DMEA Form 9
(Rev. 5/57)

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

Idm-E No.____

DMEA NO. 4745

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(~~Withdrawn~~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

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

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

Left Side

Royalty Audits 1/
Certification of Discovery
Cost Audits 2/
Termination Notice or Agreement
Recision Notice
Assignment of Contract
Contract Amendments
Contract with all exhibits and annexes
Owner's Consent to Lien
Subordination Agreement
✓ Application and attachments
Envelope for maps

Right Side

Project summary
Work completed analysis
All other material filed in chronological order including the following reports if checked:

Field Team Semi-Annual Report for Certified Project
Final Field Team Report (Tab)
Operator's Final Report (Tab)
Interim Field Team Reports
Operator's monthly reports and all attachments
✓ On-site Exam Report (Tab)
Settlement Sheets
Drill Logs

Additional Folders:

Left Side

Folder No.____:
Analysis of Semi-Annual Inspection Reports
Interim Summary Reports by DMEA Engineers

Right Side

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

Folder No.____: Maps (Use pocket folder or envelope.)

Folder No.____: Settlement Sheets

Folder No.____: Drill Logs

Folder No.____: Royalty material

1/ Or reports of royalty review
2/ Or cost reports of review

16592

DMEA

Form MF-108
Revised Feb. 1957

DEPARTMENT OF THE INTERIOR

MAY 9 - 1957
REGION III
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1035.3
Approval expires June 30, 1958

APPLICATION FOR AID IN AN EXPLORATION PROJECT

PURSUANT TO DMEA ORDER I, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

NAME OF APPLICANT (Full legal name and mailing address as it should appear on contract if one is executed).

Gruver Uranium Exploration, Inc.

Gruver, Texas

APPLICANT NOT TO USE THIS BLOCK

Docket Number: 4745

Date Received: 5-13-57

Government Participation %: 75%

Region: III

Division Code: 700

BUSINESS ORGANIZATION (Check one)

- Individual [ ]
- Corporation [X]
- Partnership [ ]
- Other (Specify) [ ]

State in which firm is organized: Texas

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

Name	Address	Title
Tillie Poston	Gruver, Texas	President
A. R. Bort	Gruver, Texas	Vice-President
Kenneth Irwin	Gruver, Texas	Sec.-Treasurer

Mineral(s) for which you wish to explore: Uranium

Estimated Cost of Project: $ $21,972.00

LOCATION OF PROPERTY

Name	County	State
Headache and Sage Claims	Emery	Utah

GENERAL INSTRUCTIONS

Before filling out this application, please read DMEA Order-I, Amended, "Government Aid in Defense Exploration Projects." To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit four copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 1, existing mine workings and geology in item 2, and the proposed exploration project in item 4. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 2(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest DMEA Field Office.*

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.

GRUVER URANIUM EXPLORATION, INC.

MAY 8 - 1957
Dated

Tillie Poston
BY *(Signature)*

President
Title

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense. U. S. Code, Title 18, Sec. 1001.

INFORMATION REQUIRED WITH THIS APPLICATION

1. *Applicant's Property Rights:*

(a) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all land adjacent to the proposed project area which you own or control. Describe any part of the project land or workings which should not be subject to Government lien for royalty payments. If the land consists of unpatented claims, state the book and page number for each recorded location notice, including amended locations, and the place where recorded (courthouse, recorder's office, county, and state).

(b) State all the names by which you know the property.

(c) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise. If you are not the owner, submit with this application one exact copy of the lease, contract, or other document (with address of owner) under which you control the property.

(d) Describe all liens, mortgages, or other encumbrances on the property.

2. *Physical Description:*

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the lands, including existing mine workings. Describe all production facilities.

(b) State your interest, if any, in operations stated in 2*(a)*.

(c) State, as far as you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves on the property giving quantities and grades and sampling methods used, supporting your statement with copies of assay certificates and assay maps if available.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations if known, and type of deposit (vein, bedded, etc.).

(f) State your reasons for expecting to find ore, and if you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates.

(g) Send with your application at least *two* copies of all geologic or engineering reports, assay maps, or technologic information which you may have, indicating on each whether you require its return to you.

3. *Accessibility of Project:*

(a) To aid DMEA representatives who may be required to examine the property, state the name and address of the person who will meet the DMEA representative; give directions for reaching the property; and describe accessibility of the property including the mine workings.

(b) Name the shipping and supply points and places where employees reside and state the distances between them and the property.

4. *The Exploration Project:*

(a) Describe fully the proposed exploration project giving individual footages and sizes of openings *for each item of work*. Use narrative, maps, plans, and longitudinal and cross sections as necessary. Show the location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to *property boundaries*, or to the closest identifiable corner.

(b) If an access road to the project must be built, show the location on the property map and state the length, type, and construction methods proposed.

(c) In the event that an exploration contract with DMEA is executed, how soon will the work start and how many months will be required to complete it? State your anticipated average daily or monthly rate of progress for each type of work.

5. *Experience:*

State your operating experience and background with relation to your ability to carry out this exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of Costs:*

Furnish detailed estimates of the costs *for each item of the work proposed in 4(a)* under the headings listed below with a total for each heading and the estimated total cost of the project. Costs for any work to be performed by an independent contractor should be shown separately under category *(a)* below. Costs for any work that is not to be performed by an independent contractor should be given in detail under categories *(b)* through *(g)*.

(a) Independent contracts. State the cost of any proposed independent contract for the performance of all or any part of the work, expressed in units of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. *(Note* – If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. For necessary supervision, engineering and geological services, and labor, include an itemized schedule of numbers, classes, rates of wages, salaries or fees, and periods of employment. State whether these technicians and employees are available.

(c) Operating materials and supplies. List items of material and supplies with their cost. Include under this heading power, water, and fuel, and units of equipment and tools costing less than $50 each.

(d) Operating equipment. List items of operating equipment to be used giving specifications and indicating how each item is to be acquired – i.e., rented, purchased, or provided by the applicant. If it is rented or purchased, state the estimated rental or purchase price. If it is to be furnished by the applicant, give its present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of necessary *initial* rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant, which will be used on the exploration project.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration project stating specifications and cost including labor, materials and supervision.

(g) Miscellaneous. For the operating equipment listed in 6*(d)*, describe the type and estimate the cost of repairs and maintenance expected during project operations. Do not repeat initial repairs listed in 6*(e)*. Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories.

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)* State whether you are prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation stated in Sec. 7 of DMEA Order–I, Amended.

(b) Explain to what extent you propose to furnish your share of the costs by providing money, by use of equipment owned by you, or otherwise.

* * * * *

INT.-DUP. SEC., WASH., D.C. 15539

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

May 9, 1957

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Application for DMEA Aid, (Uranium) Grover Uranium Exploration, Inc. (Headache and Sage Claims) Emery County, Utah

Enclosed are the original and one copy of the subject application. One copy of the application is being forwarded to the Grand Junction Office, DMEA. One copy of the application is being retained in our file.

The Applicant proposes to explore a mineralized target area by 10,400 feet of core and non-core drilling at a total estimated project cost of $21,972.00. No drilling bids were submitted with the application.

If field referral is indicated and the field examiners view the proposed work favorably CONSENT TO LIEN and SUBORDINATION AGREEMENTS should be obtained from E. J. Boggs, C. A. Lichliter and R. C. Rasmussen.

E. N. Harshman

E. N. Harshman
Acting Executive Officer

Enclosures

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 13 1957

DATE	INITIALS	CODE

APPLICATION FOR DMEA PROJECT

ON

HEADACHE CLAIMS 15-18 INCL.

AND

SAGE CLAIMS 1-10 INCL.

SECTION 19, T20S, R6E, SLBM

April 30, 1957

OFFICIAL FILE COPY
D M E A
RECEIVED MAY 13 1957

DATE	INITIALS	CODE

Prepared by:

GRUVER URANIUM EXPLORATION, INC.

GRUVER, TEXAS

DMEA
DEPARTMENT OF THE INTERIOR
MAY 9 - 1957
REGION III
DENVER, COLORADO

Application for DMEA Project
Gruver Uranium Exploration, Inc.
Gruver, Texas

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ILLUSTRATIONS AND EXHIBITS

Illustration I	Claim map showing location of Headache Claims 1-27 incl., and Sage Claims 1-17 incl.
Illustration II	Geologic map showing the location of Headache and Sage Claims of Gruver Uranium Exploration, Inc., Gruver, Texas.
Illustration III	Completed and proposed drill holes and sample map.
Exhibit 1	Substituted areement showing ownership of Headache Claims 1-22 incl.
Exhibit 2	Spectrographic analysis of uranium bearing nodules.

Application for DMEA Project
Gruver Uranium Exploration, Inc.
Gruver, Texas

INTRODUCTION

This report on Headache Claims 1-27 and Sage Claims 1-17 incl., Section 19, T20S, R6E, SLBM, is written for the purpose of applying for a DMEA loan on land owned by Gruver Uranium Exploration, Inc., in Emery County, Utah near Ferron, Utah. Gruver Uranium Exploration, Inc., is submitting a request for a loan of $21,972.00 for 10,400 feet of core and non-core drilling to explore the early Tertiary North Horn formation for uranium minerals. Twenty five percent of the $21,972.00, or $5,493.00, will be paid by Gruver Uranium Exploration, Inc.

1. APPLICANTS PROPERTY RIGHTS

a.) The property considered in this application is the Headache Claims 15-18 incl., and the Sage Claims 1-10 incl., which are contiguous claims and are located in Section 19, T20S, R6E, SLBM. Adjoining these claims are Sage 11-17 incl., and Headache Claims 1-14 incl., and 19-27 incl. Location of adjoining claims is shown on Illustration I, "claim map showing location of Headache Claims 1-27 incl., and Sage Claims 1-17 incl."

These claims are unpatented mining claims and are recorded in Castle Dale court house by Nellie B. Young, recorder, Emery County, state of Utah as follows:

Claim	Book No.	Page No.	Claim	Book No.	Page No.
Headache 1	J-108	565	Headache 15	J-109	163
2	J-109	200	16	J-109	207
3	J-108	566	17	J-109	164
4	J-109	201	18	J-109	208
5	J-108	567	19	J-109	169
6	J-109	202	20	J-109	170
7	J-108	568	21	J-109	171
8	J-109	203	22	J-109	172
9	J-108	569	23	J-111	440
10	J-109	204	24	J-111	441
11	J-108	570	25	J-111	442
12	J-109	205	26	J-111	443
13	J-109	162	27	J-111	444
14	J-109	206			

a.) Continued

Claim	Book No.	Page No.	Claim	Book No.	Page No.
Sage 1	J-111	445	Sage 10	J-111	454
2	J-111	446	11	J-111	455
3	J-111	447	12	J-111	456
4	J-111	448	13	J-111	457
5	J-111	449	14	J-111	458
6	J-111	450	15	J-111	459
7	J-111	451	16	J-111	460
8	J-111	452	17	J-111	461
9	J-111	453			

b.) The property is known only by Headache Claims 1-27 incl., and Sage Claims 1-17 incl.

c.) Gruver Uranium Exploration, Inc., is owner of the Sage Claims 1-17 incl., and Headache claims 23-27 incl., and one half (1/2) owner of Headache claims 1-22 incl. See Exhibit 1 for "substituted agreement" which explains fully Gruver Uranium Exploration, Inc's., undivided 1/2 ownership of these claims.

d.) Omitted. There are no liens, mortgages or other encumberances on the property.

2. PHYSICAL DESCRIPTION

a.) Gruver Uranium Exploration, Inc., has conducted exploration drilling on Headache Claims 15 and 17. Eight holes have been drilled to date, and two holes showed anomalous radio activity when probed. Results of probing indicated radiometric analysis of mineralization to be 0.04% to 0.06% U_3O_8. No coring was done and no chemical analysis is available. Drilling done by the company is shown on IllustrationIII.

There are no mine workings on the property.

b.) Gruver Uranium Exploration, Inc., conducted exploration drilling to prospect the Headache 15 and 17 claims.

c.) Omitted. There has been no production from this property.

d.) Omitted. No ore reserves have been computed for the property at this date.

e.) The uranium mineralization occurs in the upper beds of the Tertiary North Horn formation. The North Horn formation is composed of variegated shales with

e.) Continued

interbedded sandstones, argillaceous limestones, and conglomerates.

Radio active outcrops occur in the Headache and Sage claims, and chemical assay by U. S. Atomic Energy Commission and private assayers indicate ore grade uranium occurring at these outcrops. (See Illustration III for assay data and sample location.)

Known uranium mineralization is confined chiefly in abundant calcium phosphate nodules occurring in a dark gray shale, approximately 275-300 feet below the base of the overlying Tertiary Flagstaff limestone. Uranium bearing sandstone, found as float, indicates the possibility of uranium deposits in sandstone, which is chiefly ancient stream channel fillings.

In hole no. G8, more than 75 feet of sandstone was encountered, and although no anomalous radio activity was detected, favorable lithologic and stratigraphic criteria was noted. The sandstone was medium to coarse-grained, slightly arkosic, and contained abundant carbonaceous material. This channel sandstone does not crop out and was found by drilling. It is proposed to further delineate this channel.

As yet no uranium minerals have been identified, but chemical analysis indicates the presence of uranium.

The abundant calcium phosphate nodules containing the uranium mineralization are bedded in shale, and concentrate residually on benches and in washes.

f.) It is the firm belief of the company that commercial uranium deposits exist in the sandstone channel fillings, and ore grade uranium bearing calcium phosphate nodules occurring in the shale may be concentrated sufficiently to be commercial uranium deposits.

Samples taken at radioactive outcrops indicate ore grade uranium mineralization. (See sample data and location of samples taken on Illustration III) Samples were taken by digging nodules from shale. Radioactive sandstone found as float was chemically assayed by U. S. Atomic Energy Commission and showed 0.08% U_3O_8. Drilling by Gruver Uranium Exploration, Inc. disclosed

f.) Continued

a thick channel sandstone which is a lithologically favorable host rock for uranium deposits.

The wide extent of radioactive outcrops indicates abundant uranium mineralization. Other uranium bearing outcrops occur to the North and West of the Sage and Headache claims at the same stratigraphic horizon. U. S. Atomic Energy Commission report "Uranium Deposits of the Cretaceous and Tertiary Formations of the Wasatch Plateau", now in process of publication at Grand Junction, Colorado, describes uranium bearing outcrops in other parts of the North Horn formation, but all at nearly the same stratigraphic horizon.

g.) Enclosed is:

2 copies of spectrographic analysis of calcium phosphate nodules. (Exhibit 2)

2 copies of assay map (illustration III)

3. ACCESSIBILITY OF PROJECT

a.) The Headache and Sage claims can be reached from Ferron, Utah, located 45 miles south of Price, Utah, on State Highway 10. From Ferron, Utah, drive west up Ferron Canyon for 7.0 miles, turn left, south, and drive 7.1 miles along the old Emery road to Gruver Uranium Exploration, Inc., property. All roads are graded dirt and gravel roads, periodically maintained by forest service and private individuals. The property is accessible by automobile.

DMEA representative should contact Mr. Harvey Holt, Gruver, Texas, or Mr. O. V. Walker, Gruver, Texas, for arrangements to examine the property. Both Mr. Holt and Mr. Walker will meet the DMEA representative in Ferron, Utah as arranged.

b.) Shipping and supply point will be Ferron, Utah, which is 14.1 miles from the property.

4. THE EXPLORATION PROJECT

a.) The proposed exploration project consists of drilling 52 holes spaced on approximately 400 foot centers for a

a.) continued

total of 10,400 feet. Of this footage, 10,150 feet will be non-core and 250 feet will be core. It is proposed that 10 holes will be cored for an interval of 25 feet at the bottom of each hole. The core will be used to chemically assay the uranium, and to establish an equilibrium between gamma ray radiometric analysis while logging the hole and chemical analysis. The core will also be logged geologically to determine the favorability of the uranium bearing horizon. As drilling progresses it may be necessary to core other favorable zones or to increase or decrease the amount of core taken. Holes proposed to be cored are designated on the proposed drilling map by the word "core" written near the hole. (Illustration III) Depth of holes will vary from 50 to 300 feet.

Drill cuttings from non-core drilling will be logged geologically in two foot intervals. All holes will be drilled 4½" diameter to accomodate logging equipment.

The purpose of this project is to find uranium ore rather than make a geologic study of the property and therefore, coring is kept at a minimum.

b.) Omitted. Access road is available.

c.) Work will begin within 60 days from date of contract. One and one half months will be required to complete the contract as proposed. It is anticipated drilling will progress at an average rate of 300 feet per day per drill rig. If two rigs are used, the contract will be executed in less than one month.

Preparation of 52 drill sites will require approximately 10 days bull dozer time.

5. EXPERIENCE

Gruver Uranium Exploration, Inc. has been engaged in uranium and mineral exploration in the United States for the past two years. The company has recently completed 1200 feet of drilling on the Headache and Sage claims, as well as doing drilling for other uranium companies in the vicinity of Ferron, Utah. The geologist who will help supervise the project has seven years experience in open pit and underground mining, and 4 years experience in uranium exploration, two years of which were with a government agency.

6. ESTIMATE OF COSTS

52 holes for a total footage of 10,400 feet

Price per foot non-core drilling	$ 1.60
Price per foot core drilling	4.50
Price per foot logging hole	0.10
Rig standby time per hour	15.00
Bull dozer and operator per hour	12.00
Bull dozer travel time to and from Ferron, Utah, per hour	5.00

a.) Amount to independent contractors

Explanation	Unit	No. of Units	Total Cost Each Item	Cost for Project
Non-core drilling	feet	10,150	$16,240.00	$16,240.00
Core drilling	feet	250	1,125.00	1,125.00
Logging	feet	10,400	1,040.00	1,040.00
Rig standby time	hours	13	195.00	195.00
Bull dozer	hours	85	1,020.00	1,020.00
Travel time bull dozer	hours	10	50.00	50.00
			$19,670.00	$19,670.00

Total cost of independent contractor $19,670.00

b.)

	Cost Per Month	Cost Per Project
Supervision and geological service	$ 700.00	$1,050.00
Engineering (Surveying)	300.00	300.00
	$1,000.00	$1,350.00

All technicians and employees are available.

c.)

	Cost Per Month	Cost For Project
Fuel (Butane)	$ 50.00	$ 50.00
Map and drill log reproduction	25.00	25.00
Field supplies	25.00	25.00
	$100.00	$100.00

d.) Omitted. Operating equipment is furnished by independent contractor.

e.) Omitted. No initial rehabilitation necessary.

f.)

	Cost for Project
Frame building material and fixtures	$400.00
Labor	75.00
	$475.00

g.) Miscellaneous	Cost Per Month	Cost For Project
Field transportation	$150.00	$225.00
Accounting and office expense	50.00	75.00
Estimated payroll tax	20.00	27.00
Assay fee on core sample	50.00	50.00
	$270.00	$377.00

Cost of project per foot of drilling $2.11.

7. APPLICANTS SHARE OF COST

a.) Gruver Uranium Exploration, Inc., is prepared to furnish 25% of the total cost of the proposed project.

b.) Gruver Uranium Exploration, Inc., will provide money to furnish 25% ($5,493.00) of the total cost of the project.

GRUVER URANIUM EXPLORATION, INC.

RECEIVED
JUN - 1 1956

SUBSTITUTED AGREEMENT

WHEREAS, the parties hereinafter named entered into an agreement respecting certain mining claims located in Emery County, Utah, on the 24th day of October, 1955, which agreement appears of record in Book J-109 at page 348, records of Emery County, Utah, and

WHEREAS, the parties heereto and thereto are now desirous of changing said agreement in some particulars, it being mutually agreeable to all parties concerned,

NOW THEREFORE, this Substituted Agreement, which is intended to and does supercede in all particulars the agreement heretofore and hereinabove mentioned, made and entered into this 22 day of May, 1956, by and between E. J. BOGGS, C. A. LICHLITER and R. C. RASMUSSEN, Parties of the First Part, and GRUVER URANIUM EXPLORATION, INC., a Texas Corporation, duly licensed to do business in the State of Utah, hereinafter referred to as Party of the Second Part, WITNESSETH:

That Parties of the First Part are the owners and locators of the following described lode mining claims situated and recorded in Emery County, State of Utah, to-wit:

CLAIM NAME	LOCATED	RECORDED	BOOK & PAGE
Headache #1	September 12, 1955	October 10, 1955	J-108, 565
Headache #3	September 12, 1955	October 10, 1955	J-108, 566
Headache #5	September 12, 1955	October 10, 1955	J-108, 567
Headache #7	September 12, 1955	October 10, 1955	J-108, 568
Headache #9	September 12, 1955	October 10, 1955	J-108, 569
Headache #11	September 12, 1955	October 10, 1955	J-108, 570
Headache #13	October 16, 1955	October 22, 1955	J-109, 162
Headache #15	October 16, 1955	October 22, 1955	J-109, 163
Headache #17	October 16, 1955	October 22, 1955	J-109, 164
Headache #19	October 17, 1955	October 24, 1955	J-109, 169
Headache #20	October 17, 1955	October 24, 1955	J-109, 170
Headache #21	October 17, 1955	October 24, 1955	J-109, 171
Headache #22	October 17, 1955	October 24, 1955	J-109, 172

Parties of the First Part agree to transfer and assign to Party of the Second Part or his assignees an undivided one-half interest in the above described claims upon the completion of 2000 feet of drilling, or the discovery of a commercial ore body. All the above described drilling shall be applied and constitute assessment work on these claims.

Exhibit 1

Please Return

minerals and to have such assaying done as good drilling practice requires. Parties of the First Part to be furnished with assay information and ore samples as required.

It is mutually understood and agreed by and between the parties hereto that the Party of the Second Part plans to do exploration work for the discovery of uranium and other ores, on the claims hereinabove mentioned, and that it may make application for an exploration loan from the United States Government to explore for uranium and other ores from the premises mentioned above. Parties of the First Part agree to subordinate their rights to the returns from ores discovered by the exploration work done with funds from said Government loan to the extent of permitting a payment of 5% royalty on said returns to repay said loan. It is specifically understood that the provisions of this paragraph as set forth above are to apply only to the ores discovered as a result of work done by the use of funds provided by said Government loan and in no event to extend for a period longer than ten years.

It is further mutually understood and agreed that the Party of the Second Part shall be solely responsible for the repayment of any Government loan obtained as above provided, and that the 5% royalty herein referred to shall in no way diminish the equitable interests of the parties of the First Part.

In the event the Party of the Second Part is unable to complete the above described work he may file a release of this contract in Emery County, Utah, and the recording of a release of this contract will constitute liquidation of all claims or damage hereinbefore are hereinafter incurred.

PARTIES OF THE FIRST PART

R. G. Rasmussen

E. J. Beggs

C. A. Fichliter

GROVER URANIUM EXPLORATION, INC.
PARTY OF THE SECOND PART

By O. W. Walker
Director

Harvey R. Hall
Director

STATE OF UTAH)
)ss
COUNTY OF EMERY)

On the 22 day of May, 1956, personally appeared before me E. J. Boggs, C. A. Lichliter and R. C. Rasmussen, three of the signers of the above instrument, who duly acknowledged to me that they executed the same.

Leon P. Raphs
Notary Public
Residing at Ferron, Utah

My Commission Expires:
Aug - 8 - 1956

STATE OF UTAH)
)ss
COUNTY OF EMERY)

On the 22 day of May, 1956, personally appeared before me O. V. Walker, Jr., and Harvey Holt, who being by me duly sworn, did say that they are Directors of Gruver Uranium Exploration, Inc., and that said instrument was signed in behalf of said corporation by authority of its Board of Direcotrs, and said O. V. Walker Jr, and Harvey Holt acknowledged to me that said corporation executed the same.

Leon P. Raphs
Notary Public
Residing at Ferron, Utah

My Commission Expires:
Aug - 8 - 1956

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3 1957

GRUVER URANIUM EXPLORATION, INC.
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JUN - 1 1956

SUBSTITUTED AGREEMENT

WHEREAS, the parties hereinafter named entered into an agreement respecting certain mining claims located in Emery County, Utah, on the 24th day of October, 1955, which agreement appears of record in Book J-109 at page 349, records of Emery County, Utah, and

WHEREAS, the parties thereto are now desirous of changing said agreement in some particulars, it being mutually agreeable to all parties concerned,

NOW THEREFORE, this Substituted Agreement, which is intended to and does supercede in all particulars the agreement heretofore and hereinabove mentioned, made and entered into this 22 day of May, 1956, by and between J. A. NIELSON, H. S. NIELSON, IVAN NIELSON and CARL E. NIELSON of Ferron, Emery County, State of Utah, hereinafter referred to as Parties of the First Part, and GRUVER URANIUM EXPLORATION INC., a Texas Corporation, duly licensed to do business in the State of Utah, hereinafter referred to as Party of the Second Part, WITNESSETH:

That Parties of the First Part are the owner and locators of the following described lode mining claims situated and recorded in Emery County, State of Utah, to-wit:

CLAIM NAME	LOCATED	RECORDED	BOOK & PAGE
Headache #2	October 16, 1955	October 25, 1955	J-109, 200
Headache #4	October 16, 1955	October 25, 1955	J-109, 201
Headache #6	October 16, 1955	October 25, 1955	J-109, 202
Headache #8	October 16, 1955	October 25, 1955	J-109, 203
Headache #10	October 16, 1955	October 25, 1955	J-109, 204
Headache #12	October 16, 1955	October 25, 1955	J-109, 205
Headache #14	October 16, 1955	October 25, 1955	J-109, 206
Headache #16	October 16, 1955	October 25, 1955	J-109, 207
Headache #18	October 16, 1955	October 25, 1955	J-109, 208

Parties of the First Part agree to transfer and assign to Party of the Second Part or his assignees an undivided one-half interest in the above described claims upon the completion of 2000 feet of drilling, or the discovery of a commercial ore body. All the above described drilling shall be applied and constitute assessment work on these claims.

Party of the Second Part agrees todrill the above described footage in a workmanlike manner and to use due diligence in carrying on his work. Party of the Second Part agrees to take such cores and do such probing as he may see fit for the testing of Uranium and other

Exhibit 1

Please Return

minerals and to have such assaying done as good drilling practice requires. Parties of the First Part to be furnished with assay information and ore samples as requires.

It is mutually understood and agreed by and between the parties hereto that the Party of the Second Part plans to do exploration work for the discovery of uranium and other ores, on the claims hereinabove mentioned, and that it may make application for an exploration loan from the United States Government to explore for uranium and other ores from the premises mentioned above. Parties of the First Part agree to subordinate their rights to the returns from ores discovered by the exploration work done with funds from said Government loan to the extent of permitting a payment of5% royalty on said returns to repay said loan. It is specifically understood that the provisions of this paragraph as set forth above are to apply only to the ores discovered as a result of work done by the use of funds provided by said Government loan and in no event to extend for a period longer than ten years.

It is further mutaully understood and agreed that the Party of the Second Part shall be solely responsible for the repayment of any Government loan obtained as above provided, and that the 5% royalty herein referred to shall in no way diminish the equitable interests of the parties of the First Part.

In the event the Party of the Second Part is unable to complete the above described work he may file a release of this contract in Emery County, Utah, and the recording of a release of this contract will constitute liquidation of all claims or damage hereinbefore are hereinafter incurred.

PARTIES OF THE FIRST PART

A. F. Nielson

H. S. Nielson

Ivan Nielson

Leon E. Nielson

GRUVER URANIUM EXPLORATION, INC.
PARTY OF THE SECOND PART

By A. M. Walker
Director

Harvey R. Hall
Director

STATE OF UTAH)
)ss
COUNTY OF EMERY)

On the 22 Day of May, 1956, personally appeared before me J. K. Nielson, H. S. Nielson, Ivan Nielson, and Carl E. Nielson, four of the signers of the above instrument, who duly acknowledged to me that they executed the same.

Leon P Raeplo
Notary Public
Residing at Ferron, Utah

My Commission Expires:
Aug-8-1956

STATE OF ~~XXXXX~~ TEXAS)
COUNTY OF ~~XXXXXX~~ HANSFORD)ss

On the 25 day of May, 1956, personally appeared before me O. V. Walker Jr., and Harvey Holt, who being by me duly sworn, did say that they are Directors of Gruver Uranium Exploration, Inc., and that said instrument was signed in behalf of said corporation by authority of its Board of Directors, and said O. V. Walker Jr., and Harvey Holt acknowledged to me that said corporation executed the same.

[illegible]
Notary Public, Hansford County, Texas
~~Residing at Ferron, Utah~~

My Commission Expires:
June 1, 1957

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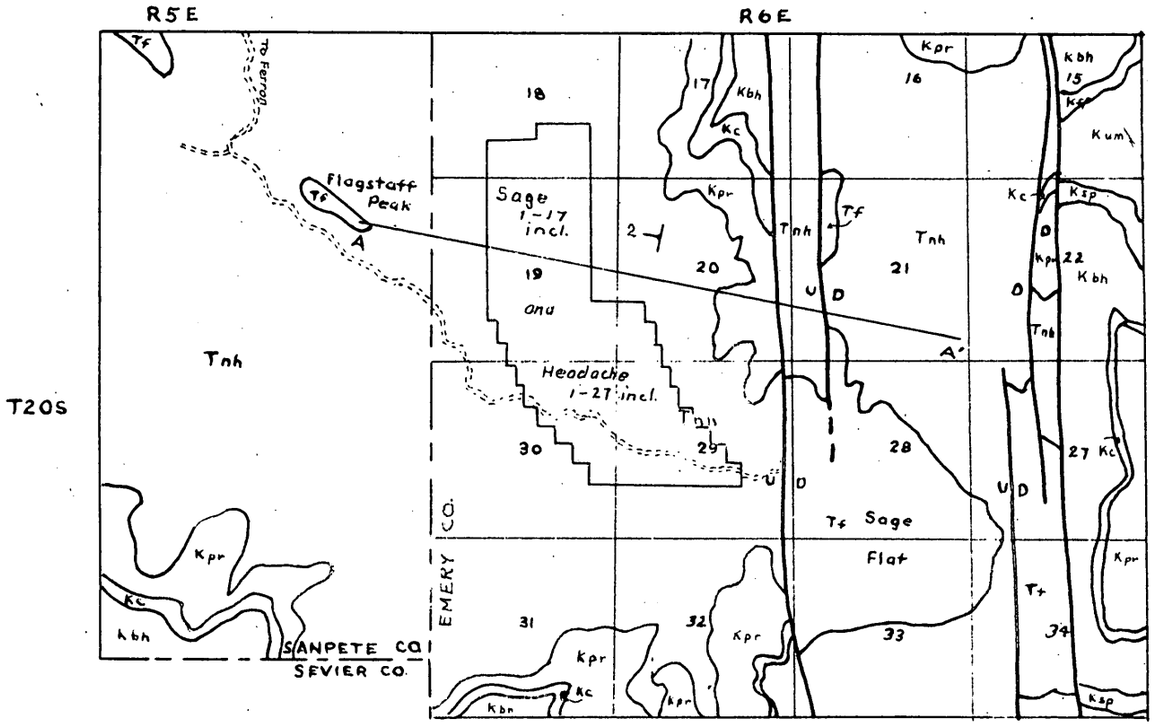

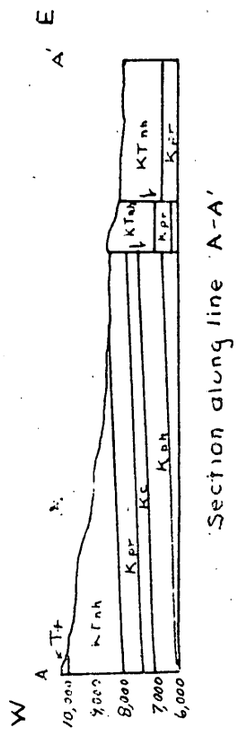

EXPLANATION

TERTIARY	Tf	Flogstaff limestone
	KTnh	North Horn formation
CRETACEOUS	Kpr	Price River formation
	Kc	Castlegate sandstone
	Kbh	Blackhawk formation

U/D Fault

2 Strike and dip of beds

Location of Headache and Sage claims

Illustration II

GEOLOGIC MAP SHOWING LOCATION OF HEADACHE AND SAGE CLAIMS OF GRUVER URANIUM EXPLORATION, INC., GRUVER, TEXAS

Scale $\frac{1}{62500}$

0 ½ 1 2 3 miles

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DMEA Form 7
(12-56)

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8-2	Ching	700
8-2	Ellis	700
8/2	Martin	130
"	Johnson	110
		100
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AUG - 2 1957

Miss Tillie Poston, President
Gruver Uranium Exploration, Inc.
Gruver, Texas

Re: Docket No. DMEA-4745 (Uranium) 8/2 Yoge (130
Headache and Sage Claims
Emery County, Utah 8/2 Kilgoard (30)

Dear Miss Poston:

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

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

Careful study of all our information, although noting some 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.

Enclosed is a copy of a Report of Qualitative Spectrographic Examination, dated May 4, 1956, which you requested to be returned. We are retaining, for our files, one copy each of the two Substituted Agreements, dated May 22, 1956. By a copy of this letter, we are requesting our Field Team to return to you any copies of the Substituted Agreements which it may have.

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

Sincerely yours,

C. O. Mittendorf (for)

Administrator

MChing/izm 8-2-57
cc to: Ching
Adm.r's Reading File
Operating Committee DMEA FT Reg. 3 (2)
THKiilsgaard, 5224

8623

Docket

Chiang
Ellis

August 2, 1957

Summary of Proposed Project

Object: Denial of application for an exploration project.

Docket No.: DMEA-4745

Commodity: Uranium

Applicant: Gruver Uranium Exploration, Inc.
Gruver, Texas

Property: 14 unpatented lode mining claims, Headache Nos. 15-18 and Sage Nos. 1-10 located in sec. 19 T. 20 S., R. 6 E., S.L.B.&M., Emery County, Utah. Applicant is owner of the Sage claims and will become one-half owner of the Headache claims upon completion of 2,000 feet of drilling on [redacted] THEM. Adjoining claims Sage Nos. 11-17, Headache Nos. 1-14 and 19-27 are also controlled by Applicant. It is not clear whether or not they were included in the application.

Date of Application: May 8, 1957

Amount of Application: $21,972.00

Referred to Region III: May 27, 1957

Field Examination made: June 26, 1957

Field Team Report received: July 25, 1957

Work Proposed: Test the upper beds of the North Horn formation of Cretaceous and Tertiary age by drilling 52 holes on 400-foot spacings for a total of 10,400 feet. 10 selected holes are to be cored over an interval of 25 feet.

Estimated Costs:

10,150 ft. non-core drilling @ $1.60/ft.	$16,240.00	
250 ft. core drilling @ $4.50/ft.	1,125.00	
Logging & standby costs	1,235.00	
Bulldozing costs	1,070.00	
Supervision & technical services	1,350.00	
Miscellaneous	952.00	
Total		$21,972.00
Government Participation @ 75%		$16,479.00

Field Team Report: July, 1957 - D.P. Elston, USGS & Paul V. Fillo, USBM:

Uranium occurs in association with calcium phosphate nodules and fossil bones on the subject claims. The nodules are randomly distributed in upper 3 to 5 feet of a persistent, light to dark gray bed of carbonaceous shale 5 to 20 feet thick. No sandstone beds were observed on the property

that could be considered as favorable hosts for uranium deposits. The nodules and fossil bones are widely but sparsely distributed. Quantities of these materials at any one place are insufficient to constitute ore.

Chemical analyses by the AEC of 4 samples of uranium-bearing phosphatic nodules from Headache No. 15 claim showed 0.18, 0.08, 0.05, and 0.11% U_3O_8. Two samples analyzed by the USBM ran 0.09 and 0.12% U_3O_8.

Three other properties on the Wasatch Plateau have occurrences of uranium minerals. They are the Blue Lake, Jaw Bones and Lone Pine claims. None of the deposits are of any significance.

Denial of the application is recommended.

Commodity Group Comments:

USBM, James Paone, July 30, 1957:

Agrees with the Field Team and advises denial of the application.

USGS, N. E. Nelson, July 30, 1957:

The uranium-bearing nodules are scattered and the best are low-grade. Concurs with examiner's recommendation for denial.

Div. of Rare & Misc. Metals, Michael Ching, Aug. 2, 1957:

The property is located in an area that is not known for worthwhile uranium deposits. No thick persistent sandstone beds are present to act as host rocks for uranium.

Conclusions and Recommendations:

The chances of finding a significant ore deposit on this property are poor. It is recommended that the application be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis, Director
Division of Rare and
Miscellaneous Metals

IN REPLY REFER TO:

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

July 30, 1957
Re: DMEA 4745
Gruver Uranium Exploration, Inc.
Headache & Sage Claims
Emery County, Utah
$21,972.00 - 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, by core and non-core drilling, claims underlain by the upper part of the North Horn formation, a dark gray to black carbonaceous shale that ranges from about 5 to 20 feet in thickness.

In the shale are scattered nodules, less than one inch to as much as 5 inches in diameter, which are uranium bearing. The nodules are composed largely of calcium and phosphorous.

As the nodules are scattered and the best are low grade, the examiners conclude the chances of finding a concentration are not good and recommend that the application be denied.

Of eight drill holes drilled by the applicant, only 2 showed anomalous radioactivity and 4 samples of nodules assayed only 0.18, 0.08, 0.05, and 0.11% U_3O_8.

The conclusions of the examiners appear to be very apt. I concur with their recommendation.

N. E. Nelson

N. E. Nelson

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Comments		
Complete		

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July 30, 1957

4745

Uranium

Gruver Uranium Exploration, Inc.
Headache and Sage Claims
Emery County, Utah
$21,972.00

Ernest William Ellis, DMEA Member
Uranium Commodity Committee
James Paone, Bureau of Mines Member JP
Uranium Commodity Committee

Field Team Report

7/57

7/30/57

x

x

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

July 23, 1957

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Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket DMEA 4745 ((Uranium) Gruver Uranium Exploration, Inc. (Headache and Sage Claims) Emery County, Utah - Joint Engineering and Geologic Report

ON-SITE EXAM

Enclosed are the original and two copies of the Joint Report of Examination on the subject property by Paul V. Fillo, USBM, and D. P. Elston, USGS.

The field examiners conclude that the probability for making a significant discovery is not sufficiently promising to justify Government participation. Accordingly, they recommend that the Applicant's work proposal be denied in which the Field Team concurs.

W H King

W. H. King
Executive Officer

Reviewed by
DMEA
7-29-57

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. Box 360
Grand Junction, Colorado

DMEA
DEPARTMENT OF THE INTERIOR
JUL 22 1957
REGION III
DENVER, COLORADO

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JUL 22 1957
U.S. GEOLOGICAL SURVEY
DENVER, COLORADO

July 19, 1957

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TRANSMITTED
JUL 23 1957

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: E. N. Harshman

From: J. William Hasler

Subject: Transmittal of a joint engineering and geologic report of examination on DMEA docket 4745 (Uranium), Gruver Uranium Exploration, Inc., (Headache and Sage claims), Emery County, Utah

Enclosed are 12 copies of a joint engineering and geologic report by Paul V. Fillo, U. S. Bureau of Mines, and D. P. Elston, U. S. Geological Survey, with 12 copies of figures 1, 2, and 3 included as a part of the report.

The Gruver Uranium Exploration, Inc., Gruver, Texas, applied for Government assistance to explore for uranium on the Headache and Sage claims in Sections 18, 19, 20, 29, and 30, T. 20 S., R. 6 E., Emery County, Utah. The application was referred to the field and an examination was made on May 8 in company with Mr. Harvey Holt, who represented the applicant.

The subject claims have been located on beds belonging to the upper part of the North Horn formation of Cretaceous and Tertiary age. Uranium minerals on the claims are associated with calcium phosphate nodules and fossil bones. The field examination disclosed that a limited amount of drilling had been done and that the uranium-bearing calcium phosphate nodules are too sparsely distributed to adequately explore at a reasonable cost. This type of occurrence would be virtually impossible to prospect unless it was found that the nodules occurred in a definite trend or zone. Since this is not the case, it is concluded that the chances of finding an ore body of significant size or grade are not good. It is therefore recommended that the application be denied.

Reviewed by
DMEA OPERATING COMMITTEE
7-29-57
(date)

DMEA 4745 7/19/57

The Atomic Energy Commission was consulted relative to the appraisal of the property and material from a yet unpublished report, made available to us by the Commission, was utilized. I concur with the conclusions and recommendations of the examining team that the application be denied.

J. William Hasler
J. William Hasler,
Geologist

JWH/mlr

Enclosure
Report, 12 copies w/ figs. 1, 2 & 3
Brochure

FOR UNITED STATES GOVERNMENT USE ONLY

TRANSMITTED

JUL 23 1957

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

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DMEA 4745

Gruver Uranium Exploration, Inc.

Headache and Sage claims

Emery County, Utah

Uranium

Joint Engineering and Geologic Report

by

D. P. Elston
Geological Survey

Paul V. Fillo
Bureau of Mines

July 1957

REVIEWED BY
7-29-57

DMEA 4745
GRUVER URANIUM EXPLORATION, INC.
HEADACHE AND SAGE CLAIMS
EMERY COUNTY, UTAH

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Joint Engineering and Geologic Report

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Topography and Climate	4
Ownership and Extent	5
History and Production	6
Geology	6
Ore Deposits	10
Proposed Exploration and Costs	14
Conclusions and Recommendations	16

ILLUSTRATIONS

Figure		Follows page
1.	Index map to the location of the Wasatch Plateau and the Headache and Sage claims, Gruver Uranium Exploration, Inc., Emery County, Utah	18
2.	Geologic map of part of Wasatch Plateau showing location of uranium prospects and Headache and Sage claims, Gruver Uranium Exploration, Inc., Emery County, Utah	18
3.	Map of the Headache and Sage claims, showing drill holes, sample locations and assay results, and approximate location of mineralized outcrops, Gruver Uranium Exploration, Inc., Emery County, Utah	18

DMEA 4745
GRUVER URANIUM EXPLORATION, INC.
HEADACHE AND SAGE CLAIMS
EMERY COUNTY, UTAH

INTRODUCTION AND SUMMARY

Gruver Uranium Exploration, Inc., Gruver, Texas, applied for DMEA assistance for exploration drilling on the Headache and Sage claims, Emery County, Utah on May 8, 1957. These claims are in secs. 18, 19, 20, 29, and 30, T. 20 S., R. 6 E., S.L.B. and M., on the east side of the Wasatch Plateau about 7 airline miles southwest of Ferron, Utah (figs. 1 and 2).

The applicant's proposal consists of drilling 52 holes, spaced on approximately 400-foot centers for a total of 10,400 feet, to explore for uranium in the upper beds of the North Horn formation of Cretaceous and Tertiary age. Of the total footage, the applicant proposes that 250 feet is to be cored, with coring distributed in 10 holes at 25 feet of core per hole. The program is to be drilled in one stage at a total cost of $21,972.00; Government participation at 75 percent would total $16,479.00. The time required to complete the work is estimated to be 1½ months.

The application, DMEA 4745, was referred to the field and an examination was made on June 26, 1957. The examining team consisting of Donald P. Elston, U.S. Geological Survey, and Paul V. Fillo, U.S. Bureau of Mines, was accompanied by Messrs. Harvey Holt, representing the applicant, and E. J. Boggs, part owner of Headache claims 1-22, inclusive.

Property included in the application consists of four Headache claims, Nos. 15-18 inclusive, and 10 Sage claims, Nos. 1-10 inclusive, which are contiguous unpatented lode mining claims, a part of a block of 44 contiguous mining claims. All 44 claims are listed in the application and shown on the maps that accompanied the application. Although not expressly stated in the application, Mr. Harvey Holt reported that it is the applicant's desire to include all of the 44 claims, Headache claims Nos. 1-27 and Sage claims Nos. 1-17. The property is accessible by means of maintained county and Forest Service roads and unimproved logging trails from Ferron, Utah.

The subject claims are staked on lacustrine and fluviatile beds in the upper part of the North Horn formation of Cretaceous and Tertiary age. Faunal studies indicate that these beds are of early Paleocene age. Uranium minerals on the claims are associated with calcium phosphate nodules and fossil bones. In addition the applicant reports that a sandstone boulder found as float was anomalously radioactive. Outcrop investigations and the results of limited drilling indicate that the calcium phosphate nodules are quantitatively the most important host to uranium on the claims, but these are too sparsely distributed to constitute ore. There has been no production and no ore reserves are known.

The calcium phosphate nodules occur in the upper part of a bed of dark gray to black, carbonaceous shale that ranges from about 5 to 20 feet in thickness. The nodules range in size from less than an inch to as much as 5 inches. They appear to be widely but erratically distributed and occur in appreciable concentrations only as a residual lag on the

surface. The nodules weather with light tan to buff and locally red color and have centers that range from dark gray to black in color. They contain calcium and phosphorous as major constituents. Uranium ranges from trace amounts to about 0.17 percent U_3O_8; vanadium is present in trace amounts.

Uranium-bearing phosphatic nodules and fossil bones are too sparsely distributed to constitute an economic source for uranium. The few beds of sandstone observed on outcrop are thin and discontinuous and it is unlikely that they contain significant deposits of uranium. It is therefore recommended that this application for DMEA assistance for exploration for uranium be denied.

ACKNOWLEDGEMENTS

Mr. Robert G. Young, geologist, U.S. Atomic Energy Commission, made available an AEC report that is presently in preparation, on the reconnaissance of the uranium deposits in the Cretaceous and Tertiary rocks in the Wasatch Plateau.

LOCATION

The Gruver Uranium Exploration, Inc. property is located about seven airline miles southwest of Ferron, Emery County, Utah, in secs. 18, 19, 20, 29, and 30, T. 20 S., R. 6 E., S.L.B. and M., (fig. 1). The distance by road is about 23½ miles.

The property is reached from Ferron by driving west on the road to the Ferron reservoir, about 14 miles to the place where the road surmounts the steep eastward-facing escarpment of the Wasatch Plateau, then to the left (south) on an unimproved road to a new reservoir being constructed for the town of Ferron, a distance of about 1½ miles, thence continuing westerly and southerly 3.1 miles to an intersection, thence left a distance of 3.1 miles to Headache claims Nos. 15, and 17, where Gruver Uranium Exploration, Inc. has drilled, and where section corners of 19, 20, 29, and 30 join.

The nearest important town is Price, Utah, population of 6,010, and is located 45 miles north of Ferron, Utah, on highway 10. South of Ferron, 67 miles on highway 10, is Salina, Utah that has a population of 1,789.

TOPOGRAPHY AND CLIMATE

The applicant's claims lie on the western extremity of the Colorado Plateau at an altitude of about 9,700 feet. Specifically, the property lies 1.5 miles east of Flagstaff Peak (fig. 2). The area has irregular relief with a few steep canyon slopes, covered with spruce, pine, quaking aspen, sagebrush, and juniper. Water for the project may be obtained from sink ponds. Winter operation would be considerably hampered by 6 to 8 feet of snow. Favorable weather conditions prevail from about June 1 to November 15.

OWNERSHIP AND EXTENT

The property consists of 44 claims (Headache claims 1-27 and Sage claims 1-17, inclusive)(fig. 3). The property included in this application consists of 14 contiguous unpatented lode mining claims, the Headache claims Nos. 15-18 and the Sage claims 1-10, inclusive.

The claims are recorded at Castle Dale, Utah, county seat of Emery County, and are as follows:

Claim	Book No.	Page
Headache 15	J-109	163
" 16	J-109	207
" 17	J-109	164
" 18	J-109	208
Sage 1	J-111	445
Sage 2	J-111	446
Sage 3	J-111	447
Sage 4	J-111	448
Sage 5	J-111	449
Sage 6	J-111	450
Sage 7	J-111	451
Sage 8	J-111	452
Sage 9	J-111	453
Sage 10	J-111	454

The property is known as Headache claims 1-27 and Sage claims 1-17, inclusive.

HISTORY AND PRODUCTION

Gruver Uranium Exploration, Inc. owns the Sage claims 1-17 and Headache claims 23-27, inclusive. They also hold one-half ownership on Headache claims 1-22, inclusive. Messrs. R.C. Rasmussen, E. J. Boggs, C. A. Lichliter, J.K. Nielson, H. S. Nielson, Ivan Nielson, and Carl E. Nielson own one-half of Headache claims 1-22, inclusive.

The exploratory work by the company consists of eight non-core drill holes. Two of the drill holes penetrated mineralized rock.

GEOLOGY

The subject claims are near the eastern edge of the Wasatch Plateau about 7 miles southwest of Ferron, Utah (fig. 1). The Wasatch Plateau is the northeastern-most plateau of the high plateaus of Utah, ranging in elevation from approximately 9,000 feet along the eastern edge to 11,280 feet at its highest point. The Wasatch Plateau is elongate to the north, about 65 miles long and 7 to 25 miles wide, and is on the western border of the Colorado Plateau. Strata in the eastern part of the Wasatch Plateau dip at shallow angles to the west in response to the San Rafael Swell to the east. The Wasatch Plateau is bounded on the west by structures and other geologic features typical of the Basin and Range province (Spieker, 1946).

Sedimentary rocks of the Wasatch Plateau range from late Jurassic through early Tertiary (fig. 2). The strata exposed in the general area of the claims are of late Cretaceous and Paleocene age, and include the Price River formation, North Horn formation, and Flagstaff limestone. The Price River formation, consisting of gray sandstone, conglomerate, and local gray shale ranges from 700 to 2,000 feet in thickness. The North Horn formation which conformably overlies the Price River formation, consists of variegated shale, buff to gray sandstone, conglomerate, and some limestone, and ranges from 500 to 2,400 feet in thickness. The Flagstaff limestone which is locally unconformable on the North Horn formation, but in the vicinity of the claims is conformable, consists of limestone, gray shale, gray sandstone, and some oil shales and ranges in thickness from 300 to 1,500 feet.

North Horn formation: The North Horn formation includes strata of latest Cretaceous and early Tertiary ages (Spieker, 1946, p. 135) and consists of interbedded variegated shales, sandstones, conglomerates, and fresh water limestones that represents an alternation between fluviatile and lacustrine environments of deposition. The following generalized section of the North Horn formation measured at the type locality at the southwest point in the North Horn Mountain, about 10-11 miles northeast of the subject property, is abstracted from Spieker (1946, p. 133).

Flagstaff limestone

		feet
North Horn formation:		
1.	Shale, variegated in upper part, gray in lower part with interbedded gray sandstone and some limestone. Lacustrine in origin, forms steep slopes beneath the overlying Flagstaff limestone.	250
2.	Shale, gray to variegated with thin beds of buff sandstone. Irregularly bedded, flood plain deposit, forms gentle slopes.	300
3.	Shale, gray to black; sandstone light gray to buff; some limestones. Mainly lacustrine, generally capped with resistant sandstone.	250
4.	Shale, gray in lower part, variegated in upper. Sandstone, buff to gray, conglomeratic in places. Minor amounts of limestone. Flood plain deposits.	850
Sandstone of Price River formation:		
Total North Horn		1,650

The Headache and Sage claims are staked in the upper part of the North Horn formation. Mammalian teeth from strata associated with uranium-bearing calcium phosphate nodules, identified by C.L. Gazin of the Smithsonian Institution, indicate an early Paleocene age of Puercan and possibly Dragonian epic (Kastelic and Scott, in preparation).

Strata on the claims consists of slightly calcareous shales and silstones with minor amounts of interbedded argillaceous limestone. In places, a few thin discontinuous beds of light brown, very fine- to fine-grained sandstone are interbedded in the shale. The exposures of such

sandstones generally have widths less than 150 feet and thicknesses less than 20 feet, most commonly about 5 feet. One hole drilled by the Gruver Uranium Co. is reported to have penetrated sandstone in excess of 70 feet thick but there is no apparent stratigraphically equivalent sandstone exposed on the nearby outcrop. The shales vary from reddish purple to dark gray and black, but locally are light gray and green in color. Calcareous coatings along fractures and locally in rocks occur in the shale.

In detail the strata exposed on the claims consist typically of variegated shales and mudstones that have a greenish to purplish cast and range in thickness from about 30 to 60 feet; these, in turn, overlie dark gray to black phosphatic nodule-bearing carbonaceous shale 5 to 20 feet in thickness which in turn, overlies variegated mudstones and shales of undetermined thickness. The upper variegated shales and, in part, the carbonaceous shales, weather into moderately well-developed "bad lands" topography. The mudstone, in detail weathers to irregular puffy surfaces, indicative of a bentonitic clay. These beds are about 200-300 feet below the base of the Flagstaff limestone.

Flagstaff limestone: The Flagstaff limestone is mainly a fresh water limestone that contains minor amounts of shale, sandstone, conglomerate, volcanic ash, and carbonaceous shale beds. The limestone units vary in color from dark gray to light tan and weather a distinctive light gray to white. Chert beds and nodules are common. Slight anomalous radioactivity locally occurs in a dark gray, massive limestone near the base of this formation (Kastelic and Scott, in preparation). The Flagstaff

limestone is well exposed on Flagstaff Peak about one mile west of the Sage claims, and on Flagstaff Mountain, farther to the west. Remnants of the Flagstaff limestone may be present in the southern part of the property on the Headache claims.

Structure: Strata on the claims strike north and dip about 2° to the west. The only faults on the claims are a few minor faults related to slumping and down-hill sliding of near-surface segments of the shale. Displacements are a few feet in the down-hill direction. Locally there has been sufficient rotation of a slumped segment to result in the nearly vertical dip of a thin sandstone lense adjacent to the surface of slippage. Most of the beds, however, are nearly flat lying.

The Joe's Valley graben, into which strata have been displaced more than 2,000 feet, and which parallels the edge of the Wasatch Plateau in the general area, is exposed about one mile east of the subject claims (fig. 2).

ORE DEPOSITS

Uranium deposits in the North Horn formation occur at four localities in the Wasatch Plateau (fig. 2). Three of these are owned by Gruver Uranium Exploration, Inc. These are the Headache and Sage claims of the subject application, the Blue Lake claims, sec. 9, T. 20 S., R. 5 E., about four miles to the northwest, and the Jaw Bone claims, sec. 12, T. 19 S., R. 4 E., about 11 miles to the northwest. The fourth occurrence is on the Lone Pine claims, owned by L. Tatton of Clawson, Utah, about 10 miles north of the subject claims (sec. 36, T. 18 S.,

R. 5 E.) (Kastelic and Scott, in preparation).

At these places uranium occurs variably in calcareous phosphatic nodules, in fossil bones and locally in small detached boulders of sandstone. The occurrences are in generally similar stratigraphic positions in the North Horn formation, about 275 to 300 feet below the base of the Flagstaff limestone.

Uranium-bearing phosphatic nodules, fossil bone, and possibly sandstone boulders, occur on the subject claims. On the Lone Pine claims the uranium is only in phosphatic nodules, on the Jaw Bone claims the uranium is associated with fossil bone, and on the Blue Lake claims, uranium has been found only in boulders of sandstone.

Chemical analyses by the U.S. Atomic Energy Commission of the uranium-bearing phosphatic nodules from the Headache and Sage claims show 0.17 percent U_3O_8, 0.03 percent V_2O_5, 7.11 percent P_2O_5, and 5.3 percent $CaCO_3$. The adjacent shale as shown by chemical analyses, is essentially devoid of uranium and phosphorus. Chemical analyses by the U. S. Bureau of Mines of phosphatic nodules on the Headache claim No. 15 showed 0.092 percent U_3O_8, 0.10 percent eU_3O_8, and 19.4 percent P_2O_5; similar samples from the Sage claims Nos. 7 and 9 showed 0.124 percent U_3O_8, 0.13 percent eU_3O_8, and 24 percent P_2O_5.

Chemical analyses by the U. S. Atomic Energy Commission of nodules from the Lone Pine claims averaged 0.04 percent U_3O_8, 0.01 percent V_2O_5, and 7.1 percent $CaCO_3$. Radioactive fossil bones on the Jaw Bone claims contained 0.74 percent U_3O_8. Radioactive sandstone that occurred as

float on the Blue Lake claims, and was evaluated radiometrically by the AEC, contained between 0.02 and 0.03 percent eU_3O_8.

Additional results of chemical assays by the Atomic Energy Commission of phosphatic nodules on the Headache claims have been supplied by the applicant and are located and tabulated on figure 3.

On the Headache and Sage claims, uranium occurs principally in calcarious phosphatic nodules which are apparently randomly distributed in the upper 3 to 5 feet of a laterally persistent 5- to 20-foot bed of light to dark gray locally carbonaceous shale. Only one or two nodules observed were possibly in place. The remainder are concentrated as residual lag on the slopes and in local drainages. The nodules have flattened spherical shapes and range in size from less than an inch to several inches, reportedly as much as 5 inches. They weather a distinctive light brown, locally mottled by a reddish hematitic coating. The centers, which are dark gray to black, contain the uranium. Calcite is locally abundant in these nodules. As spectrographic analyses indicate that the major constituents of the nodules are calcium and phosphorus, apatite may be a major mineral in the nodules. The form of the uranium is unknown. Minerals associated with the radioactive nodules are pyrite, goethite, hematite, limonite, and calcite. Gypsum, calcite, and limonite occur in shale containing the nodules (Kastelic and Scott, in preparation).

Slightly radioactive, partly silicified fossil bone is sparse on these claims. Only a few small fragments were observed during the inspection.

The black shale containing the nodules is overlain by an estimated 50 to 80 feet of variegated shales and mudstones that crop out as a moderately-developed bad lands terrain. These overlying shales possibly have bentonite as a constituent as they weather with puffy or "popcorn" appearance in detail.

Kastelic and Scott suggest that the phosphatic nodules were formed as a primary part of the deposition of the beds. To this writer the distribution of the radioactive nodules and locally radioactive bone, in the upper part of the shale beneath a series of beds that possibly contain volcanic ash, is suggestive that the uranium in the nodules and bone may have been derived by leaching.

No sandstone beds were observed on the subject property that could be considered as favorable hosts for uranium deposits. The sandstone strata on outcrop are thin and discontinuous. Almost all of them are less than 5 feet thick and have a lateral extent of a few tens of feet to perhaps as much as 150 feet. Although sandstone locally may contain anomalous radioactivity and trace amounts of uranium on these claims, it is unlikely that sandstone strata of sufficient thickness and lateral extent are present to constitute a favorable host for significant uranium deposits.

In summary, uranium occurs in association with calcium phosphate nodules and fossil bones on the subject claims. Both the nodules and the bones are widely but rather sparsely distributed in what appears to be a distinct stratigraphic position in the North Horn formation. There

are insufficient quantities of this material at any one place to constitute ore and consequently there are no ore reserves.

PROPOSED EXPLORATION AND COSTS

The time necessary to complete the project is estimated at 1½ months. Exploration proposed and costs estimated by the applicant are as follows:

	Estimated Cost
Non-core drilling, 10,150 feet, at $1.60 per foot	$16,240.00
Core drilling, 250 feet, at $4.50 per foot	1,125.00
Logging, 10,400 feet, at $0.10 per foot	1,040.00
Rig standby time, 13 hours at $15.00 per hour	195.00
Bulldozer work, 85 hours, at $12.00 per hour	1,020.00
Travel time, bulldozer, 10 hours, at $5.00 per hour	50.00
Total cost	$19,670.00
Supervision and geological services, 1½ months at $700.00 per month	$ 1,050.00
Engineering (Surveying)	300.00
Fuel (butane)	50.00
Map and drill log reproduction	25.00
Field supplies	25.00
Frame building material and fixtures	400.00
Labor	75.00
Field transportation, 1½ months at $150 per month	225.00

Accounting and office expense, 1½ months at $50. per month --	$ 75.00
Estimated payroll tax, 1½ months at $18. per month ----------	27.00
Assay fee on core samples ----------	50.00
Total estimated cost of proposed project	$ 2,302.00
	$21,972.00

Overall estimated cost of the proposed 10,400 feet of drilling is approximately $2.11 a foot, which is considered reasonable.

In section 4(a) of the application "The Exploration Project" the applicant proposes to adequately explore the property for uranium ore by drilling 52 holes on approximately 400-foot centers, as shown in figure 3, at an average depth of 50 to 300 feet, for a grand total of 10,400 feet. A total of 10,150 feet will be non-core and 250 feet will be core. In the applicant's proposal 10 holes will be cored for an interval of 25 feet at the bottom of each hole. Mineralized parts of the core will be chemically assayed to determine if the contained uranium is in equilibrium. The core will be logged geologically to determine the favorableness of the uranium-bearing horizon. The drill hole size will be 4½ inches, and drill cuttings will be sampled at 2-foot intervals and logged geologically.

No changes in the proposed program were suggested to the applicant, inasmuch as no exploration seems warranted.

CONCLUSIONS AND RECOMMENDATIONS

Uranium generally of marginal or sub-ore grade occurs in calcium phosphate nodules and fossil bones in a medium dark gray shale in lacustrine beds in the upper part of the Cretaceous-Tertiary North Horn formation. A single boulder of uranium-bearing sandstone detached from the outcrop, suggests that small lenses of sandstone locally may be host to uranium deposits, but such deposits are likely to be small and low grade.

Characteristics of the mineralized outcrops include a bad-lands type of weathering that overlies and includes a part of the mineralized outcrop, some local slumping of the shales, fossil remains, and calcium phosphate nodules that locally are residually concentrated in washes and on small benches.

Phosphatic nodules and fossil bone are sparsely disseminated in the host rock and do not constitute a target for exploration drilling. No sandstone was observed that might constitute a host rock for significant uranium deposits. However, the applicant reports that a non-core drill hole, about 500 feet northwest of the mineralized outcrop, penetrated in excess of 75 feet of sandstone of favorable texture and color. Radiometric hole probing showed no anomalous radioactivity. There is no evidence that ore grade uranium is localized in sandstone in the North Horn formation in the general area.

It is concluded that the chance of finding a significant uranium ore deposit as concentrations of phosphatic nodules or fossil bone is nil. It appears unlikely that the discontinuous lenses of interbedded sandstone exposed on outcrop on the claims would contain significant deposits of uranium behind the outcrop. It is, therefore, recommended that the application for Government-assisted exploration on the subject property be denied.

LITERATURE CITED

Kastelic, W. R., and Scott, K. E., "Reconnaissance of the Cretaceous Tertiary uranium deposits in the Wasatch Plateau, Utah;" U.S. Atomic Energy Commission report, in preparation.

Spieker, Edmund M., "Late Mesozoic and early Cenozoic history of central Utah", U. S. Geol. Sur. Prof. Paper, 205-D, 1946.

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
JULY 1957
DOCKET #785

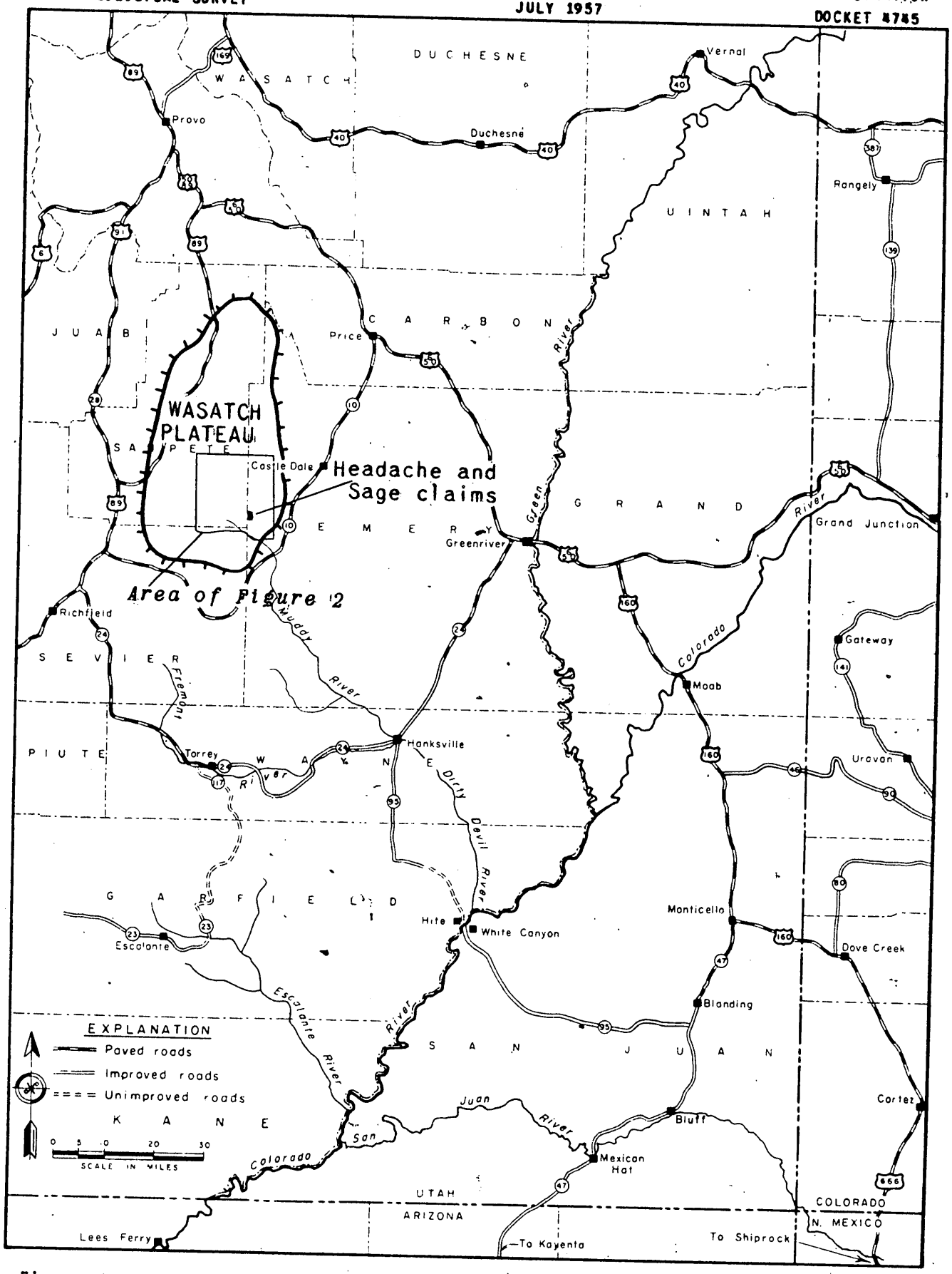

Figure 1.--INDEX TO THE LOCATION OF THE WASATCH PLATEAU AND THE HEADACHE AND SAGE CLAIMS, GRUVER URANIUM EXPLORATION, INC., EMERY COUNTY, UTAH.

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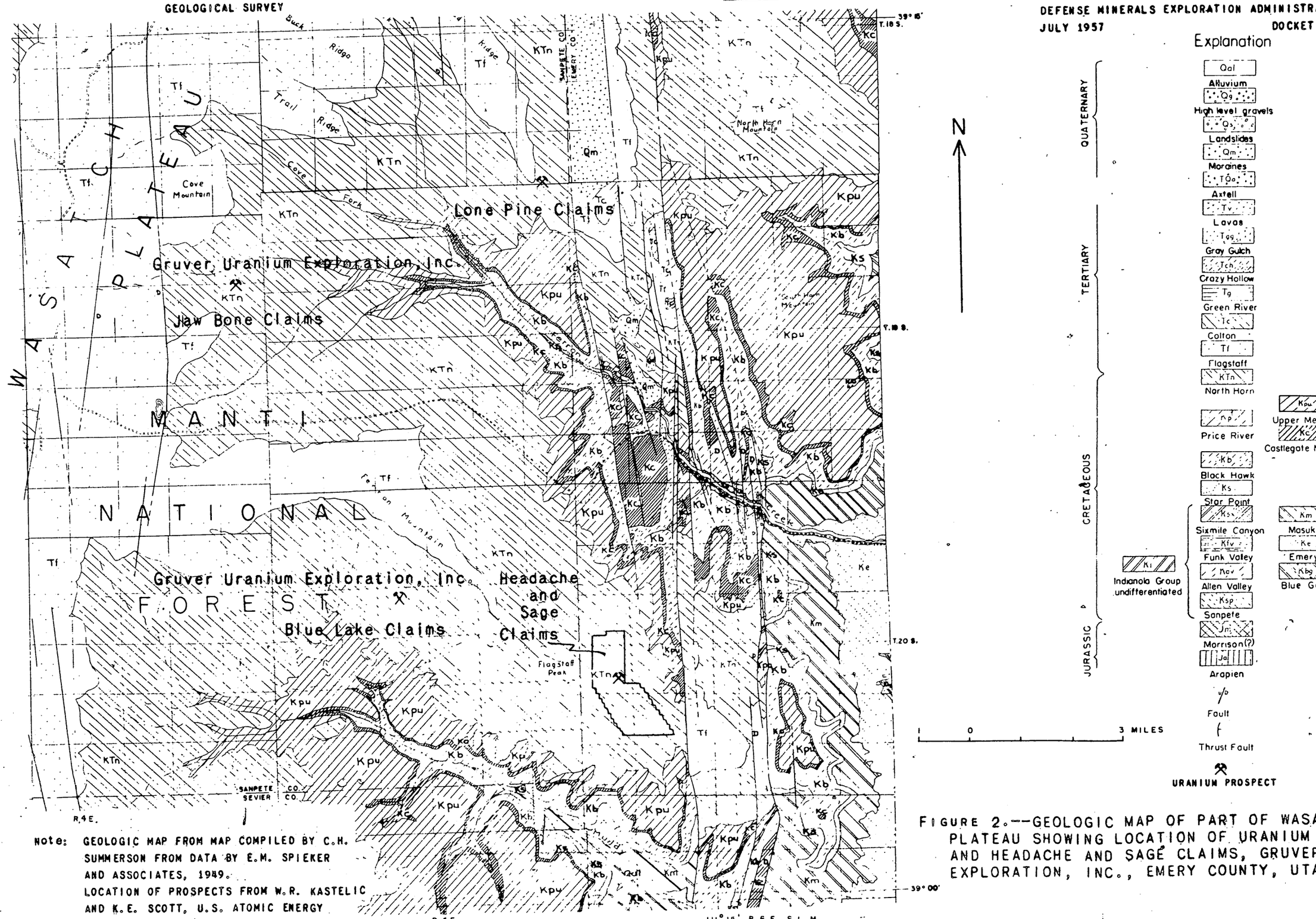
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
JULY 1957 DOCKET 4745



Note: GEOLOGIC MAP FROM MAP COMPILED BY C.H. SUMMERSON FROM DATA BY E.M. SPIEKER AND ASSOCIATES, 1949.
LOCATION OF PROSPECTS FROM W.R. KASTELIC AND K.E. SCOTT, U.S. ATOMIC ENERGY COMMISSION.

FIGURE 2.--GEOLOGIC MAP OF PART OF WASATCH PLATEAU SHOWING LOCATION OF URANIUM PROSPECTS AND HEADACHE AND SAGE CLAIMS, GRUVER URANIUM EXPLORATION, INC., EMERY COUNTY, UTAH.

DMEA
DEPARTMENT OF THE INTERIOR
MAY 31 1957
REGION III
DENVER, COLORADO

May 31, 1957

Memorandum

To: S. R. Wilson

From: Act. Supt., Denver Experiment Station, Reg. III

Subject: Docket DMEA 4745 (Uranium) Gruver Uranium Exploration, Inc. (Headache and Sage Claims) Emery County, Utah

The application for Gruver Uranium Exploration, Inc., Docket DMEA 4745 in the amount of $21,972.00 is enclosed.

A field examination and suitable report are required. The completed report should be forwarded directly to the Acting Executive Officer, with a copy of the memorandum of transmittal to this office.

JOHN F. SHAW

John F. Shaw

Enclosures
cc: L. N. Harshman (2)
Act. Exec. Officer (3)
J B. Clemmer

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RECEIVED JUN 7 1957

DATE	INITIALS	CODE
6/10	[illegible]	220
11	[illegible]	700

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RECEIVED MAY 31 1957

DATE	INITIALS	CODE
5/31	C	220
		700

25th New Customhouse
Denver 2, Colorado

May 29, 1957

Memorandum

To: W. H. King) W/enclosures, Items 1-5 Below
J. V. Emler) " " 2-4 "

From: DMEA Field Team, Region III

Subject: Docket DMEA 4743 (Uranium) Grover Uranium Exploration, Inc. (Headache and Sage Claims) Emery County, Utah

Enclosed is the following material relating to the subject docket.

1. Copy of application for Government assistance in exploration work under the DMEA program.
2. Memorandum of Review by James Pecora, USGS.
3. Memorandum of Review by R. E. Nelson, USGS.
4. Letter of transmittal of the foregoing to this office, dated May 27, 1957, from the Chairman, Operating Committee, DMEA.
5. Routing Control Sheet.

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

If the field examiners view the project proposal favorably, the Applicant should be instructed that we will require it to obtain a set, six copies, of Form MF-205, CONSENT TO LEASE and RELINQUISHMENT AGREEMENT, signed by R. C. Rasmussen, E.J. Boggs, C. A. Lichliter, J. K. Nielson, N. S. Nielsen, Ivan Nielsen and Carl E. Nielsen covering the Headache Claims. At the same time, the field examiners should inform this office of this action so that we may request the proper forms to be prepared for signature.

Twelve extra copies of each map used in the joint report which show the land to be subordinated and the location and extent of recommended work, relative to property boundaries, should be submitted if Government participation is recommended.

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

E. N. HARSHMAN

E. N. Harshman
Acting Executive Officer

Enclosures

MMM:eh

cc: Sec. Op. Comm. (2)
Harshman W/enclosures, Items 2-4
King
Beckst
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
5-23	Ching	700
5-23	Ellis	700
5/27	GCS	130
"	Motendorf	100
		220

MAY 27 1957

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

Re: Docket No. DMEA-4745 (Uranium)
Gruver Uranium Exploration, Inc.
Headache and Sage Claims
Emery County, Utah

Dear Mr. Marshman:

The subject application is being referred to you for investigation, a field examination if warranted, and recommendations.

Enclosed for your information are memoranda, dated May 15 and 20, 1957, by L. A. Nelson, USGS, and James Malone, USBM, respectively, relating to the application. Also enclosed is a copy of the application for the use of the Field Team.

The subject application appears to cover only Headache Claims Nos. 15-18, inclusive, and Sage Claims Nos. 1-10, inclusive, although the two groups are composed of a total of 44 claims. Your attention is called to the fact that there are two substituted Agreements involved, one between the Applicant and E. C. Rasmussen, E. J. Boggs and C. A. Michliter, and one between the Applicant and J. R. Nielson, H. S. Nielson, Ivan Nielson and Carl B. Nielson. Only one of each of these agreements were included with the two applications forwarded to Washington; consequently, neither of the agreements are included with the copy of the application being returned with this letter.

If and when the Field Team finds that a contract is in order a Consent to Lien and Subordination Agreement, covering the Headache claims involved, should be secured from the seven owners listed above.

Mr. J. William Naylor's memorandum of May 17, 1957, has been received and noted.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (HB)

Enclosures
Approved:

A. D. McMahon (HB)
Member, Bureau of Mines

Thor H. Kiilsgaard (HB)
Member, Geological Survey

MChing/dlm 5-23-57
cc to: Mr. Ching
Operating Committee
Admr.'s Reading File
THKiilsgaard, 5224

8623

DMEA Form 7
(12-56)

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Date	Surname	Code
5/23	Ching	900
5/23	[illegible]	700
5/27	Selbrede	130
5/27	McMahon	130
5/27	Gilsgard	130
"	Mittendorf	1104
5/28	[illegible]	220
		700

MAY 27 1957

Miss Tillie Poston, President
Gruver Uranium Exploration, Inc.
Gruver, Texas

Re: Docket No. DMEA-4745 (Uranium)
Headache and Sage Claims
Emery County, Utah

Dear Miss Poston:

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

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

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

Sincerely yours,

C. O. Mittendorf (for)

Administrator

MChing/izm 5-23-57

Copy to: Mr. Ching
Admr.'s Reading File
DMEA FT Reg. 3 (2)

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

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AIR MAIL

May 21, 1957

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-4745 (Uranium) Gruver Uranium Exploration, Inc. (Headache and Sage claims) Emery County, Utah

Enclosed are the original and three copies of a preliminary review memorandum, dated May 17, 1957, from J. William Hasler, Geologist, U. S. Geological Survey.

Although this type of memorandum is no longer a part of our standard procedure, the information provided may be helpful in determining the merit of the application.

E. N. Harshman

E. N. Harshman

Enclosures

1 set To USGS

DMEA

DEPARTMENT OF THE INTERIOR

MAY 20 1957

REGION III
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P.O. Box 360
Grand Junction, Colorado

IN REPLY REFER TO:
MINERAL DEPOSITS

DMEA
RECEIVED
MAY 20 1957
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

May 17, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 23 1957

DATE	INITIALS	CODE

Memorandum

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

Through: E. N. Harshman
A. S. Konselman

From: J. William Hasler

Subject: Gruver Uranium Exploration, Inc. (Uranium)
Headache and Sage claims, Emery County, Utah

The Gruver Uranium Exploration, Inc. applied for a DMEA loan to explore the Headache and Sage group of claims during May 1956. The applicant proposed to explore for uranium occurring in pellets and fragments of foreign material found in the North Horn formation of Tertiary age.

At the time the application was received, the Atomic Energy Commission was making a reconnaissance study of this particular occurrence of uranium-bearing material and as a result of the study the source material had not been discovered, but it was the opinion that a considerable amount of prospecting would be required to locate the probable source of this material. It was in view of these results that the application was recommended for a denial without a field examination and that the applicant be advised to apply at a later date after he had completed further exploratory work.

The applicant has again applied for a loan without having done too much additional work, in that only eight holes have been drilled around a mineralized zone in the North Horn formation containing these pellets. As a result of this work and sampling done by the AEC, assays showed uranium content as high as 0.18 percent U_3O_8. However, the other sample assayed 0.05 percent and 0.08 percent U_3O_8.

The applicant has proposed a drilling program in which they believe that the uranium occurs and is associated with a channel-filled sandstone; however, the nodules or pellets occur in a dark gray shale in the North Horn formation. Because of these somewhat questionable facts regarding the applicant's property and also that the occurrence is a rather unique one, it is deemed advisable that the application be examined in the field, although a denial of the application may be forthcoming.

J. William Hasler
J. William Hasler,
Geologist

JWH/mlr

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RECEIVED MAY 21 1957

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5/21	RWY	220
5/21	Ellis	700

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

May 20, 1957

DMEA Patent No. 4745
DMEA Contract No.
Commodity Uranium
Name of applicant Gruver Uranium Exploration, Inc.
Name of property Headache & Sage Claims
Location of property Emery County, Utah
Estimated cost of project $21,972.00

Ernest William Ellis, DMEA Member
Uranium Commodity Committee
James Paone, Bureau of Mines Member
Uranium Commodity Committee

Application

Application date 5/8/57 Date received by Bureau: 5/14/57

1. Is the application complete? Yes [ ] No [ ]
2. Is the property in an area to evaluate? Yes [ ] No [ ]
3. Is evidence of a mineral deposit? Yes [ ] No [ ]
4. Other prospects known here to evaluate? Yes [ ] No [ ]
5. Should the project be visited?

6. Recommended exploration:
   a. [illegible] [ ]
   b. Geophysics [ ]
   c. Diamond drilling [ ]
   d. Geology [ ]
   e. Prepare exploration method [ ]
   f. Alternate exploration method [ ]
   g. Geochem [ ]
   h. _____ [ ]

7. Action required:
   a. Obtain information from applicant [ ]
   b. Refer to Field Area [x]
   c. Reject [ ]
   d. Refer back Field Area [ ]
      1. Set up with [illegible] on _____ AEC office
   e. Discuss with Field Area [ ]
   f. Suggest alternate plan [ ]
   g. Recommend another commodity [ ]
   h. Approve [ ]

10. Remarks (Use back of page if necessary)

Evidence presented in application does not indicate that exploration is warranted.

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IN REPLY REFER TO:

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

May 15, 1957
Re: DMEA 4745
Gruver Uranium Exploration, Inc.
Headache and Sage Claims
Emery County, Utah
$21,972.00 - Uranium

Memorandum

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

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

Subject: Review of application

The applicant requests assistance in exploring, by core and non-core drilling, claims underlain by calcium phosphate nodule-bearing North Horn formation, Tertiary.

Apparently there is a long rim outcrop and from it samples showing radioactivity have been taken. Four samples taken by the A.E.C. near and back from the rim assayed:

Sample No.	% U_3O_8	% V_2O_5
40557	0.11	0.02
40559	0.08	0.01
40560	0.05	0.01
40553	0.18	0.04

The nature of the samples and what they represent is not said.

The applicant has drilled 8 holes back from the rim, 2 of which are classed as mineralized. Probing showed 0.04 and 0.06% U_3O_8. Hole G 1 was drilled near where sample 40553 was taken.

In spite of the unfavorable results of sampling and drilling, the applicant proposes to drill 10,400 feet of hole in search of an orebody.

Referral of the application to the Field Team is recommended.

N. E. Nelson

N. E. Nelson

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

4321

May 13, 1957

Gruver Uranium Exploration, Inc.
Gruver, Texas

Subject: DMEA 4745

Gentlemen:

Your application for exploration assistance, dated May 8, 1957, submitted to our office at Denver, Colorado, has been assigned Docket Number DMEA 4745 and referred to the Rare & Miscellaneous Metals Division in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

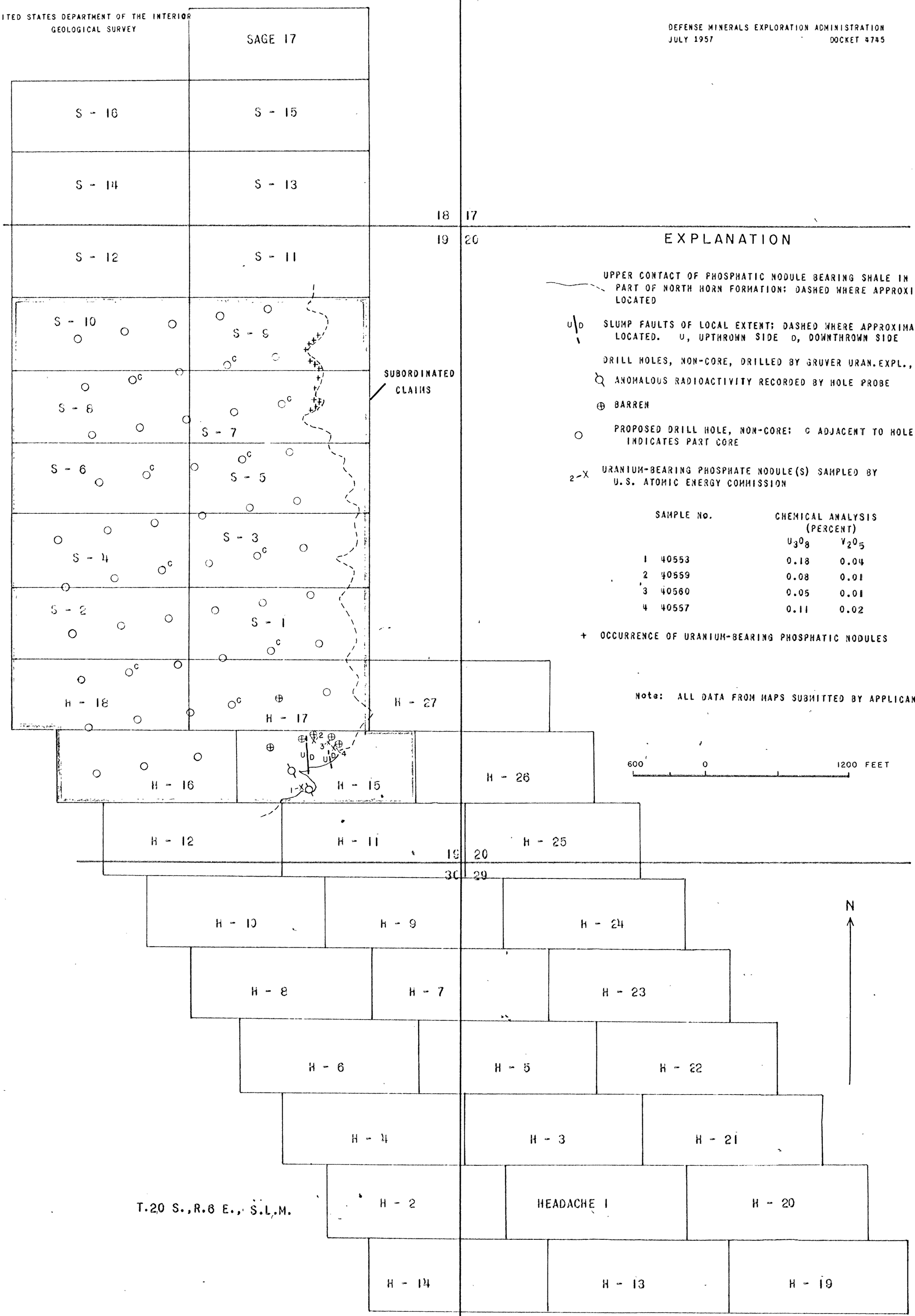
Sincerely yours,

Allen S. Dakan, Director
Operations Control and
Statistics Division

Copy to: Region III

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
JULY 1957 DOCKET 4745



EXPLANATION

UPPER CONTACT OF PHOSPHATIC NODULE BEARING SHALE IN UPPER PART OF NORTH HORN FORMATION: DASHED WHERE APPROXIMATELY LOCATED

U D SLUMP FAULTS OF LOCAL EXTENT: DASHED WHERE APPROXIMATELY LOCATED. U, UPTHROWN SIDE D, DOWNTHROWN SIDE

DRILL HOLES, NON-CORE, DRILLED BY GRUVER URAN. EXPL., INC.

ANOMALOUS RADIOACTIVITY RECORDED BY HOLE PROBE

⊕ BARREN

○ PROPOSED DRILL HOLE, NON-CORE: C ADJACENT TO HOLE INDICATES PART CORE

2-X URANIUM-BEARING PHOSPHATE NODULE(S) SAMPLED BY U.S. ATOMIC ENERGY COMMISSION

	SAMPLE No.	CHEMICAL ANALYSIS (PERCENT) U_3O_8	V_2O_5
1	40553	0.18	0.04
2	40559	0.08	0.01
3	40560	0.05	0.01
4	40557	0.11	0.02

+ OCCURRENCE OF URANIUM-BEARING PHOSPHATIC NODULES

Note: ALL DATA FROM MAPS SUBMITTED BY APPLICANT

Figure 3.--MAP OF THE HEADACHE AND SAGE CLAIMS SHOWING DRILL HOLES, SAMPLE LOCATIONS AND ASSAY RESULTS, AND APPROXIMATE LOCATION OF MINERALIZED OUTCROPS, GRUVER URANIUM EXPLORATION, INC., EMERY COUNTY, UTAH

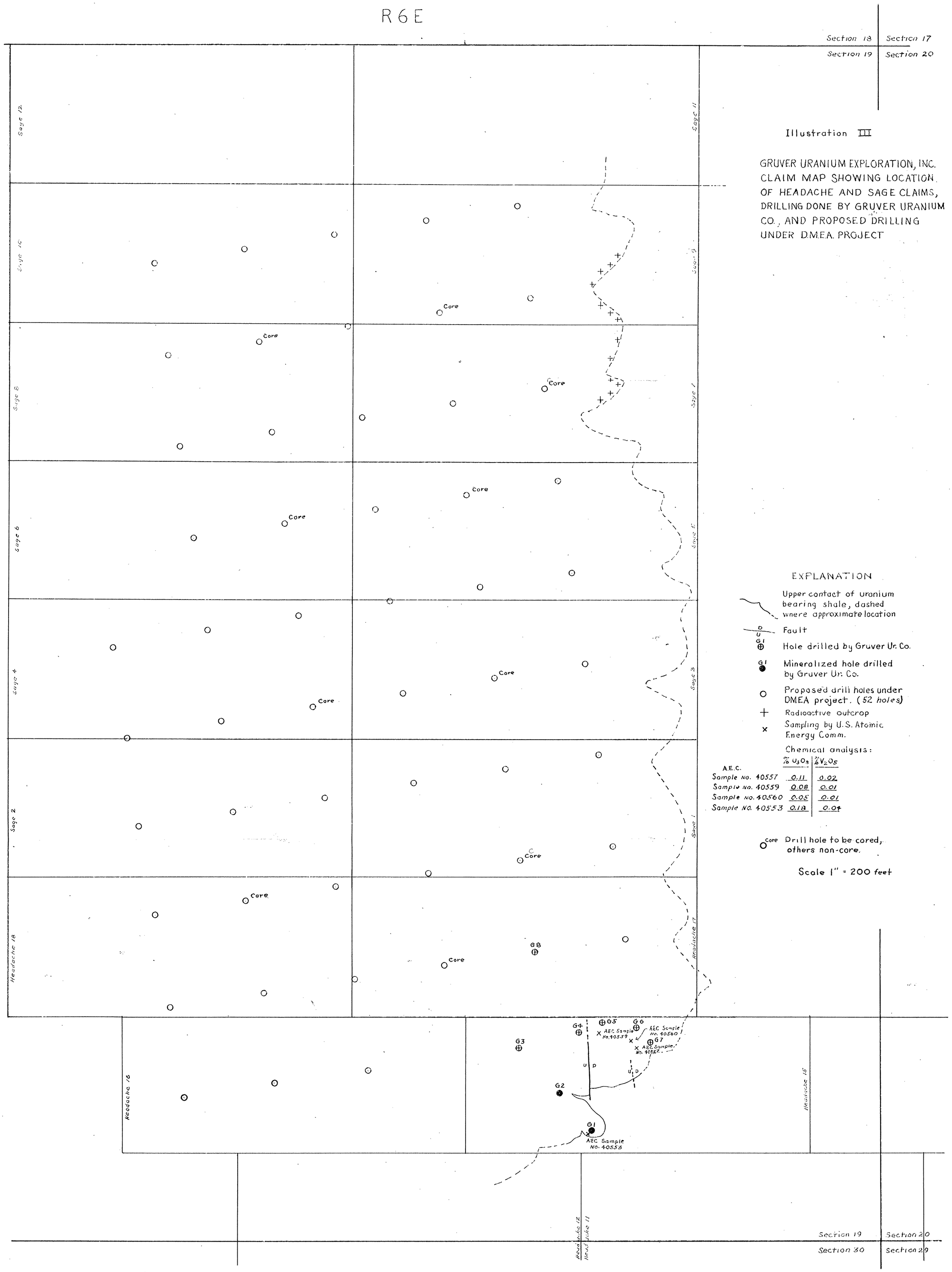


Illustration III

GRUVER URANIUM EXPLORATION, INC.
CLAIM MAP SHOWING LOCATION OF HEADACHE AND SAGE CLAIMS, DRILLING DONE BY GRUVER URANIUM CO., AND PROPOSED DRILLING UNDER D.M.E.A. PROJECT

EXPLANATION

Upper contact of uranium bearing shale, dashed where approximate location

Fault

Hole drilled by Gruver Ur. Co.

Mineralized hole drilled by Gruver Ur. Co.

Proposed drill holes under DMEA project. (52 holes)

Radioactive outcrop

Sampling by U.S. Atomic Energy Comm.

Chemical analysis:

A.E.C.	% U_3O_8	% V_2O_5
Sample No. 40557	0.11	0.02
Sample No. 40559	0.08	0.01
Sample No. 40560	0.05	0.01
Sample NO. 40553	0.18	0.04

Core Drill hole to be cored, others non-core.

Scale 1" = 200 feet

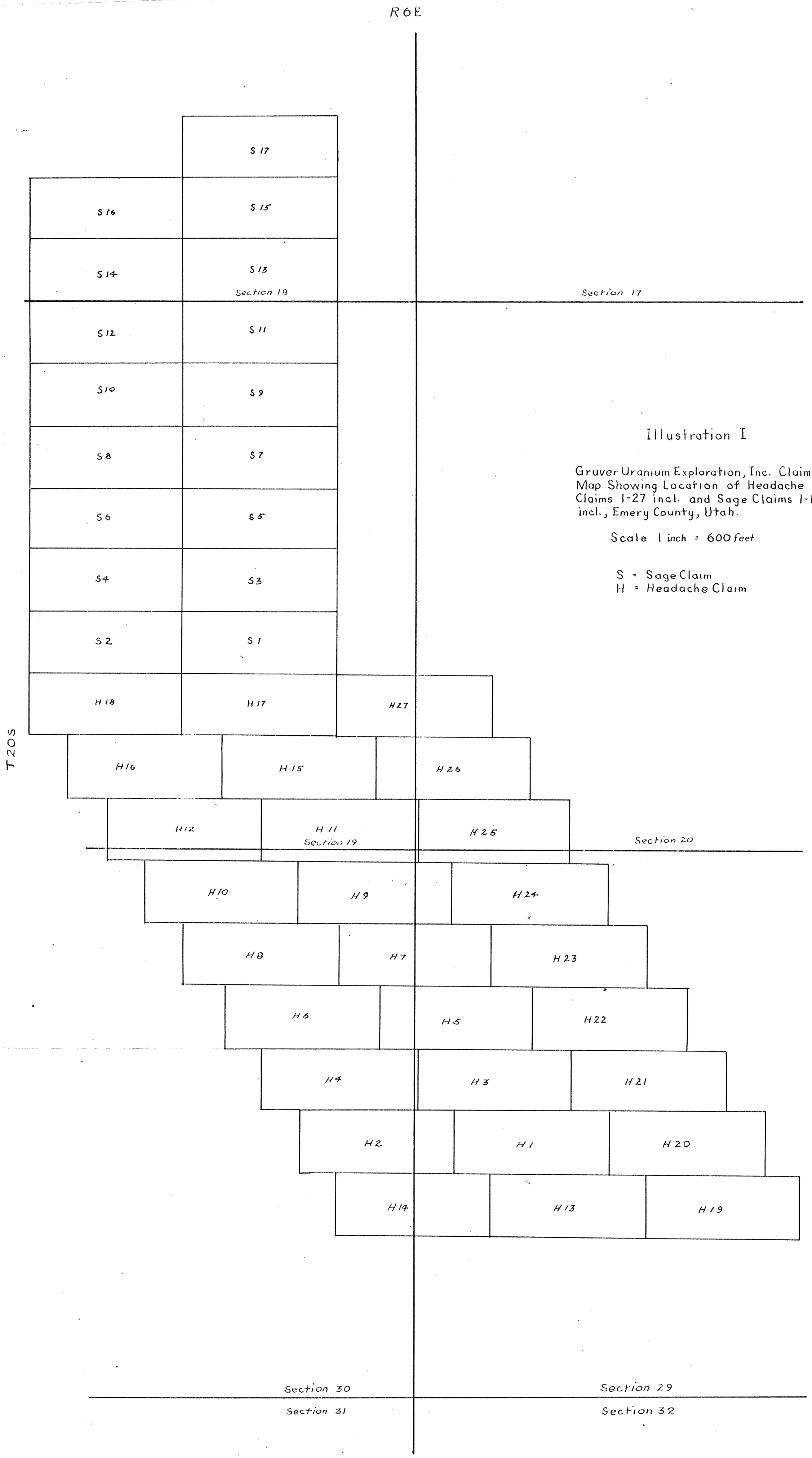


Illustration I

Gruver Uranium Exploration, Inc. Claim Map Showing Location of Headache Claims 1-27 incl. and Sage Claims 1-17 incl., Emery County, Utah.

Scale 1 inch = 600 feet

S = Sage Claim
H = Headache Claim