DM[illegible] Form 1

DEFENSE MINERALS EXPLORATION ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMEA Docket No. 4460

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To:	700	Date	9/11/56
To:	Operating Com.	Date	9/21/56
To:	F.E. Johnson	Date	9-24-56
To:	[illegible]	Date	9-24-56
To:	M+7	Date	9-24-56
To:	Oper. Com.	Date	~~1-31~~ 2-4-57 2.24
To:	110	Date	2-6-57
To:	100	Date	2-6-57
To:	225	Date	2-6-57
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IMEA Form 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

DMEA NO. 4460

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(Withdrawn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
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

RECEIVED
SEP 10 1956

September 5, 1956

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

Re: New Application (Uranium)
Big Smoke Uranium, Inc.
Big Smoke Property
Stevens County, Washington

Dear Mr. Selfridge:

Enclosed are three copies of an application submitted by Big Smoke Uranium, Inc., 303 Lincoln Savings Bldg., Spokane 1, Washington. We have retained one copy for our files.

This property is about 2 miles south of the Northwest Uranium Mines, Inc. property (Docket No. DMEA-4125) in the same area of Tertiary lake beds. Although the applicant's proposal is probably too ambitious, a modest drilling program, set up in stages, may be justified. A field examination should be made.

Sincerely yours,

A. E. Weissenborn

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I, NW District

Enclosure

cc: USBM (2)
Geologist

N. 120 WALL STREET

TELEPHONE RIverside 2453

BIG SMOKE

URANIUM, INC.

303 Lincoln Savings Bldg.
Spokane 1, Washington

NEW ADDRESS
725-726 Paulsen Building

RECEIVED
SEP 10 1956

August 28, 1956

U. S. Bureau of Mines
Defense Minerals Exploration Administration
Division & Boone Streets
Spokane 1, Washington

Gentlemen:

Enclosed herewith are five copies of application for exploratory loan as filed by this company.

All necessary documents as called for are hereto attached.

Also enclosed with each set of application are the following:

PLATE - I which shows by various colors all land held by Big Smoke Uranium, Inc. on the Spokane Indian Reservation; and,

PLATE - II showing the subject tract. This latter map shows the geology on the 160-acre tract desired to be explored, together with the physical work heretofore performed. The proposed trenching and drilling as outlined in the application are shown also on Plate II.

We shall be pleased to furnish you with any additional information that we have to facilitate your organization in processing our application.

Very truly yours,

BIG SMOKE URANIUM, INC.

By William O. Kumbera
President

WOK:ht
Enc.

RECEIVED
AUG 30 1956
U. S. G. S.
SPOKANE, WASH.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
AUG 30 1956
SPOKANE, WASH.

RECEIVED
SEP 10 1956

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. 4460
Metal or Mineral Uranium
Date Received 9-10-56
Estimated Cost $24,987.29
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: Big Smoke Uranium Inc. Corporation
725 Paulsen Bldg. State of Washington
Spokane 1, Washington

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

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

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

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

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

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

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

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

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

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

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

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

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

(*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 ..... days and be completed within ..... months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

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

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

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

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

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

☐ 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 AUG 27 1955, 195...

Big Smoke Uranium, Inc.
(Applicant)

By Martha Buehler
Secy-Treas

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

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

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SEP 1 0 1956

3. APPLICANT'S PROPERTY RIGHTS:

SE$\frac{1}{4}$, Sec. 11, T.27 N., R.37 E., W.M. (See legal document attached)

(a) Exploration of this tract will benefit contiguous land held by Applicant in Sec. 12 bordering Sec. 11 on the east. Preliminary bulldozing and drilling is now being done on Sec. 12 and contiguous Sec. 13. If satisfactory discovery is made on either of these sections, or, on Sec's 17, 18, 19, & 20 in T.27 N., R.38 E., W.M. held as prospecting permits by Applicant, application for DMEA loan will be filed for exploring one or more of these sections.

(b) Collectively known as Big Smoke

(c) Applicant is Lessee.

(d) Lease is hereto attached.

(e) Not applicable.

(f) Tribal land on Spokane Indian Reservation.

4. (a) Plate-II attached shows bulldozer cuts No's 1 to 9, and geology surrounding these cuts. Cut No. 9, the largest excavation parallels a granite-metamorphic contact. This cut has disclosed radioactive mineralization in small quantity that is believed will make satisfactory mill feed. 17 wagon drill holes varying in depth from 10 feet to 185 feet have been drilled in, and in the vicinity of this cut as follows:

Hole No.	Depth	Hole No.	Depth.
1-a	185	9	110
2	180	10	60
3	108	11	63.5
4	85	12	80
5	120	12-a	75
6	84	13	10
7	60	13-a	75
8	48	26	65
		28	100

(Probe-logs are attached)

This drilling was done primarily for the purpose of tracing contact and for working out a fault pattern that occurs in the area.

No blocking of ore or determining tonnage was intended. All work was performed for account of Applicant. All workings are easily accessible over existing roads and are open for examination.

(b) No past or present production. No ore reserves so far as have been determined.

(c) Plate-II shows the geology as now interpreted. As is common of those properties within the Spokane Indian reservation that have been proven commercial (Midnite), and those giving promise of becoming commercial, radioactive mineralization occurs in metamorphic rocks in contact with granite intrusives. With respect to granite intrusives, all are similar, however, each type deposit has characteristic features that are peculiar to each. Mineralization on Sec. 11 has been classified uraninite - probably associated with autunite. Also associated with black carbonaceous material resembling lignite. Concentration is evident along granite contact between two diverging faults. Drill holes show mineralization to extend for considerable distances on the hangingwall side in the metamorphics.

(d) The property is readily accessible over existing roads. Distance from Spokane is 50 miles; 34 miles paved, 10 miles graveled and six miles dirt roads. Distance to Ford, Washington the site for the new mill to be constructed for Dawn Mining Co. (Newmont Mining Corp.) is about 20 miles. Nearest railroad shipping point is Springdale about 32 miles from the property.

(e) Labor is recruited mostly from native Indian residents. Specialized help - drillers, etc. are obtained in Spokane. Materials, supplies, equipment, etc. are available in Spokane. Motor fuels are delivered on the job by distributors. Water is available as required from springs. All present equipment is self-powered.

5. (a) Radioactive minerals.

(b) Plate-II shows proposed work consisting of trenching and wagon-hole drilling. Actual ground operations may not exactly conform to that outlined on map. When and where work should be continued beyond any location where drilling indicates advisability of discontinuance should be left to judgement of Applicant's geologist who is employed full time. The work outlined is mostly on the hangingwall side of the granite contact. That outlined to the north of Cut No. 9 is to trace northerly swing of contact, and to delineate a fault structure traversing the area.

(c) The work will start within 30 days - by October 1, 1956 if loan approval is received by that date - and continue until concluded. Allowing for possible shutdown time during two intervening winters - it will be completed not later than December 31, 1957.

(d) Work will be under direct supervision of Jay E. Van Gundy, Licensed Professional Mining Engineer, State of Washington, and, Kenneth U. Russell, graduate geologist. Experienced drillers and other types of labor are now on the job.

6. Estimate of Costs:

Cost of Trenching - Per Month and Per Foot

Based on working two dozers - each working 25 days a month (Total 400 hours) and each excavating 2,500 feet (Total 5,000 feet) of 5' x 20' trench.

2	Operators - 400 hrs @ $2.875/hr	$ 1,150.00
1	Mechanic-Oiler. 150 hrs @ $2.35/hr	352.50
1	Jeep operator. 150 hrs @ $2.35/hr	352.50
	D-8 depreciation	236.55
	D-8 repairs	75.00
	HD-7 depreciation	316.45
	HD-7 repairs	75.00
	Jeep depreciation	74.69
	Jeep repairs	20.00
2,400	gallons diesel fuel @ 19.6¢	470.40
1	Lot oil and grease	50.85
25	Gallons gas for jeep @ 28.2¢	7.05
	Overhead: 1/2 of $1,819.50	909.50
	Scintillators & counters - depreciation	26.38
	Total per month	4,116.27

10% contingency	411.63
Total	$ 4,527.90
Per foot	$ 0.90558

Cost of Wagon Drilling - Per Month and Per Foot

Based on working two shifts - 200 hrs each per month (Total 400 hours)
Total estimated footage --5,000 feet in 50 holes.

2	Operators - 400 hrs @ $2.875/hr		$ 1,150.00
2	Helpers - 400 hrs @ $2.35 /hr		784.00
1	Mechanic & Oiler - 50 hrs @ $2.35/hr		117.50
1	Gardner-Denver compressor.	Rental	900.95
1	Gardner-Denver wagon drill.	Depreciation	62.13
1	6x6 truck - drill mounting.	Depreciation	22.96
	Drill repairs		75.00
	Truck repairs		25.00
	Drill steel	Depreciation	134.55
25	Carbide drill bits - including regrind		400.00
2,000	Gallons diesel fuel @ 19.6¢/gal.		392.00
1	Lot oil & grease		50.00
500	Gallons gasoline for 6x6 truck @ 28.2¢¢gal.		141.00
250	Feet collar casing @ 50¢ /ft.		125.00
	Overhead: 1/2 of $1,819.50		909.75
50	Chemical analyses @ 4.50/ea.		225.00
	Scintillators & counters - depreciation		26.38
		Total per month	$ 5,541.22
		10% contingency	554.12
		Total	6,095.34
		Per foot	1.21907

Note: In above estimates all taxes are included in hourly wage.
$2.00 hourly wage comes to $2.35/hr---17.5% increase.
$2.50 hourly wage comes to $2.875/hr--15% increase.
Geologists salary of $600/mo. comes to $669.50/mO.

ESTIMATED COST OF PROJECT

10,000 feet trenching @ $0.90558 - - - - -	$ 9,055.80
900 feet access road @ $0.90558 - - - -	815.02
12,400 feet of drill hole @ $1.21907 - - -	15,116.47
Total cost	$24,987.29

(a) It is not intended to let outside contracts for bulldozing. Aside from using Applicant's wagon drill, outside contract for wagon hole drilling may be let at a direct cost of $1.40 per foot.

(b)

1	Manager	$ 750.00
1	Geologist	669.50
2	Wagon drill operators	
2	Wagon drill helpers	
1	Mechanic	
2	Bulldozer operators	
2	Laborers	
1	Accountant	300.00

Attorney (Part time)	100.00
Overhead - per months	$1,819.50

(c) Included in operating costs.

(d) Operating equipment - cost and depreciation

Type	Condition when purchased	Cost	Expected Life	Dep. per Month
D-8 Dozer	used	$ 8,515.68	36	$236.55
HD-7 Dozer	used	11,392.17	36	316.45
6x6 Truck	used	826.67	36	22.96
G.D. Wagon Drill	new	3,727.53	60	62.13
Drill rods	new	1,614.57	12	134.55
Jaeger Comp. 600cfm	new	15,000.00	60	900.95 *
2-Willys jeeps	used	1,792.67	24	74.69
Inter. dump truck	used	697.50	24	29.06
Scintillators & counters	new	1,582.56	60	26.38
Small tools	new	443.88	24	18.49

(e) None

(f) One new bunkhouse to be constructed near the present one of similar size that will be converted into cookhouse. New building to be two room 12' x 24' frame with aluminum roofing. Estimated cost ---------- $750.00

One new sample and storage building - same site - 10' x 12'. Same construction. Estimated cost -----$400.00

(g) Miscellaneous:

All of operating equipment is in first class working order. Future repairs not estimatable have been figured into the costs of trenching and drilling at a rate of $75.00 per month for each of the three major pieces of equipment.

One wet analysis for each of 50 holes has been projected at a cost of $4.50 per sample from Peter Mack of Wallace, Idaho.

Time and cost records are kept by Lloyd A. White, C.P.A., 725 Paulsen Building, Spokane 1, Washington.

7. (a) Yes

   (b) On cash basis

GENERAL STATEMENT

10,000 feet of trenching is requested in the application against an approximate 8,200 feet that has been outlined on Plate-II. Beside that shown, at least an additional 2,000 will be required to reach all of the drill sites. All trenches may not be constructed in the methodical manner shown on the map but the aggregate footage to reach all drill locations is thought to be approximately correct. All drill sites on Sec. 11 will require trenching to reach locations, and for drill settings. The terrain is generally rough representing difference in elevations of 320 feet.

Plate-1 shows in various colors all of the lands held within the Spokane Indian Reservation by Applicant. Some of these lands are prospecting permits; some are leases. Subject Sec. 11 is a lease. All maps and records herewith submitted may be retained.

Big Smoke Uranium, Inc.
Spokane 1, Washington

Item 1 (c)
Form MF-103

LIST OF CORPORATE OFFICERS

Name	Title	Address
William O. Kumbera	President	E. 1620 Dalke - Spokane
Eugene A. Kumbera	Vice-president	Ford, Washington
Eric E. Rajewski	Vice-president	Wellpinit, Washington
Martha Diehm	Secy-treasurer	N. 2724 Atlantic - Spokane

14-20-503-142

Form 5-157 b
(April 1940)

CONTRACT NO. I..... IND. .....

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF INDIAN AFFAIRS

RECEIVED
SEP 10 1956

MINING LEASE—TRIBAL INDIAN LANDS

(FOR MINERALS OTHER THAN OIL AND GAS)

Spokane Indian Tribe, State of Washington

THIS INDENTURE OF LEASE, made and entered into in quintuplicate this 31st day of October, 1955, by and between Floyd H. Phillips, Superintendent of Indian Affairs

of Nespelem, State of Washington

for and on behalf of the Spokane Tribe of Indians, designated herein as lessor, and Kathryn Kumbera Shemorry

of Box 334, Omak, State of Washington

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-described tract of land lying and being within the Spokane Indian Reservation, County of Stevens and State of Washington, to wit:

SE¼

of section 11, township 27N, range 37 E.W.M., ... meridian, and containing 160 acres, more or less, for the full term of 10 years from the date of approval hereof, and as much longer thereafter as the substances specified herein ~~for the sole purpose of prospecting for and mining uranium and associated minerals~~ are produced in paying quantities, for the sole purpose of prospecting for and mining Uranium and minerals associated therewith.
The terms and conditions of this lease shall be subject to a reasonable adjustment by the Secretary of the Interior at the end of the first and each succeeding 10 year period

(1)

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 Exibit 'A'"

~~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: ~~[illegible]~~ $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 purposes than 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 if payments are made to him, sworn

* Here insert the royalties agreed upon in accordance with applicable regulations.

PERCENTAGE ROYALTY SCHEDULE FOR URANIUM AND MINERALS ASSOCIATED THERE WITH

MINE VALUE PER DRY TON				Royalty percentage of Mine value per dry ton
$ 0.01	to	$10.00	inclusive	10%
10.01	to	20.00	"	11
20.01	to	30.00	"	12
30.01	to	40.00	"	13
40.01	to	50.00	"	14
50.01	to	60.00	"	15
60.01	to	70.00	"	16
70.01	to	80.00	"	17
80.01	to	90.00	"	18
90.01	to	100.00	"	19
100.01	or	more	"	20

"MINE VALUE PER DRY TON", wherever used herein, is hereby defined as the dollar value per dry tone of crude ores at the mine as determined by the application to the valuable metal content of such ore of the price schedules for such ores established currently in effect by the A.E.C. or other government authorized agencies before allowance for transportation and development. It is specifically understood that any mine production bonuses whall be included in the "mine value per dry ton". However, if the Government at any time hereafter does not establish or have in effect a price schedule for the purchase of such ores on a fixed or scheduled dollar value per dry ton of crude ores at the mine, or said ores contain salable minerals, some, or all, of which are disposed of to a custom treatment plant or smelter for the treatment and benefication of uranium bearing ores, then mine value per dry ton shall be the gross value per dry ton of said crude ores as paid for by the A.E.C., or other Government authorized agency, mill or other buyer, less any allowances or reimbursements for the following specific items:

1. Transportation of ores;
2. Allowances paid to Lessee by the A.E.C. or other Government authorized agency for exploration for or development of ores;
3. Treatment or benfication of ores, which specific items shall, in such event, be deducted from the gross sale price received from the metal content of said ores by the seller before said percentage royalty is calculated and paid. Any cost of treatment or benefication shall be the actual cost without any milling profit. It is specifically understood that any mine production bonuses shall be included in the mine value per dry ton.

Lessee agrees to pay the above percentage royalty payment on or before the fifteenth (15th) day of the month next following the removal from the demised premises, weighing and sampling by lessee of said ores, and lessee shall attach to each such payment made a statement of the mine value of said ores and the amount of royalty due on each lot so removed.

(The following is to be added if the lease is for a term in excess of 10 years)

The royalty provisions of this lease will be subject to reasonable adjustment at the end of each successive 10-year period, such adjustment being based upon market conditions as supported by evidence from the field, and subject to the approval of the Secretary of the Interior or his authorized representative.

EXHIBIT "A"

-to-Big Creek Uranium Co.

10. The lessee may use existing roads if any, on the land and shall have the privilege of constructing and maintaining at its own expense any additional roads or transportation facilities across lessor's lands that are necessary in carrying on the actual mining, prospecting and exploration work, PROVIDED that the location of such roads be approved in writing by the Officer in Charge of the Colville Indian Agency. No part of any such road or roads shall inure to the benefit of the public and the public shall obtain no rights thereon, but upon termination of this lease for any cause whatsoever or if at any time it shall become unnecessary for the lessee to use any such road for conducting the operations authorized under this lease, the right to use said road shall thereupon cease and all the rights shall revest in lessor in accordance with law. The lessee shall hold the lessor and the United States harmless and indemnify them against any and all loss or damage that might result from the construction or maintenance by the lessee of said roads in a negligent manner. Any installations made in connection with roads or transportation facilities by the lessee may be removed by the lessee.

11. Applications for rights of way will be made by the lessee pursuant to the requirements of 25 CFR 256.

12. The lessee shall have the right at its own expense to drill and equip water wells on said premises and agrees at the termination of the lease by expiration of its term or otherwise all wells be left intact and properly cased. Lessee shall have the right to remove all mechanical pumping equipment installed by it at any wells. If any of said wells shall produce water surplus to the needs of the lessee, said water shall be available to the members of the lessor.

13. The lessee agrees that on termination of operations under this lease taken thereunder it will make provisions for conservation and protection of the property and leave all of the areas on which it has worked in a condition that will not be hazardous to life or limb.

14. The lessee shall, and hereby agrees to indemnify, protect, and save harmless said lessor and the United States of America from and against the following specific claims, demands and damages (and none other) arising out of the lessee' negligence or actionable faults in connection with the lessee's work and operations, hereunder, to wit:

(a) To property of third persons, including the lessor.

(b) To third persons, including Spokane Tribe, the lessor, for injury and death.

(c) To livestock of the lessor and its members and to the permanent buildings and stuctures of the lessor and its members situated on the property covered by this lease.

(d) Liens or lien claims on account of labor performed upon or material furnished to the property covered by this permit at the instance of the lessee.

15. The lessee agrees to carry such insurance covering all persons working in, on, or in connection with said property for the lessee as will fully comply with the provisions of the statutes of the State of Washington covering workmen's compensation and occupational disease, as are now in force or as they may hereafter be changed or amended. Further, the lessee agrees to comply with all of the terms and provisions of all applicable laws of the State of Washington and of the United States of America as now exist or as hereafter amended, pertaining to Social Security, Unemployment Compensation, wages, hours and conditions of labor, and to indemnify and hold the lessor and the United States harmless from payment of any damages occasioned by the lessee's failure to comply with said laws. The lessee shall pay all taxes lawfully assessed against its property or operations.

~~16. The lessee shall employ Indian labor in all positions for which they are qualified including truck drivers. Lessee agrees to make special efforts giving priority to members of the _____ Tribe, and the skilled, technical and other higher jobs in connection with the lessee's operations under this lease.~~

monthly reports thereon not later than the 25th of the succeeding month; and all sums due as royalty and advance 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.

"Include 30 CFR 231"

(*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 under all 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. MINING.—All ores and minerals mined and saved and prepared for market thereon and all ores and minerals shall be removed therefrom to be sold or prepared for market without the written consent of the Secretary of the Interior.~~

4 ~~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.

5 ~~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.

6 ~~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 the Secretary 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 the lands not so surrendered. If this lease has been recorded lessee shall file a recorded release with his application to the Superintendent for termination of this lease.

7 ~~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.

8 ~~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.

9 ~~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.

There shall be expended annually in actual mining operations, developments, or improvements upon leased lands, or for the benefit thereof, a sum, which with rent, shall amount to not less than $5.00 per acre.

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

SPOKANE TRIBE OF INDIANS

Two witnesses to execution by lessor:

Fred Good, Realty Officer
P. O. Nespelem, Wn.
Louise G. Arcasa, Clerk
P. O. Nespelem, Wn.

By: Floyd H. Phillips [SEAL]
Superintendent, Colville Indian Agency

[SEAL]

Two witnesses to execution by lessee:

Malinda D. Kumbera
P. O. Omak, Wash.
John F. Shemorry
P. O. Omak, Wash.

Kathryn Kumbera Shemorry [SEAL]

Attest:

ACKNOWLEDGMENT OF LESSOR

STATE OF
COUNTY OF } ss:

Before me, a notary public, on this day of , 19

personally appeared

, to me known to be the identical person, who executed the within and foregoing lease, and acknowledged to me that executed the same in official capacit as

as free and voluntary act and deed for the uses and purposes therein set forth.

Notary Public.

My commission expires

UNITED STATES DEPARTMENT OF THE INTERIOR

~~Washington, D.C.,~~ March 16 1956, 19

The within lease is hereby approved., pursuant to authority delegated by Acting Assistant Commissioner of Indian Affairs February 29, 1956

~~Assistant Secretary of the Interior.~~

Acting ss/Perry E. Skarra
Area Director, Portland Area ~~Office,~~
Bureau of Indian Affairs, U.S. Dept. of the Interior

Filed for record this day of , 19

at o'clock m.

By

Rental received, $

U. S. GOVERNMENT PRINTING OFFICE : 1947 O - 746054

5-154 b
(October 1947)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS

RECEIVED
SEP 10 1956

BOND

TO ACCOMPANY MINING LEASES

Know All Men by These Presents, That KATHRYN KUNSERA SHEPHERD of OMAK, WASHINGTON, as principal, and UNITED PACIFIC INSURANCE COMPANY of TACOMA, WASHINGTON, as surety, are held and firmly bound unto the United States of America in the sum of TWO THOUSAND AND NO/100...($2,000.00) dollars, lawful money of the United States of America, for the payment of which well and truly to be made, we bind ourselves, and each of us, our and each of our heirs, executors, administrators, successors, or assigns, jointly and severally, firmly by these presents.

Sealed with our seals and dated this 31st day of October, 1955

The condition of this obligation is such that whereas the above-bounden KATHRYN KUNSERA SHEPHERD, as principal, entered into a certain indenture of lease, dated OCTOBER 31st., 1955 with Floyd H. Phillips, Superintendent of Indian Affairs Nespelem, Washington

for the lease of a tract of land described as follows: SE¼ of Section 11, Township 27N, Range 37 E.W.M.

and located in the County of Stevens in the State of Washington for URANIUM and associated minerals mining purposes for the period of 10 years from the date of approval thereof, and as much longer thereafter as the lease shall be continued in force in the manner provided for therein.

Now, if the above-bounden principal herein shall faithfully carry out and observe all the obligations assumed in said indenture of lease, and shall observe all the laws of the United States, and regulations made, or which shall be made thereunder, for the government of trade and intercourse with Indian Tribes, and all the rules and regulations that have been, or may be, lawfully prescribed by the Secretary of the Interior relative to mining leases on the said Reservation, then this obligation shall be null and void; otherwise to remain in full force and effect.

Provided, That in event supervision over all the leased tract to which this bond applies is relinquished by the Secretary of the Interior and lessee shall have made all payments then due under the lease and shall have fully performed all obligations on his part to be performed up to the time of relinquishment of supervision, this bond shall be of no further force and effect.

The rate of premium charged on this bond is $10.00 per $1,000; the total premium paid is $20.00

16—11481-1

[OVER]

Signed and sealed in the presence of—

WITNESSES:

Malinda D. Kumbera

P. O. Omak, Wn.

John P. Shemorry

P. O. Omak, Wn.

as to Kathryn Kumbera Shemorry [SEAL]

E. Bowen

P. O. 3007 E. Nora, Spokane, Wash.

L. Klinger

P. O. E. 817 Gordon, Spokane, Wash.

UNITED PACIFIC INSURANCE COMPANY

as By: Wm. E. Burch [SEAL]

Attorney-in-fact

SEAL

P. O.

P. O.

as to [SEAL]

P. O.

P. O.

as to [SEAL]

(Two witnesses to each signature)

APPROVED:

DEPARTMENT OF THE INTERIOR,
Bureau of Indian Affairs,
Portland Area Office
Portland, Oregon

Washington, D. C.

Mar 16, 1956

Acting Commissioner of Indian Affairs.

16—11481-1 U. S. GOVERNMENT PRINTING OFFICE

The within Bond is hereby approved pursuant to authority delegated by the Acting Assistant Commissioner of Indian Affairs February 29, 1956.

s/ Perry W. Skarra

Acting Area Director

5-154 e
(May 1949)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS

CONTRACT No.

ASSIGNMENT OF MINING LEASE

WHEREAS, the Secretary of the Interior has heretofore approved ______ mining lease, dated ______, 19___, entered into by and between Floyd H. Phillips, Superintendent of Indian Affairs, Colville Agency, at Nespelem, Wash. ______, lessor, and KATHRYN KUMBERA SHEMORRY ______, lessee, covering the following-described lands in the SPOKANE INDIAN RESERVATION
(Insert name of Reservation, Pueblo, Nation, etc., as needed)
in the State of Washington, to wit: SE¼ Section 11, Township 27 North, Range 37 East, W.M., containing 160 acres, more or less.

NOW, THEREFORE, for and in consideration of ten and no/100 - - - - - - - - - - - - - - dollars ($10.00), the receipt of which is hereby acknowledged, the said Dathryn Kumbera Shemorry the owner of the above-described lease, hereby bargains, sells, transfers, assigns, and conveys ______ right, title, and interest in and to said lease, subject to the approval of the Secretary of the Interior, to BIG SMOKE URANIUM, INC., a Washington corporation, of Spokane, Washington

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 her hand and seal, this 9th day of March, 1956.

ss Kathryn Kumbera Shemorry

______

______

16—11683-2

[OVER]

ACKNOWLEDGMENT OF CORPORATION

STATE OF _____ } ss:
COUNTY OF _____

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 Washington } ss:
COUNTY OF Spokane

Before me, a notary public, in and for said county and State, on this 9th day of March, 1956 personally appeared Kathryn Kumbera Shemorry _____, to me known to be the identical person who executed the within and foregoing instrument, and acknowledged to me that she executed the same as her free and voluntary act and deed for the uses and purposes therein set forth.

My commission expires Feb. 14, 19 57 ss/ Lloyd A. White *Notary Public.* for Washington, residing at Spokane.

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 her hand and seal this 9th day of March, 19 56

BIG SMOKE URANIUM, INC.

By: ss/ William O. Kumbera President
By: ss/ Martha Diehm Secretary

CONSENT OF SURETY

The UNITED PACIFIC INSURANCE COMPANY, of Tacoma, Washington, surety for Kathryn Kumbera Shemorry _____ 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 Spokane, Washington this 9th day of March, 1956

UNITED PACIFIC INSURANCE COMPANY

By: ss/ Wm. E. Burch
(Wm. E. Burch) Attorney-in-fact

Portland Area Office
Portland, Oregon

UNITED STATES
DEPARTMENT OF THE INTERIOR,
Washington, D. C., Approved pursuant to authority delegated by the Acting Assistant Commissioner of Indian Affairs, February 29, 1956

APPROVED: ss/ Perry E. Skarra
Acting Area Director
Commissioner of Indian Affairs.

16—110[illegible]2 U. S. GOVERNMENT PRINTING OFFICE

Sect 11 T27N R37E Percussion Hole #A5 Kola Date Probed: 2/10/56 By K.H.R.

Footage	Probe	Geology	Footage	Probe	Geology	Footage	Probe	Geology	Footage	Probe	Geology
0		clastics sediments				90			135		
5			50			95			140		
10			55			100			145		
15	.7		60			105			150		
	.15										granitic fault gouge
	.50										
	.50										
	.30										
20	.40		65			110			155		
	.40										
	.50										
	.50										
	.50										
25	.50		70			115			160		
	.50										
	.60										
	.50										
	.50										
30	.60		75			120			165		
	.60										
	.60										
	.60										
	.50										
35	.50	Varied dark & light granite	80			125			170		
	.20										
	.15										
	.18										
	.15										
40	.10		85			130			175		
	.06										
	.05										
45			90			135			180		
									185		

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SEP 10 1956

Sect 11 T27N R.37E. Percussion Hole # B.S K.-2 Date probed 2/11/56 By K.H.R.

Background = .03 Brg. = 215 @ 43°

Footage	Probe	Geology	Footage	Probe	Geology	Footage	Probe	Geology	Footage	Probe	Geology
0	.02		45	.04		90	.03		135	.02	
		granite									
5	.03		50	.04		95	.04		140	.06	
10	.025		55	.04		100	.02		145	.04	
15	.025		60	.025		105	.05		150	.03	
20	.03		65	.025		110	.09		155	.10	
										.10 .10 .10 .06	
25	.03		70	.03		115	.06		160	.06	
30	.05		75	.03		120	.08		165	.06	
							.09 .10 .14			wet	
35	.04		80	.04		125	.10 .12		170	.06 .10	
							.15 .15 .12 .10			.05 .025	granitic fault gouge
40	.04		85	.03		130	.07		175	.025	
							.04				
45	.04		90	.03		135	.03		180	.025	

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SEP 1 0 1956

Sec 4 N T 27N R 7 E — Percussion Hole # BS K-3 — Data Recorded: 2/13/64 By K.J.R.

Background = .02

Footage	Probe	Geology	Footage	Probe	Geology	Footage	Probe	Geology
0	.02		45	.06		90	.05	
		Alluv. Sands						
5	.025		50	.03		95	.06	
10	.04		55	.025		100	.05	
		Sediment						
15	.03		60	.07		105	.03	
						108	.04	End of hole
20	.02		65	.03		110		
25	.02		70	.08		115		
				.08				
				.09				
				.09				
				.09				
30	.03		75	.09		120		
				.09				
				.10				
				.12				
				.08	granite			
35	.04		80	.065		125		
40	.03		85	.04		130		
45	.04		90	.05		135		

RECEIVED
SEP 10 1956

Sect. 11 T27N R8E — Percolation Hole # G.S.H.-4 — Date Probed: 2/13/96 By K.H.R.

Background = .02

Footage	Probe	Geology	Footage	Probe	Geology
0	[illegible]		45	[illegible]	
5	.02		50	.02	
10	.02		55	.02	
15	.05		60	.04	
20	.02		65	.03	
25	.04		70	.025	
	.05				
30	.05		75	.025	
	.06				
	.07				
	.10				
	.09				
35	.08		80	.03	
40	.06		85	.09	End of hole
	.09				
	.15				
	.10				
	.07				
45	.035		90		

Sect. 11 T.27N R.37E — Percussion Hole # B.S.15-5 — Date Proped: 5/9/56 — By K.J.R.

Background = .025

Footage	Probe	Geology	Footage	Probe	Geology	Footage	Probe	Geology
0	.070		45	.13		90	.02	
	.03	Alluv. Sands		.10				
				.05				
				.02				
				.04	granite			
5	.02		50	.06		95	.02	
				.04				
				.04	Basalt			
				.03				
		Arkosic Seds.		.035				
10	.02		55	.025		100	.02	
				.025				
				.020				
15	.02		60	.024		105	.02	
					granite			
		Arkose with Carbonaceous Seams						
20	.02		65	.02		110	.02	
		Arkose with granite pebbles						
							.02	End of probe
25	.03		70	.02		115		
30	.02	Arkose with Carbonaceous Seams	75	.02		120		End of Hole
35	.035		80	.02				
		Arkose						
40	.025		85	.02				
	.07							
	.20							
	.50							
	.40							
45	.18		90	.02				

Sect. 11 T 27 N R 37 E Percussion Hole # B.S. K-6 Date Probed: 5/10/56 By K.H.F.

Background = .02

Footage	Probe	Geology	Footage	Probe	Geology
0	.02		45	.02	
		Brownish granite rock wall			
5	.025		50	.035	
					Basalt
10	.030	granite +	55	.025	
	.035	Sedimentary			
	.085	Breccia			
	.100				
	.125				
15	.190		60	.025	
	.130				Basalt
	.155				
	.170				
	.140				basalt +
20	.060		65	.03	granite
	.07			.025	interbedded
	.06				
	.09				
	.135				
25	.185		70	.025	
	.190				
	.12				
	.10				
	.075			.025	
30	.09		75	.10	granite
	.135			.035	
	.110			.030	
	.14			.02	
	.19			.025	
35	.15		80	.03	
	.12				
	.09	dark colored			
	.08	granite or			
	.075	Andesite		.035	End probe
40	.06		85		End hole
	.04				
	.02				
	.02				
	.02				
45	.02		90		

Sec 4 T27N R27E — Percussion Hole # B.S. K-7 — Date Probed: 5/10/76 By K.H.R.

Background = .025

Footage	Probe	Geology	Footage	Probe	Geology
0	.15		45	.15	
		Arkosic		.20	
		material		.14	
				.105	
				.05	Arkosic
5	.040		50	.04	material
				.04	with
				.05	Basalt
				.035	fingers
		Arkosic		.045	
10	.04	material	55	.03	
		with		.05	
		carbonaceous		.03	Arkosic material
		seams		.02	Basalt
				.02	
15	.03		60	.04	
20	.04		65		
		Arkosic			
		material			
25	.04		70		
		Arkosic			
30	.03	material	75		
		with			
		carbonaceous			
	.06	seams			
	.04				
35	.06		80		
	.04				
	.04	Arkosic			
	.04	material			
	.08				
40	.07		85		
	.35				
	.25				
	.16				
	.14				
45	.15		90		

Sec 4 T 27N R 37E Prospection Hole # 13S15-8 Date Probed: 5/10/56 13 14 21 17

Background = .035

Footage	Probe	Geology	Footage	Probe	Geology	
	.035			.035		
		granite + Sedimentary breccia with carbonaceous seams		.04		End of hole
5	.05					
	.05					
	.04					
	.06					
	.055					
	.035					
	.055					
	.055					
	.045					
	.045					
5	.075					
	.085					
	.160					
	.450					
	.165					
10	.450					
	.13					
	.30					
	.65					
	.185					
15	.095					
	.095					
	.125					
	.16					
	.17					
20	.15					
	.155					
	.19					
	.25					
	.80					
25	.13					
	.35					
	.18					
	.12					
	.10					
30	.16					
	.05	granite Breccia				
	.035					
	.085					
35	.085					

Sect. 11 T.21N R.37E. Percussion Hole # Bch. 9 Date 5/14/56 By K. Hill

Background = .02

Footage	Probe	Geology	Footage	Probe	Geology	Footage	Probe	Geology
0	.02		45	.05		90	.06	
		Arkosic		.055			.075	
		Material		.140			.055	
		with		.10			.04	
		carbonaceous		.05			.02	
5	.02	seams	50	.035		95	.035	
				.035			.030	
				.025			.02	
	.08			.025	dark		.035	
	.10			.025	granite or		.035	
10	.075		55	.09	andesite	100	.04	
	.025			.09			.025	
	.05			.09	granite		.03	
	.07			.035			.02	
	.07			.09			.025	
15	.08		60	.075		105	.035	
	.035			.035			.045	
	.02			.035			.10	
	.05			.03			.045	
	.025			.025			.04	
20	.06		65	.065		110	.045	
	.05	Arkose		.03				
	.075			.02				
	.06			.03				
	.05			.03				
25	.05		70	.045				
	.09			.055				
	.025			.05				
	.02			.09				
	.03			.05				
30	.03		75	.09				
	.02			.025				
	.025			.09				
	.025			.05				
	.025			.09	granite			
35	.030		80	.10	with			
	.035			.14	carbonaceous			
	.035			.10	seams			
	.04			.06				
	.04			.10				
40	.05		85	.08				
	.06			.05				
	.045			.12				
	.04			.09				
	.04			.045				
45	.05		90	.06	dark granite or andesite			

Sect. 11 T. 27N R. 37E Percussion Hole # G.S. K-10 Date Probed: 5/11/56 By K. H. R.

Background = .15

Footage	Probe	Geology	Footage	Probe	Geology
0	.15		45	.025	
	.15	granite			
	.16	conglom.			
	.135				
	.10				
5	.075		50	.02	
	.09	granite			
	.12				
	.09				
	.06				
10	.04		55	.03	
	.05				
	.04				
	.04				
	.03				
15	.025		60	.03	End of hole
	.025				
	.03				
	.02				
	.02				
20	.02				
	.05				
25	.02				
	.05				
	.04				
	.03				
	.025				
30	.025				
35	.05				
40	.025				
5	.025				

Sect. 11 T27N R37E. ~~Area D-Dillman~~ #B.S. K-11 Date Probed 6/15/56 By K.H.P.

Background = .02

Footage	Probe	Geology	Footage	Probe	Geology	
0	.04		45			
	.04					
5	.04		50			
10	.04		55			
15	.05		60			
			63½			End of hole
20	.035					
25	.04					
30	.04	End Probe				
35		decomposed granite				
40						
45						

Sect. 11 T. 27 N R. 3 7/8 E Percussion Hole # B.S. K-12 Date Probed: 6/15/56 By K.U.R.

Background = .01

Footage	Probe	Geology	Footage	Probe	Geology	
	.01		45	.025		
				.028		
	.022					
	.03					
				.028		
5	.03		50	.024		
				.028		
	.025					
0	.025		55	.024		
				.02		End of probe
5	.025		60			
0	.029		65			
5	.025		70			
0	.020		75			
	.03					
	.03					
5	.028		80			End of hole
	.03					
0	.025					
5	.025					

Sect 14 T.27N R.37E — Percussion Hole # B.S.K-12a — Date Probed: 6/15/61 By K.W.R

Background = .019

Footage	Probe	Geology	Footage	Probe	Geology
0	.019		45	.018	
5	.02		50	.024	
10	.02		55	.024	
	.029				
15	.024		60	.02	
20	.02		65	.022	
25	.024		70	.018	
	.028				
30	.02		75	.015	End of hole
35	.02				
40	.024				
45	.018				

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Sect 11 T27N R3E

Percussion Hole # BSK-K-13

Background = .021

Date probed: 6/20/86

By KILLR

Footage	Probe	Geology
	.021	
5	.02	
10	.02	End of hole

Sect. 11 T27N R37E — Percussion Hole #BJK-K-13a — Date Probed: 6/20/56 — By: T.H.R.

Background = .021

Footage	Probe	Geology	Footage	Probe	Geology
0	.021		45	.02	
		Alluv. Sands			
5	.02		50	.018	
		Tan Arkosic Seds.			
10	.012		55	.02	
					dark colored granite
				.03	
15	.02		60	.018	
		Brown Ark. Seds.			
20	.012		65	.018	End of Probe
		Dark colored conglomeritic And.			
25	.021		70		
30	.022		75		End of Hole
35	.02		80		
40	.018		85		
45	.02		90		

Sect 11 T22N R37E — Percolation Hole # B.S.K-26 — Date Probed: 6/26/58 — By K.H.P.

Background = .02

Footage	Probe	Geology	Footage	Probe	Geology	
0	.02		45			
	.03					
5	.025		50			
	.05					
10	.035		55			
15	.035		60			
20	.025		65			End of hole
25	.02					
30	.035					
35	.035					
	.04	End of Probe				
40						
45						

Sec. 4 T. 27 N R. 37 E. Pollution Well #25 R 28 Date Probed: 6/28/56 By N.W.R.

Background = .025

Footage	Probe	Geology	Footage	Probe	Geology	Footage	Probe	Geology	
0	.025		45	.05		90			
5	.065		50	.065		95			
	.09								
10	.10		55	.055		100			End of hole
	.10								
20	.10		60	.05					
	.065								
	.09								
30	.065		65	.05					
	.30								
	.25								
	.23								
	.09								
45	.08		70	.04					
50	.07		75	.07					
55	.065		80	.06		End of Probe			
60	.06		85						
65			90						

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SEP 1 0 .553

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1/16/56	Kumar	700

xxxxxxxxxxxxxxxxx
Co. 157 Howard Street
Spokane 4, Washington

January 11, 1956

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

Re: Docket No. DMEA-1460 (Uranium)
Big Smoke Uranium, Inc.
Big Smoke Property
Stevens County, Washington

Dear Mr. Selfridge:

Enclosed are four copies of a field examination report by E. A. Parsons, mining engineer, Bureau of Mines and R. D. Sample, geologist, Geological Survey on the above referenced property.

The Field Team concurs with the recommendation of Parsons and Sample that the application be denied.

Copies of the application and report are being forwarded to Mr. [illegible] Stranger of the AEC Office at Salt Lake City, Utah for his comments. As soon as they are received, they will be forwarded.

By Field Team, Region 1, DMEA.

W. A. Weissenborn, Exec. Officer
U. S. Geological Survey

King G. Agnew, Member
U. S. Bureau of Mines

Enclosures

cc: USBM (2)
USGS (SRC)
AEC, SLC
AEC, Spokane
Sample

Reviewed by
DMEA OPERATING COMMITTEE

(date)

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DATE	INITIALS	CODE

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

October 22, 1956

MEMORANDUM

To: DMEA Field Team, Region I, Northwest District

From: R. D. Sample, Geologist, U. S. Geological Survey and
E. W. Parsons, Mining Engineer, U. S. Bureau of Mines

Subject: Field examination report, Docket No. DMEA-4460 (Uranium), Big Smoke Uranium, Inc., Big Smoke Property, Stevens County, Washington

INTRODUCTION

The block of ground described in the Big Smoke Uranium, Inc. DMEA application was examined on October 18, 1956 by E. W. Parsons, mining engineer, Bureau of Mines, and R. D. Sample, geologist, Geological Survey, accompanied by Kenneth U. Russell, geologist for the applicant.

SUMMARY

The Big Smoke Uranium, Inc., made application on August 27, 1956, for Government aid to explore for uranium on the SE¼, sec. 11, T. 27 N., R. 37 E. W. M., which lies within the Spokane Indian Reservation, Stevens County, Washington. The ore-bearing structures are lake and glacial deposits of sand, gravel, tuff and some carbonaceous material, resting on granite. Uranium minerals have been found associated with the carbonaceous material and in the tuff. No uranium minerals have been identified megascopically, but gummite and uraninite have been identified in thin sections.

The land was obtained by mining lease dated October 31, 1955, from the Spokane Indian Tribe and assigned to the company on March 9, 1956. Work was started in the spring of 1956. Numerous bulldozer cuts and pits have been made, and 17 wagon drill holes have been drilled from 10 to 185 feet deep, totaling 1,408 feet of bore. One 55-ton car of ore has been shipped for testing but is reported

Reviewed by
DMEA OPERATING COMMITTEE

(date)

to have been too low grade for this purpose. The applicant has proposed work totaling 10,000 feet of trenching for drill sites, 900 feet of road access and 12,400 feet of drill hole at a total cost of $24,987.29.

RECOMMENDATIONS

The examining team recommends that the application be denied because: the known uranium-bearing material appears to be confined to one small area; carbonaceous bands found in bulldozer cuts below the known area contain practically no radioactivity; drill holes within 800 feet south of the known area contain no radioactivity; the uranium-bearing material in the known area apparently does not contain enough uranium to constitute ore; and the applicant has not presented a feasible target towards which exploration can be directed.

LOCATION AND ACCESSIBILITY

The property is situated on the Spokane Indian Reservation in the SE¼, sec. 11, T. 27 N., R. 37 E. W. M., Stevens County, Washington. The prospective area for uranium lies on the brow and slope of gravel terraced hills rising to the northeast above the Spokane River.

The property is accessible from Spokane by paved road westward over U. S. Highway 2 to Reardan, thence northward over paved State Highway 31 to Ford, thence westerly 10 miles over oil-surfaced road to Wellpinit, thence south by graveled county road for 3½ miles, thence southwesterly approximately 3½ miles over unimproved dirt roads to the property. The unimproved road would easily become impassable during rainy weather, and snow will block this and other roads during winter months.

COMPETENCY OF APPLICANT

Big Smoke Uranium, Inc., is a stock company, and finances for exploration to date have been obtained from the sale of stock. The company has purchased mining and earth-moving equipment reported to cost more than $45,000 and has carried on prospecting work on many tracts of land which they control under lease in other parts of the reservation. The company treasury is reported to have sufficient funds to cover the company's share of the expenses proposed in the application.

GEOLOGY

According to geologists with the Geological Survey, now mapping in the Turtle Lake quadrangle in which the Big Smoke property

is located, the property is underlain by an intrusive granite of probable Cretaceous age and clastic lake, glacial, and fluviatile sediments of middle to late Tertiary age. On the applicant's property only a few of the granite outcrops are exposed on the upper slopes and in bulldozer cuts across the contact with the sedimentary beds.

The granitic mass (Loon Lake granite) intrudes an older Precambrian series of rocks which are similar to portions of the Precambrian Belt series. The clastic sediments overlie the granite mass and consist of volcanic flows, breccias and tuffs which interbed with lake and fluvitile sediments. Thin carbonaceous layers interfinger with some of the lake deposits. Late Tertiary gravels and sands form terraces along the valley runs and slopes.

Outcrops in the explored portion of the Big Smoke property consist of exposures of the Loon Lake granite in contact with the clastic flows and interbedded sediments. Sand and gravel terraces along with wind-blown glacial outwash deposits cover most of the underlying rocks (pl. 1). Contacts are almost impossible to follow because of this overburden.

The most conspicuous structure on the property is the dip slip and strike slip fault zone between the granite and the clastic sediments. This zone trends in a north-south direction, dips steeply to the west, and appears to be a series of downward step faults along bedding planes and major joint fractures. Movement is generally downward and may represent landslides or slumping towards the lower valley floor. Bulldozed trenches across the contact indicate that this structure probably continues for a considerable distance along the southwestern slope. Small patches of basalt within the sedimentary area are exposed, but their genetic relation to the sediments could not be determined due to excessive overburden. Thin carbonaceous layers and black shales occur in the bedded-fault planes of the sediments near the contact with the granite. When slipping occurs along these bedding planes, this black, carbonaceous material is smeared along the fault plane in irregular lenses and patches. This smearing makes the carbonaceous material appear thicker than it actually is. Seldom is it actually over 2 or 3 inches thick although it appears to be a foot or more thick in places. A microscopic examination of this fine-grained black material was made by the Bureau of Mines, Region III for the Salt Lake Exploration Branch of the Atomic Energy Commission. The report on the three pieces submitted for microscopic examination states, in part, as follows:

"A hard, solid black piece that was slightly radioactive was identified as a metamorphic, low-grade coal. A piece that was approximately one-half metamorphosed coal and one-half of

which appears to be a sericitized metamorphic shale, was found to contain considerable sericite, quartz and shale particles. The other piece was approximately one-third metamorphosed coal and two-thirds feldspathic granite rock, near a diorite in classification."

The report also states that "an X-ray diffraction pattern shows that uraninite is present closely associated with the metamorphic coal," and that "the metamorphic shale and coal sample has gummite occurring in a linear effect along the contact between the shale and coal."

A channel sample 4 feet in length taken in one of the carbonaceous layers in the disturbed zone shows a chemical analysis of 0.104 percent U_3O_8. The Big Smoke Uranium, Inc., does not report finding any carbonaceous cuttings in any of their 17 churn drill holes they have put down on the property; therefore, this carbonaceous material does not appear to have much lateral extent.

Near the bottom of the open pit and along the footwall of the fractured zone a thin film of yellow-greenish slime or coating is precipitated and deposited along the wall for several feet. It appears to be a uranium oxide which may be leaching from overlying rocks. A channel sample, 3 feet in length, along this wall assayed 0.102 percent U_3O_8. At this rather promising spot, it is reported the company mined and shipped one carload of rock (55 - 60 tons) to the Vitro Chemical Corp. at Salt Lake City, Utah. It was further reported that the tenor of ore of this shipment was too low for processing. A 4-foot channel sample taken in the altered sediments above the small precipitate zone and a few feet from any carbonaceous layer showed only 0.013 percent U_3O_8.

The open pit near the contact was the only place where the zone was sufficiently exposed to take a representative sample; however, a reconnaissance check with the Geiger counter along the inferred contact zone and in the open cuts showed no radioactive anomalies.

The Big Smoke property is about 2 miles south of the Northwest Uranium Mines, Inc. property (Docket DMEA-4125) which is located on similar lake and fluviatile deposits and which gives promise of sizable, low-grade uranium deposits. The mineralization at the Northwest Uranium Mines, Inc. property appears to be concentrated in the clastic sediments between two major north-south-trending fault zones. According to reports the fault zones are barren, but they may have acted as dams or checks which allowed time for the concentration of uranium minerals from the mineralized and circulating ground waters. The sedimentary formations at the Big Smoke property appear to be stratigraphically and topographically

lower than those at the property of Northwest Uranium Mines, Inc. There is no strong evidence to show that mineralization at the Big Smoke property is due to any major fault control. Close correlation cannot be made between the two properties until more detailed studies have been made.

PROPERTY RIGHTS

A mining lease on the property described in the application was obtained on October 31, 1955, by Kathryn Kumbera Shemorry from the Superintendent of Indian Affairs, Nespelem, Washington, and this lease was assigned on March 9, 1956, to the Big Smoke Uranium, Inc., of Spokane, Washington.

PREVIOUS EXPLORATION

Work done on the property consists of nine bulldozer trenches and 17 wagon drill holes located principally along a granite-sediment contact, and a series of interconnected cuts on the north side of a small, precipitous stream channel on the northwest quarter of the property. There are no buildings on the property. The results of probing of 17 wagon drill holes, drilled and probed by the company are:

Hole No.	Total footage	Probed footage	Date probed	Back-ground reading	Probed readings Low	High	Remarks
1A	185	15-42	2/10/56	(?)	0.05	0.60	Strongest readings between 20 and 35 feet
2	180	1-180	2/11/56	0.03	0.02	0.15	Strongest readings between 120 and 130' near contact between granite and sediments.
3	108	1-108	2/13/56	0.02	0.02	0.12	Weak readings between 70 and 80'
4	85	1-85	2/13/56	0.02	0.02	0.35	Very weak
5	120	1-113	5/ 9/56	0.025	0.02	0.50	Best reading between 40 and 45'
6	84	1-84	5/10/56	0.02	0.02	0.19	Highest reading at 34' in sediments
7	60	1-60	5/10/56	0.02	0.02	0.35	Highest reading at 41' in arkosic material
8	48	1-48	5/10/56	0.035	0.035	0.80	Best readings between 27 and 40'
9	110	1-110	5/11/56	0.02	0.02	0.14	Highest readings at 47' in arkosic material
10	60	1-60	5/11/56	0.15	0.02	0.16	Highest readings near surface in granitic conglomerate
11	63	1-30	6/15/56	0.02	0.04	0.05	Weak readings
12	80	1-56	6/15/56	0.01	0.02	0.04	Off of map to south all weak readings
12A	75	1-75	6/15/56	0.019	0.02	0.029	Off of map to south all weak readings
13	10	1-10	6/20/56	0.021	0.02	0.02	Weak readings
13A	76	1-65	6/20/56	0.02	0.02	0.02	Weak readings
26	65	1-37	6/20/56	0.02	0.02	0.35	Weak readings
28	100	1-80	6/28/56	0.25	0.05	0.30	Weak readings between 20 and 23'. Off map.

Three samples were cut of the best radioactive showings pointed out by Mr. Russell. Exposed formations were tested with a Geiger counter which gave low readings. Assay results of the samples are as follows:

Sample	Location	Percent U_3O_8
101 B	A 3-ft. channel cut on east bank of cut.	0.102
102 B	A 4-ft. channel cut in carbonaceous material.	0.104
103 B	A 4-ft. channel cut in tuffaceous sediments.	0.013

PAST OPERATION

Trenching and drilling were started on the property in the spring of 1956. There has been no production other than one 55-ton carload of "ore" which was shipped to Vitro Chemical Corp. of Salt Lake City, Utah for testing. Mr. Russell reported that this ore was assayed and found to be too low grade to treat so was disposed of without treatment. Also, a number of samples were reported to have been assayed chemically, but the results were not presented in the application and Mr. Russell did not have them.

Stripping has been extensive at the only point where near-ore-grade material has been found, but no minable ore body has been exposed.

SOURCES OF SUPPLY

Materials, supplies, and equipment are available in Spokane. Manpower is available on the Indian Reservation or in Spokane and vicinity. A small quantity of water can be obtained from springs in the area. Exploration equipment is gasoline or diesel powered.

APPLICANT'S PROPOSAL

The applicant's proposal consists of the following items: 125 wagon drill holes totaling 12,400 feet of bore with holes spaced on an irregular pattern from 100 to 200 feet apart; 10,000 feet of "trenching" or roadway for drill hole location; 900 feet of access roads; two buildings, 12 by 24 feet and 10 by 12 feet; and 50 chemical assays for uranium.

The proposed cost of "trenching" or roadway at $0.90 per foot is excessive for the kind of surface material found on the property. Some items in the estimated cost of drilling are excessive,

but the total cost of $1.22 per foot is below local drilling contractors' prices.

Much of the area to be drilled is believed to contain sand and water which could effectively stop wagon drilling.

The examiners concur in recommending the application be denied.

Enclosure

Distribution:
DMEA (4)
USBM (5)
USGS (SRO)
AEC, SLC
AEC, Spokane
Docket
Sample

DMEA Form 7
(12-56)

700

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Date	Surname	Code
2/6	Knouse	700
"	Ellis	700
2/6	Selbridge	130
"	Johnson	110
"	Butterworth	100
		220

Lamb

FEB 7 1957

Miss Martha Diehm, Secretary-Treasurer
Big Smoke Uranium, Inc.
725 Paulsen Building
Spokane 1, Washington

Re: Docket No. DMEA-4460 (Uranium)
SE¼, sec. 11, T. 27 N., R. 37 E., W.M. & B.
Stevens County, Washington

Kilsgaard

Dear Miss Diehm:

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

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

Careful study of all our information, although noting a small amount of uranium mineralization on your property, 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.

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

Administrator

FLKnouse/gla/izm 2-4-57
cc to: Admr.'s Reading File
Operating Committee
THKiilsgaard, Rm. 5224
AEC - Jack Kratchman
Code 700
Mr. Knouse
DMEA Field Team, Reg. I, NWDist. (2)

R.C.S.

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D. C.~~
So. 157 Howard Street
Spokane 4, Washington

February 6, 1957

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

Re: Docket No. DMEA-4460 (Uranium)
Big Smoke Uranium, Inc.
Big Smoke Property
Stevens County, Washington

Dear Mr. Selfridge:

In our letter of January 11, 1957, forwarding our examination report on the Big Smoke Property, we mentioned that as soon as we received AEC's comments on their evaluation of the application, they would be forwarded.

Enclosed are four copies of a letter dated January 30, 1957 from Mr. A. E. Granger concurring with our recommendations that the application be denied.

Sincerely yours,

A. E. Weissenborn

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I, NW District

Enclosures

cc: USBM (2)
Sample

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DMEA
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DATE	INITIALS	CODE
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"	~~[illegible]~~	~~700~~
	(denied 2/7/57)	225

UNITED STATES
ATOMIC ENERGY COMMISSION
SALT LAKE AREA OFFICE
P.O. Box 2196
SALT LAKE CITY, UTAH

IN REPLY REFER TO: SLAO:AEG:af

January 30, 1957

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DMEA
RECEIVED FEB 11 1957

DATE	INITIALS	CODE

Mr. A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I, NW District
South 157 Howard Street
Spokane 4, Washington

Dear Al:

Reference is made to your letter of January 11, pertaining to Docket No. 4460 (Uranium), Big Smoke Uranium, Inc., Big Smoke property, Stevens County, Washington.

In view of the fact that unfavorable results were obtained from exploration by the property owners, and that continued exploration would necessarily be of a "wildcat" nature, we concur with the DMEA field team that the application be denied.

Sincerely yours,

Arthur E. Granger
Manager
Salt Lake Area Office

cc: D. L. Hetland, AEC, Spokane

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

DOCKET COPY

February 1, 1957

Summary of Proposed Project

Object: Denial of application for an exploration project.

Docket No.: DMEA 4460

Commodity: Uranium

Applicant: Big Smoke Uranium, Inc.
725 Paulsen Building
Spokane 1, Washington

Property: Known as Big Smoke-Tribal Spokane Indian Reservation Land, SE $\frac{1}{4}$, sec. 11, T. 27 N., R. 37 E., WM&B, Stevens County, Washington.

Property rights: Applicant controls property by "assignment of Mining Lease" from Kathryn Kumbera Shemorry, dated March 9, 1956, and approved by the Department of the Interior.

Date of application: August 27, 1956.

Work proposed: To explore for uranium along a granite-sediment contact by means of 10,000 feet of parallel tractor trenches spaced about 150 feet apart; 12,400 feet of wagon driling from drill sites in trenches and at other locations spaced 100 to 200 feet apart, and drilled to an average depth of 100 feet, and also 900 feet of access road.

Work on the property consists of nine bulldozer trenches and 17 wagon-drill holes principally along a granite-sediment contact, and a series of interconnecting cuts on the northwest quarter of the property. Applicant reports uranium mineralization in cuts and drill holes along the granite-sediment contact.

Cost of proposed work: Agreed unit cost basis:

10,000 feet of trenching, size 5x20 ft. @ $0.90558/ft.	$9,055.80	
900 feet accessroad @ $0.90558/ft.	815.02	
12,400 feet wagon drilling @ $1.21907/ft.	15,116.47	
Total Estimated Cost of the Project		$24,987.29
Government Participation @ 75%		$18,740.47

Field Team Report: October 22, 1956 - Transmitted January 11, 1957. (by R. D. Sample, USGS, and E. W. Parsons, USBM).

The property is underlain by an intrusive granite of probable Cretaceous age and clastic lake, glacial, and fluviatile sediments of middle to late Tertiary age.

The most conspicuous structure on the property is the dip slip and strike slip fault between the granite and the clastic sediments. Bulldozer trenches across the contact indicate this structure continues for a considerable distance. This zone appears to be a series of downward slip faults along bedding planes and joint fractures that strike north-south and dip steeply to the west. Thin carbonaceous layers (seldom over 2 to 3 inches thick) and black shales occur in the bedded fault planes of the sediments near the contact with the granite. A microscopic examination made of the carbonaceous material identified it as slightly radioactive low-grade coal and showed that uraninite is associated with the coal.

A channel sample 4 feet long taken in one of the carbonaceous layers showed 0.104 percent U_3O_8. No carbonaceous material was reported found in the 17 holes drilled along this zone by the Applicant. Near the bottom of an open cut along the footwall of the fractured zone a thing yellow-greenish film, that appears to be uranium oxide, is deposited for several feet along the wall. A channel sample 3 feet long from along this wall assayed 0.102 per cent U_3O_8. Also, a 4-foot channel sample cut from the altered sediments above this open cut sample assayed 0.013 percent U_3O_8. The Applicant shipped 55-60 tons of material from the open cut to Vitro Chemical Corp., Salt Lake City, and the tenor of the material was too low to process.

The open pit near the contact was the only place where the zone was sufficiently exposed to take representative samples; however, a reconnaissance check with a Geiger counter along the inferred contact zone and in the open cut showed no radioactive anomalies. The above-described samples were taken from the best radioactive exposures pointed out by the Applicant's geologist.

Only one small area of low-grade (below ore grade) uranium-bearing material is known on the property and additional exploration of this area is not justified. The Applicant has not presented a feasible target for an exploration program. Therefore, the application should be denied.

Comments of Commodity Specialists:

U. S. Geological Survey, N. E. Nelson, February 1, 1957

Concurs with the Field Team's recommendations.

U. S. Bureau of Mines, James Paone, January 23, 1957.

Agree with recommendations of the Field Team.

Rare and Miscellaneous Metals Division, F. L. Knouse, February 1, 1957.

Since there is only one small exposure of low-grade uranium-bearing material on the property and no evidence that a feasible target has been presented by the Applicant or Field Team, the application should be denied.

Conclusions:

A review of all our information relating to the proposed project indicates that the possibility of making a significant discovery on the property is not promising. Therefore, the application should be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis

IN REPLY REFER TO:

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

OFFICIAL FILE COPY
DMEA
RECEIVED FEB 5 1957

DATE	INITIALS	CODE
2-5	C	220
2-5	Rnouse	700

February 1, 1957

Re: DMEA 4460
Big Smoke Uranium, Inc.
Big Smoke Property
Stevens Co. Wash.
$24,987.29 - Uranium

Memorandum

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

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

Subject: Review of Field Team Report.

The applicant requested assistance in exploring a quarter section of leased 'Indian land', by trenching and drilling. The applicant has done considerable preliminary work consisting of bulldozing and 17 wagon drill holes, and shipped one carload of less than ore grade material to Salt Lake City.

The work disclosed a 20-foot radioactive mineral-bearing zone in the contact of granite and rhyolitic tuffs-lake and glacial deposits. The contact zone is highly sheared and contains layers of black carbonaceous shale, slightly radioactive metamorphic, low-grade coal. The uraninite appears to occur with the carbonaceous material. Three channel samples of the material assyed:

Width feet	% U_3O_8	
3	0.102	Yellow-greenish slime here
4	0.104	Carbonaceous material
4	0.013	Tuffaceous material

The carload of black material was taken from the cut where the samples were taken. Dilution of the already marginal material probably reduced the average grade and the Vitro Chemical Corp. did not process the shipment.

In a general way the deposit resembles that of the Northwest Uranium Mines Inc., 2 miles to the north where sizable deposits of low-grade uranium-bearing fluviatile and lake material have been proven.

Probing of the drill holes put down by the applicant gave little suggestion of consistant mineralization.

The examiners and the Field Team conclude that assisted work is not warranted and recommend that the application be denied.

I concur with the recommendation.

N. E. Nelson

N. E. Nelson

OFFICIAL FILE COPY DMEA RECEIVED JAN 24 1957		
DATE	INITIALS	CODE
1-24	CW	220
1-24	Kramer	700

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

Date January 23, 1957

DMEA Docket No. 4460
DMEA Contract No.
Commodity Uranium
Name of applicant Big Smoke Uranium, Inc.
Name of property Big Smoke Property
Location of property Stevens County, Wash.
Estimated cost of project $24,987.29

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

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

1. Date of subject document: 1/11/57. 2. Date received by reviewer: 1/17/57.

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 [x]
   d. Agree with Field Team [x]
      1. Consult with Mr. _____ at _____ AEC office.
   e. Disagree with Field Team ☐
   f. Suggest alternate plan ☐
   g. Request another examination ☐
   h. Approval ☐

10. Remarks: (Use back of page if necessary) Mr. Jack Kratchman, Washington representative of the Atomic Energy Commission, assisted in the review.

FILE COPY
DMEA
RECEIVED JAN 17 1957

DATE	INITIALS	CODE
1-17	C	220
1-17	Knowt	700

xxxxxxxxxxxxxxxxx
So. 157 Howard Street
Spokane 4, Washington

January 11, 1957

Mr. Arthur E. Granger, Chief
U. S. Atomic Energy Commission
P. O. Box 2196
Salt Lake City, Utah

Re: Docket No. DMEA-4460 (Uranium)
Big Smoke Uranium, Inc.
Big Smoke Property
Stevens County, Washington

Dear Mr. Granger:

Enclosed is a copy of the report and the application on the above referenced property.

We would appreciate receiving your comments as to the merits of this application. As soon as they are received, we will forward them to our Washington, D. C. office.

Sincerely yours,

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I, NW Dist.

Enclosures

cc: DMEA (2)
USBM (2)
Sample

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

OFFICIAL FILE COPY
DMEA
RECEIVED JAN 15 1957

DATE	INITIALS	CODE
1-15	CW	220
		130
1-22	CW	220
1-29	~~[illegible]~~	300

January 11, 1957

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

Re: Docket No. DMEA-4460 (Uranium)
Big Smoke Uranium, Inc.
Big Smoke Property
Stevens County, Washington

Dear Mr. Selfridge:

Enclosed are four copies of a field examination report by E. W. Parsons, mining engineer, Bureau of Mines and R. D. Sample, geologist, Geological Survey on the above referenced property.

The Field Team concurs with the recommendation of Parsons and Sample that the application be denied.

Copies of the application and report are being forwarded to Mr. A. E. Granger of the AEC Office at Salt Lake City, Utah for his comments. As soon as they are received, they will be forwarded.

By Field Team, Region I, NW Dist.

A E Weissenborn
A. E. Weissenborn, Exec. Officer
U. S. Geological Survey

Stephen W. Forbes
for Wing G. Agnew, Member
U. S. Bureau of Mines

Enclosures

cc: USBM (2)
USGS (SRO)
AEC, SLC
AEC, Spokane
Sample

Reviewed by
DMEA OPERATING COMMITTEE
1-18-57
(date)

ON-SITE EXAM. REPORT

OFFICIAL FILE COPY DMEA RECEIVED JAN 15 1957		
DATE	INITIALS	CODE
		130
		220
October 22, 1956		

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

MEMORANDUM

To: DMEA Field Team, Region I, Northwest District

From: R. D. Sample, Geologist, U. S. Geological Survey and
E. W. Parsons, Mining Engineer, U. S. Bureau of Mines

Subject: Field examination report, Docket No. DMEA-4460 (Uranium), Big Smoke Uranium, Inc., Big Smoke Property, Stevens County, Washington

INTRODUCTION

The block of ground described in the Big Smoke Uranium, Inc. DMEA application was examined on October 18, 1956 by E. W. Parsons, mining engineer, Bureau of Mines, and R. D. Sample, geologist, Geological Survey, accompanied by Kenneth U. Russell, geologist for the applicant.

SUMMARY

The Big Smoke Uranium, Inc., made application on August 27, 1956, for Government aid to explore for uranium on the SE¼, sec. 11, T. 27 N., R. 37 E. W. M., which lies within the Spokane Indian Reservation, Stevens County, Washington. The ore-bearing structures are lake and glacial deposits of sand, gravel, tuff and some carbonaceous material, resting on granite. Uranium minerals have been found associated with the carbonaceous material and in the tuff. No uranium minerals have been identified megascopically, but gummite and uraninite have been identified in thin sections.

The land was obtained by mining lease dated October 31, 1955, from the Spokane Indian Tribe and assigned to the company on March 9, 1956. Work was started in the spring of 1956. Numerous bulldozer cuts and pits have been made, and 17 wagon drill holes have been drilled from 10 to 185 feet deep, totaling 1,408 feet of bore. One 55-ton car of ore has been shipped for testing but is reported

Reviewed by
DMEA OPERATING COMMITTEE
1-18-57
(date)

to have been too low grade for this purpose. The applicant has proposed work totaling 10,000 feet of trenching for drill sites, 900 feet of road access and 12,400 feet of drill hole at a total cost of $24,987.29.

RECOMMENDATIONS

The examining team recommends that the application be denied because: the known uranium-bearing material appears to be confined to one small area; carbonaceous bands found in bulldozer cuts below the known area contain practically no radioactivity; drill holes within 800 feet south of the known area contain no radioactivity; the uranium-bearing material in the known area apparently does not contain enough uranium to constitute ore; and the applicant has not presented a feasible target towards which exploration can be directed.

LOCATION AND ACCESSIBILITY

The property is situated on the Spokane Indian Reservation in the SE$\frac{1}{4}$, sec. 11, T. 27 N., R. 37 E. W. M., Stevens County, Washington. The prospective area for uranium lies on the brow and slope of gravel terraced hills rising to the northeast above the Spokane River.

The property is accessible from Spokane by paved road westward over U. S. Highway 2 to Reardan, thence northward over paved State Highway 31 to Ford, thence westerly 10 miles over oil-surfaced road to Wellpinit, thence south by graveled county road for 3$\frac{1}{2}$ miles, thence southwesterly approximately 3$\frac{1}{2}$ miles over unimproved dirt roads to the property. The unimproved road would easily become impassable during rainy weather, and snow will block this and other roads during winter months.

COMPETENCY OF APPLICANT

Big Smoke Uranium, Inc., is a stock company, and finances for exploration to date have been obtained from the sale of stock. The company has purchased mining and earth-moving equipment reported to cost more than $45,000 and has carried on prospecting work on many tracts of land which they control under lease in other parts of the reservation. The company treasury is reported to have sufficient funds to cover the company's share of the expenses proposed in the application.

GEOLOGY

According to geologists with the Geological Survey, now mapping in the Turtle Lake quadrangle in which the Big Smoke property

is located, the property is underlain by an intrusive granite of probable Cretaceous age and clastic lake, glacial, and fluviatile sediments of middle to late Tertiary age. On the applicant's property only a few of the granite outcrops are exposed on the upper slopes and in bulldozer cuts across the contact with the sedimentary beds.

The granitic mass (Loon Lake granite) intrudes an older Precambrian series of rocks which are similar to portions of the Precambrian Belt series. The clastic sediments overlie the granite mass and consist of volcanic flows, breccias and tuffs which interbed with lake and fluvitile sediments. Thin carbonaceous layers interfinger with some of the lake deposits. Late Tertiary gravels and sands form terraces along the valley runs and slopes.

Outcrops in the explored portion of the Big Smoke property consist of exposures of the Loon Lake granite in contact with the clastic flows and interbedded sediments. Sand and gravel terraces along with wind-blown glacial outwash deposits cover most of the underlying rocks (pl. 1). Contacts are almost impossible to follow because of this overburden.

The most conspicuous structure on the property is the dip slip and strike slip fault zone between the granite and the clastic sediments. This zone trends in a north-south direction, dips steeply to the west, and appears to be a series of downward step faults along bedding planes and major joint fractures. Movement is generally downward and may represent landslides or slumping towards the lower valley floor. Bulldozed trenches across the contact indicate that this structure probably continues for a considerable distance along the southwestern slope. Small patches of basalt within the sedimentary area are exposed, but their genetic relation to the sediments could not be determined due to excessive overburden. Thin carbonaceous layers and black shales occur in the bedded-fault planes of the sediments near the contact with the granite. When slipping occurs along these bedding planes, this black, carbonaceous material is smeared along the fault plane in irregular lenses and patches. This smearing makes the carbonaceous material appear thicker than it actually is. Seldom is it actually over 2 or 3 inches thick although it appears to be a foot or more thick in places. A microscopic examination of this fine-grained black material was made by the Bureau of Mines, Region III for the Salt Lake Exploration Branch of the Atomic Energy Commission. The report on the three pieces submitted for microscopic examination states, in part, as follows:

"A hard, solid black piece that was slightly radioactive was identified as a metamorphic, low-grade coal. A piece that was approximately one-half metamorphosed coal and one-half of

which appears to be a sericitized metamorphic shale, was found to contain considerable sericite, quartz and shale particles. The other piece was approximately one-third metamorphosed coal and two-thirds feldspathic granite rock, near a diorite in classification."

The report also states that "an X-ray diffraction pattern shows that uraninite is present closely associated with the metamorphic coal," and that "the metamorphic shale and coal sample has gummite occurring in a linear effect along the contact between the shale and coal."

A channel sample 4 feet in length taken in one of the carbonaceous layers in the disturbed zone shows a chemical analysis of 0.104 percent U_3O_8. The Big Smoke Uranium, Inc., does not report finding any carbonaceous cuttings in any of their 17 churn drill holes they have put down on the property; therefore, this carbonaceous material does not appear to have much lateral extent.

Near the bottom of the open pit and along the footwall of the fractured zone a thin film of yellow-greenish slime or coating is precipitated and deposited along the wall for several feet. It appears to be a uranium oxide which may be leaching from overlying rocks. A channel sample, 3 feet in length, along this wall assayed 0.102 percent U_3O_8. At this rather promising spot, it is reported the company mined and shipped one carload of rock (55 - 60 tons) to the Vitro Chemical Corp. at Salt Lake City, Utah. It was further reported that the tenor of ore of this shipment was too low for processing. A 4-foot channel sample taken in the altered sediments above the small precipitate zone and a few feet from any carbonaceous layer showed only 0.013 percent U_3O_8.

The open pit near the contact was the only place where the zone was sufficiently exposed to take a representative sample; however, a reconnaissance check with the Geiger counter along the inferred contact zone and in the open cuts showed no radioactive anomalies.

The Big Smoke property is about 2 miles south of the Northwest Uranium Mines, Inc. property (Docket DMEA-4125) which is located on similar lake and fluviatile deposits and which gives promise of sizable, low-grade uranium deposits. The mineralization at the Northwest Uranium Mines, Inc. property appears to be concentrated in the clastic sediments between two major north-south-trending fault zones. According to reports the fault zones are barren, but they may have acted as dams or checks which allowed time for the concentration of uranium minerals from the mineralized and circulating ground waters. The sedimentary formations at the Big Smoke property appear to be stratigraphically and topographically

lower than those at the property of Northwest Uranium Mines, Inc. There is no strong evidence to show that mineralization at the Big Smoke property is due to any major fault control. Close correlation cannot be made between the two properties until more detailed studies have been made.

PROPERTY RIGHTS

A mining lease on the property described in the application was obtained on October 31, 1955, by Kathryn Kumbera Shemorry from the Superintendent of Indian Affairs, Nespelem, Washington, and this lease was assigned on March 9, 1956, to the Big Smoke Uranium, Inc., of Spokane, Washington.

PREVIOUS EXPLORATION

Work done on the property consists of nine bulldozer trenches and 17 wagon drill holes located principally along a granite-sediment contact, and a series of interconnected cuts on the north side of a small, precipitous stream channel on the northwest quarter of the property. There are no buildings on the property. The results of probing of 17 wagon drill holes, drilled and probed by the company are:

Hole No.	Total footage	Probed footage	Date probed	Back-ground reading	Probed readings Low	High	Remarks
1A	- 185	15-42	2/10/56	(?)	0.05	0.60	Strongest readings between 20 and 35 feet
2	180	1-180	2/11/56	0.03	0.02	0.15	Strongest readings between 120 and 130' near contact between granite and sediments.
3	108	1-108	2/13/56	0.02	0.02	0.12	Weak readings between 70 and 80'
4	85	1-85	2/13/56	0.02	0.02	0.35	Very weak
5	120	1-113	5/ 9/56	0.025	0.02	0.50	Best reading between 40 and 45'
6	84	1-84	5/10/56	0.02	0.02	0.19	Highest reading at 34' in sediments
7	60	1-60	5/10/56	0.02	0.02	0.35	Highest reading at 41' in arkosic material
8	48	1-48	5/10/56	0.035	0.035	0.80	Best readings between 27 and 40'
9	110	1-110	5/11/56	0.02	0.02	0.14	Highest readings at 47' in arkosic material
10	60	1-60	5/11/56	0.15	0.02	0.16	Highest readings near surface in granitic conglomerate
11	63	1-30	6/15/56	0.02	0.04	0.05	Weak readings
12	80	1-56	6/15/56	0.01	0.02	0.04	Off of map to south all weak readings
12A	75	1-75	6/15/56	0.019	0.02	0.029	Off of map to south all weak readings
13	10	1-10	6/20/56	0.021	0.02	0.02	Weak readings
13A	76	1-65	6/20/56	0.02	0.02	0.02	Weak readings
26	65	1-37	6/20/56	0.02	0.02	0.35	Weak readings
28	100	1-80	6/28/56	0.25	0.05	0.30	Weak readings between 20 and 23'. Off map.

Three samples were cut of the best radioactive showings pointed out by Mr. Russell. Exposed formations were tested with a Geiger counter which gave low readings. Assay results of the samples are as follows:

Sample	Location	Percent U_3O_8
101 B	A 3-ft. channel cut on east bank of cut.	0.102
102 B	A 4-ft. channel cut in carbonaceous material.	0.104
103 B	A 4-ft. channel cut in tuffaceous sediments.	0.013

PAST OPERATION

Trenching and drilling were started on the property in the spring of 1956. There has been no production other than one 55-ton carload of "ore" which was shipped to Vitro Chemical Corp. of Salt Lake City, Utah for testing. Mr. Russell reported that this ore was assayed and found to be too low grade to treat so was disposed of without treatment. Also, a number of samples were reported to have been assayed chemically, but the results were not presented in the application and Mr. Russell did not have them.

Stripping has been extensive at the only point where near-ore-grade material has been found, but no minable ore body has been exposed.

SOURCES OF SUPPLY

Materials, supplies, and equipment are available in Spokane. Manpower is available on the Indian Reservation or in Spokane and vicinity. A small quantity of water can be obtained from springs in the area. Exploration equipment is gasoline or diesel powered.

APPLICANT'S PROPOSAL

The applicant's proposal consists of the following items: 125 wagon drill holes totaling 12,400 feet of bore with holes spaced on an irregular pattern from 100 to 200 feet apart; 10,000 feet of "trenching" or roadway for drill hole location; 900 feet of access roads; two buildings, 12 by 24 feet and 10 by 12 feet; and 50 chemical assays for uranium.

The proposed cost of "trenching" or roadway at $0.90 per foot is excessive for the kind of surface material found on the property. Some items in the estimated cost of drilling are excessive,

but the total cost of $1.22 per foot is below local drilling contractors' prices.

Much of the area to be drilled is believed to contain sand and water which could effectively stop wagon drilling.

The examiners concur in recommending the application be denied.

Enclosure

Distribution:
DMEA (4)
USBM (5)
USGS (SRO)
AEC, SLC
AEC, Spokane
Docket
Sample

urname copy

F L Knouse
Ellis
Kilgaard
Lamb
Selbridge
Johnson

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

SEP 21 1956

Big Smoke Uranium, Inc.
725 Paulsen Building
Spokane 1, Washington

Re: Docket No. DMEA-4460 (Uranium)
NE¼, Sec. 11, T. 27 N., R. 37 E., W.M.&B.
Stevens County, Washington

Gentlemen:

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

Mr. A. E. Weissenborn
Executive Officer
DMEA Field Team, Region I
Northwest District
South 157 Howard Street
Spokane 4, Washington

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

Sincerely yours,

B. O. Mittendorf
Copied
Administrator

FLKnouse:gla
9/21/56
cc to: Adm. Reading File
Docket
Code 700
Mr. Knouse
DMEA Field Team, Reg. I, N.W. Dist. (2)

R.C.G.

rname copy

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

SEP 24 1956

Mr. A. X. Weisenborn
Executive Officer
DMEA Field Team, Region I
Northwest District
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA-4460 (Uranium)
Big Smoke Uranium, Inc.
SE¼, sec. 11, T. 27 N., R. 37 E., W.M.&B.
Stevens County, Washington

Dear Mr. Weisenborn:

The captioned application is referred to your office for a field examination and report on the proposed project.

Enclosed are copies of memoranda, dated September 12 and 18, 1956, from Mr. W. P. Williams, USGS, and Mr. James Pearce, USBM, respectively, relating to the subject project.

If the Field Team recommends an exploration program, we will require, in addition to the usual information, the following:

1. Drilling bids from three contractors for the drilling recommended.

2. The Applicant should be advised that, if a contract is approved, we will require a performance bond to cover the amount of the Government's participation.

3. We note that the Applicant holds prospecting permits covering the land east of the subject property that will be benefited by the proposed exploration. If a project is recommended by the Field Team that will benefit land controlled by the Applicant, it may be necessary to include such land in the application.

Any work recommended by the Field Team should not be closer than 100 feet to the outside boundary of the land included in the application.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Enclosures

APPROVED:

Frank D. Lamb (GCS)

Member, Bureau of Mines

Thor H. Kiilsgaard (GCS)

Member, Geological Survey

FLKnouse:gla
9/24/56
cc to: Adm. Reading File
Operating Committee
Docket
Messrs. JECrawford, Rm. 3643
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA
Code 700
Mr. Knouse

9/20/56 gla

RECEIVED
SEP 19 1956

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

Date 9/18/56

DMEA Docket No. 4460
DMEA Contract No.
Commodity Uranium
Name of applicant Big Smoke Uranium, Inc.
Name of property Big Smoke Property
Location of property Stevens County, Wash.
Estimated cost of project

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee
From: James Paone, Bureau of Mines Alternate Member JP
Uranium Commodity Committee
Subject: Review of Application
(Application, Field Team Report, etc.)

1. Date of subject document: 8/27/56. 2. Date received by reviewer: 9/13/56.

3. Prior reports on this property known to reviewer: Yes [ ], No [x].

4. Prior reports on nearby properties known to reviewer: Yes [ ], No [x].

5. Information available on past production: Yes [ ], No [x].

6. Other pertinent factors known to reviewer: Yes [ ], No [x].

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 [x]
   f. Alternate exploration method [ ]
   g. Costs [ ]
   h. [ ]

9. Action advised:
   a. Obtain information from applicant [ ]
   b. Refer to Field Team [ ]
   c. Denial [ ]
   d. Agree with Field Team [x] letter of 9/5
   e. Disagree with Field Team [ ]
   f. Suggest alternate plan [ ]
   g. Request another examination [ ]
   h. Approval [ ]
   i. Consult with Mr. A. E. Granger at Salt Lake AEC office.

10. Remarks: (Use back of page if necessary)
It is suggested that a field examination be made and that exploration work, if warranted, be limited to drilling. Mr. Joseph O. Hosted, Washington representative of the Atomic Energy Commission, assisted in the review.

9/13/56 gla

IN REPLY REFER TO:

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

RECEIVED
SEP 13 1956

September 12, 1956

Memorandum

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

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

Subject: Review of application, DMEA 4460, Big Smoke Uranium, Inc., SE 1/4 sec. 11, Spokane reservation, Stevens County, Washington.

The applicant proposes to explore for uranium ore deposits in an area where uranium mineralization is found associated with granitic intrusives and metamorphic rocks. Tertiary lake sediments cover large parts of the area.

Significant ore deposits are known in the vicinity. As suggested by the Field Team a modified and reduced project may be warranted on the property. For that reason I recommend that the application be referred to the Field Team for field examination and report.

W. P. Williams

W. P. Williams

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

September 11, 1956

Big Smoke Uranium, Inc.
725 Paulsen Bldg.
Spokane 1, Washington

Subject: DMEA-4460
Re: Exploration Assistance
Big Smoke Property

Gentlemen

Your application for exploration assistance, dated August 27, 1956 submitted to our office at Spokane has been assigned Docket Number DMEA-4460 and referred to the Rare and Miscellaneous 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 I,N.W. Spokane, Washington
Code 700

U. S. Government Messenger Envelope

Standard Form No. 65 (Rev. 1/46)

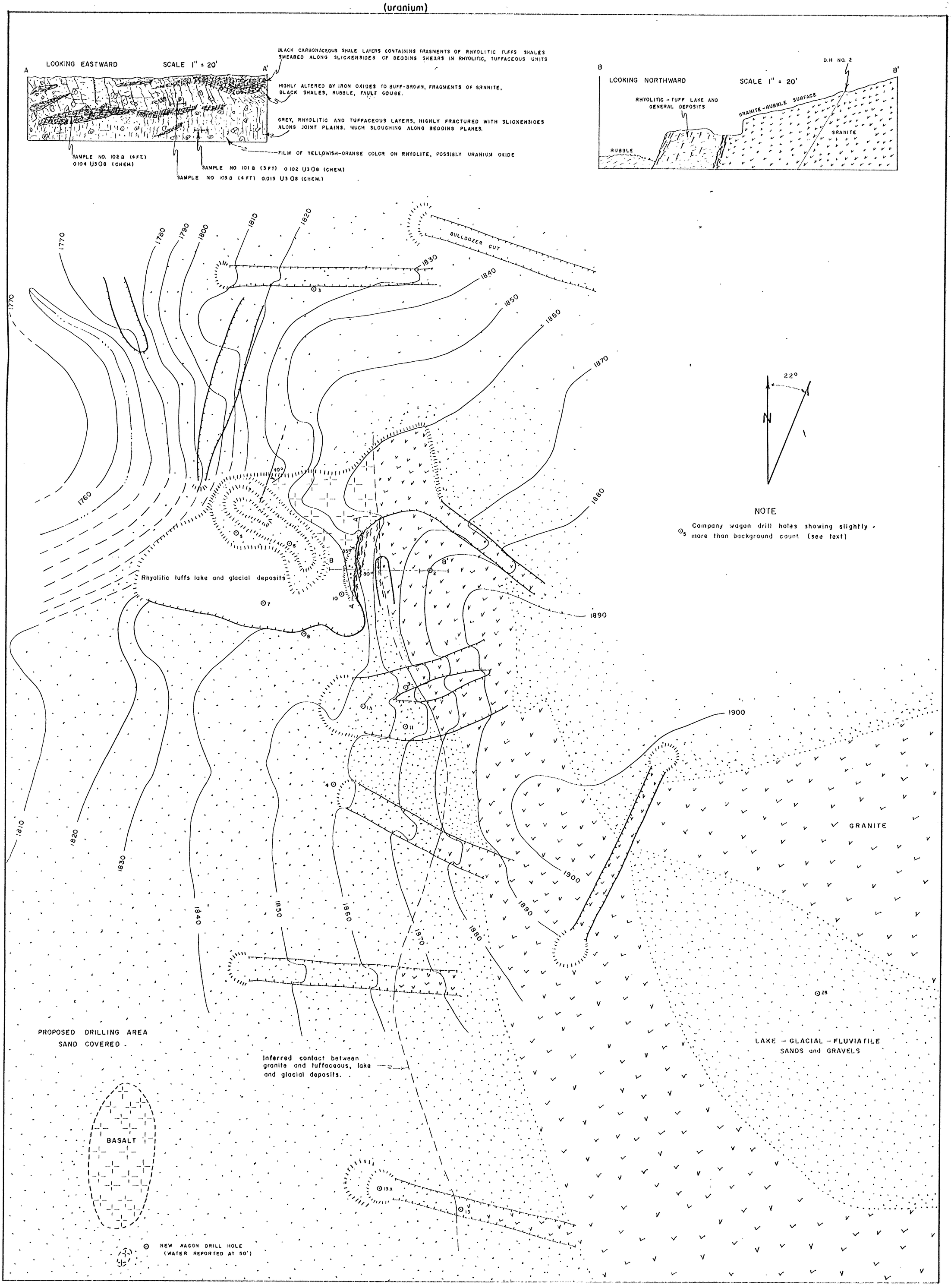
1. Use blocks consecutively, one at a
2. Void previous block.
3. Write clearly.

NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM		NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM	
[illegible]	RUN STOP	[illegible]	RUN STOP
[illegible]	RUN STOP	[illegible]	RUN STOP
[illegible]	RUN STOP	Payroll [illegible]	RUN STOP
Dal 1040	RUN STOP	[illegible]	RUN STOP
[illegible] Room 1216	RUN STOP	[illegible]	RUN STOP
Mr. [illegible] Room 1040	RUN STOP	Mrs. Harris Rm. 4274 - GSA	RUN STOP
[illegible] Room 1061 [illegible]	RUN STOP	[illegible]	RUN STOP
[illegible]	RUN STOP	[illegible]	RUN STOP
[illegible] [illegible] Room 1245 A.	RUN STOP	D. M. E. a	RUN STOP
Mrs. Mary Katz Room 5219 - Interior Bldg.	RUN STOP		RUN STOP

Send surplus envelopes to supply room for reissue.

Use other side

Use RUN and STOP only when messenger service between Government buildings in Washington is required. Your mail room has RUN and STOP information.



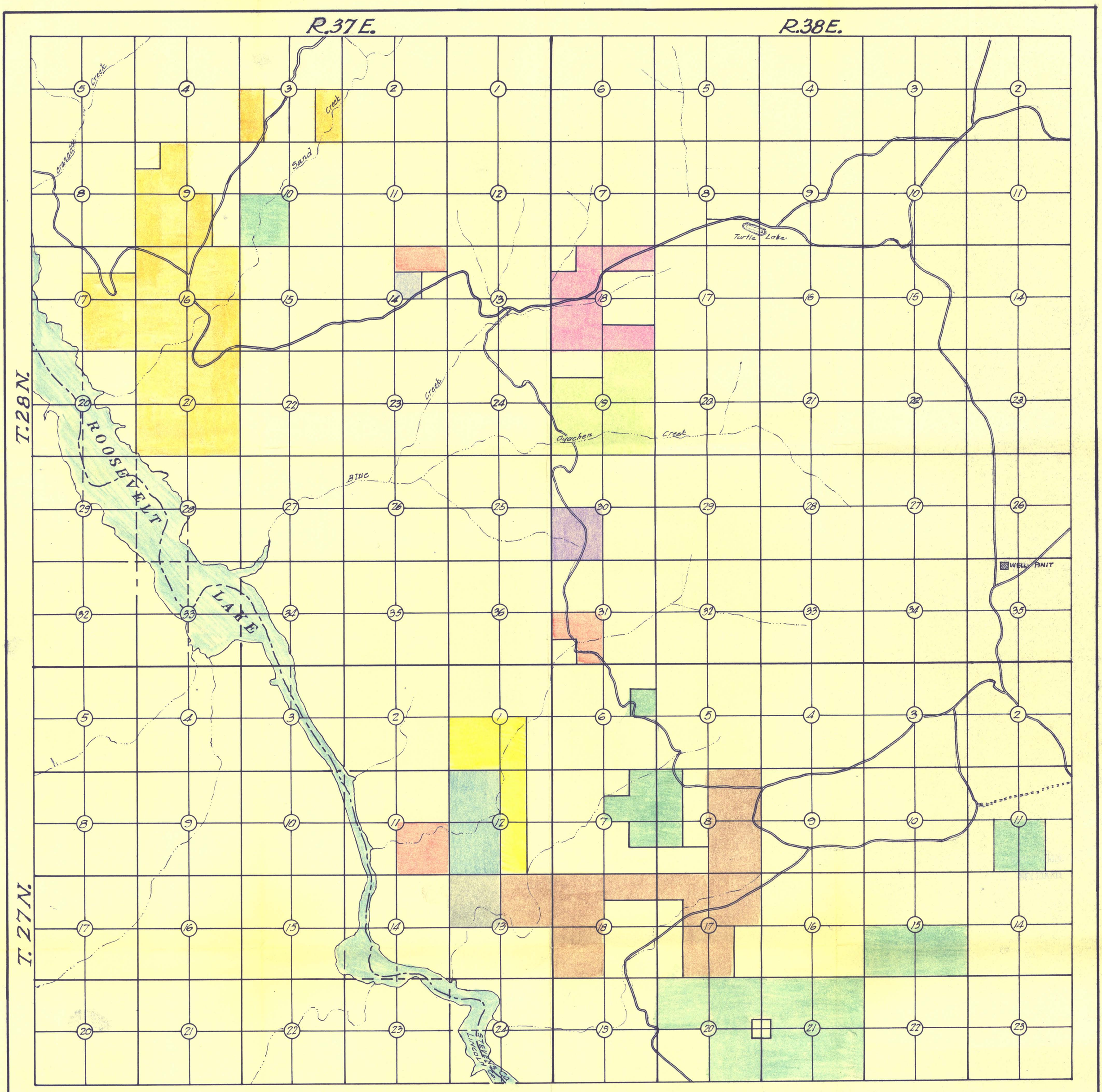
COMPOSITE SKETCH MAP OF BIG SMOKE PROPERTY — Stevens County, Washington

0 25 50 100 150 200 Feet.

Geology modified from applicants and AEC's map. Topography modified from AEC map.

Compiled By R.D. Sample and E.W. Parsons
October 1956

PLATE-1



LEGEND

- Permits - Not authorized.
- Leases
- Permit No.1 - Arthur M. LeBret.
- Permit No.2 - Kathryn Kumbera Shemorry.
- Permit No.3 - Melinda Kumbera.
- Permit No.14 - Wm.O. Kumbera.
- Permit No.17 - Audrey LeBret.
- Lillian LaBret Dietrick
- Pete LaBret
- Iva Rejewski
- Clarence LaBret

PROPERTY MAP

BIG SMOKE URANIUM INC.

SPOKANE INDIAN RESERVATION

STEVENS COUNTY, WASH.

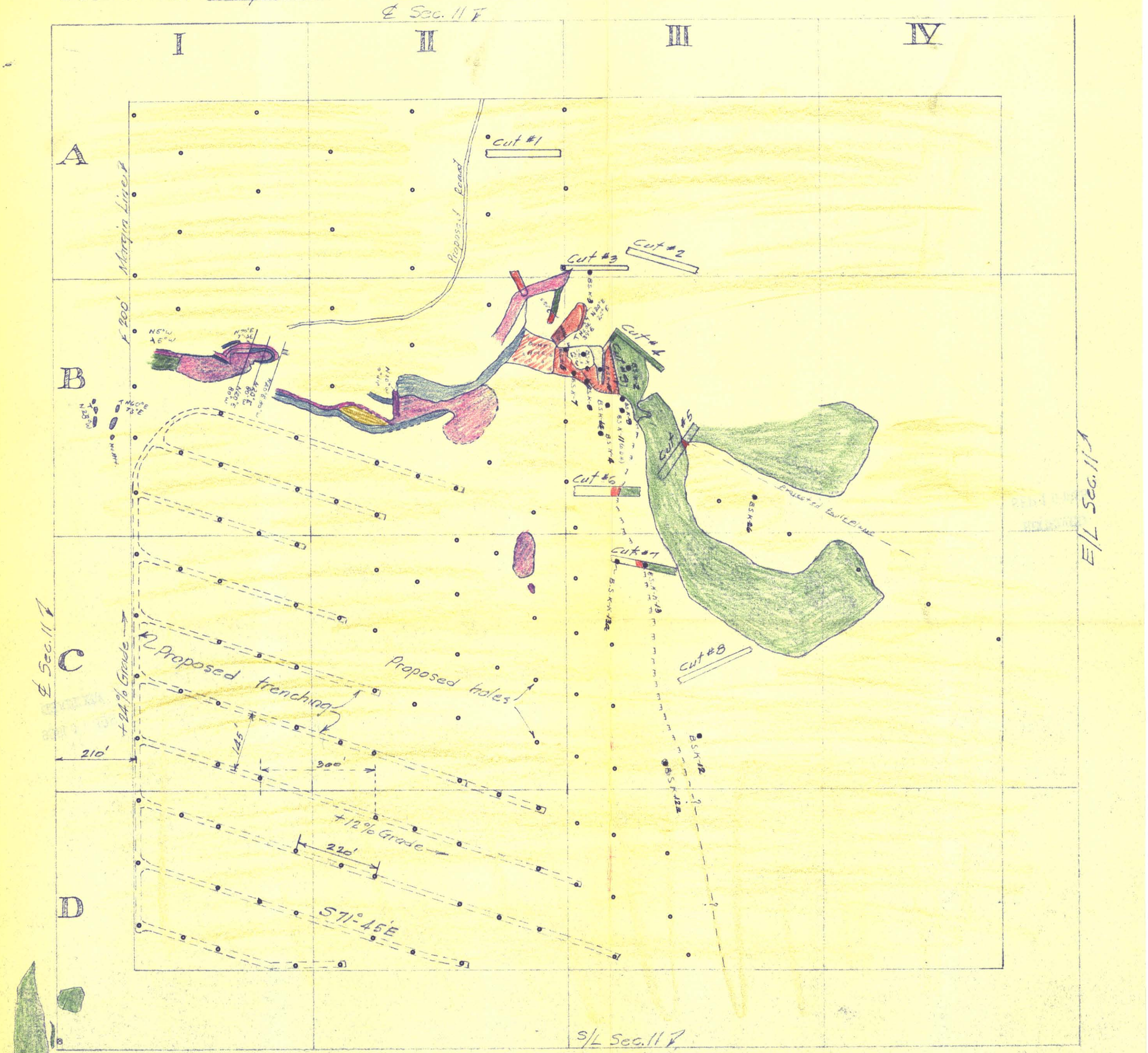
Scale: 2 inches = 1 mile.

0 1 2 3 4 5
000 Feet — 1 mile

PLATE-I

J.E.V.G. 9/16-56

DESCRIPTION SE 1/4 SEC. 11 TWP. 27N. RGE. 37E.



ALLUVIAL SANDS
BASALT
ARKOSE SEDIMENT
SECONDARY GRANITE
GRANITE
SILICOUS ARGILITE
GRAYWACKE W/ CARBON
GRANITIC GRAYWACKE

Scale: 1 in. = 200 ft.

SCALE: 1 IN. = 200 FT.
EACH SQUARE = 10 Ac.

Geology By: K. U. RUSSELL
June 9, 1956.

BIGSMOKE URANIUM, INC.

PLATE - II