CW

FILE COPY
SURNAME:

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

JFJohnson
Yoga
Mellanie
Selfridge

JUL 25 1956

Mr. W. E. Griffith, President
Neptune Uranium Corporation
2625 Walnut
Denver, Colorado

Re: Docket No. DMEA-4144 (Uranium)
Piper-Shamrock-Kingpin Group
Montrose County, Colorado

Dear Mr. Griffith:

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

As you are aware, projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding materials of acceptable grade in quantities that will significantly improve the mineral supply position for the National Defense Program. A careful study of available information regarding your property does not indicate the probability of disclosing sufficient ore reserves to justify Government participation in the exploration of your property. We regret to advise, therefore, that your application for exploration assistance is denied.

This action reaffirms our former denial of an application covering this property. We appreciate your interest in the Defense Minerals Program and wish to thank you for bringing the new information on your property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

MChing/FEJohnson/gla/bih
7/24/56
cc to: Docket
Adm. Reading File
Field Team, Reg. III (2)
Operating Committee
Messrs. JECrawford - Room 3641
THKiilsgaard - Room 5224
JOHosted - Room 3210 GSA
Ching
Code 700

RCS.

Surname copy

700

Ching
Ellis
Kiilsgaard
Yoho
Selfridge

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

Mr. W. E. Griffith, President
Neptune Uranium Corporation
2625 Walnut
Denver, Colorado

Re: Docket No. DMEA-4144 (Uranium)
Piper-Shamrock-Kingpin Group
Montrose County, Colorado

Dear Mr. Griffith:

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

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

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

This action reaffirms our former denial of an application covering this property. We wish to thank you for your interest in the Defense Minerals Program and for bringing the new information on your property to our attention.

Sincerely yours,

ACTING Administrator

MChing/gla
7-19-56
cc to: Admr.'s Reading File
Operating Committee
Docket
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA
Code 700
Mr. Ching
DMEA Field Team, Region III (2)

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

DOCKET COPY

Ching Ellis

July 19, 1956

Summary of Proposed Project

Object: Denial of application for an exploration project

Docket No.: DMEA-4144

Commodity: Uranium

Applicant: Neptune Uranium Corporation (a Colorado corporation)
2625 Walnut Street
Denver, Colorado

Property: 12 unpatented mining claims, Piperoo, Lollypop, Shamrock 1 and 5, and Kingpin 1-8, located in secs. 14 and 15, T. 48 N., R. 18 W., N.M.P.M. & B., Montrose County, Colorado. Applicant is the owner of the Piperoo and Lollypop claims and lessee of the remaining 10 claims.

Date of application: August 2, 1955

Amount of application: $99,730.00

Work proposed: Test the Salt Wash member of the Morrison formation with a total of 59,448 feet of core and non-core drilling in 701 holes, using a checkerboard pattern on 100-foot centers.

Estimated costs follow:

58,948 ft. rotary drilling @ $1.50/ft.	$88,422.00
500 ft. core drilling @ $4.00/ft.	2,000.00
234 hrs. bulldozing @ $12.00/hr.	2,808.00
Supervision and consultants	5,000.00
Miscellaneous	1,500.00
Total	$99,730.00
Government participation @ 75%	$74,797.50

Field Team report: June 12, 1956 - William B. Gazdik, USGS
Carl Belser, USBM

The subject property is in the Carpenter Flats area midway between the Paradox district and the Uravan district. Most of the uranium-vanadium deposits in the Paradox and

Uravan districts occur in the upper part of the Salt Wash member of the Morrison formation. Known ore deposits in the Carpenter Flat area, however, are restricted to the basal sandstone unit of the Salt Wash member. About 75 percent of the upper Salt Wash member has been eroded in the area and the remaining 40 feet to 120 feet consists of interbedded terrestrial sandstone and mudstone. Mudstone underlying the ore-bearing sandstone is generally red. Locally as much as 2 feet of the underlying mudstone is altered green. A second Salt Wash sandstone unit is present in places about 45 feet above the basal sandstone unit. It averages about 20 feet in thickness and is not considered a favorable host rock for ore.

Basal Salt Wash deposits, characteristically consist of small high-grade pockets, seams and rolls around mineralized fossil logs. In the vicinity of the subject claims, small high-grade ore bodies have an erratic spacial distribution and are separated by barren ground. As a result, mineralized trends are difficult to predict. Individual ore bodies range in size from a few tons to a possible 100 tons.

A small deposit is being mined on the neighboring Outlet Claim in a rather sporadic fashion. This deposit consists of discontinuous mineralized layers a few inches to one foot thick, and erratically spaced pod-like ore bodies that range in diameter from a few feet to about 20 feet. Mineralization is not restricted to one stratigraphic level. From April 1954 to July 1955 production amounted to 166 tons of ore containing 0.48% U_3O_8 and 2.40% V_2O_5.

Ore deposits on the neighboring Dad and Piper No. 1 claims are similar to the Outlet deposits. 903 tons of ore were shipped from the Dad's mine from December 1953 through December 1955, and 295 tons were shipped from the Piper No. 1 claim from December 1954 to March 1956.

A discovery was certified on the nearby Piper No. 3 claim under Docket DMEA-3255. Inferred reserves were estimated by the examiners at 428 tons of 0.44% U_3O_8 ore. Applicant's data on assays and ore thicknesses were considered inadequate. After supplemental work Applicant estimated reserves at 4,000 tons of ore averaging 0.60% U_3O_8 and 1.5% V_2O_5, based on assays of drill cuttings, driller's logs on thicknesses, and the assumption that ore-grade mineralization is continuous from hole to hole. However, the erratic geographic and stratigraphic distribution of small ore bodies in this area and the poor

quality of the Applicant's assay data strongly suggest that the 4,000-ton figure is much too high. The deposit is more likely to be in the 500-ton class.

Applicant's suggestion that deposits in the area may be amenable to strip mining is not feasible because the 30 to 60 feet of well cemented sandstone overlying the ore would require blasting.

It is concluded that the property is in an area where the chances of finding ore bodies of significant size are poor. The amount of the loan requested would probably exceed the value of any ore that may be found. It is recommended that the application be denied.

Commodity Group comments:

U. S. Bureau of Mines - James Paone, June 22, 1956

Discussed report of examination with the AEC representative. Concurs in the recommendation for denial of the application.

U. S. Geological Survey - T. H. Kiilsgaard, July 9, 1956

Concurs with the field examiners and recommends denial of the application.

Rare and Miscellaneous Metals Division - Michael Ching, July 13, 1956.

With the upper 75% of the Salt Wash eroded and typical ore bodies in the basal sandstone of the area limited in size and erratically distributed, there appears to be no geological basis for an exploration project on this property. Nevertheless, if the Applicant's claim of a 4,000-ton ore body on the nearby Piper No. 2 claim were authentic, a denial based upon limited potential size would not be convincing. However, the examiners discount such claim, suggesting a deposit of 500 tons as being more realistic.

Conclusions and Recommendations:

The geological evidence points to a limited potential on this property. It is recommended that the application be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

7-11-56

IN REPLY REFER TO:

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

RECEIVED
JUL 10 1956

July 9, 1956

Memorandum

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

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

Subject: Review of Field Team report, DMEA Docket 4144, Neptune Uranium Corp. (Piper-Shamrock-Kingpin groups of claims), Montrose Co., Colorado.

Field examiners recommend denial of the application, their recommendations being based on 1) small and discontinuous size of probable ore bodies, 2) the fact that the contract funds would probably exceed the value of the ore found, and 3) the poor possibility of finding any significant ore bodies on the applicant's property.

After studying the field examiner's report, the reports prepared on Docket 3355 (an adjacent property previously explored under DMEA contract), and reviews of the commodity men, I concur and recommend denial of the application.

T. H. Kiilsgaard

T. H. Kiilsgaard

IN REPLY REFER TO:

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

RECEIVED
JUL 10 - 1956

July 9, 1956

Memorandum

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

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

Subject: Review of Field Team report, DMEA Docket 4144, Neptune Uranium Corp. (Piper-Shamrock-Kingpin groups of claims), Montrose Co., Colorado.

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After studying the field examiner's report, the reports prepared on Docket 3355 (an adjacent property previously explored under DMEA contract), and reviews of the commodity men, I concur and recommend denial of the application.

T. H. Kiilsgaard

THKiilsgaard:btr
G 7/9/56

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

6-26-56

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

RECEIVED
JUN 25 1956

June 22, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Report of Examination, DMEA Docket 4144 (Uranium), Neptune Uranium Corporation, (Piper-Shamrock-Kingpin groups of claims), Montrose County, Colorado

I have reviewed the report of examination, DMEA Docket 4144, Neptune Uranium Corporation, (Piper-Shamrock-Kingpin groups of claims), Montrose County, Colorado, dated June 12 and received in this office June 19, 1956. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The field examiners recommend that the application for exploration assistance be denied, because the few small irregular bodies of uranium that have been found to date on the subject claims indicate that the possibility of finding significant ore bodies is poor.

We concur in the recommendation that the application be denied.

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

James Paone
James Paone

RECEIVED
JUN 25 1956

June 22, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Report of Examination, DMEA Docket 4144 (Uranium), Neptune Uranium Corporation, (Piper-Shamrock-Kingpin groups of claims), Montrose County, Colorado

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The field examiners recommend that the application for exploration assistance be denied, because the few small irregular bodies of uranium that have been found to date on the subject claims indicate that the possibility of finding significant ore bodies is poor.

We concur in the recommendation that the application be denied.

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

James Paone

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

June 15, 1956

224 New Customhouse
Denver 2, Colorado

RECEIVED
JUN 18 1956

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA 4144 (Uranium), Neptune Uranium Corporation (Piper-Shamrock-Kingpin groups of claims), Montrose County, Colorado

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

A former application on this property, Docket No. 4005, was denied without a field examination by Mr. Frank E. Johnson's letter to the Applicant dated November 2, 1955.

The field examiners found that the upper sandstone units in the upper part of the Salt Wash member of the Morrison formation have been eroded on this property. Ore deposits found in this area are in the basal sandstone units of the Salt Wash member and have an erratic spatial distribution and are separated by barren ground. They conclude that the subject claims are in an area where the chances for finding ore bodies of significant size are poor. They recommend that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

By W. M. Traver
Executive Officer

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-20-56
(date)

RECEIVED TRANSMITTED
JUN 18 1956

JUN 15 1956

Region III

Building 20
Denver Federal Center
Denver 2, Colorado
June 14, 1956

DMEA
Date Rec'd.
JUN 14 1956
BUREAU OF MINES
Denver, Colorado

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw
E. N. Harshman

Subject: Docket DMEA 4144 (Uranium), Neptune Uranium Corporation, (Piper-Shamrock-Kingpin groups of claims), Montrose County, Colorado.

Enclosed please find the original and 9 copies of the Joint Engineering and Geologic Report by William B. Gazdik, geologist and Carl Belser, mining engineer covering Docket DMEA 4144.

Neptune Uranium Corporation applied for exploration assistance on the Piper-Shamrock-Kingpin groups in Montrose County, Colorado on August 2, 1955.

The proposed work consisted of 59,448 feet of core and non-core drilling at a total estimated cost of $99,730.00.

The property was examined on March 27, 1956 by William B. Gazdik, geologist and Carl Belser, mining engineer. The examining team determined that a few small irregular bodies of uranium had been found in the basal sandstone of the Salt Wash member of the Morrison formation in this area.

They concluded that the possibility of finding significant ore bodies is poor.

It is recommended that the application be denied.

John F. Shaw
John F. Shaw
Supervising Mining Engineer

E. N. Harshman
E. N. Harshman
Member Field Team

Reviewed by
DMEA OPERATING COMMITTEE
6-20-56
(date)

cc 9
EHHarshman
DMEA 4144
Chron.

JFS/ch

MINERAL DEPOSITS
DMEA
RECEIVED
JUN 11 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED
JUN 18 1956

P. O. Box 360
Grand Junction, Colorado

June 8, 1956

MEMORANDUM

TRANSMITTED
JUN 15 1956

To: Executive Officer, DMEA Field Team, Region III

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

From: J. William Hasler

Subject: Transmittal of geologic report of investigation by W. B. Gazdik on the Piper, Shamrock, King pin group of claims. DMEA docket 4144, Neptune Uranium Corporation, Montrose County, Colorado

The Neptune Uranium Corporation applied for Government assistance on the subject group of claims to explore for uranium in the lowermost unit of the Salt Wash sandstone member of the Morrison formation of Jurassic age. The application was referred to the field and an examination was made March 17 by W. B. Gazdik, U. S. Geological Survey, and Carl Belser, U. S. Bureau of Mines.

The subject group of claims are adjacent to work that was completed under DMEA docket 3555, contract Idm-E 703. The area lies on Carpenter Ridge, on the southwest flank of the San Miguel syncline. The rocks on the claims are composed mostly of Summerville Entrada formations and the overlying Salt Wash member of the Jurassic formation. The upper portion of the Salt Wash has been eroded away, thus leaving only the lower portion of that member for exploration. The ore bodies in the area are known to be of a rather high grade but are small and erratic in occurrence. They range in size from a few tons to as much as 300 tons each.

The Defense Minerals Exploration Administration certified the adjoining ground for discovering development for its own protection rather than for the results of any significant discovery that might have been made on the property.

It is concluded that the subject claims are located in an area where the chances of finding ore bodies of significant size are poor. The potential ore bodies that may be found are small and discontinuous and are not likely to add much to the total domestic uranium production, based on past production from this area. The amount of money requested by the Neptune Uranium Corporation would probably exceed many times the value of any ore that might be found on these claims. It is recommended, therefore, that the application for Government assistance be denied.

Reviewed by
DMEA OPERATING COMMITTEE
6-20-56
(date)

DMEA 4144 6/8/56

The Atomic Energy Commission was consulted relative to the appraisal of this property.

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

I concur with the recommendations and conclusions of the examining team.

J. William Hasler
J. William Hasler,
Geologist

JWH/mlr

Enclosures

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

DMEA
Date Rec'd
JUN 14 1956
BUREAU OF MINES
Denver, Colorado

DEFENSE MINERALS EXPLORATION ADMINISTRATION

JOINT REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

RECEIVED
JUN 18 1956

TRANSMITTED
JUN 15 1956

DMEA 4144

NEPTUNE URANIUM CORPORATION

Piper-Shamrock-Kingpin Groups

Montrose County, Colorado

Uranium

Joint Engineering and Geological Report

By

William B. Gazdik, Geologist
Geological Survey

Carl Belser, Mining Engineer
Bureau of Mines

June 12, 1956

Reviewed by
DMEA OPERATING COMMITTEE
6-20-56
(date)

DMEA 4144

NEPTUNE URANIUM CORPORATION
PIPER-SHAMROCK-KINGPIN GROUPS
MONTROSE COUNTY, COLORADO

RECEIVED
JUN 18 1956

CONTENTS

Joint Engineering and Geological Report — Page

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Acknowledgments 1
Location, topography, and climate 2
History and production 2
Ownership and extent 3
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Exploration and development 3
Mining equipment and other facilities 3
Geology 4
Ore deposits 5
Ore reserves 7
Proposed exploration and costs 8
Conclusions and recommendations 9

ILLUSTRATIONS

Figure — Follows Page

1. Location map, Piper-Shamrock-Kingpin groups, Neptune Uranium Corp., Montrose County, Colorado. DMEA 4144 2

2. Map showing area of proposed DMEA project, Shamrock-Piper-Kingpin groups of claims and area previously explored under DMEA 3355, Secs. 14 and 15, T. 48 N., R. 18 W., N.M.P.M., Neptune Uranium Corp., Montrose County, Colorado, DMEA 4144 2

DMEA 4144

NEPTUNE URANIUM CORPORATION
Piper-Shamrock-Kingpin Groups
Montrose County, Colorado

INTRODUCTION AND SUMMARY

Neptune Uranium Corporation, 2625 Walnut Street, Denver 1, Colorado made application on August 2, 1955 for aid in an exploration project on the Piper-Shamrock-Kingpin groups of claims on Carpenter Flats, Montrose County, Colorado. The applicant proposed a program consisting of 59,448 feet of core and non-core drilling in 701 holes at a total estimated cost of $99,730.00.

The claims were examined on March 27, 1956 by William B. Gazdik of the Geological Survey and Carl Belser of the Bureau of Mines.

The property included in the application consists of 12 unpatented claims in secs. 14 and 15, T. 48 N., R. 18 W., N.M.P.M., Montrose County, Colorado. Most of the claims lie on Carpenter Flats at altitudes between 5,300 to 5,850 feet.

In this area a few deposits of uranium have been found in the basal sandstone of the Salt Wash member of the Morrison formation but the size of the ore bodies is small and irregular and do not appear as having much potential. The amount of the loan requested by the applicant probably exceeds the value of any ore that would be found. The possibility of finding significant ore bodies on the applicant's property is poor and it is recommended that the application be denied.

ACKNOWLEDGMENTS

The examining team was accompanied by L. A. and W. B. Griffith, representing the applicant.

The Atomic Energy Commission was consulted regarding the application before the examination was made.

Suggestions in memorandums of George C. Selfridge, John E. Crawford, and W. P. Williams of DMEA were given special attention.

LOCATION, TOPOGRAPHY, AND CLIMATE

The property covered by the application consists of 12 unpatented claims on the east end of Carpenter Flats in secs. 14 and 15, T. 48 N., R. 18 W., N.M.P.M., Montrose County, Colorado (figs. 1 and 2). This portion of Carpenter Flats is a narrow plateau with altitudes ranging from 5,300 to 5,850 feet. Corners of a few of the claims extend over the rim of the plateau into the canyon below.

A 2-mile, fair but very steep, dirt road connects the property with State Highway 141. Uravan, Colorado is 10 miles to the south and Grand Junction, Colorado is 88 miles to the northeast.

Labor, supplies, and light equipment can be obtained at Uravan; heavy equipment can be purchased at Grand Junction. The nearest railroad is the Denver and Rio Grande Western at Grand Junction. Ore buying depots are maintained at Uravan and Grand Junction. Water for drilling purposes may be obtained from the Dolores River.

Rainfall is light and work can be carried on throughout the year.

HISTORY AND PRODUCTION

A small amount of uranium ore may have been mined from the rim on the Shamrock 1 and 5 claims in the early 1900's.

The claims were located between March 1950 and April 1954, but no production has been achieved.

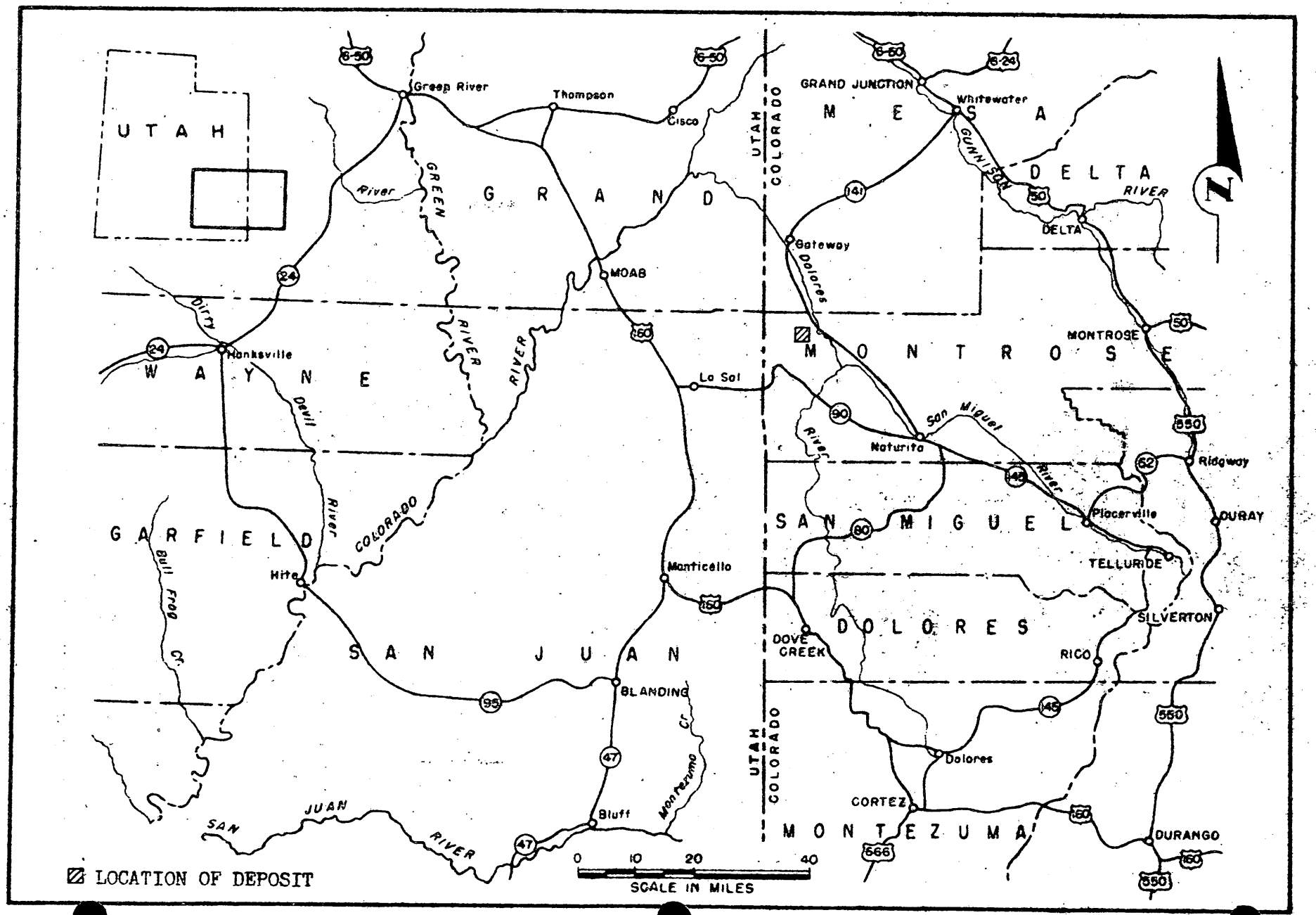

FIGURE - LOCATION MAP, PIPER-SHAMROCK-KINGPIN GROUPS, FORTUNE URANIUM CORPORATION, MONTROSE COUNTY, COLO.

DMEA 4144

OWNERSHIP AND EXTENT

The 12 claims listed in the application are recorded in the office of the County Clerk and Recorder of Montrose County, Colorado as follows:

Claim	Book	Page	Discovery Date	Recorded by
Shamrock 1	343	8	3/17/50	Keith M. and Donald K. Andrews
Shamrock 5	343	21	"	" " " "
Kingpin 1	343	379	1/28/51	" " " "
Kingpin 3	343	381	"	" " " "
Kingpin 4	343	382	"	" " " "
Kingpin 5	343	383	"	" " " "
Kingpin 6	343	384	"	" " " "
Kingpin 7	343	385	"	" " " "
Kingpin 8	343	386	"	" " " "
Lollypop	379	111	4/15/54	L.A. & W.B. Griffith, Const. Spec. Co.
Piperoo	379	112	"	" " " " " "

The Kingpin 1 to 8 and the Shamrock 1 and 5 claims were leased for a five-year period to Construction Specialties Company by Keith M. and Donald K. Andrews on February 1, 1954. Construction Specialties Company assigned the lease agreements on the 10 claims to Neptune Uranium Corporation on April 1, 1955. The Lollypop and Piperoo claims were assigned by the locators to Neptune Uranium Corporation on April 1, 1955.

The claims appear to be in order with the exception that the boundaries of an older claim adjoining the Shamrock No. 1 and the Kingpin No. 7 claims has not been established.

PRESENT STATUS

Exploration and Development

Other than discovery holes the property has not been explored or developed.

Mining Equipment and other Facilities

Mining equipment owned by the applicant includes the following:

1 Jaeger gasoline-engine-driven 125 c.f.m. compressor
1 Gardner-Denver gasoline-engine-driven 194 c.f.m. compressor
1 Scatcreek 8 hp muck buggy
2 mine cars
500 feet, 12 and 16 pound track

1500 feet 2-inch air line
1 Gardner-Denver jackhammer type drill
1 Thor jackhammer type drill
1 I.R. 55 jackhammer
1 I.R. stopehammer
1 Gardner-Denver 79 long-hole drill
Hose, steel and hand tools

This equipment is in or near the Outlet and Piper No. 1 adits. There is no milling equipment. Facilities consist of an office, cookhouse, and three small buildings.

GEOLOGY

Neptune Uranium Company property is on the southwest flank of the San Miguel syncline in the southwestern part of the U. S. Geological Survey Red Canyon quadrangle. The claims are in the Carpenter Flat area midway between the Paradox district and the Uravan district. Most of the uranium-vanadium deposits in the Paradox and Uravan districts occur in the upper part of the Salt Wash member of the Morrison formation. Known ore deposits in the Carpenter Flat area however, are restricted to the basal sandstone unit of the Salt Wash member. The property is outside of the Uravan mineral belt which trends northward and is about 3 miles to the east.

The rocks exposed in the vicinity in ascending order are the Jurassic Entrada formation, the Jurassic Summerville formation and the Salt Wash member of the Jurassic Morrison formation.

The Entrada formation consists of alternating horizontally bedded and eolian type crossbedded sandstone units.

The Entrada formation crops out as smoothly rounded orange and white cliffs. The bulk of the sandstone is made up of sub-rounded to sub-angular quartz grains. Thin layers of well rounded frosted grains are present along bedding planes. The Entrada sandstone is about 90 feet thick in the area and forms a prominent marker bed.

The Summerville formation rests conformably on the Entrada formation and is about 95 feet thick. It crops out as a steep, debris covered slope and where well exposed exhibits thin, even horizontal bedding and is made up of interbedded red sandy shales and fine grained sandstones.

The Salt Wash member of the Morrison formation overlies the Summerville formation. About 75 percent of the upper Salt Wash member has been eroded in the area and the remaining 40 feet to 120 feet consists of interbedded terrestrial sandstone and mudstone. The potential ore-bearing unit in this area is the lowermost sandstone bed in the Salt Wash member, which is 30 to 70 feet thick, medium- to medium-fine-grained, and predominantly light brown. Fossilized logs, carbonaceous material and thin red and green mudstone seams are included in the sandstone. Mudstone underlying the ore-bearing sandstone unit is generally red. Locally as much as 2 feet of the underlying mudstone is altered green. A second Salt Wash sandstone unit is present in places about 45 feet above the basal Salt Wash sandstone unit. It averages about 20 feet in thickness, is reddish-brown and is not considered a favorable host rock for uranium-vanadium deposits.

The beds in the area dip about 4° northeast and strike about N. 45° W. A well developed joint system generally parallels the strike of the beds.

The depth to the base of the potential ore-bearing sandstone unit underlying the applicant's claims would range from 30 to 145 feet, averaging about 85 feet.

ORE DEPOSITS

Mineralized rocks in the basal sandstone unit consist principally of sandstone impregnated with uranium and vanadium minerals. Smaller amounts of uranium and vanadium minerals are found in mudstone seams or replacing carbonaceous material. Secondary copper minerals including azurite and malachite are associated with these deposits.

The ore deposits in the vicinity of the applicant's claims occur as small rolls, pods, and mineralized logs, characteristic of the small high-grade deposits found in the basal sandstone unit of the Salt Wash member. Such a deposit is being mined on the Outlet claim in a rather sporadic fashion by the Neptune Uranium Company (fig. 2). This deposit consists of discontinuous mineralized layers a few inches to one foot thick and erratically spaced pod-like ore bodies, that range in diameter from a few feet to about twenty feet. Mineralized rock is not restricted to one stratigraphic level.

Ore deposits on the Dad and Piper No. 1 claims not included in this application are similar to those found in the Outlet deposits in that they are small dicontinuous high-grade pockets and seams of mineralized ground separated by barren ground, both horizontally and vertically.

According to A.E.C. data 166 tons of ore containing 0.48 percent U_3O_8 and 2.40 percent V_2O_5 were produced from the Outlet Mine in the period April 1954 to July 1955; 903 tons of ore averaging 0.35 percent U_3O_8 and 2.34 percent V_2O_5 were shipped from the Dad's mine from December 1953 through December 1955; and production from the Piper No. 1 claim was 295 tons of ore averaging 0.28 percent U_3O_8 and 1.85 percent V_2O_5 during the period Dec. 1954 to March 1956.

The subject property is contiguous to company claims to the east that were explored under DMEA 3255, Contract Idm-E703. A discovery was certified on the Piper No. 3 claim (fig. 2). Inferred reserves were estimated at 428 tons with an average thickness of 0.63 feet and an average grade of 0.44 percent U_3O_8. Reserve calculations were based on Government radiometric analyses rather than on chemical assays since the company's sampling methods were inadequate. The applicant's chemical assay data differed markedly in thicknesses of mineralized ground penetrated, compared to Geological Survey

Gamma-ray logs. The applicant's data consistently showed greater thicknesses of mineralized rock and in some cases inferred ore intervals were as much as 4 feet thicker than indicated by government gamma-ray logs.

The applicant states that a 4,000 ton ore body averaging 0.60 percent U_3O_8 and 1.5 percent V_2O_5 was blocked out by development holes that were drilled to supplement work done under DMEA 3355 (fig. 2). He bases his reserve calculations on chemical assays made on drill cuttings, on thicknesses logged by the driller and in the assumption that ore grade mineralization is continuous from hole to hole. The erratic geographic and stratigraphic distribution of small ore bodies in this area and the poor quality of company assay data strongly suggest that the 4,000 ton figure is much too high. The reserve block on the Piper No. 3 claim probably consists of a cluster of small pockets or pods of mineralized material separated by barren ground analogous to other deposits in the area. The cumulative tonnage of such a deposit is more likely in the 500 ton class.

Most of the uranium-vanadium ore produced in this area came from small prospects and drifts located near the rim that have been worked intermittently over a period of many years. The erratic distribution of small ore bodies comprising ore deposits in this area complicates mining problems and increases operational costs. The applicant states that these deposits are amenable to strip mining methods. However, this method of mining would necessitate the removal of about 30 feet to 60 feet of well cemented sandstone beds and would require blasting. Based on the small size of ore bodies in the Carpenter Flat area and on the fact that most of the overburden is made up of well cemented sandstone, it is reasonable to assume that stripping operations would not be economically feasible.

ORE RESERVES

There are no known ore reserves underlying the subject claims. Ore deposits, if present, would consist of small discontinuous high-grade pockets

and seams separated by barren ground and range in size from a few tons to possibly 100 tons.

PROPOSED EXPLORATION AND COSTS

The applicant proposed a single stage drilling program in which holes would be drilled at 100-foot intervals. The application calls for 701 holes or 38,948 feet of non-core drilling and 500 feet of core drilling. Estimated hole depths would range from 30 to 145 feet, averaging about 85 feet.

The applicant's estimated costs follow:

Independent Contracts		
Non-core drilling 58,948 feet at $1.50/ft.	$88,422.00	
500 feet of core drilling at $4.00/ft.	2,000.00	
Bulldozing 234 hours at $12.00/hr.	2,808.00	
Total Independent Contracts		$93,230.00
Labor and Supervision		
Geological and engineering consultants	$ 5,000.00	
Total Labor and Supervision		$ 5,000.00
Operating Material and Supplies		
None		
Operating Equipment		
None		
Rehabilitation and Repairs		
None		
New buildings, Improvements, installations		
None		
Miscellaneous		
None		
Contingencies		
150 chemical assays at $10.00 each		$ 1,500.00
Total estimated cost for 59,448 feet of drilling		$99,730.00
Estimated cost per foot		$1.68

No exploration program is offered by the examining team.

CONCLUSIONS AND RECOMMENDATIONS

Most significant uranium-vanadium deposits in the Uravan and Paradox districts are found in sandstone units in the upper part of the Salt Wash member of the Morrison formation. In the Carpenter Flat area these upper sandstone units have been eroded and ore deposits are found in the basal sandstone units of the Salt Wash member. Basal Salt Wash deposits, characteristically consist of small high-grade pockets, seams and rolls around mineralized fossil logs. In the vicinity of the applicant's claims small high-grade ore bodies have an erratic spatial distribution and are separated by barren ground. As a result mineralized trends are difficult to predict. Individual ore bodies range in size from a few tons to a possible 100 tons.

It is concluded that the subject claims are in an area where the chances of finding ore bodies of significant size are poor. Potential ore bodies that may be found are small and discontinuous and are not likely to add very much to domestic uranium production. The amount of the loan requested by the Neptune Uranium Corporation would probably exceed the value of any ore that may be found on the claims. It is recommended that the application for government assistance be denied.

6-8-56

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

June 15, 1956

224 New Customhouse
Denver 2, Colorado

RECEIVED
JUN 18 1956

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA 4144 (Uranium), Neptune Uranium Corporation (Piper-Shamrock-Kingpin groups of claims), Montrose County, Colorado

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

A former application on this property, Docket No. 4005, was denied without a field examination by Mr. Frank K. Johnson's letter to the Applicant dated November 2, 1955.

The field examiners found that the upper sandstone units in the upper part of the Salt Wash member of the Morrison formation have been eroded on this property. Ore deposits found in this area are in the basal sandstone units of the Salt Wash member and have an erratic spatial distribution and are separated by barren ground. They conclude that the subject claims are in an area where the chances for finding ore bodies of significant size are poor. They recommend that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

W. M. Travey

By W. M. Travey
Executive Officer

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-20-56
(date)

TRANSMITTED

JUN 15 1956

Region III

Building 20
Denver Federal Center
Denver 2, Colorado
June 14, 1956

RECEIVED
JUN 18 1956

DMEA
Date Rec'd.
JUN 14 1956
BUREAU OF MINES
Denver, Colorado

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw
E. H. Harshman

Subject: Docket DMEA 4144 (Uranium), Neptune Uranium Corporation, (Piper-Shamrock-Kingpin groups of claims), Montrose County, Colorado.

Enclosed please find the original and 9 copies of the Joint Engineering and Geologic Report by William B. Gandik, geologist and Carl Belser, mining engineer covering Docket DMEA 4144.

Neptune Uranium Corporation applied for exploration assistance on the Piper-Shamrock-Kingpin groups in Montrose County, Colorado on August 2, 1955.

The proposed work consisted of 59,448 feet of core and non-core drilling at a total estimated cost of $99,739.00.

The property was examined on March 27, 1956 by William B. Gandik, geologist and Carl Belser, mining engineer. The examining team determined that a few small irregular bodies of uranium had been found in the basal sandstone of the Salt Wash member of the Morrison formation in this area.

They concluded that the possibility of finding significant ore bodies is poor.

It is recommended that the application be denied.

John F. Shaw
John F. Shaw
Supervising Mining Engineer

E. H. Harshman
E. H. Harshman
Member Field Team

Reviewed by
DMEA OPERATING COMMITTEE
6-20-56
(date)

cc 9
EHHarshman
DMEA 4144
Chron.

JFS/eh

MINERAL DEPOSITS
IN REPLY REFER TO:
DMEA
RECEIVED
JUN 11 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED
JUN 18 1956

P. O. Box 360
Grand Junction, Colorado

June 8, 1956

MEMORANDUM

TRANSMITTED
JUN 15 1956

To: Executive Officer, DMEA Field Team, Region III

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

From: J. William Hasler

Subject: Transmittal of geologic report of investigation by W. B. Gazdik on the Piper, Shamrock, King pin group of claims. DMEA docket 4144, Neptune Uranium Corporation, Montrose County, Colorado

The Neptune Uranium Corporation applied for Government assistance on the subject group of claims to explore for uranium in the lowermost unit of the Salt Wash sandstone member of the Morrison formation of Jurassic age. The application was referred to the field and an examination was made March 17 by W. B. Gazdik, U. S. Geological Survey, and Carl Belser, U. S. Bureau of Mines.

The subject group of claims are adjacent to work that was completed under DMEA docket 3555, contract Idm-E 703. The area lies on Carpenter Ridge, on the southwest flank of the San Miguel syncline. The rocks on the claims are composed mostly of Summerville Entrada formations and the overlying Salt Wash member of the Jurassic formation. The upper portion of the Salt Wash has been eroded away, thus leaving only the lower portion of that member for exploration. The ore bodies in the area are known to be of a rather high grade but are small and erratic in occurrence. They range in size from a few tons to as much as 300 tons each.

The Defense Minerals Exploration Administration certified the adjoining ground for discovering development for its own protection rather than for the results of any significant discovery that might have been made on the property.

It is concluded that the subject claims are located in an area where the chances of finding ore bodies of significant size are poor. The potential ore bodies that may be found are small and discontinuous and are not likely to add much to the total domestic uranium production, based on past production from this area. The amount of money requested by the Neptune Uranium Corporation would probably exceed many times the value of any ore that might be found on these claims. It is recommended, therefore, that the application for Government assistance be denied.

Reviewed by
DMEA OPERATING COMMITTEE
6-20-56
(date)

DMEA 4144 6/8/56

The Atomic Energy Commission was consulted relative to the appraisal of this property.

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

I concur with the recommendations and conclusions of the examining team.

J. William Hasler

J. William Hasler,
Geologist

JWH/mlr

Enclosures

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

TRANSMITTED

JUN 15 1956

DEFENSE MINERALS EXPLORATION ADMINISTRATION

JOINT REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

RECEIVED
JUN 18 1956

DMEA 6144

NEPTUNE URANIUM CORPORATION

Piper-Shamrock-Kingpin Groups

Montrose County, Colorado

Uranium

Joint Engineering and Geological Report

By

William B. Gandik, Geologist
Geological Survey

Carl Belser, Mining Engineer
Bureau of Mines

June 12, 1956

Reviewed by
DMEA OPERATING COMMITTEE
6-20-56
(date)

NEPTUNE URANIUM CORPORATION
PIPER-SHAMROCK-KINGPIN GROUPS
MONTROSE COUNTY, COLORADO

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Proposed exploration and costs	8
Conclusions and recommendations	9

ILLUSTRATIONS

Figure	Follows Page
1. Location map, Piper-Shamrock-Kingpin groups, Neptune Uranium Corp., Montrose County, Colorado. DMEA 4144	2
2. Map showing area of proposed DMEA project, Shamrock-Piper-Kingpin groups of claims and area previously explored under DMEA 3355, Secs. 14 and 15, T. 48 N., R. 18 W., N.M.P.M., Neptune Uranium Corp., Montrose County, Colorado, DMEA 4144	2

DMEA 4144

NEPTUNE URANIUM CORPORATION
Piper-Shamrock-Kingpin Groups
Montrose County, Colorado

RECEIVED
JUN 18 1956

INTRODUCTION AND SUMMARY

Neptune Uranium Corporation, 2625 Walnut Street, Denver 1, Colorado made application on August 2, 1955 for aid in an exploration project on the Piper-Shamrock-Kingpin groups of claims on Carpenter Flats, Montrose County, Colorado. The applicant proposed a program consisting of 59,448 feet of core and non-core drilling in 701 holes at a total estimated cost of $99,730.00.

The claims were examined on March 27, 1956 by William B. Gandik of the Geological Survey and Carl Belser of the Bureau of Mines.

The property included in the application consists of 12 unpatented claims in secs. 14 and 15, T. 48 N., R. 18 W., N.M.P.M., Montrose County, Colorado. Most of the claims lie on Carpenter Flats at altitudes between 5,300 to 5,850 feet.

In this area a few deposits of uranium have been found in the basal sandstone of the Salt Wash member of the Morrison formation but the size of the ore bodies is small and irregular and do not appear as having much potential. The amount of the loan requested by the applicant probably exceeds the value of any ore that would be found. The possibility of finding significant ore bodies on the applicant's property is poor and it is recommended that the application be denied.

ACKNOWLEDGMENTS

The examining team was accompanied by L. A. and W. B. Griffith, representing the applicant.

The Atomic Energy Commission was consulted regarding the application before the examination was made.

Suggestions in memorandums of George C. Selfridge, John E. Crawford, and W. P. Williams of DMEA were given special attention.

LOCATION, TOPOGRAPHY, AND CLIMATE

The property covered by the application consists of 12 unpatented claims on the east end of Carpenter Flats in secs. 14 and 15, T. 48 N., R. 18 W., N.M.P.M., Montrose County, Colorado (figs. 1 and 2). This portion of Carpenter Flats is a narrow plateau with altitudes ranging from 5,300 to 5,850 feet. Corners of a few of the claims extend over the rim of the plateau into the canyon below.

A 2-mile, fair but very steep, dirt road connects the property with State Highway 141. Uravan, Colorado is 10 miles to the south and Grand Junction, Colorado is 88 miles to the northeast.

Labor, supplies, and light equipment can be obtained at Uravan; heavy equipment can be purchased at Grand Junction. The nearest railroad is the Denver and Rio Grande Western at Grand Junction. Ore buying depots are maintained at Uravan and Grand Junction. Water for drilling purposes may be obtained from the Dolores River.

Rainfall is light and work can be carried on throughout the year.

HISTORY AND PRODUCTION

A small amount of uranium ore may have been mined from the rim on the Shamrock 1 and 5 claims in the early 1900's.

The claims were located between March 1950 and April 1954, but no production has been [illegible]

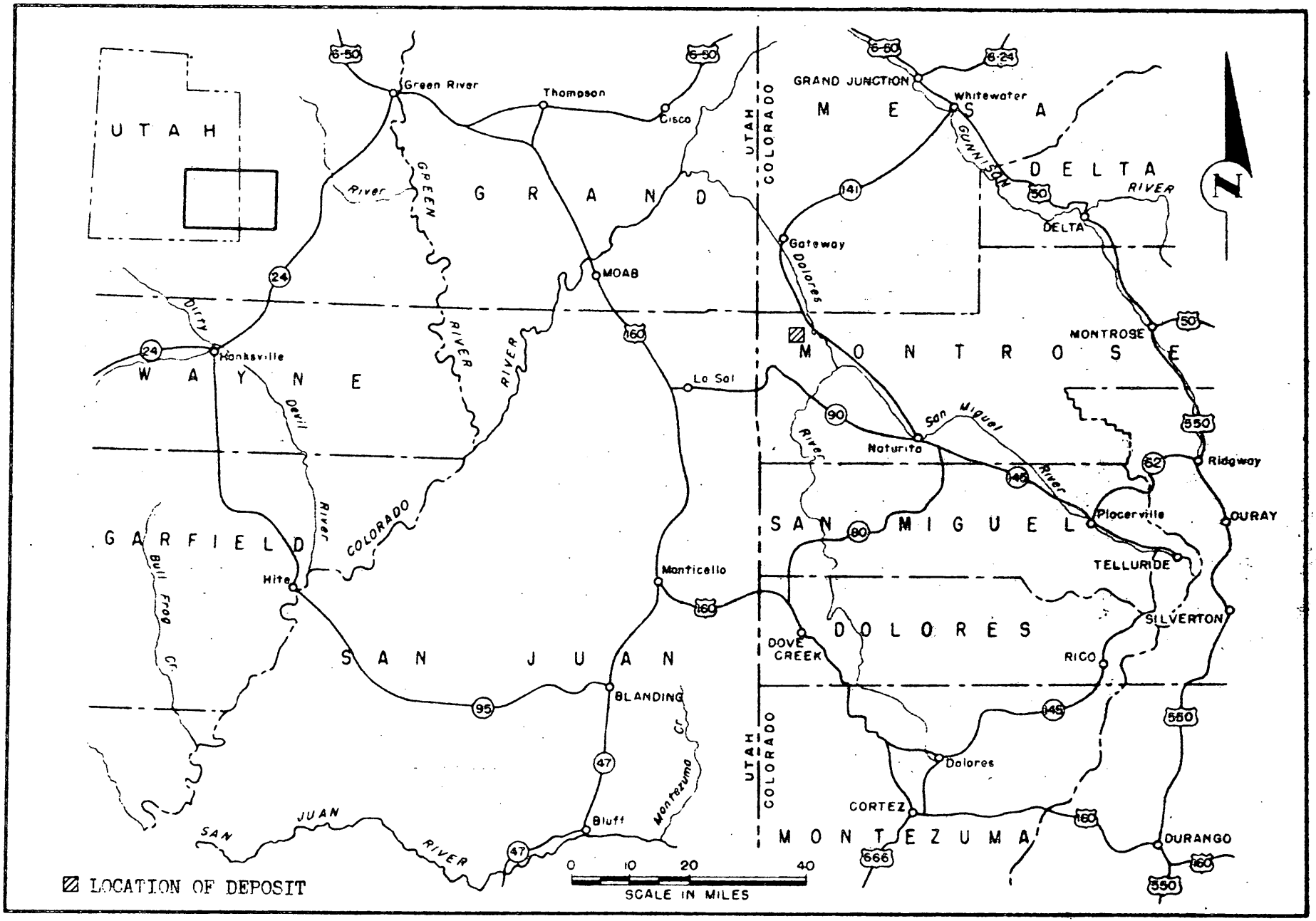

FIGURE 1 - LOCATION MAP, PIPER-SHAMROCK-KINGPIN GROUPS, NEPTUNE URANIUM CORPORATION, MONTROSE COUNTY, COLO.
DMEA 4144

RECEIVED
JUN 1 3 1953

OWNERSHIP AND EXTENT

The 12 claims listed in the application are recorded in the office of the County Clerk and Recorder of Montrose County, Colorado as follows:

Claim	Book	Page	Discovery Date	Recorded by
Shamrock 1	343	8	3/17/50	Keith M. and Donald K. Andrews
Shamrock 5	343	21	"	" " " "
Kingpin 1	343	379	1/28/51	" " " "
Kingpin 3	343	381	"	" " " "
Kingpin 4	343	382	"	" " " "
Kingpin 5	343	383	"	" " " "
Kingpin 6	343	384	"	" " " "
Kingpin 7	343	385	"	" " " "
Kingpin 8	343	386	"	" " " "
Lollypop	379	111	4/15/54	L.A. & W.B. Griffith, Const. Spec. Co.
Piperoo	379	112	"	" " " " " "

The Kingpin 1 to 8 and the Shamrock 1 and 5 claims were leased for a five-year period to Construction Specialties Company by Keith M. and Donald K. Andrews on February 1, 1954. Construction Specialties Company assigned the lease agreements on the 10 claims to Neptune Uranium Corporation on April 1, 1955. The Lollypop and Piperoo claims were assigned by the locators to Neptune Uranium Corporation on April 1, 1955.

The claims appear to be in order with the exception that the boundaries of an older claim adjoining the Shamrock No. 1 and the Kingpin No. 7 claims has not been established.

PRESENT STATUS

Exploration and Development

Other than discovery holes the property has not been explored or developed.

Mining Equipment and other Facilities

Mining equipment owned by the applicant includes the following:

1 Jaeger gasoline-engine-driven 125 c.f.m. compressor
1 Gardner-Denver gasoline-engine-driven 194 c.f.m. compressor
1 Scatoreek 8 hp muck buggy
2 mine cars
500 feet, 12 and 16 pound track

1500 feet 2-inch air line
1 Gardner-Denver jackhammer type drill
1 Ther jackhammer type drill
1 I.R. 55 jackhammer
1 I.R. stopehammer
1 Gardner-Denver 79 long-hole drill
Hose, steel and hand tools

This equipment is in or near the Outlet and Piper No. 1 adits. There is no milling equipment. Facilities consist of an office, cookhouse, and three small buildings.

GEOLOGY

Neptune Uranium Company property is on the southwest flank of the San Miguel syncline in the southwestern part of the U. S. Geological Survey Red Canyon quadrangle. The claims are in the Carpenter Flat area midway between the Paradox district and the Uravan district. Most of the uranium-vanadium deposits in the Paradox and Uravan districts occur in the upper part of the Salt Wash member of the Morrison formation. Known ore deposits in the Carpenter Flat area however, are restricted to the basal sandstone unit of the Salt Wash member. The property is outside of the Uravan mineral belt which trends northward and is about 3 miles to the east.

The rocks exposed in the vicinity in ascending order are the Jurassic Entrada formation, the Jurassic Summerville formation and the Salt Wash member of the Jurassic Morrison formation.

The Entrada formation consists of alternating horizontally bedded and eolian type crossbedded sandstone units.

The Entrada formation crops out as smoothly rounded orange and white cliffs. The bulk of the sandstone is made up of sub-rounded to sub-angular quartz grains. Thin layers of well rounded frosted grains are present along bedding planes. The Entrada sandstone is about 90 feet thick in the area and forms a prominent marker bed.

The Summerville formation rests conformably on the Entrada formation and is about 95 feet thick. It crops out as a steep, debris covered slope and where well exposed exhibits thin, even horizontal bedding and is made up of interbedded red sandy shales and fine grained sandstones.

The Salt Wash member of the Morrison formation overlies the Summerville formation. About 75 percent of the upper Salt Wash member has been eroded in the area and the remaining 40 feet to 120 feet consists of interbedded terrestrial sandstone and mudstone. The potential ore-bearing unit in this area is the lowermost sandstone bed in the Salt Wash member, which is 30 to 70 feet thick, medium- to medium-fine-grained, and predominantly light brown. Fossilized logs, carbonaceous material and thin red and green mudstone seams are included in the sandstone. Mudstone underlying the ore-bearing sandstone unit is generally red. Locally as much as 2 feet of the underlying mudstone is altered green. A second Salt Wash sandstone unit is present in places about 45 feet above the basal Salt Wash sandstone unit. It averages about 20 feet in thickness, is reddish-brown and is not considered a favorable host rock for uranium-vanadium deposits.

The beds in the area dip about 4° northeast and strike about N. 45° W. A well developed joint system generally parallels the strike of the beds.

The depth to the base of the potential ore-bearing sandstone unit underlying the applicant's claims would range from 30 to 145 feet, averaging about 85 feet.

ORE DEPOSITS

Mineralized rocks in the basal sandstone unit consist principally of sandstone impregnated with uranium and vanadium minerals. Smaller amounts of uranium and vanadium minerals are found in mudstone seams or replacing carbonaceous material. Secondary copper minerals including azurite and malachite are associated with these deposits.

The ore deposits in the vicinity of the applicant's claims occur as small rolls, pods, and mineralized logs, characteristic of the small high-grade deposits found in the basal sandstone unit of the Salt Wash member. Such a deposit is being mined on the Outlet claim in a rather sporadic fashion by the Neptune Uranium Company (fig. 2). This deposit consists of discontinuous mineralized layers a few inches to one foot thick and erratically spaced pod-like ore bodies, that range in diameter from a few feet to about twenty feet. Mineralized rock is not restricted to one stratigraphic level.

Ore deposits on the Dad and Piper No. 1 claims not included in this application are similar to those found in the Outlet deposits in that they are small dicontinuous high-grade pockets and seams of mineralized ground separated by barren ground, both horizontally and vertically.

According to A.E.C. data 166 tons of ore containing 0.48 percent U_3O_8 and 2.40 percent V_2O_5 were produced from the Outlet Mine in the period April 1954 to July 1955; 903 tons of ore averaging 0.35 percent U_3O_8 and 2.34 percent V_2O_5 were shipped from the Dad's mine from December 1953 through December 1955; and production from the Piper No. 1 claim was 295 tons of ore averaging 0.28 percent U_3O_8 and 1.85 percent V_2O_5 during the period Dec. 1954 to March 1956.

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Gamma-ray logs. The applicant's data consistently showed greater thicknesses of mineralized rock and in some cases inferred ore intervals were as much as 4 feet thicker than indicated by government gamma-ray logs.

The applicant states that a 4,000 ton ore body averaging 0.60 percent U_3O_8 and 1.5 percent V_2O_5 was blocked out by development holes that were drilled to supplement work done under DMEA 3355 (fig. 2). He bases his reserve calculations on chemical assays made on drill cuttings, on thicknesses logged by the driller and in the assumption that ore grade mineralization is continuous from hole to hole. The erratic geographic and stratigraphic distribution of small ore bodies in this area and the poor quality of company assay data strongly suggest that the 4,000 ton figure is much too high. The reserve block on the Piper No. 3 claim probably consists of a cluster of small pockets or pods of mineralized material separated by barren ground analogous to other deposits in the area. The cumulative tonnage of such a deposit is more likely in the 500 ton class.

Most of the uranium-vanadium ore produced in this area came from small prospects and drifts located near the rim that have been worked intermittently over a period of many years. The erratic distribution of small ore bodies comprising ore deposits in this area complicates mining problems and increases operational costs. The applicant states that these deposits are amenable to strip mining methods. However, this method of mining would necessitate the removal of about 30 feet to 60 feet of well cemented sandstone beds and would require blasting. Based on the small size of ore bodies in the Carpenter Flat area and on the fact that most of the overburden is made up of well cemented sandstone, it is reasonable to assume that stripping operations would not be economically feasible.

ORE RESERVES

There are no known ore reserves underlying the subject claims. Ore deposits, if present, would consist of small discontinuous high-grade pockets

and seams separated by barren ground and range in size from a few tons to possibly 100 tons.

PROPOSED EXPLORATION AND COSTS

The applicant proposed a single stage drilling program in which holes would be drilled at 100-foot intervals. The application calls for 701 holes or 38,948 feet of non-core drilling and 500 feet of core drilling. Estimated hole depths would range from 30 to 145 feet, averaging about 85 feet.

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500 feet of core drilling at $4.00/ft.	2,000.00	
Bulldozing 234 hours at $12.00/hr.	2,808.00	
Total Independent Contracts		$93,230.00

Labor and Supervision

Geological and engineering consultants	$ 5,000.00	
Total Labor and Supervision		$ 5,000.00

Operating Material and Supplies

None

Operating Equipment

None

Rehabilitation and Repairs

None

New buildings, improvements, installations

None

Miscellaneous

None

Contingencies

150 chemical assays at $10.00 each	$ 1,500.00
Total estimated cost for 59,448 feet of drilling	$99,730.00
Estimated cost per foot	$1.68

No exploration program is offered by the examining team.

CONCLUSIONS AND RECOMMENDATIONS

Most significant uranium-vanadium deposits in the Uravan and Paradox districts are found in sandstone units in the upper part of the Salt Wash member of the Morrison formation. In the Carpenter Flat area these upper sandstone units have been eroded and ore deposits are found in the basal sandstone units of the Salt Wash member. Basal Salt Wash deposits, characteristically consist of small high-grade pockets, seams and rolls around mineralized fossil logs. In the vicinity of the applicant's claims small high-grade ore bodies have an erratic spatial distribution and are separated by barren ground. As a result mineralized trends are difficult to predict. Individual ore bodies range in size from a few tons to a possible 100 tons.

It is concluded that the subject claims are in an area where the chances of finding ore bodies of significant size are poor. Potential ore bodies that may be found are small and discontinuous and are not likely to add very much to domestic uranium production. The amount of the loan requested by the Neptune Uranium Corporation would probably exceed the value of any ore that may be found on the claims. It is recommended that the application for government assistance be denied.

2-15-56 dgm

RECEIVED
FEB 15 1956

February 10, 1956

Memorandum

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

From: Acting Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA 4144 (Uranium), Neptune Uranium Corporation, Piper-Shamrock-Kingpin groups, Montrose County, Colorado

The subject application was received in this office on February 10, 1956.

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

Scott W. Hazen, Jr.

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

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Scott W. Hazen Jr.
Scott W. Hazen, Jr.

cc: W. M. Traver (2)
E. N. Harshman
J. W. Healer
M. H. Salsbury
J. F. Shaw
See. Op. Com (2)

2-13-56 dgm

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

RECEIVED
FEB 13 1956

February 9, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: J. F. Shaw (With brochure)
J. W. Hasler

From: Field Team, Region III

Subject: Docket DMEA 4144 (Uranium), Neptune Uranium Corporation, Piper-Shamrock-Kingpin groups, Montrose County, Colorado

Enclosed is the subject application which covers the same property as that submitted under Docket DMEA 4005. Also enclosed is a copy of a letter from the Chairman of the Operating Committee and memoranda of review of the new application by W. P. Williams and John E. Crawford.

A field examination and suitable report are required.

DMEA Field Team, Region III

W. M. TRAVER.

By W. M. Traver
Executive Officer

Enclosures

HMC:ab

cc: Chair. Op. Comm. (2)
Harshman
Docket 4144
Chron.

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

RECEIVED
FEB 13 1956

February 9, 1956

22k New Customhouse
Denver 2, Colorado

Memorandum

To: J. F. Shaw (With brochure)
J. W. Hasler

From: Field Team, Region III

Subject: Docket DMEA 4144 (Uranium), Neptune Uranium Corporation, Piper-Shamrock-Kingpin groups, Montrose County, Colorado

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A field examination and suitable report are required.

DMEA Field Team, Region III

W. M. TRAVER,

By W. M. Traver
Executive Officer

Enclosures

HMC:ab

cc: Chair. Op. Comm. (2)
Harshman
Docket 4144
Chron.

Surname copy

700

Ching
Ellis
Kilgard
Geehan
Selfridge
Jefferson

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

FEB - 6 1956

Mr. W. E. Griffith, President
Neptune Uranium Corporation
2625 Walnut
Denver, Colorado

Re: Docket No. DMEA-4144 (Uranium)
Piper-Shamrock-Kingpin Group
Montrose County, Colorado

Dear Mr. Griffith:

The application for assistance in exploring the subject property in Montrose County, Colorado, under the captioned docket number, has been reviewed by the Rare and Miscellaneous Metals Division of the Defense Minerals Exploration Administration. It has been referred for a field examination to the Executive Officer of Region III at the following address:

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

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

Sincerely yours,

C. O. Mittendorf

Administrator

MChing/gla
2-6-55
cc to: Admr.'s Reading File
Docket
Code 700
Mr. Ching
DMEA Field Team, Region III (2)

R.C.L.

700

FILE COPY
Surname:
Ching
Selfridge
Motherwell

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

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

FEB - 6 1956

Re: Docket No. DMEA-4144 (Uranium)
Neptune Uranium Corporation
Piper-Shamrock-Kingpin Group
Montrose County, Colorado

Dear Mr. Traver:

The subject corporation submitted an application under Docket No. DMEA-4005 which was denied by the Acting Administrator in a letter dated November 2, 1955.

On January 25, 1956, a report by Paul H. Keating, dated January 12, 1956, supplementing the information contained in the original application was forwarded to you, together with the Applicant's letter of January 19 requesting that the original application be reconsidered. We are considering the request as a new application and have assigned the captioned docket number to it. It is suggested that all pertinent material contained in the old application be incorporated with the new application.

It is believed that the Applicant has demonstrated that significant ore bodies may exist in this area. The new application is therefore referred to you for investigation, a field examination, and recommendation.

Enclosed are two copies each of memoranda, dated January 30 and 31, 1956, from W. P. Williams, USGS, and John E. Crawford, USBM, respectively.

In the event an exploration contract is recommended by the Field Team, six copies of a Consent to Lien covering the Kingpin Nos. 1-8, Shamrock No. 1, and Shamrock No. 5 claims will be required of Keith N. Andrews and Donald K. Andrews.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

Enclosures

APPROVED:

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

Thor H. Kiilsgaard
Member, Geological Survey

Messrs. JLCrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

Admr.'s Reading File
Operating Committee

KChing/izm 2-3-56
cc to: Docket
Code 700
Mr. Ching

2-2-56 Lyn

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

RECEIVED
FEB - 1 1956

January 31, 1956

Memorandum

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

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

Subject: Application for assistance, DMEA Docket 4144, Neptune Uranium Corporation, Piper-Shamrock-Kingpin Group, Montrose County, Colorado

I have reviewed the attached application of the Neptune Uranium Corporation, DMEA Docket 4144, dated January 19 and received in the office January 25. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The Neptune Uranium Corporation is requesting reconsideration of an application for exploration assistance which was denied under Docket 4005.

Work performed by the applicant on adjoining ground since denial of the request resulted in the discovery of an ore body containing over 4,000 tons of ore, valued in place at $210,000.00.

We recommend that the application be referred to the Field Team for study and possible examination, if warranted. Results of the additional work done by the applicant since denial of DMEA Docket 4005 should enable the Field Team to make a more complete evaluation of the property. The Field Team should consult with E. R. Gordon, Atomic Energy Commission, Grand Junction, Colorado.

John E. Crawford
John E. Crawford

Attachment

Crawford

NEPTUNE URANIUM CORPORATION

RECEIVED
JAN 20 1956

Denver Office
2625 Walnut St.
P. O. Box 927, Denver 1

Mine Address
Uravan, Colo.

Officers & Directors
W. E. Griffith, Pres. & Director
L. A. Griffith, V. Pres. & Director
F. A. Burns, Treasurer
R. B. Carson, Secy. & Director
Clark F. Barb, Director

Paul H. Keating, Consulting Geologist
Karl C. Brauns, Counsel

January 19, 1956

4144

Mr. Frank E. Johnson
Acting Administrator
Defense Minerals Exploration Administration
Washington 25, D. C.

Re: Docket No. DMEA-4003 (Uranium) formerly
Piper-Shamrock-Kingpin Group
Montrose County, Colorado

Dear Mr. Johnson:

Supplementing our recent telephone conversation on the above docket, I am transmitting herewith additional information to supplement our original request for a drilling loan on the above docket number. This is in the form of a letter report, with attached maps prepared by Paul H. Keating, Engineer-Geologist Consultant for the Neptune Uranium Corporation.

I believe the findings of this supplemental report are important enough to warrant consideration for the changing of the discovery rating accorded our first D.M.E.A. drilling program. I wish further to point out that the northeast-southwest limits of the ore body, developed by drilling supplemental to the D.M.E.A. drilling, have not yet been determined. We believe that this additional drilling we have done, while still incomplete, warrants consideration for changing the wording of the discovery certificate to "substantial ore bodies." As pointed out in Keating's report, there is every reason geologically to believe that the granting of this additional drilling will result in the opening up and finding of several more substantial ore bodies.

We will greatly appreciate your reviewing the application in the light of the additional information being submitted herewith. We further respectfully request that the entire application be reconsidered and the loan granted as originally requested.

Thanking you, I remain

Sincerely yours,

NEPTUNE URANIUM CORPORATION

W. E. Griffith

W. E. Griffith
President

WEG:maw
Encl.
cc: Mr. W. H. Traver
New Customs House - Denver

PAUL H. KEATING
MINING ENGINEER

Golden, Colorado
January 12, 1956

Col. W. E. Griffith, Pres.
Neptune Uranium Corporation
2625 Walnut
Denver, Colorado

Re: Docket No. DMEA 4005 (Uranium)
Piper-Shamrock-Kingpin Group
Montrose County, Colorado

Dear Col. Griffith:

In 1954, the Defense Minerals Exploration Administration enabled our group to explore a portion of the "Piper-Shamrock-Kingpin" holdings, on Carpenter Flats, in western Montrose County. Upon completion of that contract, the findings were rated as "a discovery of small, high-grade deposits of uranium-bearing minerals." (And approximately 10% of that contract assistance has been returned to the DMEA in the form of royalties from production).

From discoveries made on that contract, we have spent about $15,000 in "development drilling", for the purpose of blocking out reserves of ore that was found on the exploration contract.

Toward the southwesterly end-lines of Piper #2 and Piper #3 we have developed an ore-bearing area by closely spaced holes. Every hole in that area has shown good commercial-grade ore, running from 1' to 4' thick, and assaying up to 2% U_3O_8. The limits of that particular area have not yet been established on all sides. The grade is commercial and the close-spaced drilling justifies the conclusion that the deposit is continuous. The depth varies between 28 and 35 feet to "bottom". This depth suggests a stripping operation for recovery and production from this deposit.

It is my estimate, based on area-covered by this development, and chemical assays made on the cuttings, and thickness logged by the driller, that this deposit contains a minimum of 4000 tons of (average) 0.60% U_3O_8 content, PLUS the incidental Vanadium content of 1.5 to 2.0% V_2O_5. The gross value of this deposit, in place, is in excess of $210,000.00.

Modern techniques of blasting on milli-second explosions, and modern bulldozer capacities have reduced the cost of removing over-burden to a fraction of the primitive methods accepted as "standard" a short 10 years ago. With these modern methods, I believe that particular ore body could be reached and selectively shipped for less than $7.50 per ton of ore shipped.

As a minimum, Col. Griffith, we KNOW that there is a continuous deposit of commercial-grade ore on our property, of a minimum of 4000 tons, at a depth of 28-35 feet, amenable to stripping production, and of substantial grade which I estimate at a minimum of more than $50.00 per ton. We also know that this particular ore body is in only one-of-several "ore-bearing provinces" that were discovered on our first DMEA contract.

Personally nor professionally, I do not believe that this group of claims is "fantastically rich". But this particular ore body, that was discovered by DMEA help is a good one, and will pay off to the personnel and agencies who brought it to light! I do not know the financial definitions of "small, high grade deposits", but I do believe that a 6-figure potential-of-value in one deposit is worthy of review. The DMEA made exploration possible, and I believe that your Corporation has kept faith in spending capitol funds to develop and bring this discovery into meaningful "strategic mineral reserves".

- - - - - - - -

To summarize:-

1. The area upon which extended exploration assistance was requested (under the above Docket 4005), concerns a lateral and surface extension of the same original contract area. In that original area, development drilling has blocked out a good ore body. There is no geologic, lithologic, nor stratigraphic difference between the area explored and developed, and the particular area described in this second application.

2. Your Corporation has "kept faith", to the letter and the spirit of the original DMEA contract. It is solvent; it has spent $15,000 of "development" capitol --- and it has defined as a result of DMEA help, a $200,000-plus ore reserve of a strategic mineral.

3. Your Corporation has engaged no broker; made no public offering, has had no "publicity" nor other promotional gestures. No officer nor director has received any salary or fee, other than for physical labor actually performed on the property, --- and such pay was far within the limits of current rates. This, I believe should go into the record.

- - - - - - - -

It seems to me that this enterprise has complied on every possible facet of requirements, in letter and spirit, and has achieved the DMEA objectives re ore reserves.

DMEA Dock. 4005
Neptune Uranium Corp.
4 of 4 & incl.

THEREFORE, I respectfully suggest that you, as President of the Neptune Uranium Corporation, request the Director of the DMEA to give a second or third close look to our DMEA Docket 4005, - and our application for extended exploration assistance, under a new contract. This implies that this application might be reviewed in the light of recent development of a substantial ore body.

Attached hereto are general and specific maps of the area concerned.

This newly developed ore reserve has been blocked out since the second application for a DMEA contract was submitted.

Hence, it appears reasonable that the value of this reserve merits a re-examination of the application.

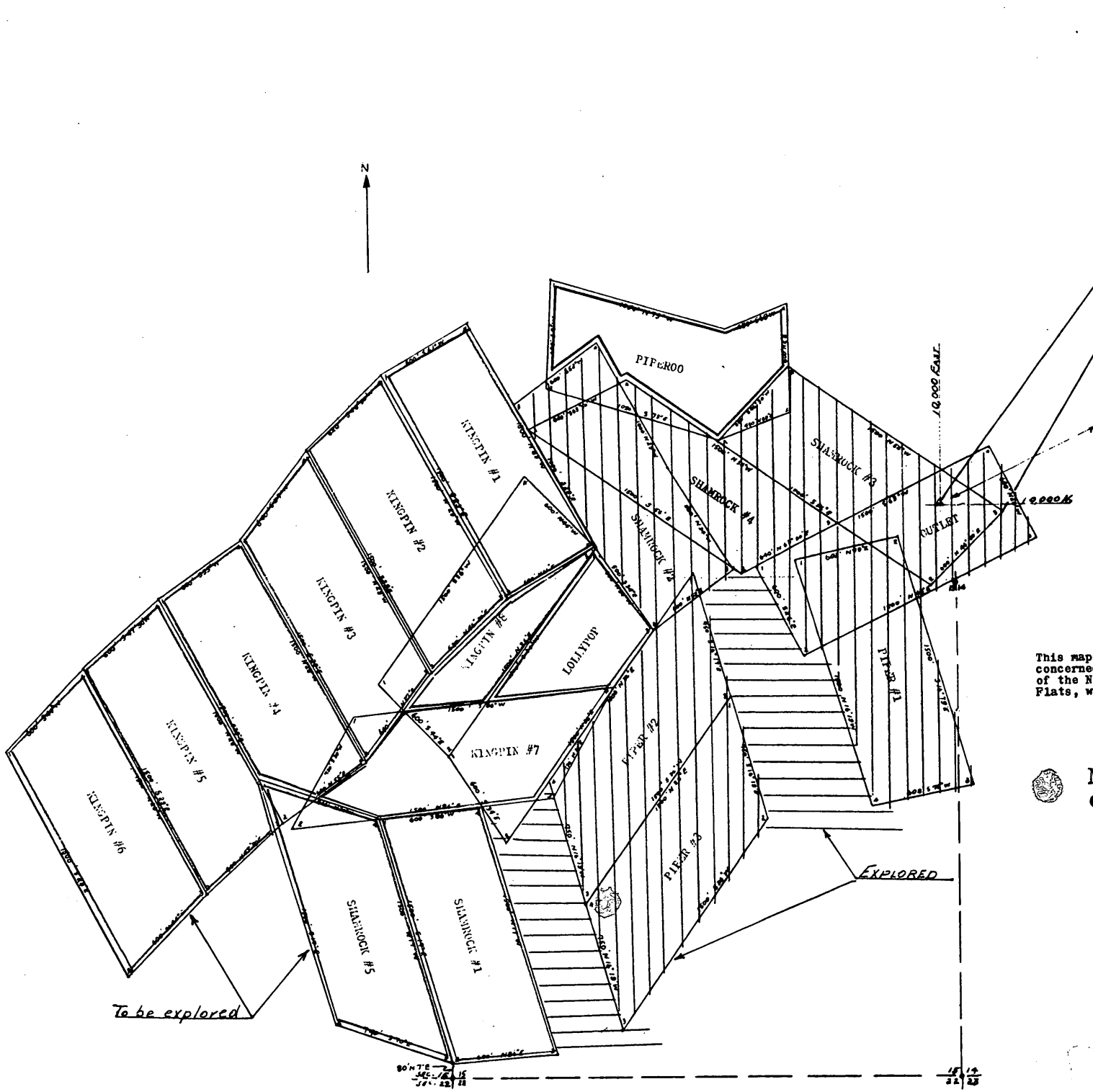
I believe that you, as President of the applying Corporation should request this review of DMEA Docket 4005, to the proper authority.

Very truly yours,

Paul H. Keating

Paul H. Keating
Box 163
Golden, Colorado

PHK/vt



THIS POINT IS AN IRON PIPE SET FIRMLY INTO THE BEDROCK OF THIS AREA BY THE U.S. GEOLOGICAL SURVEY, AS A "TRIANGULATION POINT". THIS PIPE HAS BEEN ARBITRARILY ASSIGNED A COORDINATE VALUE OF 10,000 FT. EAST and 10,000 FT. NORTH. ALL CLAIM-CORNERS, DRILL HOLES, AND UNDERGROUND WORKINGS ARE REFERRED TO THIS POINT AS MORE OR LESS THAN THIS ASSIGNED VALUE, IN NET TERMS OF EAST-WEST OR NORTH-SOUTH.

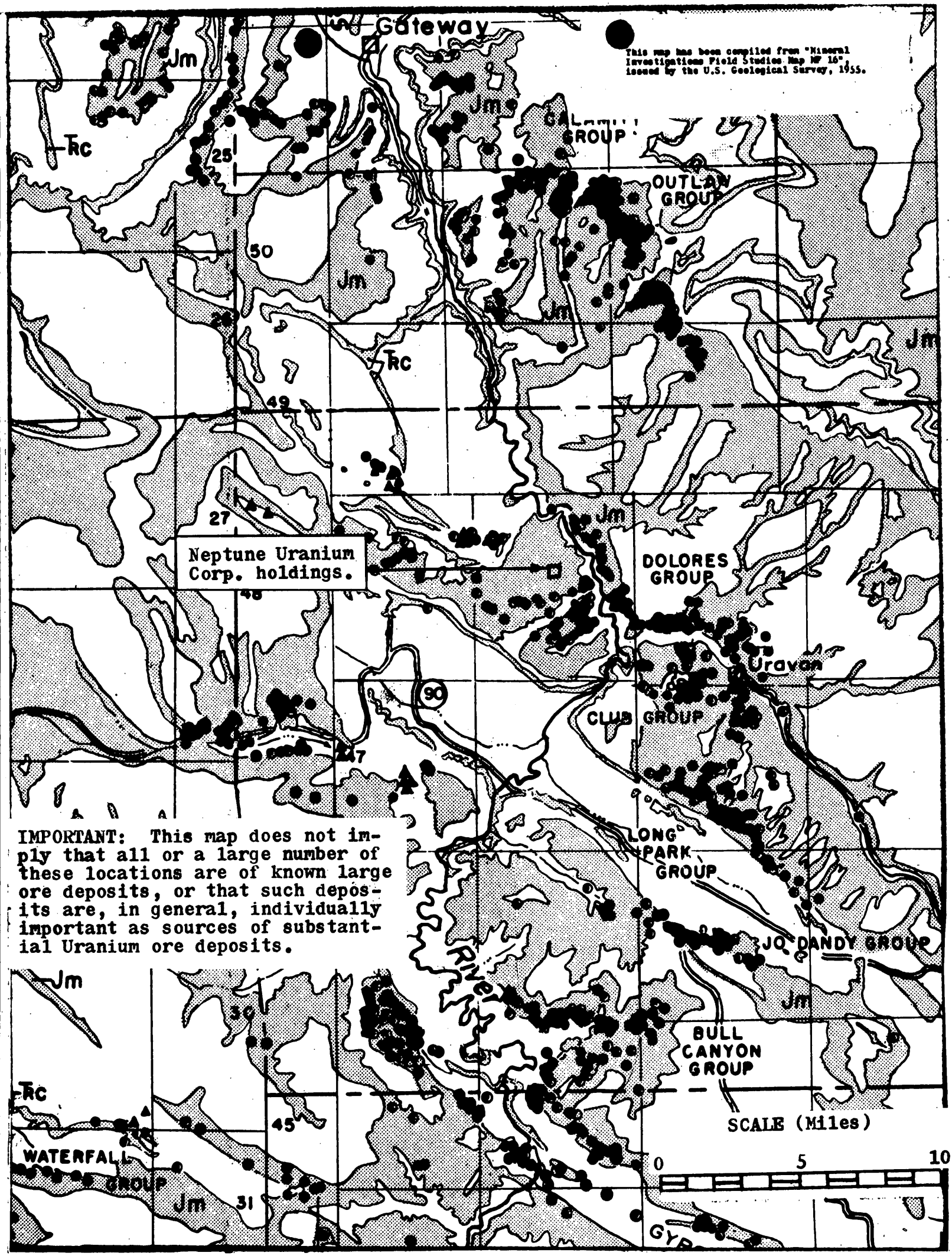
This map shows the relationship of the claims concerned in this report to all of the holdings of the Neptune Uranium Corporation on Carpenter Flats, western Montrose County, Colorado.

Newly developed ore reserve.

THIS IS A CLAIM MAP OF THE "PIPER-SHAMROCK-KINGPIN" GROUP OF CLAIMS, LOCATED ON CARPENTER FLATS, IN WESTERN MONTROSE COUNTY, COLORADO. (Twp. 48 N, R. 18 W, 6th P.M.)

Scale: 1" = 400'.

Paul N. Keating



IMPORTANT: This map does not imply that all or a large number of these locations are of known large ore deposits, or that such deposits are, in general, individually important as sources of substantial Uranium ore deposits.

1/30/56 glu

IN REPLY REFER TO:

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

RECEIVED
JAN 30 1956

January 30, 1956

Memorandum

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

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

Subject: Review of application, DMEA 4144 (formerly DMEA 4005), Neptune Uranium Corporation, Piper, Shamrock, Kingpin claims, Montrose County, Colorado.

The property involved in DMEA 4005 lies adjacent to the lands in DMEA 3355, Idm-E703, which was certified by the Government as a discovery in May 1955. In considering DMEA 4005, the Grand Junction office concluded that the ore discovered under DMEA 3355 was of small significance, that ore bodies of any consequence were not likely to be found on the land in DMEA 4005, and that DMEA 4005 be denied without field examination. The recommendation was accepted, and DMEA 4005 was denied by the Government on November 2, 1955.

After receipt of the denial notice, the applicant proceeded to perform some exploration drilling for his own account on mineralized areas discovered in DMEA 3355. According to a map submitted by the applicant under a new application, DMEA 4144, covering the same land as DMEA 4005, out of a total of 70 recently drilled holes 20 holes contained mineralization with grade up to 0.20 percent U_3O_8, and 18 holes contained ore with grade up to 3.0 percent U_3O_8 and thickness up to 4 feet. Depths to the bottom of the ore average less than 30 feet which would allow the deposit to fit nicely into the trend toward low cost open-cut operations on the Colorado Plateau. The applicant estimates that his drilling has demonstrated the presence of 4,000 tons of ore averaging 0.60 percent U_3O_8. A preliminary check of the values on the applicant's drill hole map shows those figures to be of the correct magnitude.

It appears that, by his initiative, the applicant has demonstrated that significant ore bodies can be found at shallow depth on Carpenter Flat. Serious consideration should be given to approval of DMEA participation in exploration on the applicant's property.

I recommend that the application be referred to the Field Team for review and recommendations concerning an exploration drilling project on the property.

W P Williams

W. P. Williams

IN REPLY REFER TO:

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

RECEIVED
JAN 30 1956

January 30, 1956

Memorandum

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

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I recommend that the application be referred to the Field Team for review and recommendations concerning an exploration drilling project on the property.

W. P. Williams

WPWilliams:iml
G-1/30/56

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

January 25, 1956

Neptune Uranium Corporation
2625 Walnut Street
Denver 1, Colorado

Subject: DMEA 4144
Re: Exploration
Piper-Shamrock-Kingpin

Gentlemen:

The receipt of your application dated January 19, 1956 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA 4144 and referred to the Rare and Miscellaneous Division.

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

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

00932

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

January 25, 1956

Memorandum

To: Robert E. Adams
Operations Control & Statistics Division

From: Ernest Wm. Ellis, Chief
Rare and Miscellaneous Metals Division

Subject: New application
Neptune Uranium Corporation
Piper-Shamrock-Kingpin Group
Montrose County, Colorado

The Neptune Uranium Corporation application for aid in an exploration project, under Docket No. DMEA-4005, was denied by the Acting Administrator's letter dated November 2, 1955.

Through additional work on adjacent claims, the Applicant has demonstrated that significant ore bodies may exist in this area; consequently, he has submitted the attached four sets of supplemental material to this Office.

It is requested that you consider this supplemental material as a new application to which a new docket number should be assigned. Inasmuch as most of the supporting material attached to Docket No. DMEA-4005 also represents the supporting material to the new application, it is suggested that all such material pertinent to the new application be made a part of the new docket.

Ernest Wm. Ellis

Ernest Wm. Ellis

Attachments

1-20-56 dgm

NEPTUNE URANIUM CORPORATION

RECEIVED
JAN 25 1956

Denver Office
2625 Walnut St.
P. O. Box 927, Denver 1

Mine Address
Uravan, Colo.

Officers & Directors
W. E. Griffith, Pres. & Director
L. A. Griffith, V. Pres. & Director
F. A. Burns, Treasurer
R. B. Carson, Secy. & Director
Clark F. Barb, Director

Paul H. Keating, Consulting Geologist
Karl C. Brauns, Counsel

January 19, 1956

Mr. Frank E. Johnson
Acting Administrator
Defense Minerals Exploration Administration
Washington 25, D. C.

DMEA-4144

Re: Docket No. DMEA-4005 (Uranium)
Piper-Shamrock-Kingpin Group
Montrose County, Colorado

Dear Mr. Johnson:

Supplementing our recent telephone conversation on the above docket, I am transmitting herewith additional information to supplement our original request for a drilling loan on the above docket number. This is in the form of a letter report, with attached maps prepared by Paul H. Keating, Engineer-Geologist Consultant for the Neptune Uranium Corporation.

I believe the findings of this supplemental report are important enough to warrant consideration for the changing of the discovery rating accorded our first D.M.E.A. drilling program. I wish further to point out that the northeast-southwest limits of the ore body, developed by drilling supplemental to the D.M.E.A. drilling, have not yet been determined. We believe that this additional drilling we have done, while still incomplete, warrants consideration for changing the wording of the discovery certificate to "substantial ore bodies." As pointed out in Keating's report, there is every reason geologically to believe that the granting of this additional drilling will result in the opening up and finding of several more substantial ore bodies.

We will greatly appreciate your reviewing the application in the light of the additional information being submitted herewith. We further respectfully request that the entire application be reconsidered and the loan granted as originally requested.

Thanking you, I remain

Sincerely yours,

NEPTUNE URANIUM CORPORATION

W. E. Griffith

W. E. Griffith
President

WEG:maw
Encl.
cc: Mr. W. H. Traver
New Customs House - Denver

PAUL H. KEATING
MINING ENGINEER

Golden, Colorado
January 12, 1956

Col. W. E. Griffith, Pres.
Neptune Uranium Corporation
2625 Walnut
Denver, Colorado

Re: Docket No. DMEA 4005 (Uranium)
Piper-Shamrock-Kingpin Group
Montrose County, Colorado

Dear Col. Griffith:

In 1954, the Defense Minerals Exploration Administration enabled our group to explore a portion of the "Piper-Shamrock-Kingpin" holdings, on Carpenter Flats, in western Montrose County. Upon completion of that contract, the findings were rated as "a discovery of small, high-grade deposits of uranium-bearing minerals." (And approximately 10% of that contract assistance has been returned to the DMEA in the form of royalties from production).

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Personally nor professionally, I do not believe that this group of claims is "fantastically rich". But this particular ore body, that was discovered by DMEA help is a good one, and will pay off to the personnel and agencies who brought it to light! I do not know the financial definitions of "small, high grade deposits", but I do believe that a 6-figure potential-of-value in one deposit is worthy of review. The DMEA made exploration possible, and I believe that your Corporation has kept faith in spending capitol funds to develop and bring this discovery into meaningful "strategic mineral reserves".

- - - - - - - -

To summarize:-

1. The area upon which extended exploration assistance was requested (under the above Docket 4005), concerns a lateral and surface extension of the same original contract area. In that original area, development drilling has blocked out a good ore body. There is no geologic, lithologic, nor stratigraphic difference between the area explored and developed, and the particular area described in this second application.

2. Your Corporation has "kept faith", to the letter and the spirit of the original DMEA contract. It is solvent; it has spent $15,000 of "development" capitol --- and it has defined as a result of DMEA help, a $200,000-plus ore reserve of a strategic mineral.

3. Your Corporation has engaged no broker; made no public offering, has had no "publicity" nor other promotional gestures. No officer nor director has received any salary or fee, other than for physical labor actually performed on the property, --- and such pay was far within the limits of current rates. This, I believe should go into the record.

- - - - - - - -

It seems to me that this enterprise has complied on every possible facet of requirements, in letter and spirit, and has achieved the DMEA objectives re ore reserves.

DMEA Dock. 4005
Neptune Uranium Corp.
4 of 4 & incl.

THEREFORE, I respectfully suggest that you, as President of the Neptune Uranium Corporation, request the Director of the DMEA to give a second or third close look to our DMEA Docket 4005, - and our application for extended exploration assistance, under a new contract. This implies that this application might be reviewed in the light of recent development of a substantial ore body.

Attached hereto are general and specific maps of the area concerned.

This newly developed ore reserve has been blocked out since the second application for a DMEA contract was submitted.

Hence, it appears reasonable that the value of this reserve merits a re-examination of the application.

I believe that you, as President of the applying Corporation should request this review of DMEA Docket 4005, to the proper authority.

Very truly yours,

Paul H. Keating

Paul H. Keating
Box 163
Golden, Colorado

PHK/vt

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

RECEIVED
OCT 6 - 1955

October 3, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA Assistance, (Uranium), Neptune Uranium Corporation, Piper-Shamrock-Kingpin groups, Montrose County, Colorado

Enclosed are two copies of the subject application in the amount of $99,730.

A copy of the application has been forwarded to the Grand Junction office for their review.

W. M. Traver

Enclosure

DMEA
Date Rec'd.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
OCT 6 - 1955
BUREAU OF MINES
Denver, Colorado

Form Approved
Budget Bureau No. 19-R1035.2.

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

Not to be filled in by applicant

Docket No. DMEA 4005
Metal or Mineral Uranium
Date Received 10-6-55
Estimated Cost 99,730.00
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Neptune Uranium Corporation (a Colorado Corporation)
2625 Walnut,
Denver, Colo.

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

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

(*d*) If a partnership, add to the above statement the names and addresses of all partners. Not a partnership.

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

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

(*b*) State any mine name by which the property is known. See attached supplemental data.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Lessee;
See attached supplemental data

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

(*e*) If you own the land, describe any liens or encumbrances on it There are no liens nor encumbrances on the land beyond the Applicant's lease.

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Full data submitted with the accompanying report, herewith.

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. } Information att'd.

(*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. Full engineering & geologic report attached.

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

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

16—66551-1

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

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

(*c*) The work will start within 60 days and be completed within 12 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: Attached.

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

(*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. See attached data.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. None

(*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. None

(*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. None

(*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. None

(*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. None

(*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 August 2, 1955, 195__

Neptune Uranium Corporation
(Applicant)

By Paul H. Keating
Paul H. Keating
(Engineer-Geologist Consultant)

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

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Supplemental Data to be attached to

Form MF-103, "Application for aid in an Exploration Project, pursuant to DMEA Order 1, under the Defense Production Act of 1958, as amended".

1. Name of Applicant:

(a) Neptune Uranium Corporation. (Incorporated

(b) under the laws of the State of Colorado, 1955). Address 2625 Walnut, Denver, Colorado.

(c) Names of Officers:

Col. W. D. Griffith, Pres.
2308 Bellaire, Denver, Colo.

W. B. Griffith, Vice Pres.
Uravan, Colo.

Ray Carson, Sec'y-Treas.
Denver, Colo.

3. Applicant's property rights:

(a) The land upon which the Applicant wishes to explore is a group of claims contiguous to an area already explored, under Docket No. 3355, Contract No. Idm-E703, (L. A. Griffith Associates, a partnership). ON THE ACCOMPANYING MAP in the Engineering and Geological Report (Exhibit I, folded and in the pocket of the report binder), there is shown "all 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". This map illustrates this requirement fully.

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PLEASE NOTE: The adjacent and contiguous area upon which a DMEA contract has been completed, has been certified as a "discovery". (Copy is included in the report herewith). Furthermore, about 10% of the Government aid has already been re-paid within the last 8 months, by royalties from production. about 7% thru 9-30-55.

ALSO: The successors to the "L. A. Griffith Associates" whose management-personnel is the same as that of the Applicant, have done an additional $6500 worth of off-set drilling exploration from capital funds. Full data and logs of this off-set drilling program have been sent to the DMEA and U. S. Bureau of Mines offices in Denver.

(b) The group of claims is known as the "Piper-Shamrock-Kingpin Group".

(c) The Applicant's interest in the land is as a Lessee, from the original locators, one Keith M. Andrews, and Donald K. Andrews, of Nucla, Colorado. There is included in the accompanying report, the book and page number of the entire group of claims located by these two men (father and son), and, in addition, the two claims "Lollypop" and "Piperoo", located by the L. A. Griffith Associates. The title to all of these has been transferred by L. A. Griffith Associates, et al, contract, renewable at the option of the Lessee.

(d) Copies of the lease between L. A. Griffith Associates and the Andrews interests are attached herewith; copies of the transfer-of-title to the Applicant (Neptune Uranium Corporation) are also attached, immediately following.

(e) The Applicant does not own the land, but there are no liens nor encumbrances upon it, beyond the Applicant's lease.

(f) The land consists of unpatented claims. Attached is a complete list of the entire group, giving book and page numbers, as recorded in the Montrose Colorado County Court House, re the discovery of each of these claims. The contiguous claims which have already been explored are suitably marked on this tabulation.

LIST OF CLAIMS

3(a)

Claim Name	Date Filed	Book-Page	Claimant
*Piper #1	Mar. 30, 1953	349 - 567	K.M & D.K. Andrews
*Piper #2	"	349 - 567	"
*Piper #3	"	349 - 568	"
Shamrock #1	Apr. 13 1950	343 - 8	"
*Shamrock #2	"	343 - 9	"
*Shamrock #3	"	343 - 10	"
*Shamrock #4	"	343 - 11	"
Shamrock #5	Apr. 19 1950	343 - 21	"
Kingpin #1	Mar. 19, 1951	343 - 379	"
Kingpin #2	"	343 - 380	"
Kingpin #3	"	343 - 381	"
Kingpin #4	"	343 - 382	"
Kingpin #5	"	343 - 383	"
Kingpin #6	"	343 - 384	"
Kingpin #7	"	343 - 385	"
Kingpin #8	"	343 - 386	"
Lollypop	Apr. 15, 1954	379 - 111	* Griffith, et. seq
Piperoo	"	379 - 112	" " "
*Outlet	"	381 - 236	" "

* Claims so marked have been explored under DMEA Contract Idm-E703.

4. Physical description:

(a) At the date of this application (July-August '55), the Applicant is exploring, by off-set drill holes, the holes drilled on DMEA Contract Idm-703. There are no mine workings on the area. The "production facilities" for this area are on hand and in operating order, in terms of track, cars, pipe, hose, drills, compressor, and domestic facilities. The Applicant's interest is as a Lessee from the Andrews interests, described above. (3. (a), (c), (d) of this form).

(b) There is no past or current production from the area concerned, BUT it is adjacent to an area that has been "certified" and which has produced a return upon a previous DMEA Contract. This adjacent contract has returned, within 8 months, about 10% or more of the Government loan.

(c) The geologic features and "reasons for wishing to explore" are covered in the accompanying geologic and engineering report. Maps and sketches, (some of which are referred to in this supplemental-data portion), are in this report. It is not requested that this report be returned.

(d) The area is accessible 11½ months per year, at least for "getting ore out". The Atomic Energy Commission and other Federal Agencies, have built an "access" road into the area.

Distance to shipping points are: Uravan (U. S. Vanadium Corporation), 11 miles; Vanadium Corporation of America (near Naturita), about 20 miles; Climax Uranium, at Grand Junction, about 90 miles.

Supply points are Uravan, Naturita, and Grand Junction, Colorado, at the distances given above.

Residence points are on the property of the Applicant, where existing permanent housing has been established, or where trailer-houses might be set up for operations.

(e) Skilled labor is readily available in this area, for the competent care of "carnotite-type" ore. Materials, supplies, and equipment are available at Uravan, 11 miles away, or at most, in Grand Junction, 90 miles away.

Domestic and operational water supply is within 3 miles of the operation (the Dolores River). It must be hauled, but the Applicant has trucks and tanks on hand for the purpose.

Power: The power source is gasoline engines, which develop sufficient electric energy for lights, power tools, and other needs, at 110v, a.c., for residential and underground needs.

5. The Exploration Project:

(a) The minerals for which the Applicant wishes to explore are the Uranium-bearing minerals found in the region. These are, in part, Carnotite, Tuyuamunite, Calciovolborthite, Pitchblende, Gummite, Torbernite, and/or other associated natural chemical compounds containing Uranium.

(b) The proposed work is fully described in the accompanying Engineering and Geologic Report. It consists of:

i. Establishing drill-hole sites on the ground on a checkerboard pattern at 100 -ft. centers.

ii. Bulldozing drill sets at these pin-pointed co-ordinates, suitably marked by a stake showing the position of each such marker on the co-ordinate network covering the property.

iii. The actual drilling of the holes, on-sub-contract, at the specified points, and under the observation of a resident engineer-geologist.

iv. Extraction of cores, through mineralized strata, and the competent examination and assaying of these cores, and their subsequent

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storage or delivery to an authorized Government Agency. (See Part I of the Engineering-Geological Report re "Sampling", herewith).

(c) The work will start within 30 days and be completed within 12 months from the date of an exploration project contract.

(d) Lowell A. Griffith has been directing mining operations in Colorado for more than 25 years. Col. W. E. Griffith has operated and managed mining properties for an equal period. Paul H. Keating has been associated with carnotite mining since 1918. These are the personnel who will supervise the exploration project.

6. Estimate of costs:

(a) It is the Applicant's intention to sub-contract the actual drilling and the drill-set bulldozing to operators now in the field.

i. The existing group of drillers now in the Colorado Plateau has, within the last 6 months, formed an organization to present a unified front re drilling costs, essentially $1.50 per ft. for rotary 4¼" hole. This price per foot has been used in the attached estimate of drilling costs in this application.

ii. The estimated cost of bulldozing drill sets has been based upon actual experience of the contiguous area, under a recently completed contract, on identical type of ground, and by identical management personnel.

iii. The core-drilling expense has been estimated at $4.00 per ft. of dry coring, in 15% of the holes (100 holes), for a core-length of 5 ft. This figure will include the cost of core boxes, which, with the cores, will be turned over to any Government Agency concerned in this project, upon demand.

(c)
(d)
(e)
(f)
(g)
(h)

These items, inclusive, do not apply in this application and are therefore marked "None" on the attached Form MF-103. Inferred answers have been completed in the foregoing, or in the attached report.

7. (a) The Neptune Uranium Corporation is prepared to furnish its share of the expense of this project in cash.

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Summary of the Estimates of Cost of the Exploration Project, on the "Piper Shamrock-Kingpin Group" of mining claims, on Carpenter Flats, western Montrose County, Colorado.

Refer to Form MF-103:

6.

(a) Independent contracts:

i. Drilling: A total of 59,448 ft., in 701 holes, of average depth of 84.8 ft.

-Rotary drilling: 58,948 ft. @ $1.50/ft. $88,422.00
-Core drilling: 5 ft. on each of 100 holes; payment to be based upon core-recovered, rather than upon footage drilled, at $4.00 per ft. 2,000.00

ii. Bulldozing drill sets for the above operation: Estimated 3 drill sets prepared per hour, total 234 hours, at a rate of $12/hr. 2,808.00

(b) Technical help: (Please refer to the "Summary and Recommendations" at the end of the attached report, particularly re fees et al for geological and engineering consultants). Estimated cost by this Applicant, on this proposed project. 5,000.00

(h) Contingencies: It is estimated, from experience on an adjacent and contiguous area that 150 chemical-analyses will be required; A competent Uranium analysis costs $10 each 150 chemical assays, @ $10.00 each. 1,500.00

TOTAL ESTIMATED COST OF THIS EXPLORATION PROJECT, $99,730.00

NOTE: These estimates are based upon current cost-rates for the kinds of work listed.

Carl Brown

C O P Y

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UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

CERTIFICATION BY THE UNITED STATES OF AMERICA
OF A DISCOVERY OR DEVELOPMENT UNDER
AN EXPLORATION PROJECT CONTRACT

To: Lowell A. Griffith Associates, a partnership consisting of Lowell A. Griffith, P. O. Box 673, Central City, Colorado; Construction Specialties Co., 2625 Walnut Street, Denver 1, Colorado; and Paul H. Keating, Apt. 5, Mines Park, Golden, Colorado

Pursuant to the provisions of Exploration Project Contract No. Idm-E703, dated September 9, 1954, (Docket No. DMEA-3355), hereinafter called the "contract" between you and the United States of America, hereinafter called the "Government"; to establish and fix the Government's percentage royalty on production and its lien thereon and on the land described in the contract, the Government considers and therefore certifies that discovery or development from which production may be made has resulted from the exploration work.

The nature of said discovery or development is described broadly or indicated as follows:

Limited high-grade concentrations of uranium-vanadium mineralization were disclosed by drilling in the lowest rim or horizon of the Salt Wash member of the Jurassic Morrison formation.

Dated: May 19, 1955

THE UNITED STATES OF AMERICA

By /s/ C. O. Mittendorf
Administrator, Defense Minerals
Exploration Administration

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

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October 3, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: J. W. Hasler

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA Assistance, (Uranium), Neptune Uranium Corporation, Piper-Shamrock-Kingpin groups, Montrose County, Colorado

Enclosed is the subject application in the amount of $99,730.00. The claims covered by this application are contiguous to those explored under Docket DMEA 3355, Contract Idm-E703.

Will you please review the application with the Bureau of Mines representative in the Grand Junction office and promptly submit to this office eight copies of your joint recommendations regarding the advisability of a field examination.

W. M. Traver

Enclosure

HMC:ab
cc: Sec. Opr. Comm. (2)
Shaw (2)
Subject
Chron.

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ENGINEERING and GEOLOGICAL REPORT

ON THE PIPER-SHAMROCK-KINGPIN GROUP OF CLAIMS ON

CARPENTER FLATS, MONTROSE COUNTY, COLORADO

I. PURPOSE OF THIS REPORT: This is part of an application to the Defense Minerals Exploration Administration for an Exploration contract on a portion of Sec. 15, Township 48 North, Range 18 West, N. M.P.M.

II. The applicant is the "Neptune Uranium Corporation", which has been formed under the laws of the State of Colorado. This corporation is the successor to the partnership known as "Lowell A. Griffith Associates", and/or the "Griffith Uranium Co."

III. The contents of this combined engineering and geological report are:

1. DMEA Form MF-103, (Revised April 1952. Data for each section and sub-letter (a), (b), (c), etc., are filled out in detail on a separate sheet, and attached to the form. These data have not been bound into this report, but have been attached to the form and inserted into the folder containing this report. Some of these data are repeated in this binding in order that the form itself might be processed independently of the bound report, herewith.

2. The bound portion of the report is in two sections:

   i. Engineering data and description of procedure.

   ii. Geological data on the area.

   Also:

   Bound topographic, geologic, and section maps, as the text of the report requires: Gatefold maps of the property concerned, the isochore or drilling-depth contour map, the drilling-pattern, and the local topographic map enlarged from the U.S.G.S Red Canyon Quadrangle.

   A complete tabulation on 13 pages, giving the co-ordinates of each proposed hole in terms of east and north with respect to an established triangulation point on the ground. These pages show the estimated depth of each hole. THIS TABULATION HAS BEEN MADE BY CAREFUL CHECKING AS TO WHICH CLAIM EACH PROPOSED DRILL HOLE WILL BE UPON. To wit: The claim upon which each proposed drill hole is located, is tabulated in terms of the Filing Sequence in the Montrose County Court House, Montrose, Colorado.

   In the back pages of the bound portion of this report are photographic copies of all of the legal documents, assignments, contracts, et al, and also notarial affidavits concerning title.

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3. In the pocket of the inside back cover of the binder are two maps showing :-

   i. The regional topography and the claims concerned as the over-all holdings of the Neptune Uranium Corporation on Carpenter Flats.

   ii. A detailed map of these claims showing the particular areas concerned in this application. The area that has already been explored under a previous Exploration Project, (Contract Idm-E703), and the "foreign" or other areas that are contiguous to this application, are designated by a suitable legend.

4. The last page of the bound report, herewith, is reproduced from a form suggested by the DMEA, re: the appointment of an "Attorney-in-fact". This form applied to the contract Idm-E703, which has been completed and upon which, partial repayment has been made. The managerial, technical, and operational personnel of that completed contract is identical to the applicant, herewith. The "Attorney-in-fact" is the undersigned, who prepared this application and report, and, also, the previous application and reports on the adjacent holdings.

   It is requested that the undersigned be continued as "Attorney-in-fact" on this application in order to continue the experienced smoothness of operations between the personnel of applicant and administration. (This request will be repeated in the "engineering" section of the attached bound report).

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PART I

Engineering Procedure for an Exploration Project on the PIPER-SHAMROCK-KINGPIN group of claims on Carpenter Flats, in Sections 14-15, Twp. 48 N, R 18 W, N.M.P.M., western Montrose County, Colorado.

THE CO-ORDINATE NETWORK

The U. S. Bureau of Land Management has established on the Red Canyon Quadrangle area the section and quarter-corners of the Public Domain. These are iron pipes, with labelled caps, set firmly into the ground, or set with concrete into holes drilled into the country rock.

About 200 yards north of the quarter-corner between Sec. 14, and Sec. 15, Twp. 48 N., R. 18 W., N. M. P. M., on a high topographic promontory, there is a "Triangulation Point" set into the sandstone bedrock. This is a circular brass plate marked as "Triangulation Point, U. S. Dept. of the Interior". From this plate a U.S.B.M. on the right hand bank of the Dolores River, bears N 36°0' E, 3000 feet more or less. (This U.S.B.M. is shown on the U. S. Geological Survey topographic map of the Red Canyon Quadrangle).

This Triangulation Point lies upon and within the holdings of the Neptune Uranium Corporation (the applicant). It has been arbitrarily assigned a position as 10,000 feet east and 10,000 feet north of an "origin".

The purpose of assigning this rather large number of feet in each direction is this: All present and all probable future holdings on Carpenter Flats of the applicant will lie in the northeast quadrant of the co-ordinate network. This will greatly simplify calculations for all present and future work.

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A number of "control points" have been established all over the property by careful chaining and/or precision triangulation methods. These "control points" are iron pipes or steel rods driven or set in the bed rock of the area so that:-

The resident engineer for current and future operations can set up his transit over any one of these "control" points, sight on a mutually visible, similar control point, and know immediately where he is on the mapping procedure that must follow each field job, in terms of direction, distance, and elevation.

On all maps made or used by the Corporation, or submitted in reports, this permanent reference point is marked by a triangle, and labelled as 10,000 feet east and 10,000 feet north.

The foregoing defines the coordinate network of the property concerned.

THE DRILLING PATTERN

There is "experience", which may or may not reach the dignity of "evidence", that carnotite-type ore bodies in the Colorado Plateau are almost intelligent in successfully dodging discovery by a drilling program of whatever design, or no design.

This operator-writer has attempted random drilling, triangulation patterns, staggered patterns, and simple checkerboard square patterns. In every case, in which actual production was made subsequent to a drilling program, good ore was found in areas that showed only mediocre drilling results--near the drill hole, but not under it or penetrated by it.

However, the best results have come from a checkerboard pattern of dril-

ling, in terms of mineralized holes, (regardless of grade).

THEREFORE, this proposed drilling program is based upon a checkerboard pattern of holes, spaced on 100-ft. centers.

SAMPLING AND DISCOVERY CONTROL

This is the most technically difficult problem of an expensive exploration program. Following is a brief outline of the applicant's methods of taking adequate samples:

The cuttings from a "discovery drill hole" are recognized by some physical or chemical property that is different from the waste rock above or below an "ore" streak. This difference may be in color, hardness, luster, slow chemical analysis, or rate of radiation, as measured by some electronic device.

However, this "radiation" rate, is NOT sufficient, by itself, to establish a "discovery hole". IF the uranium-bearing mineral has been in place for a long time, and has not been subjected to migrating ground-water, THEN the radiation rate approaches "equilibrium" and the radiation-rate, or the eU (equivalent uranium) estimate will approximate the chemical analysis of uranium content.

The foregoing "IF" is highly important, in any given uranium-producing locality. For example, a luminous dial wrist watch will "knock a Geiger counter needle off the pin" which is a common expression among the current clan of uranium ore prospectors. This radiation force is actually radium, the third "daughter-product" of uranium itself. On the watch dial there is little or no actual uranium present. The reading on a Geiger counter of the watch dial is "eU"--equivalent-uranium.

The "equivalent uranium" is the amount of uranium that has been undisturbed for a very long time in order to generate its third daughter-product, radium.

The radium "kicks the needle", and the Geiger counter translates, electronically, on the dial of the instrument, how much uranium was required to give the needle such an equivalent "kick". The actual ratio of the activating radium to the patent element uranium is 1:2,800,000. Hence, a microscopic amount of radium, in a watch dial, may represent a huge tonnage of actual "ore" production of the parent element uranium.

It is NOT the purpose of the foregoing to "play school", but this writer believes that any investor in any "uranium" prospect, of whatever nature, (including the DMEA), should be advised of the singular problems that uranium production includes, and as to how this applicant proposes to meet those problems.

On the area concerned in this application, it has been established by experience, that the commercial grade ore bodies are "in equilbirium". In other words, the chemical analyses, upon which settlements have been made for shipments from a contiguous area, have approximated very closely the estimates made by "radiation-rates" of a calibrated Geiger counter or similar electronic instrument.

The higher-grade electronic devices used to measure radiation are equipped with "probes". These are an accessory attachment, equipped with a highly flexible cable, that can be lowered into a drill-hole, and thereby determine, foot-by-foot, the "eU",equivalent uranium, that the drill hole exposed. When an area's mineralization is in equilibrium, these probe data amount to an in-place approximation of the thickness and grade of ore that

the drill hole has penetrated. This condition applies specifically to the area concerned in this application.

However, it is entirely possible (and has actually happened), that a fast-moving drill bit will go through a thin streak of high-grade ore on the edge of a large body of high-grade ore; and that a "statistical dust-collecting sampler" will absorb this high-grade streak into a 5-ft. interval of cuttings, and thereby dilute an important discovery hole into a mere "trace" or "mineralized" hole.

Such an experience places an unfair and frustrating disadvantage upon all agencies and personnel concerned with an exploration project.

Following is the proposed procedure: - (The instruments described are on hand).

(a) A "probe", an electronic device at the end of a 50-100 ft. cable, will be placed in the dust-stream at the top of each drill hole; and the air-stream coming out of each drill hole will blow the instrument constantly clean.

(b) This "probe" is connected to a loud speaker, 50-100 feet away, out of the dust-stream. This "LOUD" speaker is of a magnitude that can be heard for several miles, and override the noise of the drilling equipment.

(c) The driller, upon such "warning signal", will immediately stop operations, blow the hole clean, and install a core-barrel on his drill stem.

(d) Core-drilling is also dry, and involves a certain amount of dust. The probe will continue to activate the loud-speaker until the coring bit is through the radioactive stratum.

(e) The cores, so obtained, will be available to any competent government agency requesting them or kept in the possession of the applicant in conventional core-boxes.

The drillers on this proposed program shall be fully responsible for all changes of lithology, color, hardness, and ore-occurrence as provided for on the

log forms. The resident engineer, or a competent assistant shall be at the scene of operations AT ALL TIMES during the actual drilling operations.

PAUL H. KEATING
MINING ENGINEER

SUMMARY AND RECOMMENDATIONS

SUMMARY The area upon which the foregoing report has been prepared is:

1. Geographically in the Colorado Plateau, and surrounded in all directions by uranium-ore production, for many miles.
2. Geologically and stratigraphically located upon the Salt Wash member of the Morrison (Jurassic) formation, which is a major ore-producing unit of the Colorado Plateau.

FURTHERMORE:-

1. The ore bodies discovered on the contiguous area (upon which a certified discovery was made on a recently completed DMEA contract), are of economically-reachable depth.
2. The area has an access road into it, and operations are possible 350 days per year. The applicant has a fully equipped camp on the ground, in terms of dwellings, facilities, electric and gasoline power, water-supply tanks and trucks, and mining machinery (compressors, track, pipe, hose, pneumatic drilling machines), and all necessary accessory equipment for a camp maintenance and mining operation. The applicant also includes experienced and competent personnel for the successful exploration, development, and production of a mining operation.

   Except for the "access road", (which serves many operators in the district), the above paragraph lists the physical and technical equipment and personnel now on the property, brought there and maintained there in the spirit and faith in free enterprise by the applicant, himself and as successor to "L.A. Griffith Associates and/or Griffith Uranium Company."

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MINING ENGINEER

No officer nor director of the applicant is on salary now or heretofore, for his service. The mutual motive was, and is: "That this is a good property, of high potential-production of uranium bearing ore".

It seems to me that the foregoing is competent background upon which to base the following:

RECOMMENDATIONS I recommend:

1. That the PIPER-SHAMROCK-KINGPIN Group of claims on Carpenter Flats, in western Montrose County, Colorado, be explored;

   i. By a checkerboard pattern of drill holes, on 100-ft. centers;

   ii. To a depth indicated by the isochore map and the abstracted tabulation of such depths taken from said map (enclosed in this bound report).

   iii. That the actual drilling, by rotary $4\frac{1}{4}$" holes be done on sub-contract; that bull-dozing drillsets for such drilling also be done on sub-contract.

   iv. That competent audio-warning electronic devices be made an integral part of each sub-contract for drilling, (per the engineering-report data given herewith);

   v. That 15% of the proposed 701 drill holes (100 holes, more or less), be allowed 5 feet of diamond-bit core-drilling, the recovered cores of which shall be kept on hand by the applicant or delivered to any government agency interested.

   vi. That allowance be made for chemical analysis for a minimum of 150 mineralized cores @ $10.00 each.

   vii. That provision be made for a competent engineer-geologist to be in contact with all drilling operations at all times, during the mechanical portions of this exploration program.

   viii. That rigorous demands be put upon the drillers in the matter of keeping logs of holes, on-the-ground, and at-the-time such drilling is going on.

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ix. That all data, in terms of logs, assays, maps of holes drilled, tunnel, incline, or shaft driven, mill returns from whatever area or deposit owned or controlled by the applicant, be promptly sent to the government agencies concerned.

Very truly yours,

Paul H. Keating

Paul H. Keating,
Golden, Colorado

LIST OF CLAIMS

Claim Name	Date Filed	Book-Page	Claimant
*Piper #1	Mar. 30, 1953	349 - 567	K.M & D.K. Andrews
*Piper #2	"	349 - 567	"
*Piper #3	"	349 - 568	"
Shamrock #1	Apr. 13 1950	343 - 8	"
*Shamrock #2	"	343 - 9	"
*Shamrock #3	"	343 - 10	"
*Shamrock #4	"	343 - 11	"
Shamrock #5	Apr. 19 1950	343 - 21	"
Kingpin #1	Mar. 19, 1951	343 - 379	"
Kingpin #2	"	343 - 380	"
Kingpin #3	"	343 - 381	"
Kingpin #4	"	343 - 382	"
Kingpin #5	"	343 - 383	"
Kingpin #6	"	343 - 384	"
Kingpin #7	"	343 - 385	"
Kingpin #8	"	343 - 386	"
Lollypop	Apr. 15, 1954	379 - 111	" Griffith, et seq.
Piperoo	"	379 - 112	" " " "
Outlet	"	381 - 236	" " "

* Claims so marked have been explored under DMEA Contract Idm-E703.

PAUL H. KEATING
MINING ENGINEER

PART II

GEOLOGICAL REPORT
on the
PIPER-SHAMROCK-KINGPIN Group of mining claims, on
Carpenter Flats, western Montrose County, Colorado.

The particular area discussed in this report is a group of 12 mining claims lying in Section 15, Twp. 48 N, Range 15 West, N.M.P.M. The claims are on the southwesterly side of the Dolores River, about 11 miles downstream from the town of Uravan, Colorado. An access road has been built to the claims, and operations are possible 350 days per year.

On the following page there is a reproduction of a portion of a "Preliminary Geological Reconnaisance" map, now in preparation by the U. S. Geological Survey, which shows by symbols the surface exposures. The pertinent area has been enclosed on this map by a rectangle, and the formations have been colored.

On the second page following, there is an idealized section of the area from the Entrada (Slick Rock) through the Morrison formations. These are all of Jurassic age.

Actually, on the ground, it is extremely difficult to establish sharp contacts between the Carmel and the Entrada formation below it and the Morrison-Salt Wash member above it.

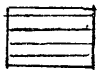
For the purposes of this report, the series of thin interbedded sandstone lenses, shales, red and blue clays, which lie for about 75 feet immediately above the Entrada is arbitrarily grouped as the Salt Wash member of the Morrison formation.

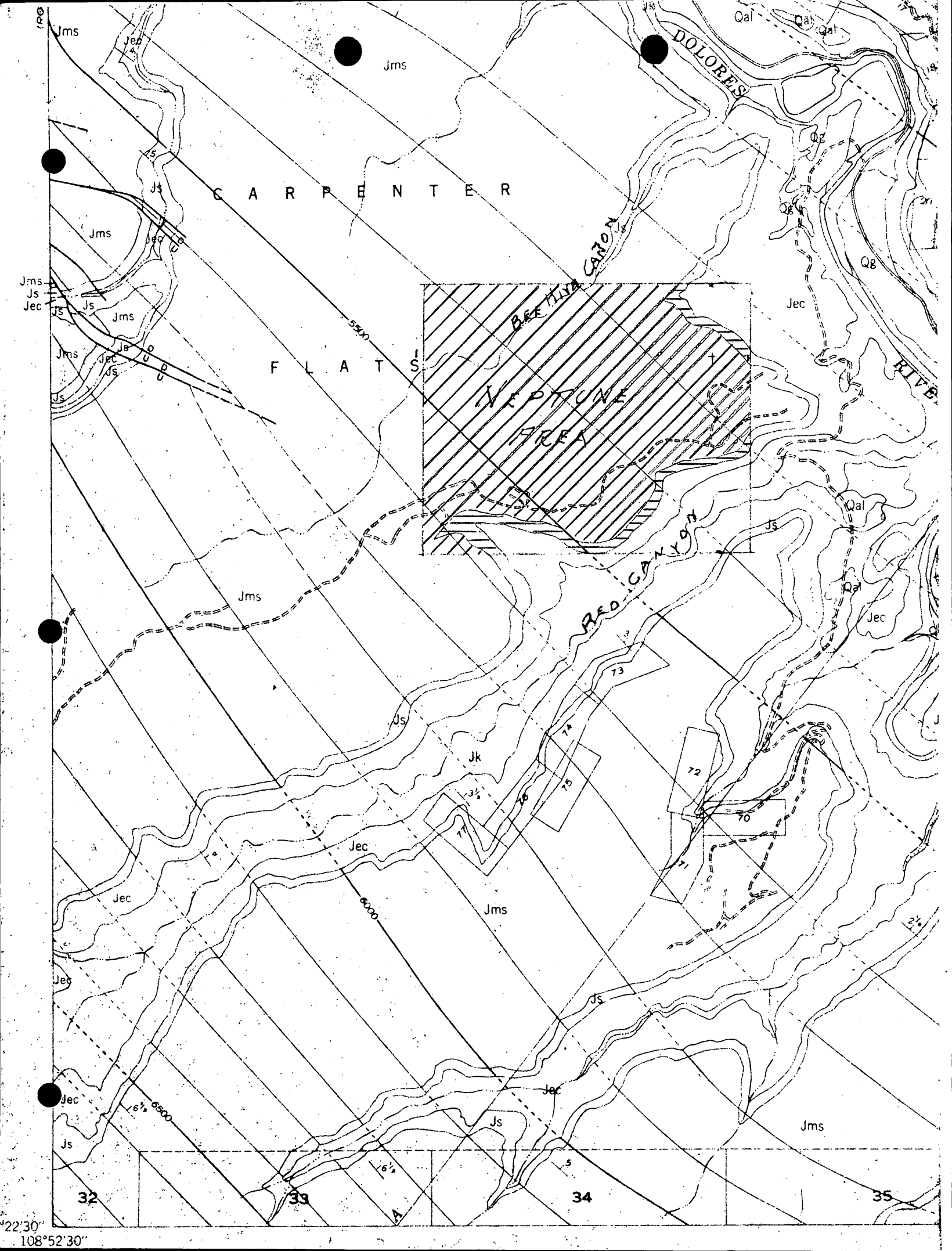
The top of this 75-ft. interval is marked by a heavy sandstone ledge from 25 to 35 feet thick. This heavy ledge forms the first bench or "rim". It is the bottom member of a series of 5 to 7 such rims, overlying the Entrada, or "Slick Rock". This bottom rim has been designated as the "Salt Wash" member of the Morrison formation, and from this interval has been produced highly

The map on the following page has been reproduced from a portion of the "Preliminary Geologic Map of the Red Canyon Quadrangle", in western Montrose County, Colorado, 1954.

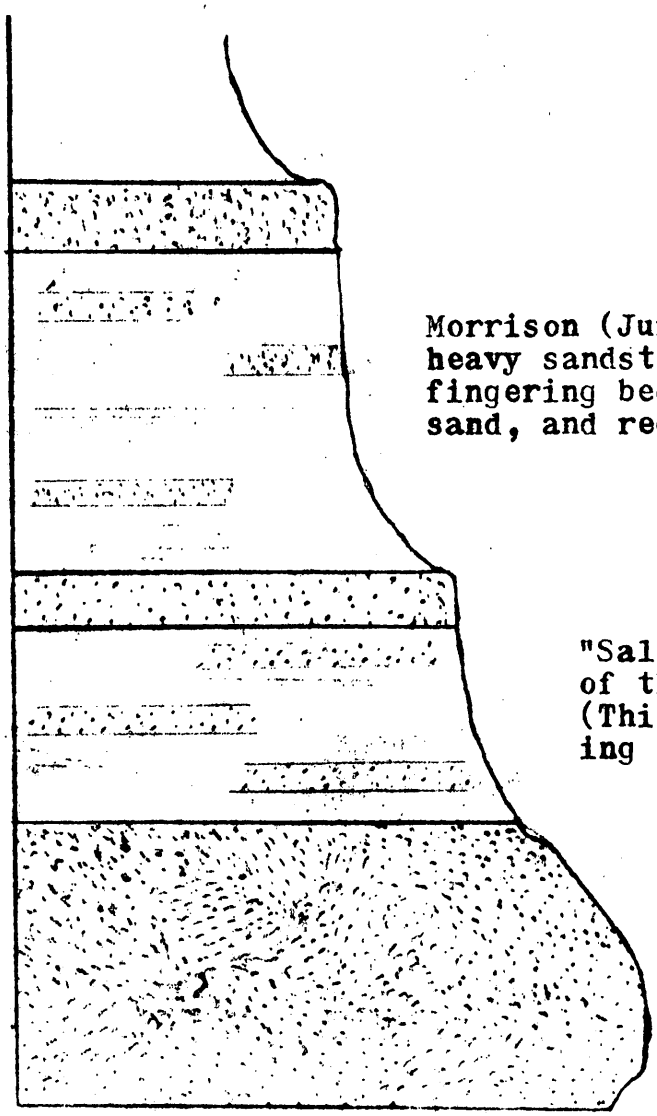
Scale: 1:24,000

LEGEND

	Jms	Jurassic, Morrison (Salt Wash member)
	Js Jec	Jurassic, Summerville, Entrada, & Carmel, undivided


CARPENTER
FLATS
DOLORES
RIVER
BEE HIVE CANYON
NEPTUNE AREA
RED CANYON
Jms
Jec
Js
Jk
Qal
Qg
5500
6000
6500
32
33
34
35
A
22'30"
108°52'30"

IDEALIZED SECTION OF A PORTION OF THE GEOLOGIC COLUMN, ON CARPENTER FLATS, (WESTERN MONTROSE COUNTY, COLORADO).



important tonnage of commercial uranium-bearing ore in the Colorado Plateau.

Immediately east of the area concerned by this report, but contiguous to it, there has recently been completed an organized exploration drilling program. The data obtained from this completed program indicates that there is a "zone of occurrence", of about 25 stratigraphic feet, in which trace-mineralization to high grade ore bodies are expectable.

These findings were carefully mapped, with elevations, and this stratigraphic "zone-of-occurrence" was established in terms of dip-and-strike. The top and bottom planes of this zone-of-occurrence followed the regional dip and strike of the major sandstone ledge of the first rim--the top of the Salt Wash member of the Morrison formation.

There are no major displacements or faults or acute folding over the area concerned; THEREFORE: This zone has been accepted by this writer as continuous over the 200 acres discussed in this report.

Since this zone-of-occurrence appears to be uniform over the area concerned, and since it has a measureable (and measured) slope in degress of angle and direction, horizontal lines ("strike" lines) were drawn upon the bottom of this zone-of-occurrence, and these strike lines were each given a known elevation.

Over this map of strike lines was superimposed a topographic map of the same area, blown up to the same scale and on the same set of established coordinates.

The <u>difference</u> in elevation between the surface, as shown on the topographic map, and the elevation of the bottom of this "zone-of-occurrence", gives the drilling depth to the bottom of that zone, at <u>any</u> given point.

Lines were then drawn connecting equal drilling depths, or differences of known elevations between the surface and the bottom of the zone-of-occurrence. This resulted in an "isochore" map, and "equal-core" or equal-depth map. This map is enclosed as a gatefold in this report.

Upon this isochore map there was superimposed the perimeter of the property concerned, and then, within the perimeter of that property, there was further superimposed a checkerboard drilling pattern on 100-ft. centers. Every proposed exploratory hole on this checkerboard pattern falls upon one or between two lines of this isochore map, and its depth can be pinpointed or interpolated between small limits.

It is upon these three gate-fold maps herewith that the estimated depth of each of the 70 proposed exploratory holes has been estimated. An arbitrary 5 feet has been added to the depth of each hole. The purpose of this additional footage is to insure that each hole will thoroughly penetrate the zone of occurrence, which zone has been projected from the adjacent and adjoining prospected area.

FURTHERMORE: In the preparation of this report, the filing date of each claim, in terms of Book and Page Number was studied in chronological sequence. Each proposed drill hole has been tabulated as being located upon the claim that has time-precedence in the filing of each claim. (In other words, the holes have been specified in terms of "seniority" for the claim upon which they are located).

It is the purpose of the foregoing to show, to any examining agent, HOW the following "estimated depths" of drilling were obtained for each proposed drill-hole on the attached dozen pages. These estimates are based upon adjacent

measurements and experience, rather than upon opinion or guess-work.

This may be "engineering", but to the writer it is "applied" geology, and, therefore, belongs in this section of this report.

SUMMARY

1. This area is within the geographical limits of the major uranium-producing area of the country, the "Colorado Plateau".

2. It lies on the Salt Wash member of the Morrison formation, a geologic unit that has produced, and is producing, uranium-bearing minerals in all directions, and for many miles in every direction from the Piper-Shamrock-Kingpin group.

3. The mining depths to any discovery are economically "reachable" by tunnel, incline, or shaft.

4. A contiguous area, of identical physical, geologic, and operational facilities has been certified as a "discovery" by the DMEA. Production from this contiguous area has repaid, within 8 months, 10 percent of its DMEA contract, upon limited (3-man) crews, working an average of 4 days per week.

5. The applicant, is successor to the adjacent and recently completed drilling ~~out~~ DMEA contract (Docket 3355, Contract Idm-E703). Applicant has done an additional 7000-plus feet of development drilling from capitol funds, and has sent copies of all data and logs to the DMEA and U. S. Bureau of Mines, etc.

Drilling Depths of Exploration Drill Holes
Neptune Uranium Co., Carpenter Flats, Montrose County, Colo.

RECEIVED
OCT 6 - 1955

Co-ordinates East	Co-ordinates North	Depths Est.	Depths Actual	Remarks	Claim
4700	8500	85			Kingpin #6
4700	8600	60			
4800	8300	118			
4800	8400	110			
4800	8500	75			
4800	8600	55			
4800	8700	40			
4900	8100	140			
4900	8200	135			
4900	8300	120			
4900	8400	105			
4900	8500	80			
4900	8600	60			
4900	8700	40			
4900	8800	35			
5000	7900	150			
5000	8000	145			
5000	8100	145			
5000	8200	135			
5000	8300	125			
5000	8400	110			
5000	8500	85			
5000	8600	65			
5000	8700	65			
5000	8800	55			
5000	8900	60			
5100	7700	120			
5100	7800	145			
5100	7900	145			
5100	8000	145			
5100	8100	145			
5100	8200	145			
5100	8300	130			
5100	8400	120			
5100	8500	110			
5100	8600	105			
5100	8700	80			
5100	8800	85			
5100	8900	65			
5100	9000	50			Kingpin #5
5200	7600	85			Kingpin #6
5200	7700	105			
5200	7800	145			
5200	7900	145			
5200	8000	145			
5200	8100	145			
5200	8200	145			
5200	8300	145			
5200	8400	135			
5200	8500	135			

Co-ordinates East	Co-ordinates North	Depths Est.	Depths Actual	Remarks	Claim
5200	8600	125			Kingpin #6
5200	8700	120			
5200	8800	105			Kingpin #5
5200	8900	100			
5200	9000	85			
5200	9100	80			
5300	7600	85			Kingpin #6
5300	7700	100			
5300	7800	140			
5300	7900	145			
5300	8000	145			
5300	8100	145			
5300	8200	145			
5300	8300	145			
5300	8400	140			
5300	8500	145			
5300	8600	145			Kingpin #5
5300	8700	130			
5300	8800	130			
5300	8900	130			
5300	9000	115			
5300	9100	85			
5300	9200	65			
5400	7600	85			Kingpin #6
5400	7700	105			
5400	7800	125			
5400	7900	145			
5400	8000	145			
5400	8100	145			
5400	8200	145			
5400	8300	145			
5400	8400	145			Kingpin #5
5400	8500	135			
5400	8600	125			
5400	8700	125			
5400	8800	125			
5400	8900	120			
5400	9000	80			
5400	9100	60			
5400	9200	55			
5500	7600	90			Kingpin #6
5500	7700	110			
5500	7800	120			
5500	7900	145			
5500	8000	145			
5500	8100	145			Kingpin #5
5500	8200	145			
5500	8300	145			
5500	8400	145			
5500	8500	145			
5500	8600	140			
5500	8700	120			
5500	8800	100			
5500	8900	80			
5500	9000	60			

Co-ordinates East	Co-ordinates North	Depths Est.	Depths Actual	Remarks	Claim
5500	9100	60			Kingpin #5
5500	9200	40			
5500	9300	30			
5600	7700	115			Kingpin #6
5600	7800	125			
5600	7900	140			
5600	8000	140			
5600	8100	140			Kingpin #5
5600	8200	140			
5600	8300	140			
5600	8400	140			
5600	8500	140			
5600	8600	140			
5600	8700	135			
5600	8800	125			
5600	8900	115			
5600	9000	65			
5600	9100	55			
5600	9200	35			
5700	7800	125			Kingpin #6
5700	7900	140			Kingpin #5
5700	8000	140			
5700	8100	140			
5700	8200	140			
5700	8300	140			
5700	8400	140			
5700	8500	140			
5700	8600	140			
5700	8700	140			
5700	8800	125			
5700	8900	115			
5700	9000	115			
5700	9100	70			Kingpin #4
5700	9200	45			
5700	9300	35			
5800	7900	140			Kingpin #5
5800	8000	140			
5800	8100	140			
5800	8200	140			
5800	8300	140			
5800	8400	140			
5800	8500	140			
5800	8600	120			
5800	8700	120			
5800	8800	105			
5800	8900	105			Kingpin #4
5800	9000	105			
5800	9100	105			
5800	9200	75			
5800	9300	55			
5800	9400	35			

Co-ordinates East	Co-ordinates North	Depths Est.	Depths Actual	Remarks	Claim
5900	8000	140			Kingpin #5
5900	8100	140			
5900	8200	140			
5900	8300	135			
5900	8400	125			
5900	8500	105			
5900	8600	95			
5900	8700	75			
5900	8800	75			Kingpin #4
5900	8900	75			
5900	9000	75			
5900	9100	80			
5900	9200	100			
5900	9300	85			
5900	9400	55			
5900	9500	50			
6000	8100	140			Kingpin #5
6000	8200	140			
6000	8300	135			
6000	8400	130			
6000	8500	125			
6000	8600	105			Kingpin #4
6000	8700	75			
6000	8800	60			
6000	8900	60			
6000	9000	60			
6000	9100	70			
6000	9200	80			
6000	9300	85			
6000	9400	80			
6000	9500	35			
6000	9600	25			
6100	8200	145			Kingpin #5
6100	8300	145			Shamrock #5
6100	8400	145			
6100	8500	135			Kingpin #4
6100	8600	125			
6100	8700	90			
6100	8800	80			
6100	8900	75			
6100	9000	75			
6100	9100	75			
6100	9200	75			
6100	9300	85			
6100	9400	80			
6100	9500	45			
6100	9600	35			Kingpin #3
6100	9700	25			
6200	8200	145			Shamrock #5
6200	8300	145			
6200	8400	145			Kingpin #4
6200	8500	135			

Co-ordinates East	Co-ordinates North	Depths Est.	Depths Actual	Remarks	Claim
6200	8600	120			Kingpin #4
6200	8700	105			
6200	8800	95			
6200	8900	85			
6200	9000	70			
6200	9100	70			
6200	9200	70			
6200	9300	70			
6200	9400	70			
6200	9500	65			Kingpin #3
6200	9600	45			
6200	9700	40			
6200	9800	45			
6200	9900	45			
6300	8000	95			Shamrock #5
6300	8100	90			
6300	8200	130			
6300	8300	145			
6300	8400	135			Kingpin #4
6300	8500	125			
6300	8600	115			
6300	8700	110			
6300	8800	95			
6300	8900	90			
6300	9000	95			
6300	9100	75			
6300	9200	75			
6300	9300	75			Kingpin #3
6300	9400	75			
6300	9500	75			
6300	9600	75			
6300	9700	75			
6300	9800	75			
6400	7700	75			
6400	7800	75			Shamrock #5
6400	7900	75			
6400	8000	80			
6400	8100	95			
6400	8200	115			
6400	8300	130			
6400	8400	130			Kingpin #4
6400	8500	130			
6400	8600	130			
6400	8700	120			
6400	8800	105			
6400	8900	95			
6400	9000	90			
6400	9100	80			
6400	9200	80			Kingpin #3
6400	9300	80			
6400	9400	80			
6400	9500	80			

Co-ordinates East	Co-ordinates North	Depths Est.	Depths Actual	Remarks	Claim
6400	9600	80			Kingpin #3
6400	9700	80			
6400	9800	85			
6400	9900	85			
6500	7400	70			Shamrock #5
6500	7500	70			
6500	7600	70			
6500	7700	70			
6500	7800	70			
6500	7900	65			
6500	8000	65			
6500	8100	75			
6500	8200	85			
6500	8300	110			Kingpin #7
6500	8400	125			Kingpin #4
6500	8500	125			
6500	8600	125			
6500	8700	125			
6500	8800	115			
6500	8900	90			Kingpin #3
6500	9000	90			
6500	9100	75			
6500	9200	75			
6500	9300	75			
6500	9400	75			
6500	9500	75			
6500	9600	75			
6500	9700	75			
6500	9800	85			
6500	9900	85			
6500	10000	85			
6600	7400	60			Shamrock #5
6600	7500	60			
6600	7600	60			
6600	7700	60			
6600	7800	60			
6600	7900	60			
6600	8000	60			
6600	8100	55			
6600	8200	60			
6600	8300	80			Kingpin #7
6600	8400	90			
6600	8500	115			Kingpin #4
6600	8600	125			
6600	8700	115			Kingpin #3
6600	8800	110			
6600	8900	95			
6600	9000	85			
6600	9100	85			
6600	9200	85			
6600	9300	85			
6600	9400	85			
6600	9500	85			

Co-ordinates East	Co-ordinates North	Depths Est.	Depths Actual	Remarks	Claim
6600	9600	85			Kingpin #3
6600	9700	85			
6600	9800	85			
6600	9900	85			Kingpin #2
6600	10000	85			
6600	10100	85			
6600	10200	85			
6700	7400	60			Shamrock #5
6700	7500	60			
6700	7600	60			
6700	7700	60			
6700	7800	60			
6700	7900	60			
6700	8000	60			
6700	8100	60			
6700	8200	60			Kingpin #7
6700	8300	60			
6700	8400	60			
6700	8500	85			
6700	8600	105			Kingpin #3
6700	8700	105			
6700	8800	95			
6700	8900	85			
6700	9000	85			
6700	9100	85			
6700	9200	85			
6700	9300	85			
6700	9400	85			
6700	9500	85			
6700	9600	85			
6700	9700	85			Kingpin #2
6700	9800	85			
6700	9900	85			
6700	10000	85			
6700	10100	85			
6700	10200	85			
6800	7400	60			Shamrock #5
6800	7500	60			
6800	7600	60			
6800	7700	60			
6800	7800	60			
6800	7900	60			
6800	8000	60			
6800	8100	60			Shamrock #1
6800	8200	60			Kingpin #7
6800	8300	60			
6800	8400	60			
6800	8500	60			
6800	8600	85			
6800	8700	80			Kingpin #3
6800	8800	80			
6800	8900	80			

Co-ordinates East	Co-ordinates North	Depths Est.	Depths Actual	Remarks	Claim
6800	9000	80			Kingpin #3
6800	9100	80			
6800	9200	80			
6800	9300	80			
6800	9400	80			
6800	9500	80			
6800	9600	80			Kingpin #2
6800	9700	80			
6800	9800	80			
6800	9900	80			
6800	10000	80			
6800	10100	80			
6800	10200	80			
6800	10300	80			
6800	10400	75			
6900	7300	65			Shamrock #5
6900	7400	65			
6900	7500	65			
6900	7600	65			
6900	7700	65			
6900	7800	65			Shamrock #1
6900	7900	65			
6900	8000	65			
6900	8100	65			
6900	8200	65			Kingpin #7
6900	8300	65			
6900	8400	65			
6900	8500	65			
6900	8600	65			
6900	8700	85			
6900	8800	85			Kingpin #3
6900	8900	85			
6900	9000	85			
6900	9100	85			
6900	9200	85			
6900	9300	85			
6900	9400	85			Kingpin #2
6900	9500	85			
6900	9600	85			
6900	9700	85			
6900	9800	85			
6900	9900	85			
6900	10000	85			
6900	10100	85			
6900	10200	85			
6900	10300	75			
6900	10400	75			
7000	7300	65			Shamrock #5
7000	7400	65			
7000	7500	65			Kingpin #1
7000	7600	65			
7000	7700	65			
7000	7800	65			

Co-ordinates East	Co-ordinates North	Depths Est.	Depths Actual	Remarks	Claim
7000	7900	65			Kingpin #1
7000	8000	65			
7000	8100	65			
7000	8200	65			Kingpin #7
7000	8300	65			
7000	8400	65			
7000	8500	65			
7000	8600	65			
7000	8700	75			
7000	8800	85			Kingpin #3
7000	8900	85			
7000	9000	85			
7000	9100	85			
7000	9200	85			
7000	9300	85			
7000	9400	75			Kingpin #2
7000	9500	75			
7000	9600	75			
7000	9700	70			
7000	9800	70			
7000	9900	65			
7000	10000	65			
7000	10100	65			
7000	10200	70			
7000	10300	70			
7000	10400	70			
7000	10500	65			
7100	7300	65			Shamrock #4
7100	7400	65			
7100	7500	65			
7100	7600	65			
7100	7700	65			
7100	7800	65			
7100	7900	65			
7100	8000	65			
7100	8100	65			
7100	8200	65			Kingpin #7
7100	8300	65			
7100	8400	65			
7100	8500	65			
7100	8600	65			
7100	8700	70			
7100	8800	75			
7100	8900	85			Kingpin #8
7100	9000	85			
7100	9100	85			Kingpin #2
7100	9200	85			
7100	9300	85			
7100	9400	75			
7100	9500	65			
7100	9600	65			
7100	9700	70			
7100	9800	80			

Co-ordinates East	Co-ordinates North	Depths Est.	Depths Actual	Remarks	Claim
7100	9900	70			
7100	10000	50			Kingpin #2
7100	10100	40			
7100	10200	50			Kingpin #1
7100	10300	60			
7100	10400	65			
7100	10500	65			
7100	10600	65			
7100	10700	60			
7200	7200	45			
7200	7300	65			Shamrock #1
7200	7400	65			
7200	7500	65			
7200	7600	65			
7200	7700	65			
7200	7800	65			
7200	7900	65			
7200	8000	65			
7200	8100	75			
7200	8200	75			
7200	8300	75			
7200	8400	75			Kingpin #7
7200	8500	75			
7200	8600	75			
7200	8700	75			
7200	8800	75			
7200	8900	85			
7200	9000	85			Kingpin #8
7200	9100	85			
7200	9200	85			Kingpin #2
7200	9300	85			
7200	9400	65			
7200	9500	55			
7200	9600	55			
7200	9700	65			
7200	9800	85			
7200	9900	85			
7200	10000	65			
7200	10100	45			Kingpin #1
7200	10200	45			
7200	10300	45			
7200	10400	45			
7200	10500	45			
7200	10600	45			
7300	7200	45			
7300	7300	50			Shamrock #1
7300	7400	65			
7300	7500	65			
7300	7600	65			
7300	7700	65			
7300	7800	65			
7300	7900	65			

Co-ordinates East	Co-ordinates North	Depths Est.	Depths Actual	Remarks	Claim
7300	8000	65			Shamrock #1
7300	8100	80			
7300	8200	80			
7300	8300	80			Kingpin #7
7300	8400	80			
7300	8500	80			
7300	8600	80			
7300	8700	80			
7300	8800	80			
7300	8900	80			Kingpin #8
7300	9000	80			
7300	9100	80			
7300	9200	75			
7300	9300	65			Kingpin #2
7300	9400	55			
7300	9500	45			
7300	9600	35			
7300	9700	65			
7300	9800	85			
7300	9900	85			Kingpin #1
7300	10000	85			
7300	10100	65			
7300	10200	35			
7300	10300	35			
7300	10400	30			
7300	10500	30			
7300	10600	30			
7400	7200	45			Shamrock #1
7400	7300	65			
7400	7400	65			
7400	7500	65			
7400	7600	65			
7400	7700	65			
7400	7800	65			
----------	----------	----------		(See break on drill pattern map)	
~~7400~~	~~8200~~	~~105~~		(Off limits)	
7400	8300	105			Kingpin #7
7400	8400	105			
7400	8500	95			
7400	8600	90			
7400	8700	85			
7400	8800	85			
7400	8900	75			
7400	9000	65			Kingpin #8
7400	9100	60			
7400	9200	60			
7400	9300	60			
7400	9400	60			
7400	9500	45			Kingpin #2
7400	9600	35			
7400	9700	45			
7400	9800	65			Kingpin #1

Co-ordinates East	Co-ordinates North	Depths Est.	Depths Actual	Remarks	Claim
7400	9900	90			Kingpin #1
7400	10000	65			
7400	10100	65			
7400	10200	60			
7400	10300	45			
7400	10400	35			
7400	10500	35			
7400	10600	25			
7400	10700	20			
7500	7200	40			Shamrock #1
7500	7300	50			
7500	7400	50			
7500	7500	60			
----------	----------	----------	----------	(See break in drill pattern map)	
7500	8300	125			Kingpin #7
7500	8400	125			
7500	8500	105			
7500	8600	100			
7500	8700	95			
7500	8800	90			
7500	8900	85			
7500	9000	75			Lollypop
7500	9100	60			Kingpin #8
7500	9200	55			
7500	9300	50			
7500	9400	50			
7500	9500	50			Kingpin #1
7500	9600	45			
7500	9700	40			
7500	9800	45			
7500	9900	45			
7500	10000	45			
7500	10100	45			
7500	10200	60			
7500	10300	60			
7500	10400	50			
7500	10500	40			
7600	7200	40			Shamrock #1
----------	----------	----------	----------	(See break in drill pattern map)	
7600	8400	125			Kingpin #7
7600	8500	110			
7600	8600	100			
7600	8700	95			
7600	8800	90			
7600	8900	85			Lollypop
7600	9000	85			
7600	9100	70			
7600	9200	60			Kingpin #8
7600	9300	60			
7600	9400	60			
7600	9500	60			Kingpin #1
7600	9600	60			

Co-ordinates East	Co-ordinates North	Depths Est.	Depths Actual	Remarks	Claim
7600	9700	50			Kingpin #1
7600	9800	45			
7600	9900	45			
7600	10000	45			
7600	10100	45			
7600	10200	45			
7600	10300	55			
7700	8600	100			Kingpin #7
7700	8700	90			
7700	8800	90			Lollypop
7700	8900	90			
7700	9000	90			
7700	9100	75			
7700	9200	65			Kingpin #8
7700	9300	80			
7700	9400	80			
7700	9500	95			Kingpin #1
7700	9600	95			
7700	9700	95			
7700	9800	95			
7700	9900	95			Kingpin #7
7800	8700	95			
7800	8800	95			Lollypop
7800	8900	95			
7800	9000	95			
7800	9100	85			
7800	9200	75			
7800	9300	85			
7800	9400	105			Kingpin #8
7800	9500	105			
7800	9600	105			Kingpin #1
7800	9700	105			
7800	9800	105			
7800	9900	90			
----------	----------	----------		(See break in drill pattern map)	
~~7800~~	~~10600~~	~~45~~		(Off limits)	Piperoo
~~7800~~	~~10700~~	~~45~~		(Off limits)	
~~7800~~	~~10800~~	~~45~~		" "	
7800	10900	45			
7800	11000	65			
7800	11100	65			
7900	8800	105			Kingpin #7
7900	8900	100			Lollypop
7900	9000	115			
7900	9100	115			
7900	9200	115			
7900	9300	115			
7900	9400	125			
7900	9500	120			
7900	9600	120			Kingpin #8
7900	9700	120			Kingpin #1

Co-ordinates East	Co-ordinates North	Depths Est.	Depths Actual	Remarks	Claim
7900	9800	115			Kingpin #1
----------	----------	----------	----------	(See break in drill pattern map)	
~~7900~~	~~10700~~	~~40~~		(Off limits)	
~~7900~~	~~10800~~	~~40~~		(" ")	
7900	10900	40			Piperoo
7900	11000	45			
7900	11100	65			
8000	9000	125			Lollypop
8000	9100	125			
8000	9200	125			
8000	9300	125			
8000	9400	125			
8000	9500	125			
----------	----------	----------	----------	(See break in drill pattern map)	
~~8000~~	~~10700~~	~~40~~		(Off limits)	
~~8000~~	~~10800~~	~~40~~		((" "))	
~~8000~~	~~10900~~	~~40~~		(" ")	
8000	11000	40			Piperoo
8000	11100	65			
8100	9100	125			Lollypop
8100	9200	125			
8100	9300	125			
8100	9400	125			
----------	----------	----------	----------	(See break in drill pattern map)	
8100	10800	25			Piperoo
8100	10900	30			
8100	11000	35			
8200	10800	20			
8200	10900	25			
8200	11000	35			
8300	10900	25			
8300	11000	35			
8400	10900	25			
8500	10900	25			
8600	10600	25			
8700	10500	20			
8800	10600	20			
8800	10700	25			
8900	10700	25			

PAUL H. KEATING
MINING ENGINEER

Summary of the Estimates of Cost of the Exploration Project, on the "Piper Shamrock-Kingpin Group" of mining claims, on Carpenter Flats, western Montrose County, Colorado.

Refer to Form MF-103:

6.

(a) Independent contracts:

i. Drilling: A total of 59,448 ft., in 701 holes, of average depth of 84.8 ft.

-Rotary drilling: 58,948 ft. @ $1.50/ft. $88,422.00
-Core drilling: 5 ft. on each of 100 holes; payment to be based upon core-recovered, rather than upon footage drilled, at $4.00 per ft. 2,000.00

ii. Bulldozing drill sets for the above operation: Estimated 3 drill sets prepared per hour, total 234 hours, at a rate of $12/hr. 2,808.00

(b) Technical help: (Please refer to the "Summary and Recommendations" at the end of the attached report, particularly re fees et al for geological and engineering consultants). Estimated cost by this Applicant, on this proposed project. 5,000.00

(h) Contingencies: It is estimated, from experience on an adjacent and contiguous area that 150 chemical-analyses will be required; A competent Uranium analysis costs $10 each 150 chemical assays, @ $10.00 each. 1,500.00

TOTAL ESTIMATED COST OF THIS EXPLORATION PROJECT, $99,730.00

NOTE: These estimates are based upon current cost-rates for the kinds of work listed.

RECEIVED
OCT 6 - 1955

Filed for Record March 1, 1955 at 10:50 A. M.
No. 310676 Ira C. Foster, Recorder

MINING CLAIM LEASE AGREEMENT

THIS AGREEMENT, made and entered into in duplicate this 1st day of February, 1954, by and between Keith M. Andrews and Donald K. Andrews of Nucla, Colorado, County of Montrose, (hereinafter referred to as "Lessors"), and Construction Specialties Company, 2625 Walnut Street, Denver, Colorado, and L. A. Griffith, Trustee, (hereinafter referred to as "Lessees");

WITNESSETH:

That Lessors, for and in consideration of the royalties, hereinafter reserved and the covenants and agreements hereinafter expressed and by Lessees to be kept and performed, do hereby lease and demise unto Lessees, equally, the following described mining claims located in Red Canyon (or Vixen) mining district in Township 49 North, Range 18 West of the New Mexico Principal Meridian, Montrose County, Colorado, all as more fully described in the Location Certificates which were recorded in the office of the Clerk and Recorder of Montrose County, Colorado, as follows:

Name of Claim	Book and Page in County Recorder's Book at which recorded	
	Book	Page
King Pin #1	343	379
King Pin #2	343	380
King Pin #3	343	381
King Pin #4	343	382
King Pin #5	343	383
King Pin #6	343	384

TO HAVE AND TO HOLD the same for a term of five years from the date hereof unless sooner abandoned by Lessees pursuant to the terms hereof.

1. To enter upon said mining property and work the same in a manner consistent with good and economical mining practices so as to take out the greatest amount of ore possible with due regard to the development and preservation of the same as mining property and keeping as high as practicable the grade of ore being so mined.

2. To work and mine said premises as aforesaid from the date of this lease, the Lessees, however, reserving the right to quit and abandon said claims and this lease at any time after six months from the date of the execution of this agreement if, in the opinion of the Lessees, said claims are not susceptible of profitable operation.

3. To allow said Lessors and their agent from time to time to enter upon and into all parts of mining operations upon said mining claims for purposes of inspection.

4. Not to assign this lease or any interest thereunder, nor sublet the said premises or any part thereof without the written consent of said Lessors nor to allow any person not in privity with the parties hereto to take hold or possession of said premises or any part thereof.

5. To pay said Lessors as royalty, fifteen per cent (15%) of the net mill returns of all ores mined from said claims by Lessees, such payment to be made by delivery of such ore with all convenient speed in lots as mined to some mill or regular ore buyer and leaving with such mill or ore buyer the percentage of mill returns aforesaid for delivery to Lessors. For the purpose of this contract, "net mill returns" shall mean such sums as shall be paid for the values in the ore after deducting all charges for carriage in any form, assays and mill charges. Should the uranium oxide content of ore mined and the volume thereof be sufficient to qualify for a bonus from the government, Lessors shall be entitled to receive twenty per cent (20%) as their share of such bonus. Development allowances and transportation allowances, as set forth by the government for the development and transportation of uranium, are to be retained by the Lessees as Lessees' sole property. When Lessees are awarded transportation allowances on uranium ore, as set forth by the government, such sums paid for the transportation of uranium ore by the government shall be deducted from the total carriage charges to arrive at an adjusted carriage charge to be used in calculating the net mill returns of uranium ore.

6. To do and perform the necessary assessment work on all claims in connection with this agreement during the life of the lease.

7. To indemnify and hold harmless Lessors from any and all loss or damage and from all claims for injury, death loss or damage of any kind or character due by whomsoever suffered or asserted occasioned by or in connection with any work performed by Lessees, their agents or employees.

8. To promptly pay all bills for labor and materials incurred in Lessees' operations hereunder and to indemnify and save harmless Lessors from all claims and liability of every kind and nature which may or might be incurred by them for reason of operations hereunder.

9. To at all times fully comply with the provisions of the Workmen's Compensation laws of the State of Colorado, and all other laws, federal and State, covering this type of operation.

10. It is agreed that Lessees can use Defense Mineral Exploration Administration loans to drill and explore.

IT IS MUTUALLY AGREED that if Lessees are in possession of said premises under this lease on the date five years from date and are conducting mining operations on said premises at that time, then Lessees shall have the option to remain on said premises and conduct operations thereon so long as mining operations, in the opinion of the Lessees, continue to be profitable on any of the claims, provided that Lessees fully and faithfully comply with each and all of the covenants by it to be kept and performed as herein stated.

The failure on the part of the Lessees to work the demised premises for a period of ninety days or more, without the permission of the Lessors may be considered by the Lessors as a violation of this Lease.

On any termination hereof, the Lessees shall have the right to remove from said claims at any time within the ninety day period from and after the date of termination, all machinery, equipment and buildings placed on the claim by Lessees.

Agreement

between

Donald K. Andrews

Keith M. Andrews

of

Construction Specialties, Inc.

L. A. Griffith, President

In the event that Lessees shall conduct a core drilling program or wagon drilling program on said claim, a copy of all drill logs, analyses and other pertinent data shall be supplied to Lessors.

This agreement or lease can be terminated at any time upon the mutual agreement of the parties hereto, or upon failure of said Lessees to comply with the terms and covenants herein contained, at the option of the said Lessors who shall give the said Lessees ninety days notice of their intention to terminate said lease, setting forth the particular violations complained of, and the said Lessees shall then have forty-five days from date of said notice in which to make good said violation. In the event of their failure to do so, then this lease shall become null and void, otherwise to remain in full force and effect.

Each and every clause, and covenant of this agreement shall extend to the heirs, executors, administrators and lawful assigns of all parties hereto.

Dated at Pueblo, Colorado, the day and year first above written.

LESSORS

Keith M. Andrews

Donald K. Andrews

LESSEES

CONSTRUCTION SPECIALTIES COMPANY

L. A. Griffith

President

Secretary

L. A. Griffith Trustee

Trustee

PHOTO INDEXED

Filed for Record May 23, 1955 at 9:24 A. M.
No. 314496 Ira C. Foster, Recorder

AGREEMENT

Permission is hereby granted to Construction Specialties Co., 2625 Walnut Street, Denver, Colorado, and L. A. Griffith, Trustee, to transfer and assign to NEPTUNE URANIUM CORPORATION, or such other corporation as may be subsequently incorporated by the above Lessees. three (3) mining claim lease agreements, more particularly described as leases dated the 1st day of February, 1954, covering:

Name of Claim	Book and Page in County Recorder's Book at which recorded	
	Book	Page
Shamrock #2	343	9
Shamrock #3	343	10
Shamrock #4	343	11
Piper #1	349	467
Piper #2	349	567
Piper #3	349	568
King Pin #1	343	379
King Pin #2	343	380
King Pin #3	343	381
King Pin #4	343	382
King Pin #5	343	383
King Pin #6	343	384
King Pin #7	343	385
King Pin #8	343	386
Shamrock #1	343	8
Shamrock #5	343	21

all of which claims are located in Red Canyon (or Vixen) mining district in Township 48 North, Range 18 West of the New Mexico Principal Meridian, Montrose County, Colorado.

Signed this 19th day of January, 1955.

Witnesses:

Donald A. Griffith

Keith M. Andrews

Donald K. Andrews

STATE OF COLORADO)
COUNTY OF _____) ss:

The within and foregoing instrument was acknowledged before me this 1st day of April, A. D. 1955, by W. E. GRIFFITH, President, and R. B. CARSON, Secretary, of CONSTRUCTION SPECIALTIES COMPANY, a corporation.

Witness my hand and official seal.

My commission expires: March 2, 1957

(Notarial)
(Seal)

Francella V. Smith
Notary Public

MINING CLAIM LEASE AGREEMENT

THIS AGREEMENT, made and entered into in duplicate this 1st day of February, 1954, by and between Keith M. Andrews and Donald K. Andrews of Nucla, Colorado, County of Montrose, (hereinafter referred to as "Lessors"), and Construction Specialties Company, 2625 Walnut Street, Denver, Colorado, and L. A. Griffith, Trustee, (hereinafter referred to as "Lessees");

WITNESSETH:

That Lessors, for and in consideration of the royalties, hereinafter reserved and the covenants and agreements hereinafter expressed and by Lessees to be kept and performed, do hereby lease and demise unto Lessees, equally, the following described mining claims located in Red Canyon (or Vixen) mining district in Township 48 North, Range 18 West of the New Mexico Principal Meridian, Montrose County, Colorado, all as more fully described in the Location Certificates which were recorded in the office of the Clerk and Recorder of Montrose County, Colorado, as follows:

Name of Claim	Book and Page in County Recorder's Book at which recorded	
	Book	Page
King Pin #7	343	385
King Pin #8	343	386
Shamrock #1	343	8
Shamrock #5	343	21

Lollypop (to be presently recorded)

TO HAVE AND TO HOLD the same for a term of five years from the date hereof unless sooner abandoned by Lessees pursuant to the terms hereof.

1. To enter upon said mining property and work the same in a manner consistent with good and economical mining practices so as to take out the greatest amount of ore possible with due regard to the development and preservation of the same as mining property and keeping as high as practicable the grade of ore being so mined.

2. To work and mine said premises as aforesaid from the date of this lease, the Lessees, however, reserving the right to quit and abandon said claims and this lease at any time after six months from the date of the execution of this agreement if, in the opinion of the Lessees, said claims are not susceptible of profitable operation.

3. To allow said Lessors and their agent from time to time to enter upon and into all parts of mining operations upon said mining claims for purposes of inspection.

4. Not to assign this lease or any interest thereunder, nor sublet the said premises or any part thereof without the written consent of said Lessors nor to allow any person not in privity with the parties hereto to take hold or possession of said premises or any part thereof.

5. To pay said Lessors as royalty, fifteen per cent (15%) of the net mill returns of all ores mined from said claims by Lessees, such payment to be made by delivery of such ore with all convenient speed in lots as mined to some mill or regular ore buyer and leaving with such mill or ore buyer the percentage of mill returns aforesaid for delivery to Lessors. For the purpose of this contract, "net mill returns" shall mean such sums as shall be paid for the values in the ore after deducting all charges for carriage in any form, assays and mill charges. Should the uranium oxide content of ore mined and the volume thereof be sufficient to qualify for a bonus from the government, Lessors shall be entitled to receive twenty percent (20%) as their share of such bonus. Development allowances and transportation allowances, as set forth by the government for the development and transportation of uranium, are to be retained by the Lessees as Lessees' sole property. When Lessees are awarded transportation allowances on uranium ore, as set forth by the government, such sums paid for the transportation of uranium ore by the government shall be deducted from the total carriage charges to arrive at an adjusted carriage charge to be used in calculating the net mill returns of uranium ore.

6. To do and perform the necessary assessment work on all claims in connection with this agreement during the life of the lease.

7. To indemnify and hold harmless Lessors from any and all loss or damage and from all claims for injury, death loss or damage of any kind or character and by whomsoever suffered or asserted occasioned by or in connection with any work performed by Lessees, their agents or employees.

8. To promptly pay all bills for labor and materials incurred in Lessees' operations hereunder and to indemnify and save harmless Lessors from all claims and liability of every kind and nature which may or might be incurred by them for reason of operations hereunder.

9. To at all times fully comply with the provisions of the Workmen's Compensation laws of the State of Colorado, and all other laws, federal and State, covering this type of operation.

10. It is agreed that Lessees can use Defense Mineral Exploration Administration loans to drill and explore.

IT IS MUTUALLY AGREED that if Lessees are in possession of said premises under this lease on the date five years from date and are conducting mining operations on said premises at that time, then Lessees shall have the option to remain on said premises and conduct operations thereon so long as mining operations, in the opinion of the Lessees, continue to be profitable on any of the claims, provided that Lessees fully and faithfully comply with each and all of the covenants by it to be kept and performed as herein stated.

The failure on the part of the Lessees to work the demised premises for a period of ninety days or more, without the permission of the Lessors may be considered by the Lessors as a violation of this Lease.

On any termination hereof, the Lessees shall have the right to remove from said claims at any time within the ninety day period from and after the date of termination, all machinery, equipment and buildings placed on the claim by Lessees.

In the event that Lessees shall conduct a core drilling program or wagon drilling program on said claim, a copy of all drill logs, analyses and other pertinent data shall be supplied to Lessors.

This agreement of lease can be terminated at any time upon the mutual agreement of the parties hereto, or upon failure of said Lessees to comply with the terms and covenants herein contained, at the option of the said Lessors who shall give the said Lessees ninety days notice of their intention to terminate said lease, setting forth the particular violations complained of, and the said Lessees shall then have forty-five days from date of said notice in which to make good said violation. In the event of their failure to do so, then this lease shall become null and void, otherwise to remain in full force and effect.

Each and every clause, and covenant of this agreement shall extend to the heirs, executors, administrators and lawful assigns of all parties hereto.

Dated at Nucla, Colorado, the day and year first above written.

LESSORS

Keith M. Andrews

Donald K. Andrews

LESSEES

CONSTRUCTION SPECIALTIES COMPANY

W. E. Griffith
President

R. B. Carson
Secretary

L. A. Griffith Trustee
Trustee

Filed for Record May 23, 1955 at 9:26 A. M.
No. 314497 Ira C. Foster, Recorder

A S S I G N M E N T

KNOW ALL MEN BY THESE PRESENTS, That the undersigned, for and in consideration of the sum of One Dollar ($1.00) and other valuable consideration, the receipt of which is hereby acknowledged, has, and by these presents does, sell, assign, transfer, and set over unto NEPTUNE URANIUM CORPORATION, a Colorado corporation, those certain leases, and all the right, title and interest of the undersigned Lessees in and pursuant to those certain leases described as follows:

That certain lease dated February 1, 1954 and recorded February 16, 1954 in Book 405 at page 266 of the records of Montrose County, Colorado, between Keith M. Andrews and Donald K. Andrews, as Lessors, and Construction Specialties Company, of Denver, Colorado, and L. A. Griffith, Trustee, covering those certain mining claims located in Red Canyon (or Vixen) mining district in Township Forty-eight (48) North, Range Eighteen (18) West of the New Mexico Principal Meridian, as shown by location certificates recorded in Montrose County, Colorado, as follows:

Name of Claim	Book & Page of Recording	
Shamrock #2	Bk. 343	Pg. 9
Shamrock #3	Bk. 343	Pg. 10
Shamrock #4	Bk. 343	Pg. 11
Piper #1	Bk. 349	Pg. 467
Piper #2	Bk. 349	Pg. 567
Piper #3	Bk. 349	Pg. 568

That certain lease dated February 1, 1954 and recorded March 1, 1955 in Book 405 at page 524 of the records of Montrose County, Colorado, between Keith M. Andrews and Donald K. Andrews, as Lessors, and Construction Specialties Company, of Denver, Colorado, and L. A. Griffith, Trustee, covering those certain mining claims located in Red Canyon (or Vixen) mining district in Township Forty-eight (48) North, Range Eighteen (18) West of the New Mexico Principal Meridian, as shown by location certificates recorded in Montrose County, Colorado, as follows:

Name of Claim	Book & Page of Recording	
King Pin #7	Bk. 343	Pg. 385
King Pin #8	Bk. 343	Pg. 386
Shamrock #1	Bk. 343	Pg. 8
Shamrock #5	Bk. 343	Pg. 21

RECEIVED
OCT 6 - 1955

That certain lease dated February 1, 1954 and recorded March 1, 1955 in Book 405 at page 520 of the records of Montrose County, Colorado, between Keith M. Andrews and Donald K. Andrews, as Lessors, and Construction Specialties Company, of Denver, Colorado, and L. A. Griffith, Trustee, covering those certain mining claims located in Red Canyon (or Vixen) mining district in Township Forty-eight (48) North, Range Eighteen (18) West of the New Mexico Principal Meridian, as shown by location certificates recorded in Montrose County, Colorado, as follows:

Name of Claim	Book & Page of Recording	
King Pin #1	Bk. 343	Pg. 379
King Pin #2	Bk. 343	Pg. 380
King Pin #3	Bk. 343	Pg. 381
King Pin #4	Bk. 343	Pg. 382
King Pin #5	Bk. 343	Pg. 383
King Pin #6	Bk. 343	Pg. 384

IN WITNESS WHEREOF, the undersigned have caused to be affixed hereto their hands and seals this 1st day of April, A. D. 1955.

CONSTRUCTION SPECIALTIES COMPANY

By W. E. Griffith
President

Attest:
R. B. Carson
Secretary

(SEAL)

L. A. Griffith Trustee
L. A. Griffith, Trustee

Filed for Record May 23, 1955 at 9:28 A. M.
No. 314498 Ira C. Foster, Recorder

MINING DEED

THIS INDENTURE, made this 1st day of April, in the year of our Lord one thousand nine hundred and fifty-five, between L. A. GRIFFITH, TRUSTEE, W. B. GRIFFITH, CONSTRUCTION SPECIALTIES COMPANY, a corporation, and GRIFFITH URANIUM COMPANY, a co-partnership, (formerly known as Lowell A. Griffith & Associates, Denver, Colorado) composed of Lowell A. Griffith, W. B. Griffith, Paul H. Keating, and Construction Specialties Company, a corporation,

all of the State of Colorado, parties of the first part, and

NEPTUNE URANIUM CORPORATION, a corporation organized and existing under and by virtue of the laws of the State of Colorado,

party of the second part;

WITNESSETH, That the said parties of the first part, for and in consideration of the sum of TEN DOLLARS ($10.00), to them in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, have granted, bargained, sold, remised, released and forever quit-claimed, and by these presents does grant, bargain, sell, remise, release and forever quit-claim, unto the said party of the second part, its successors and assigns, the following described property, situate, lying and being in Red Canyon (Vixen) or Paradox Mining District, in the County of Montrose, and State of Colorado, to-wit:

Those certain mining claims located in Township Forty-eight (48) North, Range Eighteen (18) West of the New Mexico Principal Meridian, as more fully describedin location certificates recorded in the office of the Clerk and Recorder of Montrose County, Colorado, as follows:

Name of Claim	Book & Page where Recorded	
Lollypop Lode	Bk. 379	Pg. 111
Piperoo Lode	Bk.379	Pg. 112
Outlet Lode	Bk. 379	Pg. 113
Outlet Lode (relocated)	Bk. 381	Pg. 235

TOGETHER with all the dips, spurs, and angles, and all the metals, ores, gold and silver-bearing quartz, rock and earth therein, and all the rights, privileges and franchises thereto incident, appendant and appurtenant, or therewith usually had and enjoyed; and all and singular the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining, and the rents, issues and profits thereof; and all the estate, right, title, interest, claim and demand whatsoever, as well in law as in equity, of the said parties of the first part, of, in or to the said premises, and every part and parcel thereof, with the appurtenances.

TO HAVE AND TO HOLD, all and singular, the said premises, together with the appurtenances and privileges thereto incident, unto the said party of the second part, its successors and assigns forever.

IN WITNESS WHEREOF, The said parties of the first part have hereunto set their hands and seals the day and year first above written.

L. A. Griffith Trustee (SEAL)
L. A. Griffith, Trustee

W. B. Griffith (SEAL)
W. B. Griffith

CONSTRUCTION SPECIALTIES COMPANY, a corporation

By W. E. Griffith (SEAL)
President

(Corporate Seal)

Attest:

R. B. Carson (SEAL)
Secretary

GRIFFITH URANIUM COMPANY, a co-partnership (formerly known as Lowell A. Griffith & Associates, Denver, Colorado)

By Lowell A. Griffith (SEAL)
Lowell A. Griffith, Partner

By W. B. Griffith (SEAL)
W. B. Griffith, Partner

By Paul H. Keating (SEAL)
Paul H. Keating, Partner

By: CONSTRUCTION SPECIALTIES COMPANY, Partner

By W. E. Griffith (SEAL)
President

(Corporate Seal)

Attest:

R. B. Carson (SEAL)
Secretary

STATE OF COLORADO)
COUNTY OF _____) ss:

The foregoing instrument was acknowledged before me this 1st day of April, A. D. 1955, by LOWELL A. GRIFFITH (also known as L. A. Griffith), W. B. GRIFFITH, and PAUL H. KEATING.

My commission expires: March 2, 1957.

(Notarial) (Seal)

Francella V. Smith
Notary Public

Filed for Record June 20, 1955 at 10:58 A. M.
No. 315637 Ira C. Foster, Recorder

QUIT CLAIM DEED

THIS INDENTURE, made this 20th day of April, in the year of our Lord one thousand nine hundred and fifty-five, between L. A. GRIFFITH, Trustee; W. B. GRIFFITH; PAUL H. KEATING; GRIFFITH URANIUM COMPANY, a co-partnership, (formerly known as Lowell A. Griffith & Associates, Denver, Colorado) by LOWELL A. GRIFFITH, co-partner; and CONSTRUCTION SPECIALTIES COMPANY, a corporation, all of the State of Colorado, parties of the first part; and NEPTUNE URANIUM CORPORATION, a corporation organized and existing under and by virtue of the laws of the State of Colorado, party of the second part,

W I T N E S S E T H:

That the said parties of the first part, for and in consideration of the sum of Ten Dollars ($10.00), to them in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, have granted, bargained, sold, remised, released and forever quit-claimed, and by these presents do grant, bargain, sell, remise, release and forever quit-claim, unto the said party of the second part, its successors and assigns, the following described property, situate, lying and being in Red Canyon (Vixen) or Paradox Mining District, in the County of Montrose, and State of Colorado, to-wit:

Those certain mining claims located in Township Forty--Eight (48) North, Range Eighteen (18) West of the New Mexico Principal Meridian, as more fully described in location certificates recorded in the office of the Clerk and Recorder of Montrose County, Colorado, as follows:

Name of Claim	Book and Page where recorded:
Lollypop Lode	Book 379 Page 111
Piperoo Lode	Book 379 Page 112
Outlet Lode	Book 379 Page 113
Outlet Lode (relocated)	Book 381 Page 235

TOGETHER with all the dips, spurs, and angles, and all the metals, ores, gold and silver-bearing quartz, rock and earth therein, and all the rights, privileges and franchises thereto incident, appendant and appurtenant, or therewith usually had and enjoyed; and all and singular the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining, and the rents, issues and profits thereof; and all the estate, right, title, interest, claim and demand whatsoever, as well in law as in equity, of the said parties of the first part, of, in or to the said premises, and every part and parcel thereof, with the appurtenances.

TO HAVE AND TO HOLD, all and singular, the said premises, together with the appurtenances and privileges thereto incident, unto the said party of the second part, its successors and assigns forever.

IN WITNESS WHEREOF, the said parties of the first part have hereunto set their hands and seals the day and year first above written.

L. A. Griffith Trustee (SEAL)
L. A. Griffith, Trustee

W. B. Griffith (SEAL)
W. B. Griffith

Paul H. Keating (SEAL)
Paul H. Keating

GRIFFITH URANIUM COMPANY,
a co-partnership (formerly known as
Lowell A. Griffith & Associates, Denver,
Colorado)

By: Lowell A. Griffith (SEAL)
Lowell A. Griffith, co-partner

CONSTRUCTION SPECIALTIES COMPANY,
a corporation

By: W. E. Griffith (SEAL)
President

(Corporate Seal)

ATTEST: R. B. Carson
Secretary

STATE OF COLORADO)
: ss
City and COUNTY OF DENVER)

The foregoing instrument was acknowledged before me this 30th day of April, A. D. 1955, by L. A. GRIFFITH, Trustee; W. B. GRIFFITH; and PAUL H. KEATING.

My commission expires: March 2, 1957

Francella V. Smith
Notary Public.

(SEAL)

STATE OF COLORADO)
: ss
CITY and COUNTY OF DENVER)

The foregoing instrument was acknowledged before me this 30th day of April, A. D. 1955, by Lowell A. Griffith, co-partner, of GRIFFITH URANIUM COMPANY, a co-partnership (formerly known as Lowell A. Griffith & Associates, Denver, Colorado).

My commission expires: March 2, 1957

Francella V. Smith
Notary Public.

(SEAL)

STATE OF COLORADO)
: ss
CITY and COUNTY OF DENVER)

The foregoing instrument was acknowledged before me this 30th day of April, A. D. 1955, by W. E. Griffith, President, and R. B. Carson, Secretary, of CONSTRUCTION SPECIALTIES COMPANY, a corporation.

My commission expires: March 2, 1957

Francella V. Smith
Notary Public.

(SEAL)

RECEIVED
OCT 6 - 1955

(SAMPLE)

POWER OF ATTORNEY

We, the undersigned, members of a partnership designated as Lowell A. Griffith Associates, composed of Lowell A. Griffith, Box 673, Central City, Colorado; Construction Specialties Company, 2625 Walnut Street, Denver 1, Colorado; and Paul H. Keating, Apt. 5, Mines Park, Golden, Colorado, do hereby appoint PAUL H. KEATING, GOLDEN, COLO. to act as the agent of said partnership in all matters connected with the United States Department of the Interior, Defense Minerals Exploration Administration, DMEA Docket 3355, Contract Idm-E703, and in behalf of said partnership to submit to the Government all necessary reports and information required under said contract, and said agent is authorized to receive individually, and to receipt for, any monies that are now or may hereafter become due to said partnership by reason of said Contract Idm-E703.

Date Sept. 19, 1954 Signed Lowell A. Griffith

CONSTRUCTION SPECIALTIES CO.
by W. E. Griffith, Pres.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
1201 N. DIVISION STREET
SPOKANE 2, WASHINGTON

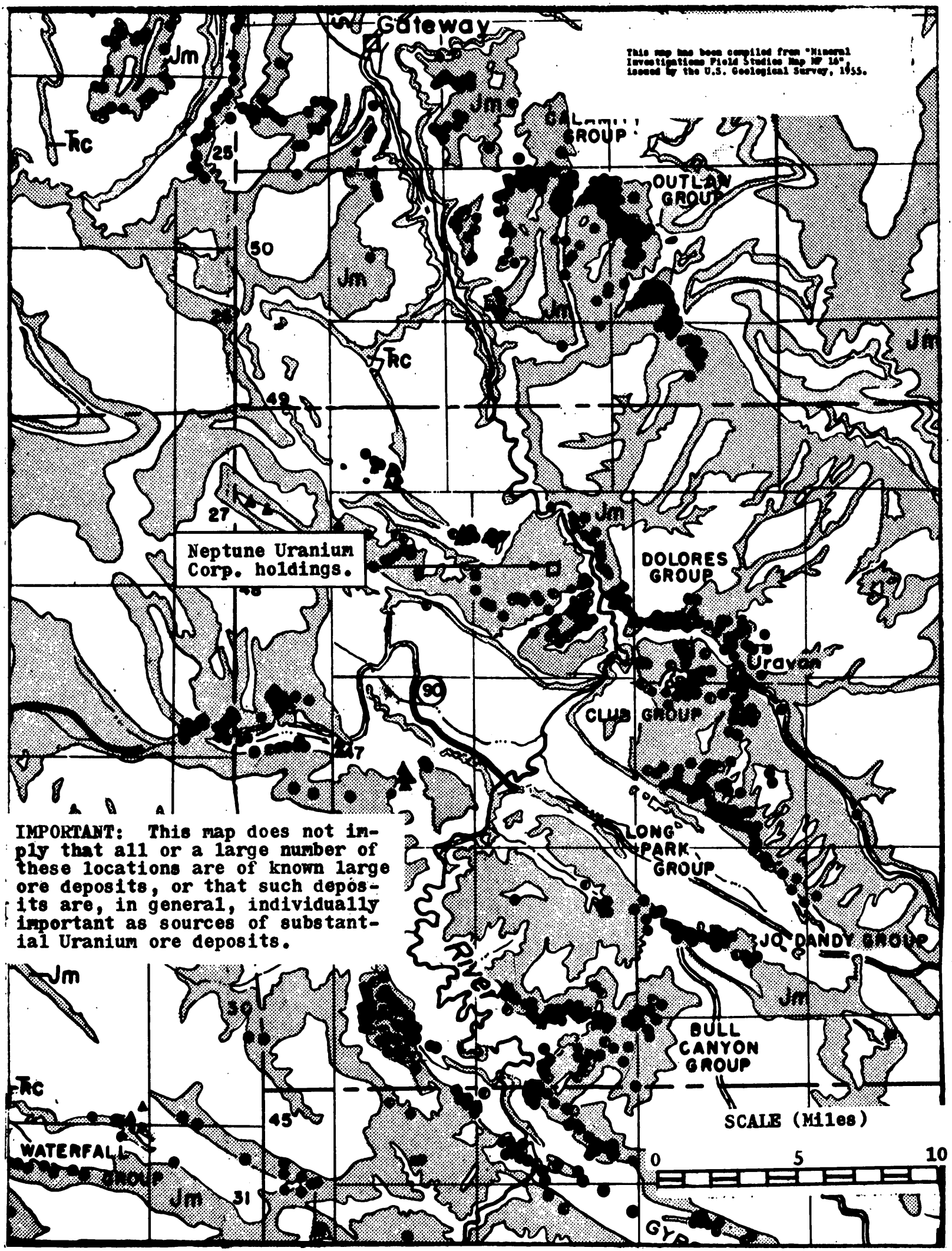
OFFICIAL BUSINESS

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

SPOKANE, WASH.
SE 30 6 30PM
1955

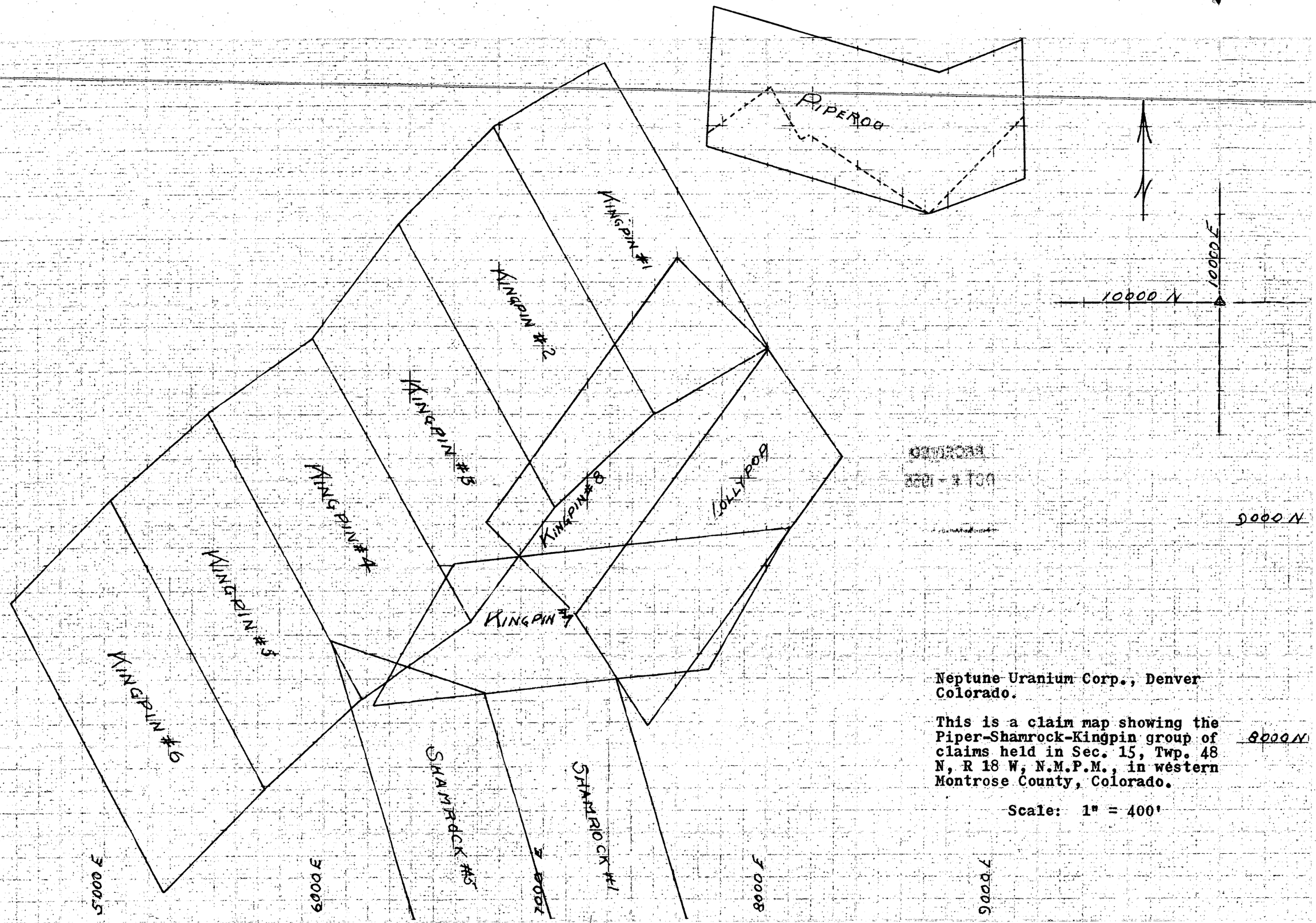
Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Makes need with addl dates
also in envelope but I have
dated them the date of addl info.
so you can know which is which
C.



IMPORTANT: This map does not imply that all or a large number of these locations are of known large ore deposits, or that such deposits are, in general, individually important as sources of substantial Uranium ore deposits.

1-19-56



Neptune Uranium Corp., Denver Colorado.

This is a claim map showing the Piper-Shamrock-Kingpin group of claims held in Sec. 15, Twp. 48 N, R 18 W, N.M.P.M., in western Montrose County, Colorado.

Scale: 1" = 400'

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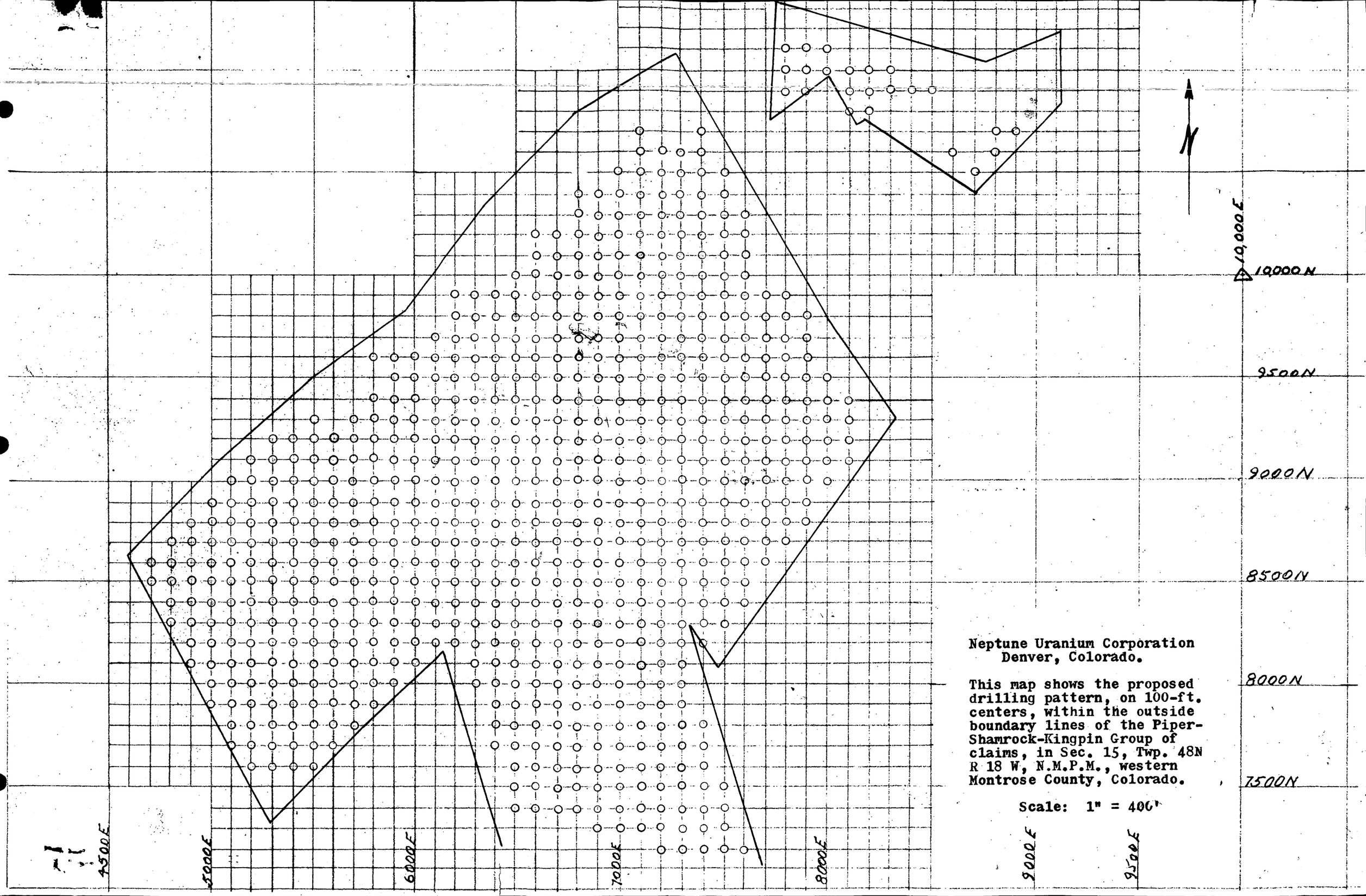
OCT 6 - 1955

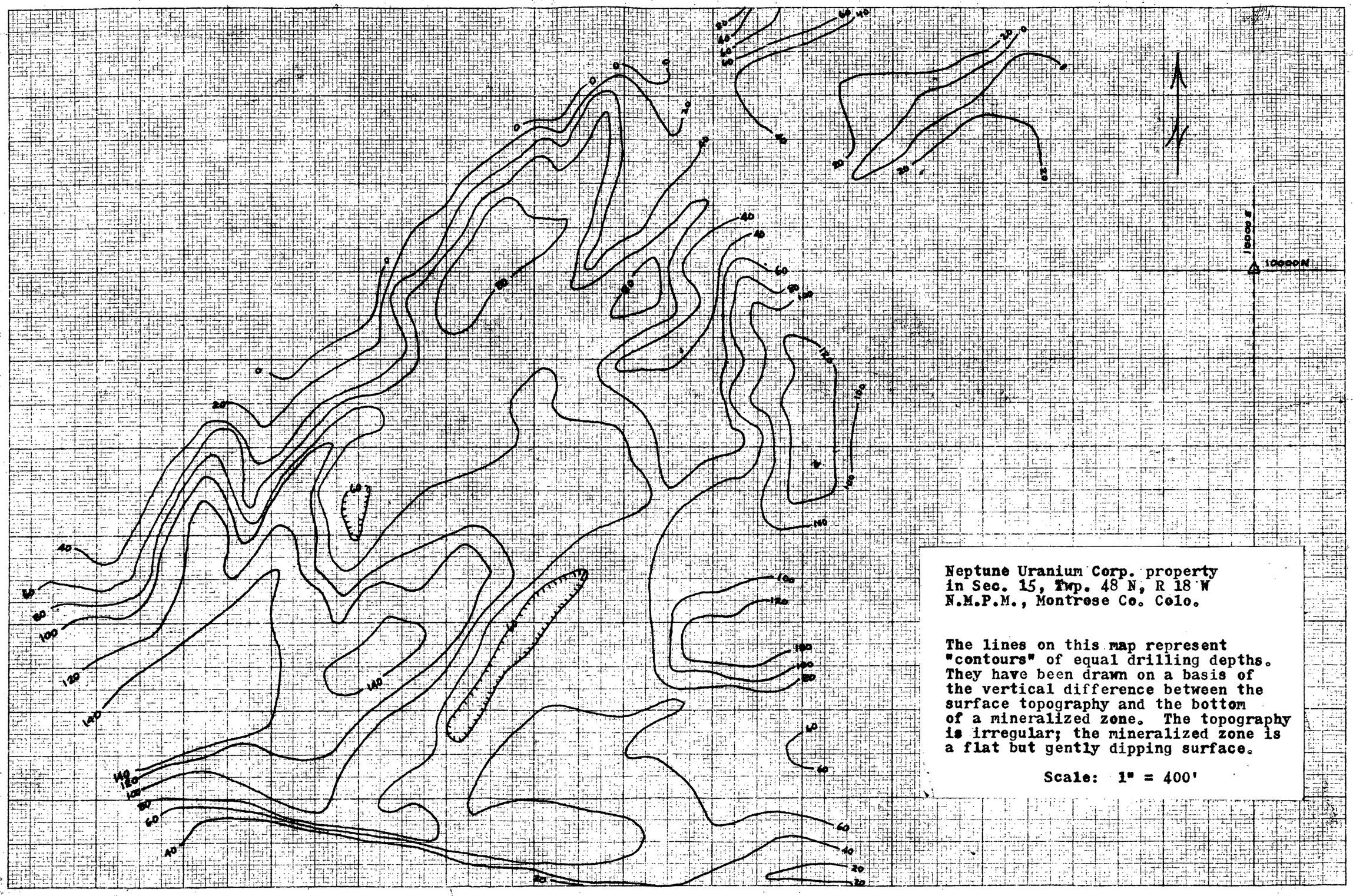


Neptune Uranium Corporation
Denver, Colorado.

This map shows the proposed drilling pattern, on 100-ft. centers, within the outside boundary lines of the Piper-Shamrock-Kingpin Group of claims, in Sec. 15, Twp. 48N R 18 W, N.M.P.M., western Montrose County, Colorado.

Scale: 1" = 400'

RECEIVED
OCT 6 - 1955



Neptune Uranium Corp. property
in Sec. 15, Twp. 48 N, R 18 W
N.M.P.M., Montrose Co. Colo.

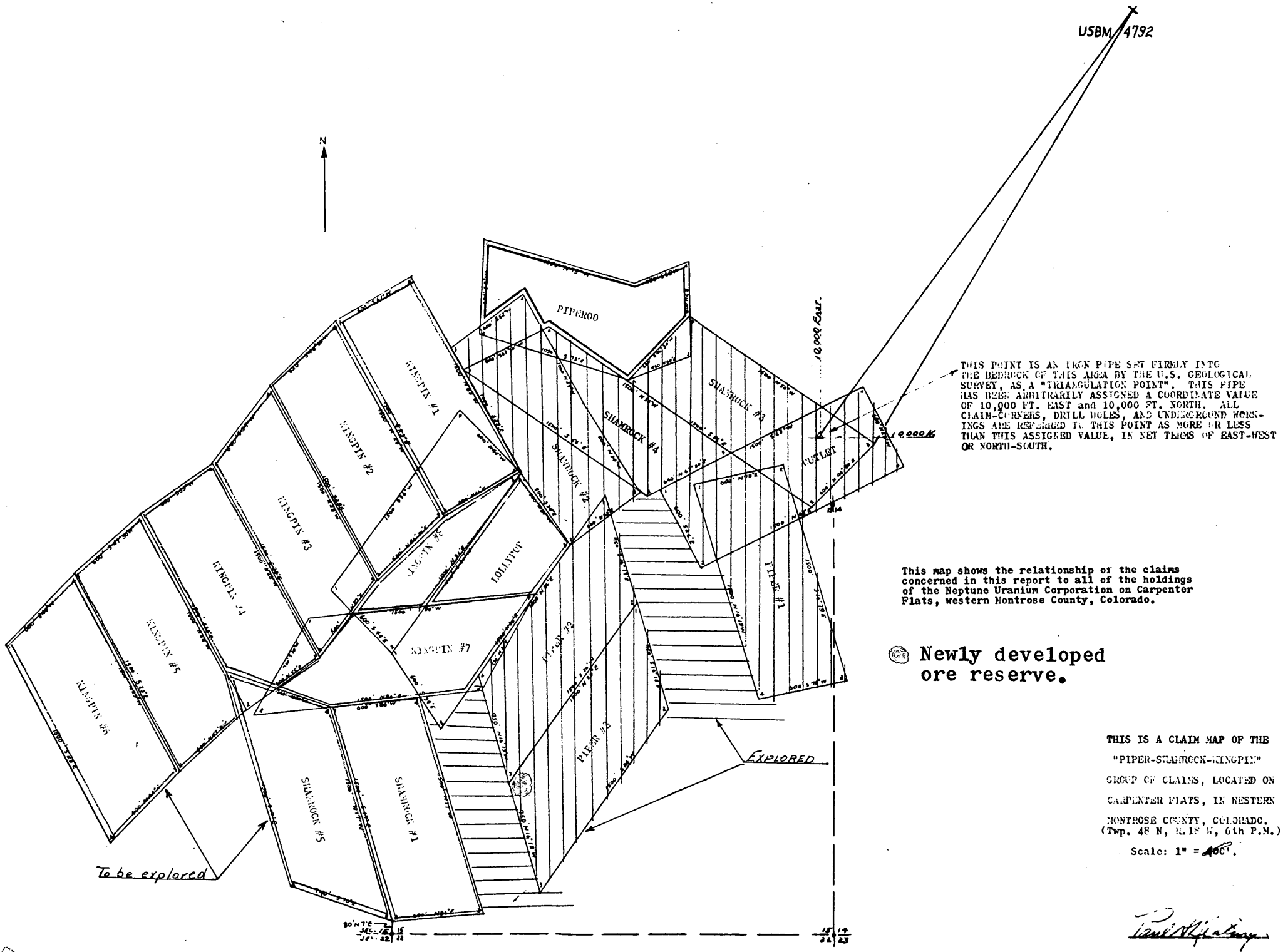
The lines on this map represent "contours" of equal drilling depths. They have been drawn on a basis of the vertical difference between the surface topography and the bottom of a mineralized zone. The topography is irregular; the mineralized zone is a flat but gently dipping surface.

Scale: 1" = 400'

EUGENE DIETZGEN CO.
MADE IN U.S.A.
NO. 340DR-20 DIETZGEN GRAPH PAPER
20 X 20 PER INCH

DMEA
4005

RECEIVED
OCT 6 - 1955


USBM 4792
N
PIPEROO
KINGPIN #1
KINGPIN #2
KINGPIN #3
KINGPIN #4
KINGPIN #5
KINGPIN #6
KINGPIN #7
KINGPIN #8
LOLLYPOP
SHAMROCK #1
SHAMROCK #2
SHAMROCK #3
SHAMROCK #4
SHAMROCK #5
PIPER #1
PIPER #2
PIPER #3
OUTLOT
10,000 East
10,000 N
EXPLORED
To be explored
THIS POINT IS AN IRON PIPE SET FIRMLY INTO THE BEDROCK OF THIS AREA BY THE U.S. GEOLOGICAL SURVEY, AS A "TRIANGULATION POINT". THIS PIPE HAS BEEN ARBITRARILY ASSIGNED A COORDINATE VALUE OF 10,000 FT. EAST and 10,000 FT. NORTH. ALL CLAIM-CORNERS, DRILL HOLES, AND UNDERGROUND WORKINGS ARE REFERRED TO THIS POINT AS MORE OR LESS THAN THIS ASSIGNED VALUE, IN NET TERMS OF EAST-WEST OR NORTH-SOUTH.
This map shows the relationship of the claims concerned in this report to all of the holdings of the Neptune Uranium Corporation on Carpenter Flats, western Montrose County, Colorado.
Newly developed ore reserve.
THIS IS A CLAIM MAP OF THE "PIPER-SHAMROCK-KINGPIN" GROUP OF CLAIMS, LOCATED ON CARPENTER FLATS, IN WESTERN MONTROSE COUNTY, COLORADO. (Twp. 48 N, R. 18 W, 6th P.M.)
Scale: 1" = 400'.