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

224 New Customhouse
Denver 2, Colorado

June 18, 1952

Memorandum

To: Secretary to the Operating Committee
Defense Minerals Exploration Administration

From: Executive Officer, Field Team, Region IV

Subject: Docket DMEA 2232, Navajo Uranium Company (Uranium)

Enclosed is a copy of a letter from G. R. Kennedy, Manager, Navajo Uranium Division of Kerr-McGee Oil Industries, Inc., in which he requests cancellation of his application. In accordance with his request we have cancelled his application and returned three copies of the application to him. The fourth copy is on file in the Washington office.

W. H. King

W. H. King

Enclosure

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
JUN 23 1952

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JFS:ld

cc: Docket, chron.
Koschmann

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
JUN 23 1952

/ C O P Y /

NAVAJO URANIUM DIVISION

of

KERR McGEE OIL INDUSTRIES, INC.

Box 608
Cortez, Colorado

June 11, 1952

Mr. J. H. East, Jr.
Executive Officer
Field Team, Region IV
224 New Customhouse
Denver, Colorado

Dear Sir:

Navajo Uranium Company has pending in your office an application for an exploration loan on our uranium properties in the Lukachukai Mountains, Apache County, Arizona.

This is to inform you that Navajo Uranium Company has been purchased by Kerr-McGee Oil Industries, Inc. and Kerr-McGee does not wish to conclude this loan, and we would appreciate it if you will cancel our application and return the same to us.

We certainly appreciate your efforts on our behalf in this matter and we are very sorry to have caused you so much useless trouble.

Very truly ypurs,

/s/ G. R. Kennedy, Manager

NAVAJO URANIUM DIVISION OF
KERR McGEE OIL INDUSTRIES, INC.

GRK:jw

/ C O P Y /

NAVAJO URANIUM DIVISION

of

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/s/ G. R. Kennedy, Manager

NAVAJO URANIUM DIVISION OF
KERR McGEE OIL INDUSTRIES, INC.

GRK:jw

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1.

MF-103 Should Be Filed With General Technical Data Form MF-100

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

Not To Be Filled in by Applicant

Docket No. D.M.A. 2232
Metal or Mineral
Date Received 11-15-51
Amount $
Participation (Government %)

NAVAJO URANIUM COMPANY
P. O. BOX 608
CORTEZ, COLORADO

Name and address of applicant

Date

If you have already filed MF-100, give date filed ....., type of assistance requested 90% LOAN,

DMA Docket Number (if available) .....

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four copies each, of the signed application form, General Technical Data Form MF-100, and answers to questions as specified, to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive office thereof, with your name and address on each sheet of the application and all accompanying papers. If you have previously filed MF-100, it is not necessary to file it again. However, you should indicate in space provided above the type of assistance previously applied for (loans, procurement contracts, etc.) and DMA Docket Number, if available. *When a question is inapplicable it should be so stated in the form.* Additional sheets should be attached in answering any questions or in supplying additional information. IF YOU CANNOT ANSWER A QUESTION, SO STATE.

DEFENSE MINERALS ADMINISTRATION WASHINGTON, D.C. NOV 20 01 PM

1. (a) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

(b) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

(c) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

NOTE: (1) If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (c) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

(2) If applicant is not the owner of the property or if there are any liens or encumbrances against the property, copy of agreements of claimants, lienors, encumbrances, and lessors subordinating their interests in the property to the interest of the Government under the Exploration Project Contract will be required for attachment to the Contract.

2. (a) What metals or minerals do you expect to find?

(b) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

The information requested in questions 3, 4, 5, 6, 7, 8, and 9 below should be answered specifically and in detail, as this information will be attached to and incorporated as part of the Exploration Project Contract, if such contract is entered into with you by the Government.

ANSWER EACH QUESTION ON SEPARATE SHEETS OF PAPER AND SUBMIT A COPY OF EACH ANSWER FOR EACH COPY OF YOUR APPLICATION.

3. (*a*) Describe fully the proposed work and give the total cost of the project.

   (*b*) State the time required to start the project and to complete it.

4. Submit a map or sketch of the property involved showing a plan (and cross section, if needed) of the present mine workings and the *location of the proposed exploration work* as related to geologic features, such as contacts, veins, ore-bearing beds, etc.

5. Furnish an itemized list of existing facilities, buildings, installations, and fixtures with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition.

6. Furnish a detailed list of additional facilities, buildings, and fixtures to be purchased, installed, or erected by you, with the estimated cost of each item.

7. Furnish a detailed list of operating equipment, separated into items to be—

   (*a*) Rented

   (*b*) Purchased

   (*c*) Furnished by you

   with the rental, purchase price, or depreciation of each item, as the case may be, to be charged as a cost of the project.

8. Furnish an itemized schedule of labor, by numbers and classes (miners, muckers, etc.) and of supervisors by numbers and positions, with the maximum wages or salaries to be paid to each.

9. Furnish a detailed list with estimated cost of each item for materials, supplies, engineering, assaying, accounting, power, water, utilities, and any other items not provided for above.

10. (*a*) How much are you prepared to invest in the proposed project?

    (*b*) Is this amount sufficient to pay your part of the cost of the project, in accordance with the regulations on Government participation (Sec. 9 of MO–5)?

11. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

NAVAJO URANIUM COMPANY
(Name of company)

By J. R. Kennedy
(Signature of authorized official)

Oct 31, 1951.
(Date)

Vice-President & General Manager
(Title)

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—64067-2

October 30, 1951

APPLICATION FOR AID FOR AN EXPLORATION
PROJECT PURSUANT TO MINERAL ORDER 5,
UNDER DEFENSE PRODUCTION ACT OF 1950.

FORM MF-103

1. (a) The property included in this loan is approximately 3½ miles South of Cove Day School, Apache County, Arizona, on the Navajo Indian Reservation. See attached maps. The area to be explored includes 7,100 feet of ore rim on Mesa No. 1, as shown on attached map. An access road from Mesa No. 2 to Mesa No. 1½. This land is covered under Department of the Interior Leases, IND-8666 and IND-8667, and a mining permit issued to Dan Phillips dated October 31, 1950. See attached leases and permits.

(b) We are lessees of the property. See attached leases and assignments.

(c) For legal description of the property, we are submitting attached maps which are a part of the above mentioned leases.

(c) 1. 7,100 feet of ore rim along South side of Mesa No. 1 under Lease No. 8667.
(a) 3,100 feet along West rim of Mesa No. 1½ from Point C southerly through Point D, as shown on attached plat.
(b) Access road from point on No. 2 Mesa to Point B on Mesa No. 1½ as shown on attached plat - 9,000 feet.

2. The Chain of title to this property is as follows: Fee simple title rests in Navajo Indian Tribe; leases from Department of Interior to Dan Phillips and Kelsy Black; Assignments from Dan Phillips and Kelsy Black to F. A. Sitton; Assignments from F. A. Sitton to F. A. Sitton, Inc.; Name Change from F. A. Sitton, Inc. to Navajo Uranium Company.

(a) Mine permit from Navajo Tribal Council to Dan Phillips, duly countersigned by Area Director, which gives right to mine and remove ore for sale from the property with right to convert to mining lease if so desired. See attached copy of leases and assignments.

NAVAJO URANIUM COMPANY
P. O. BOX 608
CORTEZ, COLORADO

2. (a) We expect to find uranium and vanadium ores.

(b) The uranium and vanadium minerals occur in irregularly-shaped flat-lying bodies within sandstone beds of the lower or Salt Wash Member of the Morrison formation. The Morrison formation in this area has been cut by erosion into finger-like mesas jutting out from both east and west sides of the main and higher mass of the Lukachukai Mountains. Individual ore bodies are disconnected and are from 0 to 12 feet in thickness. The ore bodies range from one thousand to several thousand tons in size. In general the ore bodies are connected by thin streaks of mineralization. Over-burden above the ore horizon varies from zero on the rims of the mesas to about two hundred feet in the center of the mesas, and an average of about 800 feet under the top of the main mountain core. The area proposed for exploration has not been drilled behind the ore rim. The rims themselves are partially covered with talus and slump. We have prospected them and found various mineralized outcroppings that look very promising. Also in the area we propose to explore, we find numerous showings of float ore. Since the incidence of showing per feet of rim is unusually high in this area, and the fact that we have developed such good mines as a result of rim work in the past, we feel that the proposed exploration program as outlined in this application will undoubtedly uncover valuable deposits along this thick ore rim.

NAVAJO URANIUM COMPANY
P. O. BOX 608
CORTEZ, COLORADO

3. (a) As shown on the attached plat, we propose to begin at Point E, which is the end of the road on the ore level on the South side of the Mesa No. 1, then continue southeasterly along the base of the ore rim, exposing it with a bull dozer to Point E(1). At this point, there is a sheer cliff where the ore formation is exposed, and is not mineralized. We expect to by-pass this section by raising the grade of the road, as it would be useless to do this costly rock work where the formation is not mineralized. Then we expect to continue opening the rim from Point E(1) to Point F for a total distance from Point E(1) to Point F, of approximately 7,100 feet.

We also propose to drive four exploration drifts in from the rim 100 feet in length at the most promising showings uncovered along the rim. We expect to do this work with a slusher, if available, if not, hand work and wheel barrows. There are numerous indications along this rim which lead us to believe that we will uncover deposits of commercial ore. The area behind this rim has not been drilled.

Proposed exploration on Mesa No. 1½ will consist of an access road being built from Point A on existing road to Mesa No. 2 a distance of 7,500 feet to Point B, on Mesa No. 1½, which at this time is inaccessible for drilling or mining. From Point B we expect to expose the rim by bulldozing northerly to Point C, where excellent outcroppings are indicated, and southerly from Point B, to Point D. Total rim proposed to be exposed would be 3,100 feet. Much of this is covered by talus and slump. Along this rim we also propose to drive three 100-foot drifts in the most promising outcroppings exposed.

We estimate the total cost of the project to be $25,000.00. Our cost estimate on this work is based on past experience in doing similar work in the area, and from contractors' estimates on the road and rim work.

(b) The road and rim work can be started within ten days after contract is consummated, and completed in a minimum of sixty days and a maximum of ninety days. The drifting can be completed in from sixty to ninety days. We expect to work two shifts.

Navajo Uranium Company
P. O. Box 606
Cortez, Colorado

4. See Attached Map .

Navajo Uranium Company
P. O. Box 608
Cortez, Colorado

5. Existing facilities, buildings, etc. have been furnished on Form NF-100, and are adequate for maintenance of personnel and equipment for this operation. There will be no necessity for any rehabilitation or repairs.

NavajoUranium Company
P. O. Box 608
Cortez, Colorado

6. There will be no need for additional facilities, buildings, or installations for this proposed exploration work.

Navajo Uranium Company
P. O. Box 608
Cortez, Colorado

7. The following is a detailed list of operating equipment necessary for the proposed operation:

A. Rented Equipment.

1. 1 D-7 Bulldozer and blade, $12.00 per hour, with operator, fuel, insurance, all expenses inclusive. (This bulldozer work can also be contracted for at the rate of $4,000 per mile, including rock work, shooting, etc.)

2. 2 105 Cu. Ft. Compressors, $165.00 per month each.

3. 2 Jackhammers at $36.00 per month each.

4. 2 Air Feed Legs at $10.00 per month each.

5. 2 Air Slushers and buckets at $50.00 per month each.

6. 1 Pickup truck to service job and provide transportation at $6.00 per day.

B. Purchased Equipment.

1. 2 Powder bins with locks, tin tops, etc. $20.00 each.

2. 2 Cap and Fuse Boxes with lock, etc. $12.50 each.

3. 2 600 Gal. Water Tanks at $100.00 each.

4. 200' of ½" Water hose at $64.00.

5. 200' of 1" Air Hose at $220.00.

6. Necessary 1", 2", and 3/4" Pipe, estimated $250.00.

7. Small Tools estimated $100.00

C. Furnished by Company.

1. 1 800 Gal. Water Tank truck and driver at company cost, when necessary, estimated at $35.00 per day.

2. Engineering equipment, no charge.

3. Necessary wheel barrows, $2.00 per month each.

Navajo Uranium Company
P. O. Box 608
Cortez, Colorado

8. Schedule of Labor.

Classification	Number Needed	Wage Rate
Miners	8	$1.25 /Hr.
Muckers	16	$1.00/ Hr.
Shift Boss	1	$350.00/ Mo.
Engineer	1 (Part time)	$350.00/Mo.

Navajo Uranium Company
P. O. Box 608
Cortez, Colorado

9. Estimated Materials To be Supplied.

Item	Amount
Drill Steel	100' @ $1.00 per foot
Drill Bits	800 @ 25¢ each
Blasting Powder	7000 lbs. @ $17.00 per 100
Fuse	14,000' @ $11.25 per 1000
Caps	3,500 @ $1.55 per 100
Gasoline for Compressors	@ 26¢ per gal. $208.00
Lubricant	estimated $50.00
Portal Timber	25¢ Lineal foot delivered, estimated at $100.00
Accounting	estimated $50.00 per month
Housing	$1.00 per month per man
Utilities	No charge
Water	estimated $75.00 per month
Engineering	estimated $50.00 per month

Navajo Uranium Company
P. O. Box 608
Cortez, Colorado

10. (a) We are prepared to invest ten percent of the total cost, being $2,500.00.

(b) Yes.

Navajo Uranium Company
P. O. Box 608
Cortez, Colorado

11. There are no unusual operating or working conditions in the area. We operated all last winter without any undue hardships or extra costs.

FROM)

W. O. OLSON, Department of Interior)

TO)

MOLEY BLACK)

DATED DECEMBER 20th, 1950)

)

(SEAL) /s/ Natalia S. Farr
COUNTY RECORDER

Filed and recorded at the request of F. A. Sitton, on May 12th, 1950, at 2:00 o'clock P.M., in Book 3 of Mining Claims, page 623-624 Records of Apache County, Arizona.

NAVAJO URANIUM COMPANY
CORTEZ, COLORADO

Form 5-157b
(April 1940)

CONTRACT NO. I 149 IND. 8667

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF INDIAN AFFAIRS

BUREAU OF INDIAN AFFAIRS
RECEIVED
JAN 17, 1950
1127
Washington, D. C.

MINING LEASE - TRIBAL INDIAN LANDS
(For Minerals Other than Oil and Gas)

Navajo Tribe, State of Arizona

THIS INDENTURE OF LEASE, Made and entered into in quintuplicate this 20 day of December, 19 49, by and between Walter O. Olson, Acting, Superintendent of Window Rock, State of Arizona for and on behalf of the Navajo Tribe of Indians, designated herein as lessor, and Koley Black of Kayenta, State of Arizona herein designated as lessee:

WITNESSETH

1. That the Lessor, for and in consideration of $1, receipt whereof is hereby acknowledged, and of the royalties, covenants, stipulations, and conditions hereinafter contained and hereby agreed to be paid and observed by the lessee, doth hereby demise, grant, and lease unto the said lessee, the following-describedtract of land lying and being within the Navajo Reservation, County of Apache and State of Arizona, to-wit: (See Land Description Attached) of section _____, township _____, Range _____, _____ meridian, and containing 640 acres, more or less, for the full term of 10 years from the date of approval hereof, for the sole purpose of prospecting for and mining minerals, as follows: Vanadium-uranium, and/or other minerals.

NAVAJO URANIUM COMPANY
CORTEZ, COLORADO

the lessee to occupy so much only of the surface of said land as may be reasonably necessary to carry on the work of prospecting for, mining, milling, storing, and removing such minerals.

2. The term "Superintendent" as used herein shall refer to the superintendent or other official in charge of the Indian Agency having jurisdiction over the lands leased.

3. In consideration of the foregoing, the lessee hereby agrees:

(a) ROYALTY.- To pay, or cause to be paid, to the Superintendent, for the use and benefit of the lessor, or to the Treasurer of said Tribe where the tribe is organized under the act of June 18, 1934 (48 Stat.984), as royalties, the sums of money as follows, to-wit:*

See rider attached

All royalties accruing for any month shall be due and payable on or before the 25th day of the month succeeding.

(b) ANNUAL RENTAL.- To Pay, or cause to be paid, to the Superintendent for the use and benefit of the lessor, or to the Treasurer of said Tribe where the tribe is organized under the act of June 18, 1934 (48 Stat.984), in advance beginning with the date of approval of the lease, as annual rental, the following: 25 cents per acre for the first calendar year or fraction thereof, 50 cents per acre per annum for the second and third years, and $1 per acre per annum in advance for each and every calendar year thereafter during the continuance of the lease; it being understood and agreed that said sum so paid shall be a credit on the royalties accruing during the year for which the payment of annual rental is made, and that said annual rental when paid shall not be refunded to the lessee because of any subsequent surrender or cancelation hereof.

(c) DILIGENCE, PREVENTION OF WASTE.- To exercise diligence in the conduct of prospecting and mining operations; to carry on development and operations in a workmanlike manner and to the fullest possible extent; to commit no waste on the said land and to suffer none to be committed upon the portion in his occupancy or use; to comply with all the requirements of the laws of the State in which the land is located; to take appropriate steps for the preservation of the property and the health and safety of workmen; promptly to surrender and return the premises upon the termination of this lease to whomsoever shall be lawfully entitled thereto, in as good condition as received, excepting for the ordinary wear and tear and unavoidable accidents in their proper use; not to remove therefrom any buildings or permanent improvements erected thereon during the said term by the said lessee, but said buildings and improvements shall remain a part of said land and become the property of lessor, excepting the office fixtures and records, personal property, tools, pumping and drilling outfits, boilers, engines, and mining machinery, which shall remain the property of the lessee and may be removed at any time prior to 60 days after the termination of the lease by forfeiture or otherwise, provided the payments agreed upon by this lease have been made and the lease terms and regulations applicable thereto have been fully complied with, but not otherwise; not to permit any nuisance to be maintained on the premises under lessee's control, nor allow any intoxicating liquors to be sold or given away for any purpose on such premises; and not to use such premises for any other purposesthan those authorized in this lease.

(d) DEVELOPMENT.- The land described herein shall not be held by the lessee for speculative purposes, but in good faith for mining the minerals specified; and the failure by the lessee in the diligent development and continued operation of the mine or mines, except when operations may be interrupted by strikes, the elements, or casualties not attributable to the lessee, shall be held as a want of compliance with the purposes of this lease and shall render it subject to cancelation: PROVIDED, That whenever the Secretary of the Interior shall consider the marketing facilities inadequate or the economic conditions unsatisfactory, he may authorize the suspension of operations for such time as he may deem advisable, but such action will not release the lessee from the payment of the advance annual rental.

(e) MONTHLY STATEMENTS.- To keep an accurate account of all mining operations, showing the sales, prices, dates, purchasers, and the whole amount of minerals mined, the amount removed, and the gross receipts derived therefrom, and to furnish the Superintendent or the Treasurer of said Tribe is payments are made to him, sworn monthly reports thereon not later than the 25th of the succeeding month; and all sums due as royalty and advance

NAVAJO URANIUM COMPANY
CORTEZ, COLORADO

Rider to Contract No. I-149-IND-8667

Land Description:

Beginning at a monument approximately three and one half miles in a southerly direction from Government Day School in Cove and will run easterly approximately 1 mile, thence southerly approximately one half mile, thence westerly approximately 1 mile, thence northerly approximately one half mile to point of beginning, containing approximately 320 acres un unsurveyed country on Navajo Reservation, Apache County, Arizona, known as Cove No. 2, and

Beginning on the Southwest Corner of Cove No. 2 running in a southerly direction approximately two miles to a monument in District 11, thence approximately one half mile in a westerly direction, thence approximately one half mile in a southerly direction, thence approximately 1 mile in an easterly direction, thence one half mile in a northerly direction, thence one half mile westerly to point of beginning, containing approximately 320 acres in unsurveyed country on Navajo Reservation, Apache County, Arizona.

- - - - - - - - -

The lessee is required to have the leased premises surveyed by a registered land surveyor within six months after approval hereof, boundaries posted, and a tie established to the nearest public land survey corner. Surveyor should designate the approximate Section, Township and Range as per Gila and Salt River Meridian, Arizona, and furnish six certified copies of the survey plats to the General Superintendent at Window Rock, Arizona to be filed with the lease Contract.

Royalties:

Ten percent of the gross sale price of all mineral products recovered and sold except vanadium compounds which shall be subject to a royalty rate of 10% of the vanadium oxide or the equivalent in other compoinds contained in the ore, the minimum royalty to be not less than $1.00 per ton or ore milled on the leased land or shipped for milling or treatment elsewhere. The royalty payment for vanadium compounds shall be basedon values of ore in accordance with the payments and bonuses offered by the Atomic Energy Commission.

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The lessee shall employ Navajo labor in all positions for which they are qualified, including truck drivers, and the lessee shall protect the Indian grazing rights to the surface of the leased premises.

The lessee shall not discriminate against any employee or applicant for employment because of race, creed, color or national origin, and shall require an identical provision to be included in all subcontracts hereunder.

K.B.
W.O.O.

NAVAJO URANIUM COMPANY
CORTEZ, COLORADO

NAVAJO URANIUM COMPANY
CORTEZ, COLORADO

rental shall be a lien on all implements, tools, movable machinery, and all other personal chattels used in operation upon said property, and upon all of the unsold minerals obtained from the land herein leased, as security for payment of said sums. An audit of the lessee's accounts and books shall be made annually or at such times as may be directed by the Superintendent by certified public accountants approved by the Secretary of the Interior and at the expense of the lessee. The lessee shall furnish free of cost a copy of such audits to the Secretary of the Interior through the Superintendent within 30 days after the completion of each auditing.

(f) REGULATIONS.- To abide by and conform to any and all regulations of the Secretary of the Interior now or hereafter in force relative to such leases: PROVIDED, That no regulations hereafter approved shall effect a change in rate of royalty, the annual rental herein specified, or the term of this lease, without the written consent of the parties to this lease.

(g) ASSIGNMENT OF LEASE.- Not to assign this lease or any interest therein by an operating agreement or otherwise nor to sublet any portion of the leased premises, except with the approval of the Secretary of the Interior. If this lease is divided by the assignment of an entire interest in any part of it, each part shall be considered a separate lease underall the terms and conditions of the original lease.

(h) BOND.- To furnish such bond as may be required by the regulations of the Secretary of the Interior conditioned upon compliance with the terms of this lease.

4. MILLING.- All ores or minerals mined on said land shall be cleaned and prepared for market thereon, and no ore or crushed material shall be removed therefrom to be cleaned or prepared for market without the written consent of the Secretary of the Interior.

5. INSPECTION.- The leased premises and producing operations, improvements, machinery, and fixtures thereon and connected therewith and all books and accounts of the lessee shall be open at all times for inspection by agents of the lessor or any duly authorized representative of the Secretary of the Interior.

6.DISPOSITION OF SURFACE.- The lessor expressly reserves the right to lease, sell, or otherwise dispose of the surface of the lands embraced within this lease under existing law or laws hereafter enacted, such disposition to be subject at all times to the right of the lessee herein to the use of so much of said surface as is necessary in the extraction and removal of the minerals from the land herein described in accordance with this lease.

7. SURRENDER AND TERMINATION.- The lessee shall have the right at any time during the term hereof to surrender and terminate this lease or any part thereof upon the payment of all rentals, royalties, and other obligations due and payable to the lessor, and the further sum of $1, upon a showing satisfactory to theSecretary of the Interior that full provision has been made for the conservation and protection of the property, the lease to continue in full force and effect as to thelands not so surendered. If this lease has been recorded lessee shall file a recorded release with his application to the Superintendent for termination of this lease.

8. CANCELATION AND FORFEITURE-. When, in the opinion of the Secretary of the Interior, there has been a violation of any of the terms and conditions of this lease before restrictions are removed, the Secretary of the Interior shall have the right at any time after 30 days' notice to the lessee, specifying the terms and conditions violated, and after a hearing, if the lessee shall so request within 30 days of receipt of notice, to declare this lease null and void, and the lessor shall then be entitled and authorized to take immediate possession of the land.

9. HEIRS AND SUCCESSORS IN INTEREST.- It is further covenanted and agreed that each obligation hereunder shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors of, or assigns of the respective parties hereto.

10. GOVERNMENT EMPLOYEES CANNOT ACQUIRE LEASE.- No lease, assignment thereof, or interest therein will be approved to any employee or employees of the United States Government

whether connected with the Indian Service or otherwise, and no employee of the Interior Department shall be permitted to acquire any interest in such leases by ownership of stock in corporations having leases or in any other manner.

IN WITNESS WHEREOF, the said parties have hereunto subscribed their names and affixed their seals on the day and year first above mentioned.

Two witnesses to execution by lessor:

/s/ M. D. Long

P.O. Window Rock, Ariz.

/s/ Gertrude F. Shields

P. O. Window Rock, Ariz.

/s/ Walter O. Olson (seal)
Walter O. Olson
Acting, General Superintendent
(seal)

Two witnesses to execution by lessee:

/s/ Daniel S. Hayes

P.O. Monticello, Utah

Virginia Cash

P.O. Dove Creek, Colo.

/s/ Koley Black (Seal)
Koley Black

Attest:

ACKNOWLEDGEMENT OF LESSOR

STATE OF NEW MEXICO)
) ss:
COUNTY OF McKINLEY)

Before me, a notary public, on this 10 day of January, 19 50 personally appeared Walter O. Olson, to me known to be the identical person, who executed thewithin and foregoing lease, and acknowledged to me that he executed the same in his official capacity as Acting General Superintendent as free and voluntary act and deed for the uses and purposes therein set forth.

My commission expires: 7/22/51

/s/ Woodrow Nixzer
Notary Public

UNITED STATES DEPARTMENT OF THE INTERIOR

The within lease is hereby approved.

WASHINGTON, D. C. ,19

Filed for record this day of ,19 ,at o'clock M.

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
WASHINGTON 25, D. C.

APPROVED: Mar 23 1950
Sgd. H.M.Critchfield
Acting Commissioner of Indian Affairs

Rental received, $ 160.00

NAVAJO URANIUM COMPANY
CORTEZ, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
Office of Indian Affairs

CONTRACT NO.
I-149-IND-8667

ASSIGNMENT OF MINING LEASE

WHEREAS, the Secretary of the Interior has heretofore approved a vanadium-uranium mining lease, dated December 20, 1949, entered into by and between Walter O. Olson, Acting General Superintendent, Lessor, and Koley Black, lessee, covering the following-described lands in the Navajo Reservation in the State of Arizona, containing 640 acres as per description attached to the lease.

BUREAU OF INDIAN AFFAIRS
RECEIVED
JAN 17 1950
1127
Washington, D. C.

NOW THEREFORE, for and in consideration of One and no/100 . . . . . dollars ($1.00), the receipt of which is hereby acknowledged, the said Koley Black the owner of the above-described lease, hereby bargains, sells, transfers, assigns, and conveys a three-fourths right, title, and interest in and to said lease, subject to the approval of the Secretary of the Interior, to F. A. Sitton of Dove Creek, Colorado. Said assignment to be effective from date of approval hereby by the Secretary of the Interior.

IN WITNESS WHEREOF, the said assignor has hereunto set his hand and seal, this 20th day of December, 1949.

/s/ Koley Black
Koley Black

(Over)

NAVAJO URANIUM COMPANY
CORTEZ, COLORADO

ACKNOWLEDGEMENT OF CORPORATION

STATE OF _____)
COUNTY OF _____) ss:

Before me, a notary public, in and for said county and State on this ____ day of _____, 19___, personally appeared _____ to me known to be the identical person who subscribed the name of the maker thereof to the foregoing instrument as its _____ and acknowledged to me that he executed the same as his free and voluntary act and deed, and as the free and voluntary act and deed of such corporation, for the uses and purposes therein set forth.

My commission expires _____, 19___.

_____
Notary Public

ACKNOWLEDGEMENT OF INDIVIDUAL

STATE OF COLORADO)
COUNTY OF DOLORES) ss:

Before me, a notary public, in and for said county and State, on this 20th day of Dec., 19 49, personally appeared Koley Black, to me known to be the identical person who executed the within and foregoing instrument, and acknowledged to me that he executed the same as his free and voluntary act and deed for the uses and purposes therein set forth.

My commission expires May 20, 19 53

/s/ Margaret M. Hudson
Notary Public

ACCEPTANCE BY ASSIGNEE

The assignee in the above and foregoing assignment, made subject to the approval of the Secretary of the Interior, hereby accepts such assignment and agrees to fulfill all the obligations, conditions, and stipulations in said described indenture of lease, when assigned, and the rules and regulations of the Secretary of the Interior applicable thereto, and to furnish proper bond guaranteeing a faithful compliance with said lease and this agreement.

IN WITNESS WHEREOF, the said assignee has hereunto set his hand and seal this 20th day of Dec., 19 49.

/s/ F. A. Sitton
F.A.Sitton

CONSENT OF SURETY

The AETNA CASUALTY AND SURETY COMPANY, of Hartford, Connecticut surety for Kiley Black on the bond accompanying the lease above described, hereby consents to the assignment and transfer of said lease as above made and agrees that said bond shall remain in force and effect covering obligations of assignee.

Dated at Denver, Colorado this 30th day of December, 1949.

THE AETNA CASUALTY AND SURETY COMPANY
/s/ E. Yale Wiegardt
E. Yale Wiegardt, Attorney-In-Fact

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
WASHINGTON 25, D. C.
APPROVED: Mar 23 1950
SGD. H. M. CRITCHFIELD
Acting Commissioner of Indian Affairs

NAVAJO URANIUM COMPANY
CORTEZ, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Indian Affairs

CONTRACT NO.
I-149-Ind-8666

ASSIGNMENT OF MINING LEASE

WHEREAS, the Secretary of the Interior has heretofore approved a Vanadium-Uranium and/or other minerals mining lease, dated December 29 19 49, entered into by and between Walter O. Olsen, Acting General Superintendent, lessor, and Ben Phillips, lessee, covering the following-described lands in the Navajo Reservation in the State of Arizona, containing 640 acres, more particularly described in said lease,

BUREAU OF INDIAN AFFAIRS
RECEIVED
DEC 27 1950
Washington, D. C.

NOW, THEREFORE, for and in consideration of Ten and no/100 dollars ($ 10.00), the receipt of which is hereby acknowledged, the said F. A. Sitton to the extent of an undivided 1/4 interest therein, the owner of the above-described lease, hereby bargains, sells, transfers, assigns, and conveys A three-fourths (3/4) right, title, and interest in and to said lease, subject to the approval of the Secretary of the Interior, to F. A. Sitton, Inc. A Corporation, of Dove Creek, Colorado. Said assignment to be effective from date of approval hereby by the Secretary of the Interior.

IN WITNESS WHEREOF, the said assignor has hereunto set his hand and seal, this 30th day of November, 19 50.

/s/ F. A. Sitton
F. A. Sitton

16-11683-2

(OVER)

NAVAJO URANIUM COMPANY
CORTEZ, COLORADO

ACKNOWLEDGMENT OF CORPORATION

STATE OF _____)
COUNTY OF _____) ss

Before me, a notary public, in and for said county and State on this ____ day of _____, 19____, personally appeared _____ to me known to be the identical person who subscribed the name of the maker thereof to the foregoing instrument as its _____ and acknowledged to me that he executed the same as his free and voluntary act and deed, and as the free and voluntary act and deed of such corporation, for the uses and purposes therein set forth.

My commission expires _____, 19____.

_____
Notary Public

ACKNOWLEDGMENT OF INDIVIDUAL

STATE OF- DISTRICT OF COLUMBIA
COUNTY OF CITY OF WASHINGTON

Before me, a notary public, in and for said county and State, on this 30th day of November, 19 50, personally appeared F. A. Sitton to me known to be the identical person who executed the within and foregoing instrument, and acknowledged to me that he executed the same as his free and voluntary act and deed for the uses and purposes therein set forth.

/s/ Calvin Prince
Notary Public - D.C.
My commission expires April 1, 1955

My commission expires _____, 19____.

ACCEPTANCE BY ASSIGNEE

The assignee in the above and foregoing assignment, made subject to the approval of the Secretary of the Interior, hereby accepts such assignment and agrees to fulfill all the obligations, conditions, and stipulations in said described indenture of lease, when assigned, and the rules and regulations of the Secretary of the Interior applicable thereto, and to furnish proper bond guaranteeing a faithful compliance with said lease and this agreement.

IN WITNESS WHEREOF, the said assignee has hereunto set its hand and seal this 30th day of November, 19 50.

F. A. Sitton, Inc.
/s/ F. A. Sitton
By F. A. Sitton, President

CONSENT OF SURETY

THE The Aetna Casualty and Surety Company of Hartford, Connecticut, surety for F. A. Sitton, on the bond accompanying the lease above described, hereby consents to the assignment and transfer of said lease as above made and agrees that said bond shall remain in force and effect covering obligations of assignee.

Dated at Washington, D. C. this 1st day of December, 19 50.

The Aetna Casualty and Surety Company
By/s/E. S. Foster,
E. S. Foster, Attorney-in-Fact

UNITED STATES
DEPARTMENT OF THE INTERIOR

WASHINGTON, D. C., JAN - 8 1951
Approved:
Sgd: H.M.Critchfield
Acting Commissioner of Indian Affairs

NAVAJO URANIUM COMPANY
CORTEZ, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
NAVAJO SERVICE
WINDOW ROCK, ARIZONA

NAVAJO URANIUM COMPANY
CORTEZ, COLORADO

September 29, 1950
Date

MINING PERMIT --- TRIBAL INDIAN LANDS
NAVAJO TRIBE, STATE OF ARIZONA

Pursuant to authority granted by the Navajo Tribal Council by Resolution No. CD-2-48, dated December 8, 1948, approved by the commissioner of Indian Affairs on March 25, 1949 (Land: Minerals 24504-48) PERMISSION is hereby granted to Dan Phillips, Census No. _____, a Navajo Indian of Dove Creek, Colorado., to prospect for, mine, and remove minerals from tribal lands of the Navajo Indian Reservation, in the County of Apache, State of Arizona, and described as follows: Beginning at a point approx.3 1/2 miles southerly from the Cove Day School running easterly approx. 1/4 mile, thence southerly one mile, thence westerly three fourths mile, thence northerly one half mile, thence easterly one half mile, thence northerly one half mile to point of beginning, containing 320 acres. This acreage adjoins on the south easterly side of north portion of Koley Black's lease #8667.

for the full term of two years from date hereof, for the sole purpose of prospecting for and mining of minerals as follows:

Vanadium-Uranium, and/or other minerals.

the Permittee to occupy so much of the surface of said land as may be reasonably necessary to carry on the work of prospecting for, mining, milling, storing, and removing such minerals.

PROVIDED, however, that any Navajo who conducts development operations under a permit may at his option apply for a lease before the expiration of the two year period, or at the expiration of the two year period he may apply for an extension of his permit for an additional two year term, and the Advisory Committee may approve any such application if in its opinion the applicant has worked and is continuing to work in good faith in the development of the mining operation.

1. In consideration of the foregoing, the Permittee hereby agrees:

(a) Royalty - To pay, or cause to be paid, to the General Superintendent, for deposit to the Navajo Tribal Fund, as royalties, the sums of money as follows, to wit:

Ten Percent (10%) of the gross sale price of all minerals recovered and sold.

All royalties accruing for any month shall be due and payable on or before the 25th day of the month succeeding.

(b) DILIGENCE, PREVENTION OF WASTE. To exercise diligence in the conduct of prospecting and mining operations; to carry on development and operations in a workmanlike manner and to the fullest possible extent; to commit no waste on the said land and to suffer none to be committed upon the portion in his occupancy use; to comply with all the requirements of the laws of the State in which the land is located; to take appropriate steps for the preservation of the property and the health and safety of workmen; promptly to surrender and return the premises upon the termination of this permit to whomsoever shall be lawfully entitled thereto, in as good condition as received, excepting for the ordinary wear and tear and unavoidable accidents in their proper use; all buildings and improvements shall remain the property of the permittee and may be removed at any time prior to 60 days after the termination of the permit by forfeiture or other wise, provided the payments agreed upon by this permit have been made and the permit terms and regulations applicable thereto have been fully complied with, but not otherwise; not to permit any nuisance to be maintained on the premises under permittee's control, nor allow any intoxicating liquors to be sold or given away for any purpose on such premises; and not to use such premises for any other purposes than those authorized in this permit.

(c) DEVELOPMENT. The land described herein shall not be held by the permittee for speculative purposes, but in good faith for mining the minerals specified; and the failure by the permittee in the diligent development and continued operation of the mine or mines, except when operations may be interrupted by strikes, the elements, or casualties not attributable to the permittee, shall be held as a want of compliance with the purposes of this permit and shall render it subject to revocation at the discretion of the General Superintendent: Provided, that whenever the General Superintendent shall consider the marketing facilities inadequate or the economic conditions unsatisfactory, he may authorize the suspension of operations for such time as he may deem advisable.

(d) MONTHLY STATEMENTS. To keep an accurate account of all mining operations, showing the sales, prices, dates, purchasers, and the whole amount of minerals mined, the amount removed, and the gross receipts derived therefrom, and to furnish the General Superintendent sworn monthly reports thereon not later than the 25th of the succeeding month; and all sums due as royalty shall be a lien on all implements, tools, removable machinery, and all other personal chattels used in operation upon said property, and upon all of the unsold minerals obtained from the land herein, as security for payment of said sums.

(e) REGULATIONS. To abide by and conform to any and all regulations of the Secretary of the Interior now or hereafter in force relative to such permits; Provided, that no regulations hereafter approved shall effect a change in rate of royalty, or the term of this permit, without written consent of the parties to this permit.

(f) ASSIGNMENT OF PERMIT. Not to assign this permit or any interest therein by an operating agreement or otherwise nor to sublet any portion of the leased premises.

2. INSPECTION. The permitted premises and producing operations, improvements, machinery and fixtures thereon and connected therewith shall be open at all times for inspection by the General Superintendent or his authorized representative.

3. SURRENDER AND TERMINATION. The permittee shall have the right at any time during the term hereof to surrender and terminate this permit or any part thereof upon the payment of all royalties due the Navajo Tribe, and any other obligations that may be due and payable to the Navajo Tribe, Provided, that the permittee has complied with all instructions regarding conservation and protection of the property.

4. CANCELLATION AND FORFEITURE. When, in the opinion of the General Superintendent, there has been a violation of any of the terms and conditions of this permit, the General Superintendent shall have the right at any time after 30 days notice to thepermittee, specifying the terms and conditions violated, and after a hearing, if the permittee shall so request within 30 days of receipt of notice, to declare this permit null and void, and if any royalties or other obligations are due the Navajo Tribe, to take appropriate action to see that such obligations are fulfilled.

Approval Recommended

Date 9-29-50

/s/ Sam Ahkeah.
Chairman
Navajo Tribal Council

/s/ Zhealy Tso
Vice-Chairman
Navajo Tribal Council

I hereby accept the foregoing permit and agree to abide by all its terms and conditions.

/s/ Dan Phillips
Permittee

Approved: October 31, 1950
Date

/s/ Allan G. Harper
General Superintendent

Form MF-100
(May 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA
FOR USE UNDER THE
DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. D-M.A. 2232

Date received 11-15-51

NAVAJO URANIUM COMPANY
P. O. BOX 608
CORTEZ, COLORADO

Name and address of applicant

Date Oct 31, 1951

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (5) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).
   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - ☐ Owner.
   - ☑ Lessee.
   - ☐ Contractor.
5. Number of years in production _____
   If not in production or operation, estimated date when production will begin _____
6. Experience of operators:
   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

DEFENSE MINERALS ADMINISTRATION WASH. 25, D.C.

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation: Common (e)	Number of Shares Held in Applicant Corporation: Preferred (f)	Life Insurance Carried for Benefit of Applicant: Amount (g)	Life Insurance Carried for Benefit of Applicant: Net Cash Surrender Value After Loans (h)
R. O. Dulaney, Jr.	President D	None	100,000.00	238		None	
G. R. Kennedy	V.Pres. D	$4,800.00	25,000.00	83		None	
Edmund Key III	Sec.Treas. D	NONE	100,000.00	154		None	
Jack Blalock, Trustee	Trustee	None	100,000.00	25		None	
	Total	4800.00	x x x x x	500		x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$50,000.00	$ 50,000.00	$ 100.00	500	None
Preferred stock None	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.) short tons	Uranium Vanadium	None	None	2672	1200 Tons
2. Quantity of product processed (specify unit of measure and type of process)	None	None	None	None	None
3. Quantity and grade of product sold or shipped (specify units of measure)	Uranium Vanadium	None	None	2672 tons 0.266 U_3O_8 1.01 V_2O_5	1200 sh.Tons 0.45 U_3O_8 1.60 V_2O_5

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

(*b*) If deposit is other than placer:

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)					
Indicated (probable)					

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, even or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads:

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply:

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power:

State amount of power used, rate per hour, and source thereof.

16. Labor:

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities:

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

NAVAJO URANIUM COMPANY
(Name of company)

By J. R. Kennedy
(Signature of authorized official)

~~September 27, 1951~~ Oct. 31, 1951
(Date)

V. P. & Gen. Mgr.
(Title)

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—63792-1

NAVAJO URANIUM COMPANY
CORTEZ, COLORADO
P. O. Box 608

September 27, 1951

GENERAL TECHNICAL DATA FOR USE UNDER THE
DEFENSE PRODUCTION ACT OF 1950

1. (a) Mines producing Uranium and Vanadium.

(b) No by-products

2. The Company operates the Cove group of mines, which consist of 15 open cuts and adit type operations plus numerous prospects. Eight of these mines are now in operation.

Extent of Workings:

(a) No shafts.
(b)(c) 2,300 feet of adits, drifts, and crosscuts.
(d) 4,200 feet of 20-foot-wide open cuts.

The mines are not flooded nor is pumping required. Monthly production from these mines is now near 1,000 tons and an increase to 2,000 tons per month in the near future is anticipated.

3. (a) Mines are 45 miles west and south of Shiprock, New Mexico; 65 miles south and west of Cortez, Colorado, and 70 miles west of Farmington, New Mexico, the two supply centers.

(b) Lukachukai Mining District.

(c) Unsurveyed portion of Navajo Indian Reservation.

(d) Apache County, Arizona.

4. (a) Property now operated by Navajo Uranium Company (formerly F. A. Sitton, Inc.)

(b) Lessee. (Lessor, Navajo Tribe through lease from Department of Interior)

Navajo Uranium Company
P. O. Box 608
Cortez, Colorado

5. In production sixteen months.

6. (a) Navajo Uranium Company, successor to F. A. Sitton, Inc., has been in business approximately eighteen months. The Company was formed specifically to operate and develop the property on the Navajo Indian Reservation.

(b) R. O. Dulaney, Jr., President of the company, has been associated for several years with his father in the operation and management of Dulaney Mining Company, which operates one of the largest independent group of uranium mines on the Colorado Plateau. Prior to this time, Mr. Dulaney, a southwestern aviation sales representative for the Texas Company, managed and developed a 4,000 acre irrigated farm in the Rio Grande valley. From 1940 to 1946, he was a line-officer in the United States Air Corp, going into inactive status as Lt. Colonel, now holding the rank of full Colonel in the U.S.Air Corp Reserve as a flying officer.

G. R. Kennedy, Vice-President and General Manager, is a graduate geologist and has spent most of his life in the oil business, first as an employee of the Magnolia Petroleum Company as a geologist and a geophysicist, petroleum and pipe line engineer, and later as a successful independent producer. Prior to his employ by the Magnolia Petroleum Company, he was general superintendent for W. T. Montgomery Construction Company, San Antonio, Texas, in charge of various rock quarries and gravel pits, and in railroad and bridge construction work. Mr. Kennedy has been in the uranium mining business since October, 1949.

Mr. Edmund Key III, Secretary-Treasurer of the company, is a graduate petroleum engineer and spent several years in the field as a reservoir engineer with Standoline Oil and Gas Company. Mr. Key's father, Edmund Key II, is also one of the principal stockholders in this Company, and is a well known banker and industrialist of Marshall, Texas.

W. E. Janakka, Mine Superintendent, in charge of all field operations, is a graduate of Colorado School of Mines, with nineteen years experience in the mining industry, both in Canada and the United States. Prior to his employ by Navajo Uranium Company, he was employed by United States Vanadium Company as engineer, and is thoroughly familiar with the problems of uranium mining.

Navajo Uranium Company
P. O. Box 608
Cortez, Colorado

7. (a) Surface exploration of this property was begun in the summer of 1949 by prospectors in the employ of F. A. Sitton. A great number of promising uranium-bearing outcrops were discovered in the Salt Wash Member of the Morrison formation at an elevation of approximately 7,200 feet. Subsequently mining permits andleases were obtained from the Navajo Tribe and the Department of the Interior, and actual development ofthe property began in May of 1950. An access road from the floor of the valley to the ore horizon was built to that part of the property commonly designated as Mesa No. 1. The ore rim was exposed by bulldozer work in several places and a few short drifts were driven into the ore horizon. Approximately 1100 tons of ore (high-grade uranium) was produced and sold during the months of May, June, and July. During the latter part of August, 1950, the Atomic Energy Commission became interested in the area and almost immediately decided on an extensive diamond drilling campaign, which was initiated in the latter part of September, 1950, and carried on until about January 15, 1951. F. A. Sitton, Inc., now Navajo Uranium Company, built access roads to three other mesas, namely Mesa No. 2, No. 3, and No. 4, to enable the Atomic Energy Commission, through its diamond drilling contractors, to carry on their drilling program. During this time, the company, by bulldozer work, opened up approximately 5,000 feet of rim. From this work, twelve open-cut mining operations were developed. All of the present ore bodies now being mined underground are a result of discoveries made by open cut exploration of the rim.

Underground operations were started about May 1, 1951. The Atomic Energy Commission by contractor has drilled approximately 300 holes from the surface through the known ore bearing sandstone horizons. The claims have produced approximately 10,500 tons of ore to date and are now producing at a rate of approximately 1200 tons per month.

(b) The one neighboring mine that is in the immediate vicinity is leased by Frank Nacheen Betah and operated by Climax Uranium Company and has been in production since June, 1951, producing a total of approximately 1500 tons. However the Oak Springs (Carrizo Mountain) and the Cove Mesa area, which are producing from the same geological section and are from 7 to 15 miles distant, have been in production 7 or 8 years and have produced a large tonnage of ore, the exact amount being considered classified information by the Atomic Energy Commission.

Navajo Uranium Company
P. O. Box 608
Cortez, Colorado

(c) Examination and exploration reports on this property have been made by personnel of the Grand Junction officeof the Atomic Energy Commission and will no doubt be made available to you. Tonnage and grade figures can also be checked with the Atomic Energy Commission.

8. See Page 2, Form MF-100.

9. See Page 2, Form MF-100.

10. See Page 2, Form MF-100.

11. The Company expects to increase production to 2,000 tons per month, as more mines are opened up and by mechanizing the mining operations. This increase is to be effected when sampling plant and purchasing depot is built at Shiprock, New Mexico, which will enable the Company to create and maintain a stock pile for our uranium processing mill that the Company is planning to bould. Construction work on the Sampling Plant has been started and we expect to complete same by November 15th at an estimated cost of $70,000.00.

12. (a) Ore in this area occurs in three different horizons of the Morrison formation. The exact size of these lenses is undetermined as yet. None of them have been exposed to their total extent along the rim nor mined out underground. The thickness varies from 2 to 20 feet. The lenses are highly cross-bedded. Mineralization is very erratic and unpredictable. Diamond drilling has been done on such wide spacing that it is impossible to make any intelligent estimate of the reserves from this information. The Company does not have any private geological or ore reserve report. The best information available is that currently being completed by the Atomic Energy Commission, which is classified, but will probably be made available to the Defense Minerals Administration employees. Estimates on reserves on our leased properties vary from 250,000 tons to 1,000,000 tons. These estimates were made by experienced geologists and mining engineers, and are based on past recoveries of ore deposits with similar nature under comparable conditions in other places on the Colorado Plateau.

(b) 1. There are no assay plans or sections available.

2. As stated above in 12 (a), we do not have any reliable reserve estimates as to quantity or quality. However, our experience has shown that as the mine progresses underground away from the weathered zone, both the grade of the U_3O_8 and of the V_2O_5 increases.

Navajo Uranium Company
P. O. Box 608
Cortez, Colorado

13. The mines are located 38 miles from Highway #666, 24 miles over well-graded road to Red Rock, Arizona, and 14 miles over poorly graded road to the mines. These are all weather roads due to the sandy condition of the soil and for the last sixteen months operation no time was lost due to the road conditions. Appropriations have been made by the Bureau of Public Roads to improve and black-top this road some time in the near future. Supplies are delivered to the mine by ore trucks on backhaul, and gasoline and diesel fuel are delivered directly by oil companies to our tanks. Motor freight lines deliver our freight to Shiprock, New Mexico, 45 miles from the mine. The mine is connected to our Cortez office by short-wave FM radio communication, 24 hour service.

14. Water is obtained from near-by springs, confined in concrete dams and is more than sufficient for year-round use for diamond drilling, mining and domestic purposes.

15. All compressors are driven by internal combustion engines, both diesel and gasoline. One shuttle car (electric) is driven by a 10 KW diesel generator set. Camp lights and so forth are furnished by a 5 KW gasoline power unit.

16. We are now employing 12 miners, 22 muckers, 3 shift bosses, 1 forman, 1 mechanic, 1 bulldozer operator, 2 loader operators, 1 Superintendent-Mining Engineer, operating two shifts.

17. 10 - 1-room houses
1 - warehouse
1 - office
1 - Compressor house
1 - Generator Building
1 - Lamp House
1 - Electric Shuttle Car
1 - Assay house
1 - Light Plant, 5 KW
1 - 10 KW Diesel generator set
2 - HD-5 Allis Chalmers Tractor Loaders
1 - TD-14 International Harvester Tractor with bulldozer attached
6 - 105 c.f.m. gasoline-engine driven compressors
1 - 210 c.f.m. diesel-engine driven compressor.
1 - Pump, 1" delivery
8 - 1-Ton mine cars

Navajo Uranium Company
P. O. Box 608
Cortez, Colorado

17. (Cont.)

6 - 600-Gal. water tanks
2 - 1000 Gal. water tanks
2 - 2000 Gal. fuel tanks
3 - ½ Ton Pickup trucks
1 - Universal Jeep
2 - 6 X 6 ore and water hauling trucks
1 - 3/4-Ton weapons carrier
1 - Portable gasoline-engine powered saw
10 - Jackhammers and accessories
10 - Air feed legs
1 - Universal Tramaire
Miscellaneous shop equipment

All equipment in good condition.

18. There are no abnormal conditions or circumstances affecting these operations. During the last year, we have had no shut-downs due to weather nor for any other cause, nor do we expect any.

NAVAJO URANIUM COMPANY
CORTEZ, COLORADO

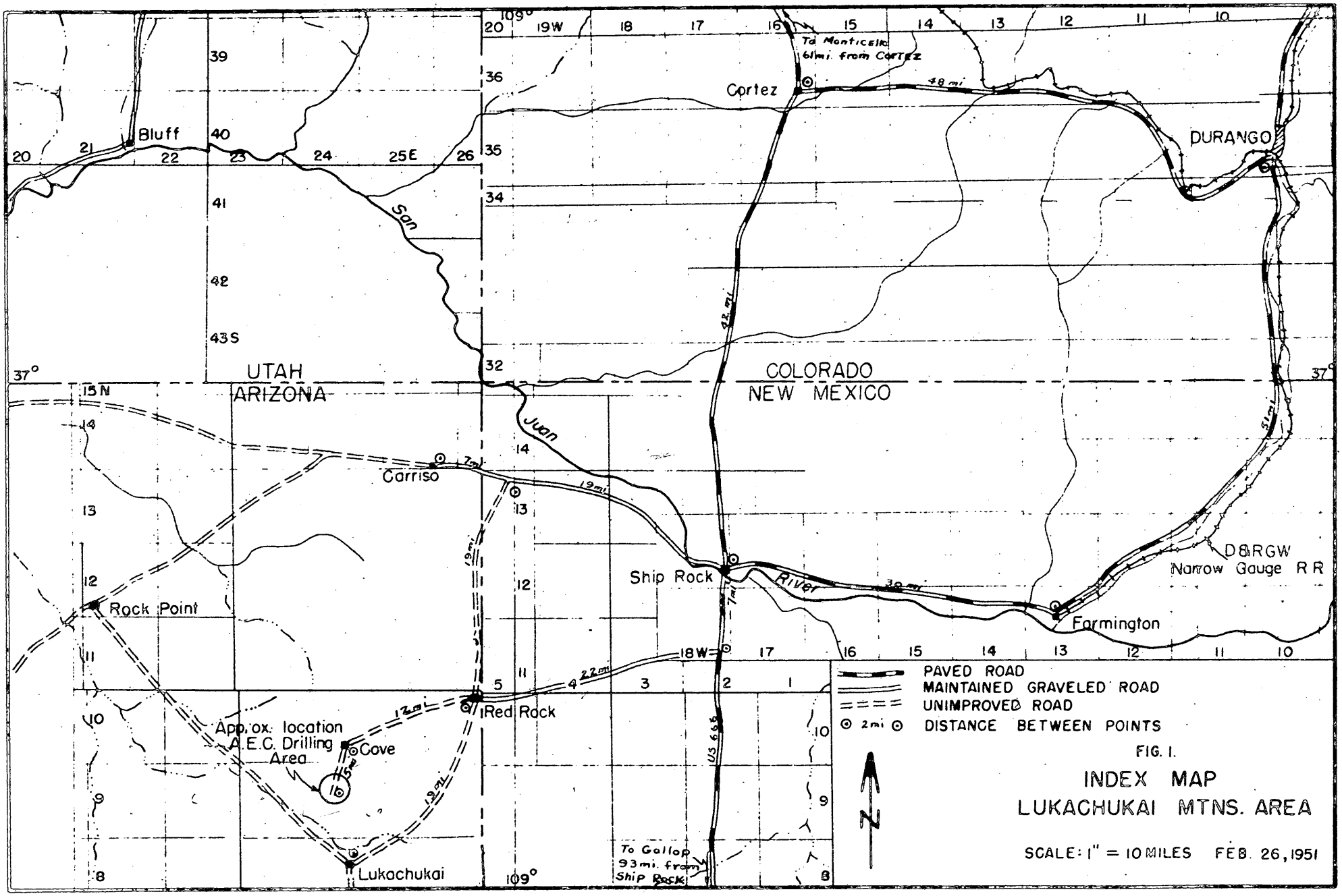
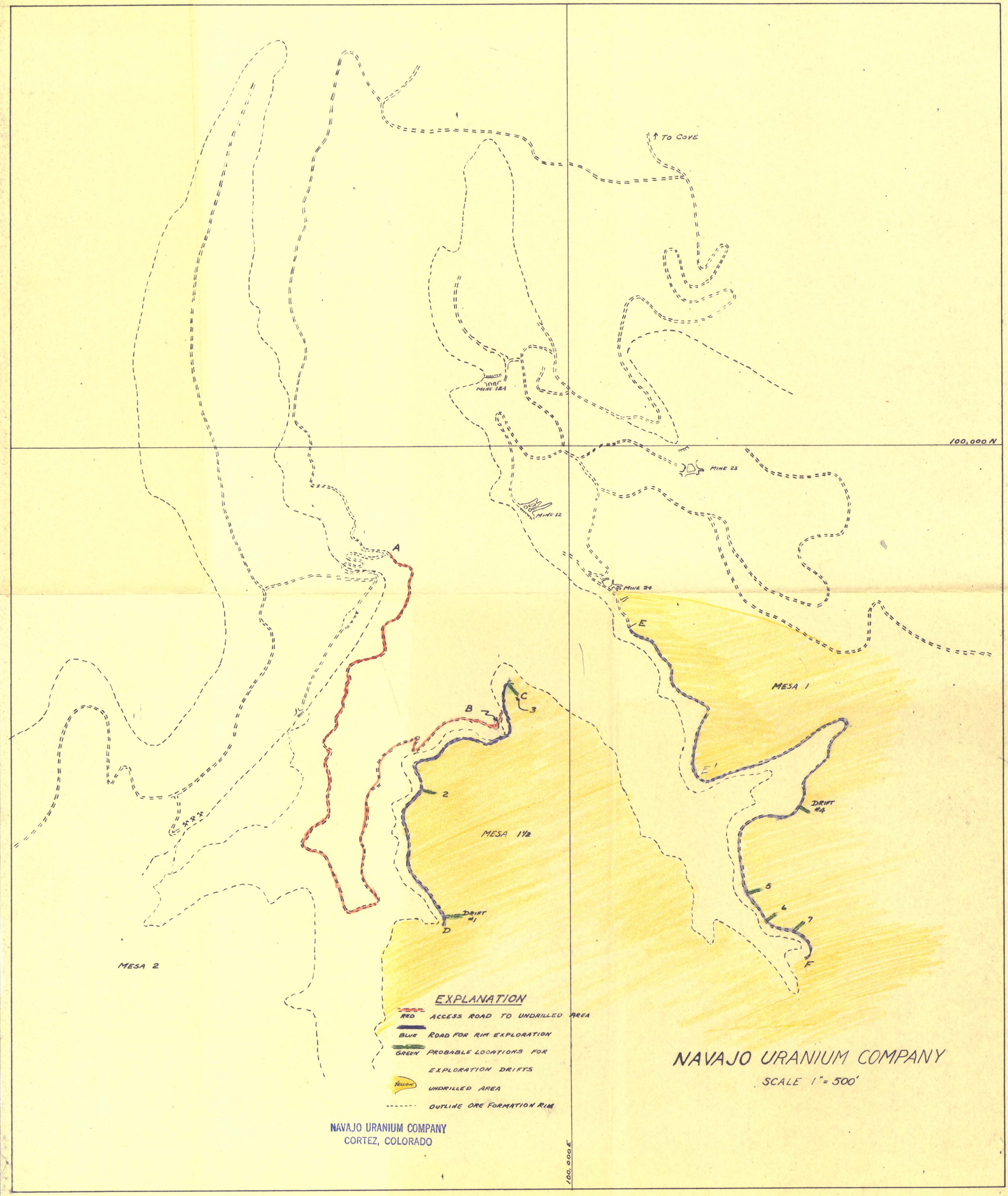


FIG. I.

INDEX MAP
LUKACHUKAI MTNS. AREA

SCALE: 1" = 10 MILES FEB. 26, 1951


TO COVE
MINE 12A
100,000 N
MINE 23
MINE 12
A
MINE 24
E
MESA 1
C
3
B
2
E'
2
DRIFT #4
MESA 1½
5
6
7
DRIFT #1
D
F
MESA 2
EXPLANATION
RED ACCESS ROAD TO UNDRILLED AREA
BLUE ROAD FOR RIM EXPLORATION
GREEN PROBABLE LOCATIONS FOR EXPLORATION DRIFTS
YELLOW UNDRILLED AREA
OUTLINE ORE FORMATION RIM
NAVAJO URANIUM COMPANY
CORTEZ, COLORADO
100,000 E
NAVAJO URANIUM COMPANY
SCALE 1" = 500'

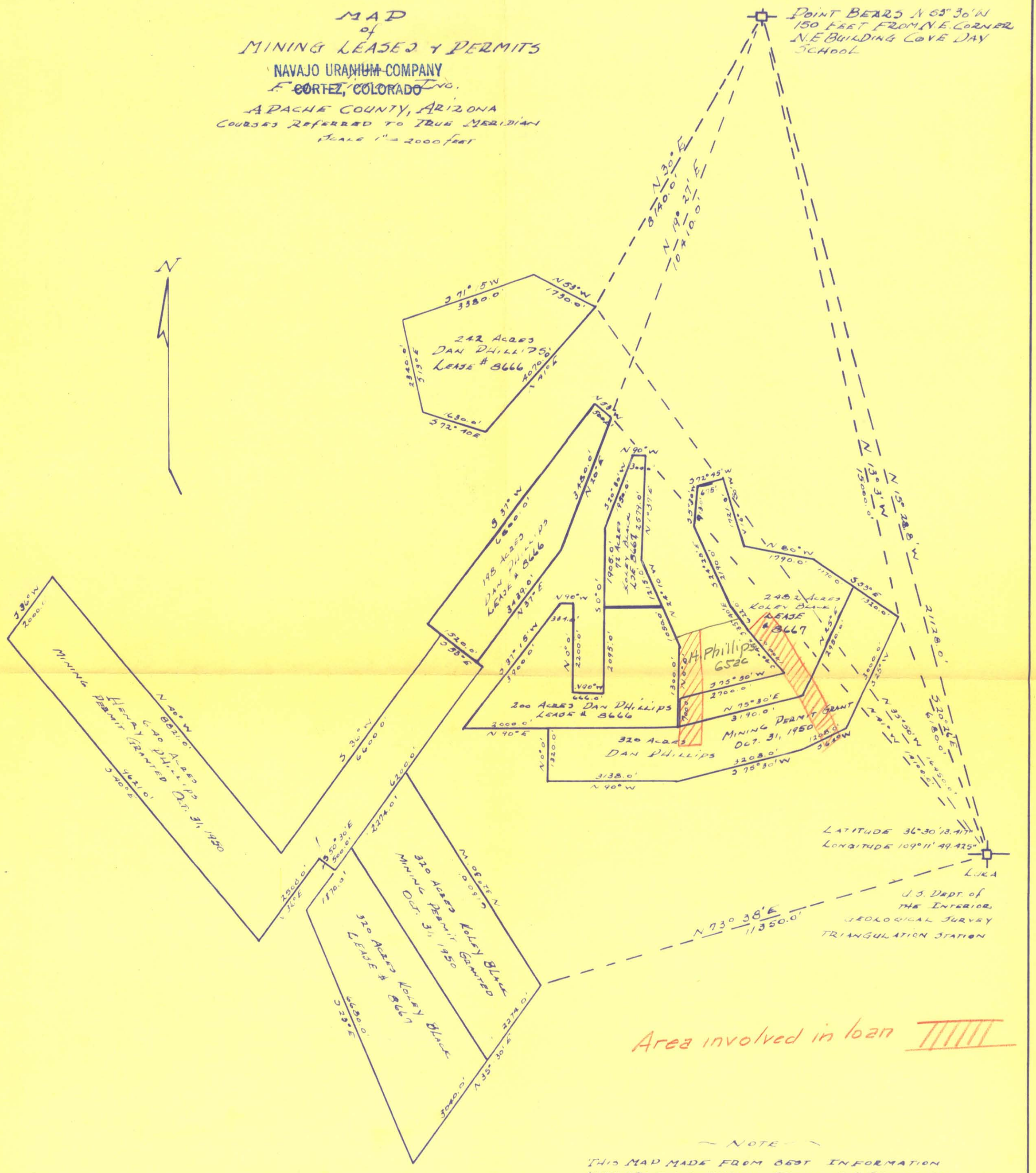
MAP of MINING LEASES & PERMITS

NAVAJO URANIUM COMPANY
~~CORTEZ, COLORADO~~ INC.

APACHE COUNTY, ARIZONA

COURSES REFERRED TO TRUE MERIDIAN

SCALE 1" = 2000 feet



— NOTE —

THIS MAP MADE FROM BEST INFORMATION AVAILABLE U.S. INDIAN SERVICE, U.S. GEOLOGICAL SURVEY, STATE AND COUNTY RECORDS.
THE TERRITORY SHOWN ON THIS MAP LIES IN UN-SURVEYED PORTION OF NAVAJO INDIAN RESERVATION APACHE COUNTY, ARIZONA

Thomas L. Kipp
ENGINEER & SURVEYOR

THIS SURVEY MADE SEPTEMBER 1950
REVISED NOV. 8, 1950

NAVAJO URANIUM COMPANY
CORTEZ, COLORADO