be restored soon.

The Commission's overall estimate of the inferred ore reserves in the area places them at 100,000 tons, which is small considering the size of the area involved, and they have concluded that there is very little chance of finding worthwhile ore deposits in the area which includes the Corral claims.

There has been no work done on the property other than establishing claim boundaries and reconnaissance. None of the adjoining claims have been worked recently. On Sec. 33, a Utah State School section adjoined by the applicant's property on the south and east, four core drill holes have been recently drilled through the potential ore bearing horizons, apparently without favorable result. The core from the holes had been left at the drill sites and was inspected by the examining team. Favorable rock conditions were not in evidence in this core. While it is probable that mineralized portions, if any, had been removed, the fact that the wide-spaced drilling had not been followed by closer spaced holes indicates that neither ore nor geologically favorable ground was found.

PROJECT PROPOSALS WITH COSTS

The applicant proposed a drilling program in two stages totaling 16,199 feet of wagon and rotary dry drilling at an estimated cost of $33,152.21, Government participation 75 percent, or $24,064.16.

The first stage would require 62 holes using wagon drilling in holes less than 150 feet deep for an estimated total of 7,335 feet, and 1,445 feet of rotary dry drilling for depths over 150 feet. The second stage consists of 52 holes averaging 142 feet each for a total of 7,416 feet. The unit cost per foot for contracted work, including drill sites and access roads is $1.02 per foot and the overall cost, exclusive of sample analysis is $1.99 per foot. Stage I drilling is planned on 500-foot centers to locate any mineralization and/or areas which are favorable geologically. Stage II drilling would test any ground found to be favorable.

PROPOSED FINANCING

The applicant company proposes to furnish its share of the cost in cash, which is being raised by the sale of stock.

CONCLUSIONS

The Corral group of claims, while they may be considered to be within the limits of a southwest extension of the Uravan mineral belt, are not in an area in which reconnaissance by Government Agencies or exploration of scattered rim "shows" has resulted in more than discovery of minor uranium-vanadium deposits. None of these were persistent enough in the immediate vicinity of the applicant's property, to warrant following them more than a few feet from the rim. Exploration to find this type of deposit by wide-spaced drilling might serve to delineate the more favorable areas, but discovery of deposits in these areas large enough to justify exploration costs is doubtful.

Repayment of the Government's share of the estimated cost, $24,064.16 would require production of about 61,000 pounds of U_3O_8, or more than 12,000 tons of ore, assuming a content of 0.25 percent U_3O_8, and maximum payment for V_2O_5 of ten times the U_3O_8 content. The possibility of producing more than a small portion of this tonnage from the Corral group appears to be poor.

RECOMMENDATIONS

It is recommended that the application for Government assisted exploration be denied.

/dj

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

224 New Customhouse
Denver 2, Colorado

December 20, 1954

Memorandum

To: DMEA Field Area, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination, DMEA Docket [illegible] (Uranium), [illegible] Uranium Corp., Corral group, San Juan County, Utah.

Enclosed are eleven copies of the engineering report of examination on the subject property.

The applicant requested permission to explore the Corral claims by [illegible],000 feet of wagon and rotary dry drilling.

The engineer examiner found no rim outcrops on the Corral claims and the results of ARC drilling in the area were very disappointing. He believes no significant amount of uranium could be found as a result of the exploration program and he recommends that the application be denied.

We concur in this recommendation.

W. H. King

W. H. King

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
December 7, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

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

Subject: DMEA 3567 (Uranium) UTCO Uranium Corp., (Corral group) San Juan County, Utah

Transmitted herewith are the original and 10 copies of a "Summary, Conclusions, and Recommendations" by M. H. Salsbury, Bureau of Mines and R. S. Johnson, Geological Survey and of Salsbury's engineering report on the subject document.

Salsbury concludes the Corral group on which the applicant requests loan assistance is not in an area with any great potential for the discovery of uranium ore deposits. If any deposits should be discovered, they are likely to be small and scattered. There are no rim outcrops on the Corral claims and reconnaissance in the general area by the Geological Survey and the Atomic Energy Commission, have been disappointing. Denial of the request for a loan of $33,1[illegible].21 is recommended.

I concur in the conclusions and recommendations.

The application furnished with your memorandum of November 3, 1954, requesting a field examination and report is returned herewith.

W. M. Traver

W. M. Traver

WMT/dj

enclosures

cc: 10
DMEA 3567
Chron

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

Mining Division
Date Rec'd.
DEC 16 1954

BUREAU OF MINES 1954
Denver, Colorado

Memorandum

To: DMEA Field Team, Region IV

From: E. N. Harshman

Subject: DMEA Docket 3367, UTCO Uranium Corporation, Corral group of claims, Monument Canyon area, San Juan County, Utah

Enclosed are 10 copies of a geologic report by H. S. Johnson of the U. S. Geological Survey covering the above docket.

Small, scattered, low-grade uranium deposits occur in the Salt Wash member of the Morrison formation in the vicinity of the Corral group of claims. Production from these deposits has been intermittent and the ore has been of marginal grade.

A.E.C. drilling on what is considered the most favorable ground in the area has not been successful in discovering significant, well defined bodies of uranium ore.

Johnson concludes from the physical character of the Salt Wash on the Corral group of claims and past production history of the area that the discovery of significant uranium deposits by the proposed exploration is unlikely, and he recommends denial of the application for exploration assistance. His conclusions and recommendations are justified by the data presented in the geologic report.

Phillip H. Dodd, A.E.C. supervisor for the Montezuma-Monument Canyon area, concurs in Johnson's conclusions and recommendations.

E. N. Harshman

E. N. Harshman
Project Chief

Enclosures (10)

Mining Division
Date Rec'd.
DEC 10 1954
BUREAU OF MINES
Denver, Colorado

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

December 10, 1954

Memorandum

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

From: Arnold L. Brokaw, District Supervisor

Subject: DMEA 3567, UTCO Uranium Corporation, Corral group of claims, Monument Canyon area, San Juan County, Utah

Transmitted herewith are 10 copies of a geologic report by H. S. Johnson, covering field examination of the above-referenced DMEA application.

Johnson recommends that the application be denied because the production history of the Montezuma-Monument Canyon district has not been significant in the past, and geologic conditions on the property are not favorable for the occurrence of anything but small, scattered, low-grade uranium ore deposits.

The Exploration Division, U. S. Atomic Energy Commission, Grand Junction Operations Office, has cooperated in evaluating this application.

W P Williams
For Arnold L. Brokaw

WPW/mlr
Enclosures 10

June 1967

GENERAL REPORT
VECO URANIUM CORPORATION
SAN JUAN COUNTY, UTAH

Summary, Conclusions, and Recommendations

By [redacted]
Mining Engineer
Bureau of Mines

[redacted]
Geologist
Geological Survey

DMEA 3967

CORRAL GROUP
VTCO URANIUM CORPORATION
SAN JUAN COUNTY, UTAH

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

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

The Vtco Uranium Corporation, 718 Majestic Building, Denver, Colorado applied for Defense Minerals Exploration Administration assistance in exploration for uranium of its property in San Juan County, Utah, 24 miles southeast of Monticello. A drilling program consisting of 16,199 feet of wagon and rotary dry drilling in two stages was requested at an estimated cost of $33,138.24--Government participation 75 percent, or $24,854.16.

The property was examined on November 17, 1954 by a Region IV DMEA examining team accompanied by the company president, consulting geologist and field superintendent. The Atomic Energy Commission has been consulted in regard to production and possibilities of the area.

The property consists of 17 located claims in sec. 33, T. 36 S., and secs. 4 and 9, T. 37 S., all in R. 25 E., Salt Lake principal meridian, San Juan County, Utah. They were located as lessees under the AEC Domestic Uranium Program Circular No. 7 on March 4, 1954, and converted under the provisions of Public Law 585 on September 1, 1954. The location procedures appear to be in order. Two adverse locations may be in conflict, but are probably not valid. The claims were sold to the applicant company under a purchase agreement providing for the payment of royalties on ore production.

The rocks exposed on the Corral group are confined to sandstones and shales of the Shinarump formation. The beds are essentially flat

lying and the topography consists of small buttes, steep slopes, narrow benches and sharp canyons up to 200-300 feet deep. Remnants of the Cretaceous Burro Canyon and Dakota formations cap small buttes in the area. Beneath these resistant formations the varicolored Brushy Basin shales of the Morrison formation are about 300 feet thick and outcrop as steep slopes which level off to narrow benches on top of the sandstones of the Salt Wash member of the Morrison. Steep-walled canyons have been cut into the 300-foot thick Salt Wash member and in a few places in the district erosion has exposed the top of the underlying San Rafael group.

All the vanadium and uranium mineralization in the Montezuma and Monument canyon area occurs as carnotite deposits in fluviatile sandstones and shales of the Salt Wash member of the Morrison formation. Most of the deposits are small and discontinuous and are associated with carbonaceous material along thin sandstone streaks within the thicker sandstone units. The Salt Wash in this area is about 60 percent sandstone occurring as units which are relatively continuous and probably flood plain deposits rather than channel-fill sediments. Mineralizing solutions moving laterally through these rocks would tend to be widely dispersed rather than concentrated. For this reason, many small tenuous deposits are to be expected, rather than large well defined deposits.

The area surrounding the Cornal group has been examined by both the Geological Survey and the Atomic Energy Commission and shallow exploration of "shows" along rim outcrops has been carried on on ground adjoining the applicant's property, since before World War II.

Only small discontinuous lenses of uranium-vanadium ore have been mined during this activity, with production anywhere in the immediate vicinity of the Corral claims, of not more than 50 tons of ore, estimated from incomplete records of the Atomic Energy Commission and Union Mines Development Corporation. This ore was mined for its vanadium content estimated at about 1.5 percent V_2O_5 with the uranium content undetermined, but probably around .10 percent U_3O_8. The closest significant production came from the Cliff Mine and Monument Mines 4 miles and 7 miles north and northeast respectively from the applicant's property.

The conclusion is reached, from the evidence of exploration in the area to date, and the reconnaissance efforts by the Government agencies, that there is a very poor possibility of finding significant ore deposits on the Corral group, or of repaying more than a small part of the Government's share of the proposed exploration costs.

Denial of the lease application is recommended.

UNITED STATES DEPARTMENT OF THE INTERIOR

DOUGLAS McKAY, SECRETARY

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

DMEA 3567, UTCO Uranium Corporation, Corral group of claims, Monument Canyon area, San Juan County, Utah

Uranium

Geologic Report

by

H. S. Johnson
U. S. Geological Survey

December 10, 1954

INTRODUCTION AND SUMMARY

UTCO Uranium Corporation, 718 Majestic Building, Denver, Colorado, applied in Octover 1954 for DMEA assistance in exploring the Corral group of claims in the Monument Canyon area of San Juan County, Utah (fig. 1). The Corral group as referred to below consists of 17 adjoining, unpatented mining claims in the west half of sec. 33, T. 36 S., R. 25 E., and in secs. 4 and 5, T. 37 S., R. 25 E., Salt Lake Meridian. The property is about 56 miles by road from Monticello, Utah. UTCO Uranium Corporation also has option to buy 90 additional claims which lie to the east and west of the Corral group and form a continuous block with it. According to Exhibit 2 attached to the application, the 17 claims which UTCO proposes to explore were located as leases under AEC Circular 7 and the applications were recorded in the county courthouse at Monticello, Utah. Under the provisions of Public Law 585, 83rd Congress, these lease applications will have to be withdrawn and amended locations filed.

To explore the Corral group of claims, UTCO Uranium Corporation proposes drilling a total of 114 non-core drill holes with the first 62 holes spaced about 500 feet apart and the other 52 holes placed as offsets 25 to 50 feet away from mineralized holes found in the first stage drilling. UTCO estimates the total cost of the project at $33,152.21, of which the Government's share would be 75 percent, or $24,864.16.

The DMEA Field Team, consisting of M. H. Salsbury of the U. S. Bureau of Mines and H. S. Johnson of the U. S. Geological Survey, examined the Corral group of claims on November 17, 1954. George S. Casey, Mason Rankin, and Ben H. Simpson were present during the examination as representatives of UTCO Uranium Corporation.

No uranium deposits are known at present on the Corral group. A few hundred feet east of the claims, small low-grade vanadium-uranium deposits occur in the Salt Wash member of the Morrison formation in Picket Pen Canyon, but there has been no significant production from these. Similar small, low-grade deposits probably occur on the Corral group, but the geology of the area is not considered favorable for deposits larger than a few hundred to a thousand tons. Because targets are expected to be small and possibilities of finding a significant deposit seem remote, it is recommended that the application be denied.

Philip H. Dodd, AEC district supervisor for the Montezuma-Monument Canyon area, was consulted in regard to the UTCO application. Dodd reports that AEC work (including approximately 39,500 feet of diamond drilling) in the area indicates that small low-grade deposits up to a few hundred tons in size may be found, but that larger deposits are unlikely. He concurs with the recommendation for denial of the application.

GEOLOGIC SETTING

The rocks exposed on the Corral group are confined to sandstones and shales of the Morrison formation. The beds are essentially flat-lying and the topography consists of small buttes, steep slopes, narrow benches, and sharp canyons up to 200-300 feet deep. Remnants of the Cretaceous Burro Canyon and Dakota formations cap small buttes in the area. Beneath these resistant formations, the varicolored Brushy Basin shales of the Morrison formation are about 300 feet thick and outcrop as steep slopes which level off to narrow benches on top of the sandstones of the Salt Wash member of the Morrison. Steep-walled canyons have been cut into the 300-foot thick Salt Wash member, and in a few places in the district erosion has exposed the top of the underlying San Rafael group.

ORE DEPOSITS

All the vanadium and uranium mineralization in the Montezuma and Monument Canyon area occurs as carnotite-type deposits in fluviatile sandstones and shales of the Salt Wash member of the Morrison formation (fig. 2). Most of the deposits are small and discontinuous and are associated with carbonaceous material along thin mudstone streaks within the thicker sandstone units. The Salt Wash in this area is about 60 percent sandstone and this occurs as units which are relatively continuous and are probably floodplain deposits rather than channel-fill sediments. Mineralizing solutions moving laterally

through these rocks would tend to be dispersed widely through them rather than concentrated. For this reason, many small tenuous deposits are to be expected rather than large, well-defined ones.

Production from the area within a 6-mile radius of the Corral group has been intermittent and small. Most of the production was obtained by the selective mining of deposits of less than 1,000 tons. The following table shows the approximate total production from this area up through September 1954:

Table 1. Production from part of Montezuma-Monument Canyon district through September 1954 /

Area (fig. 2)	Short tons produced	Average $\%U_3O_8$ estimated	Average $\% V_2O_5$ estimated
Lower Monument Canyon	135	0.05 - .10	1.50
Middle Monument Canyon	50	.10	1.50
Upper Monument Canyon	2,260	.10	1.50
Coal Bed Canyon	2,574	.10	1.50
Trail-Springs Canyon	190	.10	1.75
Devil Canyon	586	.15	1.50
Bradford Canyon	1,500	.10	1.50
Squaw Creek	331	.10	1.25

/ Compiled from Metals Reserve Corp., Union Development Corp., and AEC records. Estimates in part.

As well as being marginal in grade, most of this ore has assayed from 10-15 percent $CaCO_3$ and would, accordingly, be penalized for its high lime content.

The AEC has recently concluded a drilling program designed to test the most favorable ground in the Montezuma Canyon area. After conducting geologic reconnaissance to determine the most favorable areas, 39,500 feet of diamond-drill holes were drilled around the better deposits in Montezuma, Coal Bed, and Upper Monument Canyon. Results of this drilling indicates that small, scattered, low-grade vanadium mineralization is widespread, but that large, well-defined deposits are not likely to occur.[/] P. H. Dodd, AEC supervisor for

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[/] Carlson, W. A., Results of exploration drilling in the Montezuma Canyon area, San Juan County, Utah: AEC file report in preparation.

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the Montezuma-Monument Canyon district, stated to the writer that the AEC has no plans for further exploration in the area.

Judging from the appearance and past performance of the Salt Wash near the Corral group, deposits of more than a few hundred tons in size are not likely to occur on these claims. Targets for drilling might be expected to be up to 200 feet by 75 feet in area. No especially favorable trend can be shown to project into the Corral group, but sedimentary trends in the area appear to be oriented roughly easterly. Any deposits which do exist on these claims are likely to have their longest dimension oriented in an easterly direction.

PROPOSED EXPLORATION

UTCO Uranium Corporation proposes testing the Corral group by drilling 114 non-core drill holes totaling 16,196 feet of hole. Sixty-two holes would be drilled on a 500-foot spacing as the first stage of the work. The remaining 52 holes would then be used in offsetting at 25- to 50-foot intervals any mineralized holes found in the first stage drilling. A total of 14,107 feet of wagon drilling is planned as the cheapest method of testing ground where the potential ore horizon is less than 150 feet deep. The remaining 2,089 feet would be drilled with a rotary rig using a tri-cone rock bit and drilling without water. The deepest hole needed will probably be about 260 feet and the average depth will probbly be about 142 feet. UTCO estimates the project will take 6 months to complete, using one drill, and will cost $33,152.21, of which the Government's share would be 75 percent, or $24,864.16.

The program proposed by UTCO should serve to explore the ground fairly well, although small deposits could be missed by the wide, first-stage drilling pattern. The problem is, however, not how best to explore the ground, but rather are these claims likely to contain a deposit that would pay for the cost of finding it? A 1,000 ton deposit with an average grade of 0.20 percent U_3O_8 would have a gross value of about $30,000, provided the initial production bonus of $14.00 per ton could be obtained on all the ore shipped. The vanadium contained in this ore might pay part of the mining costs, but can not be expected to add much to the value because the lime penalty would

largely counteract the vanadium payments. Therefore, it would take a deposit of approximately 1,000 tons to pay for the exploration program suggested by UTCO and one roughly 20 times this size to repay the Government's share in the project cost. There is also some question as to whether the ore grade would be high enough to allow mining to continue after the initial production bonus (this essentially amounts to doubling the base price on the first 10,000 pounds of U_3O_8 produced) was exhausted.

CONCLUSIONS AND RECOMMENDATIONS

The history of the Montezuma-Monument Canyon district is one of intermittent production of low-grade vanadium and uranium ores. Mining has of necessity been highly selective in order to maintain an acceptable grade, and the $CaCO_3$ content of the ores has been, for the most part, between 10 and 15 percent. Production records and geologic reconnaissance suggest that the most favorable ground in the district is an ill-defined belt extending from Montezuma Canyon through Coal Bed Canyon to Upper Monument Canyon. Recent AEC drilling in this ground met with little success and indicated that uranium and vanadium deposits are small, scattered, and low grade and can be profitably exploited only if the deposits are near canyon rims.[/]

[/] Carlson, W. A., Results of exploration drilling in the Montezuma Canyon area, San Juan County, Utah: AEC file report, in preparation.

Rim exposures of the Salt Wash member of the Morrison formation in the vicinity of the Corral group show only small, scattered deposits of weak vanadium-uranium mineralization. No especially favorable trends can be projected onto the Corral group of claims. Small, low-grade deposits probably underlie these claims, but ore bodies of 1,000 tons or more are extremely unlikely. Because the geology does not seem favorable for ore-grade deposits large enough to pay back exploration costs, it is recommended that the UTCO application be denied.

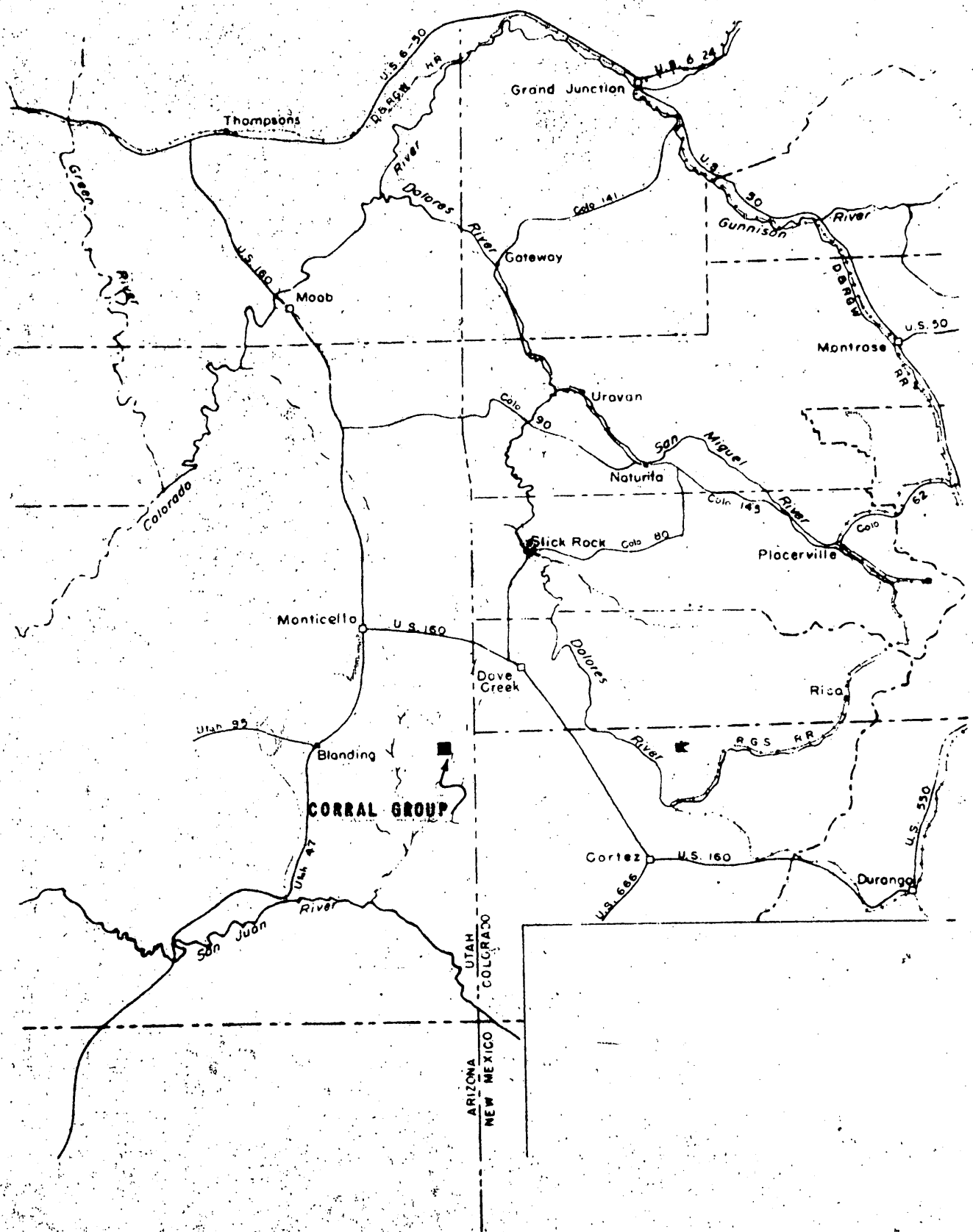

Figure 1. INDEX MAP OF PART OF THE COLORADO PLATEAU SHOWING LOCATION OF CORRAL GROUP, UTCO URANIUM CORP., MONUMENT CANYON AREA, SAN JUAN COUNTY, UTAH

RMRA 3567

GOSHAL GROUP
UTCO URANIUM CORPORATION
SAN JUAN COUNTY, UTAH

Engineering Report

By M. K. Salsbury
Mining Engineer
Bureau of Mines

RMMA 3567

GORMAL GROUP
VTCO URANIUM CORPORATION
SAN JUAN COUNTY, UTAH

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DMA 3967

CORRAL GROUP
WHITE MESA MINING CORPORATION
SAN JUAN COUNTY, UTAH

EXAMINATION REPORT

By M. E. Salsbury

INTRODUCTION

The Corral group of mining claims in San Juan County, Utah was examined on November 27, 1954, by a Defense Minerals Exploration Administration, Region IV examining team, accompanied by George W. Cadey, President; Shawn Rankin, Consulting Geologist and Ben H. Simpson, Superintendent of the applicant company. Application has been made for Government assistance in exploring the property for uranium by 16,199 feet of wagon and rotary dry drilling in two stages, at an estimated cost of $33,138.51--Government participation 75 percent or $24,854.16.

ACKNOWLEDGEMENTS

The history of the property was furnished by the applicant's superintendent Ben H. Simpson, who has been active in the Uravan area since before World War II. Phillip Dodd of the Atomic Energy Commission, formerly in charge of this area, was consulted by the Geological Survey member of the examining team, as was Lyman C. Huff of the Geological Survey, who had at one time been assigned to this area. Production records were furnished by the Atomic Energy Commission.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Corral group of claims are located in sec. 33, T. 36 S., and secs. 4 and 5, T. 37 S., R. 25 E. of Salt Lake principal meridian, San Juan County, Utah, on the west side of Hickert Corral Canyon, a tributary of Monument Canyon which it joins several miles to the south (fig. 1). The property is reached over 58 miles of good to poor access road, virtually impassable in wet weather, extending south and west from a junction with southern Colorado State Highway 160, 18 miles west of Monticello, Utah. Monticello is 175 miles by hard-surfaced highways from Grand Junction, Colo., the nearest major source of supplies, and is served by scheduled motor freight lines.

The region, at an altitude of 6,000 feet, has comparatively low relief at the property, and the highest points on the terraced mesas are only 50 to 100 feet above the floor of Hickert Corral Canyon, except in the southwest corner on Corral claim No. 15, where the canyon has been cut 150 feet or more deep.

The climate is semi-arid with cool to warm summers and moderate winters with occasional periods of extreme cold. Snow may accumulate in the fairly heavy stand of pinon pine on the mesas. Mining operations are feasible throughout the year in this region, if provision is made to continue during periods when travel is inadvisable.

Power needs for exploration must be met by the operator, usually in the form of gas-or diesel-driven units. Water for mining purposes can be collected in retaining ponds, but in a dry season may have to be hauled some distance. Domestic water is obtainable

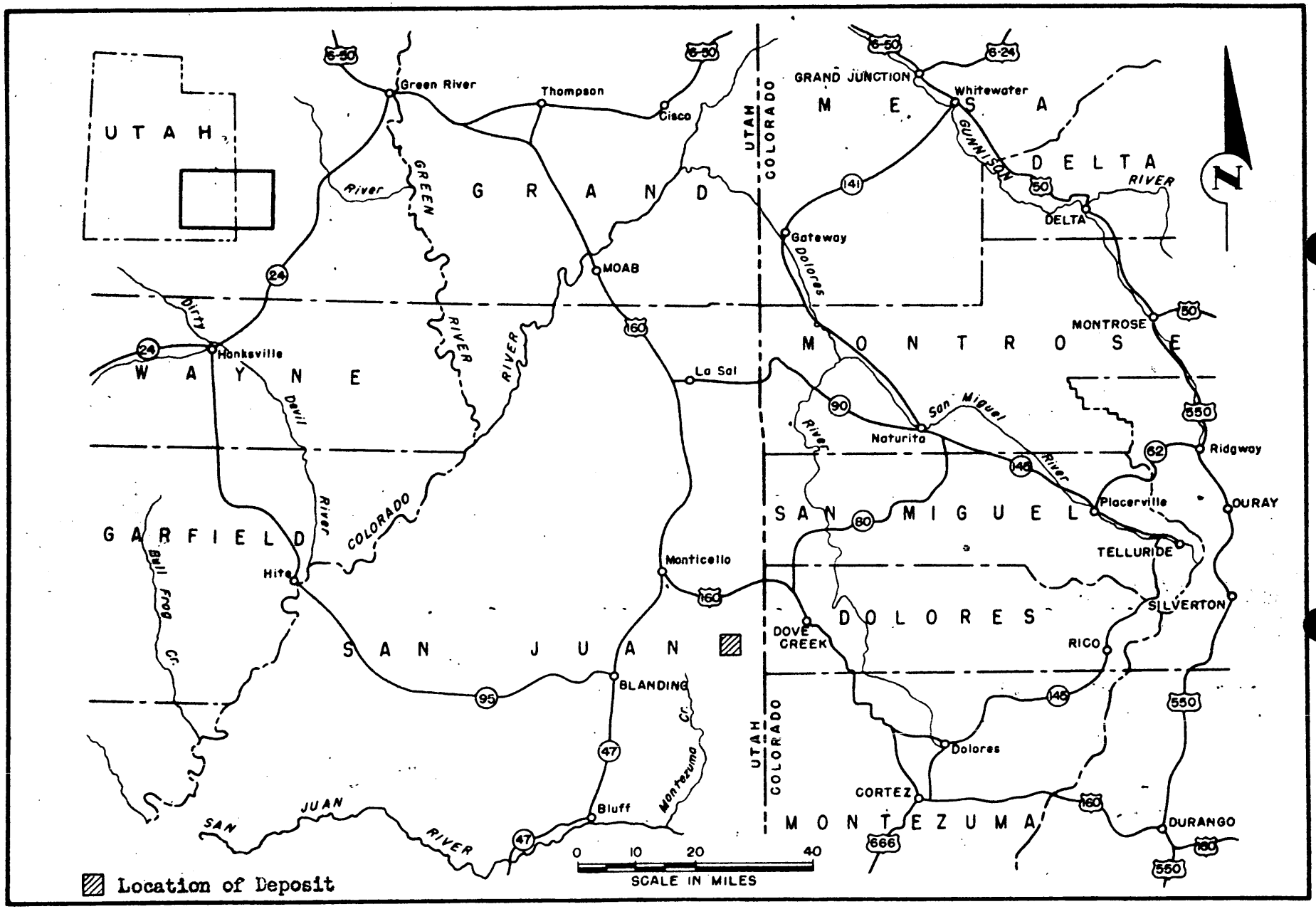

FIGURE 1 - LOCATION MAP, CORRAL GROUP, UTCO-URANIUM CORP., SAN JUAN COUNTY, UTAH (DMEA 3567)

from nearby springs and the supply of piñon pine for fuel is ample. The nearest market for uranium ores is at the ore-buying station and plant in Monticello, Utah, operated by the American Smelting and Refining Company, a distance of 43 miles from the property.

The nearest town is Bluff Creek, Colo., but there are no housing facilities available at this time either there or in Monticello. The applicants propose to contract the work, to an established drilling firm which would permanently furnish living quarters for personnel. Three house trailers are included in the cost estimate for housing employees. The only direct labor cost would be for supervision by the applicant's personnel already employed.

HISTORY, PRODUCTION AND GEOLOGY

Exploration for vanadium ores has been carried on in this region since before World War I, with production of vanadium-uranium ores in small quantities from many shallow mine workings. The area in the immediate vicinity of the applicant's Carnal claims was prospected by Ben H. Simpson and J. B. Claybaugh, Sr., about 1940, and a small tonnage of ore was mined on a rim exposure on the Fishbet Carnal claims on the east side of Fishbet Carnal Canyon, just east of the Carnal claims. Other small nearby operations, among them the Big Bluff, Jack Rabbit, Blue Jay Nos. 2, 4 and 5, and Hidden Silver were further south and east. There have been no mines with substantial production records closer than 4 miles distance away, and very little mining who done for uranium. It has not been possible to follow any of the deposits very far from the rim outcrops and the interior of the mesas to and near the Carnal group is unexplored.

Because most of the ore from this area was produced before World War II, available records are not complete and the uranium content is not recorded. Using Atomic Energy Commission figures, including records of the Union Mines Development Corporation during World War II, the production of the Middle Monument Canyon group, some 6 or 8 mines, including the Picket Corral workings, did not exceed an estimated 50 tons averaging 1.5 percent V_2O_5 and .083 percent U_3O_8, using a ratio for V_2O_5 to U_3O_8 of 18 to 1. The only significant production in the immediate area has come from the Cliff House group of the United States Vanadium Company 4 miles north, where an estimated 2,000 tons of "good" vanadium ore was mined prior to 1943. The Monument group, 7 miles northeast is reported to have produced 1,500 tons of ore, grade not given. Neither group is being operated at the present time.

The deposits of this area all contain ores with a comparatively high vanadium and lime content.

The 17 unpatented Corral claims, Nos.1 and 2 and 5 to 19 inclusive, were located by Ben H. Simpson, J. B. Claybaugh, Sr., and Fred C. Clymer. The locations were made on March 4, 1954 under AEC Circular No. 7, and amended notices were filed and recorded on September 1, 1954 to comply with Public Law 585. The claims are shown on a map with the geologic report. Several of the claim corners and discovery monuments and notices were found during the field examination and all appear to be in order. There are two other locations nearby which may conflict, but are probably not valid. One claim, the Mooney Uranium Lease, located by Chas. C. Goulding and James H. May is described on the location certificate as starting at "corner No. 2

300 feet north from the southeast corner of sec. 38" and extending 600 feet north of this point and 1,500 feet east. This places it in conflict with the applicant's Corral Nos. 7 and 8 claims. The date of location is the same as the Corral claims--March 4, 1954. However, the location of corner No. 2 is actually some 600 feet east of the described site. Assuming that the actual location on the ground governs, the claim probably does not conflict with the Corral group. Another location, Sunlight No. 1 claim, was found just east of the Corral No. 6 claim. The only corner found for this claim was No. 1, the southwest corner, and a location description was not found. The claim may conflict in part with Corral No. 6 claim. The Vitro Uranium Corporation has acquired the claims covered by the application on a purchase agreement, presumably without time limit, whereby the purchaser made a down payment of $1,700.00, is obligated to keep up the assessment work, and pays a royalty of 5 to 15 percent of the value of all ores shipped. The purchase agreement was not included in the copy of the applicant's brochure furnished the Mineral Resources Branch. In addition to the 17 claims included in the application, Vitro Uranium Corporation holds options on 98 adjoining claims. A further check on property rights was considered unnecessary inasmuch as it appeared that a denial of the loan would be recommended.

DESCRIPTION OF THE DEPOSITS

The rocks exposed in the vicinity of the property consist mainly of the upper horizons of the Salt Wash member of the Jurassic Morrison formation, with a thin cover of Brushy Basin sediments remaining in higher areas. The region is within a southwest extension of the

Uravan Mineral Belt, which has accounted for most of the production from the Salt Wash in the Gateway, Uravan and Slick Rock districts. The deposits mined to date in the vicinity of the applicant's property are in the top horizon of the Salt Wash formation and consist of discontinuous lenses of ore in rolls 2 to 3 feet wide and 15 to 20 feet long, found in rim exposures. There are no Salt Wash rim outcrops on the Corral claims. None of the nearby ore bodies found to date are of significant size, and geological criteria applied to the area do not indicate that deposits of greater size are present on the Corral claims. Thickening of the potential ore bearing sandstone, where seen in the rim outcrops, is not particularly prominent, and specific evidence of geologic conditions favorable to uranium deposition is lacking.

The largest deposits mined to date anywhere in the Monument Canyon area are 4 to 7 miles from the Corral claims and neither the aggregate production or the size of the individual ore lenses is large, the vanadium content being high in proportion to the uranium.

The Pure Luck mine, an operation of the Slagter Exploration Company about one mile northeast of the Corral group is reported to have developed a substantial ore body on the basis of results obtained by probing exploratory drill holes. However, results obtained by the Atomic Energy Commission in probing the same holes did not verify the operator's results, and the accuracy of the operator's evaluation is questionable. Drifting operations by the owner have just reached the deposit and it is reported to be good ore, but no later information is available.

The Atomic Energy Commission originally withdrew three areas several miles north, northwest and west of the Corral group. Two of these, except for a small strip, have been restored, and a Commission representative indicated that this strip will probably be restored soon.

The Commission's overall estimate of the inferred ore reserves in the area places them at 100,000 tons, which is small considering the size of the area involved, and they have concluded that there is very little chance of finding worthwhile ore deposits in the area which includes the Corral claims.

There has been no work done on the property other than establishing claim boundaries and reconnaissance. None of the adjoining claims have been worked recently. On Sec. 33, a Utah State School section adjoined by the applicant's property on the south and east, four core drill holes have been recently drilled through the potential ore bearing horizons, apparently without favorable result. The core from the holes had been left at the drill sites and was inspected by the examining team. Favorable rock conditions were not in evidence in this core. While it is probable that mineralized portions, if any, had been removed, the fact that the wide-spaced drilling had not been followed by closer spaced holes indicates that neither ore nor geologically favorable ground was found.

PROJECT PROPOSALS WITH COSTS

The applicant proposed a drilling program in two stages totaling 16,199 feet of wagon and rotary dry drilling at an estimated cost of $33,152.81, Government participation 75 percent, or $24,864.16.

The first stage would require 60 holes using wagon drilling in holes less than 150 feet deep for an estimated total of 7,335 feet, and 1,445 feet of rotary dry drilling for depths over 150 feet. The second stage consists of 32 holes averaging 146 feet each for a total of 7,446 feet. The unit cost per foot for contracted work, including drill sites and access roads is $1.08 per foot and the overall cost, exclusive of sample analysis is $1.99 per foot. Stage I drilling is planned on 300-foot centers to locate any mineralization and/or areas which are favorable geologically. Stage II drilling would test any ground found to be favorable.

PROPOSED FINANCING

The applicant company proposes to furnish its share of the cost in cash, which is being raised by the sale of stock.

CONCLUSIONS

The Gerval group of claims, while they may be considered to be within the limits of a southeast extension of the Grover mineral belt, are not in an area in which reconnaissance by Government Agencies or exploration of scattered rim "shows" has resulted in more than discovery of minor uranium-vanadium deposits. None of these were persistent enough in the immediate vicinity of the applicant's property, to warrant following them more than a few feet from the rim. Exploration to find this type of deposit by wide-spaced drilling might serve to delineate the more favorable areas, but discovery of deposits in these areas large enough to justify exploration costs is doubtful.

Repayment of the Government's share of the estimated cost, $64,084.16 would require production of about 51,000 pounds of U_3O_8, or more than 18,000 tons of ore, assuming a content of 0.25 percent U_3O_8, and maximum payment for V_2O_5 of ten times the U_3O_8 content. The possibility of producing more than a small portion of this tonnage from the formal group appears to be poor.

RECOMMENDATIONS

It is recommended that the application for Government assisted exploration be denied.

/dj

GEO-ENGINEERING

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 8 - 1954

APPLICATION FOR DMEA PROJECT ON THE CORRAL GROUP

Monument Canyon, San Juan County, Utah

Prepared for

UTCO URANIUM CORPORATION
718 Majestic Building
Denver, Colorado

By

GEO-ENGINEERING
304 Main Street
Grand Junction, Colorado

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APPLICATION FOR DMEA PROJECT ON THE CORRAL GROUP, PREPARED FOR ITCO URANIUM CORPORATION, 718 MAJESTIC BUILDING, DENVER, COLORADO

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APPLICATION FOR DMEA PROJECT ON THE CORRAL GROUP
Prepared for
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GEO-ENGINEERING
304 Main Street
Grand Junction, Colorado

October 20, 1954

APPLICATION FOR DMEA PROJECT ON THE CORRAL GROUP
Prepared for
UTCO URANIUM CORPORATION
718 Majestic Building
Denver, Colorado

INTRODUCTION

This report, written by Geo-Engineering for the purpose of applying for DMEA loan on the Corral Group of claims, is prepared for UTCO URANIUM CORPORATION. DMEA Form MF-103 has been signed and is attached as Exhibit 1. Numbers and letters in front of the headings of this report refer to parts of the MF-103.

ABSTRACT

This report, with Form MF-103 (numbers and letters in front of headings used in this report refer to parts of Form MF-103) attached as Exhibit 1, is an application for a Defense Mineral Exploration Administration project contract of the short form or unit cost type. A $33,152.21 project is proposed for exploring uranium lands in San Juan County, Utah (see Exhibit 1). A total of 14,107 feet of wagon drilling and 2,089 feet of rotary "dry hole" drilling with conventional tri-cone bit equipment is proposed on the Corral Group of claims in the Monument Canyon area of Utah (see Figure 1). A unit cost of $1.991 per foot is estimated for the work. Not included in this unit cost is an estimated $900.00 for custom assaying that is, however, included in the total proposed expenditure. Twenty-five percent of the total expenditure or $8,288.05 will be paid by the UTCO Uranium Corporation, the applicant. The Defense Mineral Exploration Administration is asked to loan $24,864.16 for this project. Locations for 62 holes of Stage 1 drilling that have been previously determined are shown on Plates 1 and 2. As the work progresses, however, it will likely become evident that some of the proposed holes might fall in areas that are geologically unfavorable for ore. The UTCO Uranium Corporation would, therefore, like the privilege of deciding whether any previously proposed hole should be drilled. It is requested that the footage saved, where the proposed holes are omitted, be transferred, with the permission of the DMEA Field Team, to other parts of the Corral Group that might be more favorable for ore.

The Corral Group lies within a favorable zone as it is within the extension of the Uravan Mineral Belt, that is an area defined by the United States Geological Survey in Bulletin 988-A as a "narrow, elongate area in southwestern Colorado in which carnotite deposits in the Morrison formation have a closer spacing, larger size and higher grade than those in adjoining areas. The belt extends from Gateway through Uravan to Slick Rock." The southwest extension of the belt is justified by the long, uninterrupted production records of the Garbutt, Big Hole, and Cottonwood groups.

The project will be under the direction of Mr. Ben Simpson, Grand Junction,

Colorado. Mr. Mason Rankin, Salt Lake City, Utah, will be the consulting geologist for the project.

1. NAME OF APPLICANT

a. UTCO Uranium Corporation, 718 Majestic Building, Denver, Colorado - See Form MF-103 attached as Exhibit 1.

b. & c. See Exhibit 2

2. GENERAL

The following report is written in accordance with the instructions on Form MF-103 of the Defense Minerals Exploration Administration and is intended to become an integral part of the enclosed application.

The letters and numbers used in headings for the parts of this report refer to the letters and numbers used on Form MF-103.

3. APPLICANT'S PROPERTY RIGHTS

a. & b. Legal Description and Name of Property

The land where the exploration work is to be performed consists of 17 adjoining, unpatented mining claims that will be referred to in this report and in future correspondence as the Corral Group. They are located in the west half on Section 33, T36S, R25E and in Sections 4 and 5, T37S, R25E of Salt Lake Principal Meridian. The Utah-Colorado border is about 8 miles east. Monticello, Utah, is 18 air miles northwest while Dove Creek, Colorado, is 18 miles northeast (see Exhibit 2).

c. Interest

The interest of UTCO Uranium Corporation in this property is given in Exhibit 2 under Corral Group "A".

e. Outstanding Liens

There are no outstanding liens against this property.

f. Description of Location Notices

The 17 claims were located under D. U. P. Circular No. 7 (see Exhibit 2).

These Circular 7 notices were filed with the County Recorder for San Juan

County, Monticello, Utah, on March 6, 1954, and recorded in Book 67, pages 42 through 50, inclusive.

Amended location certificates for the 17 claims have been made and recorded at Monticello. Due to the present rush of amended locations in the office of the County Recorder, the new certificates have not been assigned Book and page numbers.

4. PHYSICAL DESCRIPTION OF PROPERTY

a. Operations

There are no mine workings on the claims. Information from two diamond drill holes in Section 32 and two small prospect holes in the center of Section 4 were used to project the probably ore horizon. This information was used in determining drilling depths. No logs from the drill holes or ore samples from the small mines were available.

b. Production and Ore Reserves

There has been no past production and there are no known ore reserves on the Corral Group.

c. Geological Features

Stratigraphy: The proposed drill holes will be collared in both the upper and lower members of the Morrison formation. All holes will be drilled to the red mudstone underlying the sandstone lenses, that occurs near the top of the lower member of the Morrison. Sandstone lenses occurring in the central stratigraphic zone mentioned have been the host rocks for at least 90% of the total Morrison formation uranium production. There have been some ore horizons in the upper member that have been productive. These will be tested in the proposed program incidental to the exploration of the deeper and more productive horizons.

No formations older than the Morrison are exposed on the claims. Alluvial deposits are the only younger deposits present.

Structure: The regional dip of this section is about 46 feet to the mile in a southerly direction. Surface relief varies up to 300 feet on the claims.

Ore Deposits: This property is within the projected limits of the Uravan Mineral Belt (see Figure 1). The "Uravan Mineral Belt" has been defined by the United States Geological Survey in Bulletin 988-A as "a narrow, elongate area in southwestern Colorado in which carnotite deposits in the Morrison formation have a closer spacing, larger size and higher grade than those in

the adjoining areas. The belt extends from Gateway through Uravan to Slick Rock."

The southwestern extension of the belt is justified by the long, uninterrupted production record of the Garbutt, Big Hole, and Cottonwood groups. The fact that the United States Atomic Energy Commission has withdrawn land within the southwestern extension further confirms the validity of such an extension.

Justification of Exploration: The Corral Group lies within the extension of the Uravan Mineral Belt. Several claims near this group have produced ore. The Slagter Exploration Company, the United States Vanadium Company, Dulaney Mining Company, and many others have properties in the area.

It is the opinion of the writers that $33,152.21 can be spent for exploratory drilling on the Corral Group with reasonable assurance that a 5% royalty payment on the mined ore discovered by such a program will reimburse the total cost.

d. Accessibility

The Corral Group lies 18 air miles southeast of Monticello, Utah, and 18 air miles southwest of Dove Creek, Colorado. The Atomic Enery Commission mill at Monticello, Utah, is 56 miles over dirt, gravel, and oiled roads. Other uranium mills in Colorado are over 100 miles away.

5. THE EXPLORATION PROJECT

a. See Exhibit 1 (Form MF-103) - Will explore for uranium.

b. Proposed Work

Drills will be provided by private drilling contractors (see Schedules 3 & 4).

It is estimated that it will take six (6) months to complete the project if one drill is used. The employment of more than one drill would result in inadequate geological control, wasted footage, and an increase in exploration costs per ton if ore is discovered.

Proposed Holes: The proposed holes are shown on Plates 1 and 2. Estimated hole depths are listed in Schedules 1 and 2. Although only 62 holes of Stage I Drilling are shown on Plates 1 and 2, it is estimated that at least 114 holes will be needed to even sparsely explore the Group. It is recommended that a DMEA contract be allowed for a 114 hole project but that the selection of locations for the 52 Stage II holes be made with the approval of the DMEA Field Team after data from some of the preliminary Stage I

drilling has been accumulated. It is anticipated that most of the Stage II drilling will be around Stage I holes that have penetrated ore. Certainly all Stage II locations will be in areas where Stage I drilling has revealed favorable geology.

Logging and Sampling: An accurate log will be kept by the driller. Samples will be sacked and stored until the Consulting Geologist can examine them, using a field gamma ray detecting device. All samples showing radioactivity will be sent to commercial assayers for percentage determination of U_3O_8, V_2O_5, and $CaCO_3$.

Geologic Control of Drilling: UTCO Uranium Corporation asks the privilege of not drilling any of the proposed holes shown on Plate 1 and 2 if, in the opinion of the company manager, they fall in an area which, based on previous drilling information, is considered unfavorable. Footage thus saved would be used in more favorable areas, at locations approved by the DMEA Field Team. The criteria used in determining unfavorable areas will be the same as those used by the United States Geological Survey and by the United States Atomic Energy Commission in their drilling programs. These are discussed by Doris Blackman Wier (Wier, Doris Blackman, 1952. Geologic Guides to Prospecting for Carnotite Deposits on Colorado Plateau. U. S. Geological Survey Bulletin 988-B). The reader is referred to this report for information lacking in the following brief discussion.

Previous experience has taught the writers that, although all of the criteria listed by Mrs. Wier are important, sandstone thickness and color of basal sandstone are the best guides in this area.

When Stage I holes penetrate one foot or more of gray-green sandstone at the base of a potentially ore-bearing sandstone that is over 30 feet thick, UTCO Uranium Corporation might recommend to the DMEA Field Team that Stage II drilling be done around such holes.

The Drilling Plan: It is recommended to the Defense Minerals Exploration and to the UTCO Uranium Corporation that the following plan be used:

1. The 62 proposed holes as shown on Plates 1 and 2 should be drilled at the sites selected unless previous information makes it advisable to modify this plan.

2. The 62 proposed holes are "wildcat" holes recommended to find favorable areas and/or to eliminate large areas as being unfavorable.

3. Stage II drillng should be recommended to the DMEA as

soon as the location of any of the 52 holes recommended can be intelligently determined.

4. Stage II drilling should be performed only in those areas that can be recommended as favorable.

5. All deposits of ore or uraniferous and/or vanadiferous sandstone encountered should be tested by drilling at 25 to 50 feet intervals.

c. Time

The work will start within 15 days and be completed within six (6) months from the date of an exploration project contract (see Exhibit 1).

d. Ability of Applicant

Company Supervisor - Ben H. Simpson (see Exhibit 3).

Consulting Geologist will be Mr. Mason Rankin of Salt Lake City, Utah.

6. ESTIMATE OF COSTS

It is the desire of UTCO Uranium Corporation that this exploration project contract be placed on a unit cost basis. Schedule 5 gives the exact amount bid per unit by UTCO Uranium Corporation for performing the exploration work. Custom assaying is not included in the cost per foot for drilling because the making of an accurate estimate is difficult. The $6.00 per sample bid for custom assaying is the exact amount that will be charged to the UTCO Uranium Corporation.

a. Independent Contracts

All drilling and bulldozer work will be performed by independent contractors.

Drilling: Private contractors will do the drilling. The prices quoted by firms active in the uranium field are used in the unit cost columns of Schedule 2 and 3. A total of 8,783 feet of Stage I drilling at an unit cost of $0.841 per foot gives an estimate of $7,389.50 (see Schedule 2).

Prices quoted from 0 feet to 150 feet are for wagon drills using pneumatic drills. For holes below 150 feet, the price is for rotary "dry hole" drilling using a conventional tri-cone bit assembly.

Estimation for the cost of the holes proposed for Stage II drilling is based on a depth of 142 feet. A total of 7,416 feet of Stage II drilling at an unit cost of $0.766 per foot gives an estimate of $5,681.60 (see Schedule 3).

Bulldozer contract: Bulldozers are readily available in the area for about $100.00 per day. Many of the Stage II locations will be selected from results of Stage I drilling, therefore, it will be necessary to have a bulldozer hauled to the group at least four different tims at a cost of about $100.00 for each round trip. It is estimated that the bulldozer will have about 30 days of work on the group.

b. Labor, Supervisors, Consultants

Mr. Ben H. Simpson will be supervisor of the project (see Exhibit 3).

Mr. Mason Rankin will be consulting geologist for this project.

A draftsman and stenographer will be employed on a part time basis to prepare necessary maps and reports (see Schedule 4).

c. Operating Materials and Supplies

An estimate of $150.00 is made for the cost of map reproduction and office supplies or a total of $900.00 for the project. $25.00 is estimated for the cost of field supplies for the project (see Schedule 4).

d. Operating Equipment

All operating equipment will be provided by independent contractors.

e. Rehabilitation and Repairs

None needed.

f. New Buildings, Improvements and Installations

It will be necessary for the project personnel to live on the property as it is some distance from town. Provisions are made herein (see Schedule 4) for the rental of three house trailers that will be moved onto the Corral Group.

g. Miscellaneous

An estimate of $100.00 per month is made to cover accounting and other office expenses.

An amount of $118.08 or 10% of draftsman and stenographic wages is allowed for payroll taxes.

The cost of analytical work is not covered in the cost per foot. A separate unit cost of $6.00 per sample is added on Schedule 5.

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APLLICATION FOR DMEA PROJECT ON THE CORRAL GROUP, PREPARED FOR UTCO URANIUM CORPORATION, 718 MAJESTIC BUILDING, DENVER, COLORADO

h. Contingencies (see Schedule 5)

Independent contractors vary the charge for drilling with the depth of the hole. Hole depths for Stage II drilling in Schedule 3 were proportioned to Stage I drilling.

Estimates for the payments to contractors for road building and drill site preparation may be inadequate as they are based on an hourly rate for bulldozer only. It is possible that some of the roads crossing the sandstone ledges might require rock drilling and blasting.

In view of the above, it seems reasonable to add 15% for contingencies to the estimate of amounts to be paid to independent contractors.

Labor, Supervision, and Consultants: Payment for these services are on an hourly or monthly basis. Any event that might prolong the project would increase the cost of this item. 10% is added to cover this possible increase.

Operating Materials and Supplies: Since these materials are estimated at a minimum, any unforseen consumption of materials and supplies could easily increase the cost of these items by 20%.

New Buildings, Installations: In the event of any prolonging of the project, some personnel would have to remain on the property. 10% is added for this contengency.

Miscellaneous: 50% of the miscellaneous account of 6g is added to provide for any extra help and for unforseen taxes.

7. APPLICANT'S SHARE OF COST

In accordance with the Defense Minerals Exploration Administration regulations, UTCO Uranium Corporation is prepared to assume 25% of the cost of the project by paying $8,288.05 in cash. Reimbursement by DMEA will be in accordance with Schedule 5 less 25%. The amount to be loaned by the Government for each unit of work performed will be 25% less than the amounts shown in Schedule 5.

Respectfully submitted,

GEO-ENGINEERING

LOUIS P GAGGINI

Harold A Culp
HAROLD A CULP

Lewis D. Anderson
LEWIS D ANDERSON

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APPLICATION FOR DMEA PROJECT ON THE CORRAL GROUP, PREPARED FOR UTCO URANIUM CORPORATION, 718 MAJESTIC BUILDING, DENVER, COLORADO

Hole No. C-	Claim	Est. Cllr. Elevat.	Est. Bottom Elvtn	Est Depth	Hole No. C-	Claim	Est. Cllr. Elevat.	Est. Bottom Elvtn	Est. Depth	Hole No. C-	Claim	Est. Cllr. Elevat.	Est. Bottom Elvtn	Est. Depth
1	C-15	5985	5945	40	25	C-16	6070	5970	100	49	C-10	6205	6005	200
2	C-15	6005	5945	60	26	C-16	6140	5970	170	50	C-9	6185	6005	180
3	C-19	6015	5945	70	27	C-6	6075	5975	100	51	C-10	6230	6010	220
4	C-15	6005	5950	55	28	C-5	6110	5975	135	52	C-9	6240	6010	230
5	C-19	5985	5950	35	29	C-5	6130	5975	155	53	C-10	6170	6015	155
6	C-15	6015	5955	60	30	C-2	6145	5975	170	54	C-10	6235	6015	220
7	C-19	6000	5955	45	31	C-2	6135	5975	160	55	C-9	6270	6015	255
8	C-19	6020	5955	65	32	C-2	6165	5975	190	56	C-12	6225	6020	205
9	C-18	6025	5955	70	33	C-6	6130	5980	150	57	C-11	6240	6020	220
10	C-18	6040	5955	85	34	C-5	6165	5980	185	58	C-12	6260	6025	235
11	C-18	6060	5955	105	35	C-1	6155	5980	175	59	C-12	6255	6025	230
12	C-14	6035	5960	75	36	C-1	6170	5980	190	60	C-11	6385	6025	260
13	C-13	6005	5960	45	37	C-1	6195	5980	215	61	C-12	6260	6030	230
14	C-18	6010	5960	50	38	C-6	6145	5985	160	62	C-11	6280	6030	250
15	C-17	6040	5960	80	39	C-5	6095	5985	110					
16	C-17	6070	5960	110	40	C-5	6100	5985	115					
17	C-14	6055	5965	90	41	C-8	6065	5990	75					
18	C-13	6040	5965	75	42	C-7	6160	5990	170					
19	C-13	6040	5965	75	43	C-8	6175	5995	180					
20	C-16	6045	5965	80	44	C-8	6135	5995	140					
21	C-16	6085	5965	125	45	C-7	6200	5995	205					
22	C-14	6125	5970	155	46	C-8	6160	6000	160					
23	C-13	6115	5970	145	47	C-7	6170	6000	170					
24	C-16	6090	5970	120	48	C-10	6200	6005	195					

TOTAL FOOTAGE---------- 8,783

SCHEDULE 1

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304 Main Street
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APPLICATION FOR DMEA PROJECT ON THE CORRAL GROUP, PREPARED FOR UTCO URANIUM CORPORATION, 718 MAJESTIC BUILDING, DENVER, COLORADO

SCHEDULE 2

DRILLING SUMMARY

Hole No.	Estimated Total Depth	Ft. 0-50	Ft. 50-100	Ft. 100-150	Ft. Over 150
1	40	40			
2	60	50	10		
3	70	50	20		
4	55	50	5		
5	35	35			
6	60	50	10		
7	45	45			
8	65	50	15		
9	70	50	20		
10	85	50	35		
11	105	50	50	5	
12	75	50	25		
13	45	45			
14	50	50			
15	80	50	30		
16	110	50	50	10	
17	90	50	40		
18	75	50	25		
19	75	50	25		
20	80	50	30		
21	125	50	50	25	
22	155	50	50	50	5
23	145	50	50	45	
24	120	50	50	20	
25	100	50	50		
26	170	50	50	50	20
27	100	50	50		
28	135	50	50	35	
29	155	50	50	50	5
30	170	50	50	50	20
31	160	50	50	50	10
32	190	50	50	50	40
33	150	50	50	50	
34	185	50	50	50	35
35	175	50	50	50	25
36	190	50	50	50	40
37	215	50	50	50	65
38	160	50	50	50	10
39	110	50	50	10	
40	115	50	50	15	
41	75	50	25		
42	170	50	50	50	20
43	180	50	50	50	30
44	140	50	50	40	
45	205	50	50	50	55
46	160	50	50	50	10
47	170	50	50	50	20
48	195	50	50	50	45
49	200	50	50	50	50
50	180	50	50	50	30
51	220	50	50	50	70
52	230	50	50	50	80
53	155	50	50	50	5
54	220	50	50	50	70
55	255	50	50	50	105
56	205	50	50	50	55
57	220	50	50	50	70
58	235	50	50	50	85
59	230	50	50	50	80
60	260	50	50	50	110
61	230	50	50	50	80
62	250	50	50	50	100
TOTALS	8783	3065	2465	1805	1445
Price per foot		$0.65	$0.75	$0.85	$1.50
Costs--------		$1839.00	$1,848.75	$1534.25	$2,167.50

TOTAL COST, STAGE I -- $7,389.50

GEO-ENGINEERING
304 Main Street
Grand Junction, Colorado

APPLICATION FOR DMEA PROJECT ON THE CORRAL GROUP, PREPARED FOR UTCO URANIUM CORPORATION, 718 MAJESTIC BUILDING, DENVER, COLORADO

ESTIMATION OF AMOUNT TO BE PAID TO INDEPENDENT CONTRACTORS

Explanation	Unit	No. of units	Cost per u.		Total cost		Grand Total	
Drilling Contractor								
Stage I Drilling (see Schedule 2)	ft.	8783	$ 0	841			$ 7,389	50
Stage II Drilling								
52 holes of 142' each								
0' - 50'	ft.	3314	0	60	$1988	40		
50' - 100'	ft.	2121	0	75	1590	75		
100' - 150'	ft.	1337	0	85	1136	45		
150' plus	ft.	644	1	50	966	00		
Total Stage II Drilling----------		7416	0	766			5,681	60
Bulldozer Contractor								
Trips to and from property	trip	4	100	00	400	00		
Rental, with operator	day	30	100	00	3000	00		
							3,400	00
TOTAL ESTIMATED AMOUNTS TO BE PAID INDEPENDENT CONTRACTORS----------	feet	16,199	1	017			$16,471	10

SCHEDULE 3

GEO-ENGINEERING
304 Main Street
Grand Junction, Colorado

APPLICATION FOR DMEA PROJECT ON THE CORRAL GROUP, FOR UTCO URANIUM CORPORATION, 718 MAJESTIC BUILDING, DENVER, COLORADO

SCHEDULE 4

ESTIMATED COSTS UNDER 6b, 6c, 6f & 6g, MF-103

	Cost per hour	Cost per day	Cost per month	Cost on project	Cost each letter heading
6b. Labor, Supervision & Consultants					
Consultant Fee			$450.00	$2700.00	
Project Supervisor			600.00	3600.00	
Supervisory Expenses		$10.00	250.00	1500.00	
Draftsman 48 hrs/mo.	$3.00		144.00	864.00	
Typist 24 hrs/mo.	2.20		52.80	316.80	
Total under 6b (Form MF-103) 16,199'					$8,980.80
6c. Operating Materials & Supplies					
Office supplies, map & drill log reproduction for Monthly Reports & other correspondence with DMEA			150.00	900.00	
Survey stakes & other field exp. 16,199'				25.00	
Total under 6c (Form MF-103)					$925.00
6f. New Buildings, Installations					
3 trailer houses for project personnel (rental)			150.00	900.00	
Total under 6f (Form MF-103) 16,199'					$900.00
6g. Miscellaneous					
UTCO Uranium Corporation expenses for accounting, etc.			100.00	600.00	
Payroll Taxes @ 10% of 6b (draftsman & typist)				118.08	
Total under 6g (Form MF-103) 16,199'					$718.08

GEO-ENGINEERING
304 Main Street
Grand Junction, Colorado

APPLICATION FOR DMEA PROJECT ON THE CORRAL GROUP, PREPARED FOR UTCO URANIUM CORPORATION, 718 MAJESTIC BUILDING, DENVER, COLORADO

SCHEDULE 5

SUMMARY OF COSTS

	Units	No. of Units	Cost per Unit	Total Cost	
a. Independent Contractors (Sch 3)	ft.		$1.017	$16,471	10
b. Labor, Supervision & Consultants (Schedule 4)	ft		0.554	8,980	80
c. Operating Material & Supplies (Schedule 4)	ft		0.057	925	00
d. Operating Equipment	None				
e. Rehabilitation	None				
f. New Building, Installations (Schedule 4)			0.056	900	00
g. Miscellaneous			0.044	718	08
h. Contingencies					
For a. above, 15%				2,717	73
For b. above, 10%				898	00
For c. above, 20%				185	00
For f. above, 10%				90	00
For g. above, 50%				359	04
Calculated Unit Cost, 16,199 ft.			$1.991	$32,244.75 3.77	
Calculated Cost of Project using Unit Cost bid and before allowance for Analytical Work----------				$32,252.21	
Analytical					
U_3O_8 Analysis	Sample	150	3.50	525	00
V_2O_5 Analysis	Sample	150	1.50	225	00
$CaCO_3$ Analysis	Sample	150	1.00	150	00
GRAND TOTAL----------				$33,152	21
Cost of Project during DMEA Participation----------				$33,152	21
Less 25% to be paid by UTCO Uranium Corporation-------				8,288	05
AMOUNT OF DMEA LOAN REQUESTED----------				$24,864	16

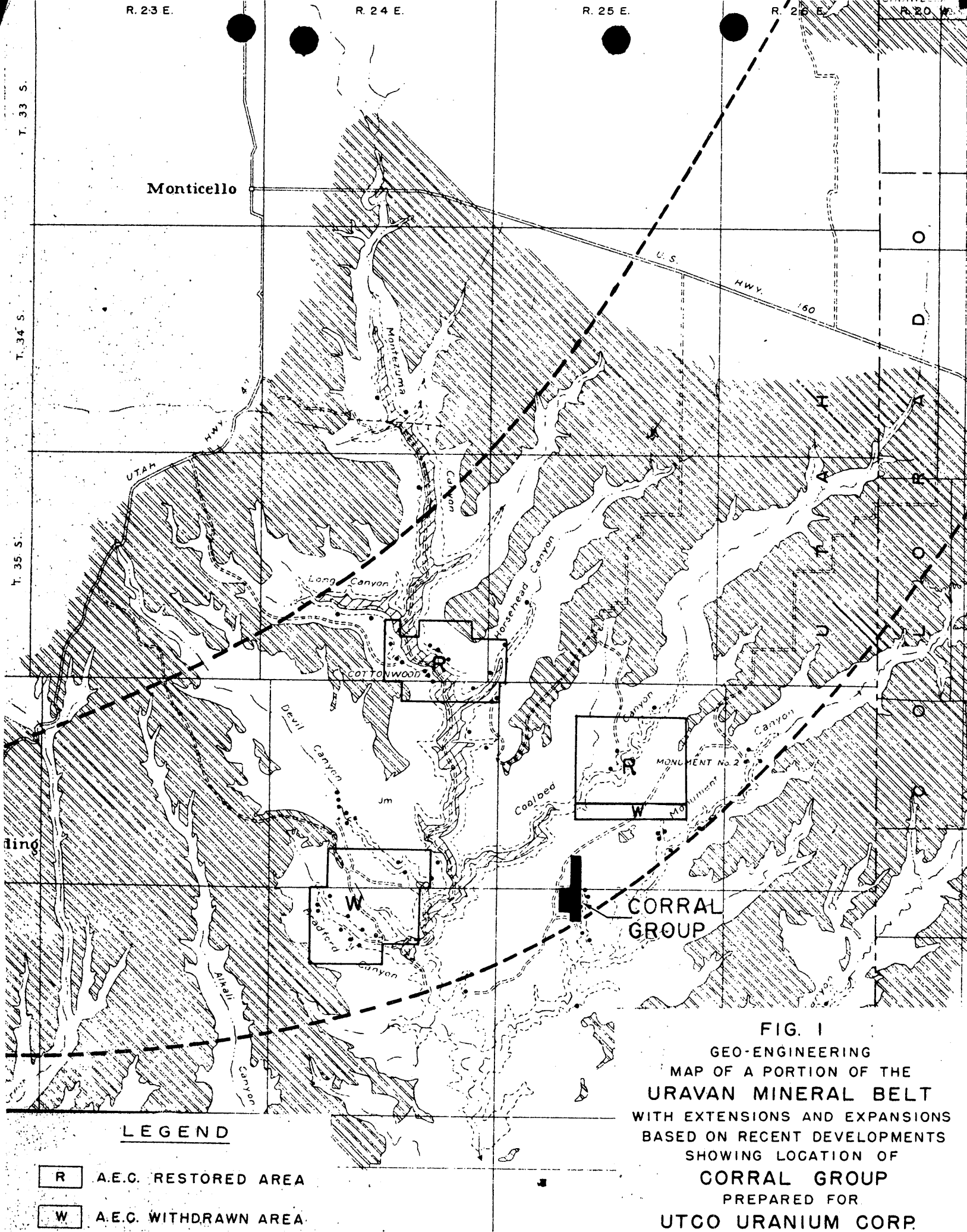


FIG. 1
GEO-ENGINEERING
MAP OF A PORTION OF THE
URAVAN MINERAL BELT
WITH EXTENSIONS AND EXPANSIONS
BASED ON RECENT DEVELOPMENTS
SHOWING LOCATION OF
CORRAL GROUP
PREPARED FOR
UTCO URANIUM CORP.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 3 - 1954

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. 3567
Metal or Mineral Uranium
Date Received
Estimated Cost $33,152
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: UTCO Uranium Corporation, 718 Majestic Building, Denver, Colorado

(*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
17 claims in Monument Canyon area, San Juan County, Utah (see Exhibit 2)

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

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

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

(*e*) If you own the land, describe any liens or encumbrances on it
no liens on property

(*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 15 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)?

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

[X] Money [ ] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated _____, 195__

George S. Casey
(Applicant)

GEORGE S. CASEY

By _____

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

EXHIBIT I

OFFERING CIRCULAR

June 12, 1954

1,700,000 SHARES

UTCO URANIUM CORPORATION

COMMON STOCK

A copy of this Offering Circular and other material has been filed with the Regional Office of the Securities and Exchange Commission Denver, Colorado

THESE SECURITIES ARE OFFERED BY UTCO URANIUM CORPORATION AS A SPECULATION

	Price to Public	Underwriting Commissions	Proceeds to Company
1,500,000 SHARES— Public Offering			
Per Share	.10	.02½	.07½
Total	$150,000.00	$37,500.00	$112,500.00
200,000 SHARES— Reserved for Option to Underwriter			
Per Share			.10
Total	$20,000.00	None	$20,000.00 *

UNDERWRITER

AMOS C. SUDLER & CO.

FIRST NATIONAL BANK BUILDING
DENVER 2, COLORADO

These securities are offered pursuant to any exemption from registration with the Securities and Exchange Commission. The Commission does not pass upon the merits of any securities nor does it pass upon the accuracy or completeness of any offering circular or other selling literature.

No dealer, salesman or other person has been authorized to give any information or to make any representations other than those contained in this Offering Circular in connection with the offering contained in this Offering Circular, and if given or made, such information or representations must not be relied upon. This Offering Circular does not constitute an offering by the Company or the Underwriter in any State in which it is unlawful to make such offering.

In connection with this offering, the Underwriter may effect transactions which stabilize or maintain the market price at a level above that which might otherwise prevail in the open market. Such stabilization, if commenced, may be discontinued at any time. As this is a new issue there is no present market price.

**The sum specified represents net proceeds only if the Underwriter's option is fully exercised. See "Underwriting Agreement" herein.*

The date of this Offering Circular is June 12, 1954.

C. 7-21-54

MANAGEMENT AND CONTROL

The names and addresses of the executive officers and directors of the Company are as follows:

Name	*Office*	*Address*
George S. Casey	President & Director	158 S. Humboldt St., Denver Colo. & 613 Harrison Ave., Leadville, Colo.
Fred C. Clymer	V.-Pres. & Director	Grand Junction, Colorado
Harold C. Thompson	Secretary & Director	1908 Oneida Ave. Denver, Colo.
John H. Alff	Treasurer & Director	442 S. Penn. St., Denver, Colo.
J. B. Claybaugh, Sr.	Director	Whitewater, Colo.

General supervision of the Company's business will be under the directors and officers, and the supervision of exploratory and mining operations will be under George S. Casey, President and Director of the Corporation. Mr. Casey has for a number of years been engaged in the insurance agency business and in the mining investment business at Leadville, Colorado. Mr. Fred C. Clymer, Vice-President and Director, is owner of Clymer's Dairy at Grand Junction, Colorado. Mr. J. B. Claybaugh, Sr., Director, is a ranch owner and stockman, located at Whitewater, Colorado. Mr. Harold C. Thompson, Secretary and Director, is Counsel, Colorado Compensation Insurance Fund, at Denver, Colorado, and Mr. John H. Alff, Treasurer and Director is employed in the security investment business.

UTCO URANIUM CORPORATION

(A Colorado Corporation)

1,500,000 Shares Common Stock Offering price 10 Cents Per Share.

200,000 Shares Reserved Under Option at 10 Cents Per Share.

Stock Transfers by Company at 718 Majestic Bldg., Denver, Colorado.

BUSINESS AND PROPERTY

Utco Uranium Corporation (hereinafter called the "Company") was incorporated under the laws of the State of Colorado on May 24, 1954, and is duly qualified to do business in Colorado. Its principal office is located at 718 Majestic Building, Denver, Colorado.

The business of the Company is the exploration, development and operation of uranium mining properties. The Company is in the exploratory stage.

The purpose of the present offering is to secure financing to pay the acquisition costs of uranium claims and leases, and to conduct exploratory and development work on such properties, below described, or upon other mineral or natural resource properties which the Company might hereafter acquire, to the extent that funds are available, and to conduct preliminary mining operations where adjudged suitable by the result of such exploratory and development work.

The Company holds approximately 2,800 acres by assignment under application for Atomic Energy Commission lease, by option for assignment of Atomic Energy Commission leases, and by leases of unpatented lode mining claims. The names, locations and descriptions of the said properties are as follows:

CORRAL GROUP "A"

Name	*No. of Tracts*	*Acres*
Corral Nos. 1 and 2	2	40
Corral Nos. 5 to 19, both inclusive	15	300

The foregoing properties, comprising a total of seventeen (17) tracts of approximately twenty acres each, are mining locations upon the public domain. Application (Serial #92) to the Atomic Energy Commission for a mining lease thereon has been made by the original locators pursuant to Domestic Uranium Program Circular No. 7. The Company has purchased for the sum of $1,700.00 the rights of the original locators in and to such properties and the right to an assignment of such Atomic Energy Commission lease when and if it should be granted. A royalty is reserved to such locators amounting to five per cent (5%) of ores containing .15% uranium or under; 10% of ores containing .16% to .20% uranium; and 15% of ores containing .21% uranium or over, together with 15% of any government bonus for production of uranium ores, excluding development and haulage allowances. If the principal value of any such ores should consist of vanadium content, then the reserved royalty is 15% thereof. According to Domestic Uranium Program Circular No. 7 issued by the Atomic Energy Commission, leases granted thereunder will be five-year mining leases subject to assessment work of $100.00 per year per lease tract with an annual rental of $10.00 per tract payable to the Commission. The first year's rental has been paid by the original locators. It is therefore anticipated that pursuant to Circular No. 7 and A.E.C. leases issued upon the aforesaid tract will be for a primary term of five years and renewable as to any or all of such tracts for not more than five additional periods of three years each upon timely written application by a lessee in good standing.

CORRAL GROUP "B"

Name	*No. of Tracts*	*Acres*
Corral Nos. 3 & 4	2	40
Corral Nos. 20 to 37, both inclusive	18	360
Corral Nos. 38, 40, 43, 44, 47 and 50	6	180
Corral Nos. 55 to 65, both inclusive	12	240
Corral Nos. 68 to 72, both inclusive	5	100
Corral Nos. 74 to 80, both inclusive	7	140
Corral Nos. 82 to 117, both inclusive	36	720
Corral Nos. 119 and 121	2	40
Tanks Nos. 1 to 4, both inclusive	4	80

The Corral and Tank lease tracts listed immediately above were likewise originally located as mining lease locations upon the public domain and are the subject of application to the A.E.C. for mining leases under Domestic Uranium Program Circular No. 7 in the same manner as hereinabove described in connection with the "A" group. The Company holds an option to acquire such properties by assignment of such A.E.C. leases when and if the same shall be issued, for a purchase price of $9,200.00, being $100.00 per tract, payable to the original locators who are the grantors of the said option. The option is exercisable within six months after the date upon which the Atomic Energy Commission shall assign lease numbers to the locator's lease applications. The royalty retained by the original locators is the same as that reserved in the Corral "A" group above-mentioned, the maximum being 15%. Similarly, any Atomic Energy Commission leases issued pursuant to Circular No. 7 are expected to contain the provisions already described hereinabove.

The foregoing groups of leased tracts, purchased and subject to option to purchase, as above set forth, comprise a continuous strip or group of contiguous tracts in San Juan County, Utah, in Sections 28, 29 and 33, Township 36 South, Range 25 West, and in Sections 4, 5, 8 and 17, Township 37 South, Range 25 East, and in Sections 7, 13, 18 and 24, Township 37 South, Range 24 East. The notices of lease application as posted upon said lease tracts are filed in the records of the County Recorder, San Juan County, Utah, in Book 67, Pages 42-50, inclusive; Book 85, Page 405; Book 75, Pages 17-25, inclusive; Book 83, Pages 406-439, inclusive; and Book 75, Pages 15 and 16. The original locators of all such lease tracts and the applicants for such A.E.C. leases were Ben N. Simpson, J. B. Claybaugh, Sr. and Fred C. Clymer, the latter two of whom are now directors of the Company.

EAST CANYON GROUP

Name	No. of Claims	Acres	Royalty
Windfall No. 17	1	20	15%
Windfall Nos. 21 to 30, both inclusive	10	200	15%
Windfall Nos. 64 to 69, both inclusive	6	120	15%

The foregoing properties are unpatented lode mining claims situated in a compact group in Dry Valley (Unorganized) Mining District in San Juan County, State of Utah, in Sections 22, 23, 26 and 27, Township 31 South, Range 24 East (S.L.M.). Lease on such claims was acquired for the Company by Mr. George S. Casey. To acquire and hold such lease for the company prior to its incorporation, Mr. Casey agreed to and did expend upon such property, $1,700.00 prior to June 1, 1954. The total cost to the Company of acquiring such lease was approximately $2,500.00, being the actual expense incurred by Mr. Casey for acquiring the property, performing the preliminary work committment and obtaining preliminary geological report. No payment was or is to be made by the Company in any form to Mr. Casey for such services. Such lease is for a term of five years with renewal option for an additional five years. It can be surrendered by the Company upon 30-day notice and is subject to forfeiture if the lessee shall fail to perform $1,000.00 of exploration and development work upon such properties during each successive three-month periods. Such work committment has been met through July 31, 1954. The royalty reserved to the lessor is 15%. Location certificates are of record, San Juan County, Utah, Book 21, Pages 53 and 57-66, and Book 27, Pages 350-355.

CARPENTER FLATS

Name	No. of Claims	Acres
Uratex No. 11 and 13	2	40
Uratex Nos. 15 to 29, both inclusive	15	300
Uratex No. 31	1	20

The above-mentioned properties are a compact group of unpatented lode mining claims located in the Roc Creek Mining District, Montrose County, Colorado, in Sections 9, 10 and 15, in Township 48 North, Range 18 West (N.M.P.M.). The Company holds such claims under lease identical in its provisions to the lease above-described upon the East Canyon Group. The royalty reserved to the lessors is 15%. The cost to the Company of acquiring such lease was, as in the case of the East Canyon Group above-mentioned, the acquisition, geological and work committment expense incurred by Mr. George S. Casey, amounting to approximately $2,500.00. The Company has no further work committment to meet under such lease until after July 31, 1954. Location certificates are of record in Montrose County, Colorado in Book 357, at Pages 104-113.

FURTHER EXPLORATION

Included within this Offering Circular as a part hereof is a preliminary geological report upon the Company's properties hereinabove described by Louis P. Gaggini and Lewis D. Anderson, both of whom are Colorado registered engineers and independent consultants. After ten years of general experience as a mining engineer and foreman, Mr. Anderson served as Mine Superintendent for the Dulaney Mining Compay, having general supervision of several small uranium mines. He later was employed as a mining engineer for United States Vanadium Corporation, his work being supervision of mines and sampling plants. Mr. Gaggini has served as geologist for the Atomic Energy Commission, Grand Junction, Colorado, his work then being property examination and administration of exploration programs. He served for a short while as geologist for United States Vanadium Corporation at Uravan, Colorado, having direction of uranium exploration projects and later was General Superintendent in charge of mining and exploration for the Dulaney Mining Company, and for about a year was Manager of the uranium division of the J. R. Simplot Company. At present, both Mr.

Anderson, and Mr. Gaggini are independent consultants. Neither has any interest, directly or indirectly, in Utco Uranium Corporation, or in any of its properties or in any properties which would be benefitted by development of its properties.

In view of the reference in the preliminary geological report of various known mines and ore bodies in the general vicinities of the various groups of properties held by the Utco Uranium Corporation, and especially in view of the reference to the Slagter Exploration Company's publicized discovery within approximately a mile of a portion of the Corral group, the Company points out with emphasis that the existence of ore bodies in proximity to any of the Company's property is not to be regarded as any indication whatsoever of the existence or of the probable or even possible existence of ore bodies on the Company holdings. In the judgment of the Company, preliminary geological appearances on or in the vicinity of the Company's various group holdings warrant exploratory or development work to test portions of the area. To date, however, operation and information are too preliminary in nature to indicate the extent, if any, that proven or probable ore exists on these holdings or any of them, and no implication with respect thereto is intended. In addition, insufficient information is presently available upon which to base any estimates of exploratory, development and mining costs for determining the quantity and value of ore which must be discovered before mining operations can be conducted on a commercial basis. Until further work is done, the Company will not be in a position to ascertain whether such holdings or any portions of them contain commercial ore. No representation is or can be made that uranium, vanadium or any other valuable minerals exist on or under any of such properties. In the event that exploratory activities conducted on the properties do not result in the discovery of commercial bodies of ores, a possibility which may occur, the amount expended by issuer to acquire said properties and to explore and develop them will be total losses. For these reasons, it must be recognized that the public offering proposed herein is purely speculative. The issuer owns no interest, direct or indirect, in mining claims or other properties except as set forth herein.

It is the present intention of the company to conduct wide-space or reconnaissance drilling upon the company's property to search for areas worthy of more intensive investigation with the first of such drilling upon the Corral "A" Group.

USE OF PROCEEDS

If all shares being offered to the public are sold, the net proceeds to the Company will be $112,500.00. If after completion of such public offering, the Underwriter's option for the purchase of 200,000 shares at 10¢ per share should be exercised in full, the additional net proceeds to the Company would be $20,000.00, making the total net proceeds to the Company of the within offering $132,500.00. Such net proceeds will be added to the general funds of the Company and are presently intended to be used approximately as indicated:

Payment by Company of cost of acquiring properties:		
Corral Group "A" purchased	$1,700.00	
Corral Group "B" option to purchase	—	
Carpenter Flats Group (allocation approx.)	1,935.67	
East Canyon Group	2,135.66	
Not Allocated	895.25	$6,666.58

Drilling, Exploration, Engineering and Geology	$ 90,000.00
Equipment	7,500.00
Expense incident to Underwriting (legal, printing, etc.)	2,000.00
Working Capital	26,333.42
Total	$132,500.00

If any portion of the net proceeds is not required for the purposes above stated, such portion will be used for working capital and other general corporate purposes. The Company reserves the right to vary or change the foregoing purposes if it should appear advisable to do so. No arrangement has been made or will be made for the return to subscribers of funds paid in, if sufficient funds are not raised to undertake the proposed program.

TRANSACTIONS WITH OFFICERS AND DIRECTORS

No promoter, officer or director of issuer, or any person in control of issuer, has any direct or indirect material interest by contract, options or otherwise in the issuer, or in any leases, claims or other assets proposed to be acquired or operated by the Company except as set forth in this Offering Circular. Each of the officers and directors purchased stock from the Corporation as shown below.

CAPITAL STOCK

The authorized capital stock of the Corporation consists of 5,000,000 shares of common stock having a par value of $.01 per share. Upon organization of the Company, 300,000 shares were issued for cash at par of $.01 per share. Of this amount, 112,500 shares were purchased and are held by the officers and directors.

The Company is offering to the public 1,500,000 shares of the common stock, par value of $.01 at a public offering price of $150,000.00, or at a price per share of $.10. In addition, 200,000 share are subject to the Underwriter's option (see below) to purchase likewise at a price of $.10 per share. All shares of the Company's stock are of one class. Each share has equal rights with every other share in voting, dividends and upon liquidation. There are no limitations on the payment of dividends, other than those imposed by the laws of the State of Colorado. All stock is fully paid and nonassessable.

The shares issued upon organization of the company are believed to be exempt from registration under section 3 (a) (11) and/or section 4 of the Securities Act of 1933. In the event such issuance was not so exempt, then a contingent liability would exist upon the company under section 12 (1) of such act to repay such persons the amount of their investment. Such contingent liability could not exceed $1,875.00.

UNDERWRITING AGREEMENT

The Corporation has entered into an Underwriting Agreement with Amos C. Sudler and Co., First National Bank Bldg., Denver, Colorado. Subject to the terms and conditions therein expressed, the Underwriter has agreed to sell for the Corporation on a best effort basis, 1,500,000 shares of the common stock at the price of $.10 per share. The Corporation has agreed to pay to the Underwriter a commission of $.02½ on each share sold for the Corporation's account by the Underwriter, or the sum of $37,500.00 if all shares are sold. In addition, the Corporation has granted to the Underwriter an option (exercisable within 18 months after termination of the within public offering) whereunder the Underwriter may purchase from the Company up to 200,000 shares at $.10 per share. Any expenses incurred by the Underwriter in connection with the offering will be borne by the Underwriter. The Company will bear the expense of preparation, including legal fees and printing of the Offering Circular and related material.

In the event the above-mentioned option is exercised, the optionee has agreed to comply with any then applicable federal and state securities laws and regulations respecting sales of the stock under such option, and the company has agreed to co-operate with the optionee in this regard. If it should then be required that such stock be qualified as exempt under the federal securities laws, then the extent thereof and the extent of any necessary filing in compliance with state requirements, shall be borne by the company.

The foregoing does not purport to be a complete statement of the terms and conditions of the Underwriting Agreement of the agreement in regard to the above-mentioned option. Copies thereof were filed with the Underwriter and are available for examination and reference thereto is hereby made, and the foregoing statements are to be deemed qualified and modified in all respects by such references.

TITLE TO MINING PROPERTIES

Titles based upon acquisition of possessory rights upon the public domain by location of unpatented lode mining claims and/or by location of tracts for application to the Atomic Energy Commission for mineral lease, are subject to hazards. The fact that an application has been made to the Atomic Energy Commission under Domestic Uranium Program Circular No. 7 for a lease is no guarantee that the Commission will grant the lease. The assignments mentioned herein of application for Atomac Energy Commission leases and of the rights under the application for such leases are subject to approval by such Commission. Such approval has not yet been sought or obtained. The Company does not make any warranty or representation as to the validity or marketability of its title to any of the property mentioned in this Circular, and the Company recognizes that remedial action may be required regarding title. The Company has been informed by the locators of the various claims and tracts herein referred to, that such locations were made in conformity with generally followed practices in the area, and that, with certain exceptions noted, the respective locator believes them to be sufficient to result in a priority of possessory rights.

Matters regarding the legality of incorporation of the Company and of the securities offered have been passed upon by Robert E. Holland, Esq., 718 Majestic Building, Denver, Colorado.

UTCO URANIUM CORPORATION

(A Colorado Corporation)

STATEMENT OF ASSETS AND UNRECOVERED PROMOTIONAL EXPLORATORY AND DEVELOPMENT COSTS

STATEMENT OF ASSETS — JUNE 12, 1954

Cash (paid or subscribed for stock)		$3,000
Property at acquisition cost:		
Corral Group "A"—purchased	$1,700.00	
Corral Group "B"—option	—	
Carpenter Flats Group Lease	1,936.67	
East Canyon Group	2,135.66	
Cost not separately allocated	895.25	
		6,666.58
Organization expense		336.00

*STATEMENT OF LIABILITIES—June 12, 1954

Due for organization expense	$ 336.00
Due for property acquisition costs	6,666.58

STATEMENT OF CAPITAL STOCK—June 12, 1954

Authorized Common Stock, 5,000,000 shares, par value $.01 each.

Issued for cash paid or subscribed at par:

To Officers and Directors	112,500 shares
To others	187,500 shares
OUTSTANDING	300,000 shares

*NOTE: See "Capital Stock" herein regarding possible contingent liability.

STATEMENT OF RECEIPTS AND DISBURSEMENTS
Period from May [illegible], 19[illegible] to June 12, 1954

Receipts:
Paid in or subscribed for 300,000 shares
@ 1¢ par $3,000.00
Disbursements: —
Excess of receipts over disbursements $3,000.00

PRELIMINARY REPORT FOR THE UTCO URANIUM CORP., REGARDING PROPERTY IN SOUTHWESTERN COLORADO & SOUTHEASTERN UTAH

INTRODUCTION

As requested by Mr. George S. Casey, the within report has been prepared for Utco Uranium Corporation. The purpose of this report is to discuss briefly, in a preliminary manner, geology of three groups of claims located in the general uranium region of Southwestern Colorado and Southeastern Utah (see Figure 1), and the possibilities of finding and developing uranium ore within their boundaries.

The three groups, called herein the Corrall Group, the East Canyon Group, and the Carpenter Flats Group (see Exhibit A) have enough in common to be included in a general discussion with respect to physical features, geology and the economics of mining, development and exploration work. They must, however, be discussed separately with respect to location.

LOCATION

One of the most important features in appraising uranium properties is their location with respect to known mines. It should be noted that the Utco properties are all located close to holdings of old companies that have had considerable experience in the uranium field. Because they are within or adjacent to old producing districts, they are likewise conveniently located to centers which have milling facilities, to mine supply houses, and to other related services.

THE CORRALL GROUP (Figure 2) is within 6 miles of claims which the United States Vanadium Company has held for many years. The Monticello Mill operated by the A.E.C. is located about 20 miles from the group. The Vanadium Corporation of America has been operating mines in the Cottonwood area 20 miles west of the group for many years. Just recently the Slagter Exploration Company is said to have discovered a large ore body within one mile of the group. An active drilling program is now underway in section 32 adjacent to the Corral Group.

THE EAST CANYON GROUP (Figure 3) is located adjacent to old Vanadium Corporation of America holdings. The Homestake Mining Company is developing some claims within 6 miles of the East Canyon Group. Monticello is within 13 miles of the group.

THE CARPENTER FLATS GROUP (Figure 4) is located on the edge of the intensely explored and exploited Uravan District. Among the companies who own claims in the area are the United States Vanadium Corporation, the Vanadium Corporation of America, and the Climax Uranium Corporation. The Golden Cycle Corporation and the Shattuck Denn Mining Company are producing ore from government leases within 6 miles of this group. The haulage distance to Uravan where a mill and supply facilities are located is less than 15 miles.

PHYSICAL FEATURES

No adverse physical conditions need be anticipated with regard to the above-mentioned properties. They are located with respect to physical features in areas which, although somewhat retarded in development, are similar to many which have undergone intensive exploration, development and mining activities.

GEOLOGY

The geology of all three claim groups is similar in that the Morrison Formation will be the productive formation for all of the claims. Minor differences in stratigraphy exist in some of the groups but the adjacent known ore deposits are in general similar. Structural features are not discussed because they do not have an apparent control on ore deposition.

STRATIGRAPHY

Ore bodies generally occur in the lower Salt Wash members of the Morrison Formation which is composed of buff sandstone lenses encased in and interbedded with a matrix of maroon to reddish-brown mudstone.

Knowledge of the thickness of the post Salt Wash portion of the Morrison Formation is important to the determination of drilling depths for exploration programs, since drill holes must penetrate this portion before the ore horizons, which usually occur near the top of the Salt Wash member, can be tested. No problem in this regard exists, however, for the northern Carpenter Flats Group since erosion has removed all but the Salt Wash member. In the East Canyon Group the variegated shales of the Brush Basin member, which are about 400 feet thick, make up the entire post Salt Wash part of the Morrison Formation. On the Corral Group, however, the Westwater Canyon sandstone member which occurs between the Salt Wash and Brushy Basin members is 100 feet thick. Thickness of the Brush Basin member near the Corral Group is of no consequence in considering the Utco property as it appears that erosion has stripped all but about 50 feet of the unit which remains as a thin veneer over the broad flat formed between Coalbed Canyon and Monument Canyon on the top of the more resistant sandstones of the Westwater Canyon member.

ORE DEPOSITS

Although the ore deposits of the Morrison Formation are generally small, elongated pods, they sometimes do occur in large, tabular masses of from 10,000 tons to more than 100,000 tons. Never, however, are large, extensive areas underlain by ore of uniform thickness as is the case with many bedded deposits. It is not possible to determine by surface geology or otherwise the presence or absence of the deposits, exploration of a given property frequently involves large capital expenditures.

The limited data available requires that conclusions be limited to the following generalizations: (1) each of the three groups of claims lie within a generally favorable geologic "setting" for discovery of uranium ore bodies; (2) accessability, relatively short hauling distances, and relatively shallow drilling depths are favorable factors; and (3) in our opinion, exploration is warranted, and a carefully planned and executed drilling program should offer a good speculative chance to encounter commercial ore bodies.

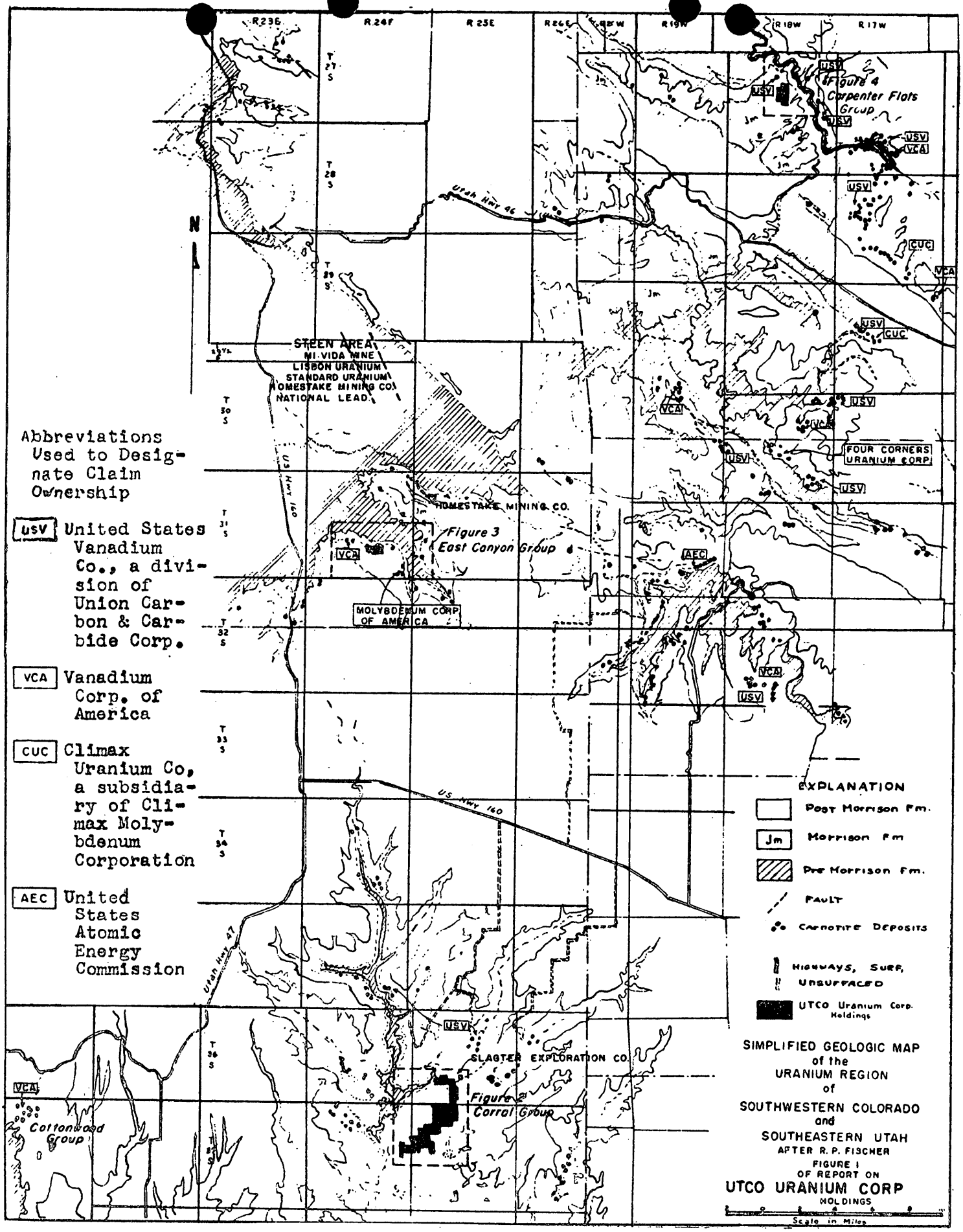
Respectfully submitted,

GEO - ENGINEERING
(Registered Engineers)

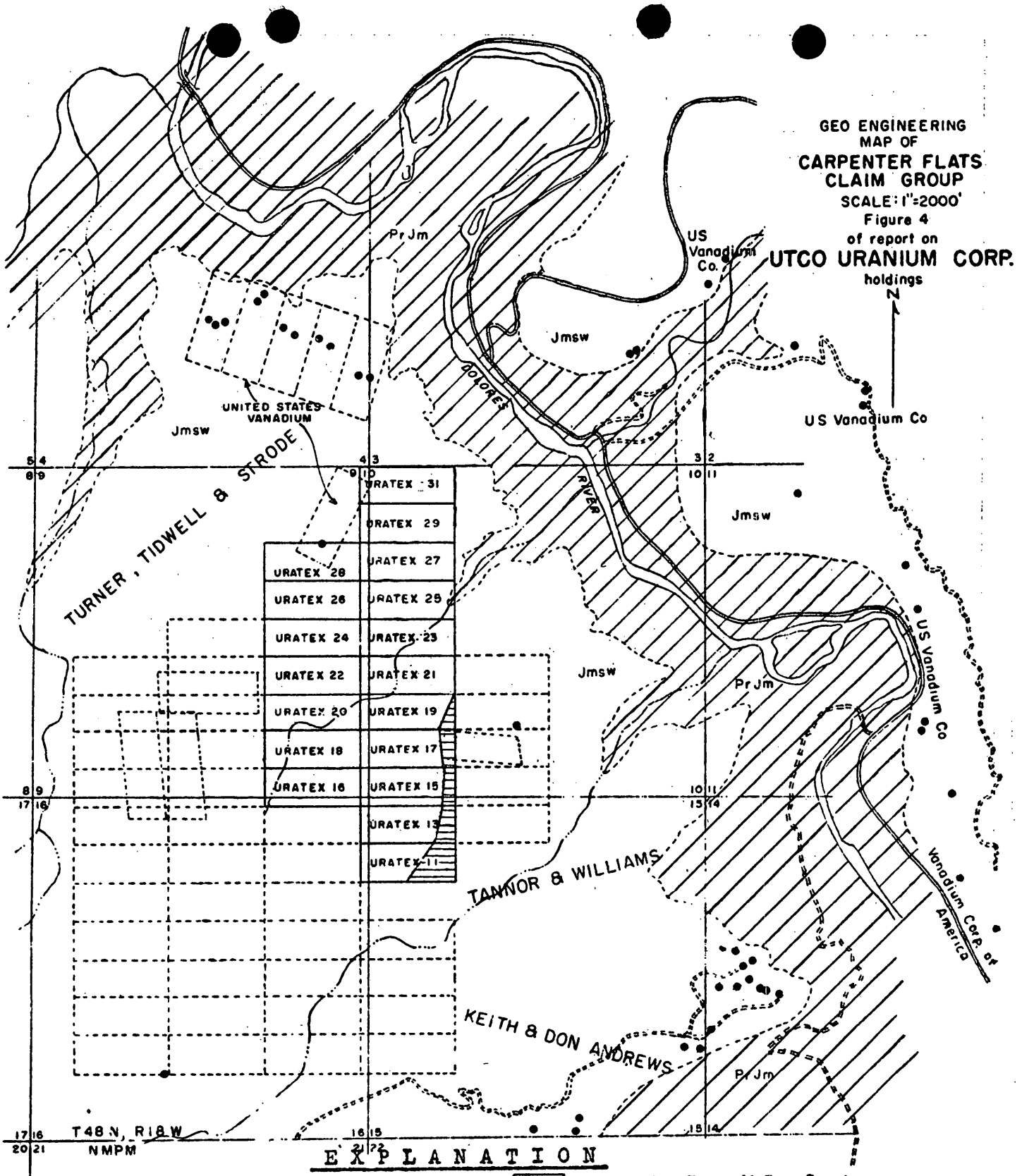
Louis P. Gaggini — Lewis D. Anderson

Room 14, 304 Main Street
Grand Junction, Colorado

Neither the delivery of this Offering Circular nor any sale made hereunder shall under any circumstances create any implication that there has been no change in the affairs of the Company since the date hereof.



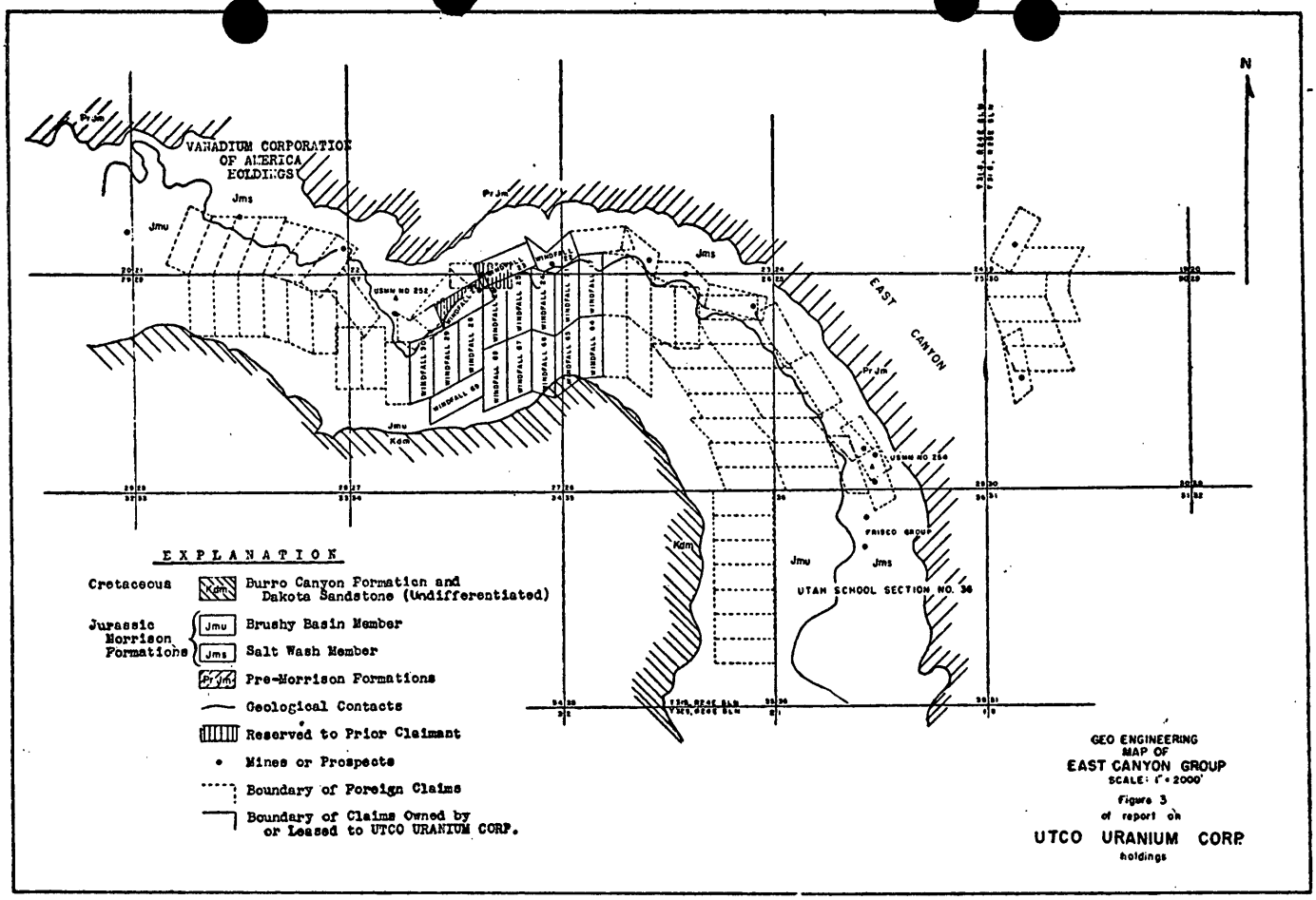
Utco's claims and leases have been drawn approximately to scale, whereas mines and properties of others are indicated by symbols. No inference is intended that Utco's properties are larger than those of others.

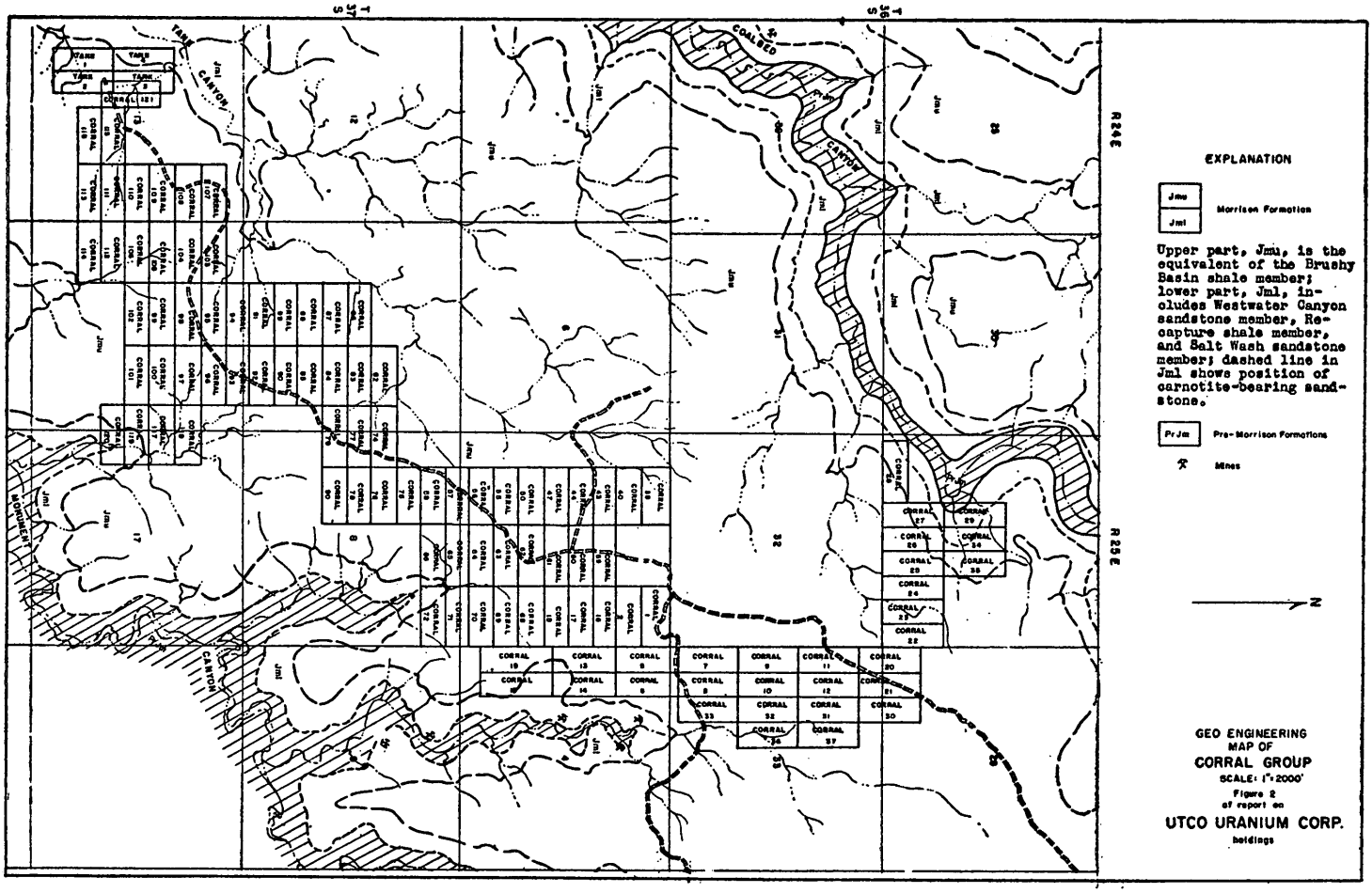


EXPLANATION

- ● Mines or Prospects
- Boundary of Foreign Claims
- Boundary of Claims Owned By or Leased To UTCO URANIUM CORP.
- Area in Possible Controversy
- Jmsw — Salt Wash Member of the Morrison Formation
- Pr Jm — Pre-Morrison Formation
- Geological Contacts

Utco's claims and leases have been drawn approximately to scale, whereas mines and properties of others are indicated by symbols. No inference is intended that Utco's properties are larger than those of others.





Utco's claims and leases have been drawn approximately to scale, whereas mines and properties of others are indicated by symbols. No inference is intended that Utco's properties are larger than those of others.

GEO-ENGINEERING
304 Main Street
Grand Junction, Colorado

APPLICATION FOR DMEA PROJECT ON THE CORRAL GROUP, PREPARED FOR UTCO URANIUM CORPORATION, 718 MAJESTIC BUILDING, DENVER, COLORADO

EXHBIT 3

EXPERIENCE OF PROJECT SUPERVISOR, MR. BEN H SIMPSON

Dates	Place	Name of Operation	Type of Mining	Position
1906-7	Colo State University	Education	Engineering	Student
1907-8	Colo School of Mines	Education	Mining Eng.	Student
1913	Roc Creek, Colorado	Simpson & Guthrie	Uranium	Owner & Operator
1928-29	Wendower, Colo	Silver Glance Min. Co.	Lead-Silver	Supt.
1932-35	Leadville, Colo	Mt. Elbert Gold Mining Corp.	Gold Placer	Partner in in charge
1938	Disappointment, Vanadium Mill	Mesa Vanadium Co	Milling Vanadium	Supt.
1939	Disappointment	Ore receiving sta. for U S Vanadium Corporation	Buying vanadium ore	Ore buyer
1940	Montezuma Canyon, Utah	Claybaugh & Simpson	Vanadium	Partner & Supt.
1941	Bergdorf, Idaho	Ruby Meadows Placer	Placer	Partner & Supt.
1942	Coalbed & Montezuma Canyon, Utah	Claybaugh, Simpson & Reiff	Vanadium	Partner & Supt.
1946-51	Ouray, Colo	Morning Side Development Company	Silver & Lead	Supt.

The gaps in this record were filled in with General Contracting Business, involving the use of heavy equipment.

EXHIBIT 3

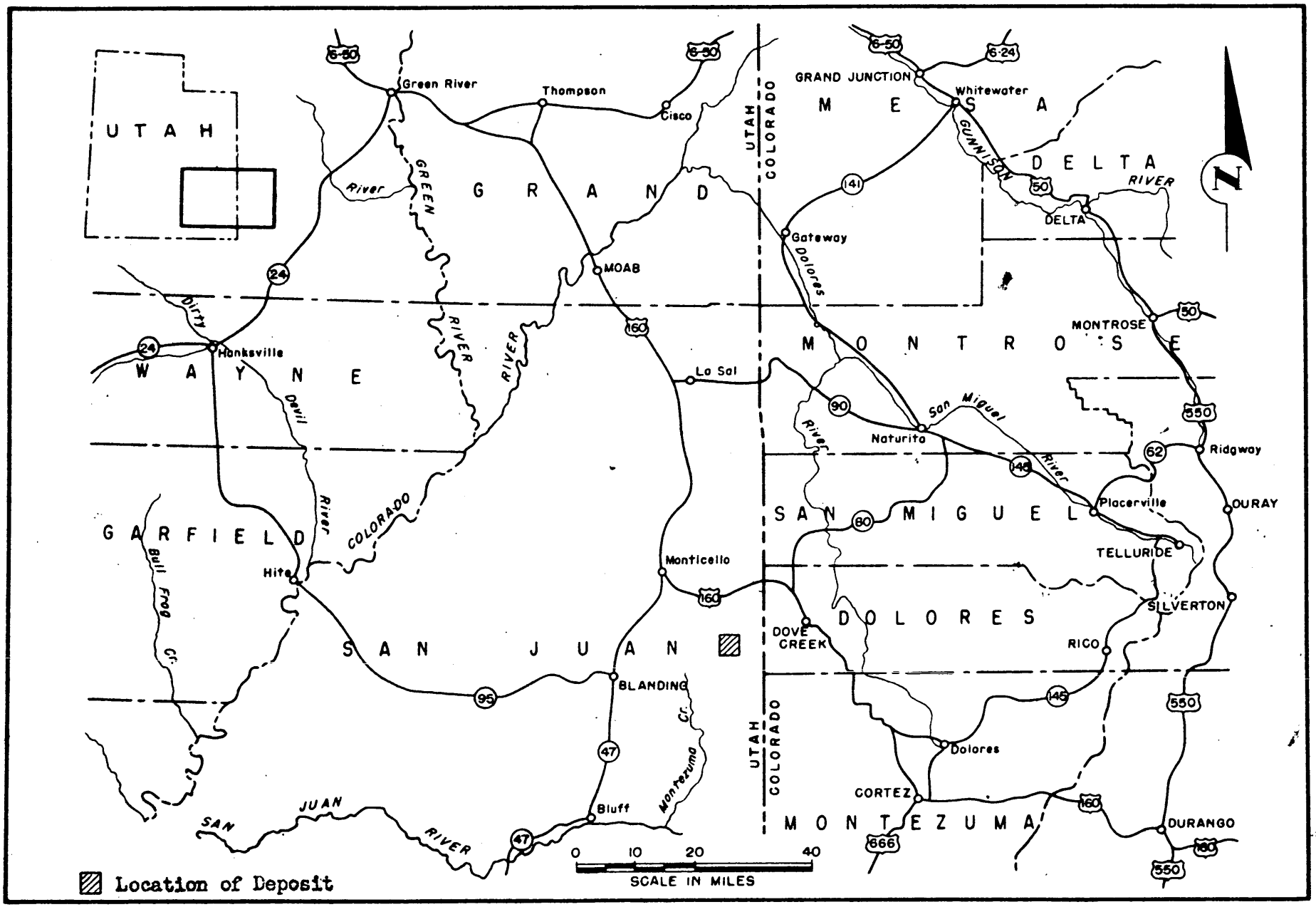


FIGURE 1 - LOCATION MAP, CORRAL GROUP, UTCO-URANIUM CORP., SAN JUAN COUNTY, UTAH (DMEA 3567)

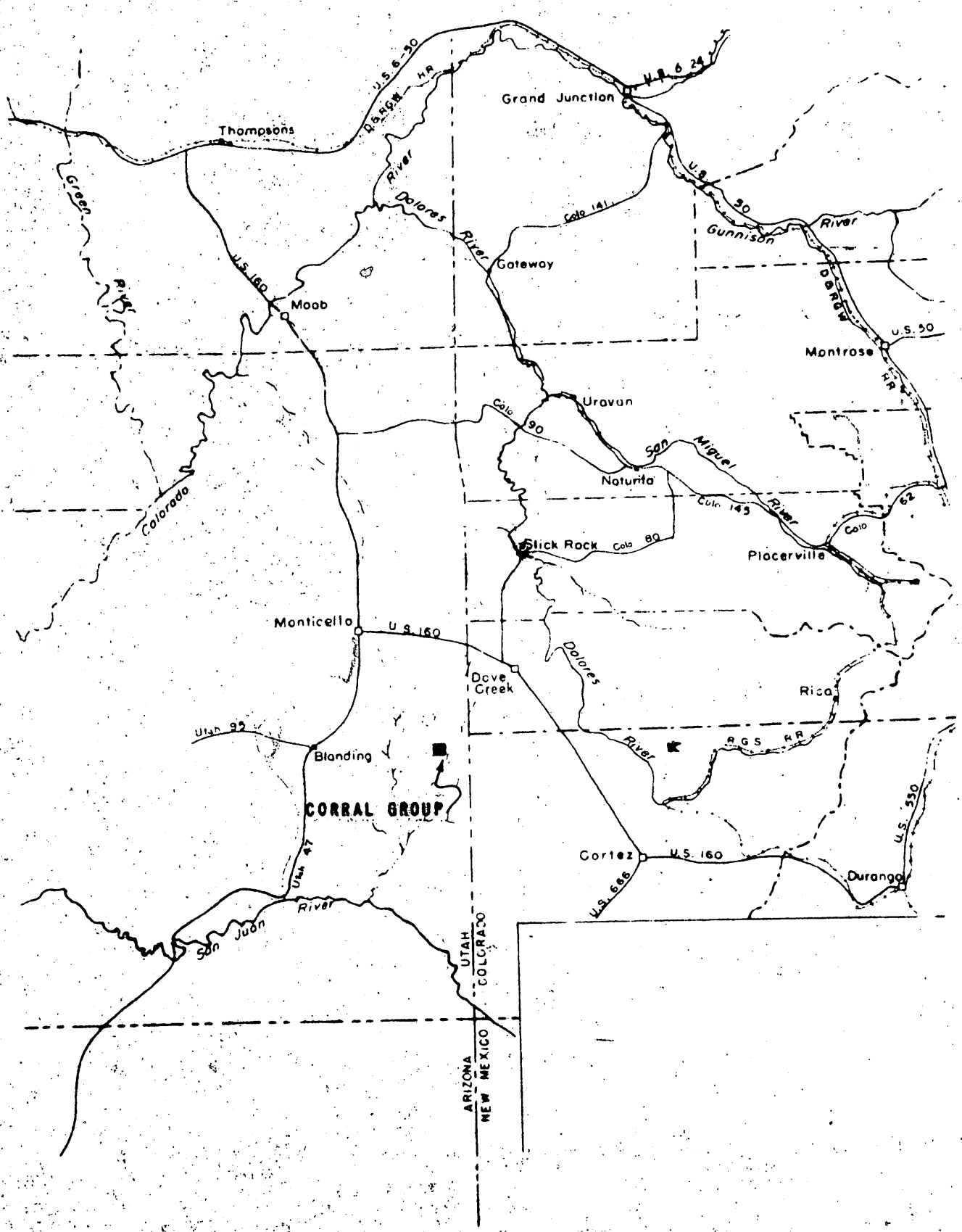


Figure 1. INDEX MAP OF PART OF THE COLORADO PLATEAU SHOWING LOCATION OF CORRAL GROUP, UTCO URANIUM CORP., MONUMENT CANYON AREA, SAN JUAN COUNTY, UTAH

DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D. C.~~

OFFICIAL BUSINESS

Bureau of Mines
P. O. Box 560
Juneau, Alaska

AIR MAIL 6¢

JUL 13 12 M 1954 ALASKA

[redacted]

VIA AIR MAIL

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMIN.
WASHINGTON 25, D. C.

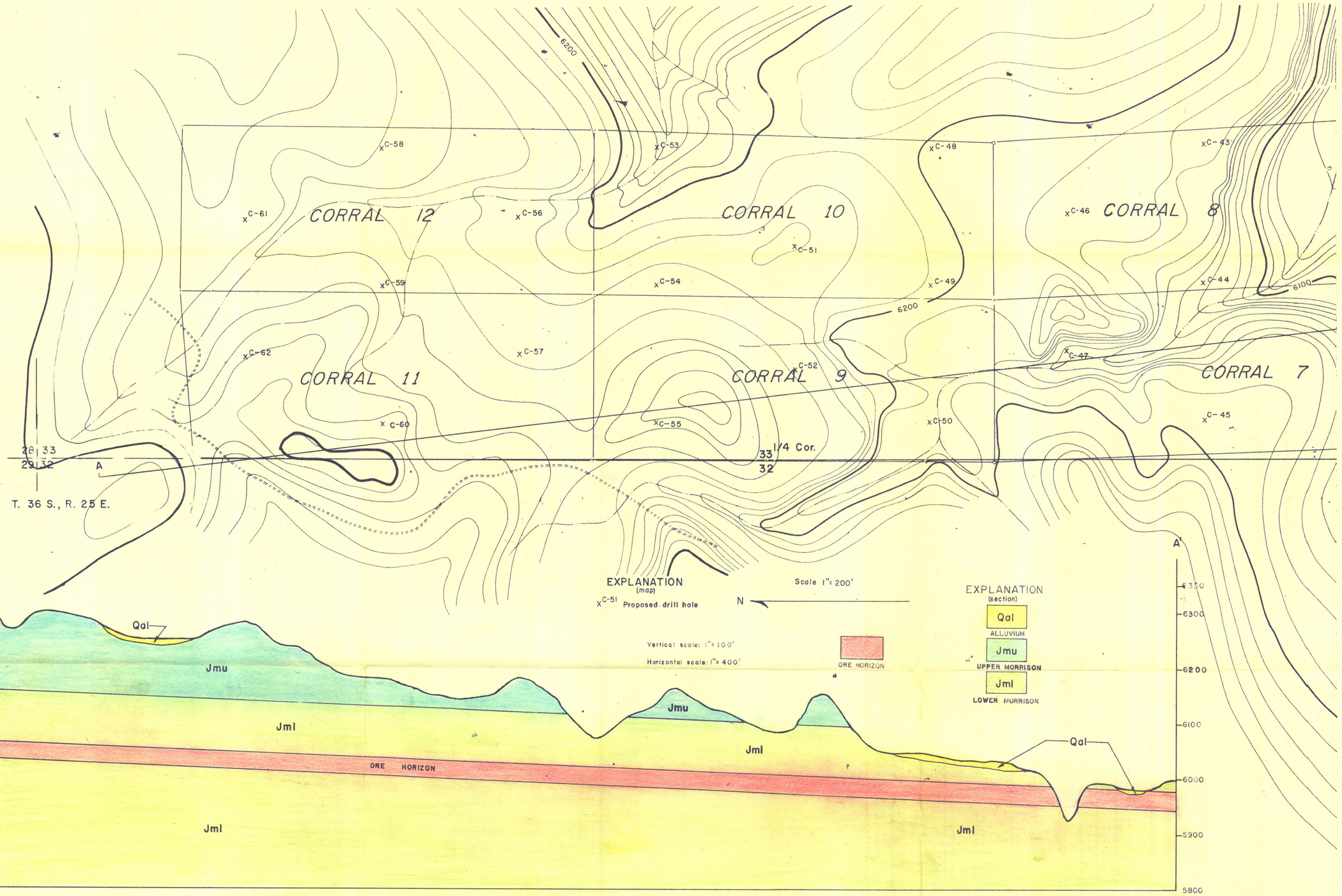
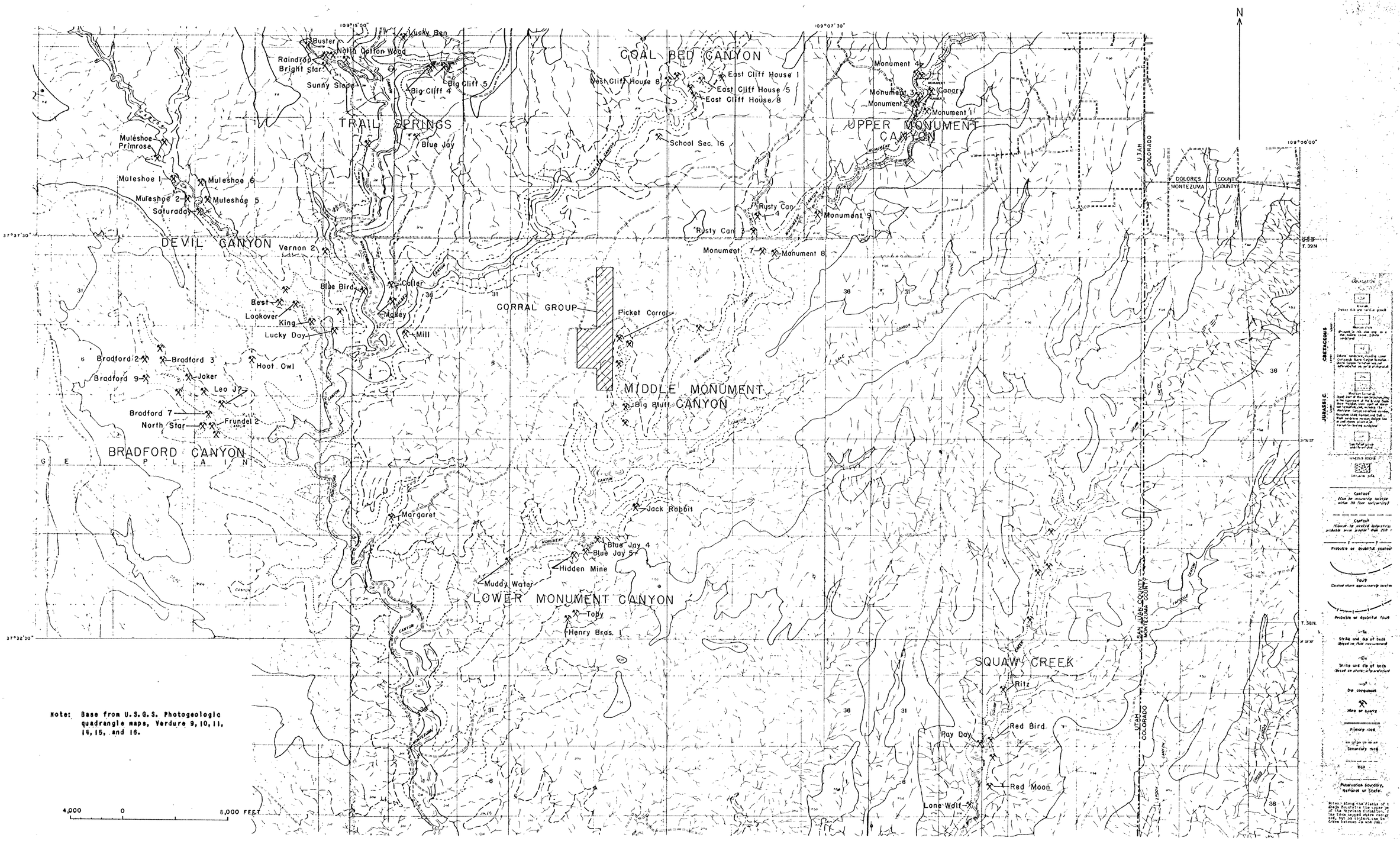


PLATE I. Map and
Geologic Section of Corral Group
By Geo Engineering
For Utco Uranium Corporation



Note: Base from U.S.G.S. Photogeologic quadrangle maps, Verdure 9, 10, 11, 14, 15, and 16.

Figure 2. GEOLOGIC MAP OF MONTEZUMA-MONUMENT CANYON DISTRICT SHOWING CORRAL GROUP OF CLAIMS, UTCO URANIUM CORPORATION, SAN JUAN COUNTY, UTAH

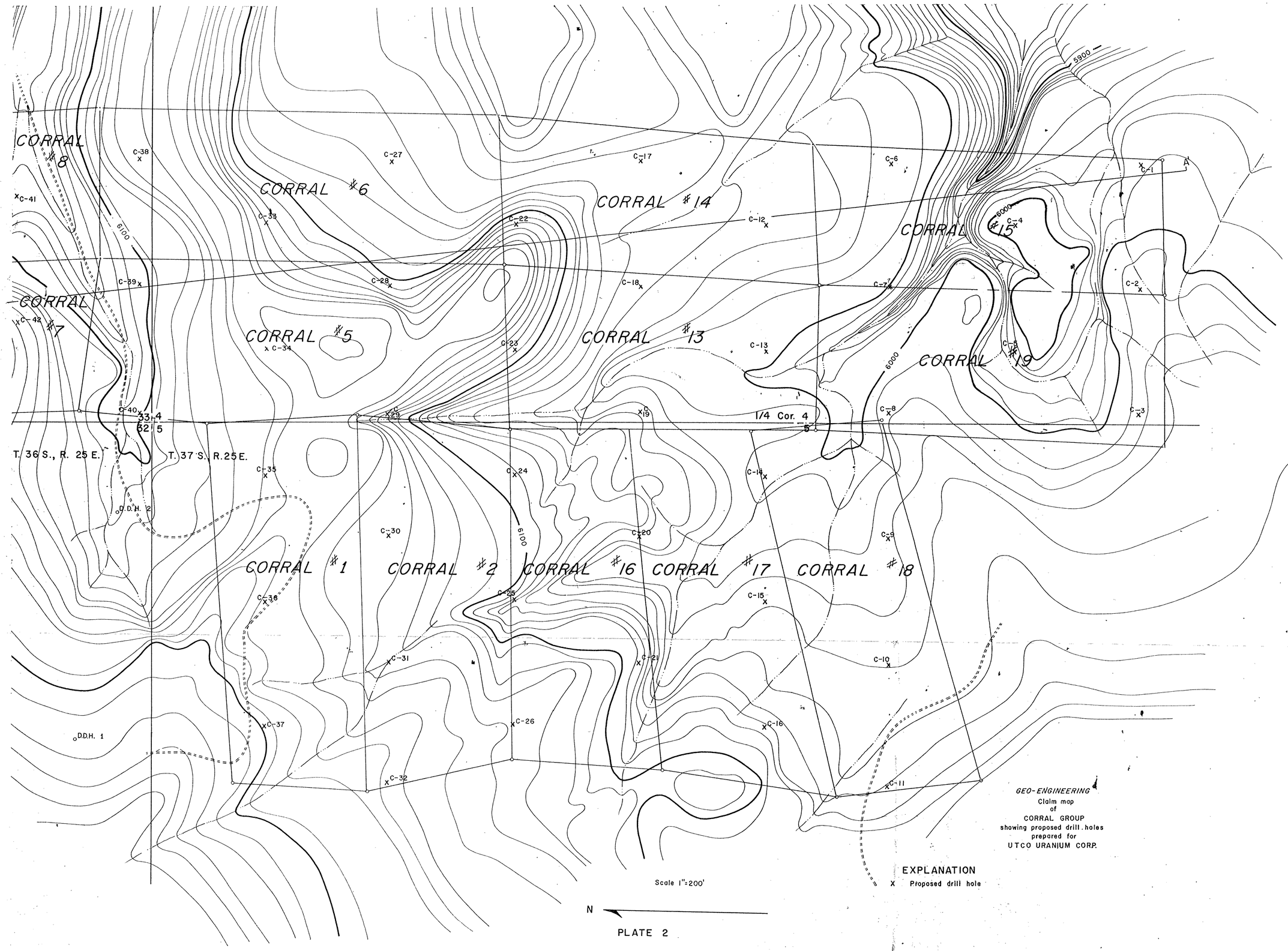

CORRAL #8
CORRAL #6
CORRAL #14
CORRAL #15
CORRAL #7
CORRAL #5
CORRAL #13
CORRAL #19
CORRAL #1
CORRAL #2
CORRAL #16
CORRAL #17
CORRAL #18
C-38
C-27
C-17
C-6
C-1
C-41
C-33
C-22
C-12
C-4
C-39
C-28
C-18
C-7
C-2
C-42
C-34
C-23
C-13
C-40
C-29
C-19
C-8
C-3
C-35
C-24
C-14
C-30
C-20
C-9
C-36
C-25
C-15
C-31
C-21
C-10
C-37
C-26
C-16
C-32
C-11
6100
6000
5900
33.4
62.5
1/4 Cor. 4
T. 36 S., R. 25 E.
T. 37 S., R. 25 E.
D.D.H. 2
D.D.H. 1
GEO-ENGINEERING
Claim map
of
CORRAL GROUP
showing proposed drill holes
prepared for
UTCO URANIUM CORP.
EXPLANATION
X Proposed drill hole
Scale 1"=200'
N

PLATE 2