IMEA Form 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

IMEA NO. 4740

Application (Denied
(Withdrawn
(After disposition, delete items not applicable)

Contract (Terminated - not Certified
(Cancelled
(Terminated - Certified
(Royalty Agreement

This is the official contract file containing all official records of the project. The records contained in the files are checked and are arranged in this order:

Left Side

Interim Royalty Audits
Reports of Royalty Review
Certification of Discovery
Certificate of Audit (Final)
Interim Audit(s)
Report of Review
Termination Notice or Agreement
Recision Notice
Assignment of Contract
Contract Amendments (latest on top)
Contract with all exhibits and annexes
Owner's Consent to Lien
Subordination Agreement
✓ Leases and assignments of leases
✓ Application and attachments
(3) Envelope for maps

Right Side

Project summary
Work completed analysis
All other material is filed in chronological order with correspondence including the following reports as checked:

Final Field Team Report (Tab)
Operator's Final Report
(2R) Interim Reports
(2R) Operator's monthly reports and all attachments (latest on top)
✓ On-site Exam Report(s) (Tab)
(4) Settlement Sheets

When the volume of records is expected to warrant additional folders, or when convenience of reference warrants separate folders for certain records, they should be set up in this order:

Left Side

Folder No. 2: (In chron. order)
Interim Summary Reports by W. O. Engineers

Right Side

Operator's Semi-Annual Report for Certified Project, Field Team Interim Reports, Operator's Monthly Report with transmittal, narrative, maps, and Field Team review.

Folder No. 3: Maps (Use pocket folder or envelope. Fold maps with title block out and show reference to related document or correspondence.)

Folder No. 4: Settlement Sheets

Folder No. 5: Drill Logs

9774

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 8 1957

DATE	INITIALS	CODE

May 6, 1957

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Application for DMEA Aid, (Uranium), Sodak Uranium and Mining Co., Inc. (T 36 N, R 73 W, Sec. 16; T 36 N, R 72 W, Sec. 36; T 35 N, R 72 W, NE¼, Sec 1) Converse County, Wyo.

Enclosed are the original and 2 copies of the subject application. One copy of the application is being retained in our file.

The Applicant proposes to explore a mineralized target area by 25,410 feet of air drilling at a total estimated project cost of $14,260.40. No drilling bids were submitted with the application.

The Applicant provides no tangible justification for an exploration project; however, the USGS has mapped the area and so might be in a position to comment on the feasibility of the proposed project.

If field referral is indicated, please loan us the copy of the Uranium Mining Lease enclosed only with the original of the application.

E. N. Harshman

E. N. Harshman
Acting Executive Officer

Encls.

ME-108
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

DMEA

RECEIVED MAY 8 1957 DMEA

DEPARTMENT OF THE INTERIOR
MAY 3 - 1957
REGION III
DENVER, COLORADO

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

Not to be filled in by applicant

Docket No. 4740
Metal or Mineral URANIUM
Date Received 5-8-57
Estimated Cost $14,260.40
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: Sodak Uranium and Mining Company, Inc.
Evans Hotel Annex
Hot Springs, S. D.

(*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. Delaware

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

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

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

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

(*b*) State any mine name by which the property is known. None

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

(*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. Enclosed

(*e*) If you own the land, describe any liens or encumbrances on it

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

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

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

(*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. See enclosed geologic report.

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

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

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

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

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

(*d*) State the operating experience and background of the applicant with relation to See attached sheet each exploration project, and also that of the person or persons who will supervise the operations.

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

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

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

(*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. Vehicle for geologist, see report

(*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. See report

(*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. See report

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? Yes

[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 5-1-, 1957

SODAK URANIUM AND MINING CO., INC.
HOTEL EVANS ANNEX
HOT SPRINGS, SOUTH DAKOTA

(Applicant)

By C. F. Boyle
President

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

SODAK URANIUM AND MINING CO., INC.
HOTEL EVANS ANNEX
HOT SPRINGS, SOUTH DAKOTA

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DMEA
RECEIVED MAY 8 1957

DATE	INITIALS	CODE

1.

(a) SODAK URANIUM AND MINING COMPANY, INC.
HOTEL EVANS ANNEX
HOT SPRINGS, SOUTH DAKOTA

(b) Delaware

(c) President Clyde R. Boyle, Hot Springs, So. Dak.
Vice-Pres. W. E. Haldane, Grand Junction, Colo.
Sec.-Treas. Paul H. Russell, Edgemont, So. Dak.

2. DMEA Order 1, This has been read by applicant.

3.

(a) The property covered by this investigation comprises a total of + 1440 acres and lies wholly in Converse County, Wyoming as described below;

Section 16, Township 36 North, Range 73 West
Section 36, Township 36 North, Range 72 West
NE¼ Section 1 Township 35 North, Range 72 West

The nearest town is Douglas, Wyo. which lies 29 and 25 miles respectively south of the properties. The site of the nearest uranium ore processing mill and buying station is located approximately 170 miles north-eastward in Edgemont, South Dakota. Road conditions to Douglas are good when dry and from Douglas to Edgemont are paved state highways.

(b) None

(c) Lessee

Mineral rights are owned entirely by the State Of Wyoming and the leases were assigned to Sodak on 3/3/56 by Messrs. Haley, Rock and Clark. Annual rental is 25 cents per acre and is due 6/15/57. All leases expire May 15, 1965. Royalties on section 16, T. 36N, R. 73W, Converse Co., Wyo. include 5% to the State of Wyo., 2½% to Wm. F. Haley, Rapid City, So. Dak., 2½% to Erving Wolfe, Cheyenne, Wyo. for a total of 10%.
The royalties on Sec. 36, T. 36N, R. 72W and the NE¼ of Sec. 1, T. 35N, R. 72W include 5% to the State of Wyo., 5% to Wm. F. Haley, Rapid City, S. D., 2½% to Erving Wolfe, Cheyenne, Wyo. and 3% to Mortons Inc., Douglas, Wyo. for a total of 15½%.

(d) Enclosed

(e,f) Do not apply.

4

(a) On the extreme west side of the NE¼ of Sec. 1, T. 35N, R. 72W a small pit was opened up by the Pumpkin Buttes Uranium Co. in 1955. From this pit two truckloads averaging about 12 tons each were shipped to the buying station in Edgemont, So. Dak. The first assayed 0.13% U_3O_8 and the second 0.39% U_3O_8. In addition 1100 tons of mineralized sandstone (0.03% U_3O_8) were stockpiled.
Production ceased because the uranium mineralization trended into the NW¼ of Sec. 1 which was not owned by that company. This open pit is easily accessable by any type of vehicle in dry weather for examination purposes.

SODAK URANIUM AND MINING CO., INC.
HOTEL EVANS ANNEX
HOT SPRINGS, SOUTH DAKOTA

(b) Production from Sec. 1, T. 55N., R. 72.
12 tons 0.15% U.O., 12 tons 0.59% U.O.
Ore reserves as indicated in this pit-fill
There has been no production from either Sec. 13, T. 55N., R. 73W or Sec. 36, T. 56N., R. 72W.

(c) See attached geologic report.

(d) See attached geologic report.

(e) Manpower, materials, supplies and equipment are all readily available. Power is not needed as all units will be self powered. All drilling will be with air and therefore water is not necessary.

5.

(a) Exploration will be for Uranium ore.

(b) Included in attached report.

(c) The work will start within 30 days and be completed within 4 months.

(d) Sodak Uranium and Mining Co., Inc. has been operating in this and adjacent districts since June of 1952. These operations have included the drilling and logging of more than 200,000 feet of exploratory hole and production of more than 30,000 tons of uranium ore.

6. (a) See separate sheet.

(b) All labor included in contract bid price Technical supervision is estimated at $35.00 per day for 50 days. A total of $1750.00.

(c) None

(d) Contract materials and supplies included in bid price.
Supervisors vehicle usuage--estimated 3000 miles at an average cost of $0.10 per mile--totaling $300.00.

(e) None

(f) None

(g) Miscellaneous expenses
Equipment maintenance included in bid price
Analytical work--Sampling & Assaying an estimated 100 samples--$4.50 per sample--total of $450.00.
Compensation Insurance - - Included
Payroll taxes - - Included
Accounting - - Included

(h) Contingencies applying to supervisory staff only
Extra analytical work $100.00

7. (a) Sodak Uranium and Mining Co. will furnish their share of the proposed project from the income of monthly ore sales.

SODAK URANIUM AND MINING CO., INC.
HOTEL EVANS ANNEX
HOT SPRINGS, SOUTH DAKOTA

[illegible]

[illegible]

[illegible]			
Sec. 1, [illegible] R. 73[illegible]			
[illegible] ft.	[illegible] /ft.	=	[illegible]
Sec. 26, T. 3[illegible], R. 72			
[illegible] ft.	[illegible] /ft.	=	[illegible]
[illegible]			
5 days	[illegible].00 /day	=	1[illegible]
[illegible] (Ju[illegible])			
50 days	[illegible].00 /day	=	3[illegible].00
[illegible] 10[illegible]	[illegible] 4.00 /[illegible]	=	400.00
[illegible]		=	1[illegible]
[illegible]		=	2[illegible]
	Total		12,[illegible]
	[illegible] for co[illegible]		1,2[illegible].40
[illegible]			14,2[illegible].40

[illegible]
75[illegible] of 14,260.40 = 1[illegible],[illegible].20

$$\frac{14,260.40}{2[illegible],410'} = [illegible].[illegible] \text{ per foot}$$

Early in 1956, Sodak Uranium and Mining Co., Inc., obtained Wyoming state leases on 13 sections and parts of four others in Converse County, Wyoming. Six of these sections were eliminated after reconnaissance type examination and the rest held for further evaluation. Of this remaining property two sections have been selected as having the greatest potential for economic uranium deposits. This potential forms the basis for the proposal as outlined below.

The two properties lie within the Powder River Basin and have exposed on the surface the Eocene, Wasatch Formation. The Wasatch is of continental origin and is composed of varying thicknesses of shales, siltstones and fine to very coarse grained arkosic sandstones and conglomerates. Lithologic changes take place in very short distances due to the channeled type of deposition. Most of the uranium occurrences in the Powder River Basin are found within a northwesterly-trending belt about 70 miles long and up to ten miles wide, which extends from north of Douglas in Converse County to the Pumpkin Buttes area in Campbell County. Both of the properties involved lie within the southern end of this belt. Two types of uranium deposits are common in this area, the first of which is a small concretionary type that seldom exceeds several cubic feet in size although extremely high in grade. Carnotite-type mineral, uranophane and uraninite are found intergrown with or closely surrounded by shells of manganese oxides. The second type of deposit generally follows bedding and contains a variety of secondary uranium minerals as well as uraninite disseminated through the arkosic sandstone. Concentrations are generally consistantly high in grade (0.30 to 0.50% U_3O_8) and the deposits are as a rule much larger than the first type, often greater than 5,000 tons. This type of deposit is common to the southern ½ of the belt in which the Sodak property is included.

Explorational and mining activity with this area has increased steadily within the past year. Anshutz Drilling Co., Loma Uranium Corp. and Globe

Mining Company are currently operating on large deposits within the immediate vicinity. Until recently Kerr McGee Oil Industries was conducting an extensive drilling program which resulted in the discovery of a number of deposits averaging greater than 5000 tons. Sodak is presently stripping one of these on a lease agreement from Kerr McGee.

The drilling accomplished by Kerr McGee resulted in their recognition of a general linear trend of ore deposits and mineralized areas. This trend is north-south and roughly parallels the strike of the beds. Structurally this area is on the westward dipping east flank of the Powder River Basin. This trend also parallels a line of color change within the sandstone units. This color change is a gradual transition from the normal buff or gray of the Wasatch to a deep red or purplish red stain. It is not consistant within any one horizon and often appears in several overlying units. The color line follows a serpentine pattern laterally but trends in a general north-south direction. Ore grade uranium mineralization can occur on either the red or gray side of the line. In general it is not a sharp transition but rather a zone of change that appears to bear some relationship to the localization of uranium deposits. The true significance of this relationship is not known, however it is being used as a guide to favorable areas.

Section 16, T. 36N, R. 73W Converse Co., Wyoming lies within one of these favorable areas. The linear trend as established by Kerr McGee should extend through this section. The infrequency of outcrops over this section does not permit any conclusions about the presence of the color change. This would have to be established through drill hole information. The entire section should be covered with a 300 foot grid spacing. The result of this grid would enable us to establish the presence or absence of the color change and would determine the feasability of further drilling.

The second favorable area is located several miles east of the first in Sec. 36, T. 36N, R. 72W and the NE¼ of Sec. 1, T. 35N, R. 72W. This property

crosses a color change zone in the known ore bearing horizon. There has been small production from both the NW¼ and the NE¼ of Sec. 1. The previous owners made 2 shipments of about 12 tons each, one assaying 0.13% U_3O_8 and the other 0.39% U_3O_8. In addition 1100 tons were mined and stockpiled which averaged only 0.03% U_3O_8. The mining methods used mixed barren material with good ore and resulted in this non-saleable stockpile. The pit where the mining was done is located on the extreme western edge of the NE¼ of Section 1 and the mineralization trends westward into claimed ground owned by Loma. The ore bearing sandstone unit should be present underlying the W½ of Sec. 36 to the north. It has been eroded away throughout most of the E½.

That uranium mineralization extends northward is entirely possible and will only be determined through extensive drilling. The drilling should be planned to cover most of the W½ of Sec. 1 on a grid spacing close enough to insure adequate subsurface correllation. Several things should be watched in particular throughout the drilling program. The extent and thickness of the ore bearing sandstone unit, zones of color change, abnormal concentrations of carbonate, carbonaceous material or manganese oxides, are all features that may have a bearing upon concentrations of uranium minerals.

Because of the discontinuous, lenticular nature of the sedimentary units within the Wasatch formation, most drilling to date has been of the wildcat type. The first drilling in the area was concentrated over large surface anomalies. Kerr McGee was the first to expand their drilling program and they had very successful results. The linear trend followed in their drilling resulted in the discovery of many significant deposits.

The two properties described previously have high potential for economic uranium deposits in the light of information known about surrounding properties. It is the opinion of this writer that a substantial drilling program could very possibly result in the discovery of several large (5000 tons), high grade (.30% U_3O_8) uranium deposits. Following is a tentative proposal for

a drilling program designed to adequately cover the two properties described above.

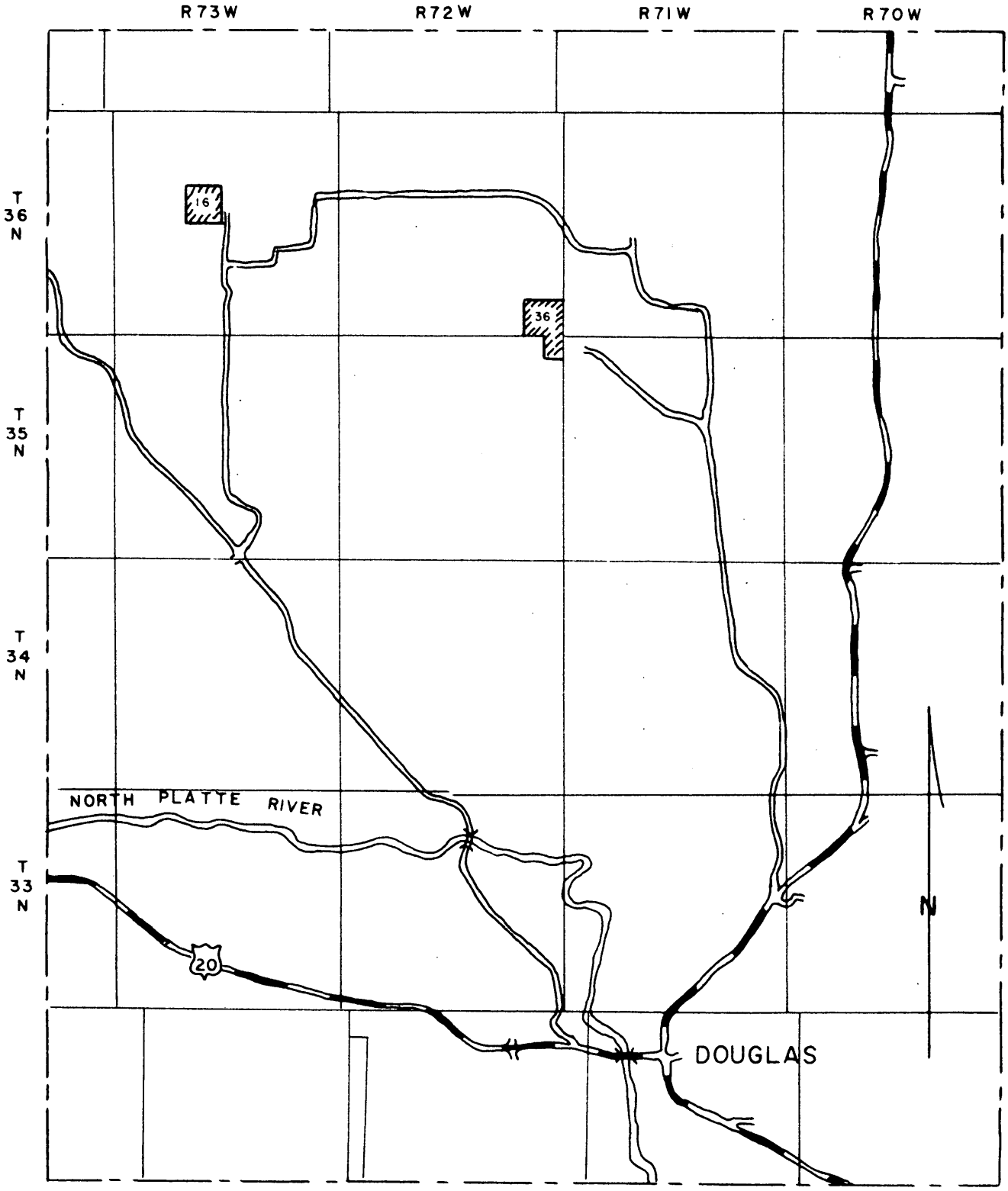
Sec. 16, T. 36N, R. 73W
289 holes on a 300 ft. grid spacing, each hole 60 ft. deep, making a total of 17,250 ft.

17,250 ft. @ $.40 per ft. = $6900.00

Sec. 36, T. 36N, R. 72W
136 holes on a 300 ft. grid spacing, each hole 60 ft. deep making a total of 8,160 ft.

8,160 ft. @ $.40 per ft. = $3264.00

Geologic Supervision--An estimated 50 days at $35.00 per day	=	$1750.00
Travel and Expenses 50 days at 6.00 per day	=	300.00
Provision for 100 sample assays at $4.00 per	=	400.00
Supervisory contingencies	=	100.00
Provision for Landowner's road easement	=	250.00
		$12,964.00
10% for contingencies		1,296.40
Estimated total cost of Project		$14,260.40



LOCATION MAP

PROPOSED DRILLING AREAS

CONVERSE COUNTY, WYO.

12/28/56

SODAK U/M Co. Inc.

SODAK URANIUM AND MINING CO., INC.
HOTEL EVANS ANNEX
HOT SPRINGS, SOUTH DAKOTA

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RECEIVED MAY 8 1957

DATE	INITIALS	CODE

Copy of letter from Land Commissioner State of Wyoming

Re:DMEA

DMEA
DEPARTMENT OF THE INTERIOR
MAY 3 - 1957
REGION III
DENVER, COLORADO

April 23, 1957

Sodak Uranium and Mining Co., Inc.
Hotel Evans Annex
Hot Springs, South Dakota

Attn: Clyde R. Boyle
President

Re: Uranium Leases
O-19050 &
O-19051

Dear Sir:

With reference to your letter of April 17, 1957 we wish to advise you that it is not the policy of this office to accept overriding royalty in excess of 5%.

The state will not grant the Owner's Consent to Lien on mineral leases.

Very truly yours,

Maxine B. Rhoades
Deputy Commissioner

RG:hr

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 3 1957

DATE	INITIALS	CODE

URANIUM MINING LEASE

THIS INDENTURE OF LEASE Entered into in duplicate this 16th day of May, A.D. 1955, by and between the State of Wyoming, acting by and through its Board of Land Commissioners, party of the first part, hereinafter called the lessor, and Irving Wolf party of the second part, hereinafter called the lessee.

SEC. 1 - PURPOSES. The lessor, in consideration of the rents and royalties to be paid and the covenants and agreements hereinafter contained and to be performed by the lessee, does hereby grant and lease to the lessee the exclusive right and privilege to mine, extract and remove from the alluvium, soil or earth or any sedimentary formation or rocks or intrusive or igneous dike, vein or fissure and dispose of all the uranium, uranous compounds, radium, pitchblend, carnotite and other associated radioactive or fissionable elements or compounds of whatsoever kind in or under the following described land, to-wit:

LEASE

ACRES	DESCRIPTION	SEC.	TP.	RG.
640	ALL	16	36	73
640	ALL	36	36	73
1280				

consisting of 1280.00 acres more or less, together with the right to construct and maintain thereon all works, buildings, plants, waterways, roads, communication lines, power lines, tipples, hoists, or other structures and appurtenances necessary to the full enjoyment thereof, subject, however, to the conditions hereinafter set forth.

SEC. 2 - TERM OF LEASE. This lease, unless terminated at an earlier date as hereinafter provided shall remain in full force and effect for a term of ten (10) years from and after the date hereof (expiring at midnight on the 15th day of May, A.D. 1965).

SEC. 3 - In consideration of the foregoing the LESSEE COVENANTS AND AGREES:

(a) BOND. To furnish a bond with an approved corporate surety company authorized to transact business in the STATE of Wyoming, or such other surety as may be acceptable to the lessor, in the penal sum of Twenty-five Dollars ($ 25.00), conditioned upon the payment of all moneys, rentals, and royalties accruing to the lessor under the terms hereof, and upon full compliance of all other terms and conditions of this lease and the Rules and Regulations relating thereto, and also conditioned upon payment of all damages to the surface and improvements thereon where the lease covers lands the surface of which has been sold or otherwise leased. Such bond or bonds furnished while operations conducted thereon are of a prospective nature may be increased in such reasonable amount as the lessor may decide upon the commencement of actual mining operations or during conduct thereof.

(b) PAYMENTS. - To make all payments due or accruing hereunder to the Commissioner of Public Lands, Capital Building, Cheyenne, Wyoming.

(c) RENTALS. - Prior to the discovery of commercial quantities of the said minerals and mineral in the lands herein leased to pay to the lessor in advance beginning with the effective date hereof, an annual rental of 25¢ per acre or fraction thereof if the acreage embraced in the lease exceeds two hundred (200) acres with a minimum rental of $50.00 on leases with two hundred (200) acres or less. Providing that if the lands are not on a commercial mining basis and so operated at the end of two years from the date hereof, such annual rental may be increased, at the option of the lessor, to such an amount as the lessor may decide to be fair and equitable.

After the discovery of commercial quantities of said mineral or minerals in the lands herein leased to pay to the lessor in advance, beginning with the first day of the lease year succeeding the lease year in which commercial discovery was made, an annual rental of One Dollar ($1.00) per acre or fraction thereof One Thousand Two Hundred Eighty Dollars ($1280.00) with a minimum operating rental of $100.00 unless changed by agreement, such rental so paid for any one year to be credited on the royalty for that year.

URANIUM - 1951, FEBRUARY
AMENDED - 1952, AUGUST, SEPTEMBER,
1955 - ~~APRIL~~ JAN

sfs

(d) ROYALTY. - To pay lessor a royalty of Five per cent (5%) of the gross value of the output at the mine of uranium and associated minerals herein leased. The lessor reserves the right, if it may so elect, to increase the above royalty rate at the expiration of the first 3 years.

(e) MONTHLY PAYMENTS AND STATEMENTS. - To make payment in full on or before the twentieth (20th) day of the calendar month succeeding the month of production for all said minerals mined from the land, and to furnish sworn monthly statements therewith showing in tons or cubic yards, or such other measure of quantity as may be pertinent, the amount of all material mined, and such other information as may be called for in the form of reports prescribed by the lessor. These statements are to be subject to verification by examination of the books and records of the lessee.

(f) WORKINGS. - (a) That all mining operations and workings shall be conducted in such a manner so as to remove all valuable deposits so far as is economically possible; that all shafts, inclines, and tunnels shall be well timbered (when good mining practice requires timbering); that all underground timbering placed in, the mines and necessary to the preservation of the property and safety of the workmen shall be kept in good condition and repair and at no time shall such timbering be removed unless all of the valuable ore has been removed and such removal will in no way or manner interfere with or prevent future mining operations in the land; that at the expiration of this lease, or earlier termination thereof, all underground timberings shall become the property of the lessor without compensation therefor to the lessee; that all parts or workings when the ore is not exhausted and for good reasons not being worked shall be kept free of water and debris; that underground workings will be protected against fire and flood, and creeps and squeezes will be checked without delay, and to leave such pillars as may be necessary to support the cover and protect the slopes, air courses, manways, and hauling roads.

(b) That all open or strip mining operations shall be conducted so as to remove all valuable minerals in the deposits worked; that all material removed shall, as mining progresses, be returned to the original pit and leveled unless consent of the lessor is otherwise obtained, so that at the expiration, surrender, or termination of the lease, the land will approximate its previous configuration and with a minimum of permanent damage to the surface; that all roads and bridges built and necessary to the mining operations on the land shall upon expiration, forfeiture or surrender of the said lease become the property of the lessor.

(g) MAPS AND REPORTS. - On the first of each calendar year to furnish the Commissioner of Public Lands with two prints of a map of the leased land showing the location, depth, and results of all prospect holes or pits sunk, roads, and bridges constructed, improvements made, and the location and extent of excavations from which material has been removed, together with thickness of the deposits of uranium and associated minerals, at twenty foot intervals plotted therein; and to make such other reports pertaining to the production and operations by the lessee as may be called for by the lessor.

(h) TAXES AND WAGES. - FREEDOM OF PURCHASE. To pay, when due, all taxes lawfully assessed and levied under the laws of the State of Wyoming upon improvements and values produced from the land hereunder, or other rights, property or assets of the lessee; to accord all workmen and employees complete freedom of purchase, and to pay all wages due workmen and employees at least once each month in lawful money of the United States or at such lesser period as may be provided by the State or Federal laws.

(i) STATUTORY REQUIREMENTS AND REGULATIONS. - To comply with all state statutory requirements and valid regulations thereunder.

(j) ASSIGNMENT OF LEASE.- MINING AGREEMENTS. (1) Not to assign this lease or any interest therein, nor sub-let any portion thereof, except with the consent in writing of the lessor first had and obtained.

(2) To submit a signed copy of any mining agreement entered into affecting the possessory title to any of the land hereby leased for approval by the lessor.

(3) All overriding royalties to be valid must have the approval of the Board and be recorded with the lease. The Board reserved the right of disapproval of such overriding royalties to the extent, in its opinion, they become excessive and hence are detrimental to the proper development of the leased lands.

(k) DELIVER PREMISES IN CASE OF FORFEITURE. - To deliver the leased premises with all permanent improvements thereon, in good order and condition, in case of forfeiture of this lease but this shall not be construed to prevent the removal, alteration or renewal of equipment and improvements in the ordinary course of operations.

(l) DILIGENCE IN DEVELOPMENT. - This lease is granted with the express understanding that prospecting and mining be pursued with diligence.

SEC. 4 - GENERAL COVENANTS:

(a) The lessee shall have the right to enter upon, occupy and enjoy such surface areas of the described tract as are necessary for mining operations and the construction of all buildings and other surface improvements incidental to the work contemplated by this lease; but the lessee shall fully protect the rights of any agricultural and grazing leases which have heretofore or may hereafter be granted by erecting cattle guards or gates and keeping closed gates in all fences in which openings are or may be made, and for protection of stock grazing thereon to fence or close all holes, pits or open cuts in which injury might be sustained, and shall not contaminate any living water upon the land so as to make it injurious to livestock. Should the lessee or any person holding from, by or under the lessee, in any operation on said premises under this lease, destroy or injure any livestock or forage, any crop, building or other improvements of any tenant, lessee, purchaser or other person holding under the State, the lessee agrees to fully indemnify all such injured parties in such sum or sums as may be mutually agreed upon by the respective parties, or as may be fixed by appraisers appointed by each party if agreement is impossible, or the Board of Land Commissioners may fix the amount of such indemnity after inspection or hearing.

The rights of the lessee hereunder are subject further to the prior right of any other mineral lessee, his sub-lessee, or operator under any other mineral lease or leases now in force, or renewals therof, to enjoy the free use of so much of the surface of the said lands as are necessary and incidental to their operations thereunder, and mining operations hereunder shall be conducted so as not to unduly interfere with such mineral operations; nor shall mining operations hereunder be conducted nearer than two hundred feet from any productive oil or gas well without consent of the oil and gas operator; and the lessee further shall not disturb any existing road or roads now on said lands nor roads leading to or from any well or well location without first providing adequate and suitable roads in lieu therof, and shall fully indemnify any such other lessee or operator for any injury or damages resulting from operations hereunder in such amount so fixed as above provided.

(b) During proper hours and at all times during the continuance of this lease the lessor, or its representatives, shall be authorized to go through any of the openings or workings on the premises, and to examine, inspect and survey the same and to make extracts of all books and weigh sheets which show in any way the output from the land.

(c) It is expressly understood and agreed that the mining rights and privileges granted hereunder shall extend to and include only uranium and associated minerals, and that no rights or privileges respecting oil and gas or any kind or character of other mineral or minerals are granted or intended to be granted by this lease. The lessee shall promptly notify the lessor of the discovery of any valuable metal, minerals or oil or gas upon the leased premises, and he shall then have, for a period of thirty days following such notification, a preferential right to a lease for such metal, mineral, or oil and gas upon such terms and conditions and royalties as may be fairly fixed by the Board of Land Commissioners, provided the land is not otherwise leased for that metal, mineral, or for oil and gas.

(d) This lease is granted for the purposes as herein set forth only under such title as the State of Wyoming now holds in and to the uranium and associated minerals that may be found in or under the above described lands, and, if subsequently divested of same, no liability shall be incurred by virtue of this lease for any loss or damage to the lessee, nor shall any claim for refund of rents or royalties theretofore paid, be made by said lessee, its successors or assigns.

SEC. 5 - THE LESSOR EXPRESSLY RESERVES:

DISPOSITION OF SURFACE. The right to lease, grant rights of way, sell or otherwise dispose of the surface of the land embraced within this lease under existing laws or laws hereafter enacted, or in accordance with the Rules of the Board of Land Commissioners, insofar as the surface is not necessary for the use of the lessee in the extraction and removal of the uranium and associated minerals therein.

SEC. 6 - APPRAISAL OF IMPROVEMENTS. Upon the expiration of this lease, or earlier termination thereof pursuant to surrender, or if such land be leased for minerals to another other than the owner of the improvements thereon, the lessee agrees that the improvements shall be disposed of pursuant to Chapter 24, Article 7, Section 24-704, Wyoming Compiled Statutes, 1945.

SEC. 7 - FORFEITURE CLAUSE. In the event that the lessee shall have procured this lease through fraud, misrepresentation or deceit, then and in that event this agreement, at the option of the lessor, shall cease and terminate and shall become ipso facto null and void, and all improvements upon said land or premises under the terms of this lease shall forfeit to and become the property of the State of Wyoming. In the event that the lessee shall fail to make payments of rentals and royalties as herein provided, or make default in the performance or observance of any of the terms, covenants and stipulations hereof, or of the general regulations promulgated by the Board of Land Commissioners, the lessor shall serve notice of such failure or default, either by personal service or by registered mail upon the lessee, and if such failure or default continues for a period of thirty (30) days after the service of such notice, then and in that event the lessor may, at its option, declare a forfeiture and cancel this lease, whereupon all rights and privileges obtained by the lessee hereunder shall terminate and cease and the lessor may re-enter and take possession of said premises or any part thereof; but these provisions shall not be construed to prevent the exercise by the lessor or any legal or equitable remedy which the lessor might otherwise have. A waiver of any particular cause of forfeiture shall not prevent the cancelation and forfeiture of this lease for any other cause of forfeiture, or for the same cause occurring at any other time.

SEC. 8 - SURRENDER. Relinquishment or surrender of this lease may be made at any time provided the same is done in conformance to "Rule 19, Relinquishment and Surrender," of "Rules and Regulations Governing the Issuance of Mineral Leases" adopted by the Board of Land Commissioners, effective November 15, 1950.

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

SEC. 10 - This lease is issued by virtue of and under the authority conferred by Chapter 24, Article 7, Wyoming Compiled Statutes, 1945, and valid amendments thereto, and subject to the laws of the State of Wyoming, and is accepted by the lessee subject thereto.

IN WITNESS WHEREOF, the said lessor has caused these presents to be signed by the Governor, President of the Board of Land Commissioners, countersigned by the Commissioner of Public Lands, Secretary of the Board of Land Commissioners, and the seal of the Board to be affixed, and the lessee has caused these presents to be signed and sealed in the manner following:

LESSOR: STATE OF WYOMING, acting by and through its Board of Land Commissioners.

Signed on the 13 day of June, 1955

Witness

BY Milward L. Simpson
Governor-President, Board of Land Commissioners

COUNTERSIGNED:

Witness

Commissioner of Public Lands-Secretary

LESSEE: Irving Wolf

Witness

Witness

APPROVED AS TO FORM AND EXECUTION
JUN 15 1955
GEORGE F. GUY, ATTORNEY GENERAL
By Robert H. McPhillamey
Deputy Attorney General

FORM APPROVED BY BOARD: February 1, 1951
LEASE AND BOND APPROVED BY BOARD: MAY 11-12 1955
EXAMINED: mo

URANIUM - 1951, FEBRUARY
AMENDED - 1952, AUGUST, SEPTEMBER
1955 JAN

Cash Bond of $25.00 on deposit in the Office of the Commissioner of Public Lands.

Lease No. 0-19051

App. No. 135224

RECEIVED

1956 JUN 2 AM 8 56

Description Plate:

URANIUM AND ASSOCIATED MINERALS Lease

Lessee Erving Wolf

Address Box 254, Shoshoni, Wyoming

Expires May 14, 1965

Rental $320.00 Before discovery
$640.00 After discovery

County Converse

Fund Common School

LEASE

ACRES	DESCRIPTION	SEC.	TP.	RG.
640	ALL	16	36	73
640	ALL	36	36	73
1280				

Assignee
William P. Haley
P.O. Box 8
Rapid City, South Dakota

Sodak Uranium and Mining Company, Inc.
Hotel Evans Annex
Hot Springs, South Dakota

ALL LEASE (2½% overriding royalty reserved by assignor - Erving Wolf)

ALL LEASE (2½% overriding royalty reserved by William P. Haley) & (Subject to 2½% overriding royalty previously provided for)

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CHEYENNE, WYO.

DMEA Form 7
(12-56)

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Date	Surname	Code
8/15	Murphy	700
8/15	Kabrude	700
8/16	Bostrom	130
8/16	Williams	20
8/16	Selfridge	100
"	Johnson	
"	Mittendorf	100
8/19	P	220
		225

AUG 16 1957

Mr. Clyde R. Boyle, President
Sodak Uranium and Mining Company, Inc.
Evans Hotel Annex
Hot Springs, South Dakota

Re: Docket No. DMEA-4740 (Uranium)
State Land Uranium Mining Lease
No. O-19050 and No. O-19051
Converse County, Wyoming

Dear Mr. Boyle:

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

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

Careful study of all our information indicates 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. Such denial, however, is made without prejudice to the property. In the event further work on your part discloses new and more favorable evidence of ore deposition on the property, we shall be pleased to consider a new application.

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

Sincerely yours,

C. O. Mittendorf (for)

Administrator

FMMurphy/izm 8-15-57
cc to: Mr. Murphy
Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224
DMEA FT Reg. 3 (2)

8623

/Docket/
Murphy

August 15, 1957

Summary of Proposed Project

Object: Denial of application for exploration aid.

Docket No.: DMEA-4740

Commodity : Uranium

Amount of Application: $14,260.40

Applicant: Sodak Uranium and Mining Company, Inc.
Evans Hotel Annex
Hot Springs, South Dakota

Property: Lessee of sec. 16, T. 36 N., R. 73 W., and sec. 36 and NE¼ sec. 1, T. 35 N., R. 72 W., Converse County, Wyoming.

Date of Application: May 1, 1957 (received May 8)

Referred to Region III: May 20, 1957

Field Examination made: July 8, 1957

FT Report received: August 9, 1957 (Division received Aug. 13)

Work Proposed: Non-core drilling 289 holes on sec. 16 to an average depth of 60 feet on 300-foot grid spacing; and 136 holes to same depth and on same grid spacing on sec. 36. No work on sec. 1 was proposed.

Estimated Costs:

Sec. 16 - 17,250 ft. @ $0.40/ft.	$6,900.00	
Sec. 36 - 8,160 ft. @ $0.40/ft.	3,264.00	
Supervision, 50 days @ $35/day	1,750.00	
Travel & expenses, 50 days @ $6/day	300.00	
Analyses for U_3O_8, 100 samples @ $4/each	400.00	
Supervision contingencies	100.00	
Landowners road easement	250.00	
Contingencies	1,296.40	
TOTAL		$14,260.40
Government Participation @ 75%		$10,695.30

Excerpts from Field Team Report:

Altitudes range from 5,300 feet to 5,550 feet on sec. 16 and from 5,100 to about 5,300 on secs. 36 and 1.

The properties lie within the Powder River Basin which is underlain predominantly by the Wasatch formation of Eocene age. The Fort Union formation of Paleocene age underlies the Wasatch formation and crops out around the periphery of the basin.

The known uranium deposits of the Wasatch formation are in sandstone units in a "red sandstone zone," delineated to be about 70 miles long and 5 to 20 miles wide. The long axis of the zone parallels the axis of the basin and extends from near Douglas, at the southern edge to several miles north of the Pumpkin Buttes in the central part of the basin. Without exception, the major uranium deposits that have been mined in the basin are at a color change within a sandstone unit and very near the boundary of the "red sandstone zone."

Sec. 16 is in a favorable position relative to the "red sandstone zone," however, there is no surface evidence within the section that manifests its specific presence here.

Sec. 36, appears to be outside (to the northeast) of the favorable zone according to geologic mapping in the area.

The field examiners do not agree with the Applicant that a sandstone unit on sec. 1, from which 24 tons of ore was shipped, must extend under the W½ of sec. 36, stating that such an extension is not apparent.

The examiners found no anomalous radioactive zones on the properties. The Applicant has not performed any initial prospecting on any of the land. The field examiners could not find any specific target for exploration, however, they recommended that the application be denied without prejudice, since it is possible that preliminary exploration work on sec. 16 might disclose evidence of possible uranium deposits and meet fundamental DMEA requirements for an exploration program. The Field Team concurred in this recommendation.

Commodity Member's Comments:

USBM, James Paone, August 13, 1957:

Mr. Paone agrees with the Field Team that the application should be denied without prejudice.

USGS, N. E. Nelson, August 14, 1957:

Mr. Nelson summarizes the field examiner's report and concurs in their and the Field Team's recommendations that the subject application should be denied without prejudice.

Division of Rare & Misc. Metals, F. M. Murphy, August 15, 1957:

Although one of the areas (sec. 16) appears to be in a geologically favorable zone for uranium deposition, insufficient preliminary work has been done to indicate a precise target area on which an exploration program could be based. The land covered by secs. 36 and the NE¼ of sec. 1 are not considered favorable.

Conclusions and Recommendations:

Since there is a possibility that additional work on the Applicant's property, especially sec. 16, might disclose sufficient information to warrant aid in an exploration program, this Division agrees with the examiners that application DMEA-4740 should be denied without prejudice, and if a new application presenting more specific favorable information is submitted it should receive consideration.

F. L. Knouse

F. L. Knouse, Acting Director
Division of Rare and
Miscellaneous Metals

IN REPLY REFER TO:

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Complete		
Memorandum ✓		

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

August 14, 1957
Re: DMEA 4740
Sodak Uranium and Mining Company
Two State Leases
Converse County, Wyoming
$14,260.40 - Uranium

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

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

Subject: Review of Field Team Report

The applicant requested assistance in exploring, by drilling, 2 1/4 sections of leased land, in 2 tracts, underlain by the Wasatch formation.

From a small pit in the SW corner and on the boundary of the 1/4 section portion of the eastern tract, the applicant has shipped two 12-ton truck loads of material assaying 0.13% and 0.39% U_3O_8. The uranium minerals occur in certain definite color types of sandstone of the Wasatch formation. The pit from whence came the ore is practically on the boundary of the "red sandstone zone". As mapped, only a corner of the quarter section is in the zone, and presumedly the 2 shipments exhausted the ore on the applicant's property. No other part of the east 1 1/4 section tract is regarded as favorable ground as the larger part is well outside the fairly established "red sandstone zone".

The west tract, a square section, may be underlain by "red sandstone", but there is no surface evidence to indicate such is the case and no anomalous radioactivity has been noted in the section. As no target is afforded, assisted drilling is not recommended.

Inasmuch as only a small corner of the east tract is probably underlain by the favorable red sandstone and no specific target is known on the west tract, the examiners and the Field Team recommend that the application be denied without prejudice.

I concur with the recommendation.

N. E. Nelson

N. E. Nelson

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

Date August 13, 1957

DMEA Project No. 4740
DMEA Contract No.
Commodity Uranium
Name of applicant Sodak Uranium & Mining Co., Inc.
Name of property State Land Uranium Min. Lease
Location of property Converse County, Wyoming
Estimated cost of project $14,260.40

Memorandum ✓

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Review of Field Team Report
(Application, Field Team Report, etc.)

1. Date of subject document: 8/5/57 2. Date received by reviewer: 8/13/57

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

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

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

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

7. Explain items marked yes above:

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

9. Action advised:
   a. Obtain information from applicant ☐
   b. Refer to Field Team ☐
   c. Denial ☒ without prejudice
   d. Agree with Field Team ☒
   e. Disagree with Field Team ☐
   f. Suggest alternate plan ☐
   g. Request another examination ☐
   h. Approval ☐
   i. Consult with Mr. _____ at _____ AEC office.

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

August 7, 1957

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Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket DMEA 4740 (Uranium) Sodak Uranium and Mining Company, Inc. (State Land Uranium Mining Lease No. 0-19050) Converse County, Wyoming

Enclosed are the original and two copies of the Joint Report of Examination on the subject property by E. O. Binyon, USBM, and W. N. Sharp, USGS.

The field examiners conclude that the probability for making a significant discovery is not sufficiently promising to justify Government participation. Accordingly, they recommend that the Applicant's work proposal be denied, without prejudice, in which the Field Team concurs.

As requested by the Chairman in a letter dated May 20, 1957, we are returning the URANIUM MINING LEASE loaned to us for field examination purposes.

E. N. Harshman

E. N. Harshman

ON-SITE EXAM

Reviewed by
DMEA OPERATING COMMITTEE
8-12-57
(date)

IN REPLY REFER TO:

DMEA

ARTMENT OF THE INTERIOR

AUG 6 - 1957

REGION III

DENVER, COLORADO

UNITED STATES

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Defense Minerals Exploration Administration

Denver Federal Center

Denver, Colorado

August 6, 1957

TRANSMITTED

AUG 7 1957

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 4740 (Uranium) Sodak Uranium and Mining Company, Inc. (State Land Uranium Mining Lease No. 0-19050 and 0-19051), Converse County, Wyoming

Enclosed are the original and eight copies of a joint report by William N. Sharp, U. S. Geological Survey, and E. O. Binyon, U. S. Bureau of Mines, covering their examination of the subject property.

The applicant proposes to explore 2-1/4 sections of land in Converse County, Wyoming, by 25,410 feet of non-core drilling at a total estimated cost of $14,260.40.

Ore in the area is found in the Wasatch formation along irregular color contacts between red and drab sandstone units. The examiners could find no evidence in the field that such color contacts were present on the ground the applicant proposes to explore and they therefore conclude that there are no uranium exploration targets.

Denial without prejudice of the application is recommended.

Original signed by:
E. N. HARSHMAN

E. N. Harshman
Member, Field Team

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Enclosures: 9

ENHarshman:arh

Reviewed by
DMEA OPERATING COMMITTEE
8-12-57
(Date)

FOR UNITED STATES GOVERNMENT USE ONLY

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AUG 7 1957

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

DMEA
DEPARTMENT OF THE INTERIOR
AUG 6 - 1957
REGION III
DENVER, COLORADO

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 4740

Sodak Uranium and Mining Company, Inc.

State Land Uranium Mining Lease No. O-19050

Converse County, Wyoming

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Uranium

Joint Engineering and Geologic Report

by

W. N. Sharp, Geologist
Geological Survey

E. O. Binyon, Mining Engineer
Bureau of Mines

August 5, 1957

Reviewed by
DMEA OPERATING COMMITTEE
8-12-57
(date)

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History and production	4
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Ore reserves	8
Applicant's project proposal	8
Conclusions	9
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ILLUSTRATIONS

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2. Lithofacies and color in sandstone as related to uranium deposits in Wasatch formation.	6
3. Geology in the vicinity of Sodak Uranium and Mining Company, Inc., property, Powder River Basin, Wyoming	11

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DMEA 4740

SODAK URANIUM AND MINING COMPANY, INC.
STATE LAND URANIUM MINING LEASE NO. 0-19050
CONVERSE COUNTY, WYOMING

INTRODUCTION AND SUMMARY

Sodak Uranium and Mining Company, Inc., Evans Hotel Annex, Hot Springs, South Dakota, applied to the Defense Minerals Exploration Administration for aid in the exploration of State Land Uranium Mining Lease No. 0-19050 for uranium. This state-owned land comprises 2-1/4 sections, sec. 16 in T. 36 N., R. 73 W., sec. 36, T. 36 N., R. 72 W., and the NE 1/4 sec. 1, T. 35 N., R. 72 W., sixth principal meridian, Converse County, Wyoming. The applicant has requested exploration of the property by a single stage program consisting of 25,410 feet of non-core drilling at an estimated cost of $14,260.40. The proposed program is designed to explore the Wasatch formation of Eocene age.

A field examination was made on July 8, 1957, by W. N. Sharp, geologist, U. S. Geological Survey, and E. O. Binyon, mining engineer, U. S. Bureau of Mines. The examining team was accompanied by Keith W. Duncan, superintendent for the Sodak Uranium and Mining Corporation.

The examining team is of the opinion that while the geologic possibilities for uranium deposits on one part of the property may be favorable, the work asked for in the application would be prospecting rather than exploration. At present the applicant has done no work on the

property and until a more definite target is outlined, it is recommended that the application be denied without prejudice.

ACKNOWLEDGEMENTS

Acknowledgement is due Keith W. Duncan for directing the team over the property and Howard Geslin of the U. S. Atomic Energy Commission in Casper, Wyoming, for time given in discussing geologic features and economic potential of the areas.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The 2-1/4 sections of leased lands included in the application are sec. 16, T. 36 N., R. 73 W., sec. 36, T. 36 N., R. 72 W., and the northeast quarter of sec. 1, T. 35 N., R. 72 W., 6th principal meridian, Converse County, Wyoming (fig. 1).

Douglas, Wyoming, the county seat of Converse County and the nearest sizeable community is 27.8 miles south of sec. 36 and the NE 1/4 of sec. 1. Section 16 is 18 miles by road east and slightly north of the other part of the property. To reach sec. 36 and the NE 1/4 of sec. 1 from Douglas, take U. S. Highways 20 and 87 toward Casper, go 2.8 miles, turn right onto the Orpha road and continue on this road for 11.2 miles, then turn right onto the Morton ranch road and go 15.2 miles to the ranch. Take the road to the left and go 1.4 miles to about the center of sec. 36. From the Morton ranch it is 10 miles airline to sec. 16 but owing to fences it is 18 miles by road. From Douglas to section 16, the

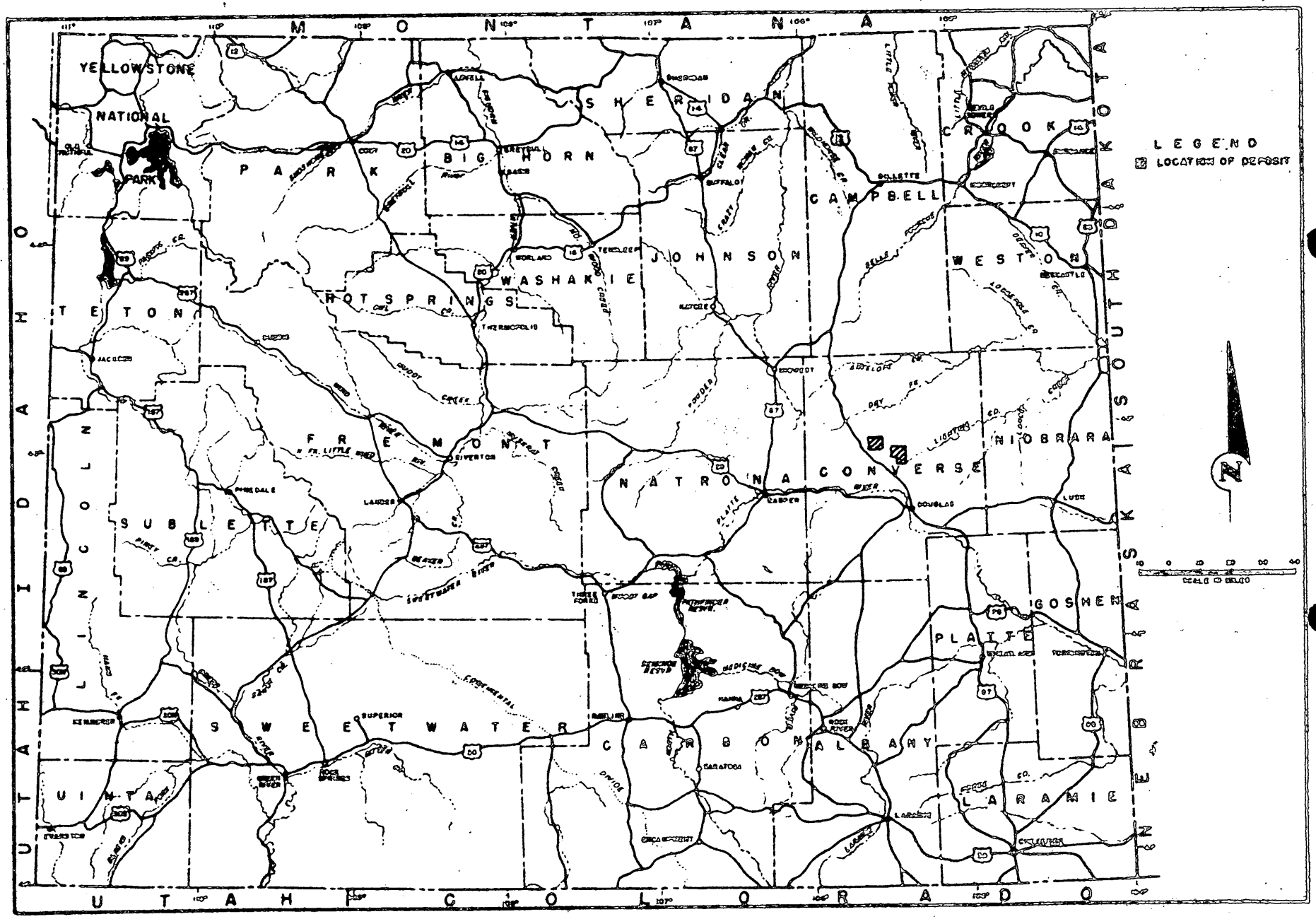

FIGURE 1 - LOCATION MAP, SODAK URANIUM AND MINING COMPANY, LEASED STATE LAND, CONVERSE COUNTY, WYO. DMEA 4740

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DATE	INITIALS	CODE

other part of the property, go 19.6 miles on the Orpha road, take the right fork, called the Hyland Loop road, and continue 10 miles due north to the section.

Both of the areas included in the property are unmarked by any outstanding topographic features, the relief is moderate and the land is gently rolling with a few deep draws. Altitudes range from a high of about 5,550 feet to a low of about 5,300 feet on section 16, and from 5,300 to about 5,100 on section 36.

The climate generally is moderate and permits practically year around operation. In the winter, however, the temperatures often are below 0° and snowfall may hinder or stop outside operations for short periods. Also spring snows and rainfall sometimes make travel difficult and for short periods practically impossible.

There is no water on the property and arrangements would have to be made with the ranches to obtain water for drilling and for mine use. No electric power is available on the property and gasoline or diesel driven equipment will have to be used.

Douglas, a railpoint on the Chicago and Northwestern and the Chicago, Burlington, and Quincy railroads is the nearest source of small supplies and equipment.

OWNERSHIP

The property, comprising 2-1/4 sections or approximately 1,440 acres, is owned by State of Wyoming and is held under an assigned lease by the Sodak Uranium and Mining Company, Inc., Evans Hotel Annex, Hot Springs, South Dakota. The lease, dated May 16, 1955, was first held by Erwing Wolf then by Messrs. Haley, Rack, and Clark who assigned the lease as of March 3, 1956, to the applicant, the Sodak Uranium and Mining Company. The lease expires May 15, 1965.

HISTORY AND PRODUCTION

The property has little history; the NE 1/4 sec. 1 and sec. 36 were leased to Erwing Wolf, Cheyenne, Wyoming, May 16, 1955, who assigned the lease to Uranium and Associated Minerals, Messrs. Haley, Rack, and Clark, who made an assignment on March 3, 1956, to the applicant. The lease held by Haley et al. on sec. 16, T. 36 N., R. 73 W., was assigned to the applicant on the same date.

According to the applicant, 24 tons of uranium ore averaging 0.26 percent U_3O_8 were shipped from a small pit located on the west side of the NE 1/4 of sec. 1 by the Pumpkin Buttes Uranium Company in 1955. This is the total production of the property.

PRESENT STATUS

The only work done on the property consists of the small pit part of which overlaps onto the extreme western part of the NE 1/4 of section 1. State owned land requires no discovery or validation work.

There are no mining or milling equipment or living facilities on the property.

GEOLOGY

The Powder River Basin in northeastern Wyoming is a physiographic as well as a structural basin, bounded by the Big Horn Mountains and the Laramie Range on the west and south and by the Black Hills and Hartville uplift on the east. The basin is underlain predominantly by the Wasatch formation of Eocene age. The Fort Union formation of Paleocene age underlies the Wasatch formation and crops out around the periphery of the basin.

The Wasatch formation is a sequence, about 500 to 1,000 feet thick in the southern Basin, of flat-lying claystone and siltstone beds which are interbedded with randomly spaced sandstone lenses. Coal and carbonaceous shale beds are also numerous.

The amount of sandstone in the formation is much greater in the center of the basin than at the margins. This change in predominant lithology from the center to the margin enables the Wasatch to be divided into two facies. Around the margin of the basin the formation is

characterized by gray claystone and siltstone and numerous coal and carbonaceous shale beds. Sandstone lenses are few and are generally inconspicuous.

In the central part of the basin the formation is characterized by much sandstone in the form of broad lenses and narrow channel-fillings. Sandstone in this facies constitutes as much as one-third of the formation.

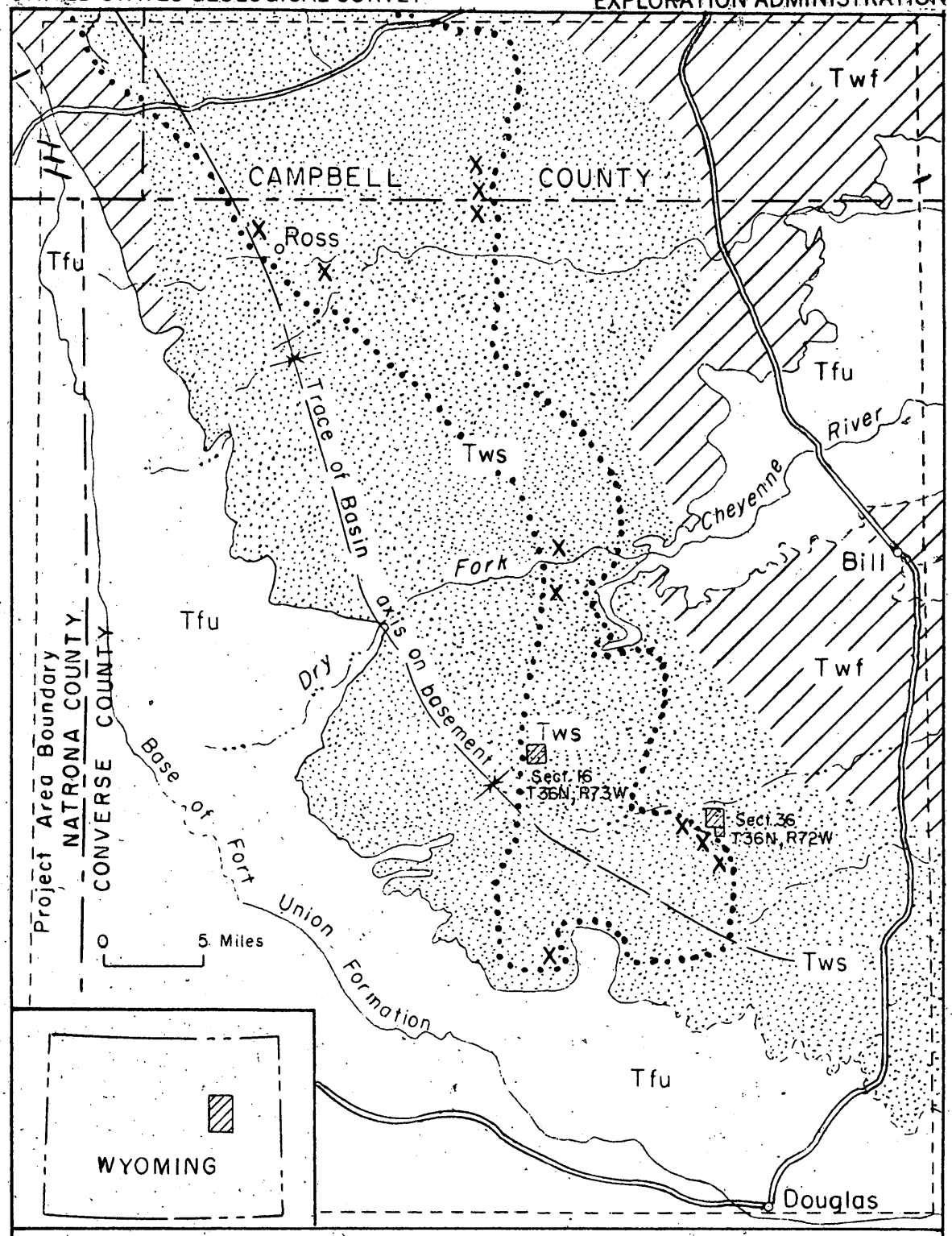
The sandstone of the Wasatch formation in the Powder River Basin is generally drab, yellowish-gray to yellowish-brown, but sandstone units in a zone along the axis of the basin are commonly to predominantly reddish, pink and grayish-red (fig. 2). Not all the sandstones within this area are red; many lenses are red only in part and some are entirely drab. Where it is found in a lens, the red tint affects a large continuous mass of the rock; it does not occur as isolated splotches of color. The contact of red color within any partly red sandstone body is generally very sharp but irregular in plan and cross section. The contacts are generally convex into the drab sandstone. Lobes and long arms of red color extending into drab sandstone are common contact features.

The restrictive occurrence of reddish sandstone in a definite portion of the Wasatch outcrop has suggested outlining a "red sandstone zone," that is, the smallest continuous area which will contain all known outcrops of red sandstone. The boundary is developed by circumscribing the mapped positions of all red sandstone occurrences as closely as possible with a single smooth line.

EXAMINATION REPORT
DMEA 4740

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PREPARED FOR
DEFENSE MINERALS
EXPLORATION ADMINISTRATION



Twf / Tws — Wasatch formation: Twf, dominantly claystone and siltstone with numerous coal beds; Tws, dominantly sandstone as lenses in claystone and siltstone sequence.

Tfu — Fort Union formation

Fault

Outline of "red sandstone zone"

X — Uranium deposit

FIGURE 2.-LITHOFACIES AND COLOR IN SANDSTONE AS RELATED TO URANIUM DEPOSITS IN WASATCH FORMATION

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D M E A
RECEIVED AUG 9 1957

DATE	INITIALS	CODE

The "red sandstone zone" thus delineated (fig. 2) is about 70 miles long and 5 to 20 miles wide. The long axis of the zone closely parallels the axis of the basin. It extends from near Douglas, at the southern edge of the basin, to several miles north of the Pumpkin Buttes in the central part of the basin.

The uranium deposits of the Wasatch formation are in sandstone units in the "red sandstone zone." They are mostly in units that are only partly red because the bulk of the uranium minerals in the deposits are concentrated in the drab sandstone at and close to red color contacts and appear to form larger concentrations where the color contact is highly irregular. Without exception, the major uranium deposits that have been mined in the basin are not only at a color change within a sandstone unit, but also very near the boundary of the red sandstone zone in the basin (fig. 2).

The deposits consist largely of yellow uranium minerals, tyuyamunite, carnotite, uranophane, and locally liebigite that are disseminated in the sandstone. At places they contain small masses of uraninite- and pyrite-cemented sandstone, usually rimmed by thick halos of yellow oxidized minerals. The pyrite and uraninite appear to have been localized by coalified wood fragments.

Black, sub-metallic nodules and irregular masses of manganese-oxides occur near and at the surface in many deposits. Some of these masses also contain yellow uranium minerals. A few small occurrences consist almost entirely of such uraniferous manganese-oxide concretions.

ORE RESERVES

There are no known ore reserves.

APPLICANT'S PROJECT PROPOSAL

In the application a single stage program is proposed, the program to consist of drilling 289 non-core holes on sec. 16 in T. 36 N., R. 73 W., to a depth of 60 feet or a total of 17,340 feet (the application has 17,250 feet) on a 300-foot grid spacing. In section 36, T. 36 N., R. 72 W., 136 non-core holes are to be drilled on the same grid spacing of 300 feet, 60 feet in depth, with a total drilling footage of 8,160 feet. No mention is made of drilling the NE 1/4 of sec. 1, T. 35 N., R. 72 W.

The applicant's breakdown of the estimated costs is as follows:

Drilling	
Sec. 16, T. 36 N., R. 73 W. 289 holes - 17,250 ft. at $0.40/ft.	$ 6,900.00
Sec. 36, T. 36 N., R. 72 W. 136 holes - 8,160 ft. at $0.40/ft.	3,264.00
Geologic supervision	
50 days at $35.00/day	1,750.00
Travel and expenses supervision	
50 days at $6.00/day	300.00
Provision for 100 sample assays at $4.00/sample	400.00

Contingencies applying to supervisory work only	$ 100.00	
Provision for land owners road easement	250.00	
Total		$12,964.00
10 percent for Contingencies		1,296.40
Estimated total cost of project		$14,260.40
Total cost to U. S. Government, 75 percent of $14,264.40		$10,695.20
	(Correct figure	$10,695.30)

CONCLUSIONS

Geologic data from outcrop are not adequate to define a significant target for exploration work in either sec. 16, T. 36 N., R. 73 W., sec. 36, T. 36 N., R. 72 W., or the adjoining NE 1/4 sec. 1, T. 35 N., R. 72 W. No work of a prospecting or exploratory nature has been done on either section 16 or section 36. The NE 1/4 sec. 1 component has only a shallow bulldozer cut that extends easterly from the small pit (with insignificant production) in NW 1/4 sec. 1.

Section 16 is in a favorable position relative to the trend of red color boundary in this part of the basin; however, there is no surface evidence within the section that manifests its specific presence here. All sandstone outcrops on the property appear to be drab. Red sandstone units crop out within the section adjoining on the east and drab sandstone units are in outcrop in a deep draw along the west side of the property (fig. 3). Nevertheless, to deduce from these separated features

a definite target area to underlie the intervening section 16 would be audacious.

There are no known radioactivity anomalies in section 16, a feature not entirely due to a lack of outcrop. Most of the sandstone units that underlie the area are exposed in the western and northern parts of the property.

However, regardless of the surface indications, a further qualification concerning sec. 16 is due. The area is considered very good for prospection and careful study because of its position relative to features of the Wasatch formation of the basin that are basic guides to potential ore-bearing sandstone units. Geologic criteria used as ore guides outlined in the application are not explicit nor completely sound with respect to what is known about the basin geology.

Section 36 appears to be in less favorable position relative to the red sandstone boundary than section 16. Geologic mapping indicates that features of the Wasatch formation indicative of possible uranium deposits are not present. The limit of red sandstone in the general area appears to be southwest of section 36 (fig. 3).

Added to a lack of color features within section 36 is the total lack of known radioactivity anomalies, although sandstone units of more than 200 feet of the Wasatch section are well exposed.

The suggestion is made in application that a sandstone unit in which mining had been done in NW 1/4 sec. 1 (just south of sec. 36) must extend under the west 1/2 of sec. 36. This extension under the property may be

true but that the color features which might present a target for exploration extend northward instead of westward is not apparent.

The NE 1/4 of sec. 1 is underlain predominantly by gently-sloping sage cover terrain deeply filled with outwash from the highlands at its west and northwest. With the exception of narrow noses of sandstone outcrop on the west edge, there is nothing to indicate the presence of favorable host rock or features of rock indicating possible targets for drilling.

RECOMMENDATIONS

The Sodak Uranium and Mining Company application (DMEA 4740) for DMEA support should be denied without prejudice. The decision for such recommendation is based principally on the lack of any specific target for exploration and lack of sufficient detailed geologic data by which a target could be fixed. In such event that the property is prospected and additional information is made available, the property or a part thereof could show evidence of economic mineral deposits and meet fundamental DMEA requirements for an exploration program.

DMEA
DEPARTMENT OF THE INTERIOR

MAY 27 1957
REGION III
DENVER, COLORADO

May 24, 1957

Memorandum

To: Acting Executive Officer, DMEA Field Team, Reg III

From: Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA 4740 (Uranium) Sodak Uranium and Mining Company, Inc., (State Land Uranium Mining Lease No. 0-19050 and No. 0-19051) Converse County, Wyoming

The application for Sodak Uranium and Mining Company, Inc., Docket DMEA 4740, in the amount of $14,260.40 was received in this office on May 24.

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

W. H. KING

W. H. King

cc: Act. Executive Officer (2)
E. N. Harshman
J. F. Shaw

Sub
Chron
WHK:bh

DMEA
RECEIVED MAY 31 1957

DATE	INITIALS	CODE
5/31		220
6/3		~~700~~

WO (2)

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DMEA
RECEIVED MAY 27 1957

DATE	INITIALS	CODE
5/27	C	220

224 New Customhouse
Denver 2, Colorado

May 23, 1957

Memorandum

To: W. H. King
H. N. Barshman } W/enclosures, Items 1-5 Below

From: DMEA Field Team, Region III

Subject: Docket DMEA 4740 (Uranium) Sodak Uranium and Mining Company, Inc. (State Land Uranium Mining Lease No. 0-19050 and No. 0-19051) Converse County, Wyoming

Enclosed is the following material relating to the subject docket.

1. Copy of application for Government assistance in exploration work under the DMEA program.
2. Memorandum of Review by James Pacos, USBM.
3. Memorandum of Review by N. E. Nelson, USGS.
4. Letter of transmittal of the foregoing to this office, dated May 20, 1957, from the Chairman, Operating Committee, DMEA.
5. Routing Control Sheet.

Enclosed with the Bureau of Mines' copy of the application is one copy of Uranium Mining Lease No. 0-19050 which should be returned to this office with the report of examination.

A joint report of recommendations based on available information or a joint report of findings and recommendations based on a field examination is requested.

For a complete discussion of the material, which the applicant will be required to submit should the work proposal be viewed favorably the field examiners are referred to the enclosed letter from the Chairman. We strongly suggest that the applicant be requested to submit four copies of Items 1 and 2 as listed by the Chairman.

If the field examiners recommend Government participation in the proposed exploration program, please submit twelve extra copies of each map used in the joint report which show the land to be subordinated and the location and extent of recommended work, relative to property boundaries.

The Bureau of Mines' copy of the application should be returned to this office with the joint report of examination. Mr. Harshman will forward the Survey's copy of the application to the Washington office.

Original signed by
E. N. HARSHMAN

E. N. Harshman
Acting Executive Officer

Enclosures

MHM:eh

cc: Sec. Op. Comm. (2)
King
Docket
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
5-16	Murphy	700
5-16	Ellis	700
5/17	Selfridge	130
		700
5/19	Johnson	110
5/20	Rottenberg	100
5/20	C	220

MAY 20 1957

Mr. B. N. Marshman
Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. [illegible]-6710 (Uranium)
Sodak Uranium and Mining Company, Inc.
State Land Uranium Mining Lease No.
O-19050 and No. O-19051
Converse County, Wyoming

Dear Mr. Marshman:

The captioned application is referred to Region III Field Team for investigation, a field examination if deemed advisable, and recommendations.

Enclosed are copies of memoranda, dated May 10, 1957, by James Paone, [illegible], and D. E. Nelson, [illegible], relating to the application. Also enclosed for Field Team use are two copies of the application and the one copy of the Uranium Mining Lease No. O-19050 requested in your memorandum of May 6. The copy of the lease should be returned to this office when it has served your purposes.

Apparently the Applicant has the rights of possession to the subject lands; however, the one instrument submitted to prove its rights is not sufficient.

In the event the Field Team concludes that a project to explore the subject land appears to be warranted, it should advise the Applicant that we require the following:

1. Copies of instruments showing that the State Board of Land Commissioners have approved the assignment of lease O-19050 covering the N½ of sec. 1, T. 35 N., R. 72 W. and all of sec. 36, T. 36 N., R. 72 W.;

2. Copies of state lease (O-19051?) on sec. 16, T. 36 N., R. 73 W., and instrument showing State approval of assignment to Applicant;

8623

3. The usual number of form IF-205 signed by the sublessors;

4. A performance bond equal to the Government's share of the cost of the project in the event a contract is approved; and

5. Copies of the drilling bids mentioned in your memorandum.

We note in regard to item 3, above, the Applicant's answer to Article 3. (c), the names Rock and Clark are associated with W. P. Haley, the second sublessor. It is possible that their signatures will also be required on the forms IF-205.

Sincerely yours,

George C. Selfridge
(By CSJ)
Chairman, Operating Committee

Enclosures

APPROVED:

Frank D. Lamb
(By CSJ)
Member, Bureau of Mines

Thor H. Kiilsgaard
(By CSJ)
Member, Geological Survey

FMMurphy/dlm 5-17-57
cc to : Mr. Murphy
Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
5-16	Murphy	700
5-16		700
		130
		110
20	Mittendorf	100
		220

MAY 20 1957

Mr. Clyde R. Boyle, President
Sodak Uranium and Mining Company, Inc.
Evans Hotel Annex
Hot Springs, South Dakota

Re: Docket No. DMEA-4740 (Uranium)
State Land Uranium Mining Lease No.
0-19050 and No. 0-19051
Converse County, Wyoming

Dear Mr. Boyle:

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

Mr. E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

The Regional Office will contact you in regard to your project if additional information is required.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

FMMurphy/dlm 5-17-57
cc to: Mr. Murphy
Admr's Reading File
DMEA Field Team, Region III (2)

8623

DMEA Form 7
(12-56)

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Date	Surname	Code
5-16	Murphy	700
5-16	[illegible]	700
5/17	Selfridge	130
	Lamb	
5/17	Johnson	110
		100
		220

Mr. Clyde R. Boyle, President
Sodak Uranium and Mining Company, Inc.
Evans Hotel Annex
Hot Springs, South Dakota

Re: Docket No. DMEA-4740 (Uranium)
State Land Uranium Mining Lease No.
O-19050 and No. O-19051
Converse County, Wyoming

Dear Mr. Boyle:

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

Please contact

Mr. E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

The Regional Office will contact you in regard to your project if additional information is required.

Sincerely yours,

Administrator

FMMurphy/dlm 5-17-57
cc to : Mr. Murphy
Admr.'s Reading File
DMEA Field Team, Region III (2)

8623

Mr. Ellis:
Note date received

IN REPLY REFER TO:

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DMEA
RECEIVED MAY 16 1957

DATE	INITIALS	CODE
5/16	C	220
	Strophy	700

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

May 10, 1957
Re: DMEA 4740
Sodak Uranium and Mining Co., Inc.
Two Tracts 1440 acres
Converse County, Wyoming
$14,260.40 - Uranium

Memorandum

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

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

Subject: Review of application

The applicant requests assistance in exploring, by drilling, two tracts of land underlain at shallow depths by the Wasatch formation.

From a pit on a property now owned by the applicant, two 12-ton shipments of ore were made. The grade - 0.13% U_3O_8 and 0.39% U_3O_8. The orebody could not be followed as it crossed into 'Loma' ground.

Otherwise there appear to be no outcrops of uranium bearing material, but more or less established trends suggest to the applicant that the referenced tracts are worth prospecting by 300-foot center drilling patterns.

Referral of the application to the Field Team is recommended. Perhaps acquaintance with the area will make an examination unnecessary.

N. E. Nelson

N. E. Nelson

OFFICIAL FILE COPY DMEA RECEIVED MAY 13 1957		
DATE	INITIALS	CODE
5/14	JWD	220
5/14	Murphy	700

United States
Department of the Interior
Bureau of Mines
Washington 25, D. C.

Date: May 10, 1957

DMEA Docket No. 4740
DMEA Contract No.
Commodity Uranium
Name of applicant Sodak Uranium & Mining Co., Inc.
Name of property
Location of property Converse County, Wyoming
Estimated cost of project $14,260.40

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

JP

Subject: Review of Application
(Application, Field Team Report, etc.)

1. Date of Budget Bureau: 5-8-57 2. Date received by reviewer: 5/10/57

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

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

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

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

7. Explain items marked yes above:

8. Factors meriting special consideration:
- a. Location ☐
- b. Geophysics ☐
- c. Evidence of mineralization ☐
- d. Geology ☐
- e. Proposed exploration method ☐
- f. Alternate exploration method ☐
- g. Costs ☐
- h. _____ ☐

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

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

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

May 8, 1957

Mr. Clyde R. Boyle, President,
Sodak Uranium & Mining Company, Inc.,
Evans Hotel Annex,
Hot Springs, South Dakota.

Subject: DMEA 4740
Re: Exploration Assistance

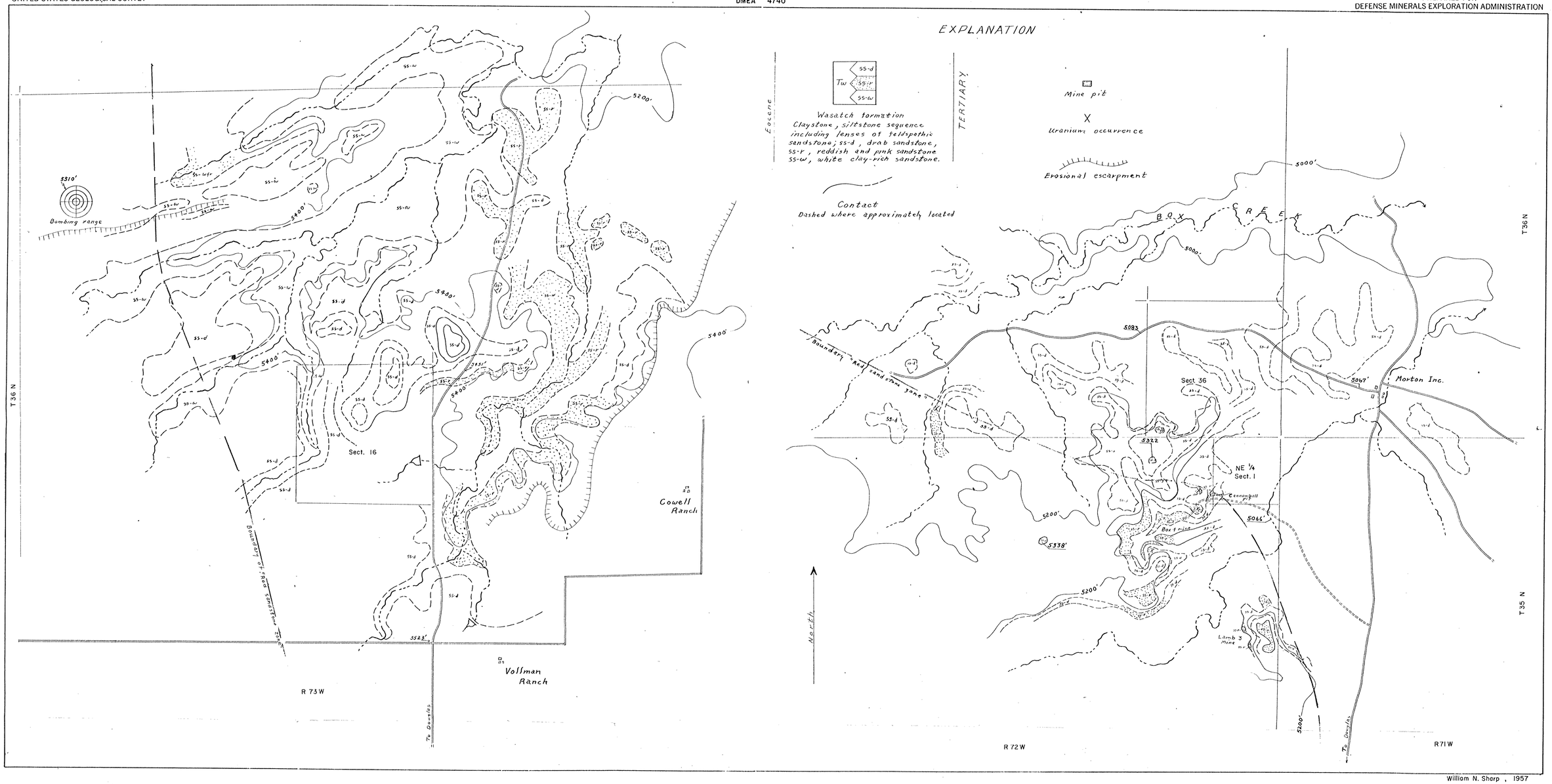
Dear Mr. Boyle:

Your application for exploration assistance, dated May 1, 1957, submitted to our office at Denver, Colorado, has been assigned Docket Number DMEA 4740 and referred to the Rare & Miscellaneous Metals Division in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

Sincerely yours,

Allen S. Dakan, Chief
Operations Control and
Statistics Division

Copy to: Region III.



William N. Sharp, 1957

Figure 3. GEOLOGY IN THE VICINITY OF SODAK URANIUM AND MINING COMPANY, INC. PROPERTY
POWDER RIVER BASIN, WYOMING

Scale 1:21,120

0 — 2 miles

Contour interval 200 feet

Datum is mean sea level